



GENERAL CATALOG - VOL. 1

# TURNING GROOVING

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# AHB

**TOOLING & MACHINERY**

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**2025/2026**









## *Tungaloy's Insights – Smart Manufacturing*

Tungaloy, as one of the leaders in the metal removal industry, offers the latest innovations in grades and geometries for superb performance and tool life.

*Tungaloy's latest  
innovations in cutting  
tools contribute to  
carbon neutrality*





VOL. 1

# TURNING GROOVING

|          |                     |               |
|----------|---------------------|---------------|
| <b>A</b> | Grade               | <b>A001 -</b> |
| <b>B</b> | Insert              | <b>B001 -</b> |
| <b>C</b> | External Toolholder | <b>C001 -</b> |
| <b>D</b> | Internal Toolholder | <b>D001 -</b> |
| <b>E</b> | Threading Tool      | <b>E001 -</b> |
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| <b>H</b> | Milling Cutter      | <b>H001 -</b> |
| <b>I</b> | Endmill             | <b>I001 -</b> |
| <b>J</b> | Drilling Tool       | <b>J001 -</b> |
| <b>K</b> | Tooling System      | <b>K001 -</b> |
| <b>L</b> | User's Guide        | <b>L001 -</b> |
| <b>M</b> | Alphanumeric Index  | <b>M001 -</b> |



# About Tungalay Cutting Tool Catalog

## ■ Note in using this catalog:

- ★ The specifications are subject to change without prior notice for product improvements. Also, the products may be discontinued in the future due to the development of new products.
- ★ The dimensions of all products are shown in inch (in) and millimeters (mm) where applicable.
- ★ For indexable tools, such as toolholders, cutters, drill bodies, applicable inserts or heads need to be ordered separately.

## ■ How to use this catalog:

- 1 Select the tool category at the product group index.
- 2 Select the tool type at the insert shape on the left pages.
- 3 The index is in the alphabetical order. Use it for your product search.

## ■ How to read the list for the standard items:

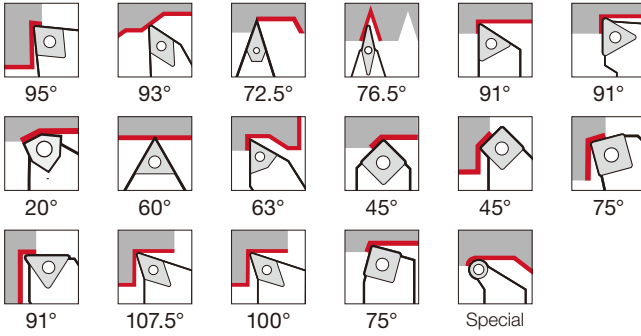
- ★ Designations for indexable tools – toolholders, adapters, etc.
  - Orders are to be received for the tools with the designations in the catalog.
  - For the tool with right- and left-hand options, the designation includes **\*\*R/L\*\*** as shown below.
    - Ex. 1: Designation: A16Q-STF**PR**/L13-D180  
You can order both right- and left-hand tools. A16Q-STF**P**R13-D180 (a right-hand tool) and A16Q-STF**L**13-D180 (a left-hand tool) will be available.
    - Ex. 2: Designation: A20R-STF**P**R13-D220  
You can order only right-hand tools. Please contact us when you need left-hand tools.
- ★ Lineup for inserts and solid tools  
Blank : Please contact us regarding the product.



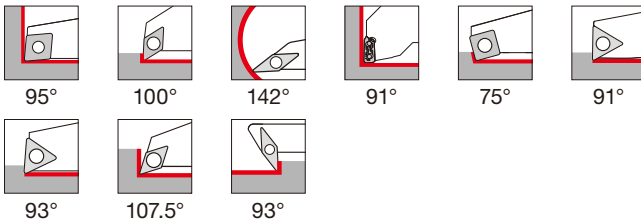
# About Tungaloy Cutting Tool Catalog

## Icons at the left side of each page

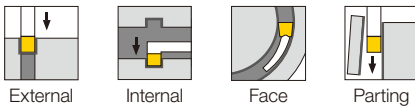
### External toolholder (cutting edge shape / angle)



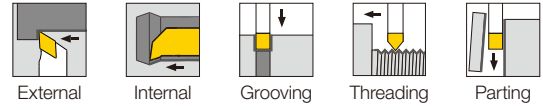
### Internal toolholder (cutting edge shape / angle)



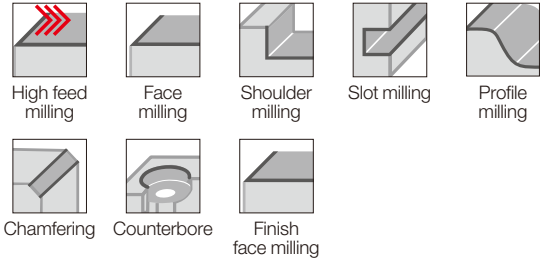
### Parting, Grooving



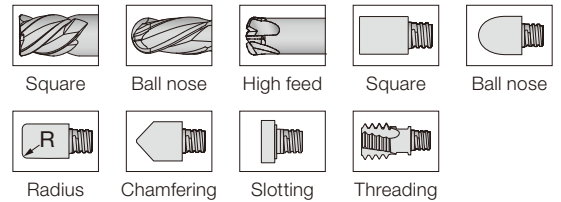
### Miniature machining



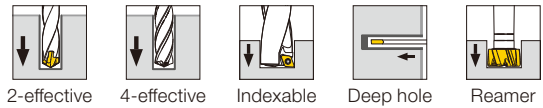
### Mill



### Endmill

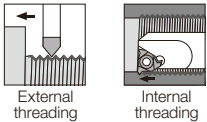


### Drill

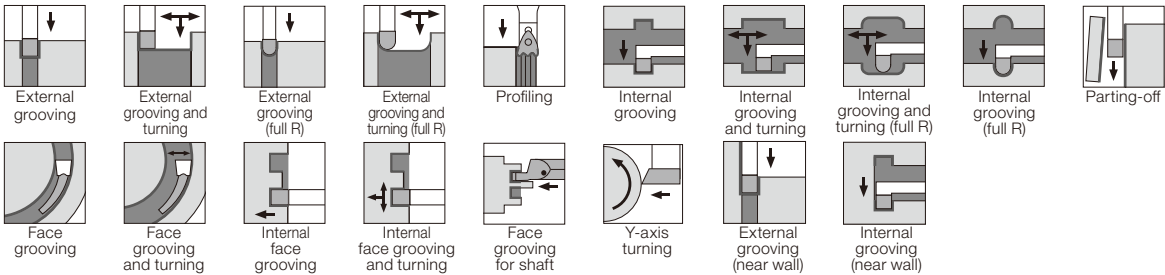


## Icons for applications of each product

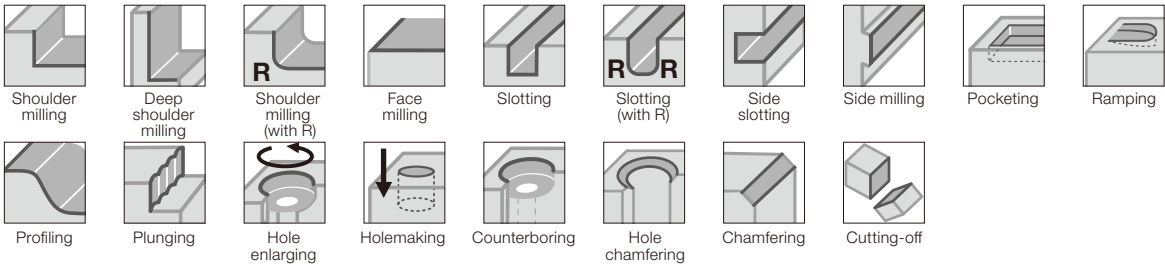
### Threading



### Grooving



### Milling



### Drilling



# About the dimension symbols conforming to ISO13399

## ■ What is ISO13399?

ISO13399 is an international standard for the purpose of standardizing the electronic data of tools in the world.

## ■ Switching to the dimension symbols conforming to ISO13399

In this catalog, we use the dimension symbols (properties) conforming to ISO13399 international standard.

Below are the examples of the change.

## ■ Examples of the change:

|          | Before | After |
|----------|--------|-------|
| Insert   |        |       |
| Turning  |        |       |
| Milling  |        |       |
| Drilling |        |       |

ISO13399 standardizes not only the format of 2D and 3D CAD data but also the tool dimension symbols (properties) and reference position information. This allows the tool information to be read and combined into NC programs and CAM software, regardless of any tool maker's data. In addition to General Catalog (paper catalog), we are also updating the symbols in e-catalog (electronic catalog on our website) to the properties conforming to ISO13399. The e-catalog also provides 2D and 3D CAD data in accordance with ISO13399 standard.

## ■ Insert

| New symbol | Old symbol | Description  |
|------------|------------|--|
| AN         | -          | Main cutting edge relief angle                               |
| APMX       | Max. ap    | Maximum depth of cut   |
| AS         | A          | Side cutting edge relief angle                               |
| BW         | B          | Body width   |
| BS         | bs         | Side cutting edge (wiper) length                             |
| CDX        | T max      | Maximum groove depth   |
| CW         | W          | Grooving edge width  |
| D1         | ød1        | Mounting hole diameter                                       |
| DCONMS     | øDs        | Mounting part diameter on the machine                        |
| DMIN       | øDm        | Minimum machining diameter                                   |
| EPSR       | -          | Nose angle   |
| GAN        | -          | Rake angle (insert)  |
| IC         | ød         | Inscribed circle diameter                                    |
| INSD       | A          | Insert diameter (round type)                                 |
| INSL       | B          | Insert length  |
| KAPR       | κ          | Approach angle   |
| LBB        | -          | Chipbreaker width  |
| LE         | A          | Effective cutting edge length                                |
| LF         | L1         | Standard length  |
| M          | m          | Distance from inscribed circle to cutting edge (m dimension) |
| PDX        | t          | Thread position (X direction)                                |
| PDY        | ℓ3         | Thread position (Y direction)                                |
| PNA        | θ          | Cutting edge angle   |
| PSIRL      | θ          | Left-hand front cutting edge angle                           |
| PSIRR      | θ          | Right-hand front cutting edge angle                          |
| RE         | r          | Corner radius  |
| S          | T          | Thickness  |
| W1         | -          | Insert width   |

## ■ Turning, Grooving

| New symbol | Old symbol    | Description                                |
|------------|---------------|--|
| B          | b             | Shank width                                |
| BD         | øD1, øD2, øD3 | Body external diameter                     |
| CDX        | ar            | Maximum groove depth                       |
| CND        | -             | Oil hole diameter                          |
| CNT        | -             | Oil hole plug size                         |
| CUTDIA     | øDmax         | Maximum parting diameter                   |
| CW         | W             | Grooving edge width                        |
| CWN        | -             | Minimum grooving edge width                |
| CWX        | -             | Maximum grooving edge width                |
| DAXN       | øDm           | Minimum diameter in face grooving          |
| DAXX       | øDmax         | Maximum diameter in face grooving          |
| DCONMS     | øDs           | Mounting part diameter on the machine      |
| DCONWS     | øD, ød2       | Mounting part diameter on the workpiece    |
| DMIN       | øDm           | Minimum machining diameter                 |
| GAMF       | α             | Radial rake angle                          |
| GAMP       | θ             | Axial rake angle                           |
| H          | h             | Shank length                               |
| HBH        | h2            | Height of offset on the bottom of head     |
| HBKL       | f2            | Length of uneven level on the back of head |
| HBKW       | L2            | Width of uneven level on the back of head  |
| HBL        | L2            | Length of offset on the bottom of head     |
| HF         | h1            | Standard height                            |
| KAPR       | κ             | Approach angle                             |
| LB         | L             | Body length                                |
| LF         | L1            | Standard length                            |
| LH         | L2            | Head length                                |
| OAH        | h4            | Overall height                             |
| OAL        | L1            | Overall length                             |
| OAW        | L3            | Overall width                              |
| PSIR       | β             | Lead angle                                 |
| WB         | -             | Body width                                 |
| WF         | f             | Standard width                             |
| WFS        | f2            | Standard width (the second corner)         |



# About the dimension symbols conforming to ISO13399

## ■ Tooling system

| New symbol | Old symbol                                       | Description                             |
|------------|--|---|
| APMX       | Max. ap  | Maximum depth of cut                    |
| BD         | $\varnothing D1, \varnothing D2, \varnothing D3$ | Body external diameter                  |
| BHTA       | $\alpha$   | Neck taper angle (half of nose angle)   |
| BTED       | $\varnothing d1$                                 | Taper tip diameter                      |
| CRKS       | S  | Mounting screw size                     |
| DBC        | $\varnothing d3$                                 | Bolt hole pitch diameter                |
| DCONMS     | $\varnothing Ds$                                 | Mounting part diameter on the machine   |
| DCONWS     | $\varnothing D, \varnothing d2$                  | Mounting part diameter on the workpiece |
| DMIN       | $\varnothing Dm$                                 | Minimum machining diameter              |
| GAMF       | $\alpha, R.R.$                                   | Radial rake angle                       |
| GAMP       | $\theta, A.R.$                                   | Axial rake angle                        |
| KAPR       | $\kappa$   | Cutting edge angle                      |
| LB         | L2, L3   | Body length                             |
| LF         | L  | Standard length                         |
| LPR        | L1   | Parting length                          |
| LS         | $\ell s$   | Shank length                            |
| LSC        | Lmin   | Clamp length                            |
| LSCX       | Lmax   | Maximum clamp length                    |
| OAH        | H4   | Overall height                          |
| OAL        | L  | Overall length                          |
| OAW        | W  | Overall width                           |
| THID       | -  | Mounting screw size                     |
| WB         | W  | Body width                              |
| WF         | f  | Standard width                          |

## ■ Drilling

| New symbol | Old symbol                                       | Description                                    |
|------------|--|--|
| BD         | $\varnothing D1, \varnothing D2, \varnothing D3$ | Body external diameter                         |
| CND        | -  | Oil hole diameter                              |
| CNT        | -  | Oil hole plug size                             |
| CRKS       | S  | Mounting screw size                            |
| DC         | $\varnothing Dc$                                 | Machining diameter                             |
| DCONMS     | $\varnothing Ds$                                 | Mounting part diameter on the machine          |
| DCONWS     | $\varnothing D, \varnothing d2$                  | Mounting part diameter on the workpiece        |
| DSCFMS     | $\varnothing D$                                  | Connecting part diameter                       |
| KAPR       | $\kappa$   | Cutting edge angle                             |
| LCF        | $\ell$   | Flute length                                   |
| LF         | Lf   | Standard length (from the drill shoulder)      |
| LPR        | -  | Parting length (from flange to tip)            |
| LS         | $\ell s$   | Shank length                                   |
| LU         | $\ell$   | Machinable depth                               |
| NOF        | z  | Number of flutes                               |
| OAL        | L  | Overall length (from tip)                      |
| PL         | PL   | Distance from drill tip to shoulder            |
| ZEFP       | Z eff  | Number of effective cutting edges on periphery |

## ■ Milling


| New symbol | Old symbol                                       | Description  |
|------------|--|--|
| APMX       | Max. ap  | Maximum depth of cut                               |
| BD         | $\varnothing D1, \varnothing D2, \varnothing D3$ | Body external diameter                             |
| BHTA       | $\alpha$   | Neck taper angle (half of nose angle)              |
| CBDP       | $\ell$   | Mounting hole depth                                |
| CDX        | Max. ae  | Maximum slot width                                 |
| CHW        | k  | Chamfer width on the corner                        |
| CICT       | z  | Number of inserts                                  |
| CRKS       | S  | Mounting screw size                                |
| CW         | W  | Slotting edge width                                |
| CWN        | -  | Minimum slotting edge width                        |
| CWX        | -  | Maximum slotting edge width                        |
| DBC        | $\varnothing d3$                                 | Bolt hole pitch diameter                           |
| DC         | $\varnothing Dc$                                 | Machining diameter                                 |
| DCONMS     | $\varnothing d$                                  | Mounting part diameter on the machine              |
| DCONWS     | $\varnothing D, \varnothing d2$                  | Mounting part diameter on the workpiece            |
| DSCFMS     | $\varnothing Db$                                 | Mounting surface diameter on the machine           |
| DCX        | $\varnothing Dc1$                                | Maximum machining diameter                         |
| GAMF       | R.R.   | Radial rake angle                                  |
| GAMP       | A.R.   | Axial rake angle                                   |
| H          | T  | Width across flat                                  |
| KAPR       | $\kappa$   | Cutting edge angle                                 |
| KWW        | a  | Drive key width                                    |
| LF         | Lf   | Standard length                                    |
| LH         | Lf   | Neck length  |
| LS         | $\ell s$   | Shank length                                       |
| NOF        | z  | Number of flutes                                   |
| OAL        | L, L6  | Overall length                                     |
| PDX        | t  | Thread position (X direction)                      |
| PNA        | $\theta$   | Cutting edge angle                                 |
| PSIR       | $\beta$  | Lead angle   |
| RMPX       | $\theta$   | Maximum ramping angle                              |
| THUB       | T  | Hub height (slot mill)                             |
| WT         | Kg   | Weight   |
| ZEFP       | Z eff  | Number of effective cutting edges on the periphery |

Note:

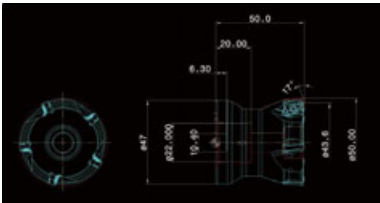
- Symbols unspecified in ISO13399 standard and Tungaloy's original symbols are not included.
- The symbols still under discussion are included. Please note any change or addition may occur.

## ■ CAD data provided in e-catalog

### ● 2D data (DXF format file)



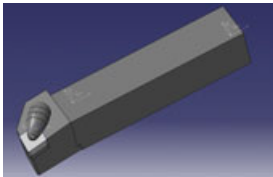
**Turning:**  
Shows the insert with standard corner radius.




**Milling:**  
Includes actual cutting edge curve (CUT layer) and body cross section (NOCUT layer).

### ● 3D data Light type (STP format file): Can be used to check tool path and interference.

Turning: Equipped with an insert with a standard corner radius.

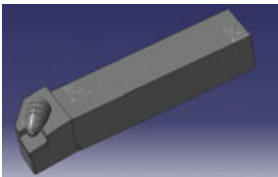


Milling: A rotating body model of an actual cutting edge curve and a body cross section.




### ● 3D data Detail type (STP format file): Can be used to create a new tool layout chart. (Can be combined with any insert model on a CAD software.)

Turning



Milling



# Insert

---





# Insert - Content structure

- Inserts are grouped in Positive type, Negative type, and CBN/PCD.
- The list is in alphabetical order.
- The order of the list: C (80°) → D (55°) → R (360°) → S (90°) → T (60°) → V (35°) → W (80°) → Y (25°) → Other shapes
- The order of inserts:
  - Negative type (each shape with hole → without hole)
  - Positive type (each shape with hole → without hole)
- The order of chipbreakers:
  - From precision finishing to heavy cutting, in the order of the values of cutting depth and feed rate.
- Insert without chipbreaker is on the last page of each shape.
- Introduces the proposed inserts according to the workpiece materials and the shape of workpiece materials.
- The standard cutting conditions for typical chipbreakers are at the bottom of the pages.
- ● in the catalog describes our standard items, and ▲ means the item to be discontinued in the future.

## How to use the page

### Method ①

Select an insert at the right end, and choose the information page by the insert type (1) and the outer shape of the insert (2) at the left end.

### Method ②

Check the page of each insert type from the index on B003 (1), and choose the page of the setting information according to the outer shape of the insert (2).

### Method ③

Select an insert at the chipbreaker introduction and the selection guide on B004 - B029 and check the details on the product page.

### Method ④

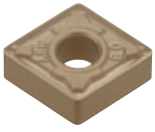
Select an insert from the list of chipbreaker shapes on B030 - B053 and check the details on each page.

## When ordering

- Please specify the designation, grade, and quantity.  
e.g. **CNMG 432 TM T9215 (CNMG120408-TM T9215) ... 10 pieces** (10 inserts per package)
- \*You will find a note if the number per package is not 10.

# Insert

---



## Negative type

Coated CVD/PVD, Cermet, Uncoated cemented carbide, Ceramic

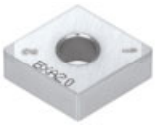
B054 -



## Positive type

Coated CVD/PVD, Cermet, Uncoated cemented carbide, Ceramic

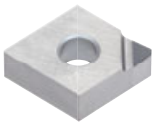
B112 -



## CBN Insert

CBN

B168 -



## PCD Insert

PCD (DIA)

B211 -

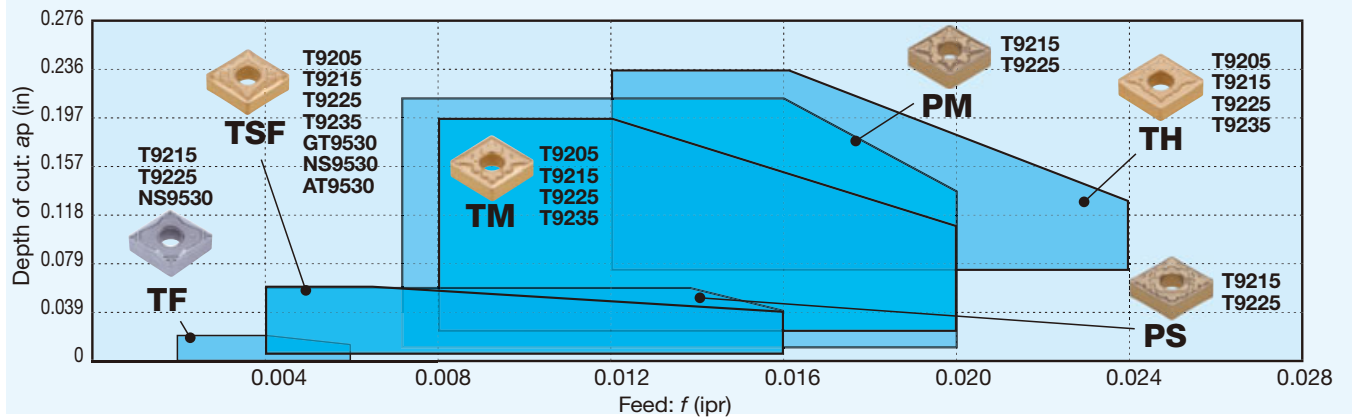


# Chipbreaker Guide

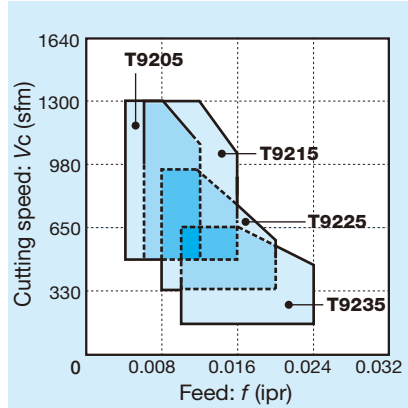
## BASIC CHIPBREAKER: NEGATIVE TYPE

### **P** Steel

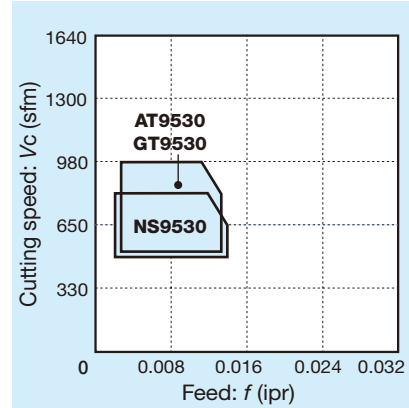
#### Chipbreaker System for Turning (Negative type)



#### CVD coated grade



#### Coated cermet / Cermet



| Chipbreaker | Shape | Feature  | Chipbreaker | Shape | Feature  |
|-------------|-------|--|-------------|-------|--|
| <b>TF</b>   |       | Excellent chip control at very small depth of cut and low feed with the sharp cutting edge and protrusion. Economical M-class insert contributes to cost reduction.                  | <b>TH</b>   |       | Double-sided 3D chipbreaker with tough cutting edge and excellent chip control. Even suitable for high-feed machining. |
| <b>TSF</b>  |       | First choice for finishing. The sharp cutting edge and arc-shaped protrusion near the corner ensure excellent chip control.  | <b>PS</b>   |       | Unique geometry to provide better crater wear resistance and chip control during turning at light cutting depths.      |
| <b>TM</b>   |       | General-purpose chipbreaker with extensive chip control area. The protrusion in unique shape near the corner and large rake angle provide sharp cutting edge with low cutting force. | <b>PM</b>   |       | Versatile geometry with optimized cutting edge design to provide superior chip control in wide range of applications.  |

## STANDARD CUTTING CONDITIONS

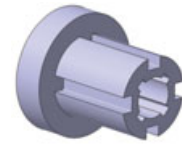
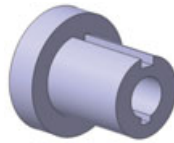
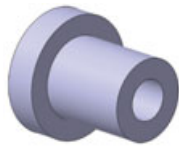
| ISO      | Operation           | Chip-breaker            | Grade         | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm)         |                                    |                                  |            |
|----------|---------------------|-------------------------|---------------|----------------------|---------------|---------------------------------|------------------------------------|----------------------------------|------------|
|          |                     |                         |               |                      |               | Low carbon steels, Alloy steels | Medium carbon steels, Alloy steels | High carbon steels, Alloy steels |            |
| <b>P</b> | Precision finishing | TF                      | NS9530        | 0.002 - 0.020        | 0.001 - 0.006 | 492 - 820                       | 328 - 820                          | 328 - 656                        |            |
|          |                     | TSF                     | GT9530        | 0.008 - 0.059        | 0.003 - 0.016 | 492 - 984                       | 262 - 820                          | 262 - 656                        |            |
|          | Finishing           | TSF                     | AT9530        | 0.008 - 0.059        | 0.003 - 0.016 | 492 - 984                       | 262 - 820                          | 262 - 656                        |            |
|          |                     | TSF                     | T9215         | 0.008 - 0.059        | 0.003 - 0.016 | 492 - 1312                      | 492 - 1312                         | 394 - 984                        |            |
|          | Medium cutting      | TM                      | T9205         | 0.039 - 0.197        | 0.008 - 0.020 | 591 - 1312                      | 591 - 1312                         | 492 - 1148                       |            |
|          |                     | TM                      | T9215         | 0.039 - 0.197        | 0.008 - 0.020 | 492 - 1312                      | 492 - 1312                         | 394 - 984                        |            |
|          |                     | TM                      | T9225         | 0.039 - 0.197        | 0.008 - 0.020 | 394 - 984                       | 394 - 984                          | 328 - 820                        |            |
|          |                     | TM                      | T9235         | 0.039 - 0.197        | 0.008 - 0.020 | 164 - 656                       | 164 - 656                          | 164 - 492                        |            |
|          |                     | Medium to heavy cutting | TH            | T9205                | 0.118 - 0.236 | 0.012 - 0.024                   | 591 - 1312                         | 591 - 1312                       | 492 - 1148 |
|          |                     |                         | TH            | T9215                | 0.118 - 0.236 | 0.012 - 0.024                   | 492 - 1312                         | 492 - 1312                       | 394 - 984  |
| TH       | T9225               |                         | 0.118 - 0.236 | 0.012 - 0.024        | 394 - 984     | 394 - 984                       | 328 - 820                          |                                  |            |
|          |                     | TH                      | T9235         | 0.118 - 0.236        | 0.012 - 0.024 | 164 - 656                       | 164 - 656                          | 164 - 492                        |            |

Low carbon steels, Alloy steels: 1018, 1020, etc. Medium carbon steels, Alloy steels: 1045, 4140, etc. High carbon steels, Alloy steels: 8620, etc. High carbon steels, Alloy steels: 4340, etc.

# Selection System

## SELECTION SYSTEM: NEGATIVE TYPE

### **P** Steel



Continuous

Light interrupted

Heavy interrupted

|   | Continuous  | Light interrupted   | Heavy interrupted   |
|---|---|---|---|
| <b>Precision finishing</b><br>[ $a_p = \sim 0.020$ in ]           | <p>Basic</p> <p>Fracture</p> <p><b>TF NS9530</b><br/>B030</p> <p><b>TF T9215</b><br/>B030</p>   | <p>Basic</p> <p>Fracture</p> <p><b>TF NS9530</b><br/>B030</p> <p><b>TF T9215</b><br/>B030</p>   |   |
| <b>Finishing</b><br>[ $a_p = 0.012 \sim 0.060$ in ]               | <p>Basic</p> <p>Fracture</p> <p><b>TSF GT9530</b><br/>B030</p> <p>Chip control</p> <p><b>ZF GT9530</b><br/>B030</p> <p><b>TSF T9215</b><br/>B030</p>  | <p>Basic</p> <p>Fracture</p> <p><b>TSF GT9530</b><br/>B030</p> <p><b>TSF T9215</b><br/>B030</p>   | <p>Basic</p> <p>Fracture</p> <p><b>TSF T9225</b><br/>B030</p>   |
| <b>Medium cutting</b><br>[ $a_p = 0.039 \sim 0.157$ in ]          | <p>Basic</p> <p>Wear</p> <p>Chip control</p> <p>Crater wear</p> <p><b>TM T9215</b><br/>B032</p> <p><b>TM T9205</b><br/>B032</p> <p><b>ZM T9215</b><br/>B033</p> <p><b>PM T9215</b><br/>B032</p> | <p>Basic</p> <p>Fracture</p> <p>Wear</p> <p>Crater wear</p> <p><b>TM T9215</b><br/>B032</p> <p><b>TM T9225</b><br/>B032</p> <p><b>TM T9205</b><br/>B032</p> <p><b>PM T9215</b><br/>B032</p> | <p>Basic</p> <p>Fracture</p> <p>Wear</p> <p>Crater wear</p> <p><b>TM T9225</b><br/>B032</p> <p><b>TM T9235</b><br/>B032</p> <p><b>TM T9215</b><br/>B032</p> <p><b>PM T9225</b><br/>B032</p> |
| <b>Medium to heavy cutting</b><br>[ $a_p = 0.118 \sim 0.236$ in ] | <p>Basic</p> <p>Wear</p> <p>Chip control</p> <p><b>TH T9215</b><br/>B036</p> <p><b>TH T9205</b><br/>B036</p> <p><b>TM T9215</b><br/>B032</p>  | <p>Basic</p> <p>Fracture</p> <p>Wear</p> <p><b>TH T9215</b><br/>B036</p> <p><b>TH T9225</b><br/>B036</p> <p><b>TH T9205</b><br/>B036</p>  | <p>Basic</p> <p>Fracture</p> <p>Wear</p> <p><b>TH T9225</b><br/>B036</p> <p><b>TH T9235</b><br/>B036</p> <p><b>TH T9215</b><br/>B036</p>  |

Please see the page B\*\*\* for the details.

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Milling cutter  
Miniature tool  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



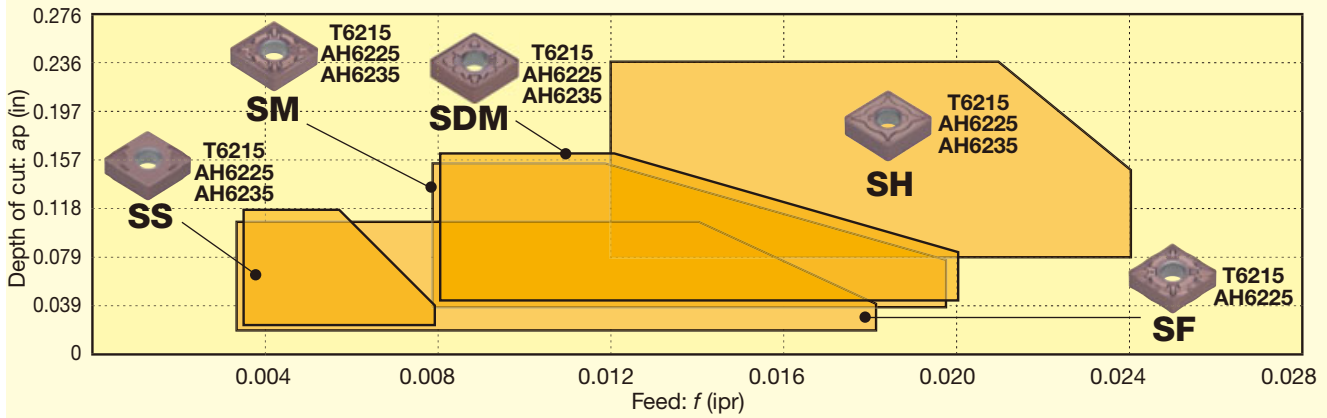


# Chipbreaker Guide

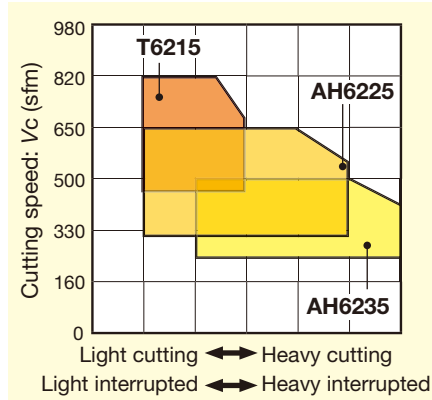
## BASIC CHIPBREAKER: NEGATIVE TYPE

### M Stainless Steel

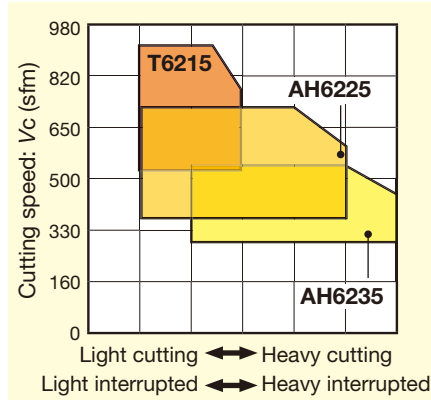
#### Chipbreaker System for Turning (Negative type)



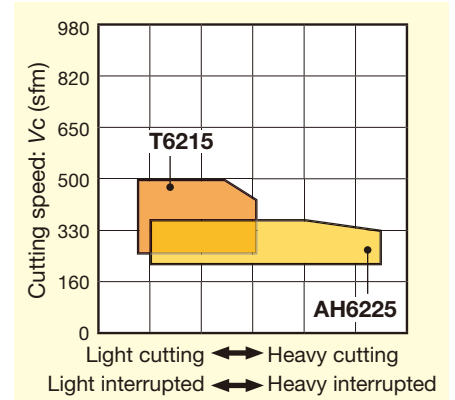
Austenitic stainless steel



Ferritic / martensite stainless steel



Precipitation hardened stainless steel



| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| SF          |       | Excellent chip control with small depth of cut at high feed. Suitable for finishing stainless steel.  |
| SH          |       | Suitable for medium to heavy cutting. High fracture resistance with specially reinforced cutting edge. Ideal for machining that requires cutting edge strength, such as roughing and interrupted cutting. |

| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| SM          |       | General-purpose chipbreaker with sharpness and good chip control. First choice for stainless steel. |
| SDM         |       | Light cutting geometry for notch wear and crater wear resistance.                                   |

## STANDARD CUTTING CONDITIONS

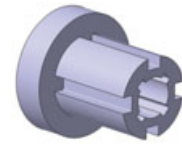
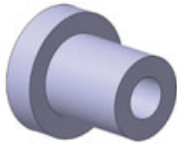
| ISO    | Operation      | Chipbreaker | Grade         | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm)    |                                       |  |
|--------|----------------|-------------|---------------|----------------------|---------------|----------------------------|---------------------------------------|--|
|        |                |             |               |                      |               | Austenitic stainless steel | Ferritic / martensite stainless steel | Precipitation hardened stainless steel |
| M      | Finishing      | SF          | T6215         | 0.020 - 0.098        | 0.003 - 0.018 | 459 - 787                  | 525 - 919                             | 262 - 492                              |
|        |                |             | AH6225        | 0.020 - 0.098        | 0.003 - 0.018 | 295 - 656                  | 361 - 787                             | 197 - 361                              |
|        |                |             | AH6235        | 0.020 - 0.098        | 0.003 - 0.018 | 164 - 492                  | 230 - 558                             | -                                      |
|        | Medium cutting | SM          | T6215         | 0.040 - 0.160        | 0.008 - 0.020 | 459 - 787                  | 525 - 919                             | 262 - 492                              |
|        |                |             | AH6225        | 0.040 - 0.160        | 0.008 - 0.020 | 295 - 656                  | 361 - 787                             | 197 - 361                              |
|        |                |             | AH6235        | 0.040 - 0.160        | 0.008 - 0.020 | 164 - 492                  | 230 - 558                             | -                                      |
|        |                | SDM         | T6215         | 0.040 - 0.160        | 0.008 - 0.020 | 459 - 787                  | 525 - 919                             | 262 - 492                              |
|        |                |             | AH6225        | 0.040 - 0.160        | 0.008 - 0.020 | 295 - 656                  | 361 - 787                             | 197 - 361                              |
|        |                |             | AH6235        | 0.040 - 0.160        | 0.008 - 0.020 | 164 - 492                  | 230 - 558                             | -                                      |
|        | Heavy cutting  | SH          | T6215         | 0.080 - 0.240        | 0.012 - 0.024 | 459 - 787                  | 525 - 919                             | 262 - 492                              |
| AH6225 |                |             | 0.080 - 0.240 | 0.012 - 0.024        | 295 - 656     | 361 - 787                  | 197 - 361                             |  |
| AH6235 |                |             | 0.080 - 0.240 | 0.012 - 0.024        | 164 - 492     | 230 - 558                  | -                                     |  |

Stainless steels: 304SS, 316SS etc.

# Selection System

## SELECTION SYSTEM: NEGATIVE TYPE

### M Stainless Steel



Continuous

Light interrupted

Heavy interrupted

|   | Continuous  | Light interrupted  | Heavy interrupted   |
|---|---|--|---|
| Finishing<br>[ $a_p = 0.020 \sim 0.060$ in]               | <p><b>Basic</b></p> <p><b>SF T6215</b></p> <p>Fracture → <b>SF AH6225</b> B031</p> <p>Chip control → <b>SS AH6215</b> B031</p> <p>Crater wear → <b>SDM T6215</b> B033</p> <p>B031</p> | <p><b>Basic</b></p> <p><b>SF AH6225</b></p> <p>Fracture → <b>SF AH6235</b> B031</p> <p>Wear → <b>SF T6215</b> B031</p> <p>Chip control → <b>SS AH6225</b> B031</p> <p>Crater wear → <b>SDM AH6225</b> B033</p> <p>B031</p> | <p><b>Basic</b></p> <p><b>SF AH6225</b></p> <p>Fracture → <b>SM AH6225</b> B031</p> <p>Wear → <b>SF T6215</b> B031</p> <p>B031</p>  |
| Medium cutting<br>[ $a_p = 0.039 \sim 0.157$ in]          | <p><b>Basic</b></p> <p><b>SM AH6225</b></p> <p>Wear → <b>SM T6215</b> B033</p> <p>Chip control → <b>SS AH6225</b> B031</p> <p>Crater wear → <b>SDM AH6225</b> B033</p> <p>B033</p>    | <p><b>Basic</b></p> <p><b>SM AH6225</b></p> <p>Fracture → <b>SM AH6235</b> B033</p> <p>Wear → <b>SM T6215</b> B033</p> <p>Chip control → <b>SS AH6225</b> B031</p> <p>Crater wear → <b>SDM AH6225</b> B033</p> <p>B033</p> | <p><b>Basic</b></p> <p><b>SM AH6235</b></p> <p>Fracture → <b>SH AH6235</b> B036</p> <p>Wear → <b>SM AH6225</b> B033</p> <p>B033</p> |
| Medium to heavy cutting<br>[ $a_p = 0.079 \sim 0.236$ in] | <p><b>Basic</b></p> <p><b>SH AH6225</b></p> <p>Fracture → <b>SH AH6235</b> B036</p> <p>Wear → <b>SH T6215</b> B036</p> <p>Chip control → <b>SM AH6225</b> B033</p> <p>B036</p>        | <p><b>Basic</b></p> <p><b>SH AH6225</b></p> <p>Fracture → <b>SH AH6235</b> B036</p> <p>Wear → <b>SH T6215</b> B036</p> <p>B036</p>   | <p><b>Basic</b></p> <p><b>SH AH6235</b></p> <p>Wear → <b>SH AH6225</b> B036</p> <p>B036</p>   |

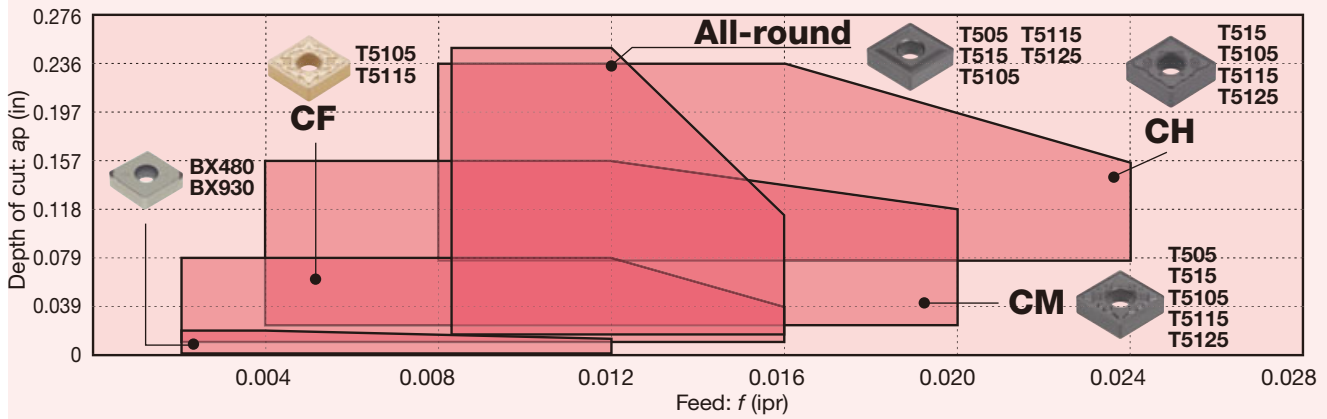
Please see the page B\*\*\* for the details.

# Chipbreaker Guide

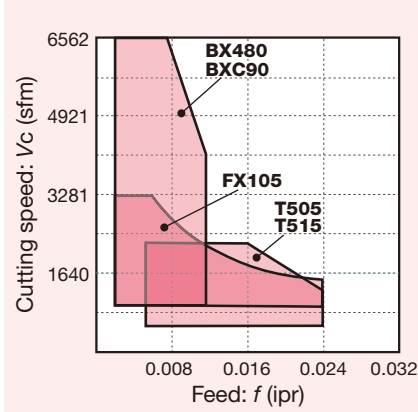
## BASIC CHIPBREAKER: NEGATIVE TYPE

### **K** Cast Iron

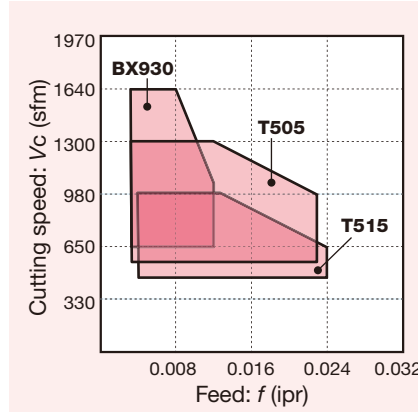
#### Chipbreaker System for Turning (Negative type)



#### Gray cast iron



#### Ductile cast iron



| Chipbreaker      | Shape | Feature   |
|------------------|-------|---|
| -                |       | Excellent performance in high-speed finishing of cast iron with CBN sintered body on the cutting edge.  |
| <b>CF</b>        |       | Low cutting force chipbreaker for cast iron. Combined with an arc-shaped high rake angle (substantially 20°) drastically reduces cutting force and prevents the deformation and burr of thin-walled components. |
| <b>All-round</b> |       | Excellent performance in interrupted cutting. Highly reliable chipbreaker with great stability.   |

| Chip-breaker | Shape | Feature  |
|--------------|-------|--|
| <b>CM</b>    |       | First choice for cast iron. Versatile chipbreaker for a wide range of applications from continuous to interrupted cutting thanks to the positive land and wide chip pocket.                        |
| <b>CH</b>    |       | Chipbreaker with reinforced cutting edge. The negative land and the land support provide stable insert seating and increase cutting edge strength, resulting in no fracture even in heavy cutting. |

## STANDARD CUTTING CONDITIONS

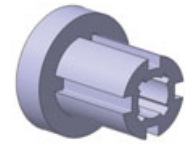
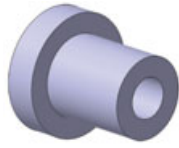
| ISO      | Operation               | Chip-breaker | Grade | Depth of cut $a_p$ (in) | Feed $f$ (ipr) | Cutting speed: $V_c$ (sfm) |                   |
|----------|-------------------------|--------------|-------|-------------------------|----------------|----------------------------|-------------------|
|          |                         |              |       |                         |                | Gray cast iron             | Ductile cast iron |
| <b>K</b> | High speed cutting      | -            | BX930 | 0.002 - 0.020           | 0.002 - 0.008  | 984 - 3937                 | 656 - 1640        |
|          |                         | -            | BX480 | 0.002 - 0.020           | 0.002 - 0.012  | 984 - 6562                 | 656 - 984         |
|          |                         | -            | BXC90 | 0.003 - 0.118           | 0.002 - 0.016  | 984 - 6562                 | 656 - 984         |
|          | Finishing               | All-round    | T505  | 0.039 - 0.197           | 0.004 - 0.020  | 591 - 2297                 | 591 - 1312        |
|          |                         | All-round    | T515  | 0.039 - 0.197           | 0.004 - 0.020  | 492 - 2297                 | 492 - 984         |
|          | Medium cutting          | All-round    | T505  | 0.039 - 0.197           | 0.004 - 0.020  | 591 - 2297                 | 591 - 1312        |
|          |                         | All-round    | T515  | 0.039 - 0.197           | 0.004 - 0.020  | 492 - 2297                 | 492 - 984         |
|          | Medium to heavy cutting | CH           | T515  | 0.118 - 0.236           | 0.008 - 0.024  | 492 - 2297                 | 492 - 984         |
|          |                         | All-round    | T515  | 0.039 - 0.197           | 0.004 - 0.020  | 492 - 2297                 | 492 - 984         |
|          |                         | CH           | T515  | 0.118 - 0.236           | 0.008 - 0.024  | 492 - 2297                 | 492 - 984         |

Gray cast iron: Class 25, etc. Ductile cast iron: 65-45-12, etc.

# Selection System

## SELECTION SYSTEM: NEGATIVE TYPE

### **K** Cast Iron



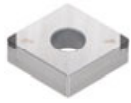
Continuous

Light interrupted

Heavy interrupted

Precision finishing  
[ $a_p \sim 0.020$  in.]

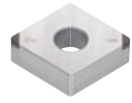
Basic



**BX480**

B168 - B188

Basic



**BX480**

B168 - B188



**All-round  
T515**

B033

Basic

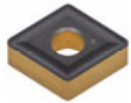


**BXC90**

B168 - B188

Finishing  
[ $a_p = 0.020 \sim 0.079$  in.]

Basic



**All-round  
T505**

B033



**All-round  
T515**

B033



**CF  
T5105**

B031

Basic



**All-round  
T515**

B033



**All-round  
T505**

B033



**CH  
T515**

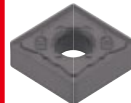
B036



**CF  
T5115**

B031

Basic



**CH  
T515**

B036



**All-round  
T505**

B033



**All-round  
T515**

B033

Medium cutting  
[ $a_p = 0.039 \sim 0.197$  in.]

Basic



**All-round  
T505**

B033



**All-round  
T515**

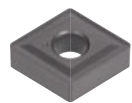
B033



**CF  
T5105**

B031

Basic



**All-round  
T515**

B033



**All-round  
T505**

B033



**CH  
T515**

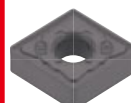
B036



**CF  
T5115**

B031

Basic



**CH  
T515**

B036



**All-round  
T505**

B033



**CH  
T5125**

B036



**All-round  
T515**

B033

Medium to heavy cutting  
[ $a_p = 0.118 \sim 0.236$  in.]

Basic



**All-round  
T515**

B033



**All-round  
T505**

B033



**CF  
T5105**

B031

Basic



**All-round  
T515**

B033



**All-round  
T505**

B033



**CH  
T515**

B036



**CF  
T5115**

B031

Basic



**CH  
T515**

B036



**All-round  
T505**

B033



**CH  
T5125**

B036



**All-round  
T515**

B033

Please see the page B\*\*\* for the details.

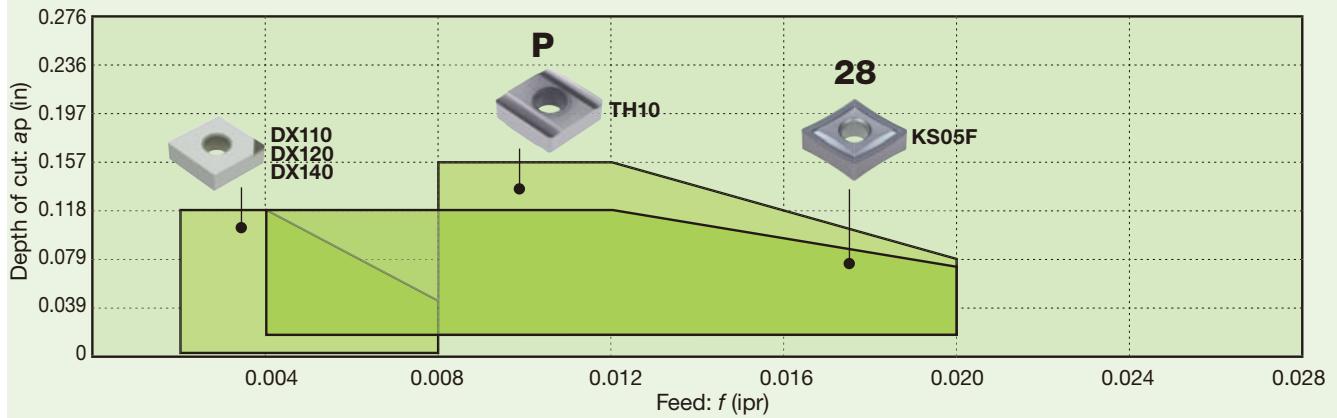


# Chipbreaker Guide

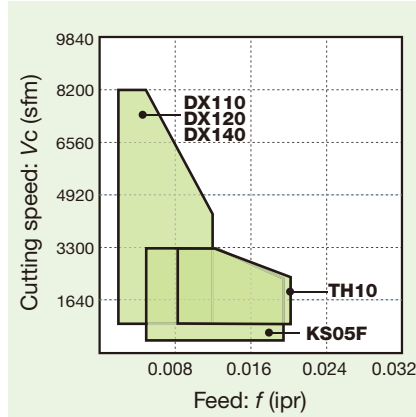
## BASIC CHIPBREAKER: NEGATIVE TYPE

### **N** Non-ferrous Metal

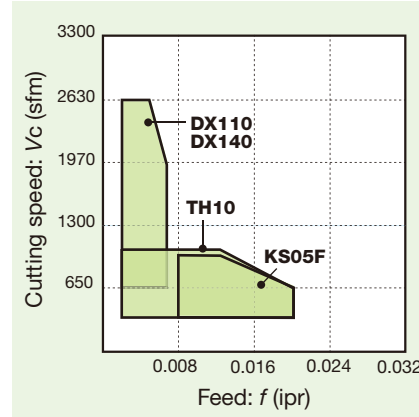
#### Chipbreaker System for Turning (Negative type)



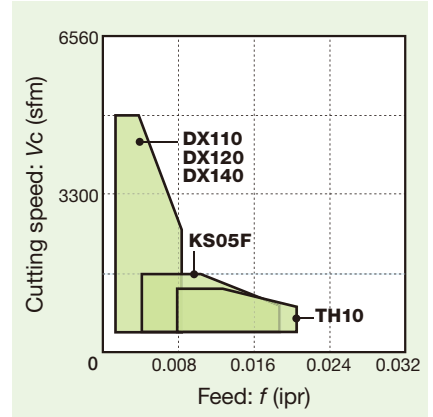
Aluminum alloy (Si < 12%)



Aluminum alloy (Si ≥ 12%)



Copper alloy



| Chipbreaker | Shape | Feature  | Chipbreaker       | Shape | Feature  |
|-------------|-------|--|-------------------|-------|--|
| -           |       | Excellent performance in high-speed finishing of non-ferrous metal, such as Aluminum and copper alloy, with diamond sintered body on the cutting edge. | With chip-breaker |       | Wide chipbreaker for excellent chip control.                                       |
| P           |       | Excellent sharpness for non-ferrous metal, such as Aluminum and copper alloy.  | 28                |       | Low cutting geometry with large inclination for finishing to medium cutting range. |

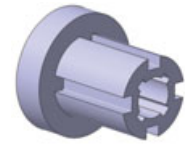
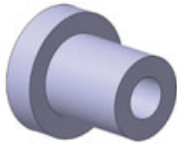
## STANDARD CUTTING CONDITIONS

| ISO      | Operation           | Chip-breaker | Grade | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm)   |                           |              |
|----------|---------------------|--------------|-------|----------------------|---------------|---------------------------|---------------------------|--------------|
|          |                     |              |       |                      |               | Aluminum alloy (Si < 12%) | Aluminum alloy (Si ≥ 12%) | Copper alloy |
| <b>N</b> | Precision finishing | With         | DX110 | 0.002 - 0.020        | 0.002 - 0.006 | 1640 - 8202               | 1312 - 2625               | 1640 - 4921  |
|          |                     | -            | DX140 | 0.002 - 0.020        | 0.002 - 0.008 | 984 - 8202                | 1312 - 2625               | 1640 - 4921  |
|          | Finishing           | With         | DX110 | 0.002 - 0.079        | 0.002 - 0.006 | 1640 - 8202               | 1312 - 2625               | 1640 - 4921  |
|          |                     | -            | DX140 | 0.002 - 0.079        | 0.002 - 0.006 | 984 - 5906                | 1312 - 1969               | 1312 - 3937  |
|          | Medium cutting      | P            | TH10  | 0.02 - 0.157         | 0.008 - 0.020 | 328 - 3281                | 328 - 984                 | 328 - 984    |
|          |                     | P            | KS05F | 0.02 - 0.118         | 0.004 - 0.020 | 328 - 3937                | 328 - 984                 | 328 - 984    |
|          |                     | P            | KS05F | 0.02 - 0.118         | 0.004 - 0.020 | 328 - 3937                | 328 - 984                 | 328 - 984    |
|          |                     | P            | TH10  | 0.02 - 0.157         | 0.008 - 0.020 | 328 - 3281                | 328 - 984                 | 328 - 984    |

# Selection System

SELECTION SYSTEM: NEGATIVE TYPE

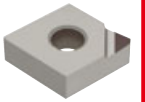
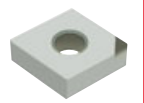


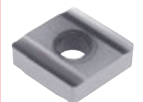
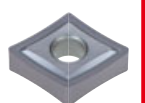
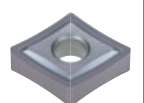
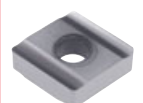
## N Non-ferrous Metal



Continuous

Light interrupted

Heavy interrupted

|   | Continuous  | Light interrupted   | Heavy interrupted   |
|---|---|---|---|
| Precision finishing<br>[ $a_p \sim 0.020$ in.]    | <p><b>Basic</b></p>  <p>With chipbreaker<br/><b>DX110</b><br/>B211 - B212</p> <p>Wear → <b>DX140</b><br/>B211 - B212</p>   | <p><b>Basic</b></p>  <p><b>DX140</b><br/>B211 - B212</p> <p>Surface quality → <b>With chipbreaker DX110</b><br/>B211 - B212</p> <p>Wear → <b>DX160</b><br/>B211 - B212</p> |   |
| Finishing<br>[ $a_p = 0.020 \sim 0.079$ in.]      | <p><b>Basic</b></p>  <p><b>DX140</b><br/>B211 - B212</p> <p>Surface quality → <b>With chipbreaker DX110</b><br/>B211 - B212</p> <p>Wear → <b>DX160</b><br/>B211 - B212</p> | <p><b>Basic</b></p>  <p><b>DX140</b><br/>B211 - B212</p> <p>Fracture → <b>P TH10</b><br/>B035</p> <p>Wear → <b>DX160</b><br/>B211 - B212</p>                             | <p><b>Basic</b></p>  <p><b>P TH10</b><br/>B035</p> |
| Medium cutting<br>[ $a_p = 0.039 \sim 0.157$ in.] | <p><b>Basic</b></p>  <p><b>28 KS05F</b><br/>B035</p> <p>Wear → <b>DX140</b><br/>B211 - B212</p>  | <p><b>Basic</b></p>  <p><b>28 KS05F</b><br/>B035</p> <p>Wear → <b>DX140</b><br/>B211 - B212</p>  | <p><b>Basic</b></p>  <p><b>P TH10</b><br/>B035</p> |

Please see the page B\*\*\* for the details.

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

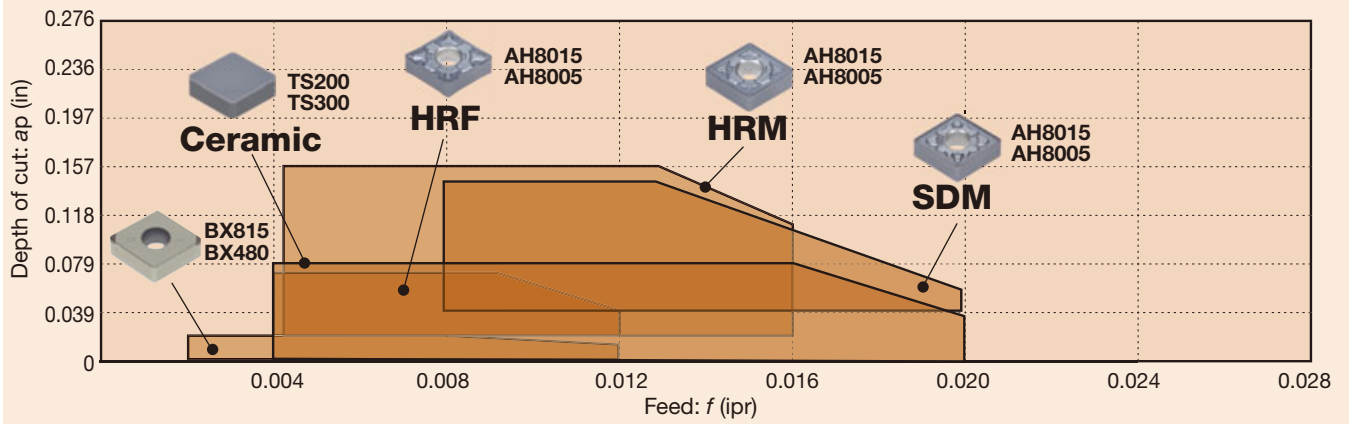
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# Chipbreaker Guide

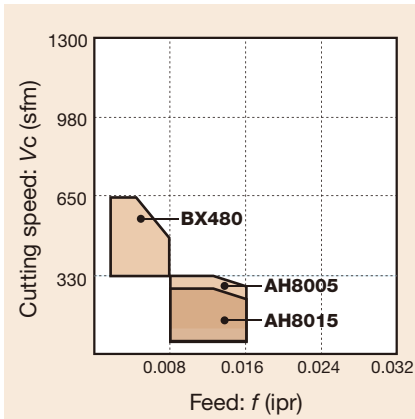
## BASIC CHIPBREAKER: NEGATIVE TYPE

### S Heat resistant superalloys

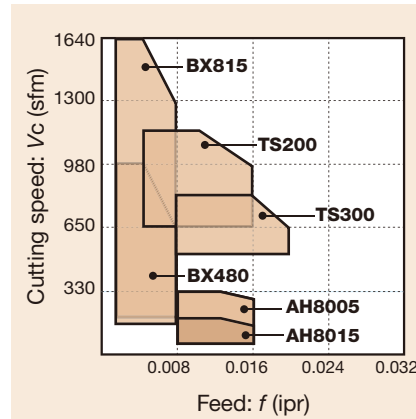
#### Chipbreaker System for Turning (Negative type)



#### Titanium alloy



#### Ni-base alloy



| Chipbreaker | Shape | Feature  |
|-------------|-------|--|
| <b>HRF</b>  |       | Suitable for finishing superalloy. Unique protrusion improves chip control in cutting low depth. |
| <b>HRM</b>  |       | First choice for heat-resistant alloy. The geometry optimized for a wide range of depths of cut. |
| <b>SDM</b>  |       | Light cutting geometry for notch wear and crater wear resistance.                                |

| Chipbreaker    | Shape | Feature  |
|----------------|-------|--|
| -              |       | Excellent performance in finishing of heat-resistant alloy and titanium alloy with CBN sintered alloy on the cutting edge. |
| <b>Ceramic</b> |       | Suitable for roughing operation of heat-resistant alloy, due to the SIALON ceramic with high-temperature strength.         |

## STANDARD CUTTING CONDITIONS

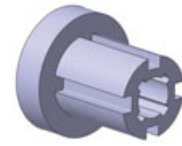
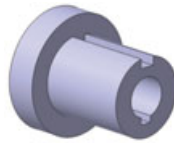
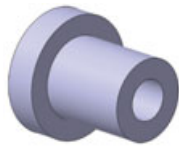
| ISO      | Operation                   | Chip-breaker | Grade         | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm) |               |
|----------|-----------------------------|--------------|---------------|----------------------|---------------|-------------------------|---------------|
|          |                             |              |               |                      |               | Titanium alloy          | Ni-base alloy |
| <b>S</b> | Precision finishing         | -            | BX480         | 0.004 - 0.020        | 0.002 - 0.008 | 330 - 660               | 230 - 984     |
|          |                             | -            | BX815         | 0.004 - 0.020        | 0.002 - 0.008 | -                       | 230 - 1640    |
|          | Finishing to medium cutting | -            | TS200         | 0.004 - 0.079        | 0.004 - 0.016 | -                       | 656 - 1148    |
|          |                             | -            | TS300         | 0.004 - 0.079        | 0.008 - 0.020 | -                       | 492 - 820     |
|          |                             | HRF          | AH8005        | 0.020 - 0.059        | 0.002 - 0.010 | 66 - 328                | 66 - 328      |
|          |                             | HRF          | AH8015        | 0.020 - 0.059        | 0.002 - 0.010 | 66 - 262                | 66 - 164      |
|          |                             | HRF          | AH8015        | 0.020 - 0.059        | 0.002 - 0.010 | 33 - 197                | 33 - 131      |
|          | Medium cutting              | HRM          | AH8005        | 0.020 - 0.157        | 0.004 - 0.016 | 66 - 328                | 66 - 328      |
|          |                             | HRM          | AH8015        | 0.020 - 0.157        | 0.004 - 0.016 | 66 - 262                | 66 - 164      |
| HRM      |                             | AH8015       | 0.020 - 0.157 | 0.004 - 0.016        | 33 - 197      | 33 - 131                |               |

Ni-base alloy: INCONEL718, etc. Titanium alloy: Ti-6Al-4V, etc.

# Selection System

SELECTION SYSTEM: NEGATIVE TYPE

## S Heat resistant superalloys



Continuous

Light interrupted

Heavy interrupted

|  | Continuous  | Light interrupted   | Heavy interrupted   |
|--|---|---|---|
| <b>Precision finishing</b><br>$[a_p = \sim 0.020 \text{ in}]$  | <p><b>Basic</b></p> <p>Fracture → <b>HRF AH8005</b> B031</p> <p><b>BX815</b><br/>B168 - B188</p>  | <p><b>Basic</b></p> <p>Fracture → <b>HRF AH8005</b> B031</p> <p><b>BX480</b><br/>B168 - B188</p>  |   |
| <b>Finishing</b><br>$[a_p = 0.020 \sim 0.060 \text{ in}]$      | <p><b>Basic</b></p> <p>Fracture → <b>HRF AH8015</b> B031</p> <p>Chip control → <b>28 AH8005</b> B035</p> <p>High-speed wear → <b>TS300</b> B038, B039</p> <p>Crater wear → <b>SDM AH8005</b> B033</p> <p><b>HRF AH8005</b> B031</p> | <p><b>Basic</b></p> <p>Fracture → <b>HRM AH8015</b> B034</p> <p>Wear → <b>HRF AH8005</b> B031</p> <p>Chip control → <b>28 AH8015</b> B035</p> <p>Crater wear → <b>SDM AH8015</b> B033</p> <p><b>HRF AH8015</b> B031</p> | <p><b>Basic</b></p> <p>Fracture → <b>HRM AH8015</b> B034</p> <p>Wear → <b>HRF AH8005</b> B031</p> <p>Crater wear → <b>SDM AH8015</b> B033</p> <p><b>HRF AH8015</b> B031</p> |
| <b>Medium cutting</b><br>$[a_p = 0.020 \sim 0.157 \text{ in}]$ | <p><b>Basic</b></p> <p>Fracture → <b>HRM AH8015</b> B034</p> <p>Burr occurrence → <b>HRF AH8015</b> B031</p> <p>Chip control → <b>28 AH8005</b> B035</p> <p>Crater wear → <b>SDM AH8005</b> B033</p> <p><b>HRM AH8005</b> B034</p>  | <p><b>Basic</b></p> <p>Fracture → <b>SM AH6225</b> B033</p> <p>Wear → <b>HRM AH8005</b> B034</p> <p>Chip control → <b>28 AH8015</b> B035</p> <p>Crater wear → <b>SDM AH8015</b> B033</p> <p><b>HRM AH8015</b> B034</p>  | <p><b>Basic</b></p> <p>Wear → <b>HRF AH8005</b> B031</p> <p>Crater wear → <b>SDM AH8015</b> B033</p> <p><b>HRM AH8015</b> B034</p>  |

Please see the page B\*\*\* for the details.

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

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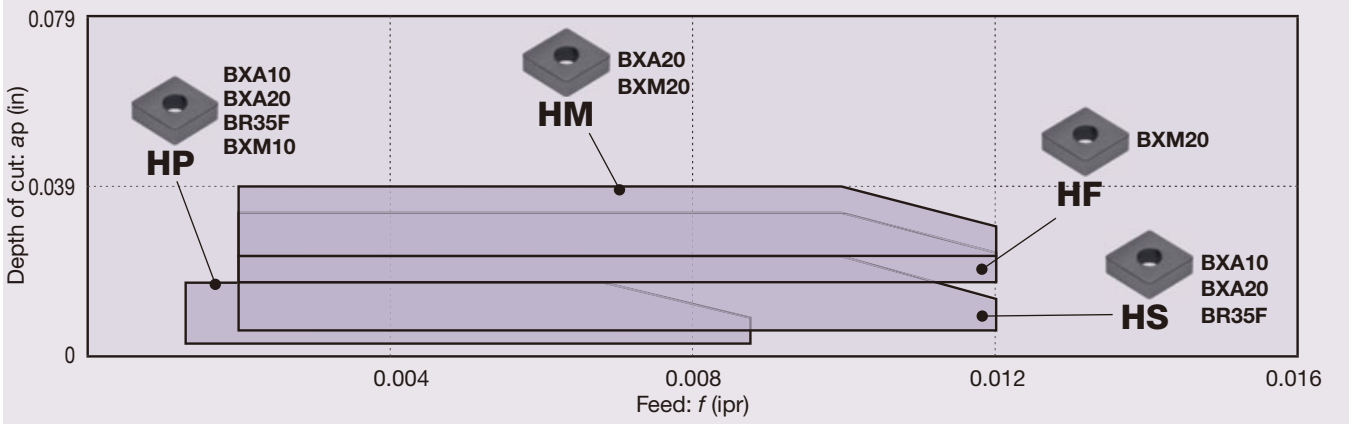


# Chipbreaker Guide

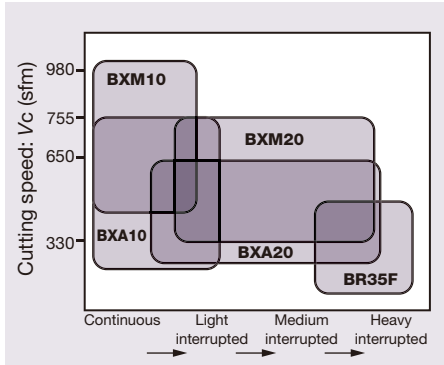
## BASIC CHIPBREAKER: NEGATIVE TYPE

### H Hard Materials

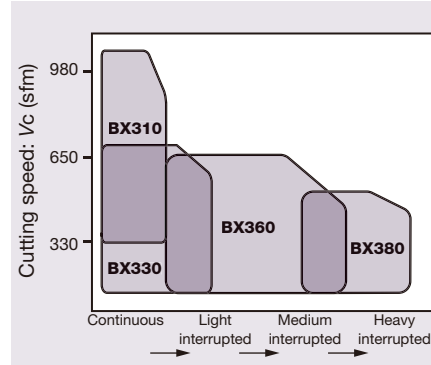
#### Chipbreaker System for Turning (Negative type)



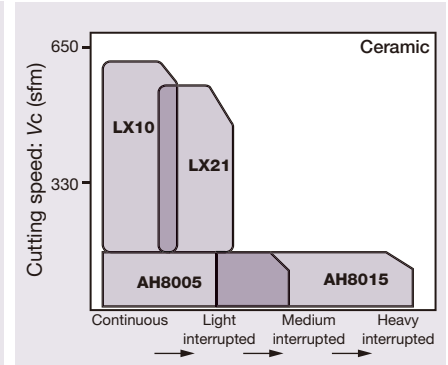
#### Coated CBN



#### T-CBN



#### Ceramic, PVD coating



| Chipbreaker    | Shape | Feature   |
|----------------|-------|---|
| -              |       | Excellent performance in finishing of hard material with CBN sintered body on the cutting edge. |
| -<br>(Ceramic) |       | Realizes economical hardened steel medium speed finishing.                                      |
| HRF            |       | Excellent chip control in Hardent steel medium finishing.                                       |

| Chipbreaker | Shape | Feature  |
|-------------|-------|--|
| HF          |       | Excellent chip control in removing carburized layer at small depth of cut.                       |
| HM          |       | Excellent chip control in removing carburized layer at large depth of cut.                       |
| HP          |       | Excellent chip control in precision finishing.   |
| HS          |       | Provides the excellent chip-control at a high-feed condition in the precise finishing operation. |

## STANDARD CUTTING CONDITIONS

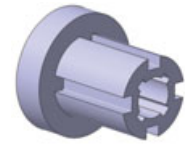
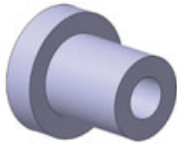
| ISO            | Operation                    | Chipbreaker      | Grade                   | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed Vc (sfm) |           |
|----------------|------------------------------|------------------|-------------------------|----------------------|---------------|------------------------|-----------|
| H              | Precision finishing          | HP               | BXA10<br>BXA20<br>BR35F | 0.001 - 0.01         | 0.001 - 0.009 | 230 - 1148             |           |
|                |                              | HS               | BXA10<br>BXA20<br>BR35F | 0.004 - 0.014        | 0.002 - 0.012 | 230 - 1148             |           |
|                | Finishing                    | -                | BXM10<br>BXM20<br>BXA20 | 0.002 - 0.020        | 0.002 - 0.010 | 230 - 1148             |           |
|                |                              | -                | LX10<br>LX21            | 0.002 - 0.020        | 0.002 - 0.010 | 197 - 591              |           |
|                | Removing of carburized layer | HF               | BXM20                   |                      | 0.012 - 0.030 | 0.002 - 0.012          | 230 - 656 |
|                |                              | HM               | BXA20<br>BXM20          |                      | 0.020 - 0.039 | 0.002 - 0.012          | 230 - 656 |
| Medium cutting | HRF                          | AH8005<br>AH8015 |                         | 0.002 - 0.079        | 0.002 - 0.010 | 33 - 164               |           |

Hardened steels, Pre-hardened steels: D2, H13, etc.

# Selection System

SELECTION SYSTEM: NEGATIVE TYPE

## H Hard Materials



Continuous

Light interrupted

Heavy interrupted

Precision finishing  
[ $a_p \sim 0.014$  in.]

Basic

High feed

**HP BXA10**  
B168 - B188

**HS BXA10**  
B168 - B188

Basic

Fracture

**BXA20**  
B168 - B188

High-speed wear

**BXA10**  
B168 - B188

**-H BXA20**  
B168 - B188

Finishing  
[ $a_p \sim 0.020$  in.]

Basic

High-speed

**BXA10**  
B168 - B188

**LX10**  
B038, B039

Basic

Fracture

**BXA20**  
B168 - B188

High-speed

**BXA10**  
B168 - B188

High-speed wear

**LX21**  
B038, B039

**-H BXA20**  
B168 - B188

Basic

Fracture

**BR35F**  
B168 - B188

**-HC BR35F**  
B168 - B188

Removing of carburized layer  
[ $a_p \sim 0.039$  in.]

Basic

**HF BXM20**  
B168 - B188

Basic

**HM BXA20**  
B168 - B188

Medium cutting  
[ $a_p \sim 0.079$  in.]

Basic

Fracture

**HRF AH8005**  
B031

**HRF AH8015**  
B031

Basic

Fracture

**HRF AH8015**  
B031

**HRM AH8015**  
B034

Basic

Fracture

**HRF AH8015**  
B031

**HRM AH8015**  
B034

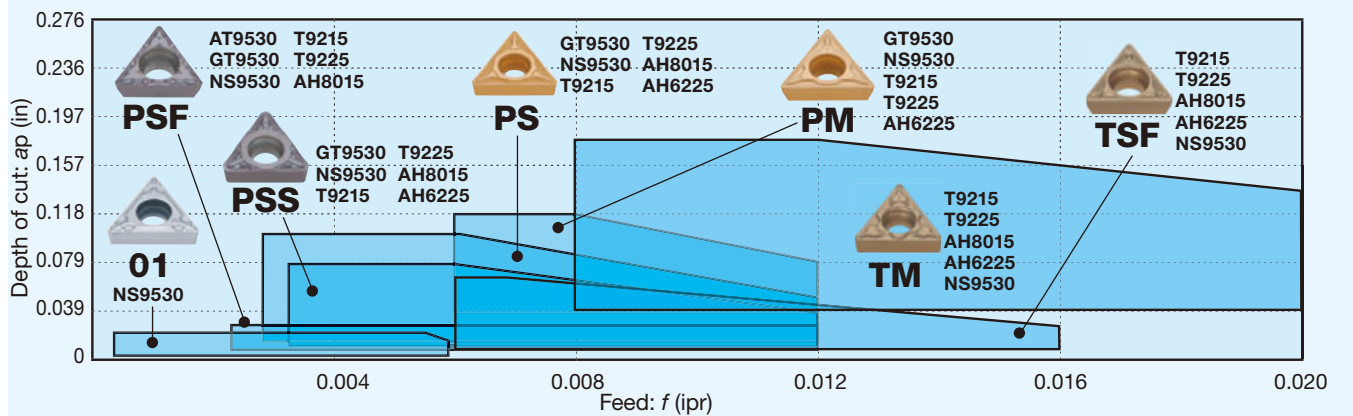
Please see the page B\*\*\* for the details.

# Chipbreaker Guide

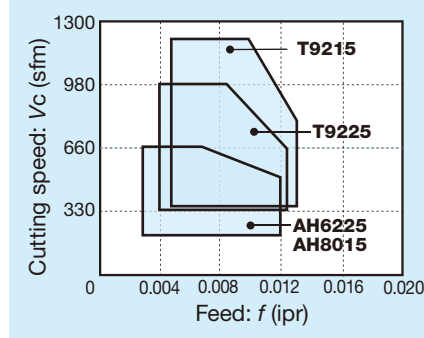
## BASIC CHIPBREAKER: POSITIVE TYPE

### P Steel

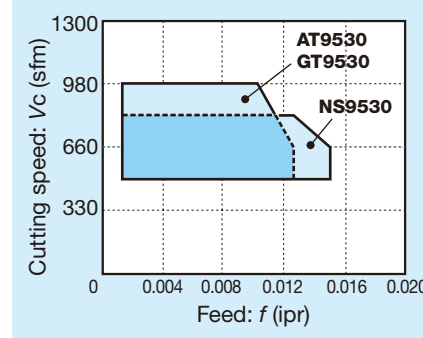
#### Chipbreaker System for Turning (Positive Type)



#### CVD / PVD coated grade



#### Coated cermet / Cermet



| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| <b>01</b>   |       | Excellent chip control in machining very small depth of cut thanks to the sharp cutting edge and protrusion.  |
| <b>PSF</b>  |       | Low cutting force and high wear resistance. First choice for finishing. Excellent chip control in finishing prevents chip entanglement in internal machining.                                 |
| <b>PSS</b>  |       | 3D chipbreaker for finishing to medium cutting with excellent chip control and low cutting force.   |
| <b>PS</b>   |       | 3D chipbreaker for finishing to medium cutting with excellent chip control and sharpness. M-class insert delivers cost reduction and highly efficient boring in a wide range of applications. |

| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| <b>PM</b>   |       | First choice for medium cutting with excellent sharpness and good chip control. Delivers stable machining of stainless steel. |
| <b>TSF</b>  |       | Optimal chipbreaker width and geometry enable smooth chip control in high-feed machining.                                     |
| <b>TM</b>   |       | Optimal cutting edge design and chipbreaker shape achieve excellent chip control in large depth of cut machining.             |

## STANDARD CUTTING CONDITIONS

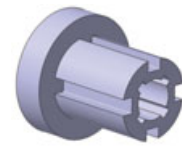
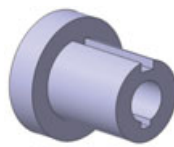
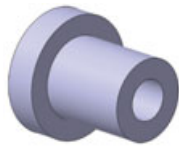
| ISO      | Operation                  | Chip-breaker | Grade  | Depth of cut $a_p$ (in) | Feed $f$ (ipr) | Cutting speed: $V_c$ (sfm)      |                                    |                                  |
|----------|----------------------------|--------------|--------|-------------------------|----------------|---------------------------------|------------------------------------|----------------------------------|
|          |                            |              |        |                         |                | Low carbon steels, Alloy steels | Medium carbon steels, Alloy steels | High carbon steels, Alloy steels |
| <b>P</b> | Precision finishing        | 01           | NS9530 | 0.002 - 0.020           | 0.001 - 0.006  | 492 - 820                       | 262 - 722                          | 262 - 591                        |
|          |                            | 01           | NS9530 | 0.002 - 0.020           | 0.001 - 0.006  | 492 - 820                       | 262 - 722                          | 262 - 591                        |
|          | Finishing                  | PSS          | NS9530 | 0.004 - 0.020           | 0.002 - 0.012  | 492 - 820                       | 262 - 722                          | 262 - 591                        |
|          |                            | PSS          | NS9530 | 0.004 - 0.020           | 0.002 - 0.012  | 492 - 820                       | 262 - 722                          | 262 - 591                        |
|          |                            | PS           | T9215  | 0.012 - 0.079           | 0.003 - 0.012  | 394 - 1148                      | 328 - 1148                         | 262 - 820                        |
|          |                            | PS           | T9215  | 0.012 - 0.079           | 0.003 - 0.012  | 394 - 1148                      | 328 - 1148                         | 262 - 820                        |
|          | Finishing to light cutting | PS           | T9215  | 0.020 - 0.098           | 0.003 - 0.012  | 394 - 1148                      | 328 - 1148                         | 262 - 820                        |
|          |                            | PS           | T9225  | 0.020 - 0.098           | 0.003 - 0.012  | 328 - 984                       | 262 - 984                          | 262 - 820                        |
|          | Medium cutting             | PM           | T9215  | 0.040 - 0.120           | 0.006 - 0.012  | 492                             | 328 - 656                          | 262 - 591                        |
|          |                            | PM           | T9225  | 0.040 - 0.120           | 0.006 - 0.012  | 394                             | 262 - 591                          | 262 - 394                        |

Low carbon steels, Alloy steels: 1018, 1020, etc. Medium carbon steels, Alloy steels: 1045, 4140, etc. Hi carbon steels, Alloy steels: 8620, etc. Hi carbon steels, Alloy steels: 4340, etc.

# Selection System

## SELECTION SYSTEM: POSITIVE TYPE

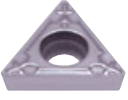
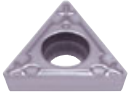
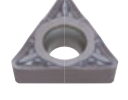
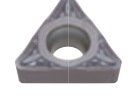
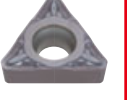






### P Steel



Continuous

Light interrupted

Heavy interrupted

|   | Continuous  | Light interrupted   | Heavy interrupted  |
|---|---|---|--|
| <b>Precision finishing</b><br>[ $a_p = \sim 0.020$ in.]               | <p><b>Basic</b></p>  <p><b>01 NS9530</b></p> <p>B040, B045</p>   | <p><b>Basic</b></p>  <p><b>01 NS9530</b></p> <p>B040, B045</p> <p>Fracture → <b>PSF NS9530</b><br/>B040, B045, B049</p>  |  |
| <b>Finishing</b><br>[ $a_p = 0.004 \sim 0.020$ in.]                   | <p><b>Basic</b></p>  <p><b>PSS NS9530</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>PSS T9215</b><br/>B042, B046, B049</p> <p>Wear → <b>PSS GT9530</b><br/>B042, B046, B049</p> <p>Chip control → <b>PSF NS9530</b><br/>B040, B045, B049</p>            | <p><b>Basic</b></p>  <p><b>PSS NS9530</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>PSS T9215</b><br/>B042, B046, B049</p> <p>Wear → <b>PSS GT9530</b><br/>B042, B046, B049</p> <p>Chip control → <b>PSF NS9530</b><br/>B040, B045, B049</p>            | <p><b>Basic</b></p>  <p><b>PSS NS9530</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>PSS T9215</b><br/>B042, B046, B049</p> <p>Wear → <b>PSS GT9530</b><br/>B042, B046, B049</p> <p>Chip control → <b>PSF NS9530</b><br/>B040, B045, B049</p> |
| <b>Finishing to medium cutting</b><br>[ $a_p = 0.020 \sim 0.098$ in.] | <p><b>Basic</b></p>  <p><b>PS T9215</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>PS T9225</b><br/>B042, B046, B049</p> <p>Wear → <b>PS NS9530</b><br/>B042, B046, B049</p> <p>Chip control → <b>TSF, TM T9215</b><br/>B040, B042, B045, B046, B049</p> | <p><b>Basic</b></p>  <p><b>PS T9215</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>PS T9225</b><br/>B042, B046, B049</p> <p>Wear → <b>PS NS9530</b><br/>B042, B046, B049</p> <p>Chip control → <b>TSF, TM T9215</b><br/>B040, B042, B045, B046, B049</p> | <p><b>Basic</b></p>  <p><b>PS T9215</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>PS T9225</b><br/>B042, B046</p> <p>Chip control → <b>TSF, TM T9215</b><br/>B040, B042, B045, B046, B049</p>  |
| <b>Medium cutting</b><br>[ $a_p = 0.039 \sim 0.118$ in.]              | <p><b>Basic</b></p>  <p><b>PM T9215</b></p> <p>B044, B048</p> <p>Fracture → <b>PM T9225</b><br/>B044, B048</p> <p>Wear → <b>PM NS9530</b><br/>B044, B048</p> <p>Chip control → <b>TSF, TM T9215</b><br/>B040, B042, B045, B046, B049</p>                   | <p><b>Basic</b></p>  <p><b>PM T9215</b></p> <p>B044, B048</p> <p>Fracture → <b>PM T9225</b><br/>B044, B048</p> <p>Chip control → <b>TSF, TM T9215</b><br/>B040, B042, B045, B046, B049</p>   | <p><b>Basic</b></p>  <p><b>PM T9215</b></p> <p>B044, B048</p> <p>Fracture → <b>PM T9225</b><br/>B044, B048</p> <p>Chip control → <b>TSF, TM T9215</b><br/>B040, B042, B045, B046, B049</p>  |

Please find the details on the pages: B\*\*\*/7° relief angle, B\*\*\*/11° relief angle, B\*\*\*/5° relief angle.



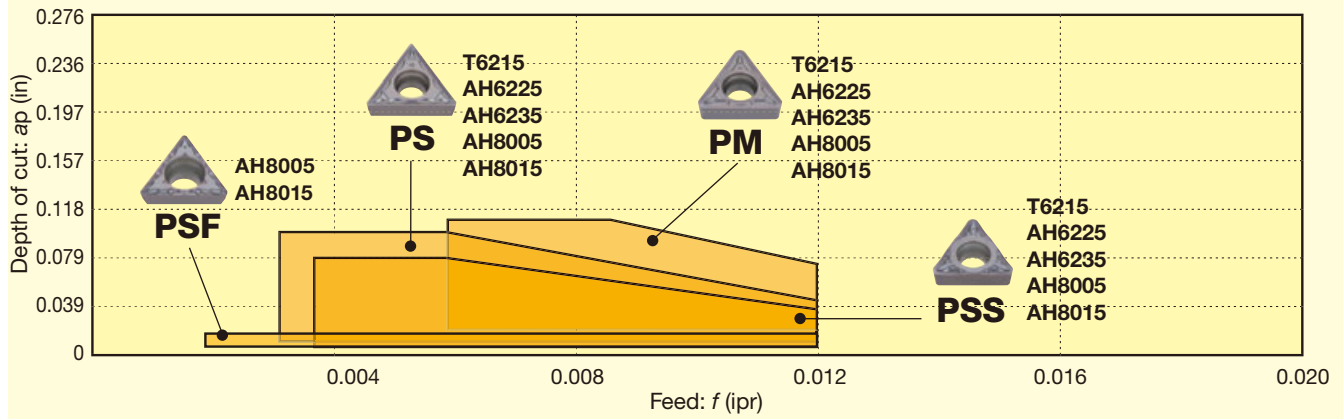


# Chipbreaker Guide

## BASIC CHIPBREAKER: POSITIVE TYPE

### M Stainless Steel

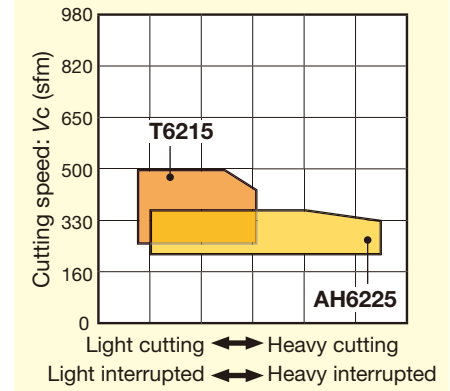
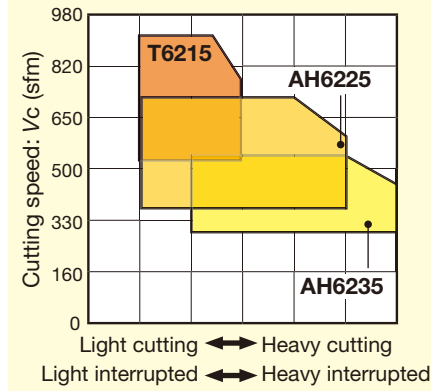
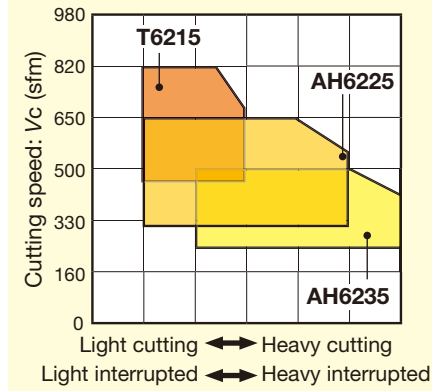
#### Chipbreaker System for Turning (Positive Type)



Austenitic stainless steel

Ferritic / martensite stainless steel

Precipitation hardened stainless steel



| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| <b>PSF</b>  |       | Low cutting force and high wear resistance. First choice for finishing. Excellent chip control in finishing prevents chip entanglement in internal machining. |
| <b>PSS</b>  |       | 3D chipbreaker for finishing to medium cutting with excellent chip control and low cutting force.   |

| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| <b>PS</b>   |       | 3D chipbreaker for finishing to medium cutting with excellent chip control and sharpness. M-class insert delivers cost reduction and highly efficient boring in a wide range of applications. |
| <b>PM</b>   |       | First choice for medium cutting with excellent sharpness and good chip control. Delivers stable machining of stainless steel.   |

## STANDARD CUTTING CONDITIONS

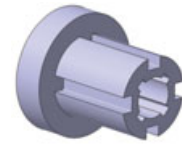
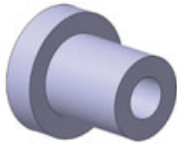
| ISO            | Operation                   | Chipbreaker | Grade         | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm)    |                                       |  |
|----------------|-----------------------------|-------------|---------------|----------------------|---------------|----------------------------|---------------------------------------|--|
|                |                             |             |               |                      |               | Austenitic stainless steel | Ferritic / martensite stainless steel | Precipitation hardened stainless steel |
| <b>M</b>       | Finishing                   | PSS         | T6215         | 0.012 - 0.079        | 0.003 - 0.012 | 459 - 787                  | 525 - 919                             | 262 - 492                              |
|                |                             |             | AH6225        | 0.012 - 0.079        | 0.003 - 0.012 | 295 - 656                  | 361 - 787                             | 197 - 361                              |
|                |                             |             | AH6235        | 0.012 - 0.079        | 0.003 - 0.012 | 164 - 492                  | 230 - 558                             | -                                      |
|                | Finishing to medium cutting | PS          | T6215         | 0.020 - 0.098*       | 0.003 - 0.012 | 459 - 787                  | 525 - 919                             | 262 - 492                              |
|                |                             |             | AH6225        | 0.020 - 0.098*       | 0.003 - 0.012 | 295 - 656                  | 361 - 787                             | 197 - 361                              |
|                |                             |             | AH6235        | 0.020 - 0.098*       | 0.003 - 0.012 | 164 - 492                  | 230 - 558                             | -                                      |
| Medium cutting | PM                          | T6215       | 0.039 - 0.118 | 0.006 - 0.012        | 459 - 787     | 525 - 919                  | 262 - 492                             |  |
|                |                             | AH6225      | 0.039 - 0.118 | 0.006 - 0.012        | 295 - 656     | 361 - 787                  | 197 - 361                             |  |
|                |                             | AH6235      | 0.039 - 0.118 | 0.006 - 0.012        | 164 - 492     | 230 - 558                  | -                                     |  |

\* For CCMT0602 and DCMT0702 type inserts, ap = 0.020 - 0.098, Stainless steels: 304SS, 316SS, etc.

# Selection System

SELECTION SYSTEM: POSITIVE TYPE

## M Stainless Steel



Continuous

Light interrupted

Heavy interrupted

|   | Continuous   | Light interrupted   | Heavy interrupted   |
|---|--|---|---|
| <b>Finishing</b><br>$[a_p = 0.012 \sim 0.060 \text{ in}]$                   | <p>Basic</p>  <p><b>PSS AH6225</b><br/>B042, B046, B049</p> <p>Wear → <b>PSS T6215</b><br/>B042, B046, B049</p> | <p>Basic</p>  <p><b>PSS AH6225</b><br/>B042, B046, B049</p> <p>Fracture → <b>PSS AH6235</b><br/>B042, B046, B049</p> <p>Wear → <b>PSS T6215</b><br/>B042, B046, B049</p> | <p>Basic</p>  <p><b>PSS AH6225</b><br/>B042, B046, B049</p> <p>Fracture → <b>PSS AH6235</b><br/>B042, B046, B049</p> <p>Wear → <b>PSS T6215</b><br/>B042, B046, B049</p> |
| <b>Finishing to medium cutting</b><br>$[a_p = 0.020 \sim 0.098 \text{ in}]$ | <p>Basic</p>  <p><b>PS AH6225</b><br/>B042, B046, B049</p> <p>Wear → <b>PS T6215</b><br/>B042, B046, B049</p> | <p>Basic</p>  <p><b>PS AH6225</b><br/>B042, B046, B049</p> <p>Fracture → <b>PM AH6235</b><br/>B044, B048</p> <p>Wear → <b>PS T6215</b><br/>B042, B046, B049</p>        | <p>Basic</p>  <p><b>PS AH6225</b><br/>B042, B046, B049</p> <p>Fracture → <b>PM AH6235</b><br/>B044, B048</p> <p>Wear → <b>PS T6215</b><br/>B042, B046, B049</p>        |
| <b>Medium cutting</b><br>$[a_p = 0.039 \sim 0.118 \text{ in}]$              | <p>Basic</p>  <p><b>PM AH6225</b><br/>B044, B048</p> <p>Wear → <b>PM T6215</b><br/>B044, B048</p>             | <p>Basic</p>  <p><b>PM AH6225</b><br/>B044, B048</p> <p>Fracture → <b>PM AH6235</b><br/>B044, B048</p> <p>Wear → <b>PM T6215</b><br/>B044, B048</p>                    | <p>Basic</p>  <p><b>PM AH6225</b><br/>B044, B048</p> <p>Fracture → <b>PM AH6235</b><br/>B044, B048</p>   |

Please find the details on the pages: B\*\*\*/7° relief angle, B\*\*\*/11° relief angle, B\*\*\*/5° relief angle.

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Milling cutter  
Miniature tool  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

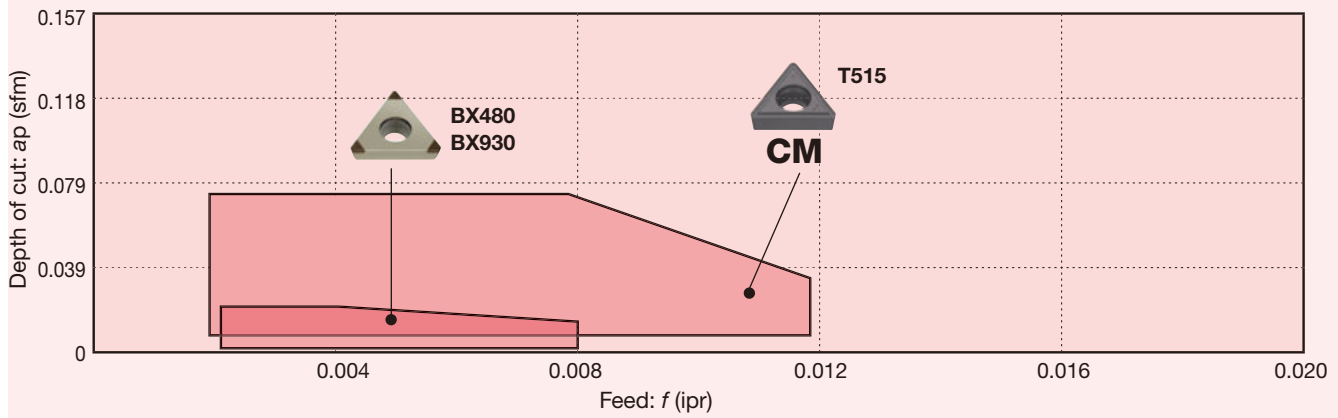


# Chipbreaker Guide

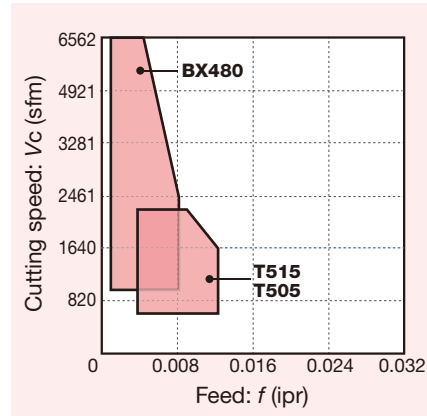
## BASIC CHIPBREAKER: POSITIVE TYPE

### **K** Cast Iron

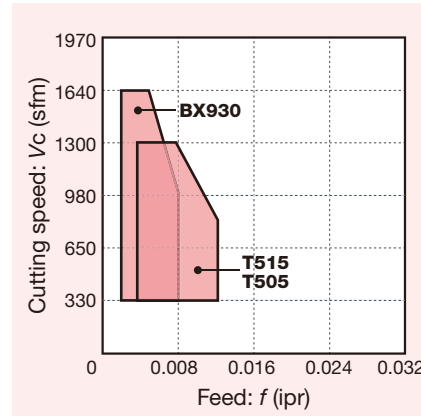
#### Chipbreaker System for Turning (Positive Type)



#### Gray cast iron



#### Ductile cast iron



| Chipbreaker | Shape | Feature  |
|-------------|-------|--|
| -           |       | Excellent performance in high-speed finishing of cast iron with CBN sintered body on the cutting edge. |

| Chipbreaker | Shape | Feature  |
|-------------|-------|--|
| CM          |       | Highly versatile all-round chipbreaker with low cutting force. Suitable for finishing to medium cutting. |

## STANDARD CUTTING CONDITIONS

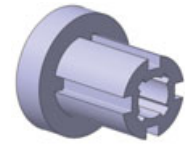
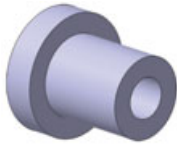
| ISO      | Operation           | Chip-breaker | Grade | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm) |                   |
|----------|---------------------|--------------|-------|----------------------|---------------|-------------------------|-------------------|
|          |                     |              |       |                      |               | Gray cast iron          | Ductile cast iron |
| <b>K</b> | Precision finishing | -            | BX930 | 0.002 - 0.020        | 0.002 - 0.008 | 980 - 3940              | 330 - 1640        |
|          |                     | -            | BX480 | 0.002 - 0.020        | 0.002 - 0.008 | 980 - 6560              | -                 |
|          | Finishing           | CM           | T515  | 0.002 - 0.079        | 0.002 - 0.012 | 500 - 2300              | 500 - 980         |
|          |                     | CM           | T515  | 0.002 - 0.079        | 0.002 - 0.012 | 330 - 660               | 330 - 660         |
|          |                     | CM           | T515  | 0.002 - 0.079        | 0.002 - 0.012 | 330 - 980               | 330 - 820         |

Gray cast iron: Class 25, etc.  
Ductile cast iron: 65-45-12, etc.

# Selection System

SELECTION SYSTEM: POSITIVE TYPE





## **K** Cast Iron



Continuous

Light interrupted

Heavy interrupted

|   |   |   |   |
|---|---|---|---|
| <b>Precision finishing</b><br>[ $a_p \sim 0.020$ in ] | <b>Basic</b><br><br>-<br><b>BX480</b><br>B189 - B210 | <b>Basic</b><br><br>-<br><b>BX480</b><br>B189 - B210     |   |
|   | <b>Finishing to Medium cutting</b><br>[ $a_p = 0.020 \sim 0.118$ in ]   | <b>Basic</b><br><br><b>CM T515</b><br>B042, B046, B049 | <b>Basic</b><br><br><b>CM T515</b><br>B042, B046, B049 |

Please find the details on the pages: **B\*\*\*/7°** relief angle, **B\*\*\*/11°** relief angle, **B\*\*\*/5°** relief angle.

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M

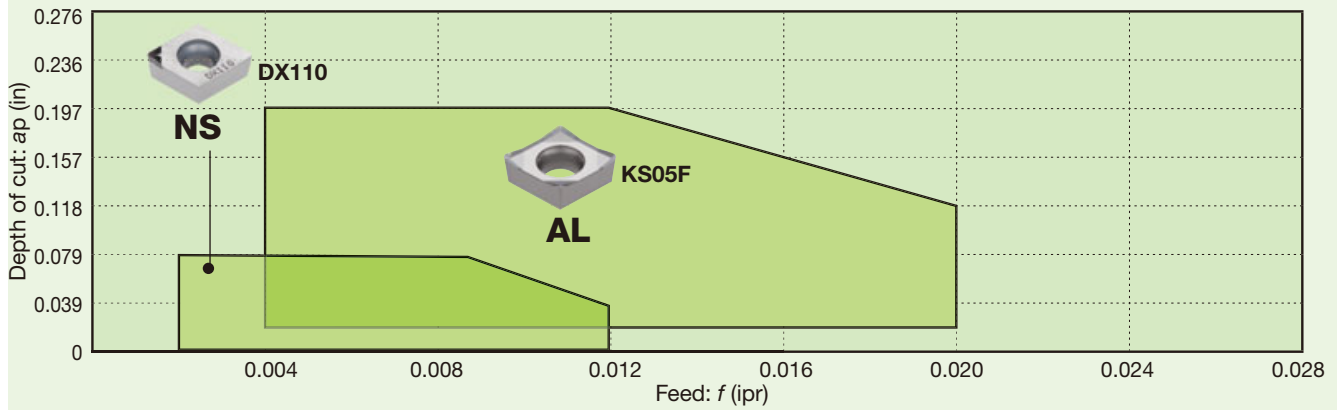


# Chipbreaker Guide

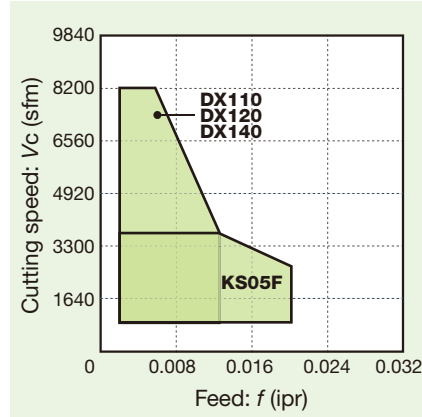
## BASIC CHIPBREAKER: POSITIVE TYPE

### N Non-ferrous Metal

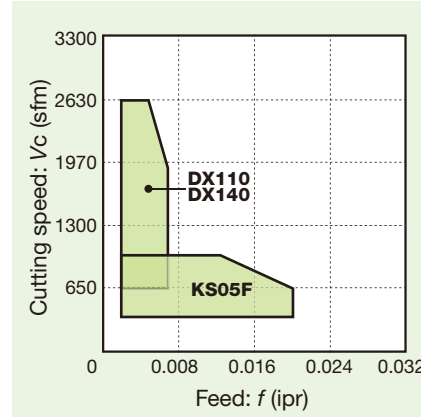
#### Chipbreaker System for Turning (Positive Type)



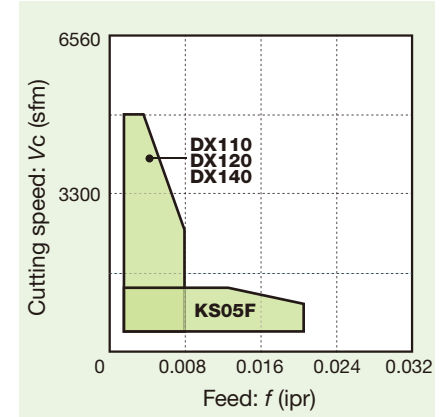
Aluminum alloy (Si < 12%)



Aluminum alloy (Si ≥ 12%)



Copper alloy



| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| -           |       | Excellent performance in high-speed finishing of non-ferrous metal with diamond sintered body on the cutting edge.  |
| AL          |       | Large rake angle and sharp cutting edge reduce cutting force. Lapped rake face prevents adhesion. Large inclination on the cutting edge (wavy cutting edge) for more stable chip control. |

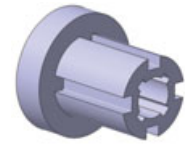
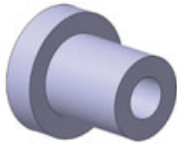
## STANDARD CUTTING CONDITIONS

| ISO | Operation           | Work condition    | Chip-breaker | Grade | Depth of cut $a_p$ (in) | Feed $f$ (ipr) | Cutting speed: $V_c$ (sfm) |                           |              |
|-----|---------------------|-------------------|--------------|-------|-------------------------|----------------|----------------------------|---------------------------|--------------|
|     |                     |                   |              |       |                         |                | Aluminum alloy (Si < 12%)  | Aluminum alloy (Si ≥ 12%) | Copper alloy |
| N   | Precision finishing | Continuous        | NS           | DX110 | 0.002 - 0.079           | 0.002 - 0.006  | 1640 - 8200                | 1310 - 2630               | 1640 - 4920  |
|     |                     | Light interrupted | -            | DX140 | 0.002 - 0.039           | 0.002 - 0.008  | 980 - 8200                 | -                         | 1640 - 4920  |
|     | Finishing           | Continuous        | NS           | DX110 | 0.002 - 0.079           | 0.002 - 0.012  | 1640 - 8200                | 1310 - 2630               | 1640 - 4920  |
|     |                     | Light interrupted | -            | DX140 | 0.002 - 0.039           | 0.002 - 0.006  | 980 - 5900                 | 1310 - 1970               | 1310 - 3940  |
|     |                     | Heavy interrupted | AL           | KS05F | 0.020 - 0.197           | 0.004 - 0.020  | 330 - 1970                 | 330 - 660                 | -            |
|     | Medium cutting      | Continuous        | AL           | KS05F | 0.020 - 0.197           | 0.004 - 0.020  | 330 - 3940                 | 330 - 980                 | 330 - 980    |
|     |                     | Light interrupted | AL           | KS05F | 0.020 - 0.197           | 0.004 - 0.020  | 330 - 2950                 | 330 - 660                 | 330 - 660    |
|     |                     | Heavy interrupted | AL           | KS05F | 0.020 - 0.197           | 0.004 - 0.020  | 330 - 1970                 | 330 - 660                 | -            |

# Selection System

SELECTION SYSTEM: POSITIVE TYPE

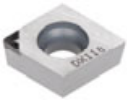

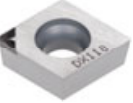
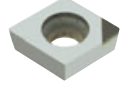




## N Non-ferrous Metal



Continuous

Light interrupted

Heavy interrupted

|  | Continuous  | Light interrupted   | Heavy interrupted   |
|--|---|---|---|
| <b>Precision finishing</b><br>[ $a_p = \sim 0.020$ in ]  | Basic<br><br><b>NS DX110</b><br>B213 -<br>→ Wear → <b>DX140</b><br>B213 -                  | Basic<br><br><b>With chipbreaker DX110</b><br>B213 -<br>→ Wear → <b>DX140</b><br>B213 -                          |   |
| <b>Finishing</b><br>[ $a_p = 0.020 \sim 0.079$ in ]      | Basic<br><br><b>NS DX110</b><br>B213 -<br>→ Wear → <b>DX160</b><br>B213 -                | Basic<br><br><b>DX140</b><br>B213 -<br>→ Fracture → <b>AL KS05F</b><br>B043<br>→ Wear → <b>DX160</b><br>B213 - | Basic<br><br><b>AL KS05F</b><br>B043 |
| <b>Medium cutting</b><br>[ $a_p = 0.039 \sim 0.197$ in ] | Basic<br><br><b>AL KS05F</b><br>B043<br>→ Wear → <b>With chipbreaker DX120</b><br>B213 - | Basic<br><br><b>AL KS05F</b><br>B043<br>→ Wear → <b>DX140</b><br>B213 -  | Basic<br><br><b>AL KS05F</b><br>B043 |

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

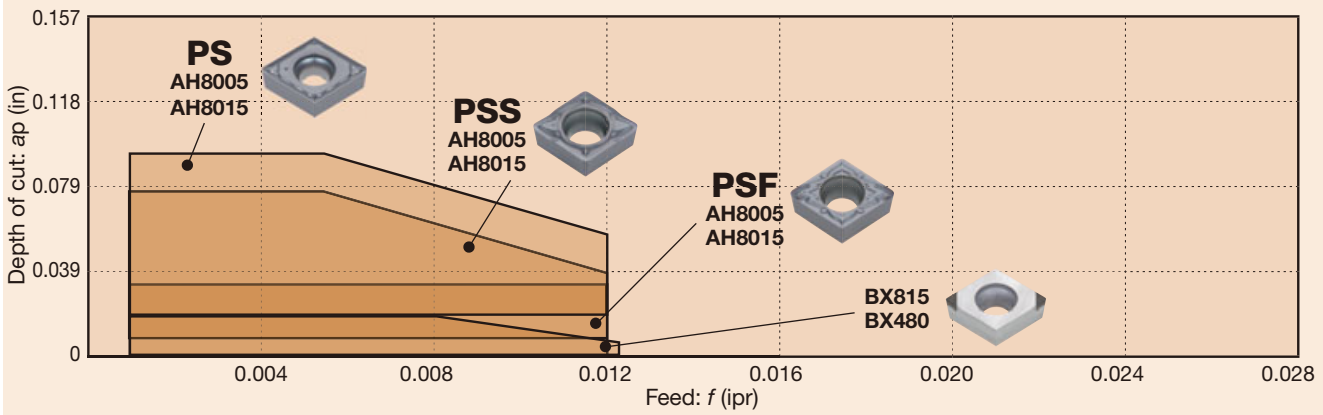
Index

# Chipbreaker Guide

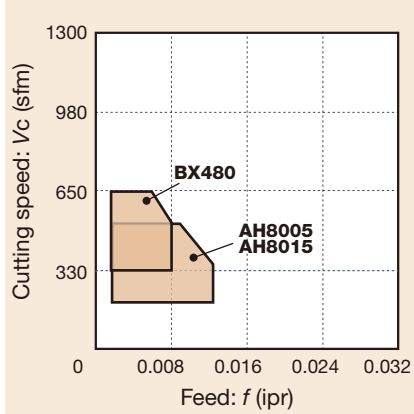
## BASIC CHIPBREAKER: POSITIVE TYPE

### **S** Heat resistant superalloys

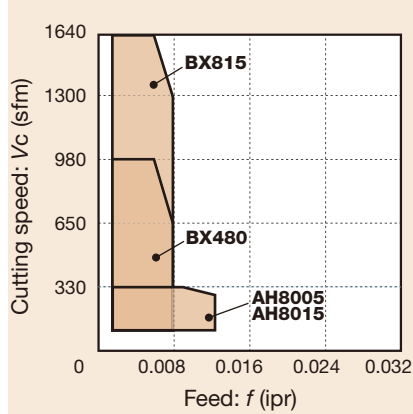
#### Chipbreaker System for Turning (Positive Type)



#### Titanium alloy



#### Ni-base alloy



| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| <b>PS</b>   |       | 3D chipbreaker for finishing to medium cutting with excellent chip control and sharpness. M-class insert delivers cost reduction and highly efficient boring in a wide range of applications. |
| <b>-</b>    |       | Excellent performance in finishing of heat-resistant alloy and titanium alloy with CBN sintered body on the cutting edge.   |

| Chipbreaker | Shape | Feature   |
|-------------|-------|---|
| <b>PSF</b>  |       | Low cutting force and high wear resistance. First choice for finishing. Excellent chip control in finishing prevents chip entanglement in internal machining. |
| <b>PSS</b>  |       | 3D chipbreaker for finishing to medium cutting with excellent chip control and low cutting force.   |

## STANDARD CUTTING CONDITIONS

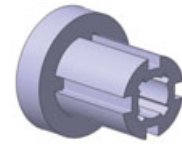
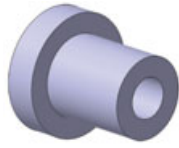
| ISO      | Operation                   | Chip-breaker | Grade         | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed: Vc (sfm) |               |
|----------|-----------------------------|--------------|---------------|----------------------|---------------|-------------------------|---------------|
|          |                             |              |               |                      |               | Titanium alloy          | Ni-base alloy |
| <b>S</b> | Precision finishing         | -            | BX480         | 0.004 - 0.020        | 0.002 - 0.008 | 328 - 656               | 230 - 984     |
|          |                             | -            | BX815         | 0.004 - 0.020        | 0.002 - 0.008 | -                       | 230 - 1640    |
|          | Finishing                   | PSS          | AH8015        | 0.012 - 0.079        | 0.001 - 0.012 | 66 - 492                | 66 - 328      |
|          |                             | PSS          | AH8015        | 0.012 - 0.079        | 0.001 - 0.012 | 66 - 492                | 66 - 328      |
|          | Finishing to medium cutting | PS           | AH8015        | 0.020 - 0.098        | 0.001 - 0.012 | 66 - 492                | 66 - 328      |
| PS       |                             | AH8015       | 0.020 - 0.098 | 0.001 - 0.012        | 66 - 492      | 66 - 328                |               |

Ni-base alloy: INCONEL718, etc. Titanium alloy: Ti-6Al-4V, etc.

# Selection System

SELECTION SYSTEM: POSITIVE TYPE

## S Heat resistant superalloys



Continuous

Light interrupted

Heavy interrupted

|   | Continuous   | Light interrupted  | Heavy interrupted   |
|---|--|--|---|
| <b>Precision finishing</b><br>[ $a_p \sim 0.020$ in.]                 | <p>Basic</p>  <p><b>BX815</b></p> <p>B189 - B210</p>  | <p>Basic</p>  <p><b>BX480</b></p> <p>B189 - B210</p>  |   |
| <b>Finishing</b><br>[ $a_p = 0.012 \sim 0.079$ in.]                   | <p>Basic</p>  <p><b>PSS AH8015</b></p> <p>B042, B046, B049</p> <p>Wear → <b>PSS AH8005</b><br/>B042, B046, B049</p> | <p>Basic</p>  <p><b>PSS AH8015</b></p> <p>B042, B046, B049</p> <p>Wear → <b>PSS AH8005</b><br/>B042, B046, B049</p> <p>Fracture → <b>PS AH8015</b><br/>B042, B046, B049</p> |   |
| <b>Finishing to medium cutting</b><br>[ $a_p = 0.020 \sim 0.098$ in.] | <p>Basic</p>  <p><b>PS AH8015</b></p> <p>B042, B046, B049</p> <p>Wear → <b>PSS AH8005</b><br/>B042, B046, B049</p>  | <p>Basic</p>  <p><b>PS AH8015</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>All-round AH8015</b><br/>B043, B047</p>  | <p>Basic</p>  <p><b>PS AH8015</b></p> <p>B042, B046, B049</p> <p>Fracture → <b>All-round AH8015</b><br/>B043, B047</p> |

Please find the details on the pages: B\*\*\*/7° relief angle, B\*\*\*/11° relief angle, B\*\*\*/5° relief angle.

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

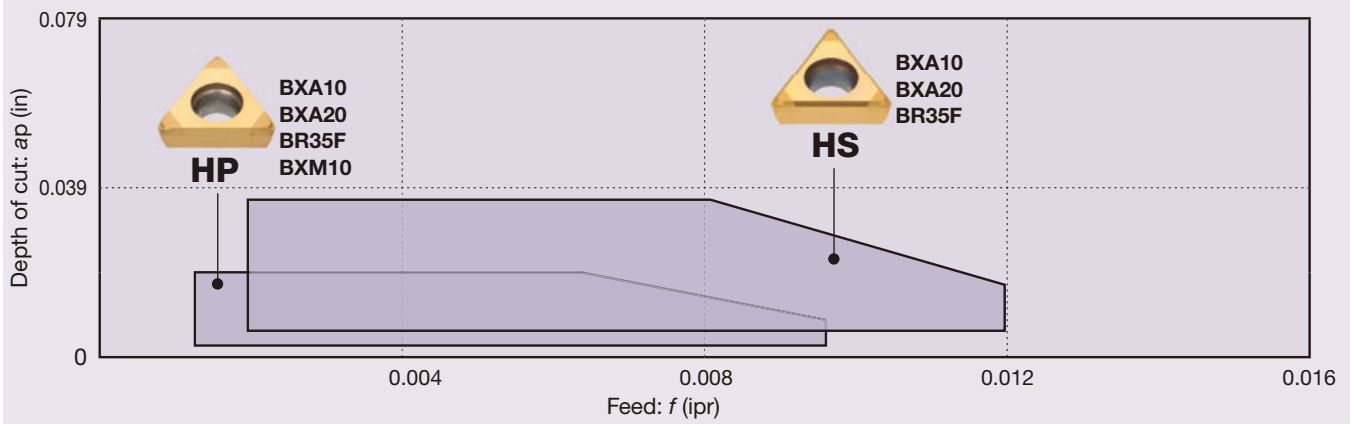
Index

# Chipbreaker Guide

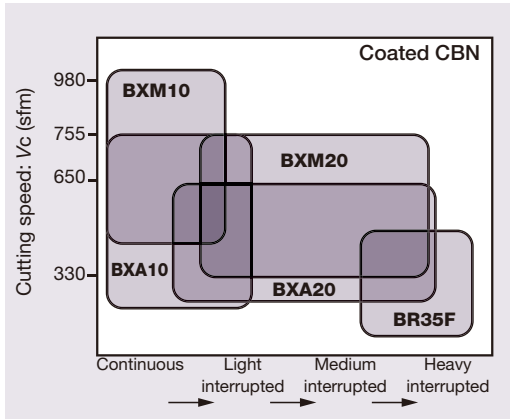
## BASIC CHIPBREAKER: POSITIVE TYPE

### H Hard Materials

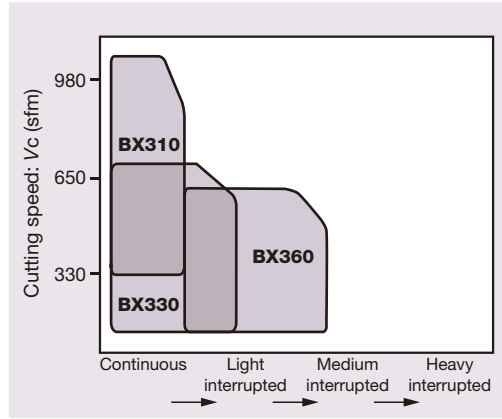
#### Chipbreaker System for Turning (Positive Type)



#### Coated CBN



#### CBN



| Chipbreaker | Shape | Feature  |
|-------------|-------|--|
| -           |       | Excellent performance in high-speed finishing of hard material with CBN sintered body on the cutting edge. |

| Chipbreaker | Shape | Feature  |
|-------------|-------|--|
| HP          |       | Excellent chip control in precision finishing.   |
| HS          |       | Provides the excellent chip-control at a high-feed condition in the precise finishing operation. |

## STANDARD CUTTING CONDITIONS

| ISO | Operation           | Chipbreaker | Grade                   | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed Vc (sfm) |
|-----|---------------------|-------------|-------------------------|----------------------|---------------|------------------------|
| H   | Precision finishing | HP          | BXM10<br>BXA20<br>BR35F | 0.001 - 0.010        | 0.001 - 0.009 | 230 - 1148             |
|     |                     | HS          | BXM10<br>BXA20<br>BR35F | 0.004 - 0.014        | 0.002 - 0.012 | 230 - 1148             |
|     | Finishing           | -           | BXM10<br>BXA20<br>BR35F | 0.002 - 0.020        | 0.002 - 0.010 | 230 - 1148             |

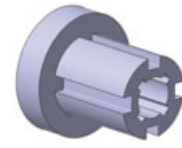
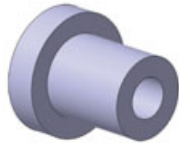
Hardened steels, Pre-hardened steels: D2, H13, etc.



# Selection System

SELECTION SYSTEM: POSITIVE TYPE





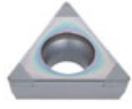
## H Hard Materials



Continuous

Light interrupted

Heavy interrupted

|  | Continuous  | Light interrupted   | Heavy interrupted  |
|--|---|---|--|
| Precision finishing<br>[ $a_p \sim 0.014$ in.] | <p>Basic</p>  <p><b>HP BXA10</b><br/>B189 -</p> <p>High-feed →</p> <p><b>HS BXA10</b><br/>B189 -</p> | <p>Basic</p>  <p><b>BXA20</b><br/>B189 -</p> <p>Fracture →</p> <p><b>-H BXA20</b><br/>B189 -</p>   |  |
| Finishing<br>[ $a_p \sim 0.020$ in.]           | <p>Basic</p>  <p><b>BXA10</b><br/>B189 -</p>   | <p>Basic</p>  <p><b>BXA20</b><br/>B189 -</p> <p>Fracture →</p> <p><b>-H BXA20</b><br/>B189 -</p> <p>High-speed wear →</p> <p><b>BXA10</b><br/>B189 -</p> | <p>Basic</p>  <p><b>SR BR35F</b><br/>B189 -</p> <p>Fracture →</p> <p><b>HC BR35F</b><br/>B189 -</p> |

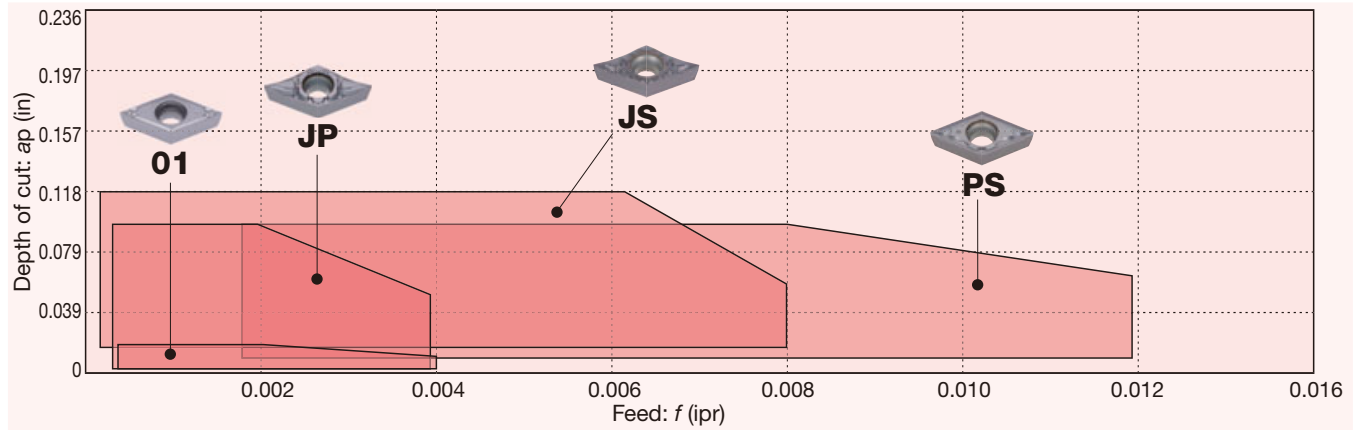
Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index


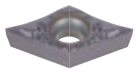


# Chipbreaker Guide

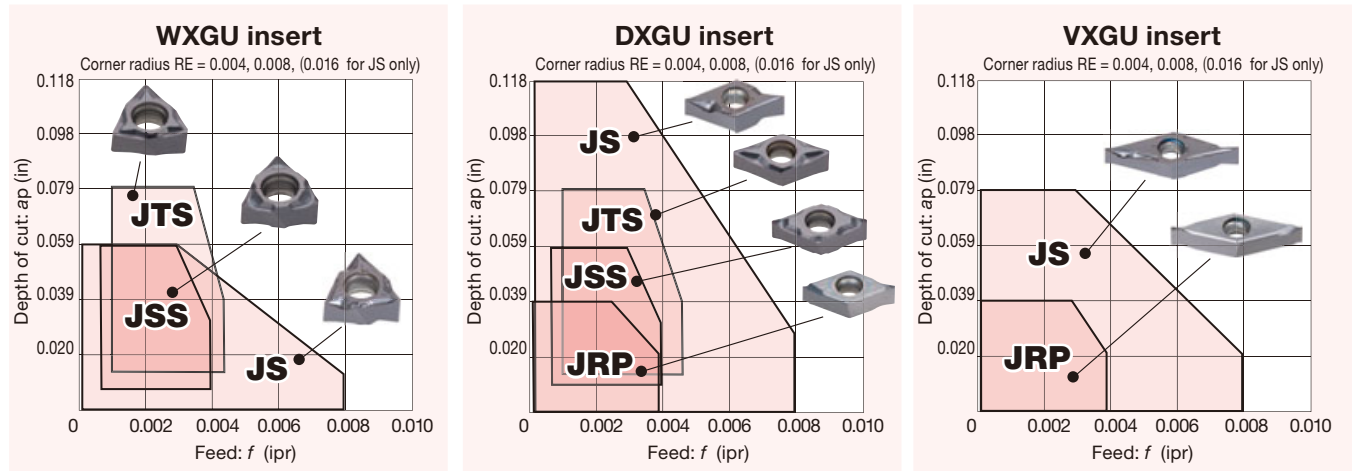
## For Miniature machining

### BASIC CHIPBREAKER: POSITIVE TYPE



| Chipbreaker | Shape   | Feature   | Chipbreaker | Shape  | Feature  |
|-------------|---|---|-------------|--|--|
| <b>JP</b>   |  | Excellent performance in finishing of hard material with CBN sintered body on the cutting edge. | <b>JS</b>   |  | Excellent chip control in removing carburized layer at small depth of cut. |

### BASIC CHIPBREAKER: DOUBLE-SIDED POSITIVE TYPE



### STANDARD CUTTING CONDITIONS POSITIVE TYPE

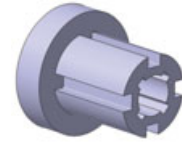
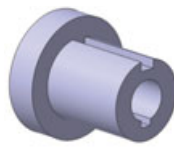
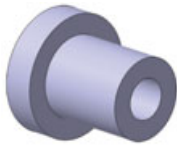
| Operation                  | Chip-breaker | Grade  | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed Vc (sfm) |
|----------------------------|--------------|--------|----------------------|---------------|------------------------|
| Precision finishing        | JP           | SH725  | 0.002 - 0.098        | 0.001 - 0.004 | 33 - 656               |
| Finishing                  | JP           | SH725  | 0.002 - 0.098        | 0.001 - 0.004 | 164 - 820              |
|                            | JS           | SH725  | 0.008 - 0.118        | 0.001 - 0.008 | 33 - 656               |
| Finishing to light cutting | JP           | SH725  | 0.002 - 0.098        | 0.001 - 0.004 | 164 - 820              |
|                            | JS           | SH725  | 0.020 - 0.079        | 0.001 - 0.008 | 33 - 656               |
| Medium cutting             | JS           | SH725  | 0.020 - 0.118        | 0.001 - 0.006 | 33 - 656               |
|                            | PS           | AH8015 | 0.020 - 0.098        | 0.001 - 0.008 | 66 - 656               |
|                            | PS           | AH6225 | 0.020 - 0.098        | 0.001 - 0.008 | 197 - 787              |

### STANDARD CUTTING CONDITIONS DOUBLE-SIDED POSITIVE TYPE

| Operation                  | Chip-breaker | Grade | Depth of cut ap (in) | Feed f (ipr)  | Cutting speed Vc (sfm) |
|----------------------------|--------------|-------|----------------------|---------------|------------------------|
| Precision finishing        | JRP          | SH725 | 0.002 - 0.020        | 0.001 - 0.003 | 164 - 820              |
| Finishing                  | JSS          | SH725 | 0.008 - 0.059        | 0.001 - 0.004 | 164 - 820              |
|                            | JS           | SH725 | 0.008 - 0.118        | 0.001 - 0.008 | 164 - 820              |
| Finishing to light cutting | JS           | SH725 | 0.020 - 0.118        | 0.001 - 0.008 | 164 - 820              |
|                            | JTS          | SH725 | 0.020 - 0.079        | 0.001 - 0.004 | 164 - 820              |
| Medium cutting             | JS           | SH725 | 0.020 - 0.118        | 0.001 - 0.008 | 164 - 820              |

# Selection System

## SELECTION SYSTEM: POSITIVE TYPE/DOUBLE-SIDED POSITIVE TYPE



Continuous

Light interrupted

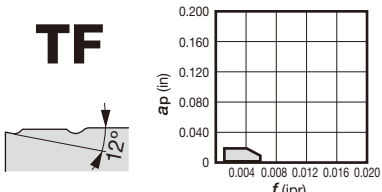






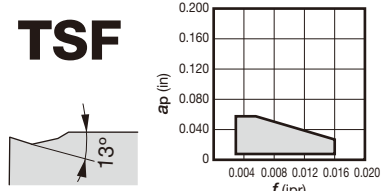








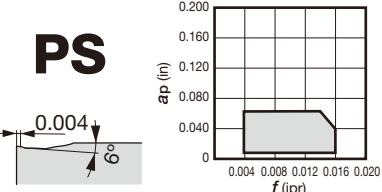






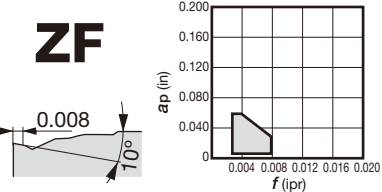







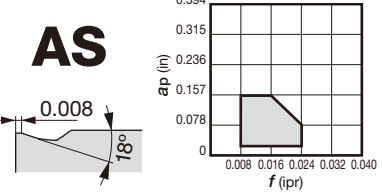





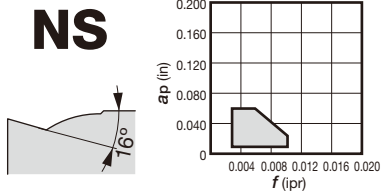





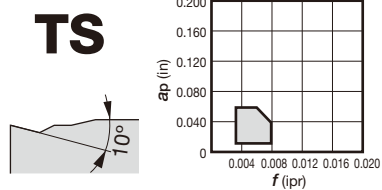






Heavy interrupted

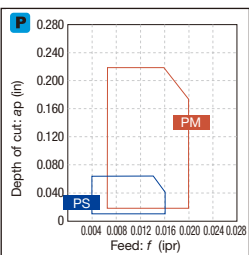
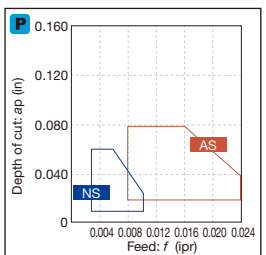
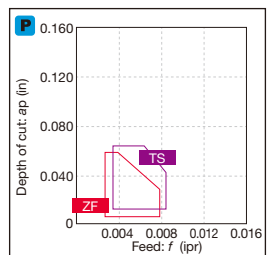
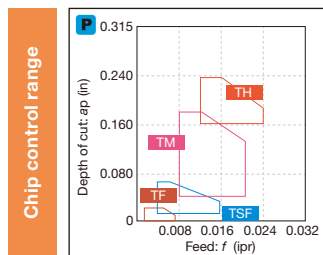
|   | Continuous  | Light interrupted  | Heavy interrupted  |
|---|---|--|--|
| <b>Precision finishing</b><br>[ $a_p = \sim 0.020$ in.]               | <p><b>Basic Positive</b></p>  <p><b>JP SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JRP SH725</b></p> <p>B040, B048, B052</p>   | <p><b>Basic Positive</b></p>  <p><b>JP SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JRP SH725</b></p> <p>B040, B048, B052</p>  |  |
| <b>Finishing</b><br>[ $a_p = 0.004 \sim 0.020$ in.]                   | <p><b>Basic Positive</b></p>  <p><b>JS SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JSS SH725</b></p> <p>B040, B045, B049, B052</p> <p>Chip control → <b>JP SH725</b> (B040, B048)</p> <p>Fracture → <b>JSS AH725</b> (B052)</p>          | <p><b>Basic Positive</b></p>  <p><b>JS SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JSS SH725</b></p> <p>B040, B045, B049, B052</p> <p>Chip control → <b>JP SH725</b> (B040, B048)</p> <p>Fracture → <b>JSS AH725</b> (B052)</p> | <p><b>Basic Positive</b></p>  <p><b>JS SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JSS SH725</b></p> <p>B040, B045, B049, B052</p>  |
| <b>Finishing to medium cutting</b><br>[ $a_p = 0.020 \sim 0.118$ in.] | <p><b>Basic Positive</b></p>  <p><b>JS SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JTS SH725</b></p> <p>B040, B045, B049, B052</p> <p>Chip control → <b>JP SH725</b> (B040, B048)</p> <p>Fracture → <b>JSS AH725</b> (B052)</p>          | <p><b>Basic Positive</b></p>  <p><b>JS SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JTS SH725</b></p> <p>B040, B045, B049, B052</p> <p>Chip control → <b>JP SH725</b> (B040, B048)</p> <p>Fracture → <b>JSS AH725</b> (B052)</p> | <p><b>Basic Positive</b></p>  <p><b>JS AH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JTS AH8015</b></p> <p>B040, B045, B049, B052</p> <p>Fracture → <b>TS AH8015</b> (B052)</p> |
| <b>Medium cutting</b><br>[ $a_p = 0.039 \sim 0.157$ (0.118) in.]      | <p><b>Basic Positive</b></p>  <p><b>JS SH725</b></p> <p><b>Double-sided positive</b></p>  <p><b>JS SH725</b></p> <p>B040, B045, B049, B052</p> <p>Fracture → <b>PS AH8015 AH6225</b> (B042, B046, B049)</p> <p>Fracture → <b>JSS AH725</b> (B052)</p> | <p><b>Basic Positive</b></p>  <p><b>PS AH8015 AH6225</b></p> <p><b>Double-sided positive</b></p>  <p><b>JS SH725</b></p> <p>B042, B046, B049, B052</p> <p>Fracture → <b>JTS AH725</b> (B052)</p>   | <p><b>Basic Positive</b></p>  <p><b>PS AH8015 AH6225</b></p> <p><b>Double-sided positive</b></p>  <p><b>JS SH725</b></p> <p>B042, B046, B049, B052</p>                                     |

Please find the details on the pages: B\*\*\*/7° relief angle, B\*\*\*/11° relief angle, B\*\*\*/5° relief angle, B\*\*\*/Double-sided.


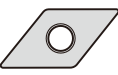


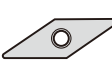

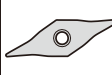

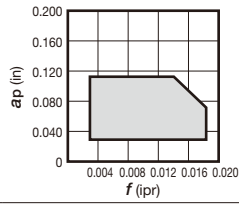
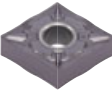



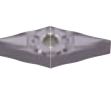
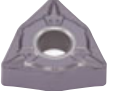

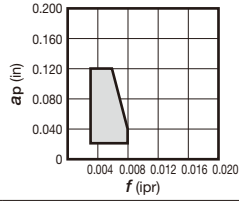

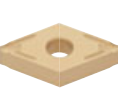





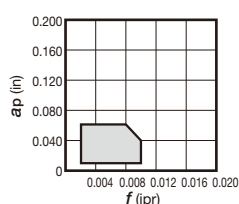



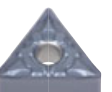

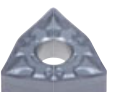

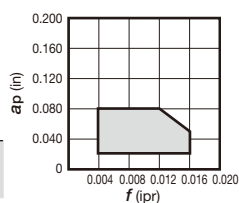






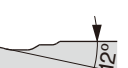
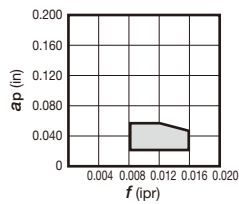





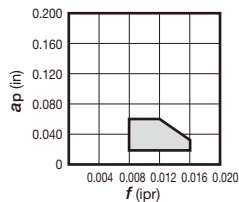


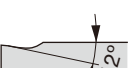
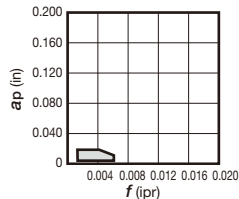
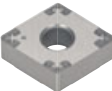
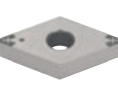






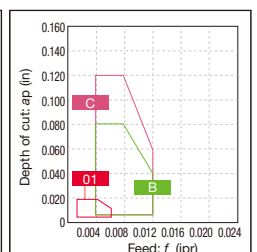
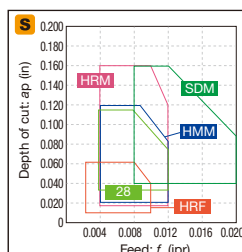
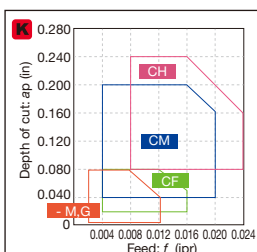
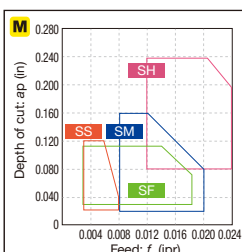
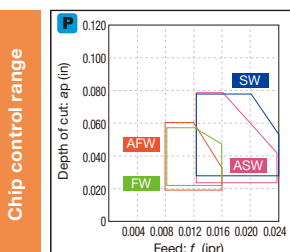
# Chipbreaker Overview

| Application              | Negative type with hole  | C   | D   | F   | G   | S  | T   | V   | W   | Y   |
|--------------------------|--|---|---|---|---|--|---|---|---|---|
|                          |  | 80°   | 55°   | 45°   | 70°   | 90°  | 60°   | 35°   | 80°   | 25°   |
| Finishing                | <b>TF</b><br>   |    |    |   |   |    |    |    |    |   |
|                          | <b>TSF</b><br>  |    |    |  |  |    |    |    |    |   |
|                          | <b>PS</b><br>   |    |    |   |   |    |    |    |    |   |
| Finishing for mild steel | <b>ZF</b><br>  |  |  |   |   |  |  |  |  |  |
|                          | <b>AS</b><br> |  |  |   |   |  |  |   |  |   |
| Finishing                | <b>NS</b><br> |  |  |   |   |  |  |   |  |   |
|                          | <b>TS</b><br> |  |  |   |   |  |  |  |  |   |



Please see the page B\*\*\* for the product details.

| Application   | Negative type with hole  | C   | D   | S  | T   | V   | W   | Y   |
|---|--|---|---|--|---|---|---|---|
|   |  |    |    |     |     |    |    |  |
|   |  | 80°   | 55°   | 90°  | 60°   | 35°   | 80°   | 25°   |
| Finishing   | <b>SF</b><br>      |    |    |     |     |    |    |   |
|   | <b>B055</b>  | <b>B067</b>   | <b>B078</b>   | <b>B088</b>  | <b>B098</b>   | <b>B103</b>   |   |   |
|   | <b>SS</b><br>      |    |    |     |     |    |    |   |
|   | <b>B055</b>  | <b>B067</b>   | <b>B078</b>   | <b>B088</b>  | <b>B098</b>   | <b>B103</b>   |   |   |
| <b>HRF</b><br>      |   |    |    |    |    |    |   |   |
| <b>B055</b>   | <b>B067</b>  | <b>B078</b>   | <b>B088</b>   | <b>B098</b>  | <b>B103</b>   |   |   |   |
| <b>CF</b><br>    |   |  |  |  |  |  |   |   |
| <b>B055</b>   | <b>B068</b>  | <b>B078</b>   | <b>B088</b>   | <b>B099</b>  | <b>B104</b>   |   |   |   |
| Finishing (wiper)   | <b>FW</b><br>  |  |  |  |   |   |  |   |
|   | <b>B056</b>  | <b>B068</b>   |   | <b>B088</b>  |   | <b>B104</b>   |   |   |
| <b>AFW</b><br>  |   |   |   |  |   |  |   |   |
| <b>B056</b>   |  |   |   |  |   | <b>B104</b>   |   |   |
| Finishing   | <b>01</b><br>  |  |  |   |   |  |  |   |
| <b>B056</b>   | <b>B068</b>  | <b>B078</b>   | <b>B089</b>   | <b>B099</b>  | <b>B104</b>   |   |   |   |

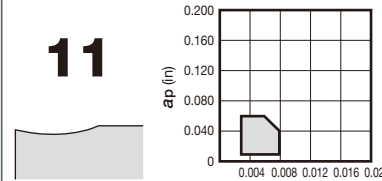






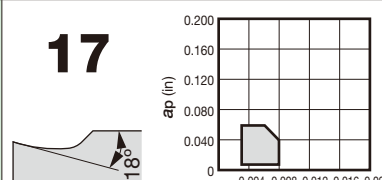





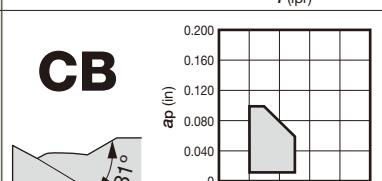




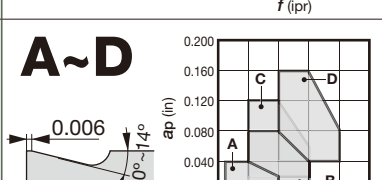



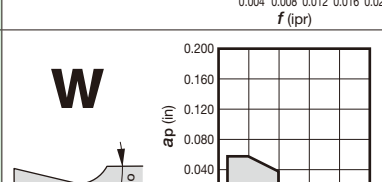

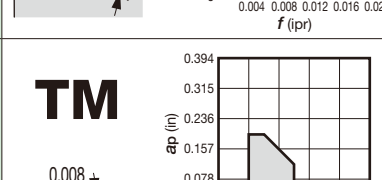








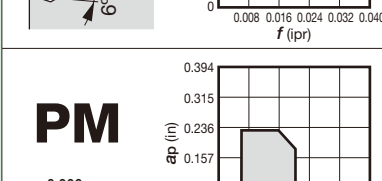







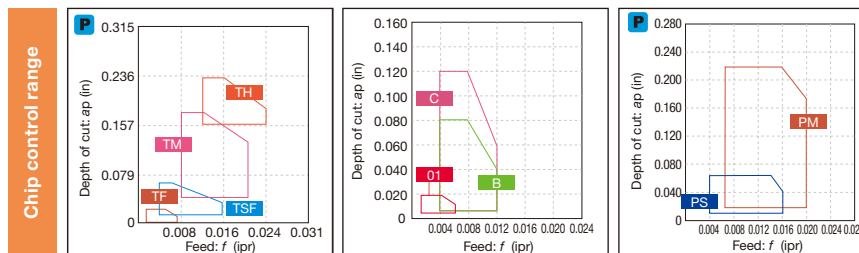
\*-M,G: Without chipbreaker

Please see the page B\*\*\* for the product details.


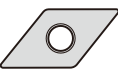


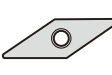

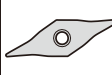

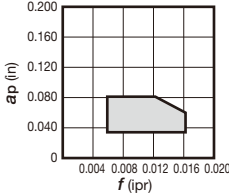







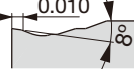
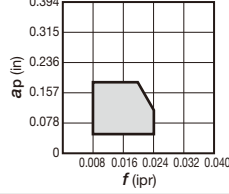





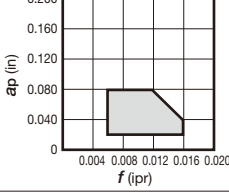




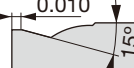
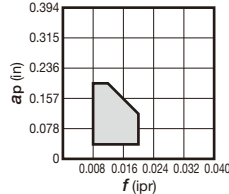






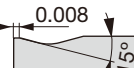
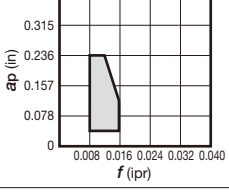







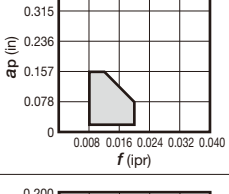




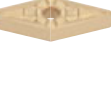


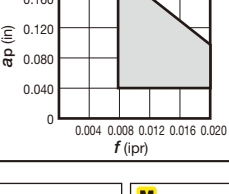








# Chipbreaker Overview

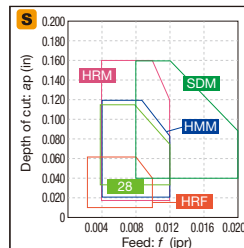
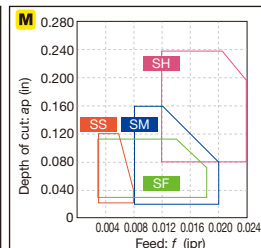
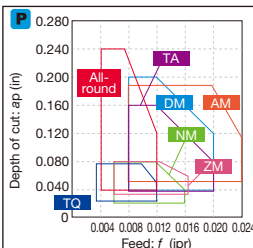
| Application              | Negative type with hole  | C  | D  | F  | G  | S  | T  | V  | W  |
|--------------------------|--|--|--|--|--|--|--|--|--|
|                          |  | 80°  | 55°  | 45°  | 70°  | 90°  | 60°  | 35°  | 80°  |
| Finishing                | <b>11</b><br>   | <br><b>B056</b>   | <br><b>B068</b>   |  |  | <br><b>B078</b>   | <br><b>B089</b>   | <br><b>B099</b>   | <br><b>B104</b>   |
| Finishing for mild steel | <b>17</b><br>   | <br><b>B056</b>   | <br><b>B068</b>   |  |  | <br><b>B079</b>   | <br><b>B089</b>   |  | <br><b>B104</b>   |
| Boring (double side)     | <b>CB</b><br>   | <br><b>B056</b>   | <br><b>B068</b>   |  |  |  | <br><b>B089</b>   |  | <br><b>B104</b>   |
| Finishing                | <b>A~D</b><br> | <br><b>B056</b> |  |  |  | <br><b>B079</b> | <br><b>B090</b> |  |  |
| Finishing                | <b>W</b><br>  |  |  |  |  |  | <br><b>B090</b> |  |  |
| Medium cutting           | <b>TM</b><br> | <br><b>B057</b> | <br><b>B069</b> | <br><b>B075</b> | <br><b>B075</b> | <br><b>B079</b> | <br><b>B090</b> | <br><b>B099</b> | <br><b>B105</b> |
|                          | <b>PM</b><br> | <br><b>B057</b> | <br><b>B069</b> |  |  |  | <br><b>B079</b> | <br><b>B091</b> | <br><b>B099</b> |



Please see the page B\*\*\* for the product details.

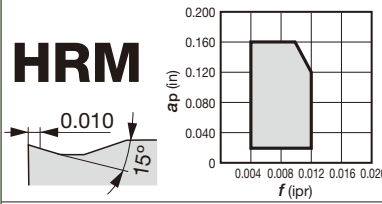






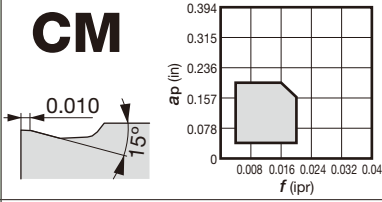






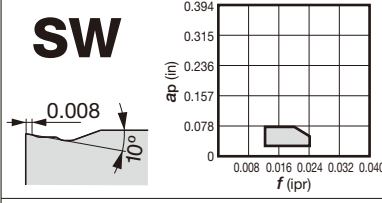




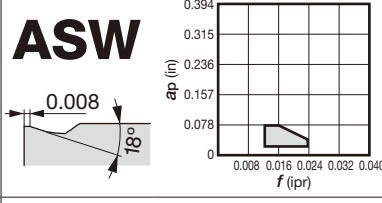


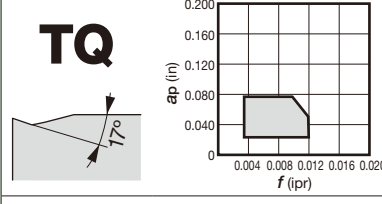





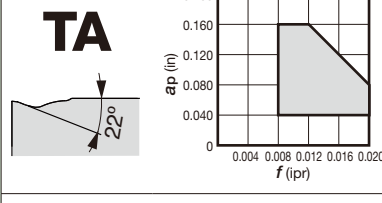




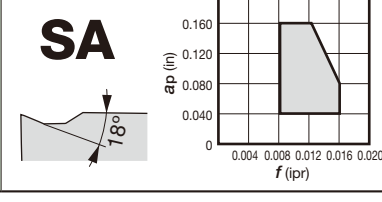





| Application  | Negative type with hole  | C   | D   | S  | T   | V   | W   | Y   |
|--|--|---|---|--|---|---|---|---|
|  |  |    |    |     |     |    |    |  |
|  |  | 80°   | 55°   | 90°  | 60°   | 35°   | 80°   | 25°   |
| Medium cutting for mild steel  | <b>ZM</b><br><br>    |    |    |     |     |    |    |  |
|  |  | <b>B057</b>   | <b>B069</b>   | <b>B080</b>  | <b>B091</b>   | <b>B099</b>   | <b>B105</b>   | <b>B110</b>   |
|  | <b>AM</b><br><br>    |    |    |  |     |   |    |   |
|  |  | <b>B058</b>   | <b>B069</b>   |  | <b>B091</b>   |   | <b>B106</b>   |   |
|  | <b>NM</b><br><br>    |    |    |  |     |   |    |   |
|  |  | <b>B058</b>   | <b>B070</b>   |  | <b>B091</b>   |   | <b>B106</b>   |   |
|  | <b>DM</b><br><br> |  |  |   |   |  |  |   |
|  | <b>B058</b>  | <b>B070</b>   | <b>B080</b>   | <b>B092</b>  | <b>B100</b>   | <b>B106</b>   |   |   |
| <b>All-round</b><br><br> |   |  |  |  |  |  |   |   |
|  | <b>B058</b>  | <b>B070</b>   | <b>B080</b>   | <b>B092</b>  | <b>B100</b>   | <b>B106</b>   |   |   |
| <b>SM</b><br><br>        |   |  |  |  |  |  |   |   |
|  | <b>B059</b>  | <b>B070</b>   | <b>B080</b>   | <b>B092</b>  | <b>B100</b>   | <b>B106</b>   |   |   |
| <b>SDM</b><br><br>       |   |  |  |  |  |  |   |   |
|  | <b>B059</b>  | <b>B070</b>   | <b>B080</b>   | <b>B092</b>  | <b>B100</b>   | <b>B106</b>   |   |   |

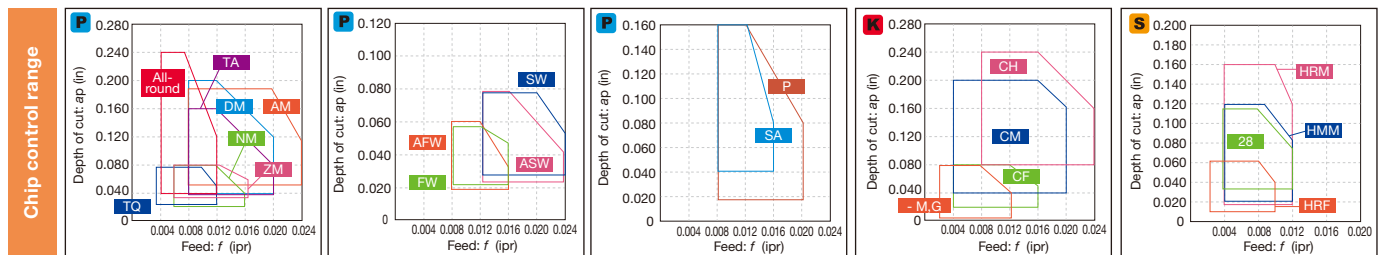
## Chip control range



Please see the page B\*\*\* for the product details.


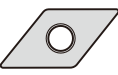


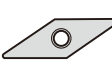

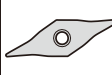
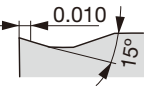
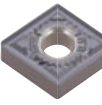
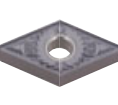

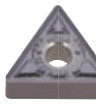
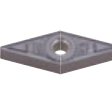
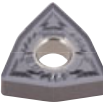
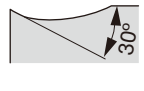
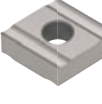
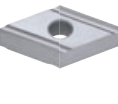

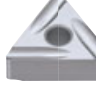





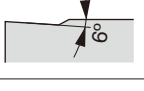

















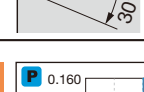





# Chipbreaker Overview

| Application            | Negative type with hole  | C  | D   | S   | T  | V   | W   | Y   |
|------------------------|--|--|---|---|--|---|---|---|
|                        |  | 80°  | 55°   | 90°   | 60°  | 35°   | 80°   | 25°   |
| Medium cutting         | <b>HRM</b><br>  |                 |    |    |    |    |    |   |
|                        | B059   | B070   | B081  | B092  | B100   | B106  |   |   |
| Medium cutting         | <b>CM</b><br>   |                 |    |    |    |    |    |   |
|                        | B059   | B071   | B080  | B092  | B100   | B107  |   |   |
| Medium cutting (wiper) | <b>SW</b><br>   |                 |    |   |    |   |    |   |
|                        | B059   | B071   |   | B093  |  | B107  |   |   |
| Medium cutting (wiper) | <b>ASW</b><br> |               |   |   |  |   |  |   |
|                        | B060   |  |   |   |  | B107  |   |   |
| Medium cutting         | <b>TQ</b><br> |               |  |   |  |  |  |   |
|                        | B060   | B071   |   | B093  | B100   | B107  |   |   |
|                        | Medium cutting   | <b>TA</b><br> |  |   |   |   |   |  |
| B060                   |  |  | B081  | B093  |  | B107  |   |   |
| Medium cutting         | <b>SA</b><br> |               |  |  |  |   |  |   |
| B060                   | B071   | B081   | B093  |   | B108   |   |   |   |

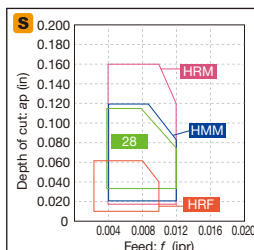
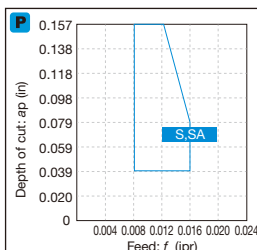
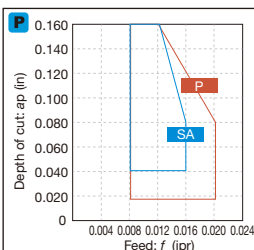


\*-M,G: Without chipbreaker

Please see the page B\*\*\* for the product details.

| Application    | Negative type with hole  | C   | D   | S   | T  | V   | W   | Y   |
|----------------|--|---|---|---|--|---|---|---|
|                |  |    |    |    |    |    |    |  |
|                |  | 80°   | 55°   | 90°   | 60°  | 35°   | 80°   | 25°   |
| Medium cutting | <b>HMM</b><br>  |    |    |    |    |    |    |   |
|                | <b>P</b><br>    |    |    |    |    |   |   |   |
|                | <b>S</b><br>    |    |    |    |    |   |   |   |
|                | <b>27</b><br> |  |  |  |  |   |  |   |
|                | <b>28</b><br> |  |  |   |  |  |   |   |
|                | <b>33</b><br> |  |  |  |  |  |  |   |
|                | <b>37</b><br> |  |  |  |  |   |  |   |

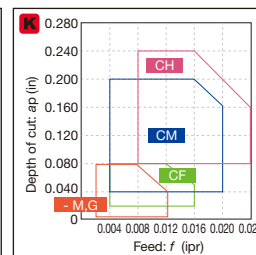
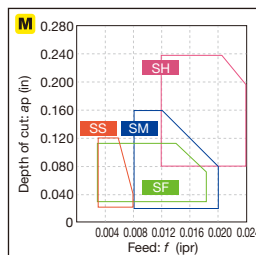
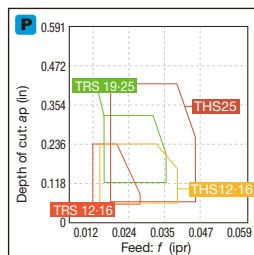
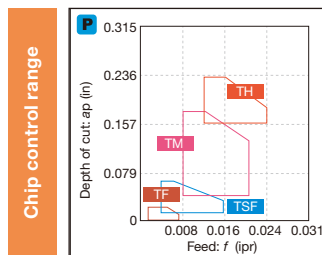
Chip control range



Please see the page B\*\*\* for the product details.

# Chipbreaker Overview

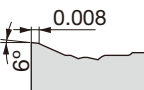
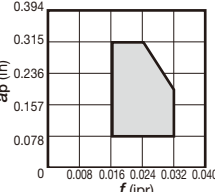
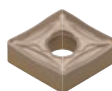



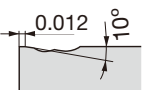
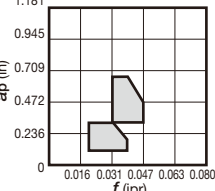


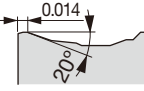
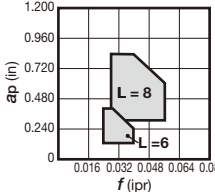


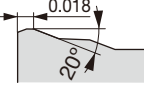
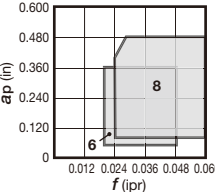


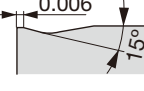
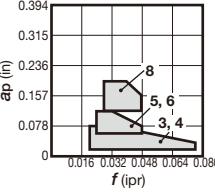

| Application             | Negative type with hole | C        | D        | S        | T        | V   | W        | Y   |
|-------------------------|-------------------------|----------|----------|----------|----------|-----|----------|-----|
|                         |                         | 80°      | 55°      | 90°      | 60°      | 35° | 80°      | 25° |
| Medium cutting          | <b>38</b><br><br>       | <br>B061 | <br>B072 |          | <br>B095 |     |          |     |
|                         | <b>Parallel</b><br><br> |          | <br>B072 |          |          |     |          |     |
| Medium to heavy cutting | <b>TH</b><br><br>       | <br>B061 | <br>B073 | <br>B082 | <br>B095 |     | <br>B108 |     |
|                         | <b>THS</b><br><br>      | <br>B062 | <br>B073 | <br>B082 | <br>B095 |     | <br>B108 |     |
|                         | <b>SH</b><br><br>       | <br>B062 | <br>B073 | <br>B083 |          |     | <br>B109 |     |
|                         | <b>CH</b><br><br>       | <br>B062 | <br>B073 | <br>B083 | <br>B095 |     | <br>B109 |     |
|                         | <b>TRS</b><br><br>      | <br>B062 |          | <br>B083 |          |     |          |     |
|                         | <b>TRF</b><br><br>      |          |          |          |          |     |          |     |



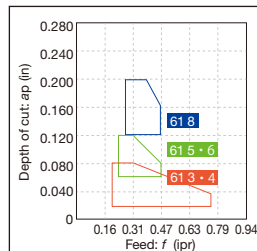
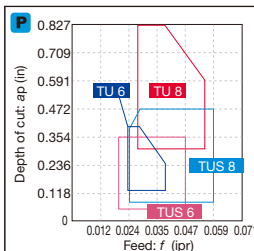
Please see the page B\*\*\* for the product details.

\*-M,G: Without chipbreaker



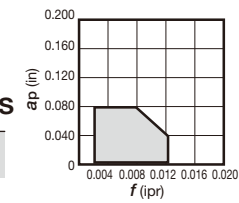





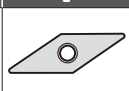

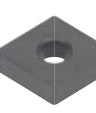
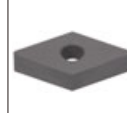


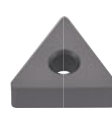


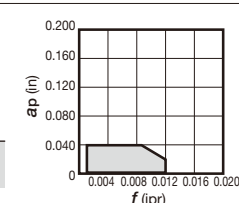
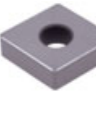
| Application                           | Negative type with hole   | C  | D  | R  | S   | T  | V   | W   |
|---------------------------------------|---|--|--|--|---|--|-----|-----|
|                                       |   | 80°  | 55°  |  | 90°   | 60°  | 35° | 80° |
| Medium to heavy cutting (single side) | <b>57</b><br><br>     | <br><b>B062</b>   | <br><b>B073</b> |  | <br><b>B083</b>   | <br><b>B095</b> |     |     |
|                                       | <b>65</b><br><br>     | <br><b>B062</b>   |  |  | <br><b>B083</b>   |  |     |     |
| Heavy cutting (single side)           | <b>TU</b><br><br>     | <br><b>B063</b>   |  |  | <br><b>B084</b>   |  |     |     |
|                                       | <b>TUS</b><br><br> | <br><b>B063</b> |  |  | <br><b>B084</b> |  |     |     |
| Heavy cutting                         | <b>61</b><br><br> |  |  | <br><b>B076</b> |   |  |     |     |

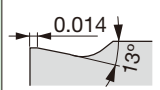
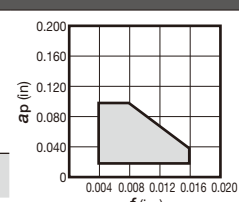

## Chip control range









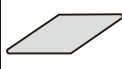

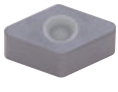


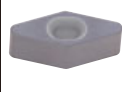





Please see the page B\*\*\* for the product details.

# Chipbreaker Overview

| Application                 | Negative type with hole   | C   | D   | R   | S  | T   | V   | W   |
|-----------------------------|---|---|---|---|--|---|---|---|
|                             |   | 80°   | 55°   |   | 90°  | 60°   | 35°   | 80°   |
| Finishing to medium cutting | <b>M,G-class</b><br>     |  |  |  |  |  |  |  |
|                             |   |  |  |  |  |  |  |  |
| Finishing to fine cutting   | <b>Wiper M-class</b><br> |  |   |   |  |   |   |   |
|                             |   | <b>B064</b>   |   |   |  |   |   |   |

| Application | Negative type without hole  | C   | D   | KNMX  | LNGN | R | S   | T   |
|-------------|---|-----|-----|---|------|---|-----|-----|
|             |   | 80° | 55° | 55°   | 90°  |   | 90° | 60° |
| Finishing   | <b>S1</b><br>  |     |     |  |      |   |     |     |
|             |   |     |     | <b>B110</b>   |      |   |     |     |

Please see the page B\*\*\* for the product details.

| Application                 |           | Negative type without hole  |   |   |  |   |   |   |  |
|-----------------------------|-----------|---|---|---|--|---|---|---|--|
|                             |           | C   | D   | H   | R  | S   | T   | V   |  |
| Finishing to medium cutting | G-class   | <br>80°  | <br>55°  | <br>120° |          | <br>90°  | <br>60°  | <br>35°  |  |
|                             | M,G-class | <br>B065 | <br>B074 | <br>B111 |  | <br>B085 |   | <br>B101 |  |
|                             |           | <br>B065 | <br>B074 |   | <br>B076 | <br>B085 | <br>B097 |   |  |

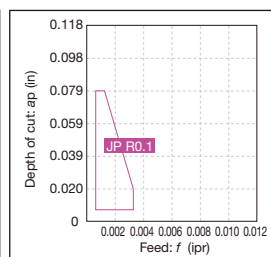
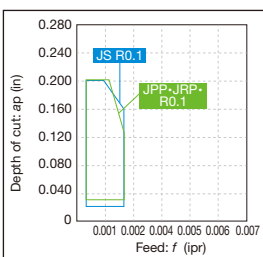
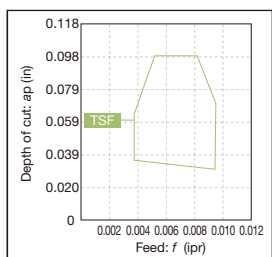
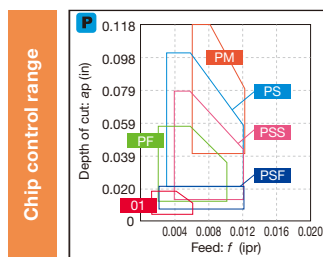
Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



Please see the page B\*\*\* for the product details.

# Chipbreaker Overview

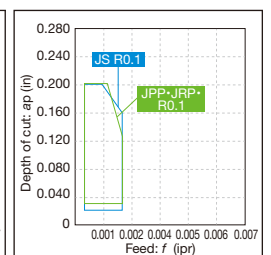
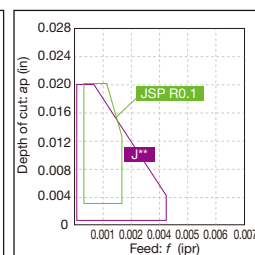
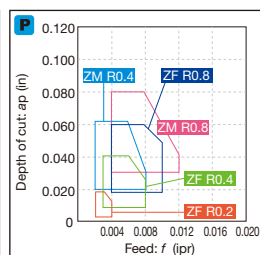
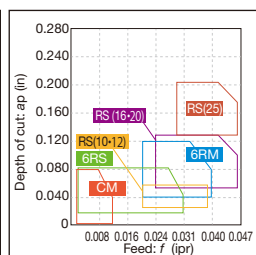
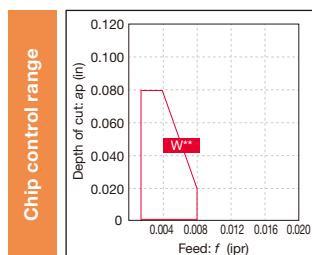
| Application                      | Positive 7° with hole | C           | D           | R | S   | T           | V           | Y   |
|----------------------------------|-----------------------|-------------|-------------|---|-----|-------------|-------------|-----|
|                                  |                       | 80°         | 55°         |   | 90° | 60°         | 35°         | 25° |
| Precision finishing (sharp edge) | <b>JP</b><br><br>     |             |             |   |     |             |             |     |
|                                  |                       | <b>B112</b> | <b>B121</b> |   |     | <b>B138</b> |             |     |
| Precision finishing (sharp edge) | <b>01</b><br><br>     |             |             |   |     |             |             |     |
|                                  |                       | <b>B112</b> | <b>B121</b> |   |     | <b>B138</b> |             |     |
| Finishing (sharp edge)           | <b>JS</b><br><br>     |             |             |   |     |             |             |     |
|                                  |                       | <b>B112</b> | <b>B121</b> |   |     | <b>B138</b> |             |     |
| Finishing                        | <b>JS</b><br><br>     |             |             |   |     |             |             |     |
|                                  |                       | <b>B112</b> | <b>B121</b> |   |     | <b>B138</b> |             |     |
|                                  | <b>PSF</b><br><br>    |             |             |   |     |             |             |     |
|                                  |                       | <b>B113</b> | <b>B121</b> |   |     | <b>B138</b> | <b>B152</b> |     |
|                                  | <b>PF</b><br><br>     |             |             |   |     |             |             |     |
|                                  |                       | <b>B113</b> | <b>B122</b> |   |     |             | <b>B152</b> |     |
| <b>TSF</b><br><br>               |                       |             |             |   |     |             |             |     |
|                                  | <b>B113</b>           | <b>B122</b> |             |   |     | <b>B138</b> | <b>B152</b> |     |



Please see the page B\*\*\* for the product details.



| Application               | Positive 7° with hole            | C              | D        | R        | S   | T        | V   | Y        |
|---------------------------|----------------------------------|----------------|----------|----------|-----|----------|-----|----------|
|                           |                                  |                |          |          |     |          |     |          |
|                           |                                  | 80°            | 55°      |          | 90° | 60°      | 35° | 25°      |
| Finishing                 | <b>RS</b><br><br><br>0.008, 5°   |                |          | <br>B130 |     |          |     |          |
|                           | <b>6RS</b><br><br><br>0.010, 5°  |                |          | <br>B130 |     |          |     |          |
|                           | <b>ZF</b><br><br><br>0.008, 8°   |                |          |          |     |          |     | <br>B159 |
|                           | <b>W**</b><br><br><br>0.004, 14° | <br>B114, B115 | <br>B122 |          |     | <br>B139 |     |          |
|                           | <b>J**</b><br><br><br>30°        | <br>B113       | <br>B122 |          |     | <br>B139 |     |          |
|                           | <b>JPP</b><br><br><br>10°        |                | <br>B123 |          |     |          |     |          |
| <b>JRP</b><br><br><br>10° |                                  | <br>B123       |          |          |     |          |     |          |

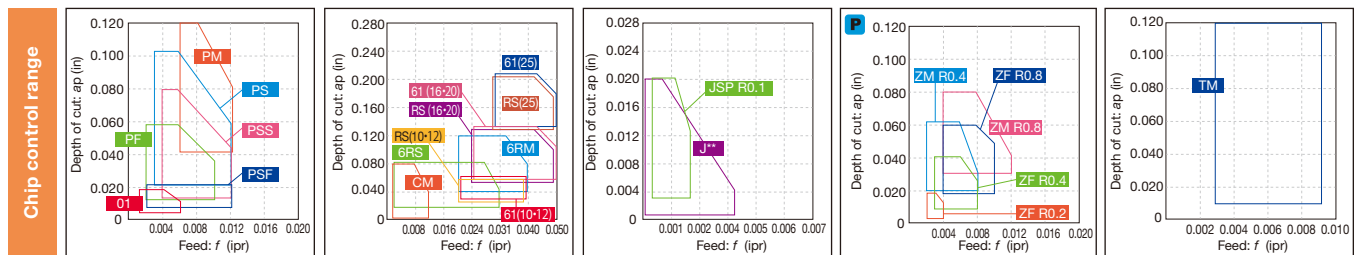


Please see the page B\*\*\* for the product details.


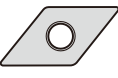



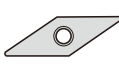
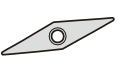
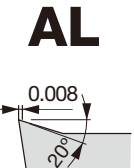
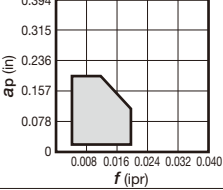


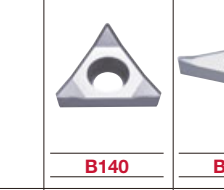
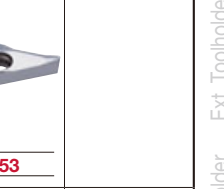
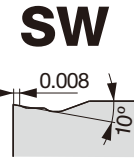
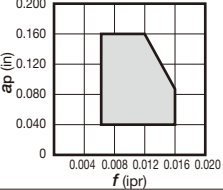


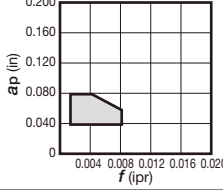



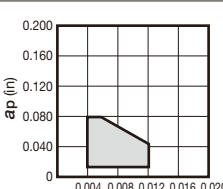


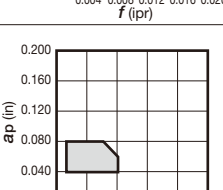


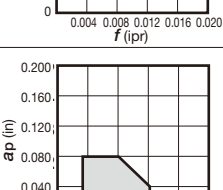

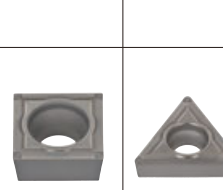
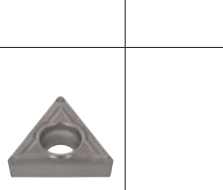
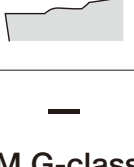
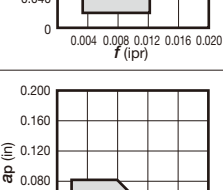



# Chipbreaker Overview

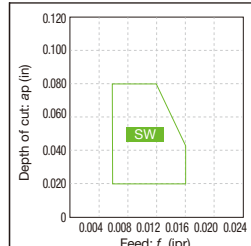
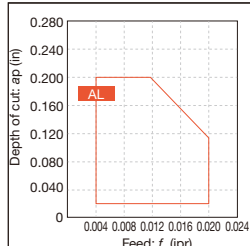
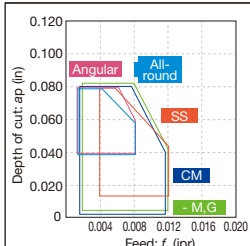
| Application                 |  | Positive 7° with hole |     |   |     |     |     |     |  |
|-----------------------------|--|-----------------------|-----|---|-----|-----|-----|-----|--|
|                             |  | C                     | D   | R | S   | T   | V   | Y   |  |
|                             |  | 80°                   | 55° |   | 90° | 60° | 35° | 25° |  |
| Finishing to medium cutting | <b>JSP</b><br><br>Finishing (sharp edge) |                       |     |   |     |     |     |     |  |
|                             | <b>PSS</b><br><br>0.006                  |                       |     |   |     |     |     |     |  |
|                             | <b>PS</b><br><br>10°                     |                       |     |   |     |     |     |     |  |
|                             | <b>TM</b><br><br>0.006<br>20°            |                       |     |   |     |     |     |     |  |
|                             | <b>6RM</b><br><br>0.007<br>15°           |                       |     |   |     |     |     |     |  |
|                             | <b>ZM</b><br><br>7°                      |                       |     |   |     |     |     |     |  |
|                             | <b>CM</b><br><br>0.010<br>10°            |                       |     |   |     |     |     |     |  |



Please see the page B\*\*\* for the product details.

| Application   | Positive 7°<br>with hole  | C   | D   | R  | S  | T   | V   | Y   |
|---|---|---|---|--|--|---|---|---|
|   |   |    |    |   |    |    |  |  |
|   |   | 80°   | 55°   |  | 90°  | 60°   | 35°   | 25°   |
| Finishing to medium cutting<br>(for non-ferrous alloys) | <b>AL</b><br>          |    |    |  |  |    |  |   |
|   | <b>SW</b><br>          |    |    |  |  |   |   |   |
| Finishing to medium cutting                             | <b>All-round</b><br>   |    |    |  |  |   |  |   |
|   | <b>SS</b><br>         |   |   |  |  |   |   |   |
|   | <b>Angular</b><br>   |  |  |  |  |   |   |   |
|   | <b>23</b><br>        |  |  |  |  |  |   |   |
|   | <b>M,G-class</b><br> |  |  |  |  |   |   |   |
|   |   |   |   |  |  |   |   |   |


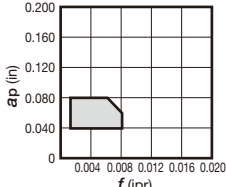

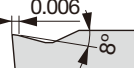
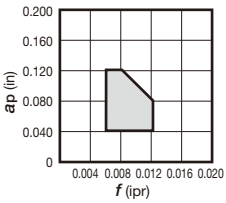




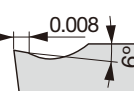
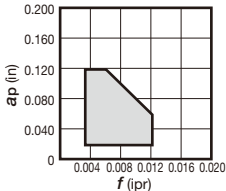



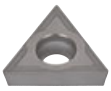

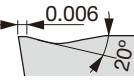
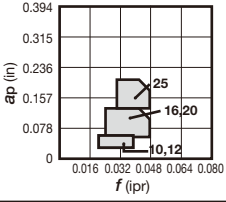

Chip control range

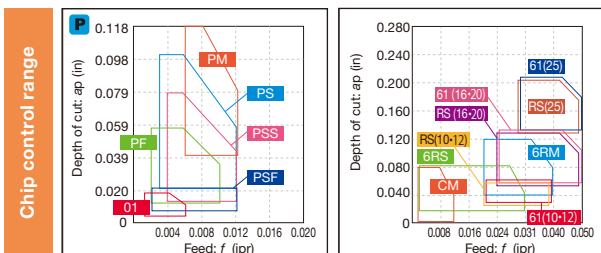


\*-M,G: Without chipbreaker






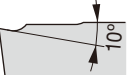
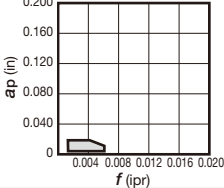


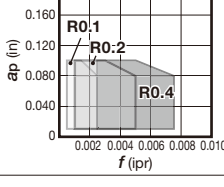
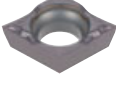

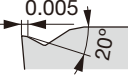
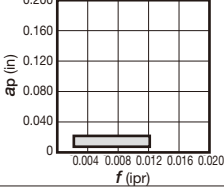
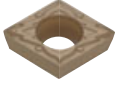


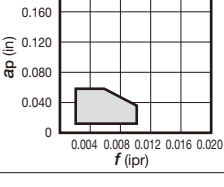
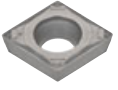
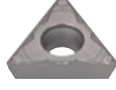
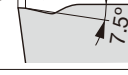
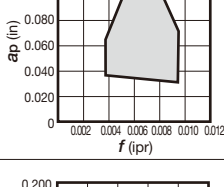




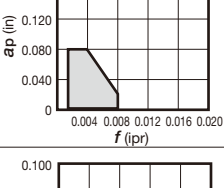





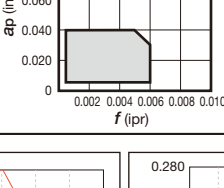

Please see the page B\*\*\* for the product details.

# Chipbreaker Overview

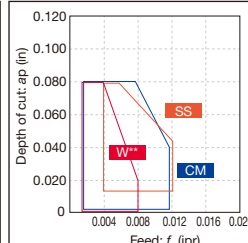
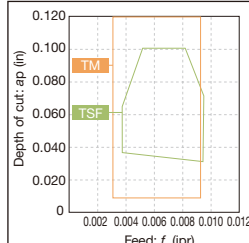
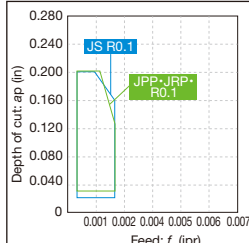
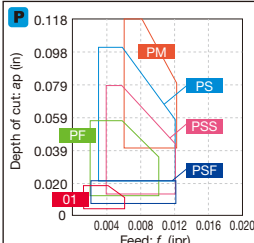
| Application   | Positive 7° with hole  | C  | D  | R | S   | T  | V  | Y   |  |
|---|--|--|--|---|---|--|--|-----|--|
|   |  | 80°  | 55°  |   | 90°   | 60°  | 35°  | 25° |  |
| Finishing to medium cutting   | <b>I</b><br>(with hand)<br>  |  |  |   |   |  | <br><b>B141</b> |     |  |
|   | <b>PM</b><br>                | <br><b>B117</b> | <br><b>B125</b>   |   | <br><b>B134</b> | <br><b>B141</b> |  |     |  |
|   | <b>24</b><br>                | <br><b>B117</b> | <br><b>B125</b>   |   | <br><b>B134</b> | <br><b>B141</b> | <br><b>B153</b> |     |  |
| <b>Heavy cutting</b><br><b>61</b><br>  |  |  | <br><b>B131</b> |   |   |  |  |     |  |



Please see the page B\*\*\* for the product details.

| Application         | Positive 11° with hole   |  |  |   |  |
|---------------------|--|--|--|---|--|
|                     | C<br><br>80°  | D<br><br>55°      | E<br><br>75°     | S<br><br>90°     | T<br><br>60°            |
| Precision finishing | <b>01</b><br><br>      |  |  |   | <br><b>B142</b>         |
|                     | <b>JS</b><br><br>      |  |  | <br><b>B128</b>   | <br><b>B142</b>         |
| Finishing           | <b>PSF</b><br><br>     | <br><b>B118</b>   |  |   | <br><b>B142</b>         |
|                     | <b>PF</b><br><br>  | <br><b>B118</b> |  |   | <br><b>B142</b>       |
|                     | <b>TSF</b><br><br> | <br><b>B118</b> | <br><b>B126</b> |   | <br><b>B143</b>       |
|                     | <b>W**</b><br><br> | <br><b>B118</b> |  | <br><b>B129</b> | <br><b>B135</b>       |
|                     |  |  |  |   | <br><b>B143, B144</b> |
|                     | <b>J08</b><br><br> |  |  | <br><b>B128</b> |  |

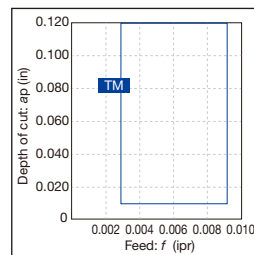
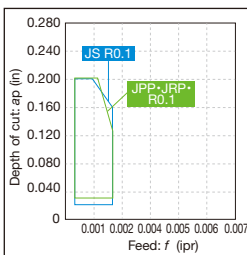
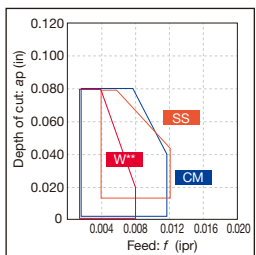
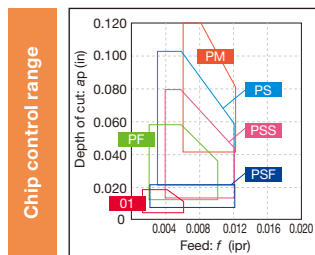
## Chip control range



Please see the page B\*\*\* for the product details.

# Chipbreaker Overview

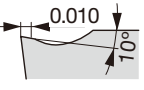
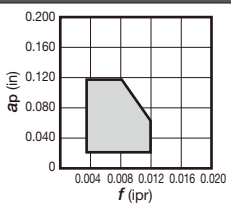
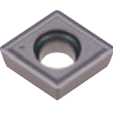

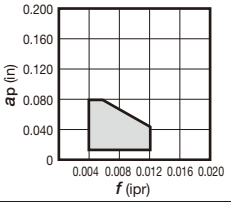
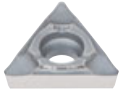
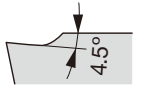
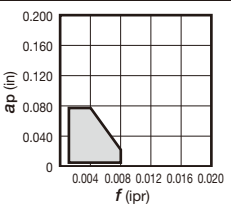
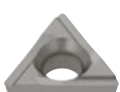
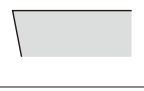
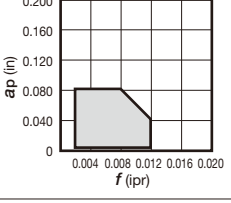




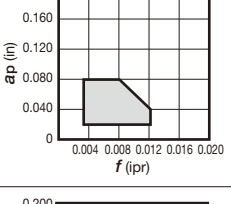


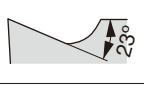
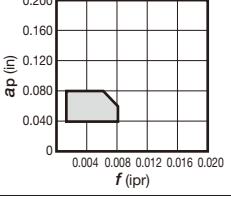

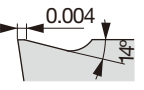
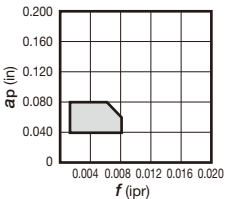

| Application                 | Positive 11° with hole | C        | D        | S        | T        | V        |
|-----------------------------|------------------------|----------|----------|----------|----------|----------|
|                             |                        | 80°      | 55°      | 90°      | 60°      | 35°      |
| Finishing (sharp edge)      | <b>JPP</b><br>         |          |          |          |          | <br>B154 |
|                             | <b>JRP</b><br>         |          |          |          |          | <br>B154 |
|                             | <b>JSP</b><br>         |          |          |          |          | <br>B154 |
| Finishing to medium cutting | <b>PSS</b><br>         | <br>B118 |          |          | <br>B145 |          |
|                             | <b>PS</b><br>          | <br>B119 | <br>B126 | <br>B135 | <br>B145 |          |
|                             | <b>TM</b><br>          | <br>B119 | <br>B126 |          | <br>B145 |          |
|                             | <b>CM</b><br>          | <br>B119 |          | <br>B135 | <br>B146 |          |



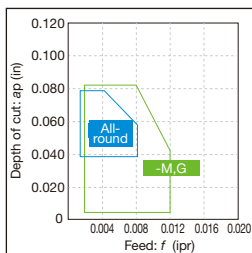
\*Chip control range with typical R0.1

Please see the page B\*\*\* for the product details.



| Application                 | Positive 11°<br>with hole  | C  | S  | T  | V   |
|-----------------------------|--|--|--|--|-----|
|                             |  | 80°  | 90°  | 60°  | 35° |
| Finishing to medium cutting | <b>All-round</b><br><br>       | <br><b>B119</b>   |  |  |     |
|                             | <b>SS</b><br><br>              |  |  | <br><b>B144</b>  |     |
|                             | <b>H**</b><br><br>             |  |  | <br><b>B146</b>  |     |
|                             | <b>M,G-class</b><br><br>    | <br><b>B120</b> | <br><b>B136</b> | <br><b>B147</b>  |     |
|                             | <b>23</b><br><br>          |  | <br><b>B135</b> | <br><b>B146</b>  |     |
|                             | <b>(with hand)</b><br><br> |  |  | <br>(Tungaloy standard hole specification)<br>ISO non-compliant<br><b>B136</b>  |     |
|                             | <b>(with hand)</b><br><br> |  |  | <br>(Tungaloy standard hole specification)<br>ISO non-compliant<br><b>B146</b> |     |

Chip control range



\*-M,G: Without chipbreaker

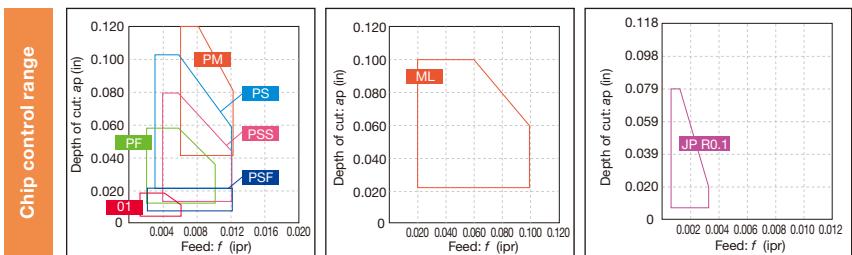
Please see the page B\*\*\* for the product details.

# Chipbreaker Overview


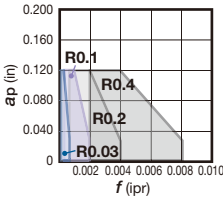


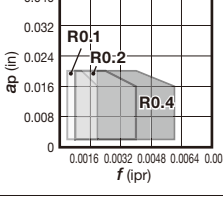

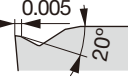
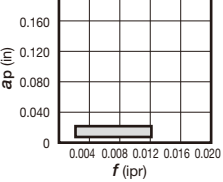

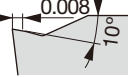
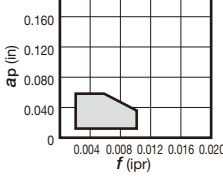

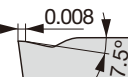
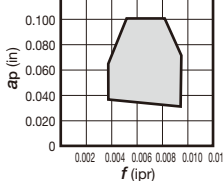


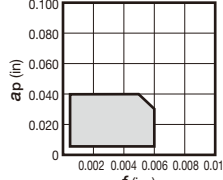


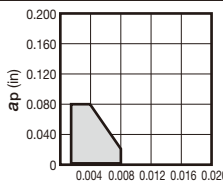

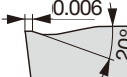
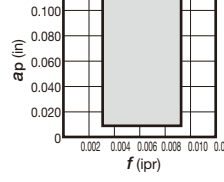

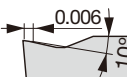
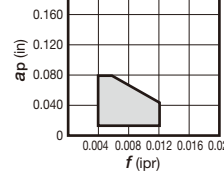


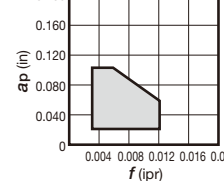

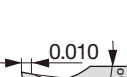
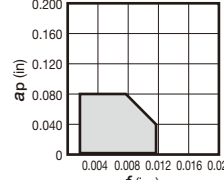

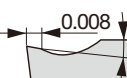
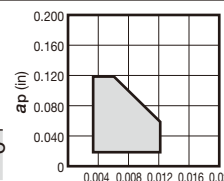

| Application    | Positive 11° with hole   | C   | S   | T   |
|----------------|--|-----|-----|-----|
|                |  | 80° | 90° | 60° |
| Medium cutting | <b>PM</b><br><br><br>Graph showing ap (in) vs f (ipr) for PM. The y-axis ranges from 0 to 0.200, and the x-axis ranges from 0.004 to 0.020. The curve shows a peak at approximately f=0.008 and ap=0.12. |     |     |     |
|                | <b>24</b><br><br><br>Graph showing ap (in) vs f (ipr) for 24. The y-axis ranges from 0 to 0.200, and the x-axis ranges from 0.004 to 0.020. The curve shows a peak at approximately f=0.012 and ap=0.12. |     |     |     |

| Application   | Positive 11° with hole  | W   |
|---------------|---|-----|
|               |   | 80° |
| Heavy cutting | <b>ML</b><br><br><br>Graph showing ap (in) vs f (ipr) for ML. The y-axis ranges from 0 to 0.394, and the x-axis ranges from 0.020 to 0.100. The curve shows a peak at approximately f=0.040 and ap=0.078. |     |

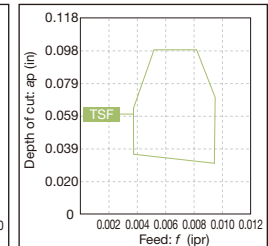
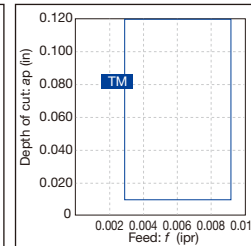
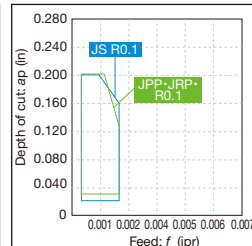
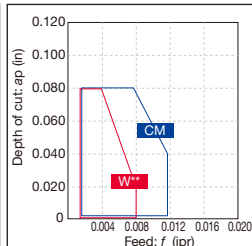
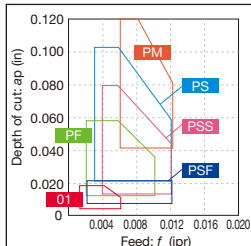
| Application                      | Positive 5° with hole   | V   |
|----------------------------------|---|-----|
|                                  |   | 35° |
| Precision finishing (sharp edge) | <b>JP</b><br><br><br>Graph showing ap (in) vs f (ipr) for JP. The y-axis ranges from 0 to 0.100, and the x-axis ranges from 0.002 to 0.010. The curve shows a peak at approximately f=0.004 and ap=0.08. Radii R0.2, R0.1, and R0.05 are indicated. |     |



Please see the page B\*\*\* for the product details.

| Application                 | Positive 5° with hole   | V  | W  |
|-----------------------------|---|--|--|
|                             |   | 35°  | 80°  |
| Finishing (sharp edge)      | <b>JS</b><br><br>       | <br><b>B150</b>     |  |
|                             | <b>JS</b><br><br>       |  | <br><b>B156</b>     |
| Finishing                   | <b>PSF</b><br><br>      | <br><b>B150</b>     |  |
|                             | <b>PF</b><br><br>   | <br><b>B150</b>   |  |
|                             | <b>TSF</b><br><br>  | <br><b>B150</b>   |  |
|                             | <b>W08</b><br><br>  |  | <br><b>B156</b>   |
|                             | <b>W11</b><br><br>  |  | <br><b>B156</b>   |
|                             | <b>TM</b><br><br>      | <br><b>B151</b>   |  |
|                             | <b>PSS</b><br><br> | <br><b>B151</b> |  |
| Finishing to medium cutting | <b>PS</b><br><br>  |  | <br><b>B151</b> |
|                             | <b>CM</b><br><br>  | <br><b>B151</b> |  |
|                             | <b>24</b><br><br>  | <br><b>B151</b> |  |

## Chip control range



\*Chip control range with typical R0.1

Please see the page B\*\*\* for the product details.

# Chipbreaker Overview

|               |   |                    |
|---------------|---|--------------------|
| Application   | Positive type with hole   | JXF                |
| Front turning | <p>The graph shows a chipbreaker profile with a constant height of 0.236 inches for feed rates up to 0.0032 ipr, followed by a linear decrease to 0.078 inches at 0.0080 ipr.</p> | <p><b>B159</b></p> |

|              |   |                    |
|--------------|---|--------------------|
| Application  | Positive type with hole   | J10E               |
| Back turning | <p>The graph shows a chipbreaker profile with a constant height of 0.157 inches for feed rates up to 0.0032 ipr, followed by a linear decrease to 0.078 inches at 0.0080 ipr.</p> | <p><b>B161</b></p> |




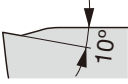
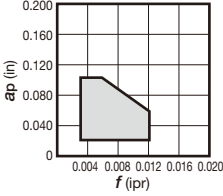

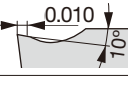
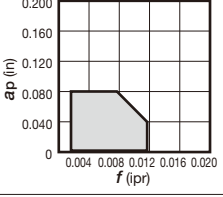



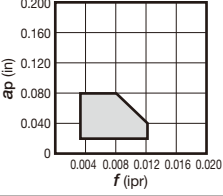



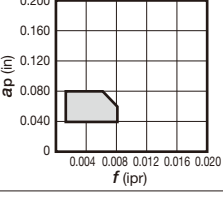



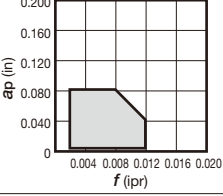


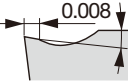
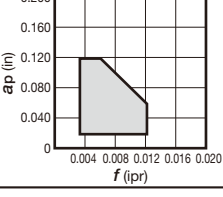

|              |   |                    |
|--------------|---|--------------------|
| Application  | Positive type with hole   | JXB                |
| Back turning | <p>The graph shows a chipbreaker profile with a constant height of 0.236 inches for feed rates up to 0.0032 ipr, followed by a linear decrease to 0.078 inches at 0.0080 ipr.</p> | <p><b>B160</b></p> |

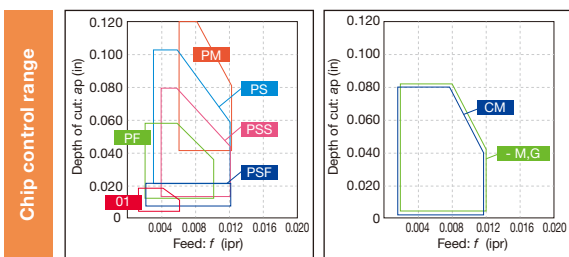
|                 |   |                    |
|-----------------|---|--------------------|
| Application     | Positive type with hole   | JXR                |
| Reverse turning | <p>The graph shows a chipbreaker profile with a constant height of 0.236 inches for feed rates up to 0.0032 ipr, followed by a linear decrease to 0.078 inches at 0.0080 ipr.</p> | <p><b>B160</b></p> |

|              |   |                    |
|--------------|---|--------------------|
| Application  | Positive type with hole   | JTB                |
| Back turning | <p>The graph shows a chipbreaker profile with a constant height of 0.120 inches for feed rates up to 0.0032 ipr, followed by a linear decrease to 0.040 inches at 0.0080 ipr.</p> | <p><b>B161</b></p> |

|                |   |   |
|----------------|---|---|
| Application    | Round   | RT  |
| Medium cutting | <p>The graph shows a chipbreaker profile with a constant height of 0.078 inches for feed rates up to 0.016 ipr, followed by a linear decrease to 0.040 inches at 0.040 ipr.</p> | <p>Special round insert<br/><b>B131</b></p> |


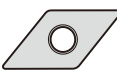
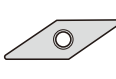


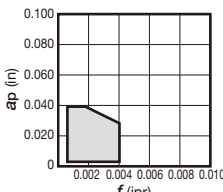
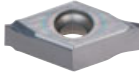


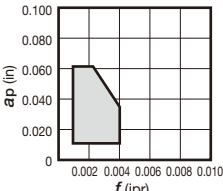



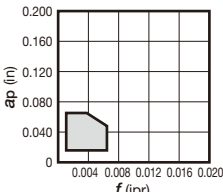
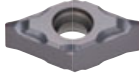

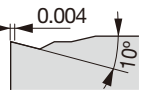
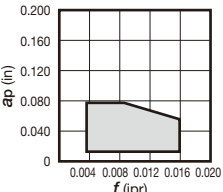
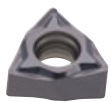
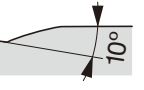
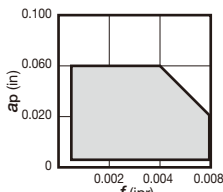
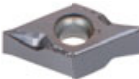
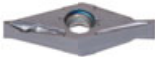
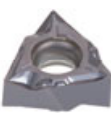
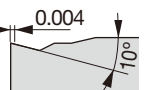
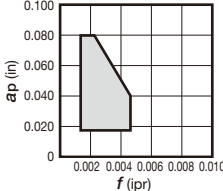

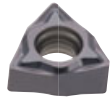
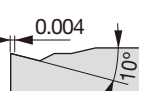
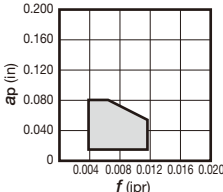


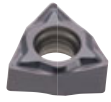
Please see the page B\*\*\* for the product details.

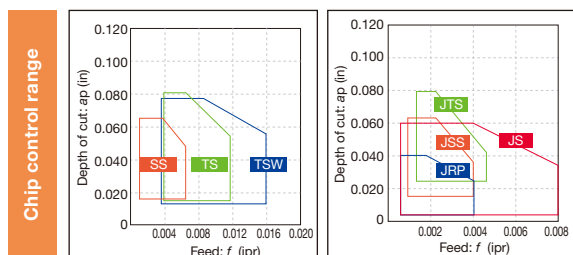
| Application                 | Positive 11°<br>without hole   | R   | S  | T   |
|-----------------------------|--|---|--|---|
|                             |  |  |                   |                         |
|                             |  |   | 90°  | 60°   |
| Finishing to medium cutting | <b>PS</b><br><br>                          |   |  | <br><b>B148</b>         |
|                             | <b>CM</b><br><br>                          |   | <br><b>B137</b>   | <br><b>B148</b>         |
|                             | <b>23</b><br><br>                          |   | <br><b>B137</b>   | <br><b>B148</b>         |
|                             | <b>—</b><br><b>(with hand)</b><br><br> |   | <br><b>B137</b> | <br><b>B148</b>       |
|                             | <b>—</b><br><b>M,G-class</b><br><br>   |   | <br><b>B137</b> | <br><b>B148, B149</b> |
|                             | <b>24</b><br><br>                      |   |  | <br><b>B149</b>       |



Please see the page B\*\*\* for the product details.



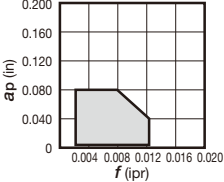

# Chipbreaker Overview

| Application                              | Double-sided positive type with hole  | C  | D  | V   | W  |
|--|---|--|--|---|--|
|  |   | <br>80°           | <br>55°               | <br>35°           | <br>80°           |
| Finishing (sharp edge)                   | <b>JRP</b><br>      |  | <br><b>B126</b>       | <br><b>B155</b>   |  |
|  | <b>JSS</b><br>      |  | <br><b>B126, B127</b> |   | <br><b>B157</b>   |
| Finishing to medium cutting              | <b>SS</b><br>       |  | <br><b>B127</b>       |   | <br><b>B157</b>   |
| Finishing                                | <b>TSW</b><br>   |  |  |   | <br><b>B157</b> |
| Finishing to medium cutting (sharp edge) | <b>JS</b><br>   |  | <br><b>B127</b>     | <br><b>B155</b> | <br><b>B157</b> |
|  | <b>JTS</b><br>  |  | <br><b>B127</b>     |   | <br><b>B158</b> |
| Finishing to medium cutting              | <b>TS</b><br>   | <br><b>B120</b> | <br><b>B127</b>     |   | <br><b>B158</b> |



Please see the page B\*\*\* for the product details.



|                |   |  |   |
|----------------|---|--|---|
| Application    | Positive 7°<br>without hole   |  | RCGX  |
|                |   |  |  |
| Medium cutting |  |  | Special round insert  |
|                |  |  |  |
|                |   |  | <b>B132</b>   |

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

Index



















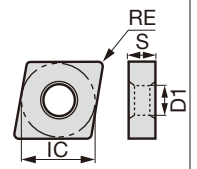
# Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

# CN

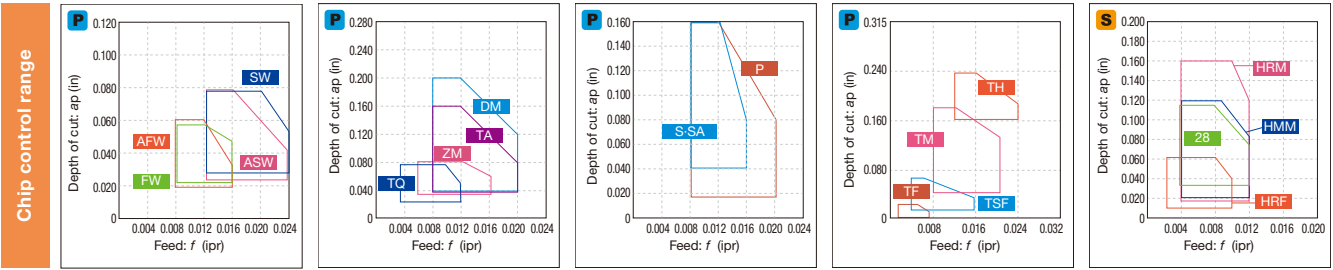
**Rhombic, 80° with hole**

|   |               |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |   |
|---|---------------|---|---|---|---|---|---|--|---|---|---|--|--|--|--|--|--|--|--|---|
| P | Steel         | ● | ● | ● | ● | ✱ |   |  |   |   |   |  |  |  |  |  |  |  |  |   |
| M | Stainless     | ● | ● |   |   |   |   |  | ● | ● | ● |  |  |  |  |  |  |  |  | ● |
| K | Cast iron     | ● | ● | ● |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  | ● |
| N | Non-ferrous   |   |   |   |   | ● | ● |  |   |   |   |  |  |  |  |  |  |  |  | ● |
| S | Superalloy    |   |   |   |   |   |   |  | ● | ● |   |  |  |  |  |  |  |  |  | ● |
| H | Hard material |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  | ● |



| Application             | Chipbreaker | Designation |               | Coated        |       |       |       |      |        |        |        |       |       | Coated cermet | Cermet | Uncoated | Dimension (in) |        |       |       |       |       |       |       |
|-------------------------|-------------|-------------|---------------|---------------|-------|-------|-------|------|--------|--------|--------|-------|-------|---------------|--------|----------|----------------|--------|-------|-------|-------|-------|-------|-------|
|                         |             | Inch        | Metric        | T9205         | T9215 | T9225 | T9235 | T515 | AH8005 | AH8015 | AH6225 | AH905 | AH725 | AH110         | AH120  | GH330    | GT720          | NS9530 | KS05F | TH10  | RE    | IC    | S     | D1    |
| Medium cutting          |             | <b>27</b>   | CNMG 431-27   | CNMG120404-27 | ●     | ●     |       |      |        |        |        |       |       |               |        |          | ●              |        |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                         |             |             | CNMG 432-27   | CNMG120408-27 | ●     | ●     | ●     |      |        |        |        |       | ●     |               |        |          |                | ●      |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 433-27   | CNMG120412-27 |       |       | ●     |      |        |        |        |       |       |               |        |          |                |        |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                         |             | <b>28</b>   | CNGP 430-28   | CNGP120401-28 |       |       |       |      |        |        |        |       |       | ●             | ●      |          |                |        |       |       | 0.004 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNGP 430.5-28 | CNGP120402-28 |       |       |       |      |        |        |        |       |       | ●             | ●      |          |                |        |       |       | 0.008 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNGP 431-28   | CNGP120404-28 |       |       |       |      |        |        |        |       |       | ●             | ●      |          |                |        |       | ●     | 0.016 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNGP 432-28   | CNGP120408-28 |       |       |       |      |        |        |        |       |       | ●             | ●      |          |                |        |       | ●     | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNGG 430.5-28 | CNGG120402-28 |       |       |       |      |        |        |        |       |       |               |        |          |                |        |       | ●     | 0.008 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNGG 431-28   | CNGG120404-28 |       |       |       |      |        |        |        |       |       |               |        |          |                |        |       | ●     | 0.016 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNGG 432-28   | CNGG120408-28 |       |       |       |      |        |        |        |       |       |               |        |          |                |        |       | ●     | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 431-28   | CNMG120404-28 |       |       | ●     |      |        | ●      | ●      |       |       |               | ●      | ●        |                |        |       | ●     | 0.016 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 432-28   | CNMG120408-28 |       |       |       |      |        | ●      | ●      |       |       |               | ●      | ●        |                |        |       | ●     | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |             | CNMG 433-28 | CNMG120412-28 |               |       |       |       |      |        | ●      | ●      |       |       |               | ●      |          |                |        |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                         |             | <b>33</b>   | CNMG 432-33   | CNMG120408-33 |       |       |       |      |        |        |        |       |       |               | ●      |          | ●              |        |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 434-33   | CNMG120416-33 |       | ●     |       |      |        |        |        |       |       |               |        |          |                |        |       |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                         |             | CNMG 543-33 | CNMG160612-33 |               | ●     |       |       |      |        |        |        |       |       |               |        |          |                |        |       | 0.047 | 0.625 | 0.250 | 0.250 |       |
|                         |             | CNMG 643-33 | CNMG190612-33 |               | ●     |       |       |      |        |        |        |       |       |               |        |          |                |        |       | 0.047 | 0.750 | 0.250 | 0.312 |       |
|                         |             | <b>37</b>   | CNMG 431-37   | CNMG120404-37 |       | ●     |       |      |        |        |        |       |       |               |        |          |                | ●      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 432-37   | CNMG120408-37 |       | ●     | ●     |      |        |        |        |       |       |               |        | ●        |                | ●      |       | ●     | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |             | CNMG 433-37 | CNMG120412-37 |               | ●     |       |       |      |        |        |        |       |       |               |        |          |                |        |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                         | <b>38</b>   | CNMG 431-38 | CNMG120404-38 |               |       |       |       |      |        |        |        |       |       |               |        | ●        |                | ●      |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                         |             | CNMG 432-38 | CNMG120408-38 |               | ●     |       |       |      |        |        |        |       |       |               |        | ●        |                | ●      |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                         |             |             |               |               |       |       |       |      |        |        |        |       |       |               |        |          |                |        |       |       |       |       |       |       |
| Medium to heavy cutting |             | <b>TH</b>   | CNMG 432 TH   | CNMG120408-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                         |             |             | CNMG 433 TH   | CNMG120412-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 434 TH   | CNMG120416-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                         |             |             | CNMG 543 TH   | CNMG160612-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       |       | 0.047 | 0.625 | 0.250 | 0.250 |
|                         |             |             | CNMG 544 TH   | CNMG160616-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       |       | 0.063 | 0.625 | 0.250 | 0.250 |
|                         |             |             | CNMG 643 TH   | CNMG190612-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       |       | 0.047 | 0.750 | 0.250 | 0.312 |
|                         |             |             | CNMG 644 TH   | CNMG190616-TH | ●     | ●     | ●     | ●    | ●      |        |        | ●     |       | ●             |        |          |                |        |       |       | 0.063 | 0.750 | 0.250 | 0.312 |

● : Line up



Grade A, B, C, D, E, F, G, H, I, J, K, L, M

Insert

Ext. Toolholder, Int. Toolholder, Threading, Grooving, Miniature tool, Milling cutter, Endmill, Drilling tool, Tooling System

User's Guide, Index

# Insert NEGATIVE TYPE

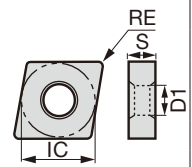
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## CN



Rhombic, 80° with hole

|               | P | M | K | N | S | H |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel         | ● | ◐ | ◐ | ◐ | ◐ | ◐ | ✱ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Stainless     |   | ● | ◐ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Cast iron     | ◐ | ◐ | ◐ |   |   |   | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Non-ferrous   |   |   |   | ● |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Superalloy    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Hard material |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



| Application                            | Chipbreaker | Designation |               | Coated         |       |       |       |      |       |       |       |        |        | Dimension (in) |    |   |    |  |       |       |       |       |       |  |
|--|-------------|-------------|---------------|----------------|-------|-------|-------|------|-------|-------|-------|--------|--------|----------------|----|---|----|--|-------|-------|-------|-------|-------|--|
|  |             | Inch        | Metric        | T9205          | T9215 | T9225 | T9235 | T515 | T5105 | T5115 | T5125 | AH6225 | AH6235 | RE             | IC | S | D1 |  |       |       |       |       |       |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |
| Medium to heavy cutting                |             | <b>THS</b>  | CNMG 432 THS  | CNMG120408-THS | ●     | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  | 0.031 | 0.500 | 0.187 | 0.203 |       |  |
|  |             |             | CNMG 433 THS  | CNMG120412-THS | ●     | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMG 434 THS  | CNMG120416-THS | ●     | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMG 543 THS  | CNMG160612-THS | ●     | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMG 544 THS  | CNMG160616-THS | ●     | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMG 643 THS  | CNMG190612-THS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMG 644 THS  | CNMG190616-THS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMG 646 THS  | CNMG190624-THS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.094 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMG 866 THS  | CNMG250924-THS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.094 | 1.000 | 0.375 | 0.359 |  |
| Medium to heavy cutting                |             | <b>SH</b>   | CNMG 432 SH   | CNMG120408-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  | 0.031 | 0.500 | 0.187 | 0.203 |       |  |
|  |             |             | CNMG 433 SH   | CNMG120412-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMG 434 SH   | CNMG120416-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMG 543 SH   | CNMG160612-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMG 544 SH   | CNMG160616-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMG 643 SH   | CNMG190612-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMG 644 SH   | CNMG190616-SH  |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.750 | 0.250 | 0.312 |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |
| Medium to heavy cutting                |             | <b>CH</b>   | CNMG 431 CH   | CNMG120404-CH  |       |       |       |      |       | ●     | ●     | ●      |        |                |    |   |    |  | 0.016 | 0.500 | 0.187 | 0.203 |       |  |
|  |             |             | CNMG 432 CH   | CNMG120408-CH  |       |       |       |      |       | ●     | ●     | ●      | ●      |                |    |   |    |  |       | 0.031 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMG 433 CH   | CNMG120412-CH  |       |       |       |      |       | ●     | ●     | ●      | ●      |                |    |   |    |  |       | 0.047 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMG 543 CH   | CNMG160612-CH  |       |       |       |      |       |       |       | ●      | ●      |                |    |   |    |  |       | 0.047 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMG 544 CH   | CNMG160616-CH  |       |       |       |      |       |       |       | ●      | ●      |                |    |   |    |  |       | 0.063 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMG 643 CH   | CNMG190612-CH  |       |       |       |      |       |       |       | ●      | ●      | ●              |    |   |    |  |       | 0.047 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMG 644 CH   | CNMG190616-CH  |       |       |       |      |       |       |       | ●      | ●      | ●              |    |   |    |  |       | 0.063 | 0.750 | 0.250 | 0.312 |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |
| Medium to heavy cutting (single sided) |             | <b>TRS</b>  | CNMM 432 TRS  | CNMM120408-TRS | ●     | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  | 0.031 | 0.500 | 0.187 | 0.203 |       |  |
|  |             |             | CNMM 433 TRS  | CNMM120412-TRS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMM 543 TRS  | CNMM160612-TRS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMM 544 TRS  | CNMM160616-TRS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.625 | 0.250 | 0.250 |  |
|  |             |             | CNMM 644 TRS  | CNMM190616-TRS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMM 646 TRS  | CNMM190624-TRS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.094 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMM 866 TRS  | CNMM250924-TRS |       | ●     | ●     | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.094 | 1.000 | 0.375 | 0.359 |  |
|  |             | <b>57</b>   | CNMM 431-57   | CNMM120404-57  |       |       |       | ●    |       |       |       |        |        |                |    |   |    |  |       | 0.016 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMM 432-57   | CNMM120408-57  |       | ●     | ●     |      |       |       |       |        |        |                |    |   |    |  |       | 0.031 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMM 433-57   | CNMM120412-57  |       |       | ●     |      |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.500 | 0.187 | 0.203 |  |
|  |             |             | CNMM 643-57   | CNMM190612-57  |       |       | ●     |      |       |       |       |        |        |                |    |   |    |  |       | 0.047 | 0.750 | 0.250 | 0.312 |  |
|  |             |             | CNMM 644-57   | CNMM190616-57  |       |       | ●     |      |       |       |       |        |        |                |    |   |    |  |       | 0.063 | 0.750 | 0.250 | 0.312 |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |
|  | <b>65</b>   | CNMM 433-65 | CNMM120412-65 |                | ●     | ●     |       |      |       |       |       |        |        |                |    |   |    |  | 0.047 | 0.500 | 0.187 | 0.203 |       |  |
|  |             | CNMM 544-65 | CNMM160616-65 |                | ●     |       |       |      |       |       |       |        |        |                |    |   |    |  | 0.063 | 0.625 | 0.250 | 0.250 |       |  |
|  |             |             |               |                |       |       |       |      |       |       |       |        |        |                |    |   |    |  |       |       |       |       |       |  |

● : Line up

Reference pages: External toolholder → **C019 -** Internal toolholder → **D027 -**  
 J-Series toolholder → **G036** TungCap → **K008 -**

# Insert NEGATIVE TYPE

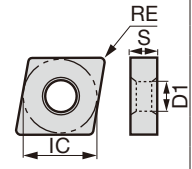
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## CN



**Rhombic, 80° with hole**

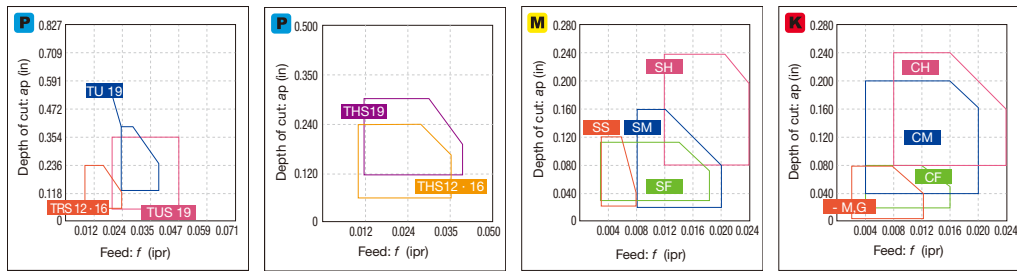
|   |               |   |   |   |   |   |   |  |   |   |   |   |   |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |  |
|---|---------------|---|---|---|---|---|---|--|---|---|---|---|---|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|--|
| P | Steel         | ● | ● | ● | ◐ | ◑ | * |  |   |   |   |   |   |  | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |  |
| M | Stainless     |   |   | ● | ● |   |   |  |   |   |   |   |   |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |  |
| K | Cast iron     | ● | ● | ● | ● |   |   |  | ● | ● | ● | ● | ◐ |  | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  | ● | ● |  |
| N | Non-ferrous   |   |   |   |   |   |   |  |   |   |   |   |   |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |  |
| S | Superalloy    |   |   |   |   |   |   |  |   |   |   |   |   |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |  |
| H | Hard material |   |   |   |   |   |   |  |   |   |   |   |   |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |   |   |  |



| Application                            | Chipbreaker | Designation | Coated       |                |       |       |      |      |       |       | Cermet | Uncoated | Ceramic | Dimension (in) |       |       |       |
|--|-------------|-------------|--------------|----------------|-------|-------|------|------|-------|-------|--------|----------|---------|----------------|-------|-------|-------|
|  |             |             | T9205        | T9215          | T9225 | T9235 | T505 | T515 | T5105 | T5115 | T5125  | NS520    | TH10    | FX105          | RE    | IC    | S     |
| Medium to heavy cutting (single sided) |             | <b>TU</b>   | CNMM 643 TU  | CNMM190612-TU  |       |       | ●    | ●    |       |       |        |          |         | 0.047          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 644 TU  | CNMM190616-TU  |       |       | ●    | ●    |       |       |        |          |         | 0.063          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 646 TU  | CNMM190624-TU  |       | ●     | ●    | ●    |       |       |        |          |         | 0.094          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 866 TU  | CNMM250924-TU  |       |       | ●    | ●    |       |       |        |          |         | 0.094          | 1.000 | 0.375 | 0.359 |
|  |             | <b>TUS</b>  | CNMM 642 TUS | CNMM190608-TUS | ●     | ●     |      |      |       |       |        |          |         | 0.031          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 643 TUS | CNMM190612-TUS | ●     | ●     | ●    |      |       |       |        |          |         | 0.047          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 644 TUS | CNMM190616-TUS | ●     | ●     | ●    |      |       |       |        |          |         | 0.063          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 646 TUS | CNMM190624-TUS | ●     | ●     | ●    |      |       |       |        |          |         | 0.094          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 648 TUS | CNMM190632-TUS | ●     | ●     |      |      |       |       |        |          |         | 0.125          | 0.750 | 0.250 | 0.312 |
|  |             |             | CNMM 864 TUS | CNMM250916-TUS | ●     | ●     | ●    |      |       |       |        |          |         | 0.063          | 1.000 | 0.375 | 0.359 |
|  |             |             | CNMM 866 TUS | CNMM250924-TUS | ●     | ●     | ●    |      |       |       |        |          |         | 0.094          | 1.000 | 0.375 | 0.359 |
|  |             |             | CNMM 868 TUS | CNMM250932-TUS | ●     | ●     |      |      |       |       |        |          |         | 0.125          | 1.000 | 0.375 | 0.359 |
| Finishing to medium cutting            | -           | CNMA 331E   | CNMA090404E  |                |       |       |      | ●    |       |       |        |          | 0.016   | 0.375          | 0.187 | 0.150 |       |
|  |             | CNMA 332E   | CNMA090408E  |                |       |       |      | ●    |       |       |        |          | 0.031   | 0.375          | 0.187 | 0.150 |       |
|  |             | CNMA 333E   | CNMA090412E  |                |       |       |      | ●    |       |       |        |          | 0.047   | 0.375          | 0.187 | 0.150 |       |
|  |             | CNMA 334E   | CNMA090416E  |                |       |       |      | ●    |       |       |        |          | 0.063   | 0.375          | 0.187 | 0.150 |       |
|  |             | CNMA 431    | CNMA120404   |                |       |       |      |      | ●     | ●     | ●      |          | 0.016   | 0.500          | 0.187 | 0.203 |       |
|  |             | CNMA 432    | CNMA120408   | ●              |       |       | ●    | ●    | ●     | ●     | ●      | ●        | 0.031   | 0.500          | 0.187 | 0.203 |       |
|  |             | CNMA 433    | CNMA120412   | ●              |       |       | ●    | ●    | ●     | ●     | ●      | ●        | 0.047   | 0.500          | 0.187 | 0.203 |       |
|  |             | CNMA 434    | CNMA120416   | ●              |       |       | ●    | ●    | ●     | ●     | ●      | ●        | 0.063   | 0.500          | 0.187 | 0.203 |       |
|  |             | CNMA 542    | CNMA160608   |                |       |       |      |      | ●     | ●     |        |          | 0.031   | 0.625          | 0.250 | 0.250 |       |
|  |             | CNMA 543    | CNMA160612   |                |       |       |      |      | ●     | ●     | ●      |          | 0.047   | 0.625          | 0.250 | 0.250 |       |
|  |             | CNMA 544    | CNMA160616   |                |       |       |      |      | ●     | ●     | ●      |          | 0.063   | 0.625          | 0.250 | 0.250 |       |
|  |             | CNMA 643    | CNMA190612   |                |       |       |      |      | ●     | ●     | ●      |          | 0.047   | 0.750          | 0.250 | 0.312 |       |
|  |             | CNMA 644    | CNMA190616   |                |       |       |      |      | ●     | ●     | ●      |          | 0.063   | 0.750          | 0.250 | 0.312 |       |

● : Line up

### Chip control range



\*-M,G: Without chipbreaker

Reference pages: External toolholder → C019 - Internal toolholder → D027 -  
 J-Series toolholder → G036 TungCap → K008 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M







# Insert NEGATIVE TYPE

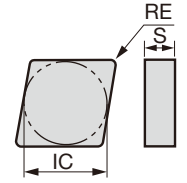
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

# CN



Rhombic, 80°  
without hole

|   |               |
|---|---------------|
| P | Steel         |
| M | Stainless     |
| K | Cast iron     |
| N | Non-ferrous   |
| S | Superalloy    |
| H | Hard material |

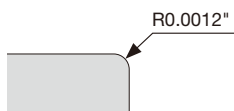


| Application                 | Chipbreaker | Designation |               | Ceramic       |      |      |      |       |       |       | Dimension (in) |    |       |       |       |       |       |   |
|-----------------------------|-------------|-------------|---------------|---------------|------|------|------|-------|-------|-------|----------------|----|-------|-------|-------|-------|-------|---|
|                             |             | Inch        | Metric        | FX105         | LX10 | LX11 | LX21 | CX710 | TS200 | TS300 | RE             | IC | S     | D1    |       |       |       |   |
|                             |             |             |               |               |      |      |      |       |       |       |                |    |       |       |       |       |       |   |
| Finishing to medium cutting |             | -           | CNGD 453      | CNGD120712    | ●    |      |      |       |       |       |                |    | 0.047 | 0.500 | 0.313 | -     |       |   |
|                             |             |             | CNGD 454      | CNGD120716    | ●    |      |      |       |       |       |                |    |       | 0.063 | 0.500 | 0.313 | -     |   |
|                             |             | -           | CNMN 432      | CNMN120408    | ●    |      |      |       |       |       |                |    |       | 0.031 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNMN 433      | CNMN120412    | ●    |      |      |       |       |       |                |    |       | 0.047 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNMN 434      | CNMN120416    | ●    |      |      |       |       |       |                |    |       | 0.063 | 0.500 | 0.187 | -     |   |
|                             |             | -           | CNGN 432-E    | CNGN120408-E  |      |      |      |       |       |       | ●              |    |       | 0.031 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 433-E    | CNGN120412-E  |      |      |      |       |       |       | ●              |    |       | 0.047 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 433-T1   | CNGN120412-T1 |      |      |      |       |       | ●     |                |    |       | 0.047 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 431      | CNGN120404    |      | ●    | ▲    |       |       |       |                |    |       | 0.016 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 432      | CNGN120408    |      | ●    | ●    | ▲     |       |       |                |    |       | 0.031 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 433      | CNGN120412    |      | ●    | ●    | ▲     |       |       |                |    |       | 0.047 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 434      | CNGN120416    |      | ●    | ●    | ▲     | ●     |       |                |    |       | 0.063 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 435      | CNGN120420    |      | ●    |      |       |       |       |                |    |       | 0.078 | 0.500 | 0.187 | -     |   |
|                             |             |             | CNGN 452-E    | CNGN120708-E  |      |      |      |       |       |       |                | ●  |       |       | 0.031 | 0.500 | 0.313 | - |
|                             |             |             | CNGN 453-E    | CNGN120712-E  |      |      |      |       |       |       | ●              | ●  |       |       | 0.047 | 0.500 | 0.313 | - |
|                             |             | CNGN 454-T1 | CNGN120716-T1 |               |      |      |      |       |       | ●     |                |    |       | 0.063 | 0.500 | 0.313 | -     |   |
|                             | CNGN 452    | CNGN120708  |               | ●             | ●    | ▲    |      |       |       |       |                |    | 0.031 | 0.500 | 0.313 | -     |       |   |
|                             | CNGN 453    | CNGN120712  |               | ●             | ●    | ▲    |      |       |       |       |                |    | 0.047 | 0.500 | 0.313 | -     |       |   |
|                             | CNGN 454    | CNGN120716  |               | ●             | ●    | ▲    |      |       |       |       |                |    | 0.063 | 0.500 | 0.313 | -     |       |   |
|                             | CNGN 455    | CNGN120720  |               |               |      | ▲    |      |       |       |       |                |    | 0.078 | 0.500 | 0.313 | -     |       |   |

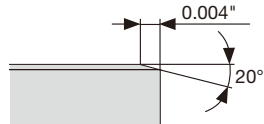
● : Line up  
 ▲ : To be discontinued

## Edge prep

E: Low cutting force



T1: Strong cutting edge



Reference pages: CNGD...: External toolholder → **C027**

Grade  
Insert  
Toolholder  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

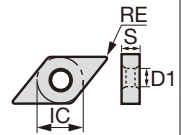


# Insert NEGATIVE TYPE

## DN

Rhombic, 55°  
with hole

|               | P | M | K | N | S | H | ● | ◐ | ✱ | ● | ◐ | ✱ | ● | ◐ | ✱ | ● | ◐ | ✱ | ● | ◐ | ✱ |   |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steel         | ● | ◐ | ◐ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Stainless     | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Cast iron     | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Non-ferrous   | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Superalloy    | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Hard material | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |



| Application | Chipbreaker | Designation            | Coated                 |       |       |       |       |        |        |        |       |   | Coated cermet    | Cermet | Uncoated | Dimension (in) |       |       |       |       |
|-------------|-------------|------------------------|------------------------|-------|-------|-------|-------|--------|--------|--------|-------|---|------------------|--------|----------|----------------|-------|-------|-------|-------|
|             |             |                        | Inch                   |       |       |       |       | Metric |        |        |       |   | GT9530<br>AT9530 | NS9530 | TH10     | RE             | IC    | S     | D1    |       |
|             |             |                        | T9205                  | T9215 | T9225 | T9235 | T6215 | T515   | AH8015 | AH6225 | AH120 | ● |                  |        |          |                |       |       |       | ●     |
|             | <b>TF</b>   | <b>DNMG 330.5E TF</b>  | <b>DNMG110402E-TF</b>  | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 331E TF           | DNMG110404E-TF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 332E TF           | DNMG110408E-TF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 430.5 TF          | DNMG150402-TF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 431 TF            | DNMG150404-TF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 432 TF            | DNMG150408-TF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 433 TF            | DNMG150412-TF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.500 | 0.187 | 0.203 |
|             | <b>TSF</b>  | <b>DNMG 330.5E TSF</b> | <b>DNMG110402E-TSF</b> | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 331E TSF          | DNMG110404E-TSF        | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 332E TSF          | DNMG110408E-TSF        | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 333E TSF          | DNMG110412E-TSF        | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 430.5 TSF         | DNMG150402-TSF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 431 TSF           | DNMG150404-TSF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 432 TSF           | DNMG150408-TSF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 433 TSF           | DNMG150412-TSF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 440.5 TSF         | DNMG150602-TSF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.250 | 0.203 |
|             |             | DNMG 441 TSF           | DNMG150604-TSF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.250 | 0.203 |
|             | <b>PS</b>   | <b>DNMG 330.5E PS</b>  | <b>DNMG110402E-PS</b>  | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 331E PS           | DNMG110404E-PS         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 332E PS           | DNMG110408E-PS         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 430.5 PS          | DNMG150402-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 431 PS            | DNMG150404-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 432 PS            | DNMG150408-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 433 PS            | DNMG150412-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 440.5 PS          | DNMG150602-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.250 | 0.203 |
|             |             | DNMG 441 PS            | DNMG150604-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.250 | 0.203 |
|             |             | DNMG 442 PS            | DNMG150608-PS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.250 | 0.203 |
|             | <b>ZF</b>   | <b>DNMG 330.5E ZF</b>  | <b>DNMG110402E-ZF</b>  | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 331E ZF           | DNMG110404E-ZF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 332E ZF           | DNMG110408E-ZF         | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|             |             | DNMG 430.5 ZF          | DNMG150402-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 431 ZF            | DNMG150404-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 432 ZF            | DNMG150408-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 433 ZF            | DNMG150412-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 440.5 ZF          | DNMG150602-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 441 ZF            | DNMG150604-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.250 | 0.203 |
|             |             | DNMG 442 ZF            | DNMG150608-ZF          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.250 | 0.203 |
|             | <b>AS</b>   | <b>DNMG 431 AS</b>     | <b>DNMG150404-AS</b>   | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 432 AS            | DNMG150408-AS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 433 AS            | DNMG150412-AS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 441 AS            | DNMG150604-AS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.250 | 0.203 |
|             |             | DNMG 442 AS            | DNMG150608-AS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.250 | 0.203 |
|             |             | DNMG 443 AS            | DNMG150612-AS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.047 | 0.500 | 0.250 | 0.203 |
|             | <b>NS</b>   | <b>DNMG 431 NS</b>     | <b>DNMG150404-NS</b>   | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|             |             | DNMG 432 NS            | DNMG150408-NS          | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●     | ● | ●                | ●      | ●        | ●              | 0.031 | 0.500 | 0.187 | 0.203 |

● : Line up

Reference pages: External toolholder → C036 - Internal toolholder → D042 -  
 J-Series toolholder → G052 TungCap → K011 -



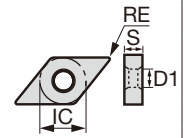
# Insert NEGATIVE TYPE

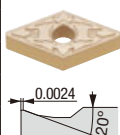
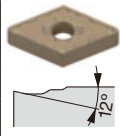
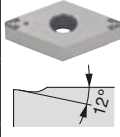
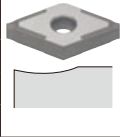
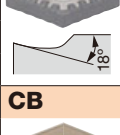

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## DN

 **Rhombic, 55° with hole**

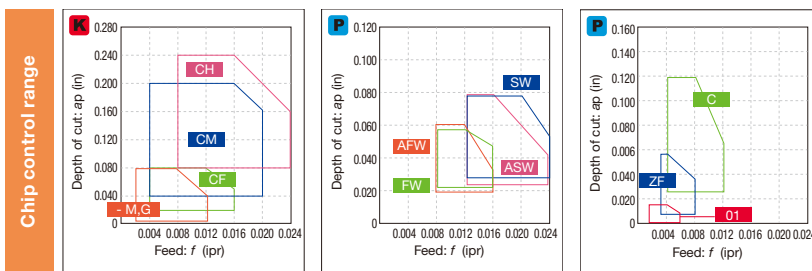
|   |               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | Steel         | ● | ● |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| M | Stainless     | ● | ● |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| K | Cast iron     | ● | ● | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ |
| N | Non-ferrous   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| S | Superalloy    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| H | Hard material |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



| Application              | Chipbreaker   | Designation |                      | Coated                |       |       |       |       | Coated cermet |       | Cermet |       | Uncoated | Dimension (in) |       |       |       |
|--------------------------|---|-------------|----------------------|-----------------------|-------|-------|-------|-------|---------------|-------|--------|-------|----------|----------------|-------|-------|-------|
|                          |   |             |                      | T9215                 | T5105 | T5115 | GH330 | GH110 | GT9530        | GT720 | NS9530 | NS520 | TH10     | RE             | IC    | S     | D1    |
|                          |   | Inch        | Metric               |                       |       |       |       |       |               |       |        |       |          |                |       |       |       |
| Finishing                |    | <b>CF</b>   | <b>DNMG 431 CF</b>   | <b>DNMG150404-CF</b>  | ●     | ●     |       |       |               |       |        |       | 0.016    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 432 CF          | DNMG150408-CF         | ●     | ●     |       |       |               |       |        |       | 0.031    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 433 CF          | DNMG150412-CF         | ●     | ●     |       |       |               |       |        |       | 0.047    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 441 CF          | DNMG150604-CF         | ●     | ●     |       |       |               |       |        |       | 0.016    | 0.500          | 0.250 | 0.203 |       |
|                          |   |             | DNMG 442 CF          | DNMG150608-CF         |       | ●     |       |       |               |       |        |       | 0.031    | 0.500          | 0.250 | 0.203 |       |
| Finishing (wiper)        |    | <b>FW</b>   | <b>DNMG 331E FW</b>  | <b>DNMG110404E-FW</b> | ●     |       |       |       |               |       |        |       | 0.016    | 0.375          | 0.187 | 0.150 |       |
|                          |   |             | DNMG 332E FW         | DNMG110408E-FW        | ●     |       |       |       |               |       |        |       | 0.031    | 0.375          | 0.187 | 0.150 |       |
|                          |   |             | DNMG 431 FW          | DNMG150404-FW         | ●     |       |       |       |               |       |        |       | 0.016    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 432 FW          | DNMG150408-FW         | ●     |       |       |       |               |       |        |       | 0.031    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 441 FW          | DNMG150604-FW         | ●     |       |       |       |               |       |        |       | 0.016    | 0.500          | 0.250 | 0.203 |       |
|                          |   |             | DNMG 442 FW          | DNMG150608-FW         | ●     |       |       |       |               |       |        |       | 0.031    | 0.500          | 0.250 | 0.203 |       |
| Finishing                |   | <b>01</b>   | <b>DNGG 330.5-01</b> | <b>DNGG110402-01</b>  |       |       |       |       |               |       | ●      |       | 0.008    | 0.375          | 0.187 | 0.150 |       |
|                          |   |             | DNGG 331-01          | DNGG110404-01         |       |       |       |       |               |       | ●      | ●     |          | 0.016          | 0.375 | 0.187 | 0.150 |
|                          |   |             | DNGG 332-01          | DNGG110408-01         |       |       |       |       | ●             |       | ●      |       |          | 0.031          | 0.375 | 0.187 | 0.150 |
|                          |   |             | DNGG 430.5-01        | DNGG150402-01         |       |       |       |       |               |       | ●      | ●     | ●        | 0.008          | 0.500 | 0.187 | 0.203 |
|                          |   |             | DNGG 431-01          | DNGG150404-01         |       |       |       | ●     |               |       | ●      | ●     | ●        | 0.016          | 0.500 | 0.187 | 0.203 |
|                          |   |             | DNGG 432-01          | DNGG150408-01         |       |       |       | ●     |               |       | ●      | ●     | ●        | 0.031          | 0.500 | 0.187 | 0.203 |
| Finishing                |  | <b>11</b>   | <b>DNMG 331-11</b>   | <b>DNMG110404-11</b>  |       |       |       |       |               |       | ●      |       | 0.016    | 0.375          | 0.187 | 0.150 |       |
|                          |   |             | DNMG 332-11          | DNMG110408-11         |       |       |       |       |               |       | ●      |       | 0.031    | 0.375          | 0.187 | 0.150 |       |
|                          |   |             | DNMG 431-11          | DNMG150404-11         |       |       | ●     |       |               |       | ●      | ●     | 0.016    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 432-11          | DNMG150408-11         | ●     |       |       |       |               |       | ●      | ●     | 0.031    | 0.500          | 0.187 | 0.203 |       |
| Finishing for mild steel |  | <b>17</b>   | <b>DNMG 431-17</b>   | <b>DNMG150404-17</b>  |       |       |       |       |               |       | ●      |       | 0.016    | 0.500          | 0.187 | 0.203 |       |
|                          |   |             | DNMG 432-17          | DNMG150408-17         |       |       |       |       |               |       | ●      |       | 0.031    | 0.500          | 0.187 | 0.203 |       |
| Boring (double sided)    |  | <b>CB</b>   | <b>DNMG 331 CB</b>   | <b>DNMG110404-CB</b>  |       |       |       |       |               |       | ●      |       | 0.016    | 0.375          | 0.187 | 0.150 |       |
|                          |   |             | DNMG 332 CB          | DNMG110408-CB         | ●     |       |       |       |               |       | ●      |       | 0.031    | 0.375          | 0.187 | 0.150 |       |

\* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW. Please contact our sales representatives if you have any questions.

● : Line up



\*-M,G: Without chipbreaker

Reference pages: External toolholder → C036 - J-Series toolholder → G052

Internal toolholder → D042 - TungCap → K011 -

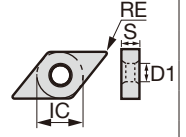
Insert **NEGATIVE TYPE**

● : Continuous cutting  
 ○ : Light interrupted cutting  
 \* : Heavy interrupted cutting

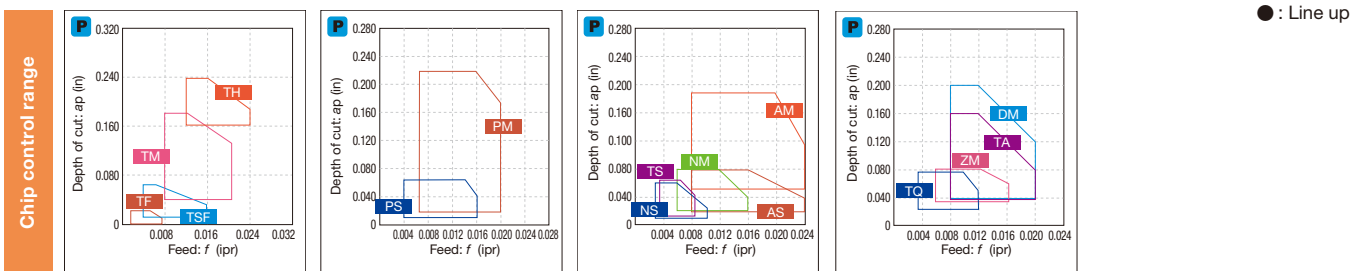
# DN

**Rhombic, 55°  
with hole**

|          |               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>P</b> | Steel         | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| <b>M</b> | Stainless     | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| <b>K</b> | Cast iron     | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| <b>N</b> | Non-ferrous   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>S</b> | Superalloy    |   |   |   |   |   |   |   | ● | ● |   |   |   |   |   |   |   |   |   |
| <b>H</b> | Hard material |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



| Application                   | Chipbreaker          | Designation           | Coated                |                       |                    |                      |       |       |       |       |       |       |      |        |        |        |        |       | Coated cermet | Cermet | Dimension (in) |        |       |       |       |       |       |       |       |
|-------------------------------|----------------------|-----------------------|-----------------------|-----------------------|--------------------|----------------------|-------|-------|-------|-------|-------|-------|------|--------|--------|--------|--------|-------|---------------|--------|----------------|--------|-------|-------|-------|-------|-------|-------|-------|
|                               |                      |                       | Inch                  |                       | Metric             |                      | T9205 | T9215 | T9225 | T9235 | T6215 | T5125 | T515 | AH8005 | AH8015 | AH6225 | AH6235 | AH725 | AH110         | AH120  | GT9530         | NS9530 | RE    | IC    | S     | D1    |       |       |       |
|                               |                      |                       | TM                    | PM                    | ZM                 | AM                   |       |       |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       |       |       |       |       |       |
| Medium cutting                | <br>0.008<br>55°     | <b>TM</b>             | <b>DNMG 331E TM</b>   | <b>DNMG110404E-TM</b> | ●                  | ●                    | ●     | ●     |       |       |       |       | ●    | ●      | ●      | ●      | ●      | ●     | ●             |        |                |        |       | 0.016 | 0.375 | 0.187 | 0.150 |       |       |
|                               |                      |                       | <b>DNMG 332E TM</b>   | <b>DNMG110408E-TM</b> | ●                  | ●                    |       |       | ●     |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                               |                      | <b>DNMG 333E TM</b>   | <b>DNMG110412E-TM</b> | ●                     | ●                  |                      |       | ●     |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      |                |        |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |
|                               |                      | <b>DNMG 331 TM</b>    | <b>DNMG110404-TM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |
|                               |                      | <b>DNMG 332 TM</b>    | <b>DNMG110408-TM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                               |                      | <b>DNMG 431 TM</b>    | <b>DNMG150404-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 432 TM</b>    | <b>DNMG150408-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 433 TM</b>    | <b>DNMG150412-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 434 TM</b>    | <b>DNMG150416-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 441 TM</b>    | <b>DNMG150604-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.016 | 0.500 | 0.250 | 0.203 |
|                               |                      | <b>DNMG 442 TM</b>    | <b>DNMG150608-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                               |                      | <b>DNMG 443 TM</b>    | <b>DNMG150612-TM</b>  | ●                     | ●                  | ●                    | ●     |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.047 | 0.500 | 0.250 | 0.203 |
|                               | <b>DNMG 444 TM</b>   | <b>DNMG150616-TM</b>  | ●                     | ●                     | ●                  | ●                    |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.063 | 0.500 | 0.250 | 0.203 |       |
|                               | <b>PM</b>            | <b>DNMG 331E PM</b>   | <b>DNMG110404E-PM</b> | ●                     | ●                  |                      |       | ●     |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                               | <b>DNMG 332E PM</b>  | <b>DNMG110408E-PM</b> | ●                     | ●                     |                    |                      | ●     |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                               | <b>DNMG 333E PM</b>  | <b>DNMG110412E-PM</b> | ●                     | ●                     |                    |                      | ●     |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |
|                               | <b>DNMG 431 PM</b>   | <b>DNMG150404-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                               | <b>DNMG 432 PM</b>   | <b>DNMG150408-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                               | <b>DNMG 433 PM</b>   | <b>DNMG150412-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                               | <b>DNMG 434 PM</b>   | <b>DNMG150416-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.063 | 0.500 | 0.187 | 0.203 |       |
|                               | <b>DNMG 441 PM</b>   | <b>DNMG150604-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.016 | 0.500 | 0.250 | 0.203 |       |
|                               | <b>DNMG 442 PM</b>   | <b>DNMG150608-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.031 | 0.500 | 0.250 | 0.203 |       |
|                               | <b>DNMG 443 PM</b>   | <b>DNMG150612-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.047 | 0.500 | 0.250 | 0.203 |       |
|                               | <b>DNMG 444 PM</b>   | <b>DNMG150616-PM</b>  | ●                     | ●                     | ●                  |                      |       |       |       |       |       |       |      | ●      | ●      | ●      | ●      | ●     | ●             | ●      | ●              |        |       |       | 0.063 | 0.500 | 0.250 | 0.203 |       |
| Medium cutting for mild steel | <br>0.008<br>55°     | <b>ZM</b>             | <b>DNMG 331E ZM</b>   | <b>DNMG110404E-ZM</b> | ●                  | ●                    |       |       | ●     |       |       |       | ●    | ●      | ●      | ●      | ●      | ●     | ●             |        |                |        | 0.016 | 0.375 | 0.187 | 0.150 |       |       |       |
|                               |                      |                       | <b>DNMG 332E ZM</b>   | <b>DNMG110408E-ZM</b> | ●                  | ●                    |       |       | ●     |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                               |                      | <b>DNMG 333E ZM</b>   | <b>DNMG110412E-ZM</b> | ●                     | ●                  |                      |       | ●     |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |
|                               |                      | <b>DNMG 431 ZM</b>    | <b>DNMG150404-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 432 ZM</b>    | <b>DNMG150408-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       | ●     | ●     | 0.031 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 433 ZM</b>    | <b>DNMG150412-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 434 ZM</b>    | <b>DNMG150416-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                               |                      | <b>DNMG 441 ZM</b>    | <b>DNMG150604-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.016 | 0.500 | 0.250 | 0.203 |
|                               |                      | <b>DNMG 442 ZM</b>    | <b>DNMG150608-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                               |                      | <b>DNMG 443 ZM</b>    | <b>DNMG150612-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.047 | 0.500 | 0.250 | 0.203 |
|                               |                      | <b>DNMG 444 ZM</b>    | <b>DNMG150616-ZM</b>  | ●                     | ●                  | ●                    |       |       |       |       |       |       |      |        | ●      | ●      | ●      | ●     | ●             | ●      | ●              | ●      |       |       |       | 0.063 | 0.500 | 0.250 | 0.203 |
|                               |                      | Medium cutting        | <br>0.010<br>55°      | <b>AM</b>             | <b>DNMG 432 AM</b> | <b>DNMG150408-AM</b> | ●     | ●     |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| <b>DNMG 433 AM</b>            | <b>DNMG150412-AM</b> |                       |                       |                       | ●                  | ●                    |       |       |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
| <b>DNMG 434 AM</b>            | <b>DNMG150416-AM</b> |                       |                       | ●                     | ●                  |                      |       |       |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       | 0.063 | 0.500 | 0.187 | 0.203 |       |
| <b>DNMG 442 AM</b>            | <b>DNMG150608-AM</b> |                       |                       | ●                     | ●                  |                      |       |       |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       | 0.031 | 0.500 | 0.250 | 0.203 |       |
| <b>DNMG 443 AM</b>            | <b>DNMG150612-AM</b> |                       |                       | ●                     | ●                  |                      |       |       |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       | 0.047 | 0.500 | 0.250 | 0.203 |       |
| <b>DNMG 444 AM</b>            | <b>DNMG150616-AM</b> |                       |                       | ●                     | ●                  |                      |       |       |       |       |       |       |      |        |        |        |        |       |               |        |                |        |       |       | 0.063 | 0.500 | 0.250 | 0.203 |       |



Reference pages: External toolholder → **C036** - Internal toolholder → **D042** -  
 J-Series toolholder → **G052** - TungCap → **K011** -









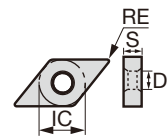
# Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✳ : Heavy interrupted cutting

## DN

**Rhombic, 55° with hole**

|          |               |   |   |   |   |  |  |   |   |   |  |   |   |   |   |  |  |  |   |  |  |  |
|----------|---------------|---|---|---|---|--|--|---|---|---|--|---|---|---|---|--|--|--|---|--|--|--|
| <b>P</b> | Steel         | ● | ◐ | ◐ | ✳ |  |  |   |   |   |  |   |   |   |   |  |  |  | ● |  |  |  |
| <b>M</b> | Stainless     | ● | ◐ |   |   |  |  | ◐ | ◐ | ✳ |  | ◐ | ◐ | ◐ |   |  |  |  |   |  |  |  |
| <b>K</b> | Cast iron     | ● | ◐ |   |   |  |  |   |   |   |  | ◐ | ◐ | ◐ | ◐ |  |  |  |   |  |  |  |
| <b>N</b> | Non-ferrous   |   |   |   |   |  |  |   |   |   |  |   |   |   |   |  |  |  | ◐ |  |  |  |
| <b>S</b> | Superalloy    |   |   |   |   |  |  | ◐ | ◐ |   |  |   |   |   |   |  |  |  |   |  |  |  |
| <b>H</b> | Hard material |   |   |   |   |  |  |   |   |   |  |   |   |   |   |  |  |  |   |  |  |  |



| Application    | Chipbreaker | Designation     |                | Coated        |   |        |   |       |       |       |        |        |        |        |       |       | Coated cermet | Cermet | Uncoated | Dimension (in) |       |        |        |      |       |       |       |       |       |       |       |
|----------------|-------------|-----------------|----------------|---------------|---|--------|---|-------|-------|-------|--------|--------|--------|--------|-------|-------|---------------|--------|----------|----------------|-------|--------|--------|------|-------|-------|-------|-------|-------|-------|-------|
|                |             |                 |                | Inch          |   | Metric |   | T9215 | T9225 | T9235 | AH8005 | AH8015 | AH6225 | AH6235 | AH110 | AH120 |               |        |          | GH110          | GH330 | GT9530 | NS9530 | TH10 | KS05F | RE    | IC    | S     | D1    |       |       |
|                |             |                 |                | ●             | ◐ | ●      | ◐ |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       |       |       |       |       |       |
| Medium cutting |             | <b>P</b>        | DNGG 430.5 R-P | DNGG150402R-P |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        | ●    | 0.008 | 0.500 | 0.187 | 0.203 |       |       |       |
|                |             |                 | DNGG 430.5 L-P | DNGG150402L-P |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      | ●     | 0.008 | 0.500 | 0.187 | 0.203 |       |       |
|                |             |                 | DNGG 431 R-P   | DNGG150404R-P |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       | ●     | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNGG 431 L-P   | DNGG150404L-P |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       | ●     | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNGG 432 R-P   | DNGG150408R-P |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNGG 432 L-P   | DNGG150408L-P |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                |             | <b>S</b>        | DNMG 431 R-S   | DNMG150404R-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          | ●              |       |        |        |      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 431 L-S   | DNMG150404L-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                | ●     |        |        |      |       |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                |             |                 | DNMG 432 R-S   | DNMG150408R-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                | ●     |        |        |      |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                |             |                 | DNMG 432 L-S   | DNMG150408L-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                | ●     |        |        |      |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                |             |                 | DNMG 441 R-S   | DNMG150604R-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                |       | ●      |        |      |       |       |       | 0.016 | 0.500 | 0.250 | 0.203 |
|                |             |                 | DNMG 441 L-S   | DNMG150604L-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                |       | ●      |        |      |       |       |       | 0.016 | 0.500 | 0.250 | 0.203 |
|                |             |                 | DNMG 442 R-S   | DNMG150608R-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                |       | ●      |        |      |       |       |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                |             |                 | DNMG 442 L-S   | DNMG150608L-S |   |        | ● | ●     |       |       |        |        |        |        |       |       |               |        |          |                |       | ●      |        |      |       |       |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                |             | <b>27</b>       | DNMG 431-27    | DNMG150404-27 |   |        | ● |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 432-27    | DNMG150408-27 | ● | ●      |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                |             |                 | DNMG 433-27    | DNMG150412-27 |   |        | ● |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                |             | <b>28</b>       | DNMG 431-28    | DNMG150404-28 |   |        |   |       |       | ●     | ●      |        |        |        | ●     | ●     |               |        |          |                |       |        |        |      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 432-28    | DNMG150408-28 |   |        |   |       |       | ●     | ●      |        |        |        | ●     | ●     |               |        |          |                |       |        |        |      |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 441-28    | DNMG150604-28 |   |        |   |       |       | ●     | ●      |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.016 | 0.500 | 0.250 | 0.203 |       |
|                |             |                 | DNMG 442-28    | DNMG150608-28 |   |        |   |       |       | ●     | ●      |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.031 | 0.500 | 0.250 | 0.203 |       |
|                |             | <b>33</b>       | DNMG 431-33    | DNMG150404-33 |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 432-33    | DNMG150408-33 |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        | ●    |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                |             | <b>37</b>       | DNMG 431-37    | DNMG150404-37 |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 432-37    | DNMG150408-37 |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                |             |                 | DNMG 442-37    | DNMG150608-37 |   |        | ● |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.031 | 0.500 | 0.250 | 0.203 |       |
|                |             | <b>38</b>       | DNMG 433-38    | DNMG150412-38 | ● |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                |             | <b>Parallel</b> | DNGG 431 R     | DNGG150404R   |   |        |   |       |       |       |        |        |        |        |       | ●     |               |        |          | ●              |       |        |        |      |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                |             | DNGG 431 L      | DNGG150404L    |               |   |        |   |       |       |       |        |        |        |        |       | ●     |               |        |          | ●              |       |        |        |      |       | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|                |             | DNGG 432 R      | DNGG150408R    |               |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                |             | DNGG 432 L      | DNGG150408L    |               |   |        |   |       |       |       |        |        |        |        |       |       |               |        |          |                |       |        |        |      |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |

● : Line up

Reference pages: External toolholder → **C036** - Internal toolholder → **D042** -  
 J-Series toolholder → **G052** TungCap → **K011** -

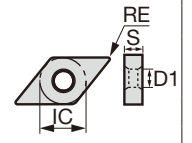
# Insert NEGATIVE TYPE

● : Continuous cutting  
 ◐ : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

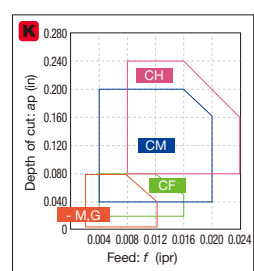
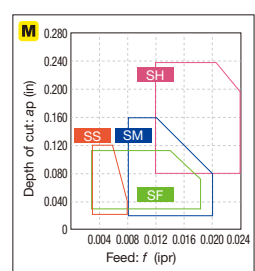
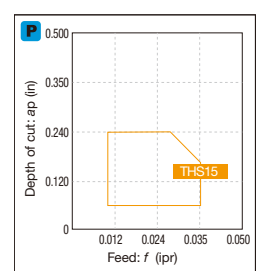
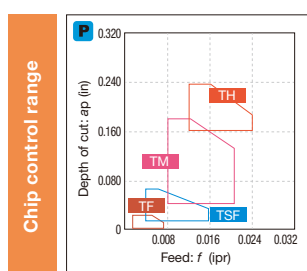
## DN

Rhombic, 55°  
with hole

|               | P     | M  | K  | N    | S  | H  |
|---------------|-------|----|----|------|----|----|
| Steel         | ●●●●✱ | ●● | ●● | ●●●● | ●● | ●● |
| Stainless     | ●●    | ●● | ●● | ●●●● | ●● | ●● |
| Cast iron     | ●●    | ●● | ●● | ●●●● | ●● | ●● |
| Non-ferrous   | ●●    | ●● | ●● | ●●●● | ●● | ●● |
| Superalloy    | ●●    | ●● | ●● | ●●●● | ●● | ●● |
| Hard material | ●●    | ●● | ●● | ●●●● | ●● | ●● |



| Application                           | Chipbreaker | Designation  | Coated |       |       |      |      |       |       |       |        |        | Coated cermet | Cermet | Uncoated | Dimension (in) |       |       |       |       |       |
|---------------------------------------|-------------|--------------|--------|-------|-------|------|------|-------|-------|-------|--------|--------|---------------|--------|----------|----------------|-------|-------|-------|-------|-------|
|                                       |             |              | T9215  | T9225 | T9235 | T505 | T515 | T5105 | T5115 | T5125 | AH8015 | AH6225 | AH6235        | AH120  | GT720    | NS520          | TH10  | RE    | IC    | S     | D1    |
| Medium to heavy cutting               | <b>TH</b>   | DNMG 432 TH  | ●      | ●     | ●     |      |      |       |       |       |        | ●      | ●             |        |          |                |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 433 TH  | ●      | ●     | ●     |      |      |       |       |       |        | ●      | ●             |        |          |                |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 434 TH  | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 442 TH  | ●      | ●     | ●     |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                                       |             | DNMG 443 TH  | ●      | ●     | ●     |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.047 | 0.500 | 0.250 | 0.203 |
|                                       |             | DNMG 444 TH  | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.063 | 0.500 | 0.250 | 0.203 |
|                                       | <b>THS</b>  | DNMG 432 THS | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 433 THS | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 434 THS | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 442 THS | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                                       |             | DNMG 443 THS | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.047 | 0.500 | 0.250 | 0.203 |
|                                       |             | DNMG 444 THS | ●      | ●     | ●     |      |      |       |       |       |        |        |               |        |          |                |       | 0.063 | 0.500 | 0.250 | 0.203 |
|                                       | <b>SH</b>   | DNMG 432 SH  |        |       |       |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 433 SH  |        |       |       |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 434 SH  |        |       |       |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMG 442 SH  |        |       |       |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                                       |             | DNMG 443 SH  |        |       |       |      |      |       |       |       |        |        | ●             | ●      |          |                |       | 0.047 | 0.500 | 0.250 | 0.203 |
|                                       |             |              |        |       |       |      |      |       |       |       |        |        |               |        |          |                |       |       |       |       |       |
| <b>CH</b>                             | DNMG 431 CH |              |        |       |       |      |      |       | ●     | ●     |        |        |               |        |          |                | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                                       | DNMG 432 CH |              |        |       |       |      | ●    | ●     | ●     | ●     |        |        |               |        |          |                | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                                       | DNMG 433 CH |              |        |       |       |      | ●    | ●     | ●     | ●     |        |        |               |        |          |                | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                                       | DNMG 442 CH |              |        |       |       |      |      |       | ●     | ●     |        |        |               |        |          |                | 0.031 | 0.500 | 0.250 | 0.203 |       |
|                                       | DNMG 443 CH |              |        |       |       |      |      |       | ●     | ●     |        |        |               |        |          |                | 0.047 | 0.500 | 0.250 | 0.203 |       |
| Medium to heavy cutting (single side) | <b>57</b>   | DNMM 442-57  | ●      |       |       |      |      |       |       |       |        |        |               |        |          |                | 0.031 | 0.500 | 0.250 | 0.203 |       |
|                                       |             | DNMM 443-57  | ●      |       |       |      |      |       |       |       |        |        |               |        |          |                |       | 0.047 | 0.500 | 0.250 | 0.203 |
| Finishing to medium cutting           | -           | DNMA 331E    |        |       |       |      |      |       |       |       |        |        |               |        |          |                |       | 0.016 | 0.375 | 0.187 | 0.150 |
|                                       |             | DNMA 332E    |        |       |       |      |      |       |       |       |        |        |               |        |          |                |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                                       |             | DNMA 333E    |        |       |       |      |      |       |       |       |        |        |               |        |          |                |       | 0.047 | 0.375 | 0.187 | 0.150 |
|                                       |             | DNMA 431     |        |       |       | ●    | ●    | ●     | ●     | ●     |        |        | ●             | ●      | ●        |                |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMA 432     |        |       |       | ●    | ●    | ●     | ●     | ●     |        |        | ●             | ●      | ●        |                |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMA 433     |        |       |       |      |      |       | ●     | ●     | ●      |        |               |        |          |                |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                                       |             | DNMA 441     |        |       |       | ●    | ●    |       |       |       |        |        |               |        |          |                |       | 0.016 | 0.500 | 0.250 | 0.203 |
|                                       |             | DNMA 442     |        |       |       | ●    | ●    | ●     | ●     |       |        |        |               |        |          |                |       | 0.031 | 0.500 | 0.250 | 0.203 |
| DNMA 443                              |             |              |        |       |       |      | ●    | ●     | ●     |       |        |        |               |        |          | 0.047          | 0.500 | 0.250 | 0.203 |       |       |



● : Line up

\*-M,G: Without chipbreaker

Reference pages: External toolholder → **C036 -** Internal toolholder → **D042 -**  
 J-Series toolholder → **G052** TungCap → **K011 -**

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index

A  
 B  
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 L  
 M

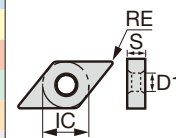
# Insert NEGATIVE TYPE


● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## DN

 Rhombic, 55° with hole

|   |               |    |   |  |    |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------|----|---|--|----|--|------|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel         | ●● | ● |  |    |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless     |    | ● |  |    |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron     | ●● | ● |  | ●● |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |    | ● |  |    |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |    |   |  |    |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard material |    |   |  |    |  | ●●●● |  |  |  |  |  |  |  |  |  |  |  |  |

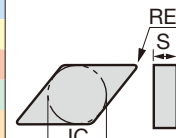



| Application                 | Chipbreaker   | Designation |          | Cermet     | Uncoated | Ceramic |      |       |      | Dimension (in) |      |    |       |       |       |       |       |
|-----------------------------|---|-------------|----------|------------|----------|---------|------|-------|------|----------------|------|----|-------|-------|-------|-------|-------|
|                             |   | Inch        | Metric   |            |          | NS520   | TH10 | FX105 | LX10 | LX11           | LX21 | RE | IC    | S     | D1    |       |       |
|                             |   |             |          |            |          |         |      |       |      |                |      |    |       |       |       |       |       |
| Finishing to medium cutting |  | -           | DNGA 431 | DNGA150404 | ●        | ●       |      | ●     | ▲    | ●              |      |    | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                             |   |             | DNGA 432 | DNGA150408 | ●        | ●       |      | ●     | ●    | ▲              | ●    |    |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                             |   |             | DNGA 433 | DNGA150412 |          |         |      | ●     | ●    | ▲              | ●    |    |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                             |   |             | DNGA 434 | DNGA150416 |          |         |      | ●     |      | ▲              |      |    |       | 0.063 | 0.500 | 0.187 | 0.203 |
|                             |   |             | DNGA 441 | DNGA150604 |          |         |      |       | ●    | ▲              |      |    |       | 0.016 | 0.500 | 0.250 | 0.203 |
|                             |   |             | DNGA 442 | DNGA150608 |          |         |      |       | ●    | ▲              | ●    |    |       | 0.031 | 0.500 | 0.250 | 0.203 |
|                             |   |             | DNGA 443 | DNGA150612 |          |         |      |       | ●    | ▲              |      |    |       | 0.047 | 0.500 | 0.250 | 0.203 |
|                             |   |             | DNGA 444 | DNGA150616 |          |         |      |       | ●    | ▲              |      |    |       | 0.063 | 0.500 | 0.250 | 0.203 |
|                             |   |             | DNGA 445 | DNGA150620 |          |         |      |       | ●    | ▲              |      |    |       | 0.078 | 0.500 | 0.250 | 0.203 |

## DN

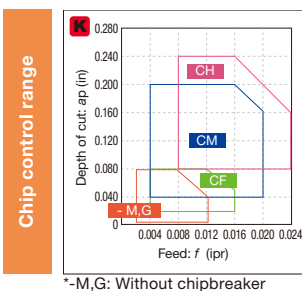
 Rhombic, 55° without hole

|   |               |    |   |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------|----|---|--|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel         | ●● | ● |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless     |    | ● |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron     | ●● | ● |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |    | ● |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |    |   |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard material |    |   |  | ●●●● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Application                 | Chipbreaker   | Designation |          | Ceramic    |      |      | Dimension (in) |    |   |    |  |  |       |       |       |       |   |
|-----------------------------|---|-------------|----------|------------|------|------|----------------|----|---|----|--|--|-------|-------|-------|-------|---|
|                             |   | Inch        | Metric   | FX105      | LX10 | LX11 | RE             | IC | S | D1 |  |  |       |       |       |       |   |
|                             |   |             |          |            |      |      |                |    |   |    |  |  |       |       |       |       |   |
| Finishing to medium cutting |  | -           | DNGD 452 | DNGD150708 | ●    |      |                |    |   |    |  |  | 0.031 | 0.500 | 0.313 | -     |   |
|                             |   |             | DNGD 453 | DNGD150712 | ●    |      |                |    |   |    |  |  |       | 0.047 | 0.500 | 0.313 | - |
|                             |   |             | DNGD 454 | DNGD150716 | ●    |      |                |    |   |    |  |  |       | 0.063 | 0.500 | 0.313 | - |
|                             |   |             | DNGN 431 | DNGN150404 |      | ●    |                |    |   |    |  |  |       | 0.016 | 0.500 | 0.187 | - |
|                             |   |             | DNGN 432 | DNGN150408 |      | ●    | ▲              |    |   |    |  |  |       | 0.031 | 0.500 | 0.187 | - |
|                             |   |             | DNGN 433 | DNGN150412 |      | ●    | ▲              |    |   |    |  |  |       | 0.047 | 0.500 | 0.187 | - |
|                             |   |             | DNGN 434 | DNGN150416 |      | ●    |                |    |   |    |  |  |       | 0.063 | 0.500 | 0.187 | - |
|                             |   |             | DNGN 452 | DNGN150708 |      | ●    | ▲              |    |   |    |  |  |       | 0.031 | 0.500 | 0.313 | - |
|                             |   |             | DNGN 453 | DNGN150712 |      | ●    | ▲              |    |   |    |  |  |       | 0.047 | 0.500 | 0.313 | - |
|                             |   |             | DNGN 454 | DNGN150716 |      | ●    | ▲              |    |   |    |  |  |       | 0.063 | 0.500 | 0.313 | - |

● : Line up  
 ▲ : To be discontinued



Reference pages: DNGA...: External toolholder → C036 -, Internal toolholder → D042 -  
 J-Series toolholder → G052, TungCap → K011 -  
 DNGD...: External toolholder → C042, C044

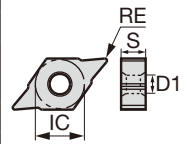
# Insert NEGATIVE TYPE

## FN



**Rhombic, 45° with hole**

|               | P       | M           | K   | N               | S               | H   |
|---------------|---------|-------------|-----|-----------------|-----------------|-----|
| Steel         | ● ● ● ✳ | ● ●         | ● ● | ● ●             | ● ●             | ● ● |
| Stainless     | ● ●     | ● ● ● ● ● ● | ● ● | ● ●             | ● ●             | ● ● |
| Cast iron     | ● ●     |             |     |                 |                 |     |
| Non-ferrous   |         |             |     | ● ● ● ● ● ● ● ● |                 |     |
| Superalloy    |         |             |     | ● ● ● ● ● ● ● ● |                 |     |
| Hard material |         |             |     |                 | ● ● ● ● ● ● ● ● |     |



| Application        | Chipbreaker    |                 | Coated          |       |       |        |        | Dimension (in) |       |       |       |       |
|--------------------|----------------|-----------------|-----------------|-------|-------|--------|--------|----------------|-------|-------|-------|-------|
|                    | Designation    |                 | T9215           | T9225 | T6215 | AH8015 | AH6225 | RE             | IC    | S     | D1    |       |
|                    | Inch           | Metric          |                 |       |       |        |        |                |       |       |       |       |
| Finishing<br>      | <b>TSF</b><br> | FNMG 330.5E TSF | FNMG110402E-TSF | ●     | ●     | ●      | ●      | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|                    |                | FNMG 331E TSF   | FNMG110404E-TSF | ●     | ●     | ●      | ●      | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|                    |                | FNMG 332E TSF   | FNMG110408E-TSF | ●     | ●     | ●      | ●      | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|                    |                | FNMG 333E TSF   | FNMG110412E-TSF | ●     | ●     | ●      | ●      | ●              | 0.047 | 0.375 | 0.187 | 0.150 |
|                    |                |                 |                 |       |       |        |        |                |       |       |       |       |
| Medium cutting<br> | <b>TM</b><br>  | FNMG 331E TM    | FNMG110404E-TM  | ●     | ●     | ●      | ●      | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|                    |                | FNMG 332E TM    | FNMG110408E-TM  | ●     | ●     | ●      | ●      | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|                    |                | FNMG 333E TM    | FNMG110412E-TM  | ●     | ●     | ●      | ●      | ●              | 0.047 | 0.375 | 0.187 | 0.150 |
|                    |                | FNMG 334E TM    | FNMG110416E-TM  |       |       |        |        | ●              | 0.063 | 0.375 | 0.187 | 0.150 |
|                    |                |                 |                 |       |       |        |        |                |       |       |       |       |

Make sure to offset the cutting edge position after insert change. Please note that the insert shim may interfere with the workpiece when FNMG insert is used with C-style toolholder to undercut a work diameter of 1.968" or smaller.

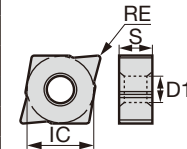
● : Line up

## GN



**Rhombic, 70° with hole**

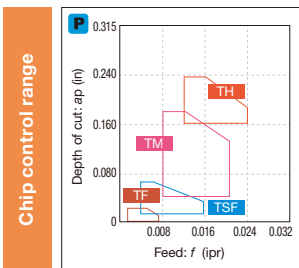
|               | P       | M           | K   | N               | S               | H   |
|---------------|---------|-------------|-----|-----------------|-----------------|-----|
| Steel         | ● ● ● ✳ | ● ●         | ● ● | ● ●             | ● ●             | ● ● |
| Stainless     | ● ●     | ● ● ● ● ● ● | ● ● | ● ●             | ● ●             | ● ● |
| Cast iron     | ● ●     |             |     |                 |                 |     |
| Non-ferrous   |         |             |     | ● ● ● ● ● ● ● ● |                 |     |
| Superalloy    |         |             |     | ● ● ● ● ● ● ● ● |                 |     |
| Hard material |         |             |     |                 | ● ● ● ● ● ● ● ● |     |



| Application        | Chipbreaker    |                 | Coated          |       |       |        |        | Dimension (in) |       |       |       |       |
|--------------------|----------------|-----------------|-----------------|-------|-------|--------|--------|----------------|-------|-------|-------|-------|
|                    | Designation    |                 | T9215           | T9225 | T6215 | AH8015 | AH6225 | RE             | IC    | S     | D1    |       |
|                    | Inch           | Metric          |                 |       |       |        |        |                |       |       |       |       |
| Finishing<br>      | <b>TSF</b><br> | GNMG 330.5E TSF | GNMG090402E-TSF | ●     | ●     | ●      | ●      | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|                    |                | GNMG 331E TSF   | GNMG090404E-TSF | ●     | ●     | ●      | ●      | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|                    |                | GNMG 332E TSF   | GNMG090408E-TSF | ●     | ●     | ●      | ●      | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|                    |                |                 |                 |       |       |        |        |                |       |       |       |       |
| Medium cutting<br> | <b>TM</b><br>  | GNMG 330.5E TM  | -               |       |       | ●      | ●      |                | 0.008 | 0.375 | 0.187 | 0.150 |
|                    |                | GNMG 331E TM    | GNMG090404E-TM  | ●     | ●     | ●      | ●      | ●              | 0.016 | 0.375 | 0.187 | 0.150 |
|                    |                | GNMG 332E TM    | GNMG090408E-TM  | ●     | ●     | ●      | ●      | ●              | 0.031 | 0.375 | 0.187 | 0.150 |
|                    | GNMG 333E TM   | GNMG090412E-TM  | ●               | ●     | ●     | ●      | ●      | 0.047          | 0.375 | 0.187 | 0.150 |       |
|                    |                |                 |                 |       |       |        |        |                |       |       |       |       |

Make sure to offset the cutting edge position after insert change. Do not use ISO-EcoTurn cartridge set for CNMG33 (AD-CL-4/3-SET or -SET-S) with GNMG33 insert. The insert may move during machining.

● : Line up



Reference pages: FNMG... : External toolholder → C036 -, Internal toolholder → D042 -  
 J-Series toolholder → G052, TungCap → K011 -  
 GNMG...: External toolholder → C019 -, Internal toolholder → D027 -  
 J-Series toolholder → G036, TungCap → K008 -



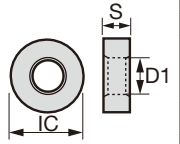
# Insert NEGATIVE TYPE

## RN



Round, with hole

|   |               |   |   |   |   |   |   |   |   |  |   |   |   |   |   |  |  |  |
|---|---------------|---|---|---|---|---|---|---|---|--|---|---|---|---|---|--|--|--|
| P | Steel         | ● | ● | ● | * |   |   |   |   |  |   | ● |   |   |   |  |  |  |
| M | Stainless     | ● | ● |   |   |   |   |   |   |  |   | ● |   |   |   |  |  |  |
| K | Cast iron     | ● | ● | ● |   | ● | ● | * | ● |  | ● | ● |   |   |   |  |  |  |
| N | Non-ferrous   |   |   |   |   |   |   |   |   |  |   | ● |   |   |   |  |  |  |
| S | Superalloy    |   |   |   |   |   |   |   |   |  |   | ● |   |   |   |  |  |  |
| H | Hard material |   |   |   |   |   |   |   |   |  |   |   | ● | ● | ● |  |  |  |



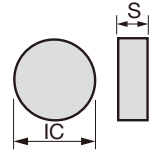
| Application | Chipbreaker                 | Designation   |                   | Coated               |                   |                      |       |       |       |       |       | Uncoated | Ceramic |      | Dimension (in) |    |   |    |  |
|-------------|-----------------------------|---------------|-------------------|----------------------|-------------------|----------------------|-------|-------|-------|-------|-------|----------|---------|------|----------------|----|---|----|--|
|             |                             | Inch          | Metric            | T9205                | T9215             | T9225                | T9235 | T5105 | T5115 | T5125 | AH120 | TH10     | LX10    | LX11 | RE             | IC | S | D1 |  |
|             |                             | Heavy cutting |                   | <b>61</b>            | <b>RNMG 32-61</b> | <b>RNMG090300-61</b> | ●     | ●     |       |       |       |          |         |      |                |    |   |    |  |
|             |                             |               | <b>RNMG 43-61</b> | <b>RNMG120400-61</b> | ●                 | ●                    | ●     | ●     | ●     | ●     | ●     |          | ●       |      |                |    |   |    |  |
|             |                             |               | <b>RNMG 54-61</b> | <b>RNMG150600-61</b> | ●                 | ●                    |       |       |       |       |       |          |         |      |                |    |   |    |  |
|             |                             |               | <b>RNMG 64-61</b> | <b>RNMG190600-61</b> | ●                 | ●                    | ●     |       |       |       |       |          |         |      |                |    |   |    |  |
|             |                             |               | <b>RNMG 86-61</b> | <b>RNMG250900-61</b> | ●                 | ●                    |       |       |       |       |       |          |         |      |                |    |   |    |  |
|             | Finishing to medium cutting |               | -                 | <b>RNGA 43</b>       | <b>RNGA120400</b> |                      |       |       |       |       |       |          |         |      | ●              | ▲  |   |    |  |

## RN



Round, without hole

|   |               |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |
|---|---------------|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|
| P | Steel         |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |
| M | Stainless     |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |
| K | Cast iron     | ● | ● |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |   |   |   |   |   | ● | ● | ● |  |  |  |  |  |  |  |  |  |
| H | Hard material |   |   | ● | ● | ● |   |   |   |  |  |  |  |  |  |  |  |  |



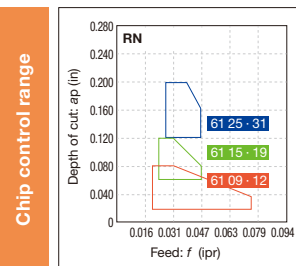
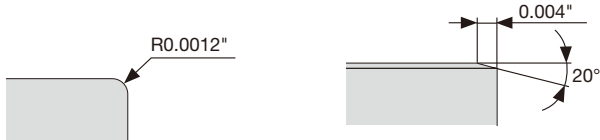
| Application                 | Chipbreaker | Designation       |                      | Ceramic |      |      |      |       |       | Dimension (in) |    |   |    |   |       |       |   |
|-----------------------------|-------------|-------------------|----------------------|---------|------|------|------|-------|-------|----------------|----|---|----|---|-------|-------|---|
|                             |             | Inch              | Metric               | FX105   | LX10 | LX11 | TW43 | TS200 | TS300 | RE             | IC | S | D1 |   |       |       |   |
| Finishing to medium cutting | -           | <b>RNGN 430</b>   | <b>RNGN120400</b>    | ●       | ●    | ▲    |      |       |       |                |    |   |    | - | 0.500 | 0.187 | - |
|                             |             | <b>RNGN 450</b>   | <b>RNGN120700</b>    |         | ●    | ▲    |      |       |       |                |    |   |    | - | 0.500 | 0.313 | - |
|                             |             | <b>RNGN 45</b>    | <b>RNGN120700</b>    | ●       |      |      |      |       |       |                |    |   |    | - | 0.500 | 0.313 | - |
|                             |             | <b>RNGN 45-E</b>  | <b>RNGN120700-E</b>  |         |      |      |      | ●     | ●     |                |    |   |    | - | 0.500 | 0.313 | - |
|                             |             | <b>RNGN 45-T1</b> | <b>RNGN120700-T1</b> |         |      |      |      | ●     | ●     |                |    |   |    | - | 0.500 | 0.313 | - |
|                             |             | <b>RNGN 43 T6</b> | <b>RNGN120400 T6</b> |         |      |      |      | ●     |       |                |    |   |    | - | 0.500 | 0.187 | - |
|                             |             | <b>RNGN 45 T6</b> | <b>RNGN120700 T6</b> |         |      |      |      | ●     |       |                |    |   |    | - | 0.500 | 0.313 | - |

● : Line up  
▲ : To be discontinued

### Edge prep

E: Low cutting force

T1/T6 : Strong cutting edge



Reference pages: RNMG..., RNGA...: External toolholder → **C065 -**



# Insert NEGATIVE TYPE

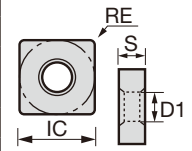
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## SN

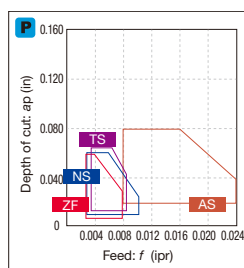
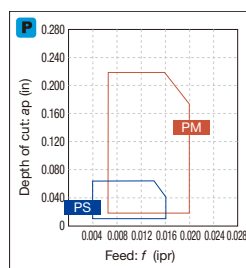
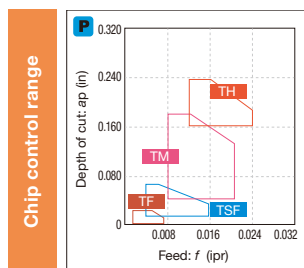


Square with hole

|               | P | M | K | N | S | H |
|---------------|---|---|---|---|---|---|
| Steel         | ● | ● | ● | ● | ● | ● |
| Stainless     | ● | ● | ● | ● | ● | ● |
| Cast iron     | ● | ● | ● | ● | ● | ● |
| Non-ferrous   | ● | ● | ● | ● | ● | ● |
| Superalloy    | ● | ● | ● | ● | ● | ● |
| Hard material | ● | ● | ● | ● | ● | ● |



| Application              | Chipbreaker          | Designation            | Coated                  |       |       |       |        |        | Coated cermet |        | Cermet | Dimension (in) |       |       |       |       |
|--------------------------|----------------------|------------------------|-------------------------|-------|-------|-------|--------|--------|---------------|--------|--------|----------------|-------|-------|-------|-------|
|                          |                      |                        | T9205                   | T9215 | T9225 | T6215 | AH8015 | AH6225 | GT9530        | AT9530 | NS9530 | RE             | IC    | S     | D1    |       |
| Finishing                | TF                   | Sch 1/8" SNMG 431 TF   | Sch 1/8" SNMG120402-TF  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | 0.008          | 0.500 | 0.187 | 0.203 |       |
|                          |                      | Sch 1/8" SNMG 431 TF   | Sch 1/8" SNMG120404-TF  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 432 TF   | Sch 1/8" SNMG120408-TF  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 431 TSF  | Sch 1/8" SNMG120402-TSF | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 431 TSF  | Sch 1/8" SNMG120404-TSF | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 432 TSF  | Sch 1/8" SNMG120408-TSF | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|                          | PS                   | Sch 1/8" SNMG 430.5 PS | Sch 1/8" SNMG120402-PS  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 431 PS   | Sch 1/8" SNMG120404-PS  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 432 PS   | Sch 1/8" SNMG120408-PS  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.031 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 433 PS   | Sch 1/8" SNMG120412-PS  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.047 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 430.5 ZF | Sch 1/8" SNMG120402-ZF  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.008 | 0.500 | 0.187 | 0.203 |
|                          |                      | Sch 1/8" SNMG 431 ZF   | Sch 1/8" SNMG120404-ZF  | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | ●              | 0.016 | 0.500 | 0.187 | 0.203 |
| Finishing for mild steel | Sch 1/8" SNMG 432 ZF | Sch 1/8" SNMG120408-ZF | ●                       | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | 0.031          | 0.500 | 0.187 | 0.203 |       |
|                          | Sch 1/8" SNMG 433 ZF | Sch 1/8" SNMG120412-ZF | ●                       | ●     | ●     | ●     | ●      | ●      | ●             | ●      | ●      | 0.047          | 0.500 | 0.187 | 0.203 |       |
|                          | Sch 1/8" SNMG 431 AS | Sch 1/8" SNMG120404-AS |                         |       |       |       |        |        |               | ●      | ●      | 0.016          | 0.500 | 0.187 | 0.203 |       |
|                          | Sch 1/8" SNMG 432 AS | Sch 1/8" SNMG120408-AS | ●                       | ●     |       |       |        |        |               | ●      | ●      | 0.031          | 0.500 | 0.187 | 0.203 |       |
|                          | Sch 1/8" SNMG 432 NS | Sch 1/8" SNMG120408-NS | ●                       | ●     |       |       |        |        |               |        |        | 0.031          | 0.500 | 0.187 | 0.203 |       |
|                          | Sch 1/8" SNMG 432 NS | Sch 1/8" SNMG120408-NS | ●                       | ●     |       |       |        |        |               |        |        | 0.031          | 0.500 | 0.187 | 0.203 |       |



● : Line up

Reference pages: External toolholder → C076 - Internal toolholder → D054 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

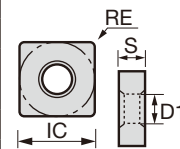
# Insert NEGATIVE TYPE








● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

# SN



|               | P  | M  | K   | N | S | H |
|---------------|----|----|-----|---|---|---|
| Steel         | ●  | ●● | ●●* | ● | ● | ● |
| Stainless     |    | ●● |     |   | ● | ● |
| Cast iron     | ●● | ●● |     | ● | ● | ● |
| Non-ferrous   |    |    |     | ● | ● | ● |
| Superalloy    |    |    |     |   | ● | ● |
| Hard material |    |    |     |   |   | ● |



| Application                    | Chipbreaker  | Designation  | Coated                       |       |       |       |       |       |       |        |        |        | Coated cermet |       | Cermet |        | Uncoated | Dimension (in) |       |       |       |       |       |       |
|--------------------------------|--|--|------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|---------------|-------|--------|--------|----------|----------------|-------|-------|-------|-------|-------|-------|
|                                |  |  | T9205                        | T9215 | T9225 | T9235 | T6215 | T5105 | T5115 | AH8005 | AH8015 | AH6225 | AH6235        | GH330 | GT9530 | AT9530 |          | NS9530         | NS520 | TH10  | RE    | IC    | S     | D1    |
| Finishing                      | <b>TS</b><br><br>10°    | SNMG 430.5 TS    SNMG120402-TS   | ●                            | ●     | ●     | ●     |       |       |       |        | ●      | ●      |               |       |        |        | ●        |                |       | 0.008 | 0.500 | 0.187 | 0.203 |       |
|                                |  | SNMG 431 TS    SNMG120404-TS   | ●                            | ●     | ●     | ●     |       |       |       |        | ●      | ●      |               |       | ●      | ●      |          | ●              |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                                |  | SNMG 432 TS    SNMG120408-TS   | ●                            | ●     | ●     | ●     | ●     |       |       |        | ●      | ●      |               |       | ●      | ●      |          | ●              |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                |  | SNMG 433 TS    SNMG120412-TS   | ●                            | ●     | ●     | ●     | ●     |       |       |        | ●      | ●      |               |       |        |        |          | ●              |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                                |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          |                |       |       |       |       |       |       |
|                                |  | <b>SF</b><br><br>78°  | SNMG 431 SF    SNMG120404-SF |       |       |       |       | ●     |       |        |        | ●      |               |       |        |        |          |                |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                                | SNMG 432 SF    SNMG120408-SF   |  |                              |       |       |       | ●     |       |       |        |        | ●      |               |       |        |        |          |                |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                |  | <b>SS</b><br><br>20° | SNMG 431 SS    SNMG120404-SS |       |       |       |       | ●     |       |        |        | ●      | ●             | ●     |        |        |          |                |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                                | SNMG 432 SS    SNMG120408-SS   |  |                              |       |       |       | ●     |       |       |        |        | ●      | ●             | ●     |        |        |          |                |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                | SNMG 433 SS    SNMG120412-SS   |  |                              |       |       |       | ●     |       |       |        |        |        | ●             | ●     |        |        |          |                |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                                | <b>HRF</b><br><br>20° | SNMG 432 HRF    SNMG120408-HRF   |                              |       |       |       |       |       |       | ●      | ●      |        |               |       |        |        |          |                |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| SNMG 433 HRF    SNMG120412-HRF |  |  |                              |       |       |       |       |       |       | ●      | ●      |        |               |       |        |        |          |                |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                                | <b>CF</b><br><br>20°  | SNMG 432 CF    SNMG120408-CF   |                              |       |       |       | ●     | ●     |       |        |        |        |               |       |        |        |          |                |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| SNMG 433 CF    SNMG120412-CF   |  |  |                              |       |       | ●     | ●     |       |       |        |        |        |               |       |        |        |          |                |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                                | <b>01</b><br><br>12°  | SNGG 320.5-01    SNGG090302-01   |                              |       |       |       |       |       |       |        |        |        |               |       |        |        | ●        |                |       | 0.008 | 0.375 | 0.125 | 0.150 |       |
| SNGG 321-01    SNGG090304-01   |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          | ●              |       |       | 0.016 | 0.375 | 0.125 | 0.150 |
| SNGG 322-01    SNGG090308-01   |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          | ●              | ●     |       | 0.031 | 0.375 | 0.125 | 0.150 |
| SNGG 430.5-01    SNGG120402-01 |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          |                | ●     |       | 0.008 | 0.500 | 0.187 | 0.203 |
| SNGG 431-01    SNGG120404-01   |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          |                | ●     |       | 0.016 | 0.500 | 0.187 | 0.203 |
| SNGG 432-01    SNGG120408-01   |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          | ●              | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                                | <b>11</b><br><br>12°  | SNMG 431-11    SNMG120404-11   |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          | ●              |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
| SNMG 432-11    SNMG120408-11   |  |  |                              |       |       |       |       |       |       |        |        |        |               |       |        |        |          | ●              | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |

● : Line up

Reference pages: External toolholder → C076 -    Internal toolholder → D054 -

# Insert NEGATIVE TYPE

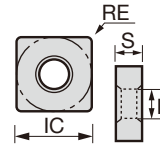
- : Continuous cutting
- : Light interrupted cutting
- \* : Heavy interrupted cutting

# SN



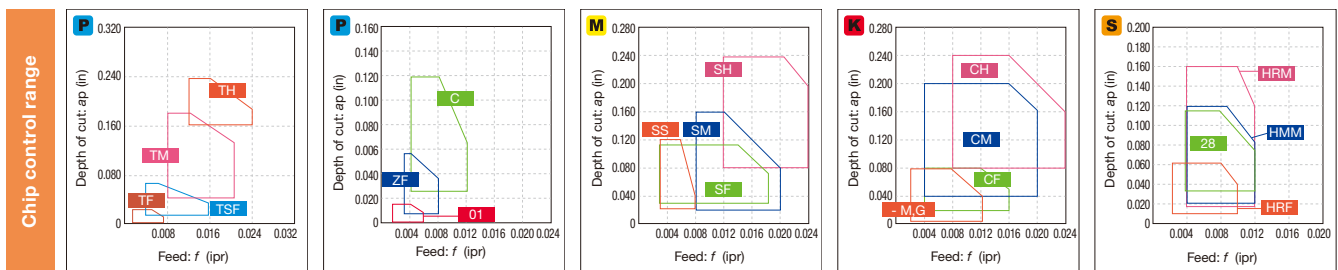
**Square with hole**

|   | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material |
|---|---------|-------------|-------------|---------------|--------------|-----------------|
| ● | ●       | ●           | ●           | ●             | ●            | ●               |
| ● | ●       | ●           | ●           | ●             | ●            | ●               |
| * | ●       | ●           | ●           | ●             | ●            | ●               |
| ● | ●       | ●           | ●           | ●             | ●            | ●               |
| ● | ●       | ●           | ●           | ●             | ●            | ●               |
| ● | ●       | ●           | ●           | ●             | ●            | ●               |
| ● | ●       | ●           | ●           | ●             | ●            | ●               |
| ● | ●       | ●           | ●           | ●             | ●            | ●               |

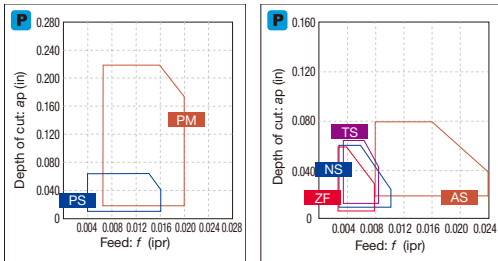


| Application              | Chipbreaker | Designation    | Coated       |               |               |               | Coated cermet | Cermet | Dimension (in) |       |       |        |        |       |       |       |       |
|--------------------------|-------------|----------------|--------------|---------------|---------------|---------------|---------------|--------|----------------|-------|-------|--------|--------|-------|-------|-------|-------|
|                          |             |                | T9205        | T9215         | T9225         | T9235         | T6215         | AH8015 | AH6225         | AH725 | AH120 | GT9530 | NS9530 | RE    | IC    | S     | D1    |
|                          |             |                | Inch         |               | Metric        |               |               |        |                |       |       |        |        |       |       |       |       |
| Finishing for mild steel |             | <b>17</b>      | SNMG 432-17  | SNMG120408-17 |               |               |               |        |                |       |       | ●      | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          |             | <b>B ~ D</b>   | SNGG 321 R-B | SNGG090304R-B |               |               |               |        |                |       |       | ●      | 0.016  | 0.375 | 0.125 | 0.150 |       |
| Finishing                |             |                | SNGG 321 L-B | SNGG090304L-B |               |               |               |        |                |       |       | ●      | 0.016  | 0.375 | 0.125 | 0.150 |       |
|                          |             |                | SNGG 322 R-B | SNGG090308R-B |               |               |               |        |                |       |       | ●      | 0.031  | 0.375 | 0.125 | 0.150 |       |
|                          |             |                | SNGG 322 L-B | SNGG090308L-B |               |               |               |        |                |       |       | ●      | 0.031  | 0.375 | 0.125 | 0.150 |       |
|                          |             |                | SNGG 431 R-C | SNGG120404R-C |               |               |               |        |                |       |       | ●      | 0.016  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                | SNGG 431 L-C | SNGG120404L-C |               |               |               |        |                |       |       | ●      | 0.016  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                | SNGG 432 R-C | SNGG120408R-C |               |               |               |        |                |       |       | ●      | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                | SNGG 432 L-C | SNGG120408L-C |               |               |               |        |                |       |       | ●      | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                | SNGG 432 R-D | SNGG120408R-D |               |               |               |        |                |       |       | ●      | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                | SNGG 432 L-D | SNGG120408L-D |               |               |               |        |                |       |       | ●      | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          |             | Medium cutting |              | <b>TM</b>     | SNMG 321 TM   | SNMG090304-TM | ●             | ●      | ●              |       |       |        |        |       | 0.016 | 0.375 | 0.125 |
|                          | SNMG 322 TM |                |              | SNMG090308-TM | ●             | ●             | ●             |        |                |       |       |        | 0.031  | 0.375 | 0.125 | 0.150 |       |
|                          | SNMG 431 TM |                |              | SNMG120404-TM | ●             | ●             |               | ●      | ●              | ●     | ●     |        | 0.016  | 0.500 | 0.187 | 0.203 |       |
|                          | SNMG 432 TM |                |              | SNMG120408-TM | ●             | ●             | ●             | ●      | ●              | ●     | ●     |        | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          | SNMG 433 TM |                |              | SNMG120412-TM | ●             | ●             | ●             | ●      | ●              | ●     | ●     |        | 0.047  | 0.500 | 0.187 | 0.203 |       |
|                          | SNMG 434 TM |                |              | SNMG120416-TM | ●             | ●             | ●             | ●      | ●              | ●     |       | 0.063  | 0.500  | 0.187 | 0.203 |       |       |
|                          | SNMG 542 TM |                |              | SNMG150608-TM | ●             |               |               |        |                |       |       |        | 0.031  | 0.625 | 0.250 | 0.250 |       |
|                          | SNMG 543 TM |                |              | SNMG150612-TM | ●             |               |               |        |                |       | ●     |        | 0.047  | 0.625 | 0.250 | 0.250 |       |
|                          | SNMG 642 TM |                |              | SNMG190608-TM | ●             |               |               |        |                |       | ●     |        | 0.031  | 0.750 | 0.250 | 0.312 |       |
|                          | SNMG 643 TM |                |              | SNMG190612-TM | ●             |               |               |        |                |       | ●     |        | 0.047  | 0.750 | 0.250 | 0.312 |       |
|                          | <b>PM</b>   |                |              | SNMG 431 PM   | SNMG120404-PM | ●             | ●             |        | ●              | ●     | ●     |        | 0.016  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                |              | SNMG 432 PM   | SNMG120408-PM | ●             | ●             |        | ●              | ●     | ●     |        | 0.031  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                |              | SNMG 433 PM   | SNMG120412-PM | ●             | ●             |        | ●              | ●     | ●     |        | 0.047  | 0.500 | 0.187 | 0.203 |       |
|                          |             |                |              | SNMG 434 PM   | SNMG120416-PM | ●             | ●             |        | ●              | ●     | ●     |        | 0.063  | 0.500 | 0.187 | 0.203 |       |

● : Line up



\*-M,G: Without chipbreaker



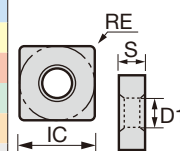
Reference pages: External toolholder → **C076 -**  
Internal toolholder → **D054 -**

# Insert NEGATIVE TYPE

## SN



|          |               |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|---------------|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel         | ● | ● | ● | ● | * | ● |   |   |   |   |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless     | ● | ● |   |   |   | ● |   |   |   |   |  |  |  |  |  |  |  |  |  | ● | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron     | ● | ● | ● |   |   |   | ● | ● | ● | ● |  |  |  |  |  |  |  |  |  | ● | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy    |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  | ● | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard material |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Application                      | Chipbreaker | Designation                            | Coated |                                     |       |       |       |      |      |       |       |       |        |        |        |       |       |       | Coated<br>cermet | Cermet | Uncoated | Dimension (in) |       |        |       |       |       |       |       |       |       |       |       |
|----------------------------------|-------------|--|--------|-------------------------------------|-------|-------|-------|------|------|-------|-------|-------|--------|--------|--------|-------|-------|-------|------------------|--------|----------|----------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                  |             |  | T9205  | T9215                               | T9225 | T9235 | T6215 | T505 | T515 | T5105 | T5115 | T5125 | AH8015 | AH8225 | AH6235 | AH905 | AH725 | AH110 |                  |        |          | AH120          | GT720 | NS9530 | NS520 | TH10  | RE    | IC    | S     | D1    |       |       |       |
| Medium cutting<br>for mild steel |             | <b>ZM</b> SNMG 431 ZM SNMG120404-ZM    | ●      | ●                                   | ●     | *     | ●     |      |      |       |       |       |        |        | ●      | ●     |       |       |                  |        |          |                |       |        |       | 0.016 | 0.500 | 0.187 | 0.203 |       |       |       |       |
|                                  |             | SNMG 432 ZM SNMG120408-ZM              | ●      | ●                                   | ●     | ●     |       |      |      |       |       |       |        |        |        | ●     | ●     |       |                  |        |          |                |       |        |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |       |
|                                  |             | SNMG 433 ZM SNMG120412-ZM              | ●      | ●                                   | ●     | ●     |       |      |      |       |       |       |        |        |        |       | ●     | ●     |                  |        |          |                |       |        |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |       |
|                                  |             | SNMG 434 ZM SNMG120416-ZM              | ●      | ●                                   | ●     | ●     |       |      |      |       |       |       |        |        |        |       |       | ●     | ●                |        |          |                |       |        |       |       |       |       | 0.063 | 0.500 | 0.187 | 0.203 |       |
| Medium cutting                   |             | <b>DM</b> SNMG 431 DM SNMG120404-DM    | ●      | ●                                   | ●     |       |       |      |      |       |       |       |        |        | ●      | ●     |       |       |                  |        |          |                |       |        |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |       |       |
|                                  |             | SNMG 432 DM SNMG120408-DM              | ●      | ●                                   | ●     | ●     |       |      |      |       |       |       |        |        |        | ●     | ●     |       |                  |        |          |                |       |        |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                                  |             | SNMG 433 DM SNMG120412-DM              | ●      | ●                                   | ●     | ●     |       |      |      |       |       |       |        |        |        |       | ●     | ●     |                  |        |          |                |       |        |       |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                                  |             | SNMG 434 DM SNMG120416-DM              | ●      | ●                                   | ●     | ●     |       |      |      |       |       |       |        |        |        |       |       | ●     | ●                |        |          |                |       |        |       |       |       |       | 0.063 | 0.500 | 0.187 | 0.203 |       |
| All-round                        |             | SNMG 321 SNMG090304                    | ●      | ●                                   |       |       |       |      |      |       |       |       |        |        |        |       |       |       |                  |        | ●        | ●              |       |        |       |       | 0.016 | 0.375 | 0.125 | 0.150 |       |       |       |
|                                  |             | SNMG 322 SNMG090308                    | ●      | ●                                   | ●     |       |       |      |      |       |       |       |        |        |        |       |       |       |                  |        |          | ●              | ●     |        |       |       |       | 0.031 | 0.375 | 0.125 | 0.150 |       |       |
|                                  |             | SNMG 431 SNMG120404                    | ●      | ●                                   | ●     |       |       |      |      | ●     | ●     |       |        |        |        |       | ●     | ●     |                  |        |          | ●              | ●     | ●      |       |       |       | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|                                  |             | SNMG 432 SNMG120408                    | ●      | ●                                   | ●     | ●     | ●     | ●    | ●    | ●     | ●     | ●     | ●      | ●      |        |       |       | ●     | ●                |        |          | ●              | ●     | ●      |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                                  |             | SNMG 433 SNMG120412                    | ●      | ●                                   | ●     | ●     | ●     | ●    | ●    | ●     | ●     | ●     | ●      | ●      |        |       |       |       | ●                | ●      |          |                | ●     | ●      | ●     |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                                  |             | SNMG 434 SNMG120416                    | ●      | ●                                   | ●     | ●     |       |      |      | ●     | ●     |       |        |        |        |       |       |       | ●                | ●      |          |                |       |        |       |       |       |       | 0.063 | 0.500 | 0.187 | 0.203 |       |
|                                  |             | SNMG 435 SNMG120420                    | ●      | ●                                   | ●     |       |       |      |      | ●     | ●     |       |        |        |        |       |       |       |                  |        |          |                |       |        |       |       |       |       | 0.078 | 0.500 | 0.187 | 0.203 |       |
|                                  |             | SNMG 543 SNMG150612                    | ●      | ●                                   | ●     |       |       |      | ●    |       |       |       |        |        | ●      |       |       |       |                  |        |          |                |       | ●      |       |       |       |       | 0.047 | 0.625 | 0.250 | 0.250 |       |
|                                  |             | SNMG 544 SNMG150616                    | ●      | ●                                   |       |       |       |      | ●    |       |       |       |        |        |        |       |       |       |                  |        |          |                |       | ●      |       |       |       |       |       | 0.063 | 0.625 | 0.250 | 0.250 |
|                                  |             | SNMG 643 SNMG190612                    | ●      | ●                                   | ●     |       |       |      | ●    |       |       | ●     | ●      | ●      |        |       |       |       |                  |        |          |                |       | ●      |       |       |       |       |       | 0.047 | 0.750 | 0.250 | 0.312 |
|                                  |             | SNMG 644 SNMG190616                    | ●      | ●                                   | ●     |       |       |      | ●    |       |       | ●     | ●      | ●      |        |       |       |       |                  |        |          |                |       | ●      |       |       |       |       |       | 0.063 | 0.750 | 0.250 | 0.312 |
|                                  |             | SNMG 856 SNMG250724                    | ●      | ●                                   | ●     |       |       |      |      |       |       |       |        |        |        |       |       |       |                  |        |          |                |       |        |       |       |       |       |       | 0.094 | 1.000 | 0.313 | 0.359 |
|                                  |             | SNMG 866 SNMG250924                    |        |                                     |       |       |       |      |      |       |       |       |        |        |        | ●     |       |       |                  |        |          |                |       | ●      |       |       |       |       |       | 0.094 | 1.000 | 0.375 | 0.359 |
|                                  |             | Medium cutting                         |        | <b>SM</b> SNMG 432 SM SNMG120408-SM |       |       |       |      | ●    |       |       |       |        |        |        |       |       | ●     | ●                |        | ●        |                |       |        |       |       |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                                  |             |  |        | SNMG 433 SM SNMG120412-SM           |       |       |       |      | ●    |       |       |       |        |        |        |       |       |       |                  | ●      | ●        |                |       |        |       |       |       |       |       |       | 0.047 | 0.500 | 0.187 |
| Medium cutting                   |             | <b>SDM</b> SNMG 432 SDM SNMG120408-SDM |        |                                     |       |       |       | ●    |      |       |       |       |        |        |        |       | ●     | ●     |                  |        |          |                |       |        |       |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                                  |             | SNMG 433 SDM SNMG120412-SDM            |        |                                     |       |       |       | ●    |      |       |       |       |        |        |        |       |       |       | ●                | ●      |          |                |       |        |       |       |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
| Medium cutting                   |             | <b>CM</b> SNMG 432 CM SNMG120408-CM    | ●      | ●                                   |       |       | ●     | ●    | ●    | ●     | ●     | ●     |        |        |        |       |       |       |                  |        |          |                |       |        |       |       |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                                  |             | SNMG 433 CM SNMG120412-CM              | ●      | ●                                   |       |       | ●     | ●    | ●    | ●     | ●     | ●     | ●      |        |        |       |       |       |                  |        |          |                |       |        |       |       |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |

● : Line up

Reference pages: External toolholder → C076 - Internal toolholder → D054 -

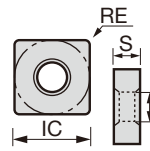
# Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

# SN

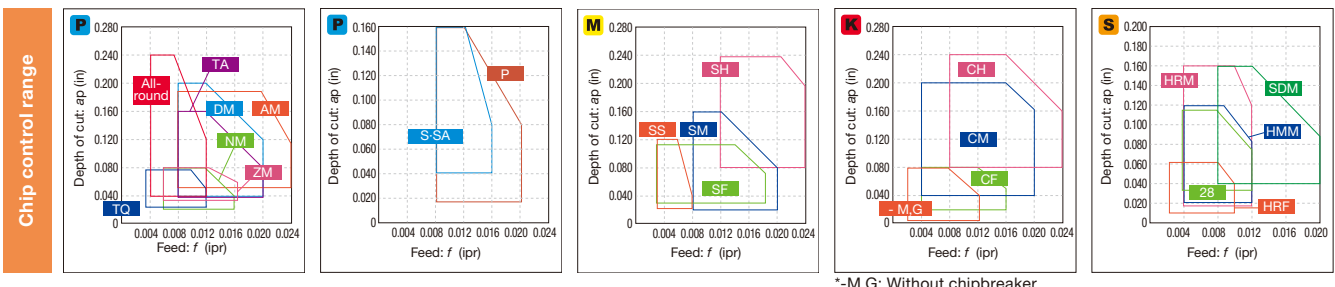


|   | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material | T9215 | T9225 | T6215 | T505 | T515 | T5105 | T5115 | T5125 | AH8005 | AH8015 | AH6225 | AH6235 | AH905 | AH120 | GH110 | GH330 | NS9530 | TH10 | KS20 | RE | IC | S | D1 |
|---|---------|-------------|-------------|---------------|--------------|-----------------|-------|-------|-------|------|------|-------|-------|-------|--------|--------|--------|--------|-------|-------|-------|-------|--------|------|------|----|----|---|----|
| ● | ●       | ●           | ●           | ●             | ●            | ●               | ●     | ●     | ●     | ●    | ●    | ●     | ●     | ●     | ●      | ●      | ●      | ●      | ●     | ●     | ●     | ●     | ●      | ●    | ●    | ●  | ●  | ● | ●  |
| ◐ | ◐       | ◐           | ◐           | ◐             | ◐            | ◐               | ◐     | ◐     | ◐     | ◐    | ◐    | ◐     | ◐     | ◐     | ◐      | ◐      | ◐      | ◐      | ◐     | ◐     | ◐     | ◐     | ◐      | ◐    | ◐    | ◐  | ◐  | ◐ | ◐  |
| ✱ | ✱       | ✱           | ✱           | ✱             | ✱            | ✱               | ✱     | ✱     | ✱     | ✱    | ✱    | ✱     | ✱     | ✱     | ✱      | ✱      | ✱      | ✱      | ✱     | ✱     | ✱     | ✱     | ✱      | ✱    | ✱    | ✱  | ✱  | ✱ | ✱  |



| Application                | Chipbreaker | Designation                            | Coated |        |       |      |      |       |       |       |        |        | Cermet | Uncoated |       | Dimension (in) |       |       |        |      |      |    |    |   |    |   |   |   |       |       |       |       |       |       |
|----------------------------|-------------|--|--------|--------|-------|------|------|-------|-------|-------|--------|--------|--------|----------|-------|----------------|-------|-------|--------|------|------|----|----|---|----|---|---|---|-------|-------|-------|-------|-------|-------|
|                            |             |  | T9215  | T9225  | T6215 | T505 | T515 | T5105 | T5115 | T5125 | AH8005 | AH8015 | AH6225 | AH6235   | AH905 | AH120          | GH110 | GH330 | NS9530 | TH10 | KS20 | RE | IC | S | D1 |   |   |   |       |       |       |       |       |       |
|                            |             |  | Inch   | Metric |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   |   |   |       |       |       |       |       |       |
| Medium cutting             |             | <b>HRM</b> SNMG 432 HRM SNMG120408-HRM |        |        |       |      |      |       |       |       |        |        |        | ●        | ●     |                |       |       |        |      |      |    |    |   |    | ● |   |   | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                            |             | SNMG 433 HRM SNMG120412-HRM            |        |        |       |      |      |       |       |       |        |        |        |          | ●     | ●              |       |       |        |      |      |    |    |   |    |   | ● |   |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                            |             | SNMG 542 HRM SNMG150608-HRM            |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   |   | ● |       |       | 0.031 | 0.625 | 0.250 | 0.250 |
|                            |             | SNMG 543 HRM SNMG150612-HRM            |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   |   | ● |       |       | 0.047 | 0.625 | 0.250 | 0.250 |
|                            |             | SNMG 643 HRM SNMG190612-HRM            |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   |   | ● |       |       | 0.047 | 0.750 | 0.250 | 0.312 |
|                            |             | SNMG 644 HRM SNMG190616-HRM            |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   |   | ● |       |       | 0.063 | 0.750 | 0.250 | 0.312 |
|                            |             | <b>TA</b> SNMG 432 TA SNMG120408-TA    | ● ●    |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   | ● |   |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                            |             | SNMG 433 TA SNMG120412-TA              | ● ●    |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   |   | ● |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                            |             | <b>SA</b> SNMG 431 SA SNMG120404-SA    |        |        |       |      |      |       | ●     |       |        |        |        |          |       |                |       | ● ●   | ●      |      |      |    |    |   |    |   |   | ● |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                            |             | SNMG 432 SA SNMG120408-SA              |        |        |       |      |      |       | ●     |       |        |        |        |          |       |                |       |       | ● ●    | ●    |      |    |    |   |    |   | ● |   |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                            |             | SNMG 433 SA SNMG120412-SA              |        |        |       |      |      |       | ●     |       |        |        |        |          |       |                |       |       | ● ●    | ●    |      |    |    |   |    |   | ● |   |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                            |             | SNMG 643 SA SNMG190612-SA              |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      | ●    |    |    |   |    |   | ● |   |       | 0.047 | 0.750 | 0.250 | 0.312 |       |
|                            |             | SNMG 644 SA SNMG190616-SA              |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      | ●  |    |   |    |   |   | ● |       |       | 0.063 | 0.750 | 0.250 | 0.312 |
|                            |             | <b>HMM</b> SNMG 432 HMM SNMG120408-HMM |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      | ●    |    |    |   |    |   |   | ● |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                            |             | SNMG 433 HMM SNMG120412-HMM            |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      | ●  |    |   |    |   |   |   | ●     |       |       | 0.047 | 0.500 | 0.187 |
|                            |             | <b>P</b> SNGG 321 R-P SNGG090304R-P    |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    | ●  |   |    |   | ● |   |       | 0.016 | 0.375 | 0.125 | 0.150 |       |
|                            |             | SNGG 321 L-P SNGG090304L-P             |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   | ● |   |       | 0.016 | 0.375 | 0.125 | 0.150 |       |
|                            |             | SNGG 322 R-P SNGG090308R-P             |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   | ●  | ● | ● |   | ●     |       | 0.031 | 0.375 | 0.125 | 0.150 |
|                            |             | SNGG 322 L-P SNGG090308L-P             |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   | ● |   |       | 0.031 | 0.375 | 0.125 | 0.150 |       |
|                            |             | SNGG 431 R-P SNGG120404R-P             |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    |   | ● |   |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
| SNGG 431 L-P SNGG120404L-P |             |  |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    | ● |   |   | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
| SNGG 432 R-P SNGG120408R-P |             |  |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    | ● |   |   | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
| SNGG 432 L-P SNGG120408L-P |             |  |        |        |       |      |      |       |       |       |        |        |        |          |       |                |       |       |        |      |      |    |    |   |    | ● |   |   | 0.031 | 0.500 | 0.187 | 0.203 |       |       |

● : Line up



\*-M,G: Without chipbreaker

Reference pages: External toolholder → **C076 -** Internal toolholder → **D054 -**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M

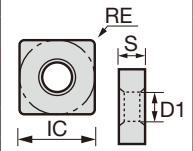
## Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

**SN**

Square  
with hole

|               | P                 | M               | K               | N               | S               | H               |
|---------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Steel         | ● ● ● ● ✱ ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● |
| Stainless     | ● ● ● ● ● ● ● ●   | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● |
| Cast iron     | ● ● ● ● ● ● ● ●   | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● |
| Non-ferrous   | ● ● ● ● ● ● ● ●   | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● |
| Superalloy    | ● ● ● ● ● ● ● ●   | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● |
| Hard material | ● ● ● ● ● ● ● ●   | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● | ● ● ● ● ● ● ● ● |



| Application             | Chipbreaker  | Designation    |                | Coated        |       |       |       |        |        |       |       | Cermet | Dimension (in) |       |       |       |       |       |
|-------------------------|--------------|----------------|----------------|---------------|-------|-------|-------|--------|--------|-------|-------|--------|----------------|-------|-------|-------|-------|-------|
|                         |              | Inch           | Metric         | T9205         | T9215 | T9225 | T9235 | AH6225 | AH6235 | AH120 | GH330 | NS9530 | RE             | IC    | S     | D1    |       |       |
| Medium cutting          | <b>S</b>     | SNMG 431 R-S   | SNMG120404R-S  |               | ●     | ●     | ●     | ●      | ●      | ●     | ●     | ●      | 0.016          | 0.500 | 0.187 | 0.203 |       |       |
|                         |              | SNMG 431 L-S   | SNMG120404L-S  |               | ●     | ●     | ●     | ●      | ●      | ●     | ●     | ●      | 0.016          | 0.500 | 0.187 | 0.203 |       |       |
|                         |              | SNMG 432 R-S   | SNMG120408R-S  |               | ●     | ●     | ●     | ●      | ●      | ●     | ●     | ●      | 0.031          | 0.500 | 0.187 | 0.203 |       |       |
|                         |              | SNMG 432 L-S   | SNMG120408L-S  |               | ●     | ●     | ●     | ●      | ●      | ●     | ●     | ●      | 0.031          | 0.500 | 0.187 | 0.203 |       |       |
|                         |              |                |                |               |       |       |       |        |        |       |       |        |                |       |       |       |       |       |
|                         | <b>27</b>    | SNMG 432-27    | SNMG120408-27  |               |       | ●     |       |        |        |       |       | ●      |                | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                         |              | SNMG 433-27    | SNMG120412-27  |               |       | ●     |       |        |        |       |       |        |                | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                         |              |                |                |               |       |       |       |        |        |       |       |        |                |       |       |       |       |       |
|                         |              | <b>33</b>      | SNMG 432-33    | SNMG120408-33 |       | ●     | ●     |        |        |       |       |        |                |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                         |              |                | SNMG 433-33    | SNMG120412-33 |       |       | ●     |        |        |       |       |        |                |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                         |              |                | SNMG 543-33    | SNMG150612-33 |       | ●     | ●     |        |        |       |       |        |                |       | 0.047 | 0.625 | 0.250 | 0.250 |
|                         |              |                | SNMG 644-33    | SNMG190616-33 |       |       | ●     | ●      |        |       |       |        |                |       | 0.063 | 0.750 | 0.250 | 0.312 |
| <b>37</b>               | SNMG 432-37  | SNMG120408-37  |                | ●             |       |       |       |        | ●      |       | ●     |        | 0.031          | 0.500 | 0.187 | 0.203 |       |       |
|                         | SNMG 433-37  | SNMG120412-37  |                | ●             |       |       |       |        |        |       |       |        | 0.047          | 0.500 | 0.187 | 0.203 |       |       |
| Medium to heavy cutting | <b>TH</b>    | SNMG 432 TH    | SNMG120408-TH  |               | ●     | ●     | ●     |        |        | ●     |       |        | 0.031          | 0.500 | 0.187 | 0.203 |       |       |
|                         |              | SNMG 433 TH    | SNMG120412-TH  |               | ●     | ●     | ●     |        |        | ●     |       |        |                | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                         |              | SNMG 543 TH    | SNMG150612-TH  |               | ●     | ●     | ●     |        |        | ●     |       |        |                | 0.047 | 0.625 | 0.250 | 0.250 |       |
|                         |              | SNMG 544 TH    | SNMG150616-TH  |               | ●     | ●     | ●     |        |        | ●     |       |        |                | 0.063 | 0.625 | 0.250 | 0.250 |       |
|                         |              | SNMG 643 TH    | SNMG190612-TH  |               | ●     | ●     | ●     | ●      |        | ●     |       |        |                | 0.047 | 0.750 | 0.250 | 0.312 |       |
|                         |              | SNMG 644 TH    | SNMG190616-TH  |               | ●     | ●     | ●     | ●      |        | ●     |       |        |                | 0.063 | 0.750 | 0.250 | 0.312 |       |
|                         | <b>THS</b>   | SNMG 432 THS   | SNMG120408-THS |               | ●     | ●     | ●     |        |        |       |       |        |                | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                         |              | SNMG 433 THS   | SNMG120412-THS |               | ●     | ●     | ●     |        |        |       |       |        |                | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                         |              | SNMG 543 THS   | SNMG150612-THS |               | ●     | ●     |       |        |        |       |       |        |                | 0.047 | 0.625 | 0.250 | 0.250 |       |
|                         |              | SNMG 544 THS   | SNMG150616-THS |               | ●     | ●     |       |        |        |       |       |        |                | 0.063 | 0.625 | 0.250 | 0.250 |       |
|                         |              | SNMG 642 THS   | SNMG190608-THS |               | ●     | ●     | ●     |        |        |       |       |        |                | 0.031 | 0.750 | 0.250 | 0.312 |       |
|                         |              | SNMG 643 THS   | SNMG190612-THS |               | ●     | ●     | ●     |        |        |       |       |        |                | 0.047 | 0.750 | 0.250 | 0.312 |       |
|                         | SNMG 644 THS | SNMG190616-THS |                | ●             | ●     | ●     |       |        |        |       |       |        | 0.063          | 0.750 | 0.250 | 0.312 |       |       |
|                         | SNMG 646 THS | SNMG190624-THS |                | ●             | ●     | ●     |       |        |        |       |       |        | 0.094          | 0.750 | 0.250 | 0.312 |       |       |
|                         | SNMG 854 THS | SNMG250716-THS |                | ●             | ●     | ●     |       |        |        |       |       |        | 0.063          | 1.000 | 0.313 | 0.359 |       |       |
|                         | SNMG 856 THS | SNMG250724-THS |                | ●             | ●     | ●     |       |        |        |       |       |        | 0.094          | 1.000 | 0.313 | 0.359 |       |       |

● : Line up

Reference pages: External toolholder → C076 - Internal toolholder → D054 -











# Insert NEGATIVE TYPE

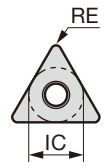
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## TN

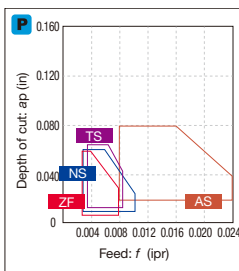
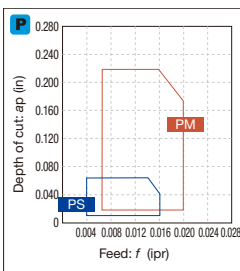
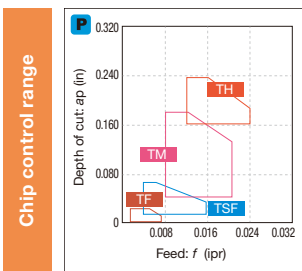


Triangular with hole

| Material        | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material | Coated | Coated cermet | Cermet | Uncoated |
|-----------------|---------|-------------|-------------|---------------|--------------|-----------------|--------|---------------|--------|----------|
| P Steel         | ●       | ◐           | ◐           | ◐             | ◐            | ◐               | ●      | ●             | ●      | ●        |
| M Stainless     | ◐       | ●           | ◐           | ◐             | ◐            | ◐               | ●      | ●             | ●      | ●        |
| K Cast iron     | ◐       | ◐           | ●           | ◐             | ◐            | ◐               | ●      | ●             | ●      | ●        |
| N Non-ferrous   | ◐       | ◐           | ◐           | ●             | ◐            | ◐               | ●      | ●             | ●      | ●        |
| S Superalloy    | ◐       | ◐           | ◐           | ◐             | ●            | ◐               | ●      | ●             | ●      | ●        |
| H Hard material | ◐       | ◐           | ◐           | ◐             | ◐            | ●               | ●      | ●             | ●      | ●        |



| Application              | Chipbreaker | Designation     | Coated          |       |       |       |       |        |        | Coated cermet |        | Cermet |        | Uncoated | Dimension (in) |       |       |       |
|--------------------------|-------------|-----------------|-----------------|-------|-------|-------|-------|--------|--------|---------------|--------|--------|--------|----------|----------------|-------|-------|-------|
|                          |             |                 | T9205           | T9215 | T9225 | T9235 | T6215 | AH8015 | AH6225 | AH120         | GT9530 | AT9530 | NS9530 | NS520    | TH10           | RE    | IC    | S     |
| Finishing                | <b>TF</b>   | TNMG 230.5E TF  | TNMG110402E-TF  | ●     | ●     | ●     | ●     | ●      | ●      |               |        | ●      |        |          | 0.008          | 0.250 | 0.187 | 0.089 |
|                          |             | TNMG 231E TF    | TNMG110404E-TF  | ●     | ●     | ●     | ●     | ●      | ●      |               |        | ●      |        |          | 0.016          | 0.250 | 0.187 | 0.089 |
|                          |             | TNMG 232E TF    | TNMG110408E-TF  | ●     | ●     | ●     | ●     | ●      | ●      |               |        | ●      |        |          | 0.031          | 0.250 | 0.187 | 0.089 |
|                          |             | TNMG 331 TF     | TNMG160402-TF   | ●     | ●     | ●     | ●     | ●      | ●      |               |        | ●      |        |          | 0.008          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 331 TF     | TNMG160404-TF   | ●     | ●     | ●     | ●     | ●      | ●      |               |        | ●      | ●      | ●        | 0.016          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 332 TF     | TNMG160408-TF   | ●     | ●     | ●     | ●     | ●      | ●      |               |        | ●      | ●      |          | 0.031          | 0.375 | 0.187 | 0.150 |
|                          | <b>TSF</b>  | TNMG 230.5E TSF | TNMG110402E-TSF | ●     | ●     | ●     | ●     | ●      |        | ●             |        | ●      |        |          | 0.008          | 0.250 | 0.187 | 0.089 |
|                          |             | TNMG 231E TSF   | TNMG110404E-TSF | ●     | ●     | ●     | ●     | ●      |        | ●             | ●      | ●      |        |          | 0.016          | 0.250 | 0.187 | 0.089 |
|                          |             | TNMG 232E TSF   | TNMG110408E-TSF | ●     | ●     | ●     | ●     | ●      |        | ●             | ●      | ●      |        |          | 0.031          | 0.250 | 0.187 | 0.089 |
|                          |             | TNMG 330.5 TSF  | TNMG160402-TSF  | ●     | ●     | ●     | ●     | ●      | ●      |               | ●      | ●      |        |          | 0.008          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 331 TSF    | TNMG160404-TSF  | ●     | ●     | ●     | ●     | ●      | ●      |               | ●      | ●      |        |          | 0.016          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 332 TSF    | TNMG160408-TSF  | ●     | ●     | ●     | ●     | ●      | ●      |               | ●      | ●      |        |          | 0.031          | 0.375 | 0.187 | 0.150 |
| Finishing for mild steel | <b>ZF</b>   | TNMG 230.5E ZF  | TNMG110402E-ZF  | ●     | ●     | ●     | ●     | ●      |        |               | ●      |        |        | 0.008    | 0.250          | 0.187 | 0.089 |       |
|                          |             | TNMG 231E ZF    | TNMG110404E-ZF  | ●     | ●     | ●     | ●     | ●      |        |               | ●      |        |        | 0.016    | 0.250          | 0.187 | 0.089 |       |
|                          |             | TNMG 232E ZF    | TNMG110408E-ZF  | ●     | ●     | ●     | ●     | ●      |        |               | ●      |        |        | 0.031    | 0.250          | 0.187 | 0.089 |       |
|                          |             | TNMG 330.5 ZF   | TNMG160402-ZF   | ●     | ●     | ●     | ●     | ●      | ●      |               | ●      | ●      |        |          | 0.008          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 331 ZF     | TNMG160404-ZF   | ●     | ●     | ●     | ●     | ●      | ●      |               | ●      | ●      |        |          | 0.016          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 332 ZF     | TNMG160408-ZF   | ●     | ●     | ●     | ●     | ●      | ●      |               | ●      | ●      |        |          | 0.031          | 0.375 | 0.187 | 0.150 |
| Finishing                | <b>AS</b>   | TNMG 331 AS     | TNMG160404-AS   |       |       | ●     | ●     |        |        |               | ●      |        |        | 0.016    | 0.375          | 0.187 | 0.150 |       |
|                          |             | TNMG 332 AS     | TNMG160408-AS   | ●     | ●     | ●     | ●     |        |        |               | ●      |        |        | 0.031    | 0.375          | 0.187 | 0.150 |       |
|                          |             | TNMG 333 AS     | TNMG160412-AS   | ●     | ●     | ●     |       |        |        |               |        |        |        | 0.047    | 0.375          | 0.187 | 0.150 |       |
|                          | <b>NS</b>   | TNMG 331 NS     | TNMG160404-NS   |       | ●     | ●     |       |        |        |               |        | ●      |        |          | 0.016          | 0.375 | 0.187 | 0.150 |
|                          |             | TNMG 332 NS     | TNMG160408-NS   | ●     | ●     | ●     |       |        |        |               |        | ●      |        |          | 0.031          | 0.375 | 0.187 | 0.150 |
|                          |             |                 |                 |       |       |       |       |        |        |               |        |        |        |          |                |       |       |       |



● : Line up

Reference pages: External toolholder → C088 - Internal toolholder → D063 -  
 J-Series toolholder → G056 - TungCap → K013 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
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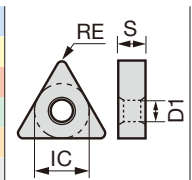
# Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## TN



|   |               |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel         | ● | ● | ● | ● | ✱ | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless     | ● | ● |   |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron     | ● | ● | ● |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |   |   |   |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard material |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Application       | Chipbreaker | Designation |                | Coated         |        |       |       |       |       |       |        |        |        |        |       |       |        | Coated cermet |        | Cermet |       | Uncoated | Dimension (in) |       |       |  |
|-------------------|-------------|-------------|----------------|----------------|--------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|-------|--------|---------------|--------|--------|-------|----------|----------------|-------|-------|--|
|                   |             |             |                | T9205          | T9215  | T9225 | T9235 | T6215 | T5105 | T5115 | AH8005 | AH8015 | AH6225 | AH6235 | AH120 | GH330 | GT9530 | AT9530        | NS9530 | NS520  | KS20  | RE       | IC             | S     | D1    |  |
|                   |             |             |                | Inch           | Metric |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       |          |                |       |       |  |
| Finishing         |             | <b>TS</b>   | TNMG 330.5E TS | TNMG110402E-TS | ●      | ●     |       |       |       |       |        |        |        |        |       |       |        |               |        |        | 0.008 | 0.250    | 0.187          | 0.089 |       |  |
|                   |             |             | TNMG 231E TS   | TNMG110404E-TS | ●      | ●     |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.016    | 0.250          | 0.187 | 0.089 |  |
|                   |             |             | TNMG 232E TS   | TNMG110408E-TS | ●      | ●     |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.031    | 0.250          | 0.187 | 0.089 |  |
|                   |             |             | TNMG 330.5 TS  | TNMG160402-TS  | ●      | ●     |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.008    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 331 TS    | TNMG160404-TS  | ●      | ●     | ●     | ●     |       |       |        |        |        |        |       | ●     | ●      |               | ●      | ●      |       | 0.016    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 332 TS    | TNMG160408-TS  | ●      | ●     | ●     | ●     |       |       |        |        |        |        |       | ●     | ●      |               | ●      | ●      |       | 0.031    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 333 TS    | TNMG160412-TS  | ●      | ●     | ●     | ●     |       |       |        |        |        |        |       |       |        |               | ●      |        |       | 0.047    | 0.375          | 0.187 | 0.150 |  |
|                   |             | <b>SF</b>   | TNMG 331 SF    | TNMG160404-SF  |        |       |       | ●     |       |       |        | ●      |        |        |       |       |        |               |        |        |       | 0.016    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 332 SF    | TNMG160408-SF  |        |       |       | ●     |       |       |        | ●      |        |        |       |       |        |               |        |        |       | 0.031    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 333 SF    | TNMG160412-SF  |        |       |       | ●     |       |       |        | ●      |        |        |       |       |        |               |        |        |       | 0.047    | 0.375          | 0.187 | 0.150 |  |
| Finishing         |             | <b>SS</b>   | TNMG 231E SS   | TNMG110404E-SS |        |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        | 0.016 | 0.250    | 0.187          | 0.089 |       |  |
|                   |             |             | TNMG 232E SS   | TNMG110408E-SS |        |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.031    | 0.250          | 0.187 | 0.089 |  |
|                   |             |             | TNMG 331 SS    | TNMG160404-SS  |        |       |       | ●     |       |       |        | ●      | ●      | ●      | ●     |       |        |               |        | ●      |       | 0.016    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 332 SS    | TNMG160408-SS  |        |       |       | ●     |       |       |        | ●      | ●      | ●      | ●     |       |        |               |        | ●      |       | 0.031    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 333 SS    | TNMG160412-SS  |        |       |       | ●     |       |       |        | ●      | ●      | ●      | ●     |       |        |               |        |        |       | 0.047    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 431 SS    | TNMG220404-SS  |        |       |       | ●     |       |       |        | ●      | ●      | ●      | ●     |       |        |               |        |        |       | 0.016    | 0.500          | 0.187 | 0.203 |  |
|                   |             |             | TNMG 432 SS    | TNMG220408-SS  |        |       |       | ●     |       |       |        | ●      | ●      | ●      | ●     |       |        |               |        |        |       | 0.031    | 0.500          | 0.187 | 0.203 |  |
|                   |             |             | TNMG 433 SS    | TNMG220412-SS  |        |       |       | ●     |       |       |        | ●      | ●      | ●      | ●     |       |        |               |        |        |       | 0.047    | 0.500          | 0.187 | 0.203 |  |
| Finishing         |             | <b>HRF</b>  | TNMG 331 HRF   | TNMG160404-HRF |        |       |       |       |       |       | ●      | ●      |        |        |       |       |        |               |        |        | 0.016 | 0.375    | 0.187          | 0.150 |       |  |
|                   |             |             | TNMG 332 HRF   | TNMG160408-HRF |        |       |       |       |       |       |        | ●      | ●      |        |       |       |        |               |        |        |       | 0.031    | 0.375          | 0.187 | 0.150 |  |
| Finishing         |             | <b>CF</b>   | TNMG 331 CF    | TNMG160404-CF  |        |       |       |       |       |       | ●      | ●      |        |        |       |       |        |               |        |        | 0.016 | 0.375    | 0.187          | 0.150 |       |  |
|                   |             |             | TNMG 332 CF    | TNMG160408-CF  |        |       |       |       |       |       |        | ●      | ●      |        |       |       |        |               |        |        |       | 0.031    | 0.375          | 0.187 | 0.150 |  |
| Finishing (wiper) |             | <b>FW</b>   | TNMG 231E FW   | TNMG110404E-FW | ●      |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        | 0.016 | 0.250    | 0.187          | 0.089 |       |  |
|                   |             |             | TNMG 232E FW   | TNMG110408E-FW | ●      |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.031    | 0.250          | 0.187 | 0.089 |  |
|                   |             |             | TNMG 332 FW    | TNMG110408E-FW | ●      |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.031    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 331 FW    | TNMG160404-FW  | ●      |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.016    | 0.375          | 0.187 | 0.150 |  |
|                   |             |             | TNMG 332 FW    | TNMG160408-FW  | ●      |       |       |       |       |       |        |        |        |        |       |       |        |               |        |        |       | 0.031    | 0.375          | 0.187 | 0.150 |  |

\* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW. Please contact our sales representatives if you have any questions.

● : Line up

Reference pages: External toolholder → C088 - Internal toolholder → D063 -  
 J-Series toolholder → G056 - TungCap → K013 -



# Insert NEGATIVE TYPE

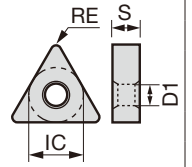
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## TN



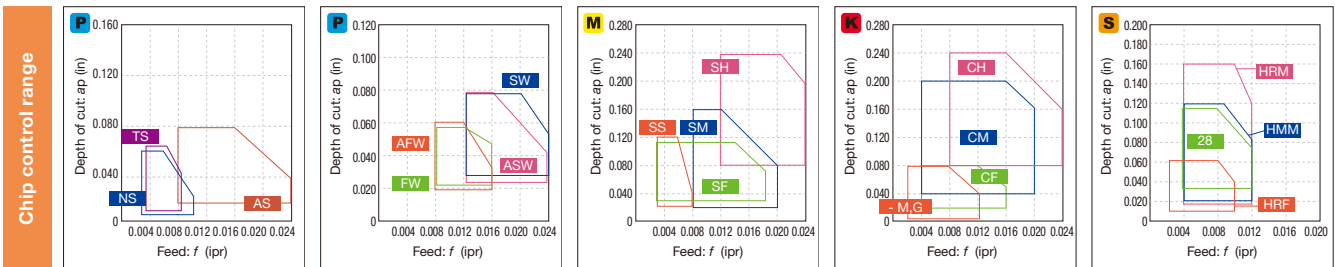
Triangular with hole

|   | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material |
|---|---------|-------------|-------------|---------------|--------------|-----------------|
| ● | ●●●●    | ●●●●        | ●●●●        | ●●●●          | ●●●●         | ●●●●            |
| ◐ | ●●●●    | ●●●●        | ●●●●        | ●●●●          | ●●●●         | ●●●●            |
| ◑ | ●●●●    | ●●●●        | ●●●●        | ●●●●          | ●●●●         | ●●●●            |

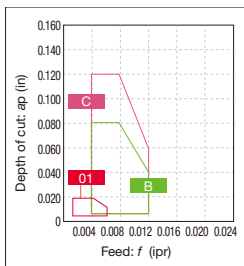


| Application              | Chipbreaker | Designation   |                 | Coated         |       |       |       |       | Coated cermet | Cermet |       | Uncoated | Dimension (in) |       |       |       |       |
|--------------------------|-------------|---------------|-----------------|----------------|-------|-------|-------|-------|---------------|--------|-------|----------|----------------|-------|-------|-------|-------|
|                          |             | Inch          | Metric          | T9215          | T9225 | GH110 | GH330 | SH725 | GT720         | NS9530 | NS520 | TH10     | RE             | IC    | S     | D1    |       |
| Finishing (sharp edge)   |             | <b>01</b>     | TNGG 330.5 F-01 | TNGG160402F-01 |       |       |       |       |               |        |       |          | 0.008          | 0.375 | 0.187 | 0.150 |       |
|                          |             |               | TNGG 331 F-01   | TNGG160404F-01 |       |       |       |       |               |        |       |          | 0.016          | 0.375 | 0.187 | 0.150 |       |
|                          |             |               | TNGG 332 F-01   | TNGG160408F-01 |       |       |       |       |               |        |       |          | 0.031          | 0.375 | 0.187 | 0.150 |       |
| Finishing                |             | <b>01</b>     | TNGG 220.5-01   | TNGG110302-01  |       |       |       |       |               | ●      |       |          | 0.008          | 0.250 | 0.125 | 0.089 |       |
|                          |             |               | TNGG 221-01     | TNGG110304-01  |       |       |       |       |               | ●      |       |          | 0.016          | 0.250 | 0.125 | 0.089 |       |
|                          |             |               | TNGG 222-01     | TNGG110308-01  |       |       |       |       |               | ●      | ●     |          | 0.031          | 0.250 | 0.125 | 0.089 |       |
|                          |             |               | TNGG 330.5-01   | TNGG160402-01  |       | ●     |       |       |               | ●      | ●     | ●        | 0.008          | 0.375 | 0.187 | 0.150 |       |
|                          |             |               | TNGG 331-01     | TNGG160404-01  |       | ●     |       |       |               | ●      | ●     | ●        | 0.016          | 0.375 | 0.187 | 0.150 |       |
|                          |             |               | TNGG 332-01     | TNGG160408-01  |       | ●     |       |       |               | ●      | ●     |          | 0.031          | 0.375 | 0.187 | 0.150 |       |
|                          |             |               | TNGG 333-01     | TNGG160412-01  |       |       |       |       | ●             | ●      |       |          | 0.047          | 0.375 | 0.187 | 0.150 |       |
|                          |             | <b>11</b>     | TNMG 221-11     | TNMG110304-11  |       |       |       |       |               |        | ●     |          |                | 0.016 | 0.250 | 0.125 | 0.089 |
|                          |             |               | TNMG 222-11     | TNMG110308-11  |       |       |       |       |               |        | ●     |          |                | 0.031 | 0.250 | 0.125 | 0.089 |
|                          |             |               | TNMG 330.5-11   | TNMG160402-11  |       |       |       |       |               |        | ●     |          | ●              | 0.008 | 0.375 | 0.187 | 0.150 |
|                          | TNMG 331-11 | TNMG160404-11 |                 |                | ●     |       |       |       | ●             |        | ●     | 0.016    | 0.375          | 0.187 | 0.150 |       |       |
|                          | TNMG 332-11 | TNMG160408-11 |                 |                |       |       |       |       | ●             |        |       | 0.031    | 0.375          | 0.187 | 0.150 |       |       |
|                          | TNMG 431-11 | TNMG220404-11 |                 |                |       |       |       |       | ●             |        |       | 0.016    | 0.500          | 0.187 | 0.203 |       |       |
|                          | TNMG 432-11 | TNMG220408-11 |                 |                |       |       |       |       | ●             |        |       | 0.031    | 0.500          | 0.187 | 0.203 |       |       |
| Finishing for mild steel |             | <b>17</b>     | TNMG 331-17     | TNMG160404-17  |       | ●     | ●     |       |               |        |       | 0.016    | 0.375          | 0.187 | 0.150 |       |       |
|                          |             |               | TNMG 332-17     | TNMG160408-17  |       | ●     |       |       |               |        |       | 0.031    | 0.375          | 0.187 | 0.150 |       |       |
| Boring (double sided)    |             | <b>CB</b>     | TNMG 221 CB     | TNMG110304-CB  | ●     |       |       |       |               | ●      |       | 0.016    | 0.250          | 0.125 | 0.089 |       |       |
|                          |             |               | TNMG 222 CB     | TNMG110308-CB  | ●     |       |       |       |               |        | ●     |          | 0.031          | 0.250 | 0.125 | 0.089 |       |

● : Line up



\*-M,G: Without chipbreaker



Reference pages: External toolholder → **C088** - Internal toolholder → **D063** -  
 J-Series toolholder → **G056** - TungCap → **K013** -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
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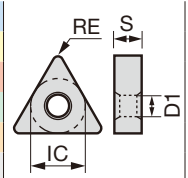
# Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

## TN



|               | P     | M     | K     | N     | S     | H     |
|---------------|-------|-------|-------|-------|-------|-------|
| Steel         | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● |
| Stainless     | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● |
| Cast iron     | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● |
| Non-ferrous   | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● |
| Superalloy    | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● |
| Hard material | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● | ●●●●● |



| Application               | Chipbreaker               | Designation                            | Coated |        |       |       |       |      |      |       |       |       |        |        |        | Coated cermet | Cermet |       | Uncoated | Dimension (in) |        |       |      |    |       |       |       |       |       |       |       |
|---------------------------|---------------------------|--|--------|--------|-------|-------|-------|------|------|-------|-------|-------|--------|--------|--------|---------------|--------|-------|----------|----------------|--------|-------|------|----|-------|-------|-------|-------|-------|-------|-------|
|                           |                           |  | T9205  | T9215  | T9225 | T9235 | T6215 | T505 | T515 | T5105 | T5115 | T5125 | AH8005 | AH8015 | AH6225 | AH6235        | AH725  | AH110 | AH120    | GT720          | NS9530 | NS520 | TH10 | RE | IC    | S     | D1    |       |       |       |       |
|                           |                           |  | Inch   | Metric |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       |       |       |       |       |
| Medium cutting            |                           | <b>DM</b> TNMG 331 DM TNMG160404-DM    | ●      | ●      | ●     | ●     |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    | 0.016 | 0.375 | 0.187 | 0.150 |       |       |       |
|                           |                           | TNMG 332 DM TNMG160408-DM              | ●      | ●      | ●     | ●     |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       | 0.031 | 0.375 | 0.187 | 0.150 |       |       |
|                           |                           | TNMG 333 DM TNMG160412-DM              | ●      | ●      | ●     | ●     |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |
|                           |                           | TNMG 334 DM TNMG160416-DM              | ●      | ●      | ●     | ●     |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.063 | 0.375 | 0.187 | 0.150 |       |
|                           |                           | <b>All-round</b> TNMG 221 TNMG110304   | ●      | ●      |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        | ●     | ●    |    |       | 0.016 | 0.250 | 0.125 | 0.089 |       |       |
|                           |                           | TNMG 222 TNMG110308                    | ●      | ●      |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        | ●     | ●    |    |       | 0.031 | 0.250 | 0.125 | 0.089 |       |       |
|                           |                           | TNMG 321 TNMG160304                    |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       | ●    | ●  |       |       | 0.016 | 0.375 | 0.125 | 0.150 |       |
|                           |                           | TNMG 322 TNMG160308                    |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       | ●    | ●  |       |       | 0.031 | 0.375 | 0.125 | 0.150 |       |
|                           |                           | TNMG 331 TNMG160404                    | ●      | ●      | ●     | ●     |       | ●    | ●    | ●     | ●     | ●     |        |        |        |               |        | ●     | ●        |                |        |       | ●    | ●  | ●     |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                           |                           | TNMG 332 TNMG160408                    | ●      | ●      | ●     | ●     |       | ●    | ●    | ●     | ●     | ●     |        |        |        |               |        | ●     | ●        | ●              |        |       |      | ●  | ●     | ●     |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 333 TNMG160412                    | ●      | ●      | ●     | ●     |       | ●    | ●    | ●     | ●     | ●     |        |        |        |               |        | ●     | ●        |                |        |       |      | ●  | ●     | ●     |       | 0.047 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 334 TNMG160416                    | ●      | ●      | ●     | ●     |       |      |      |       |       | ●     |        |        |        |               |        |       |          |                |        |       |      | ●  | ●     | ●     |       | 0.063 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 335 TNMG160420                    | ●      | ●      | ●     | ●     |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      | ●  | ●     | ●     |       | 0.078 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 432 TNMG220408                    | ●      | ●      | ●     | ●     |       |      |      |       |       | ●     | ●      |        |        |               |        |       |          |                |        |       |      | ●  | ●     |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|                           |                           | TNMG 433 TNMG220412                    | ●      | ●      | ●     | ●     |       |      |      |       |       | ●     | ●      |        |        |               |        | ●     |          |                |        |       |      | ●  | ●     |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
| TNMG 434 TNMG220416       | ●                         | ●                                      | ●      | ●      |       |       |       |      |      | ●     | ●     |       |        |        |        | ●             |        |       |          |                |        | ●     | ●    |    |       | 0.063 | 0.500 | 0.187 | 0.203 |       |       |
| TNMG 542 TNMG270608       |                           |  |        | ●      |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       | ●    | ●  |       |       | 0.031 | 0.625 | 0.250 | 0.250 |       |
| TNMG 543 TNMG270612       |                           |  |        | ●      |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       | ●    | ●  |       |       | 0.047 | 0.625 | 0.250 | 0.250 |       |
| TNMG 544 TNMG270616       |                           |  |        | ●      |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       | ●    | ●  |       |       | 0.063 | 0.625 | 0.250 | 0.250 |       |
| Medium cutting            |                           | <b>SM</b> TNMG 231E SM TNMG110404E-SM  |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       | 0.016 | 0.250 | 0.187 | 0.089 |       |       |
|                           |                           | TNMG 232E SM TNMG110408E-SM            |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.031 | 0.250 | 0.187 | 0.089 |       |
|                           |                           | TNMG 331 SM TNMG160404-SM              |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                           | TNMG 332 SM TNMG160408-SM |  |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                           | TNMG 333 SM TNMG160412-SM |  |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |
|                           | TNMG 432 SM TNMG220408-SM |  |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                           | TNMG 433 SM TNMG220412-SM |  |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|                           |                           | <b>SDM</b> TNMG 331 SDM TNMG160404-SDM |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 332 SDM TNMG160408-SDM            |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 333 SDM TNMG160412-SDM            |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |
|                           |                           | <b>HRM</b> TNMG 331 HRM TNMG160404-HRM |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 332 HRM TNMG160408-HRM            |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                           |                           | TNMG 333 HRM TNMG160412-HRM            |        |        |       |       |       |      |      |       |       |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |
|                           |                           | <b>CM</b> TNMG 331 CM TNMG160404-CM    | ●      | ●      |       |       | ●     | ●    | ●    | ●     | ●     | ●     |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                           |                           | TNMG 332 CM TNMG160408-CM              | ●      | ●      |       |       | ●     | ●    | ●    | ●     | ●     | ●     |        |        |        |               |        |       |          |                |        |       |      |    |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
| TNMG 333 CM TNMG160412-CM |                           | ●                                      | ●      |        |       | ●     | ●     | ●    | ●    | ●     | ●     |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |
| TNMG 432 CM TNMG220408-CM |                           | ●                                      | ●      |        |       | ●     | ●     | ●    | ●    | ●     | ●     |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| TNMG 433 CM TNMG220412-CM |                           | ●                                      | ●      |        |       | ●     | ●     | ●    | ●    | ●     | ●     |       |        |        |        |               |        |       |          |                |        |       |      |    |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |

● : Line up

Reference pages: External toolholder → C088 - Internal toolholder → D063 -  
 J-Series toolholder → G056 - TungCap → K013 -











# Insert NEGATIVE TYPE

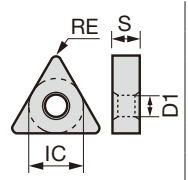
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## TN



Triangular  
with hole

|               | P | M | K | N | S | H |
|---------------|---|---|---|---|---|---|
| Steel         | ● |   |   |   |   | ● |
| Stainless     |   | ● |   |   |   | ● |
| Cast iron     | ● | ● | ● | ● | ✱ | ● |
| Non-ferrous   |   |   |   | ● |   |   |
| Superalloy    |   |   |   |   | ● |   |
| Hard material |   |   |   |   |   | ● |



| Application                 | Chipbreaker               | Designation | Coated      |            |       |       |       |       | Coated<br>cermet | Cermet | Uncoated |      | Ceramic |      |      |       | Dimension (in) |       |       |       |
|-----------------------------|---------------------------|-------------|-------------|------------|-------|-------|-------|-------|------------------|--------|----------|------|---------|------|------|-------|----------------|-------|-------|-------|
|                             |                           |             | T505        | T515       | T5105 | T5115 | T5125 | GH110 | GT720            | NS520  | TH03     | TH10 | FX105   | LX10 | LX11 | LX21  | RE             | IC    | S     | D1    |
|                             |                           |             | Inch        | Metric     |       |       |       |       |                  |        |          |      |         |      |      |       |                |       |       |       |
| Finishing to medium cutting | -                         | TNMA 231E   | TNMA110404E | ●          |       |       |       |       |                  |        |          |      |         |      |      | 0.016 | 0.250          | 0.187 | 0.089 |       |
|                             |                           | TNMA 232E   | TNMA110408E | ●          |       |       |       |       |                  |        |          |      |         |      |      | 0.031 | 0.250          | 0.187 | 0.089 |       |
|                             |                           | TNMA 233E   | TNMA110412E | ●          |       |       |       |       |                  |        |          |      |         |      |      | 0.047 | 0.250          | 0.187 | 0.089 |       |
|                             |                           | TNMA 331    | TNMA160404  | ●          | ●     | ●     | ●     |       |                  |        | ●        | ●    |         |      |      | 0.016 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNMA 332    | TNMA160408  | ●          | ●     | ●     | ●     | ●     | ●                |        | ●        | ●    |         |      |      | 0.031 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNMA 333    | TNMA160412  | ●          | ●     | ●     | ●     |       |                  |        |          | ●    |         |      |      | 0.047 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNMA 334    | TNMA160416  |            | ●     | ●     | ●     |       |                  |        |          |      |         |      |      | 0.063 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNMA 335    | TNMA160420  |            | ●     | ●     | ●     |       |                  |        |          |      |         |      |      | 0.078 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNMA 431    | TNMA220404  |            |       | ●     | ●     |       |                  |        |          |      |         |      |      | 0.016 | 0.500          | 0.187 | 0.203 |       |
|                             |                           | TNMA 432    | TNMA220408  |            |       | ●     | ●     |       |                  |        |          |      |         |      |      | 0.031 | 0.500          | 0.187 | 0.203 |       |
|                             |                           | TNMA 433    | TNMA220412  |            |       | ●     | ●     |       |                  |        |          |      |         |      |      | 0.047 | 0.500          | 0.187 | 0.203 |       |
|                             |                           | TNMA 434    | TNMA220416  |            |       | ●     | ●     |       |                  |        |          |      |         |      |      | 0.063 | 0.500          | 0.187 | 0.203 |       |
|                             |                           | TNMA 438    | TNMA220432  |            |       |       |       |       |                  |        |          | ●    |         |      |      | 0.125 | 0.500          | 0.187 | 0.203 |       |
|                             | Finishing to fine cutting | -           | TNGA 221    | TNGA110304 |       |       |       |       |                  |        |          | ●    | ●       |      |      |       | 0.016          | 0.250 | 0.125 | 0.089 |
|                             |                           |             | TNGA 222    | TNGA110308 |       |       |       |       |                  |        |          |      | ●       |      |      |       | 0.031          | 0.250 | 0.125 | 0.089 |
|                             |                           |             | TNGA 321    | TNGA160304 |       |       |       |       |                  |        |          |      | ●       |      |      |       | 0.016          | 0.375 | 0.125 | 0.150 |
|                             |                           |             | TNGA 322    | TNGA160308 |       |       |       |       |                  |        |          |      | ●       |      |      |       | 0.031          | 0.375 | 0.125 | 0.150 |
|                             |                           | TNGA 330.5  | TNGA160402  |            |       |       |       |       |                  |        |          |      | ●       | ▲    |      | 0.008 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNGA 331    | TNGA160404  |            |       |       | ●     |       | ●                |        | ●        | ●    | ●       | ▲    | ●    | 0.016 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNGA 332    | TNGA160408  |            |       |       | ●     |       | ●                |        | ●        | ●    | ●       | ▲    | ●    | 0.031 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNGA 333    | TNGA160412  |            |       |       | ●     |       | ●                |        | ●        | ●    | ●       | ▲    | ●    | 0.047 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNGA 334    | TNGA160416  |            |       |       |       |       |                  |        | ●        | ●    | ●       | ▲    | ●    | 0.063 | 0.375          | 0.187 | 0.150 |       |
|                             |                           | TNGA 432    | TNGA220408  |            |       |       |       |       |                  |        |          | ●    |         |      |      | 0.031 | 0.500          | 0.187 | 0.203 |       |

- : Line up
- ▲ : To be discontinued

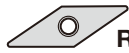
Reference pages: External toolholder → C088 - Internal toolholder → D063 -  
J-Series toolholder → G056 - TungCap → K013 -



# Insert NEGATIVE TYPE

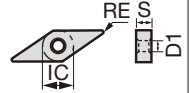
● : Continuous cutting  
 ◐ : Light interrupted cutting  
 ✳ : Heavy interrupted cutting

## VN



**Rhombic, 35°  
with hole**

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>P</b> Steel         | ● | ◐ | ◐ | ✳ | ● |   |   | ◐ | ✳ | ● | ◐ | ◐ |   | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ |
| <b>M</b> Stainless     |   | ◐ | ◐ | ◐ | ● | ● | ● | ◐ | ◐ | ✳ | ◐ | ◐ |   |   |   |   |   |   |   |   |
| <b>K</b> Cast iron     | ◐ | ◐ | ◐ | ◐ | ● |   |   |   |   |   |   |   | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ |
| <b>N</b> Non-ferrous   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>S</b> Superalloy    |   |   |   |   | ● | ● | ● | ● | ● | ● | ● | ● |   |   |   |   |   |   |   |   |
| <b>H</b> Hard material |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



| Application              | Chipbreaker    | Designation       |                 | Coated |       |       |       |       |        |        |        | Coated cermet |       |       | Cermet |       | Dimension (in) |        |       |       |       |       |       |  |  |  |  |
|--------------------------|----------------|-------------------|-----------------|--------|-------|-------|-------|-------|--------|--------|--------|---------------|-------|-------|--------|-------|----------------|--------|-------|-------|-------|-------|-------|--|--|--|--|
|                          |                | Inch              | Metric          | T9205  | T9215 | T9225 | T9235 | T6215 | AH8005 | AH8015 | AH6225 | AH6235        | AH120 | GH330 | GT9530 | GT720 | AT9530         | NS9530 | NS520 | RE    | IC    | S     | D1    |  |  |  |  |
|                          |                |                   |                 |        |       |       |       |       |        |        |        |               |       |       |        |       |                |        |       |       |       |       |       |  |  |  |  |
| Finishing                | <b>TF</b>      | VNMG 2.330.5E TF  | VNMG120402E-TF  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.008 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 2.331E TF    | VNMG120404E-TF  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.016 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 2.332E TF    | VNMG120408E-TF  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.031 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 330.5 TF     | VNMG160402-TF   | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.008 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 331 TF       | VNMG160404-TF   | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.016 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 332 TF       | VNMG160408-TF   | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       | ●      |       |                | ●      |       | 0.031 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          | <b>TSF</b>     | VNMG 2.330.5E TSF | VNMG120402E-TSF | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       | ●      | ●     |                | ●      |       | 0.008 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 2.331E TSF   | VNMG120404E-TSF | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       | ●      | ●     |                | ●      |       | 0.016 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 2.332E TSF   | VNMG120408E-TSF | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       | ●      | ●     |                | ●      |       | 0.031 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 330.5 TSF    | VNMG160402-TSF  | ●      | ●     |       |       | ●     | ●      | ●      | ●      |               |       |       | ●      | ●     |                | ●      |       | 0.008 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 331 TSF      | VNMG160404-TSF  | ●      | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●             |       |       | ●      | ●     |                | ●      |       | 0.016 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 332 TSF      | VNMG160408-TSF  | ●      | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●             |       |       | ●      | ●     |                | ●      |       | 0.031 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 333 TSF      | VNMG160412-TSF  | ●      | ●     | ●     | ●     | ●     | ●      | ●      | ●      | ●             |       |       |        |       |                | ●      |       | 0.047 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          | <b>PS</b>      | VNMG 2.330.5E PS  | VNMG120402E-PS  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.008 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 2.331E PS    | VNMG120404E-PS  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.016 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          | VNMG 2.332E PS | VNMG120408E-PS    | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.031 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 330.5 PS  | VNMG160402-PS     | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.008 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 331 PS    | VNMG160404-PS     | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.016 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 332 PS    | VNMG160408-PS     | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.031 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 333 PS    | VNMG160412-PS     | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.047 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
| Finishing for mild steel | <b>ZF</b>      | VNMG 2.330.5E ZF  | VNMG120402E-ZF  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       | ●              |        | 0.008 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 2.331E ZF    | VNMG120404E-ZF  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       | ●              |        | 0.016 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 2.332E ZF    | VNMG120408E-ZF  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       | ●              |        | 0.031 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 330.5 ZF     | VNMG160402-ZF   | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       | ●              |        | 0.008 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 331 ZF       | VNMG160404-ZF   | ●      | ●     | ●     | ●     | ●     | ●      | ●      | ●      |               |       |       | ●      | ●     |                | ●      |       | 0.016 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 332 ZF       | VNMG160408-ZF   | ●      | ●     | ●     | ●     | ●     | ●      | ●      | ●      |               |       |       | ●      | ●     |                | ●      |       | 0.031 | 0.375 | 0.187 | 0.150 |  |  |  |  |
|                          |                | VNMG 333 ZF       | VNMG160412-ZF   | ●      | ●     | ●     | ●     | ●     | ●      | ●      | ●      |               |       |       |        |       | ●              |        | 0.047 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | <b>TS</b>      | VNMG 2.330.5E TS  | VNMG120402E-TS  | ●      | ●     |       |       | ●     | ●      | ●      |        |               |       |       |        |       |                | ●      |       | 0.008 | 0.281 | 0.187 | 0.150 |  |  |  |  |
|                          | VNMG 2.331E TS | VNMG120404E-TS    | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.016 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 2.332E TS | VNMG120408E-TS    | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.031 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 330.5 TS  | VNMG160402-TS     | ●               | ●      |       |       | ●     | ●     | ●      |        |        |               |       |       |        |       | ●              |        | 0.008 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 331 TS    | VNMG160404-TS     | ●               | ●      | ●     | ●     | ●     | ●     | ●      |        |        |               |       | ●     | ●      |       | ●              | ●      | 0.016 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 332 TS    | VNMG160408-TS     | ●               | ●      | ●     | ●     | ●     | ●     | ●      |        |        |               |       | ●     | ●      |       | ●              | ●      | 0.031 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | VNMG 333 TS    | VNMG160412-TS     | ●               | ●      | ●     | ●     | ●     | ●     | ●      | ●      |        |               |       |       |        |       | ●              |        | 0.047 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
| Finishing                | <b>SF</b>      | VNMG 331 SF       | VNMG160404-SF   |        |       |       |       | ●     | ●      |        |        |               |       |       |        |       |                |        | 0.016 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 332 SF       | VNMG160408-SF   |        |       |       |       | ●     | ●      |        |        |               |       |       |        |       |                |        | 0.031 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                |                   |                 |        |       |       |       |       |        |        |        |               |       |       |        |       |                |        |       |       |       |       |       |  |  |  |  |
|                          | <b>SS</b>      | VNMG 2.331E SS    | VNMG120404E-SS  |        |       |       |       | ●     |        | ●      | ●      |               |       |       |        |       |                |        | 0.016 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 2.332E SS    | VNMG120408E-SS  |        |       |       |       | ●     |        | ●      | ●      |               |       |       |        |       |                |        | 0.031 | 0.281 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 331 SS       | VNMG160404-SS   |        |       |       |       | ●     |        | ●      | ●      | ●             | ●     |       |        |       |                |        | 0.016 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 332 SS       | VNMG160408-SS   |        |       |       |       | ●     |        | ●      | ●      | ●             | ●     |       |        |       |                |        | 0.031 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 333 SS       | VNMG160412-SS   |        |       |       |       | ●     |        | ●      | ●      | ●             | ●     |       |        |       |                |        | 0.047 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          | <b>HRF</b>     | VNMG 331 HRF      | VNMG160404-HRF  |        |       |       |       | ●     | ●      |        |        |               |       |       |        |       |                |        | 0.016 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |
|                          |                | VNMG 332 HRF      | VNMG160408-HRF  |        |       |       |       | ●     | ●      |        |        |               |       |       |        |       |                |        | 0.031 | 0.375 | 0.187 | 0.150 |       |  |  |  |  |

● : Line up

Reference pages: External toolholder → **C103** -  
 J-Series toolholder → **G068**

Internal toolholder → **D077** -  
 TungCap → **K014** -

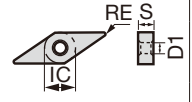
# Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

## VN

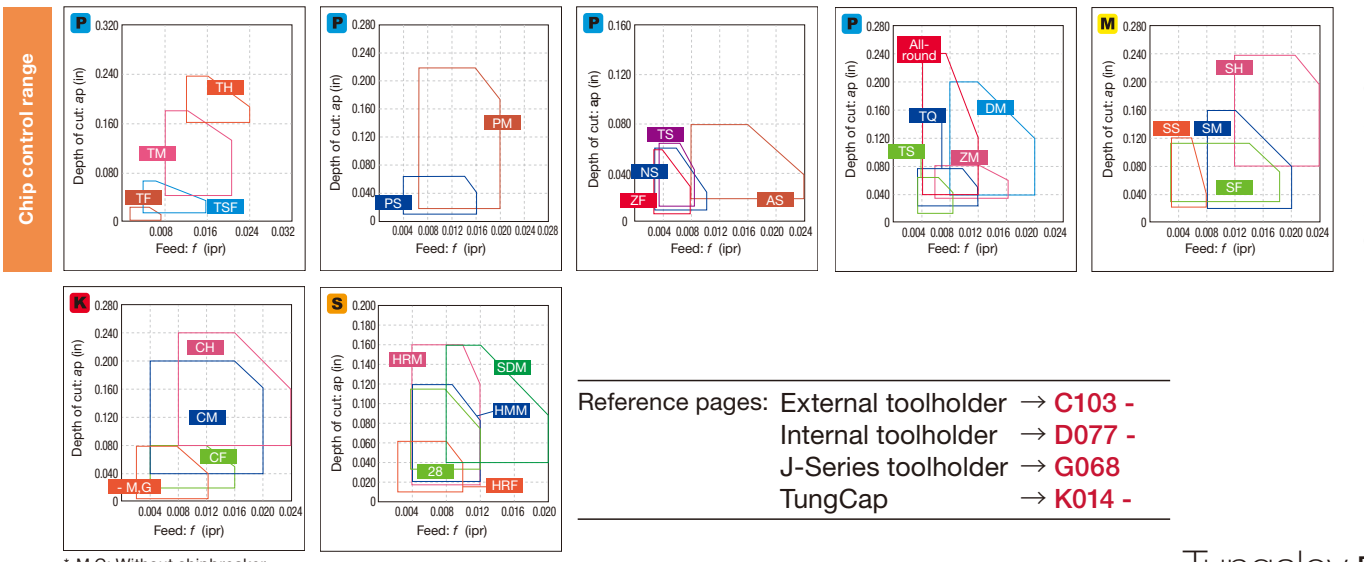
 Rhombic, 35° with hole

|               | P    | M  | K    | N    | S    | H    | T9205 | T9215 | T9225 | T9235 | T6215 | T5105 | T5115 | AH8015 | AH6225 | AH110 | AH120 | GH110 | GH330 | GT9530 | NS9530 | NS520 | TH10 |
|---------------|------|----|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|--------|--------|-------|------|
| Steel         | ●●●● | ●● | ●●●● | ●●●● | ●●●● | ●●●● | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●● |
| Stainless     | ●●   | ●● | ●●   | ●●   | ●●   | ●●   | ●●    | ●●    | ●●    | ●●    | ●●    | ●●    | ●●    | ●●     | ●●     | ●●    | ●●    | ●●    | ●●    | ●●     | ●●     | ●●    | ●●   |
| Cast iron     | ●●●● | ●● | ●●●● | ●●●● | ●●●● | ●●●● | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●● |
| Non-ferrous   | ●●●● | ●● | ●●●● | ●●●● | ●●●● | ●●●● | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●● |
| Superalloy    | ●●●● | ●● | ●●●● | ●●●● | ●●●● | ●●●● | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●● |
| Hard material | ●●●● | ●● | ●●●● | ●●●● | ●●●● | ●●●● | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●●  | ●●●●  | ●●●●  | ●●●●   | ●●●●   | ●●●●  | ●●●● |



| Application                   | Chipbreaker          | Designation           | Coated                |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    | Dimension (in) |          |    |   |   |       |       |       |       |       |       |       |       |       |
|-------------------------------|----------------------|-----------------------|-----------------------|----------------------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|--------|--------|-------|------|--------|----|----------------|----------|----|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                               |                      |                       | Coated cermet         |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      | Cermet |    |                | Uncoated |    |   |   |       |       |       |       |       |       |       |       |       |
|                               |                      |                       | T9205                 | T9215                | T9225 | T9235 | T6215 | T5105 | T5115 | AH8015 | AH6225 | AH110 | AH120 | GH110 | GH330 | GT9530 | NS9530 | NS520 | TH10 | RE     | IC |                | S        | D1 |   |   |       |       |       |       |       |       |       |       |       |
| Finishing                     | <b>CF</b>            | <b>VNMG 331 CF</b>    |                       |                      |       |       |       |       |       |        |        |       | ●     | ●     |       |        |        |       |      |        |    |                |          |    |   |   | 0.016 | 0.375 | 0.187 | 0.150 |       |       |       |       |       |
|                               |                      | <b>VNMG 332 CF</b>    |                       |                      |       |       |       |       |       |        |        |       | ●     | ●     |       |        |        |       |      |        |    |                |          |    |   |   |       | 0.031 | 0.375 | 0.187 | 0.150 |       |       |       |       |
|                               | <b>01</b>            | <b>VNGG 330.5-01</b>  | <b>VNGG160402-01</b>  |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       | 0.008 | 0.375 | 0.187 | 0.150 |       |
|                               |                      | <b>VNGG 331-01</b>    | <b>VNGG160404-01</b>  |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    | ● | ● | ●     |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                               |                      | <b>VNGG 332-01</b>    | <b>VNGG160408-01</b>  |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    | ● | ● |       |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                               | Medium cutting       | <b>11</b>             | <b>VNMG 331-11</b>    | <b>VNMG160404-11</b> |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   | ● | ●     | ●     |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |
| <b>VNMG 332-11</b>            |                      |                       | <b>VNMG160408-11</b>  | ●                    |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    | ● | ● |       |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |       |
| <b>VNMG 333-11</b>            |                      |                       | <b>VNMG160412-11</b>  |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    | ●              | ●        |    |   | ● | ●     |       |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |
| <b>TM</b>                     |                      | <b>VNMG 2.331E TM</b> | <b>VNMG120404E-TM</b> |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       | 0.016 | 0.281 | 0.187 | 0.150 |       |
|                               |                      | <b>VNMG 2.332E TM</b> | <b>VNMG120408E-TM</b> |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       | 0.031 | 0.281 | 0.187 | 0.150 |       |
|                               |                      | <b>VNMG 2.333E TM</b> | <b>VNMG120412E-TM</b> |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       | 0.047 | 0.281 | 0.187 | 0.150 |       |
| Medium cutting for mild steel | <b>PM</b>            | <b>VNMG 331 PM</b>    | <b>VNMG160404-PM</b>  | ●                    | ●     | ●     | ●     |       |       |        |        |       |       | ●     | ●     |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                               |                      | <b>VNMG 332 PM</b>    | <b>VNMG160408-PM</b>  | ●                    | ●     | ●     | ●     | ●     |       |        |        |       |       |       | ●     | ●      | ●      | ●     |      |        |    |                |          |    |   |   |       |       |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                               |                      | <b>VNMG 333 PM</b>    | <b>VNMG160412-PM</b>  |                      |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    | ●              | ●        |    |   | ● | ●     |       |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |
|                               | <b>ZM</b>            | <b>VNMG 2.331E ZM</b> | <b>VNMG120404E-ZM</b> |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       |       | 0.016 | 0.281 | 0.187 | 0.150 |
|                               |                      | <b>VNMG 2.332E ZM</b> | <b>VNMG120408E-ZM</b> |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       |       | 0.031 | 0.281 | 0.187 | 0.150 |
|                               |                      | <b>VNMG 2.333E ZM</b> | <b>VNMG120412E-ZM</b> |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       |       | 0.047 | 0.281 | 0.187 | 0.150 |
|                               |                      | <b>VNMG 331 ZM</b>    | <b>VNMG160404-ZM</b>  |                      | ●     | ●     |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       |       |       | 0.016 | 0.375 | 0.187 | 0.150 |
| <b>VNMG 332 ZM</b>            | <b>VNMG160408-ZM</b> |                       | ●                     | ●                    |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |       |       |
| <b>VNMG 333 ZM</b>            | <b>VNMG160412-ZM</b> |                       | ●                     | ●                    |       |       |       |       |       |        |        |       |       |       |       |        |        |       |      |        |    |                |          |    |   |   |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |       |

● : Line up



\*-M,G: Without chipbreaker



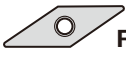




# Insert NEGATIVE TYPE

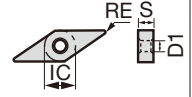
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## VN



**Rhombic, 35°  
with hole**

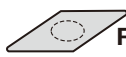
|  | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material |
|--|---------|-------------|-------------|---------------|--------------|-----------------|
|  | ●●●●✱   | ●●          | ●●          | ●●            | ●●           | ●●              |
|  |         | ●●          | ●●          | ●●            | ●●           | ●●              |
|  |         |             | ●●          | ●●            | ●●           | ●●              |
|  |         |             |             | ●●            | ●●           | ●●              |
|  |         |             |             |               | ●●           | ●●              |
|  |         |             |             |               |              | ●●              |



| Application                 | Chipbreaker | Designation |             | Coated        |       |      |       |       |       |        |        |       | Cermet | Uncoated | Ceramic |       | Dimension (in) |       |       |       |       |       |
|-----------------------------|-------------|-------------|-------------|---------------|-------|------|-------|-------|-------|--------|--------|-------|--------|----------|---------|-------|----------------|-------|-------|-------|-------|-------|
|                             |             | Inch        | Metric      | T9215         | T9225 | T515 | T5105 | T5115 | T5125 | AH8005 | AH8015 | AH110 | AH120  | NS520    | KS05F   | TH10  | LX10           | LX11  | RE    | IC    | S     | D1    |
| Medium cutting              |             |             | VNMG 331-28 | VNMG160404-28 |       |      |       |       |       |        |        |       |        | ●        |         |       |                | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                             |             |             | VNMG 332-28 | VNMG160408-28 |       |      |       |       |       |        |        |       |        |          | ●       |       |                |       | 0.031 | 0.375 | 0.187 | 0.150 |
| Medium cutting              |             |             | VNMG 331-33 | VNMG160404-33 | ●     |      |       |       |       |        |        |       |        |          | ●       |       |                | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                             |             |             | VNMG 332-33 | VNMG160408-33 | ●●    |      |       |       |       |        |        |       |        |          |         | ●     |                |       | 0.031 | 0.375 | 0.187 | 0.150 |
| Finishing to medium cutting |             |             | VNMA 2.331E | VNMA120404E   |       | ●    |       |       |       |        |        |       |        |          |         |       |                | 0.016 | 0.281 | 0.187 | 0.150 |       |
|                             |             |             | VNMA 2.332E | VNMA120408E   |       | ●    |       |       |       |        |        |       |        |          |         |       |                |       | 0.031 | 0.281 | 0.187 | 0.150 |
|                             |             |             | VNMA 330.5  | VNMA160402    |       |      |       |       |       |        |        |       |        |          |         | ●     |                |       | 0.008 | 0.375 | 0.187 | 0.150 |
|                             |             |             | VNMA 331    | VNMA160404    |       |      | ●●●   |       |       |        |        |       | ●      |          | ●       |       |                |       | 0.016 | 0.375 | 0.187 | 0.150 |
|                             |             |             | VNMA 332    | VNMA160408    |       |      | ●●●   |       |       |        |        |       | ●      |          | ●       |       |                |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                             |             |             | VNGA 331    | VNGA160404    |       |      |       |       |       |        |        |       |        |          |         |       | ●▲             |       | 0.016 | 0.375 | 0.187 | 0.150 |
| VNGA 332                    | VNGA160408  |             |             |               |       |      |       |       |       |        |        |       |        | ●▲       |         | 0.031 | 0.375          | 0.187 | 0.150 |       |       |       |

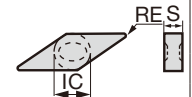
● : Line up  
 ▲ : To be discontinued

## VN



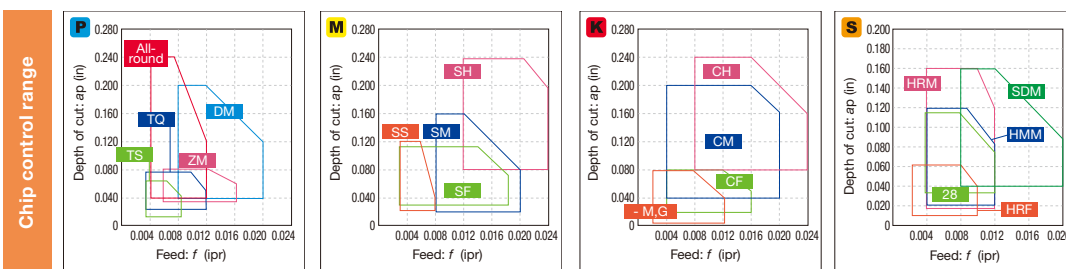
**Rhombic, 35°  
without hole**

|  | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material |
|--|---------|-------------|-------------|---------------|--------------|-----------------|
|  |         |             | ●●          |               |              |                 |
|  |         |             | ●●          |               |              |                 |
|  |         |             |             | ●●            |              |                 |
|  |         |             |             |               | ●●           |                 |
|  |         |             |             |               |              | ●●              |



| Application                 | Chipbreaker | Designation |            | Ceramic | Dimension (in) |       |       |    |
|-----------------------------|-------------|-------------|------------|---------|----------------|-------|-------|----|
|                             |             | Inch        | Metric     | FX105   | RE             | IC    | S     | D1 |
| Finishing to medium cutting |             | VNGD 353    | VNGD160712 | ●       | 0.047          | 0.375 | 0.313 | -  |

● : Line up



\*-M,G: Without chipbreaker

Reference pages: VNMG..., VNMA..., VNGA...:

External toolholder → C103 -, Internal toolholder → D077 -

J-Series toolholder → G068, TungCap → K014 -

VNGD...: External toolholder → C109

Grade  
A  
Insert  
B  
C  
Toolholder  
D  
E  
Threading  
F  
Grooving  
G  
Miniature tool  
H  
Milling cutter  
I  
Endmill  
J  
Drilling tool  
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Negative

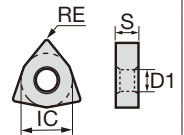
# Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊛ : Heavy interrupted cutting

## WN



|   |               |   |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |
|---|---------------|---|---|---|---|---|---|---|---|---|--|---|---|---|--|--|--|--|--|--|--|--|
| P | Steel         | ● | ◐ | ◐ | ◐ | ⊛ | ● |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |
| M | Stainless     |   | ◐ | ◐ |   |   | ● |   | ◐ | ◐ |  |   |   |   |  |  |  |  |  |  |  |  |
| K | Cast iron     | ◐ | ◐ | ◐ |   |   | ● |   |   |   |  | ◐ | ◐ | ◐ |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |   |   |   |   |   |   | ● | ◐ | ◐ |  |   |   |   |  |  |  |  |  |  |  |  |
| S | Superalloy    |   |   |   |   |   |   |   | ◐ | ◐ |  |   |   |   |  |  |  |  |  |  |  |  |
| H | Hard material |   |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |



| Application              | Chipbreaker   | Designation    | Coated                 |                        |       |       |       |      |        |        |       |       | Coated cermet |        | Cermet | Dimension (in) |       |       |       |       |       |       |
|--------------------------|---------------|----------------|------------------------|------------------------|-------|-------|-------|------|--------|--------|-------|-------|---------------|--------|--------|----------------|-------|-------|-------|-------|-------|-------|
|                          |               |                | T9205                  | T9215                  | T9225 | T9235 | T6215 | T515 | AH8015 | AH6225 | AH905 | AH120 | GT9530        | AT9530 | NS9530 | RE             | IC    | S     | D1    |       |       |       |
| Finishing                |               | <b>TF</b>      | <b>WNMG 330.5E TF</b>  | <b>WNMG060402E-TF</b>  | ●     | ●     |       |      | ●      |        |       |       |               |        |        | ●              | ●     | 0.008 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 331E TF   | WNMG060404E-TF         | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 332E TF   | WNMG060408E-TF         | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 430.5 TF  | WNMG080402-TF          | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.008 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 431 TF    | WNMG080404-TF          | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 432 TF    | WNMG080408-TF          | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |
| Finishing                |               | <b>TSF</b>     | <b>WNMG 330.5E TSF</b> | <b>WNMG060402E-TSF</b> | ●     | ●     |       |      | ●      |        |       |       |               |        | ●      | ●              | ●     | 0.008 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 331E TSF  | WNMG060404E-TSF        | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | ●     | 0.016 | 0.375 | 0.187 | 0.150 |
|                          |               | WNMG 332E TSF  | WNMG060408E-TSF        | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | ●     | 0.031 | 0.375 | 0.187 | 0.150 |
|                          |               | WNMG 333E TSF  | WNMG060412E-TSF        | ●                      | ●     |       |       |      |        | ●      |       |       |               |        |        | ●              | ●     | ●     | 0.047 | 0.375 | 0.187 | 0.150 |
|                          |               | WNMG 331 TSF   | WNMG060404-TSF         | ●                      | ●     |       |       |      |        |        |       |       |               |        |        |                | ●     | ●     | 0.016 | 0.375 | 0.187 | 0.150 |
|                          |               | WNMG 332 TSF   | WNMG060408-TSF         | ●                      | ●     |       |       |      |        |        |       |       |               |        |        |                | ●     | ●     | 0.031 | 0.375 | 0.187 | 0.150 |
|                          |               | WNMG 430.5 TSF | WNMG080402-TSF         | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | ●     | 0.008 | 0.500 | 0.187 | 0.203 |
|                          |               | WNMG 431 TSF   | WNMG080404-TSF         | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | ●     | 0.016 | 0.500 | 0.187 | 0.203 |
|                          |               | WNMG 432 TSF   | WNMG080408-TSF         | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | ●     | 0.031 | 0.500 | 0.187 | 0.203 |
|                          |               | WNMG 433 TSF   | WNMG080412-TSF         | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | ●     | 0.047 | 0.500 | 0.187 | 0.203 |
| Finishing                |               | <b>PS</b>      | <b>WNMG 330.5E PS</b>  | <b>WNMG060402E-PS</b>  | ●     | ●     |       |      | ●      |        |       |       |               |        |        | ●              | ●     | 0.008 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 331E PS   | WNMG060404E-PS         | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 332E PS   | WNMG060408E-PS         | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 430.5 PS  | WNMG080402-PS          | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | 0.008 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 431 PS    | WNMG080404-PS          | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 432 PS    | WNMG080408-PS          | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |
| Finishing for mild steel |               | <b>ZF</b>      | <b>WNMG 330.5E ZF</b>  | <b>WNMG060402E-ZF</b>  | ●     | ●     |       |      | ●      |        |       |       |               |        |        | ●              | ●     | 0.008 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 331E ZF   | WNMG060404E-ZF         | ●                      | ●     |       |       | ●    |        |        |       |       |               |        |        | ●              | ●     | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 332E ZF   | WNMG060408E-ZF         | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 333E ZF   | WNMG060412E-ZF         | ●                      | ●     |       |       |      |        |        |       |       |               |        |        | ●              | ●     | 0.047 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 331 ZF    | WNMG060404-ZF          | ●                      | ●     |       |       |      |        |        |       |       |               |        |        | ●              | ●     | 0.016 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 332 ZF    | WNMG060408-ZF          | ●                      | ●     |       |       |      |        |        |       |       |               |        |        | ●              | ●     | 0.031 | 0.375 | 0.187 | 0.150 |       |
|                          |               | WNMG 430.5 ZF  | WNMG080402-ZF          | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | 0.008 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 431 ZF    | WNMG080404-ZF          | ●                      | ●     |       |       | ●    |        | ●      |       |       |               |        |        | ●              | ●     | 0.016 | 0.500 | 0.187 | 0.203 |       |
| WNMG 432 ZF              | WNMG080408-ZF | ●              | ●                      |                        |       | ●     |       | ●    |        |        |       |       |               | ●      | ●      | 0.031          | 0.500 | 0.187 | 0.203 |       |       |       |
| Finishing                |               | <b>AS</b>      | <b>WNMG 431 AS</b>     | <b>WNMG080404-AS</b>   | ●     |       |       |      |        |        |       |       |               |        |        | ●              | ●     | 0.016 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 432 AS    | WNMG080408-AS          | ●                      | ●     | ●     |       |      |        |        |       |       |               |        |        | ●              | ●     | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                          |               | WNMG 433 AS    | WNMG080412-AS          | ●                      | ●     | ●     |       |      |        |        |       |       |               |        |        |                | ●     | ●     | 0.047 | 0.500 | 0.187 | 0.203 |
|                          |               | <b>NS</b>      | <b>WNMG 431 NS</b>     | <b>WNMG080404-NS</b>   | ●     | ●     |       |      |        |        |       |       |               |        |        |                | ●     | ●     | 0.016 | 0.500 | 0.187 | 0.203 |
| WNMG 432 NS              | WNMG080408-NS | ●              | ●                      |                        |       |       |       |      |        |        |       |       |               |        | ●      | ●              | 0.031 | 0.500 | 0.187 | 0.203 |       |       |

Reference pages: External toolholder → C121 - Internal toolholder → D083 - TungCap → K010

● : Line up

# Insert NEGATIVE TYPE

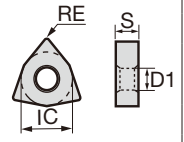
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## WN



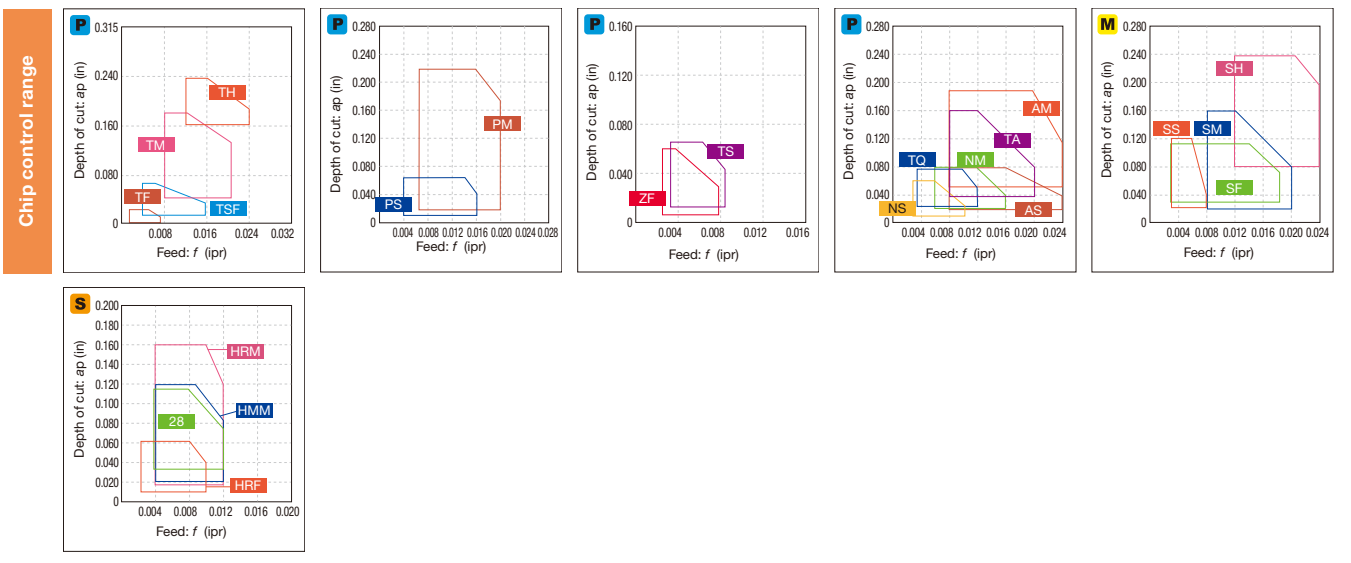
**Trigon, 80°  
with hole**

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|
| <b>P</b> Steel         | ● | ● | ● | ● | ✱ | ● |   |   |   |   |   |   |   |   |  |  |  |  |  |  |
| <b>M</b> Stainless     | ● | ● |   |   |   | ● | ● | ● | ● | ✱ | ● | ● |   |   |  |  |  |  |  |  |
| <b>K</b> Cast iron     | ● | ● |   |   |   |   |   |   |   |   | ● | ● | ● | ● |  |  |  |  |  |  |
| <b>N</b> Non-ferrous   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |
| <b>S</b> Superalloy    |   |   |   |   |   |   | ● | ● |   |   | ● | ● |   |   |  |  |  |  |  |  |
| <b>H</b> Hard material |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |



| Application | Chipbreaker         | Designation           |                       | Coated                |       |       |       |        |        |        | Coated cermet |       | Cermet |        | Dimension (in) |        |       |       |       |       |       |       |
|-------------|---------------------|-----------------------|-----------------------|-----------------------|-------|-------|-------|--------|--------|--------|---------------|-------|--------|--------|----------------|--------|-------|-------|-------|-------|-------|-------|
|             |                     | Inch                  | Metric                | T9215                 | T9225 | T9235 | T6215 | AH8005 | AH8015 | AH6225 | AH6235        | AH120 | GH330  | GT9530 | AT9530         | NS9530 | NS520 | RE    | IC    | S     | D1    |       |
|             |                     |                       |                       |                       |       |       |       |        |        |        |               |       |        |        |                |        |       |       |       |       |       |       |
| Finishing   | <b>TS</b>           | <b>WNMG 330.5E TS</b> | <b>WNMG060402E-TS</b> | ●                     | ●     |       |       |        |        |        |               |       | ●      |        |                |        | 0.008 | 0.375 | 0.187 | 0.150 |       |       |
|             |                     | <b>WNMG 331E TS</b>   | <b>WNMG060404E-TS</b> | ●                     | ●     |       |       |        |        |        |               |       |        | ●      |                |        |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|             |                     | <b>WNMG 332E TS</b>   | <b>WNMG060408E-TS</b> | ●                     | ●     |       |       |        |        |        |               |       |        | ●      |                |        |       | 0.031 | 0.375 | 0.187 | 0.150 |       |
|             |                     | <b>WNMG 330.5 TS</b>  | <b>WNMG080402-TS</b>  | ●                     | ●     |       |       |        |        |        |               |       |        |        | ●              |        |       | 0.008 | 0.500 | 0.187 | 0.203 |       |
|             |                     | <b>WNMG 431 TS</b>    | <b>WNMG080404-TS</b>  | ●                     | ●     | ●     | ●     |        |        |        |               |       |        | ●      | ●              |        |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|             |                     | <b>WNMG 432 TS</b>    | <b>WNMG080408-TS</b>  | ●                     | ●     | ●     | ●     |        |        |        |               |       |        | ●      | ●              |        |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|             | <b>SF</b>           | <b>WNMG 331 SF</b>    | <b>WNMG060404-SF</b>  |                       |       |       | ●     |        |        | ●      |               |       |        |        |                |        |       | 0.016 | 0.375 | 0.187 | 0.150 |       |
|             |                     | <b>WNMG 332 SF</b>    | <b>WNMG060408-SF</b>  |                       |       |       | ●     |        |        | ●      |               |       |        |        |                |        |       | 0.031 | 0.375 | 0.187 | 0.150 |       |
|             |                     | <b>WNMG 431 SF</b>    | <b>WNMG080404-SF</b>  |                       |       |       | ●     |        |        | ●      |               |       |        |        |                |        |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|             |                     | <b>WNMG 432 SF</b>    | <b>WNMG080408-SF</b>  |                       |       |       | ●     |        |        | ●      |               |       |        |        |                |        |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|             |                     | <b>SS</b>             | <b>WNMG 331E SS</b>   | <b>WNMG060404E-SS</b> |       |       |       |        |        |        |               |       |        |        |                |        |       |       | 0.016 | 0.375 | 0.187 | 0.150 |
|             |                     | <b>WNMG 332E SS</b>   | <b>WNMG060408E-SS</b> |                       |       |       |       |        |        |        |               |       |        |        |                |        |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
| <b>HRF</b>  | <b>WNMG 431 HRF</b> | <b>WNMG080404-HRF</b> |                       |                       |       |       |       |        | ●      | ●      |               |       |        |        |                |        | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|             | <b>WNMG 432 HRF</b> | <b>WNMG080408-HRF</b> |                       |                       |       |       |       |        | ●      | ●      |               |       |        |        |                |        | 0.031 | 0.500 | 0.187 | 0.203 |       |       |

● : Line up



Reference pages: External toolholder → **C121** - Internal toolholder → **D083** -  
 TungCap → **K010**

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
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**A**  
**B**  
**C**  
**D**  
**E**  
**F**  
**G**  
**H**  
**I**  
**J**  
**K**  
**L**  
**M**

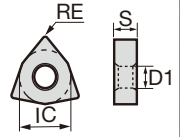
## Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

**WN**

Trigon, 80°  
with hole

|               | P         | M | K   | N | S | H |
|---------------|-----------|---|-----|---|---|---|
| Steel         | ● ● ● ● * |   |     |   |   |   |
| Stainless     | ● ●       |   |     |   |   |   |
| Cast iron     | ● ● ● ●   |   |     |   |   |   |
| Non-ferrous   |           |   | ● ● |   |   |   |
| Superalloy    |           |   |     |   |   |   |
| Hard material |           |   |     |   |   |   |



| Application              | Chipbreaker | Designation  | Coated         |                |       |       |       |       | Coated cermet |       | Cermet |       | Dimension (in) |       |       |       |       |       |       |
|--------------------------|-------------|--------------|----------------|----------------|-------|-------|-------|-------|---------------|-------|--------|-------|----------------|-------|-------|-------|-------|-------|-------|
|                          |             |              | T9205          | T9215          | T9225 | T9235 | T5105 | T5115 | GT9530        | GT720 | NS9530 | NS520 | RE             | IC    | S     | D1    |       |       |       |
|                          |             | Inch         | Metric         |                |       |       |       |       |               |       |        |       |                |       |       |       |       |       |       |
| Finishing                |             | <b>CF</b>    | WNMG 431 CF    | WNMG080404-CF  |       |       |       |       |               |       |        |       | 0.016          | 0.500 | 0.187 | 0.203 |       |       |       |
|                          |             |              | WNMG 432 CF    | WNMG080408-CF  |       |       |       |       |               |       |        |       |                | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                          |             |              | WNMG 433 CF    | WNMG080412-CF  |       |       |       |       |               |       |        |       |                | 0.047 | 0.500 | 0.187 | 0.203 |       |       |
| Finishing (wiper)        |             | <b>FW</b>    | WNMG 331E FW   | WNMG060404E-FW | ●     | ●     | ●     |       | ●             |       | ●      |       | 0.016          | 0.375 | 0.187 | 0.150 |       |       |       |
|                          |             |              | WNMG 332E FW   | WNMG060408E-FW | ●     | ●     | ●     |       | ●             |       | ●      |       | 0.031          | 0.375 | 0.187 | 0.150 |       |       |       |
|                          |             |              | WNMG 431 FW    | WNMG080404-FW  |       |       | ●     | ●     |               | ●     |        | ●     |                | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|                          |             |              | WNMG 432 FW    | WNMG080408-FW  |       |       | ●     | ●     | ●             | ●     |        | ●     |                | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                          |             | *Wiper       |                |                |       |       |       |       |               |       |        |       |                |       |       |       |       |       |       |
|                          |             | <b>AFW</b>   | WNMG 331 AFW   | WNMG060404-AFW |       | ●     | ●     |       |               |       |        | ●     |                | 0.016 | 0.375 | 0.187 | 0.150 |       |       |
|                          |             |              | WNMG 332 AFW   | WNMG060408-AFW |       | ●     | ●     | ●     | ●             |       |        | ●     |                | 0.031 | 0.375 | 0.187 | 0.150 |       |       |
|                          |             |              | WNMG 431 AFW   | WNMG080404-AFW |       |       | ●     | ●     |               |       |        | ●     |                | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|                          |             | WNMG 432 AFW | WNMG080408-AFW |                |       | ●     | ●     | ●     | ●             |       | ●      |       | 0.031          | 0.500 | 0.187 | 0.203 |       |       |       |
|                          | *Wiper      |              |                |                |       |       |       |       |               |       |        |       |                |       |       |       |       |       |       |
| Finishing                |             | <b>01</b>    | WNGG 430.5-01  | WNGG080402-01  |       |       |       |       |               |       |        | ●     | ●              |       | 0.008 | 0.500 | 0.187 | 0.203 |       |
|                          |             |              | WNGG 431-01    | WNGG080404-01  |       |       |       |       |               |       | ●      |       | ●              | ●     |       | 0.016 | 0.500 | 0.187 | 0.203 |
|                          |             |              | WNGG 432-01    | WNGG080408-01  |       |       |       |       |               |       | ●      |       | ●              |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| Finishing                |             | <b>11</b>    | WNMG 431-11    | WNMG080404-11  |       |       |       |       |               |       |        | ●     |                | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|                          |             |              | WNMG 432-11    | WNMG080408-11  |       |       |       |       |               |       |        |       | ●              |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| Finishing for mild steel |             | <b>17</b>    | WNMG 431-17    | WNMG080404-17  |       |       |       |       |               |       |        | ●     |                | 0.016 | 0.500 | 0.187 | 0.203 |       |       |
|                          |             |              | WNMG 432-17    | WNMG080408-17  |       |       |       |       |               |       |        |       | ●              |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
| Boring (double sided)    |             | <b>CB</b>    | WNMG 331 CB    | WNMG060404-CB  |       |       | ●     |       |               |       |        | ●     |                | 0.016 | 0.375 | 0.187 | 0.150 |       |       |
|                          |             |              | WNMG 332 CB    | WNMG060408-CB  |       |       | ●     |       |               |       |        |       | ●              |       | 0.031 | 0.375 | 0.187 | 0.150 |       |

\* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW. Please contact our sales representatives if you have any questions.

● : Line up

Reference pages: External toolholder → C121 - Internal toolholder → D083 -  
 TungCap → K010

# Insert NEGATIVE TYPE

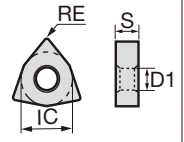
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✖ : Heavy interrupted cutting

## WN



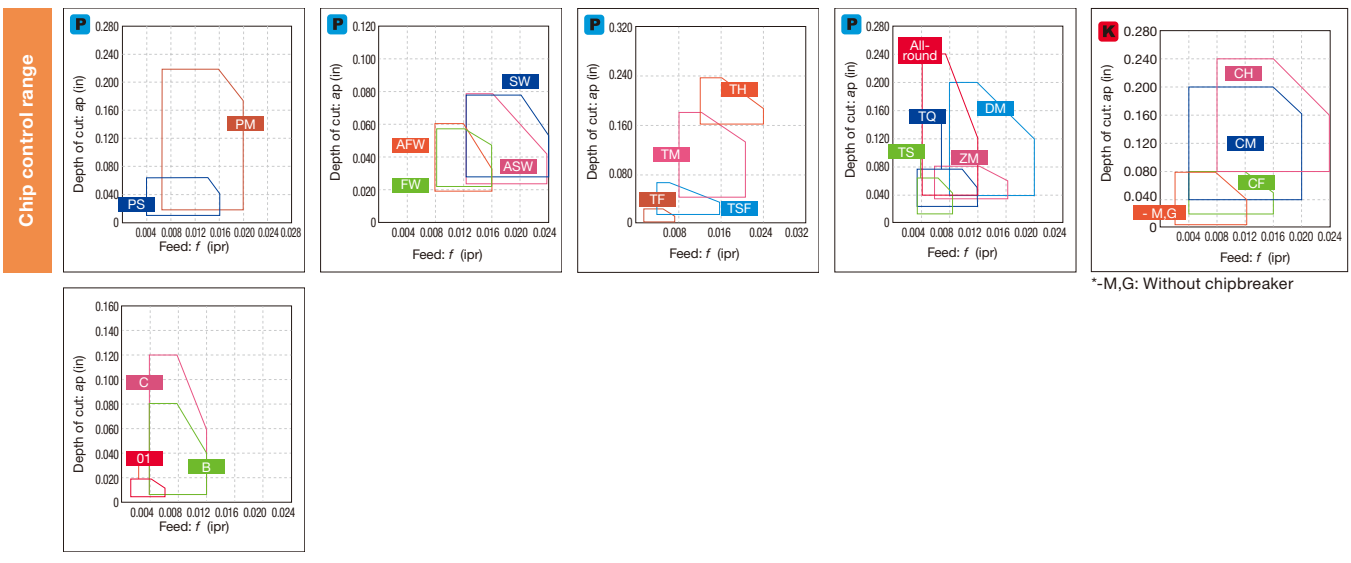
Trigon, 80°  
with hole

|   |               |   |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---------------|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|---|---|
| P | Steel         | ● | ● | ● | ✖ | ✖ | ● |  |   |   |   |   |   |   |   |   |   |   |   |   |
| M | Stainless     |   | ● | ● |   |   | ● |  | ● | ● | ✖ | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| K | Cast iron     | ● | ● | ● |   |   | ● |  | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| N | Non-ferrous   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |
| S | Superalloy    |   |   |   |   |   |   |  | ● |   |   |   |   |   |   |   |   |   |   |   |
| H | Hard material |   |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |



| Application    | Chipbreaker  | Designation                   | Coated        |                |                |                |       |      |        |        | Coated cermet | Cermet | Dimension (in) |       |        |        |       |       |       |       |
|----------------|--------------|-------------------------------|---------------|----------------|----------------|----------------|-------|------|--------|--------|---------------|--------|----------------|-------|--------|--------|-------|-------|-------|-------|
|                |              |                               | T9205         | T9215          | T9225          | T9235          | T6215 | T515 | AH8015 | AH6225 | AH6235        | AH725  | AH110          | AH120 | GT9530 | NS9530 | RE    | IC    | S     | D1    |
|                |              |                               | Inch          | Metric         |                |                |       |      |        |        |               |        |                |       |        |        |       |       |       |       |
| Medium cutting |              | <b>TM</b>                     | WNMG 331E TM  | WNMG060404E-TM | ●              | ●              |       | ●    |        | ●      | ●             |        |                |       |        | 0.016  | 0.375 | 0.187 | 0.150 |       |
|                |              |                               | WNMG 332E TM  | WNMG060408E-TM | ●              | ●              |       | ●    |        | ●      | ●             |        |                |       |        |        | 0.031 | 0.375 | 0.187 | 0.150 |
|                |              |                               | WNMG 333E TM  | WNMG060412E-TM | ●              | ●              |       | ●    |        | ●      | ●             |        |                |       |        |        | 0.047 | 0.375 | 0.187 | 0.150 |
|                |              |                               | WNMG 331 TM   | WNMG060404-TM  | ●              | ●              | ●     |      |        |        |               |        |                |       |        |        | 0.016 | 0.375 | 0.187 | 0.150 |
|                |              |                               | WNMG 332 TM   | WNMG060408-TM  | ●              | ●              | ●     |      |        |        |               |        |                |       |        |        | 0.031 | 0.375 | 0.187 | 0.150 |
|                |              |                               | WNMG 431 TM   | WNMG080404-TM  | ●              | ●              | ●     | ●    | ●      | ●      | ●             | ●      | ●              |       |        |        | 0.016 | 0.500 | 0.187 | 0.203 |
|                |              |                               | WNMG 432 TM   | WNMG080408-TM  | ●              | ●              | ●     | ●    | ●      | ●      | ●             | ●      | ●              |       |        |        | 0.031 | 0.500 | 0.187 | 0.203 |
|                |              |                               | WNMG 433 TM   | WNMG080412-TM  | ●              | ●              | ●     | ●    | ●      | ●      | ●             | ●      | ●              |       |        |        | 0.047 | 0.500 | 0.187 | 0.203 |
|                |              |                               | WNMG 434 TM   | WNMG080416-TM  | ●              | ●              | ●     | ●    | ●      | ●      | ●             | ●      |                |       |        |        | 0.063 | 0.500 | 0.187 | 0.203 |
|                |              | Medium cutting for mild steel |               | <b>PM</b>      | WNMG 331E PM   | WNMG060404E-PM | ●     | ●    |        | ●      |               | ●      | ●              |       |        |        |       | 0.016 | 0.375 | 0.187 |
|                | WNMG 332E PM |                               |               | WNMG060408E-PM | ●              | ●              |       | ●    |        | ●      | ●             |        |                |       |        |        | 0.031 | 0.375 | 0.187 | 0.150 |
|                | WNMG 333E PM |                               |               | WNMG060412E-PM | ●              | ●              |       | ●    |        | ●      | ●             |        |                |       |        |        | 0.047 | 0.375 | 0.187 | 0.150 |
|                | WNMG 431 PM  |                               |               | WNMG080404-PM  | ●              | ●              | ●     |      |        |        |               |        |                |       |        |        | 0.016 | 0.500 | 0.187 | 0.203 |
|                | WNMG 432 PM  |                               |               | WNMG080408-PM  | ●              | ●              | ●     |      |        |        |               |        |                |       |        |        | 0.031 | 0.500 | 0.187 | 0.203 |
|                | WNMG 433 PM  |                               |               | WNMG080412-PM  | ●              | ●              | ●     |      |        |        |               |        |                |       |        |        | 0.047 | 0.500 | 0.187 | 0.203 |
|                | WNMG 434 PM  |                               |               | WNMG080416-PM  | ●              | ●              | ●     |      |        |        |               |        |                |       |        |        | 0.063 | 0.500 | 0.187 | 0.203 |
|                | <b>ZM</b>    |                               |               | WNMG 331E ZM   | WNMG060404E-ZM | ●              | ●     |      | ●      |        | ●             | ●      |                |       |        |        | 0.016 | 0.375 | 0.187 | 0.150 |
|                |              |                               |               | WNMG 332E ZM   | WNMG060408E-ZM | ●              | ●     |      | ●      |        | ●             | ●      |                |       |        |        | 0.031 | 0.375 | 0.187 | 0.150 |
|                |              |                               |               | WNMG 333E ZM   | WNMG060412E-ZM | ●              | ●     |      | ●      |        | ●             | ●      |                |       |        |        | 0.047 | 0.375 | 0.187 | 0.150 |
|                |              | WNMG 332 ZM                   | WNMG060408-ZM | ●              | ●              | ●              |       |      |        |        |               |        |                |       | 0.031  | 0.375  | 0.187 | 0.150 |       |       |
|                |              | WNMG 333 ZM                   | WNMG060412-ZM | ●              | ●              | ●              |       |      |        |        |               |        |                |       | 0.047  | 0.375  | 0.187 | 0.150 |       |       |
|                |              | WNMG 431 ZM                   | WNMG080404-ZM | ●              | ●              | ●              |       |      | ●      | ●      |               |        |                |       | 0.016  | 0.500  | 0.187 | 0.203 |       |       |
|                |              | WNMG 432 ZM                   | WNMG080408-ZM | ●              | ●              | ●              | ●     |      | ●      | ●      |               | ●      | ●              |       | 0.031  | 0.500  | 0.187 | 0.203 |       |       |
|                |              | WNMG 433 ZM                   | WNMG080412-ZM | ●              | ●              | ●              | ●     |      | ●      | ●      |               | ●      | ●              |       | 0.047  | 0.500  | 0.187 | 0.203 |       |       |
|                |              | WNMG 434 ZM                   | WNMG080416-ZM | ●              | ●              | ●              |       |      | ●      | ●      |               | ●      | ●              |       | 0.063  | 0.500  | 0.187 | 0.203 |       |       |

● : Line up



Reference pages: External toolholder → **C121** - Internal toolholder → **D083** -  
 TungCap → **K010**

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index

A  
 B  
 C  
 D  
 E  
 F  
 G  
 H  
 I  
 J  
 K  
 L  
 M







# Insert NEGATIVE TYPE

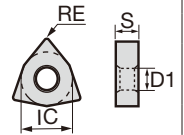
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## WN



**Trigon, 80°  
with hole**

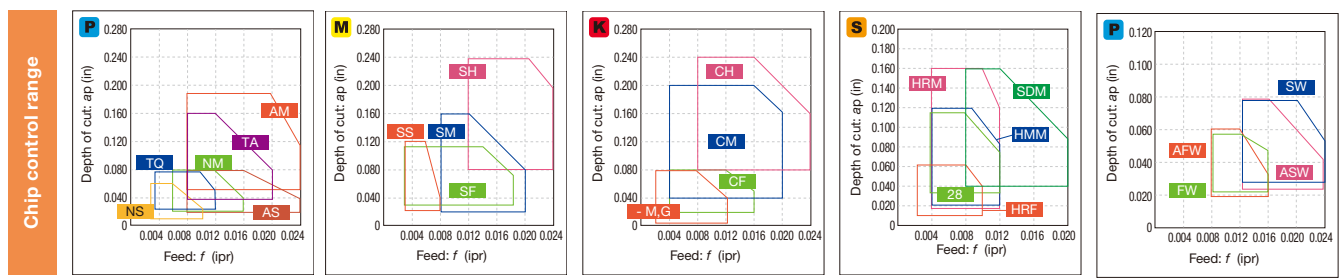
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|---|---------------|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|
| P | Steel         | ● | ● | ● | ● | ✱ | ● |   |   |   |   |   |  |  |  |  |  |  |  |  |
| M | Stainless     |   | ● | ● |   |   | ● |   |   |   |   |   |  |  |  |  |  |  |  |  |
| K | Cast iron     | ● | ● | ● |   |   |   | ● | ● | ● | ● | ✱ |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |
| S | Superalloy    |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |
| H | Hard material |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |



| Application               | Chipbreaker | Designation |                     | Coated                |                       |       |       |       |      |      |       | Coated cermet |       | Cermet | Dimension (in) |        |       |       |       |       |       |       |       |
|---------------------------|-------------|-------------|---------------------|-----------------------|-----------------------|-------|-------|-------|------|------|-------|---------------|-------|--------|----------------|--------|-------|-------|-------|-------|-------|-------|-------|
|                           |             | Inch        | Metric              | T9205                 | T9215                 | T9225 | T9235 | T6215 | T505 | T515 | T5105 | T5115         | T5125 | GT9530 | AT9530         | NS9530 | RE    | IC    | S     | D1    |       |       |       |
| Medium cutting            |             | <b>CM</b>   | <b>WNMG 431 CM</b>  | <b>WNMG080404-CM</b>  | ●                     | ●     |       |       |      |      |       |               |       |        |                |        | 0.016 | 0.500 | 0.187 | 0.203 |       |       |       |
|                           |             |             | <b>WNMG 432 CM</b>  | <b>WNMG080408-CM</b>  | ●                     | ●     |       |       |      |      |       |               |       |        |                |        |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                           |             |             | <b>WNMG 433 CM</b>  | <b>WNMG080412-CM</b>  | ●                     | ●     |       |       |      |      |       |               |       |        |                |        |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
| Finishing cutting (wiper) |             | <b>SW</b>   | <b>WNMG 332E SW</b> | <b>WNMG060408E-SW</b> | ●                     | ●     | ●     |       |      |      |       |               |       |        |                |        |       | 0.031 | 0.375 | 0.187 | 0.150 |       |       |
|                           |             |             | <b>WNMG 333E SW</b> | <b>WNMG060412E-SW</b> | ●                     | ●     | ●     |       |      |      |       |               |       |        |                |        |       |       | 0.047 | 0.375 | 0.187 | 0.150 |       |
|                           |             |             | <b>WNMG 432 SW</b>  | <b>WNMG080408-SW</b>  | ●                     | ●     | ●     |       |      |      | ●     | ●             |       |        |                |        |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                           |             |             | <b>WNMG 433 SW</b>  | <b>WNMG080412-SW</b>  | ●                     | ●     |       |       |      |      | ●     | ●             |       |        |                |        |       |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|                           |             |             | <b>ASW</b>          | <b>WNMG 332 ASW</b>   | <b>WNMG060408-ASW</b> | ●     | ●     | ●     |      |      |       |               |       |        |                |        |       |       |       | 0.031 | 0.375 | 0.187 | 0.150 |
|                           |             |             |                     | <b>WNMG 333 ASW</b>   | <b>WNMG060412-ASW</b> | ●     | ●     | ●     | ●    |      |       |               |       |        |                |        |       |       |       | 0.047 | 0.375 | 0.187 | 0.150 |
| Medium cutting            |             | <b>TQ</b>   | <b>WNMG 431 TQ</b>  | <b>WNMG080404-TQ</b>  |                       | ●     | ●     |       |      |      |       |               | ●     | ●      | ●              |        | 0.016 | 0.500 | 0.187 | 0.203 |       |       |       |
|                           |             |             | <b>WNMG 432 TQ</b>  | <b>WNMG080408-TQ</b>  |                       | ●     | ●     |       |      |      |       |               |       | ●      | ●              | ●      |       | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|                           |             |             | <b>TA</b>           | <b>WNMG 432 TA</b>    | <b>WNMG080408-TA</b>  |       | ●     | ●     |      |      |       |               |       |        |                |        |       |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|                           |             |             | <b>WNMG 433 TA</b>  | <b>WNMG080412-TA</b>  |                       | ●     | ●     |       |      |      |       |               |       |        |                |        |       |       | 0.047 | 0.500 | 0.187 | 0.203 |       |

\* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW. Please contact our sales representatives if you have any questions.

● : Line up



\*-M,G: Without chipbreaker

Reference pages: External toolholder → C121 - Internal toolholder → D083 -  
TungCap → K010

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
Index

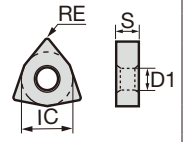


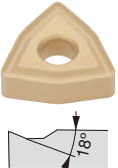
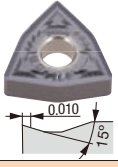
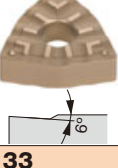
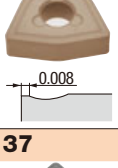
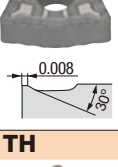
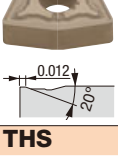
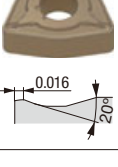
## Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

**WN****Trigon, 80°  
with hole**

|               | P       | M       | K       | N       | S       | H       |
|---------------|---------|---------|---------|---------|---------|---------|
| Steel         | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● |
| Stainless     | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● |
| Cast iron     | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● |
| Non-ferrous   | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● |
| Superalloy    | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● |
| Hard material | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● | ●●●●●●● |



| Application   | Chipbreaker   | Designation  | Coated   |               |               |       |       |      |        |        |        |       |       |       |       | Coated cermet | Cermet | Uncoated |        | Dimension (in) |       |       |       |       |       |       |
|---|---|--|--|---------------|---------------|-------|-------|------|--------|--------|--------|-------|-------|-------|-------|---------------|--------|----------|--------|----------------|-------|-------|-------|-------|-------|-------|
|   |   |  | T9205  | T9215         | T9225         | T9235 | T6215 | T515 | AH8015 | AH6225 | AH6235 | AH905 | AH725 | AH120 | GH330 |               |        | GT720    | NS9530 | TH10           | KS20  | RE    | IC    | S     | D1    |       |
|   |   |  | Inch   |               | Metric        |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       |       |       |       |       |       |
| Medium cutting  | <b>SA</b><br>  | WNMG 432 SA  | WNMG080408-SA  |               |               |       |       | ●    |        |        |        |       |       |       |       |               |        |          |        |                | 0.031 | 0.500 | 0.187 | 0.203 |       |       |
|   |   | WNMG 433 SA  | WNMG080412-SA  |               |               |       |       | ●    |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|   | <b>HMM</b><br> | WNMG 431 HMM   | WNMG080404-HMM   |               |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.016 | 0.500 | 0.187 | 0.203 |       |
|   |   | WNMG 432 HMM   | WNMG080408-HMM   |               |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|   |   | WNMG 433 HMM   | WNMG080412-HMM   |               |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.047 | 0.500 | 0.187 | 0.203 |       |
|   | <b>27</b><br> | WNMG 432-27  | WNMG080408-27  |               |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|   |   | <b>33</b><br> | WNMG 431-33  | WNMG080404-33 |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|   |   |  | WNMG 432-33  | WNMG080408-33 |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|   |   | <b>37</b><br> | WNMG 431-37  | WNMG080404-37 |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       |       | 0.016 | 0.500 | 0.187 | 0.203 |
|   |   |  | WNMG 432-37  | WNMG080408-37 |               |       |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|   |   | Medium to heavy cutting  | <b>TH</b><br> | WNMG 432 TH   | WNMG080408-TH | ●     | ●     | ●    |        | ●      | ●      | ●     |       |       |       |               |        |          |        |                |       |       | 0.031 | 0.500 | 0.187 | 0.203 |
|   | WNMG 433 TH   |  |  | WNMG080412-TH | ●             | ●     | ●     |      | ●      | ●      | ●      |       |       |       |       |               |        |          |        |                |       |       | 0.047 | 0.500 | 0.187 | 0.203 |
|   | WNMG 434 TH   |  |  | WNMG080416-TH | ●             | ●     | ●     |      | ●      | ●      | ●      |       |       |       |       |               |        |          |        |                |       |       | 0.063 | 0.500 | 0.187 | 0.203 |
| WNMG 543 TH   | WNMG100612-TH   |  |  | ●             | ●             | ●     |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.047 | 0.625 | 0.250 | 0.250 |       |
| WNMG 544 TH   | WNMG100616-TH   |  |  | ●             | ●             | ●     |       |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.063 | 0.625 | 0.250 | 0.250 |       |
| <b>THS</b><br> | WNMG 432 THS  |  | WNMG080408-THS   | ●             | ●             | ●     | ●     |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.031 | 0.500 | 0.187 | 0.203 |       |
|   | WNMG 433 THS  |  | WNMG080412-THS   | ●             | ●             | ●     | ●     |      |        |        |        |       |       |       |       |               |        |          |        |                |       | 0.047 | 0.500 | 0.187 | 0.203 |       |

● : Line up

Reference pages: External toolholder → **C121** - Internal toolholder → **D083** -  
 TungCap → **K010**

# Insert NEGATIVE TYPE

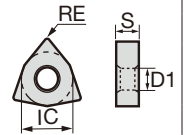
- : Continuous cutting
- : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## WN



Trigon, 80°  
with hole

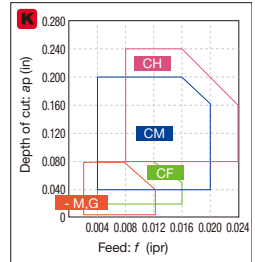
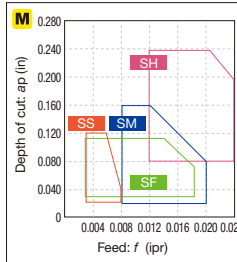
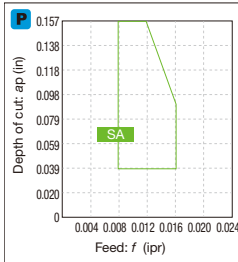
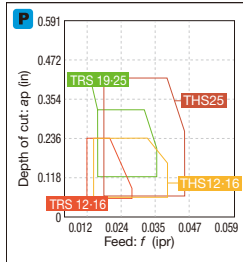
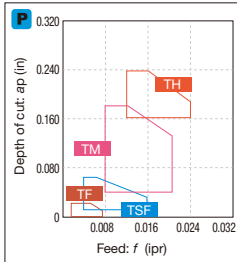
|               | P  | M | K  | N | S | H |    |    |  |  |  |    |   |  |  |    |    |  |  |
|---------------|----|---|----|---|---|---|----|----|--|--|--|----|---|--|--|----|----|--|--|
| Steel         |    |   |    |   |   |   | ●✱ | ●✱ |  |  |  | ●● | ● |  |  |    |    |  |  |
| Stainless     |    |   |    |   |   |   | ●✱ | ●✱ |  |  |  | ●● | ● |  |  |    |    |  |  |
| Cast iron     | ●● |   | ●● |   |   |   | ●✱ | ●✱ |  |  |  | ●● | ● |  |  |    |    |  |  |
| Non-ferrous   |    |   |    |   |   |   |    |    |  |  |  | ●  |   |  |  |    |    |  |  |
| Superalloy    |    |   |    |   |   |   |    |    |  |  |  |    |   |  |  |    |    |  |  |
| Hard material |    |   |    |   |   |   |    |    |  |  |  |    |   |  |  | ●● | ●● |  |  |



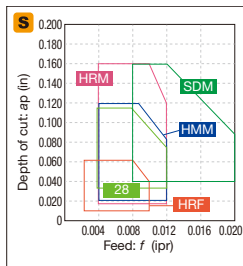
| Application             | Chipbreaker                 | Designation        | Coated           |      |       |       |       |        |        |   | Cermet | Uncoated | Ceramic | Dimension (in) |       |       |       |       |
|-------------------------|-----------------------------|--------------------|------------------|------|-------|-------|-------|--------|--------|---|--------|----------|---------|----------------|-------|-------|-------|-------|
|                         |                             |                    | T505             | T515 | T5105 | T5115 | T5125 | AH6225 | AH6235 |   | NS520  | TH10     | LX10    | LX11           | RE    | IC    | S     | D1    |
| Medium to heavy cutting | <b>SH</b>                   | <b>WNMG 432 SH</b> |                  |      |       |       |       |        |        | ● |        |          |         | 0.031          | 0.500 | 0.187 | 0.203 |       |
|                         |                             | <b>WNMG 433 SH</b> |                  |      |       |       |       |        |        | ● |        |          |         | 0.047          | 0.500 | 0.187 | 0.203 |       |
|                         | <b>CH</b>                   | <b>WNMG 432 CH</b> |                  |      | ●     | ●     | ●     |        |        |   |        |          |         | 0.031          | 0.500 | 0.187 | 0.203 |       |
|                         |                             | <b>WNMG 433 CH</b> |                  |      | ●     | ●     | ●     |        |        |   |        |          |         | 0.047          | 0.500 | 0.187 | 0.203 |       |
|                         | Finishing to medium cutting | -                  | <b>WNMA 331E</b> | ●    |       |       |       |        |        |   |        |          |         |                | 0.016 | 0.375 | 0.187 | 0.150 |
|                         |                             |                    | <b>WNMA 332E</b> | ●    |       |       |       |        |        |   |        |          |         |                | 0.031 | 0.375 | 0.187 | 0.150 |
| <b>WNMA 333E</b>        |                             |                    | ●                |      |       |       |       |        |        |   |        |          |         | 0.047          | 0.375 | 0.187 | 0.150 |       |
| <b>WNMA 334E</b>        |                             |                    | ●                |      |       |       |       |        |        |   |        |          |         | 0.063          | 0.375 | 0.187 | 0.150 |       |
| <b>WNMA 431</b>         |                             |                    |                  | ●    | ●     | ●     |       |        |        |   | ●      |          |         | 0.016          | 0.500 | 0.187 | 0.203 |       |
| <b>WNMA 432</b>         |                             |                    | ●                | ●    | ●     | ●     | ●     |        |        | ● | ●      |          |         | 0.031          | 0.500 | 0.187 | 0.203 |       |
| <b>WNMA 433</b>         |                             |                    | ●                | ●    | ●     | ●     | ●     |        |        |   |        |          |         | 0.047          | 0.500 | 0.187 | 0.203 |       |
| <b>WNMA 434</b>         |                             |                    | ●                | ●    | ●     | ●     | ●     |        |        |   |        |          |         | 0.063          | 0.500 | 0.187 | 0.203 |       |
| <b>WNGA 431</b>         |                             |                    |                  |      |       |       |       |        |        |   |        |          |         | ● ▲            | 0.016 | 0.500 | 0.187 | 0.203 |
| <b>WNGA 432</b>         |                             |                    |                  |      |       |       |       |        |        |   |        |          |         | ● ▲            | 0.031 | 0.500 | 0.187 | 0.203 |
| <b>WNGA 433</b>         |                             |                    |                  |      |       |       |       |        |        |   |        |          |         | ● ▲            | 0.047 | 0.500 | 0.187 | 0.203 |

● : Line up  
▲ : To be discontinued

### Chip control range



\*-M,G: Without chipbreaker



Reference pages: External toolholder → **C121** - Internal toolholder → **D083** -  
TungCap → **K010**









# Insert POSITIVE TYPE

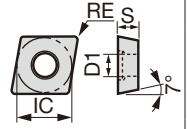
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## CC



Rhombic, 80°  
with hole  
Positive 7°

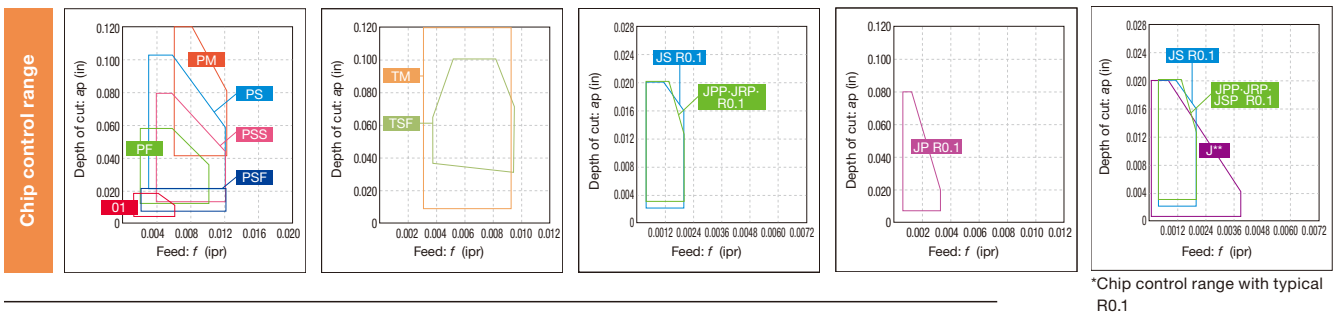
| Material      | P | M | K | N | S | H | Coated | Coated cermet | Cermet | Uncoated |
|---------------|---|---|---|---|---|---|--------|---------------|--------|----------|
| Steel         | ● | ● | ● | ● | ● | ● | ●      | ●             | ●      | ●        |
| Stainless     | ● | ● | ● | ● | ● | ● | ●      | ●             | ●      | ●        |
| Cast iron     | ● | ● | ● | ● | ● | ● | ●      | ●             | ●      | ●        |
| Non-ferrous   | ● | ● | ● | ● | ● | ● | ●      | ●             | ●      | ●        |
| Superalloy    | ● | ● | ● | ● | ● | ● | ●      | ●             | ●      | ●        |
| Hard material | ● | ● | ● | ● | ● | ● | ●      | ●             | ●      | ●        |



| Application      | Chipbreaker            | Designation         |                  | Coated         |       |       |        |        |        |       |        |       |       | Coated cermet | Cermet | Uncoated | Dimension (in) |       |       |       |       |       |       |       |
|------------------|------------------------|---------------------|------------------|----------------|-------|-------|--------|--------|--------|-------|--------|-------|-------|---------------|--------|----------|----------------|-------|-------|-------|-------|-------|-------|-------|
|                  |                        | Inch                | Metric           | T9215          | T9225 | T6215 | AH8005 | AH8015 | AH6225 | AH725 | SH7025 | SH725 | GH730 | J740          | GT9530 | NS9530   | TH10           | RE    | IC    | S     | D1    |       |       |       |
|                  |                        |                     |                  |                |       |       |        |        |        |       |        |       |       |               |        |          |                |       |       |       |       |       |       |       |
| Finishing        | PSF                    | CCMT 21.50.5 PSF    | CCMT060202-PSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | 0.008 | 0.250 | 0.094 | 0.109 |       |       |       |
|                  |                        | CCMT 21.51 PSF      | CCMT060204-PSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|                  |                        | CCMT 32.50.5 PSF    | CCMT09T302-PSF   |                |       |       |        |        | ●      |       |        |       |       |               |        |          |                |       | 0.008 | 0.375 | 0.156 | 0.173 |       |       |
|                  |                        | CCMT 32.51 PSF      | CCMT09T304-PSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | 0.016 | 0.375 | 0.156 | 0.173 |       |
|                  |                        | CCMT 32.52 PSF      | CCMT09T308-PSF   | ●              | ●     |       |        |        | ●      |       |        |       |       |               |        |          |                |       | ●     | 0.031 | 0.375 | 0.156 | 0.173 |       |
|                  |                        | PF                  | CCMT 21.50.5 PF  | CCMT060202-PF  |       |       |        |        |        |       |        |       | ●     |               |        |          |                |       |       | 0.008 | 0.250 | 0.094 | 0.109 |       |
|                  | CCMT 21.51 PF          | CCMT060204-PF       |                  |                |       |       | ●      |        |        |       |        |       |       |               |        |          |                | ●     | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|                  | CCMT 21.52 PF          | CCMT060208-PF       |                  |                |       |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.031 | 0.250 | 0.094 | 0.109 |       |       |
|                  | CCMT 32.50.5 PF        | CCMT09T302-PF       |                  |                |       |       |        |        |        |       |        | ●     |       |               |        |          |                | ●     | 0.008 | 0.375 | 0.156 | 0.173 |       |       |
|                  | CCMT 32.51 PF          | CCMT09T304-PF       |                  |                |       |       |        |        |        |       |        | ●     |       |               |        |          |                | ●     | 0.016 | 0.375 | 0.156 | 0.173 |       |       |
|                  | CCMT 32.52 PF          | CCMT09T308-PF       |                  |                | ●     |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.031 | 0.375 | 0.156 | 0.173 |       |       |
|                  | Finishing (sharp edge) | TSF                 | CCMT 21.50.5 TSF | CCMT060202-TSF | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | 0.008 | 0.250 | 0.094 | 0.109 |       |
| CCMT 21.51 TSF   |                        |                     | CCMT060204-TSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | 0.016 | 0.250 | 0.094 | 0.109 |       |
| CCMT 21.52 TSF   |                        |                     | CCMT060208-TSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | 0.031 | 0.250 | 0.094 | 0.109 |       |
| CCMT 32.50.5 TSF |                        |                     | CCMT09T302-TSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | 0.008 | 0.375 | 0.156 | 0.173 |       |
| CCMT 32.51 TSF   |                        |                     | CCMT09T304-TSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | ●     | 0.016 | 0.375 | 0.156 | 0.173 |
| CCMT 32.52 TSF   |                        |                     | CCMT09T308-TSF   | ●              | ●     | ●     | ●      | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●      | ●        | ●              | ●     | ●     | ●     | 0.031 | 0.375 | 0.156 | 0.173 |
| J10              |                        | CCGT 21.5V FR-J10   | CCGT060200FR-J10 |                |       |       |        |        |        |       |        | ●     | ●     | ●             |        |          |                | ●     | 0.001 | 0.250 | 0.094 | 0.109 |       |       |
|                  |                        | CCGT 21.5V FL-J10   | CCGT060200FL-J10 |                |       |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.001 | 0.250 | 0.094 | 0.109 |       |       |
|                  |                        | CCGT 21.50 FR-J10   | CCGT060201FR-J10 |                |       |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.004 | 0.250 | 0.094 | 0.109 |       |       |
|                  |                        | CCGT 21.50 FL-J10   | CCGT060201FL-J10 |                |       |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.004 | 0.250 | 0.094 | 0.109 |       |       |
|                  |                        | CCGT 21.50.5 FR-J10 | CCGT060202FR-J10 |                |       |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.008 | 0.250 | 0.094 | 0.109 |       |       |
|                  |                        | CCGT 21.50.5 FL-J10 | CCGT060202FL-J10 |                |       |       |        |        |        |       |        |       |       |               |        |          |                | ●     | 0.008 | 0.250 | 0.094 | 0.109 |       |       |
| J10              | CCGT 32.5V FR-J10      | CCGT09T300FR-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.001 | 0.375 | 0.156 | 0.173 |       |       |       |
|                  | CCGT 32.5V FL-J10      | CCGT09T300FL-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.001 | 0.375 | 0.156 | 0.173 |       |       |       |
|                  | CCGT 32.50 FR-J10      | CCGT09T301FR-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.004 | 0.375 | 0.156 | 0.173 |       |       |       |
|                  | CCGT 32.50 FL-J10      | CCGT09T301FL-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.004 | 0.375 | 0.156 | 0.173 |       |       |       |
|                  | CCGT 32.50.5 FR-J10    | CCGT09T302FR-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.008 | 0.375 | 0.156 | 0.173 |       |       |       |
|                  | CCGT 32.50.5 FL-J10    | CCGT09T302FL-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.008 | 0.375 | 0.156 | 0.173 |       |       |       |
| J10              | CCGT 32.51 FR-J10      | CCGT09T304FR-J10    |                  |                |       |       |        |        |        |       |        |       |       |               |        |          | ●              | 0.016 | 0.375 | 0.156 | 0.173 |       |       |       |

\*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up



\*Chip control range with typical R0.1

Reference pages: External toolholder → C034 - Internal toolholder → D018 -  
J-Series toolholder → G030 - TungCap → K011 -

● : Continuous cutting  
 ◐ : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

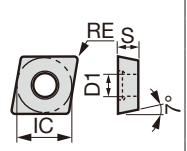
# Insert POSITIVE TYPE

## CC



Rhombic, 80°  
with hole  
Positive 7°

|   | P Steel  | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material |
|---|----------|-------------|-------------|---------------|--------------|-----------------|
| ● | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ◐ | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ✱ | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ● | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ◐ | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ✱ | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ● | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ◐ | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |
| ✱ | ●●●●●●●● | ●●●●●●●●    | ●●●●●●●●    | ●●●●●●●●      | ●●●●●●●●     | ●●●●●●●●        |



| Application            | Chipbreaker         | Designation      | Coated               |                  |        |       | Coated cermet |        | Cermet |      | Uncoated |       | Dimension (in) |       |       |       |       |
|------------------------|---------------------|------------------|----------------------|------------------|--------|-------|---------------|--------|--------|------|----------|-------|----------------|-------|-------|-------|-------|
|                        |                     |                  | SH7205               | SH725            | SH730  | GH330 | GH110         | GT9530 | NS9530 | TH10 | UX30     | RE    | IC             | S     | D1    |       |       |
|                        |                     |                  | Inch                 |                  | Metric |       |               |        |        |      |          |       |                |       |       |       |       |
| Finishing (sharp edge) |                     | <b>W08</b>       | CCGT 4.51.8V FR-W08  | CCGT03X100FL-W08 | ●      | ●     |               |        |        |      |          |       | 0.001          | 0.141 | 0.055 | 0.075 |       |
|                        |                     |                  | CCGT 4.51.8V FL-W08  | CCGT03X100FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.001 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.80 FR-W08  | CCGT03X101FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.004 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.80 FL-W08  | CCGT03X101FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.004 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT4.51.80.5FR-W08  | CCGT03X102FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.008 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT4.51.80.5FL-W08  | CCGT03X102FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.008 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.81 FR-W08  | CCGT03X104FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.016 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.81 FL-W08  | CCGT03X104FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.016 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 5.52.2V FR-W08  | CCGT04T100FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.001 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.2V FL-W08  | CCGT04T100FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.001 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.20 FR-W08  | CCGT04T101FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.004 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.20 FL-W08  | CCGT04T101FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.004 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT5.52.20.5FR-W08  | CCGT04T102FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.008 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT5.52.20.5FL-W08  | CCGT04T102FR-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.008 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.21 FR-W08  | CCGT04T104FL-W08 | ●      | ●     |               |        |        |      |          |       |                | 0.016 | 0.172 | 0.070 | 0.087 |
|                        | CCGT 5.52.21 FL-W08 | CCGT04T104FR-W08 | ●                    | ●                |        |       |               |        |        |      |          | 0.016 | 0.172          | 0.070 | 0.087 |       |       |
| Finishing              |                     | <b>W08</b>       | CCGT 4.51.8V R-W08   | CCGT03X100R-W08  | ●      |       |               |        |        |      | ●        |       | 0.001          | 0.141 | 0.055 | 0.075 |       |
|                        |                     |                  | CCGT 4.51.8V L-W08   | CCGT03X100L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.001 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.80 R-W08   | CCGT03X101R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.004 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.80 L-W08   | CCGT03X101L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.004 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.80.5 R-W08 | CCGT03X102R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.008 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.80.5 L-W08 | CCGT03X102L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.008 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.81 R-W08   | CCGT03X104R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.016 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 4.51.81 L-W08   | CCGT03X104L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.016 | 0.141 | 0.055 | 0.075 |
|                        |                     |                  | CCGT 5.52.2V R-W08   | CCGT04T100R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.001 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.2V L-W08   | CCGT04T100L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.001 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.20 R-W08   | CCGT04T101R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.004 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.20 L-W08   | CCGT04T101L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.004 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.20.5 R-W08 | CCGT04T102R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.008 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.20.5 L-W08 | CCGT04T102L-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.008 | 0.172 | 0.070 | 0.087 |
|                        |                     |                  | CCGT 5.52.21 R-W08   | CCGT04T104R-W08  | ●      |       |               |        |        |      |          | ●     |                | 0.016 | 0.172 | 0.070 | 0.087 |
|                        | CCGT 5.52.21 L-W08  | CCGT04T104L-W08  | ●                    |                  |        |       |               |        |        | ●    |          | 0.016 | 0.172          | 0.070 | 0.087 |       |       |
| OTHERS                 |                     | <b>W15</b>       | CCGT 21.5V R-W15     | CCGT060200R-W15  |        |       |               |        |        |      | ●        |       | 0.001          | 0.250 | 0.094 | 0.109 |       |
|                        |                     |                  | CCGT 21.5V L-W15     | CCGT060200L-W15  |        |       |               |        | ●      |      | ●        |       | 0.001          | 0.250 | 0.094 | 0.109 |       |
|                        |                     |                  | CCGT 21.50.5 R-W15   | CCGT060202R-W15  |        |       |               |        | ●      |      | ●        |       | 0.008          | 0.250 | 0.094 | 0.109 |       |
|                        |                     |                  | CCGT 21.50.5 L-W15   | CCGT060202L-W15  |        |       |               | ●      | ●      |      | ●        |       | 0.008          | 0.250 | 0.094 | 0.109 |       |
|                        |                     |                  | CCGT 21.51 R-W15     | CCGT060204R-W15  |        | ●     |               |        | ●      |      | ●        |       | 0.016          | 0.250 | 0.094 | 0.109 |       |
|                        |                     |                  | CCGT 21.51 L-W15     | CCGT060204L-W15  |        | ●     | ●             | ●      | ●      |      | ●        | ●     | 0.016          | 0.250 | 0.094 | 0.109 |       |

● : Line up

Reference pages: External toolholder → **C034** - Internal toolholder → **D018** -  
 J-Series toolholder → **G030** - TungCap → **K011** -

# Insert POSITIVE TYPE

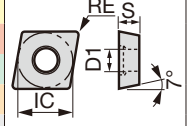
● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

## CC



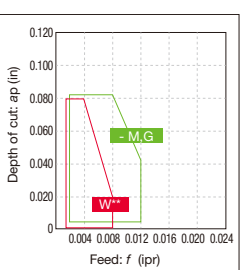
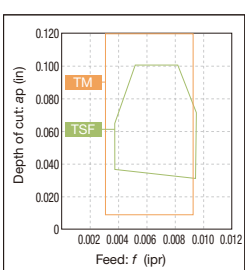
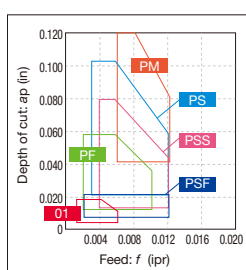
**Rhombic, 80°  
with hole  
Positive 7°**

| Material      | P        | M        | K        | N        | S        | H        | T9215    | T9225    | T6215    | T505     | T515     | T5115    | AH8005   | AH8015   | AH6225   | AH6235   | AH725    | AH120    | GH730    | GH330    | GH110    | GT9530   | AT9530   | NS9530   | TH10     |
|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Steel         | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● |
| Stainless     | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● |
| Cast iron     | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● |
| Non-ferrous   | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● |
| Superalloy    | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● |
| Hard material | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● | ●●●●●●●● |



| Application                 | Chipbreaker     | Designation                 | Coated             |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        | Coated cermet | Cermet | Uncoated | Dimension (in) |    |   |     |     |     |  |  |  |  |  |  |
|-----------------------------|-----------------|-----------------------------|--------------------|-----------------|-----------------|---------------|------|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|--------|---------------|--------|----------|----------------|----|---|-----|-----|-----|--|--|--|--|--|--|
|                             |                 |                             | T9215              | T9225           | T6215           | T505          | T515 | T5115 | AH8005 | AH8015 | AH6225 | AH6235 | AH725 | AH120 | GH730 | GH330 | GH110 | GT9530 | AT9530        | NS9530 | TH10     | RE             | IC | S | D1  |     |     |  |  |  |  |  |  |
|                             |                 |                             | Inch               |                 | Metric          |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
| Finishing                   |                 | <b>W20</b>                  | CCGT 32.50.5 R-W20 | CCGT09T302R-W20 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCGT 32.50.5 L-W20 | CCGT09T302L-W20 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCGT 32.51 L-W20   | CCGT09T304R-W20 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCGT 32.51 R-W20   | CCGT09T304L-W20 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCGT 32.52 R-W20   | CCGT09T308R-W20 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCGT 32.52 L-W20   | CCGT09T308L-W20 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
| Finishing to medium cutting |                 | <b>PSS</b>                  | CCMT 21.51 PSS     | CCMT060204-PSS  | ●●●             |               |      |       |        |        |        |        | ●●●   | ●●●   | ●●●   | ●●●   | ●●●   |        |               |        |          |                |    |   | ●●● |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 21.52 PSS     | CCMT060208-PSS  | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.51 PSS     | CCMT09T304-PSS  | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.52 PSS     | CCMT09T308-PSS  | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 431 PSS       | CCMT120404-PSS  | ●●●             |               |      |       |        |        |        |        |       |       |       |       |       | ●●●    | ●●●           |        |          |                |    |   |     |     | ●●● |  |  |  |  |  |  |
|                             |                 |                             | CCMT 432 PSS       | CCMT120408-PSS  | ●●●             |               |      |       |        |        |        |        |       |       |       |       |       | ●●●    | ●●●           |        |          |                |    |   |     |     | ●●● |  |  |  |  |  |  |
|                             |                 |                             | CCMT 433 PSS       | CCMT120412-PSS  | ●●●             |               |      |       |        |        |        |        |       |       |       |       |       | ●●●    | ●●●           |        |          |                |    |   |     |     | ●●● |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 | Finishing to medium cutting |                    | <b>PS</b>       | CCMT 21.50.5 PS | CCMT060202-PS | ●●●  |       |        |        |        |        |       |       | ●●●   | ●●●   | ●●●   | ●●●    | ●●●           | ●●●    |          |                |    |   |     |     | ●●● |  |  |  |  |  |  |
|                             | CCMT 21.51 PS   |                             |                    | CCMT060204-PS   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 21.52 PS   |                             |                    | CCMT060208-PS   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 32.50.5 PS |                             |                    | CCMT09T302-PS   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 32.51 PS   |                             |                    | CCMT09T304-PS   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 32.52 PS   |                             |                    | CCMT09T308-PS   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   | ●●●   | ●●●   | ●●●    |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 431 PS     |                             |                    | CCMT120404-PS   | ●●●             |               |      |       |        |        |        |        |       |       |       |       |       | ●●●    | ●●●           |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 432 PS     |                             |                    | CCMT120408-PS   | ●●●             |               |      |       |        |        |        |        |       |       |       |       |       | ●●●    | ●●●           |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             | CCMT 433 PS     |                             |                    | CCMT120412-PS   | ●●●             |               |      |       |        |        |        |        |       |       |       |       |       | ●●●    | ●●●           |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
| Finishing to medium cutting |                 |                             |                    | <b>TM</b>       | CCMT 21.50.5 TM | CCMT060202-TM | ●●●  |       |        |        |        |        |       |       | ●●●   | ●●●   |       |        |               |        |          |                |    |   |     |     | ●●● |  |  |  |  |  |  |
|                             |                 |                             | CCMT 21.51 TM      | CCMT060204-TM   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   |       |       |        |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 21.52 TM      | CCMT060208-TM   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   |       |       |        |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.50.5 TM    | CCMT09T302-TM   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   |       |       |        |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.51 TM      | CCMT09T304-TM   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   |       |       |        |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.52 TM      | CCMT09T308-TM   | ●●●             |               |      |       |        |        |        |        |       | ●●●   | ●●●   |       |       |        |               |        |          |                |    |   |     | ●●● |     |  |  |  |  |  |  |
|                             |                 |                             |                    |                 |                 |               |      |       |        |        |        |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
| Finishing to medium cutting |                 | <b>CM</b>                   | CCMT 21.51 CM      | CCMT060204-CM   |                 |               |      |       | ●●●    | ●●●    | ●●●    |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 21.52 CM      | CCMT060208-CM   |                 |               |      |       | ●●●    | ●●●    | ●●●    |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.51 CM      | CCMT09T304-CM   |                 |               |      |       | ●●●    | ●●●    | ●●●    |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.52 CM      | CCMT09T308-CM   |                 |               |      |       | ●●●    | ●●●    | ●●●    |        |       |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 32.53 CM      | CCMT09T312-CM   |                 |               |      |       |        |        |        |        | ●●●   |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 431 CM        | CCMT120404-CM   |                 |               |      |       |        |        |        |        | ●●●   |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |
|                             |                 |                             | CCMT 432 CM        | CCMT120408-CM   |                 |               |      |       |        |        |        |        | ●●●   |       |       |       |       |        |               |        |          |                |    |   |     |     |     |  |  |  |  |  |  |

Chip control range



● : Line up

\*-M,G: Without chipbreaker

Reference pages: External toolholder → **C034** - Internal toolholder → **D018** -  
 J-Series toolholder → **G030** - TungCap → **K011** -

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index

# Insert POSITIVE TYPE

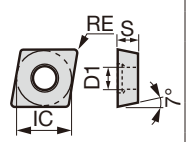
● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

## CC



Rhombic, 80°  
with hole  
Positive 7°

|   |               |       |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------|-------|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel         | ●●●●* | ●● | ●● | ●● |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless     | ●●    |    | ●● |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron     | ●●    |    | ●  |    | ●● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |       |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |       |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard material |       |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Application                                      | Chipbreaker      | Designation                 |                 | Coated         |               | Cermet        | Uncoated |        | Dimension (in) |       |       |       |       |       |       |
|--|------------------|-----------------------------|-----------------|----------------|---------------|---------------|----------|--------|----------------|-------|-------|-------|-------|-------|-------|
|  |                  | Inch                        | Metric          | T9215          | T9225         | T5115         | SH725    | NS9530 | TH10           | KS05F | RE    | IC    | S     | D1    |       |
|  |                  |                             |                 |                |               |               |          |        |                |       |       |       |       |       |       |
| Finishing to light cutting for non-ferrous metal |                  | <b>AL</b>                   | CCGT060201-AL   | CCGT060201-AL  |               |               |          |        |                |       | 0.004 | 0.250 | 0.094 | 0.109 |       |
|  |                  |                             | CCGT 21.50.5 AL | CCGT060202-AL  |               |               |          |        |                |       | 0.008 | 0.250 | 0.094 | 0.109 |       |
|  |                  |                             | CCGT 21.51 AL   | CCGT060204-AL  |               |               |          |        |                |       | 0.016 | 0.250 | 0.094 | 0.109 |       |
|  |                  |                             | CCGT 32.50.5 AL | CCGT09T302-AL  |               |               |          |        |                |       | 0.008 | 0.375 | 0.156 | 0.173 |       |
|  |                  |                             | CCGT 32.51 AL   | CCGT09T304-AL  |               |               |          |        |                |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  |                  |                             | CCGT 32.52 AL   | CCGT09T308-AL  |               |               |          |        |                |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|  |                  |                             | CCGT 430.5 AL   | CCGT120402-AL  |               |               |          |        |                |       | 0.008 | 0.500 | 0.187 | 0.217 |       |
|  |                  |                             | CCGT 431 AL     | CCGT120404-AL  |               |               |          |        |                |       | 0.016 | 0.500 | 0.187 | 0.217 |       |
|  |                  |                             | CCGT 432 AL     | CCGT120408-AL  |               |               |          |        |                |       | 0.031 | 0.500 | 0.187 | 0.217 |       |
|  |                  | Finishing to medium cutting |                 | <b>SW</b>      | CCMT 21.51 SW | CCMT060204-SW | ●        | ●      |                | ●     |       |       | 0.016 | 0.250 | 0.094 |
|  | CCMT 21.52 SW    |                             |                 | CCMT060208-SW  | ●             | ●             |          |        | ●              |       | 0.031 | 0.250 | 0.094 | 0.109 |       |
|  | CCMT 32.51 SW    |                             |                 | CCMT09T304-SW  | ●             | ●             |          |        | ●              |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  | CCMT 32.52 SW    |                             |                 | CCMT09T308-SW  | ●             | ●             |          |        | ●              |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|  | <b>All-round</b> |                             |                 | CCGT 21.50.5   | CCGT060202    |               |          |        |                | ●     |       | 0.008 | 0.250 | 0.094 | 0.109 |
|  |                  |                             |                 | CCGT 21.51     | CCGT060204    |               |          |        |                | ●     |       | 0.016 | 0.250 | 0.094 | 0.109 |
|  |                  |                             |                 | CCGT 32.50.5   | CCGT09T302    |               |          |        |                | ●     |       | 0.008 | 0.375 | 0.156 | 0.173 |
|  |                  |                             |                 | CCGT 32.51     | CCGT09T304    |               |          |        |                | ●     |       | 0.016 | 0.375 | 0.156 | 0.173 |
|  |                  |                             |                 | CCGT 32.52     | CCGT09T308    |               |          |        |                | ●     |       | 0.031 | 0.375 | 0.156 | 0.173 |
|  |                  |                             |                 | <b>Angular</b> | CCGT 21.5V R  | CCGT060200R   |          |        |                |       | ●     | 0.001 | 0.250 | 0.094 | 0.109 |
|  |                  |                             | CCGT 21.50.5 R  | CCGT060202R    |               |               |          |        | ●              | 0.008 | 0.250 | 0.094 | 0.109 |       |       |
|  |                  |                             | CCGT 21.50.5 L  | CCGT060202L    |               |               |          |        | ●              | 0.008 | 0.250 | 0.094 | 0.109 |       |       |
|  |                  |                             | CCGT 21.51 L    | CCGT060204L    |               |               |          |        | ●              | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|  |                  |                             | CCGT 32.50.5 R  | CCGT09T302R    |               |               |          |        | ●              | 0.008 | 0.375 | 0.156 | 0.173 |       |       |
|  |                  |                             | CCGT 32.50.5 L  | CCGT09T302L    |               |               |          |        | ●              | 0.008 | 0.375 | 0.156 | 0.173 |       |       |
|  |                  |                             | CCGT 32.51 R    | CCGT09T304R    |               |               |          |        | ●              | 0.016 | 0.375 | 0.156 | 0.173 |       |       |
|  |                  |                             | CCGT 32.51 L    | CCGT09T304L    |               |               |          |        | ●              | 0.016 | 0.375 | 0.156 | 0.173 |       |       |
| OTHERS   |                  | <b>23</b>                   | CCMT 21.50.5-23 | CCMT060202-23  |               |               |          |        | ●              |       | 0.008 | 0.250 | 0.094 | 0.109 |       |
|  |                  |                             | CCMT 21.51-23   | CCMT060204-23  | ●             |               |          |        | ●              |       | 0.016 | 0.250 | 0.094 | 0.109 |       |
|  |                  |                             | CCMT 21.52-23   | CCMT060208-23  | ●             |               |          |        |                |       | 0.031 | 0.250 | 0.094 | 0.109 |       |
|  |                  |                             | CCMT 32.51-23   | CCMT09T304-23  | ●             |               |          |        | ●              |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  |                  |                             | CCMT 32.52-23   | CCMT09T308-23  | ●             |               |          |        | ●              |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|  |                  |                             | -               | CCMW 21.51     | CCMW060204    |               |          |        |                |       | ●     | 0.016 | 0.250 | 0.094 | 0.109 |
|  |                  |                             |                 | CCMW 21.52     | CCMW060208    |               |          |        |                |       | ●     | 0.031 | 0.250 | 0.094 | 0.109 |
|  |                  |                             |                 | CCMW 32.51     | CCMW09T304    |               |          |        |                |       | ●     | 0.016 | 0.375 | 0.156 | 0.173 |
|  |                  |                             |                 | CCMW 32.52     | CCMW09T308    |               |          |        |                |       | ●     | 0.031 | 0.375 | 0.156 | 0.173 |

\* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW. Please contact our sales representatives if you have any questions.

● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D018 -  
 J-Series toolholder → G030 - TungCap → K011 -

# Insert POSITIVE TYPE

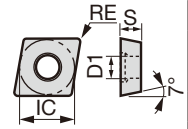
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✖ : Heavy interrupted cutting

# CC



**Rhombic, 80°  
with hole  
Positive 7°**

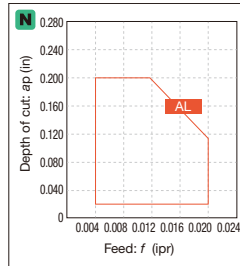
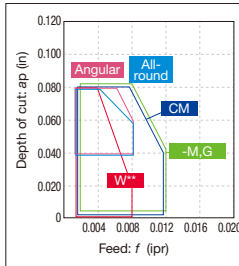
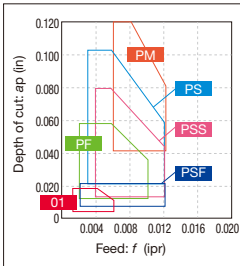
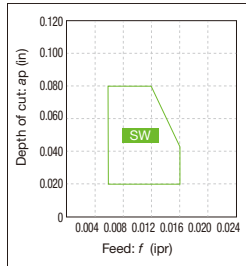
|               | P     | M   | K   | N   | S   | H   |
|---------------|-------|-----|-----|-----|-----|-----|
| Steel         | ●●●●● | ●●● | ●●● | ●●● | ●●● | ●●● |
| Stainless     | ●●●   | ●●● | ●●● | ●●● | ●●● | ●●● |
| Cast iron     | ●●●   | ●●● | ●●● | ●●● | ●●● | ●●● |
| Non-ferrous   | ●●●   | ●●● | ●●● | ●●● | ●●● | ●●● |
| Superalloy    | ●●●   | ●●● | ●●● | ●●● | ●●● | ●●● |
| Hard material | ●●●   | ●●● | ●●● | ●●● | ●●● | ●●● |



| Application                 | Chipbreaker | Designation   | Coated          |               |        |        |        |       |       |       |       |       |        | Coated cermet | Cermet | Uncoated | Dimension (in) |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------|-------------|---------------|-----------------|---------------|--------|--------|--------|-------|-------|-------|-------|-------|--------|---------------|--------|----------|----------------|---|----|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                             |             |               | T9215           | T9225         | T6215  | AH6225 | AH6235 | AH725 | AH110 | AH120 | GH730 | GH110 | GT9530 | NS9530        | TH10   | RE       | IC             | S | D1 |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | Inch            |               | Metric |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Finishing to medium cutting |             | -             | CCGW 21.50.5    | CCGW060202    |        |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCGW 21.51      | CCGW060204    |        |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCGW 32.50.5    | CCGW09T302    |        |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCGW 32.51      | CCGW09T304    |        |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCGW 32.52      | CCGW09T308    |        |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               |                 |               |        |        |        |       |       |       |       |       |        |               |        |          |                |   |    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Medium cutting              |             | PM            | CCMT 21.51 PM   | CCMT060204-PM | ●      | ●      | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 21.52 PM   | CCMT060208-PM | ●      | ●      | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 32.51 PM   | CCMT09T304-PM | ●      | ●      | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 32.52 PM   | CCMT09T308-PM | ●      | ●      | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 32.53 PM   | CCMT09T312-PM | ●      | ●      | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 432 PM     | CCMT120408-PM |        |        | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 433 PM     | CCMT120412-PM |        |        | ●      | ●     | ●     | ●     | ●     | ●     | ●      | ●             | ●      | ●        | ●              | ● | ●  | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             | 24            | CCMT 21.50.5-24 | CCMT060202-24 | ●      | ●      |        |       |       |       |       |       |        |               |        |          |                |   |    | ● | ● |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 21.51-24   | CCMT060204-24 | ●      | ●      |        |       |       |       |       |       |        |               |        |          |                |   |    | ● | ● |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 21.52-24   | CCMT060208-24 | ●      | ●      | ●      |       |       |       |       |       |        |               |        |          |                |   |    | ● | ● |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             |               | CCMT 32.50.5-24 | CCMT09T302-24 | ●      | ●      |        |       |       |       |       |       |        |               |        |          |                |   |    | ● | ● |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             | CCMT 32.51-24 | CCMT09T304-24   | ●             | ●      |        |        |       |       |       |       |       |        |               |        |          |                |   | ●  | ● |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             | CCMT 32.52-24 | CCMT09T308-24   | ●             | ●      | ●      |        |       |       |       |       |       |        |               |        |          |                |   | ●  | ● |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                             |             | CCMT 432-24   | CCMT120408-24   | ●             | ●      |        |        |       |       |       |       |       |        |               |        |          |                |   | ●  | ● |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

● : Line up

**Chip control range**



\*-M,G: Without chipbreaker

Reference pages: External toolholder → C034 - Internal toolholder → D018 -  
 J-Series toolholder → G030 - TungCap → K011 -

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index























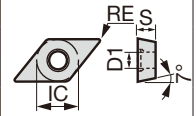


# Insert POSITIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

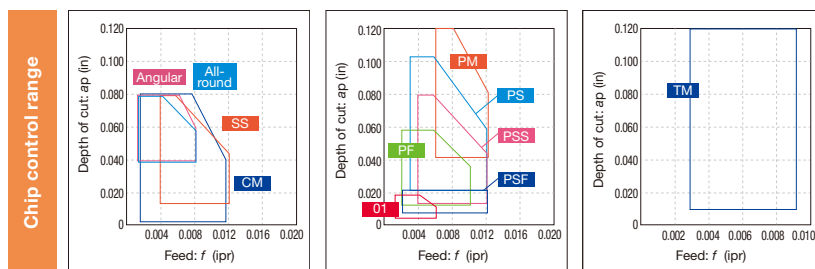
## DC

Rhombic, 55°  
 with hole  
 Positive 7°



| Application                 | Chipbreaker | Designation               | Coated        |            |        |       |        |        |       |       |       |       | Coated cermet | Cermet | Un-coated | Dimension (in) |    |       |       |       |       |       |       |
|-----------------------------|-------------|---------------------------|---------------|------------|--------|-------|--------|--------|-------|-------|-------|-------|---------------|--------|-----------|----------------|----|-------|-------|-------|-------|-------|-------|
|                             |             |                           | T9215         | T9225      | T6215  | T5115 | AH6225 | AH6235 | AH725 | AH110 | AH120 | GH730 | GH110         | GT9530 | NS9530    | TH10           | RE | IC    | S     | D1    |       |       |       |
|                             |             |                           | Inch          |            | Metric |       |        |        |       |       |       |       |               |        |           |                |    |       |       |       |       |       |       |
| Finishing to medium cutting |             | <b>23</b> DCMT 21.51-23   | DCMT070204-23 |            |        |       |        |        |       |       |       |       |               |        |           |                | ●  |       | 0.016 | 0.250 | 0.094 | 0.109 |       |
|                             |             | DCMT 32.51-23             | DCMT11T304-23 |            |        |       |        |        |       |       |       |       |               |        |           |                |    | ●     |       | 0.016 | 0.375 | 0.156 | 0.173 |
|                             |             | DCMT 32.52-23             | DCMT11T308-23 |            |        |       |        |        |       |       |       |       |               |        |           |                |    | ●     |       | 0.031 | 0.375 | 0.156 | 0.173 |
|                             |             | -                         | DCMW 21.51    | DCMW070204 |        |       |        | ●      |       |       |       |       |               |        |           |                |    |       |       | 0.016 | 0.250 | 0.094 | 0.109 |
|                             |             | DCMW 21.52                | DCMW070208    |            |        |       | ●      |        |       |       |       |       |               |        |           |                |    |       |       | 0.031 | 0.250 | 0.094 | 0.109 |
|                             |             | DCMW 32.51                | DCMW11T304    |            |        |       | ●      |        |       |       |       |       |               |        |           |                |    |       |       | 0.016 | 0.375 | 0.156 | 0.173 |
|                             |             | DCMW 32.52                | DCMW11T308    |            |        |       | ●      |        |       |       |       |       |               |        |           |                |    |       |       | 0.031 | 0.375 | 0.156 | 0.173 |
|                             |             | -                         | DCGW 21.50.5  | DCGW070202 |        |       |        |        |       |       |       |       |               |        |           |                |    | ●     |       | 0.008 | 0.250 | 0.094 | 0.109 |
|                             |             | DCGW 21.51                | DCGW070204    |            |        |       |        |        |       |       |       |       |               |        |           |                |    | ●     |       | 0.016 | 0.250 | 0.094 | 0.109 |
|                             |             | -                         | DCGW 32.50.5  | DCGW11T302 |        |       |        |        |       |       |       |       |               |        |           |                | ●  |       | 0.008 | 0.375 | 0.156 | 0.173 |       |
|                             |             | DCGW 32.51                | DCGW11T304    |            |        |       |        |        |       |       |       |       |               |        |           |                | ●  |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|                             |             | DCGW 32.52                | DCGW11T308    |            |        |       |        |        |       |       |       |       |               |        |           |                | ●  |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
| -                           |             | DCMT 21.50.5-24           | DCMT070202-24 | ●          | ●      | ●     | ●      | ●      | ●     | ●     | ●     | ●     | ●             | ●      | ●         | ●              | ●  |       | 0.016 | 0.250 | 0.094 | 0.109 |       |
| DCMT 21.51-24               |             | DCMT070204-24             | ●             | ●          |        |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
| DCMT 21.52-24               |             | DCMT070208-24             |               | ●          |        |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.031 | 0.250 | 0.094 | 0.109 |       |       |
| Medium cutting              |             | <b>24</b> DCMT 32.50.5-24 | DCMT11T302-24 |            |        |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.008 | 0.375 | 0.156 | 0.173 |       |       |
|                             |             | DCMT 32.51-24             | DCMT11T304-24 | ●          | ●      |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.016 | 0.375 | 0.156 | 0.173 |       |       |
|                             |             | DCMT 32.52-24             | DCMT11T308-24 | ●          | ●      | ●     |        |        |       |       |       |       |               |        |           | ●              |    | 0.031 | 0.375 | 0.156 | 0.173 |       |       |
|                             |             | DCMT 21.50.5-24           | DCMT070202-24 |            |        |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.008 | 0.250 | 0.094 | 0.109 |       |       |
|                             |             | DCMT 21.51-24             | DCMT070204-24 | ●          | ●      |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|                             |             | DCMT 21.52-24             | DCMT070208-24 |            | ●      |       |        |        |       |       |       |       |               |        |           | ●              |    | 0.031 | 0.250 | 0.094 | 0.109 |       |       |

● : Line up



Reference pages: External toolholder → C052 - Internal toolholder → D032 -  
 J-Series toolholder → G037 - TungCap → K015 -

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index



# Insert POSITIVE TYPE

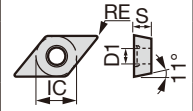
● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

## DP

Rhombic, 55°  
with hole  
Positive 11°



|               | P      | M  | K  | N  | S  | H  |
|---------------|--------|----|----|----|----|----|
| Steel         | ●●●●●● | ●● | ●● | ●● | ●● | ●● |
| Stainless     | ●●     | ●● | ●● | ●● | ●● | ●● |
| Cast iron     | ●●     | ●● | ●● | ●● | ●● | ●● |
| Non-ferrous   | ●●     | ●● | ●● | ●● | ●● | ●● |
| Superalloy    | ●●     | ●● | ●● | ●● | ●● | ●● |
| Hard material | ●●     | ●● | ●● | ●● | ●● | ●● |



| Application                 | Chipbreaker | Designation |                  | Coated         |       |       |        |        | Cermet | Dimension (in) |       |       |       |       |
|-----------------------------|-------------|-------------|------------------|----------------|-------|-------|--------|--------|--------|----------------|-------|-------|-------|-------|
|                             |             | Inch        | Metric           | T9215          | T9225 | T6215 | AH8015 | AH6225 | NS9530 | RE             | IC    | S     | D1    |       |
|                             |             |             |                  |                |       |       |        |        |        |                |       |       |       |       |
| Finishing                   |             | <b>TSF</b>  | DPMT 21.50.5 TSF | DPMT070202-TSF | ●     | ●     | ●      | ●      | ●      | ●              | 0.008 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 21.51 TSF   | DPMT070204-TSF | ●     | ●     | ●      | ●      | ●      | ●              | 0.016 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 21.52 TSF   | DPMT070208-TSF | ●     | ●     | ●      | ●      | ●      | ●              | 0.031 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 32.50.5 TSF | DPMT11T302-TSF | ●     | ●     | ●      | ●      | ●      | ●              | 0.008 | 0.375 | 0.156 | 0.173 |
|                             |             |             | DPMT 32.51 TSF   | DPMT11T304-TSF | ●     | ●     | ●      | ●      | ●      | ●              | 0.016 | 0.375 | 0.156 | 0.173 |
|                             |             |             | DPMT 32.52 TSF   | DPMT11T308-TSF | ●     | ●     | ●      | ●      | ●      | ●              | 0.031 | 0.375 | 0.156 | 0.173 |
| Finishing to medium cutting |             | <b>PS</b>   | DPMT 21.50.5 PS  | DPMT070202-PS  | ●     | ●     | ●      | ●      | ●      | ●              | 0.008 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 21.51 PS    | DPMT070204-PS  | ●     | ●     | ●      | ●      | ●      | ●              | 0.016 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 21.52 PS    | DPMT070208-PS  | ●     | ●     | ●      | ●      | ●      | ●              | 0.031 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 32.50.5 PS  | DPMT11T302-PS  | ●     | ●     | ●      | ●      | ●      | ●              | 0.008 | 0.375 | 0.156 | 0.173 |
|                             |             |             | DPMT 32.51 PS    | DPMT11T304-PS  | ●     | ●     | ●      | ●      | ●      | ●              | 0.016 | 0.375 | 0.156 | 0.173 |
|                             |             |             | DPMT 32.52 PS    | DPMT11T308-PS  | ●     | ●     | ●      | ●      | ●      | ●              | 0.031 | 0.375 | 0.156 | 0.173 |
| Finishing to medium cutting |             | <b>TM</b>   | DPMT 21.50.5 TM  | DPMT070202-TM  | ●     | ●     | ●      | ●      | ●      | ●              | 0.008 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 21.51 TM    | DPMT070204-TM  | ●     | ●     | ●      | ●      | ●      | ●              | 0.016 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 21.52 TM    | DPMT070208-TM  | ●     | ●     | ●      | ●      | ●      | ●              | 0.031 | 0.250 | 0.094 | 0.109 |
|                             |             |             | DPMT 32.50.5 TM  | DPMT11T302-TM  | ●     | ●     | ●      | ●      | ●      | ●              | 0.008 | 0.375 | 0.156 | 0.173 |
|                             |             |             | DPMT 32.51 TM    | DPMT11T304-TM  | ●     | ●     | ●      | ●      | ●      | ●              | 0.016 | 0.375 | 0.156 | 0.173 |
|                             |             |             | DPMT 32.52 TM    | DPMT11T308-TM  | ●     | ●     | ●      | ●      | ●      | ●              | 0.031 | 0.375 | 0.156 | 0.173 |

● : Line up

# Insert POSITIVE TYPE / DOUBLE SIDED

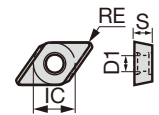
● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

## DX

Rhombic, 55°  
with hole



|               | P  | M  | K  | N  | S  | H  |
|---------------|----|----|----|----|----|----|
| Steel         | ●● | ●● | ●● | ●● | ●● | ●● |
| Stainless     | ●● | ●● | ●● | ●● | ●● | ●● |
| Cast iron     | ●● | ●● | ●● | ●● | ●● | ●● |
| Non-ferrous   | ●● | ●● | ●● | ●● | ●● | ●● |
| Superalloy    | ●● | ●● | ●● | ●● | ●● | ●● |
| Hard material | ●● | ●● | ●● | ●● | ●● | ●● |



| Application            | Chipbreaker | Designation |                    | Coated               | Dimension (in) |         |       |       |       |  |
|------------------------|-------------|-------------|--------------------|----------------------|----------------|---------|-------|-------|-------|--|
|                        |             | Inch        | Metric             | SH725                | RE             | IC      | S     | D1    |       |  |
|                        |             |             |                    |                      |                |         |       |       |       |  |
| Finishing (sharp edge) |             | <b>JRP</b>  | DXGU 220MFRE JRP   | DXGU070301MFRE-JRP** | ●              | <0.004* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             | DXGU 220MFLE JRP   | DXGU070301MFLE-JRP** | ●              | <0.004* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             | DXGU 220.5MFRE JRP | DXGU070302MFRE-JRP** | ●              | <0.008* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             | DXGU 220.5MFLE JRP | DXGU070302MFLE-JRP** | ●              | <0.008* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             |                    |                      |                |         |       |       |       |  |
|                        |             |             |                    |                      |                |         |       |       |       |  |
|                        |             |             |                    |                      |                |         |       |       |       |  |
|                        |             |             |                    |                      |                |         |       |       |       |  |
| Finishing (sharp edge) |             | <b>JSS</b>  | DXGU 220MFR JSS    | DXGU070301MFR-JSS    | ●              | <0.004* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             | DXGU 220MFL JSS    | DXGU070301MFL-JSS    | ●              | <0.004* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             | DXGU 220.5MFR JSS  | DXGU070302MFR-JSS    | ●              | <0.008* | 0.250 | 0.125 | 0.106 |  |
|                        |             |             | DXGU 220.5MFL JSS  | DXGU070302MFL-JSS    | ●              | <0.008* | 0.250 | 0.125 | 0.106 |  |

\*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

\*\* For external turning applications

● : Line up

Reference pages: DPMT...: Internal toolholder → **D038 -**

DXGU...: External toolholder → **C057 -**, Internal toolholder → **D040 -**

J-Series toolholder → **G046 -**, TungCap → **K026**

























# Insert POSITIVE TYPE

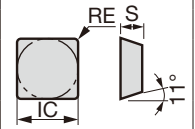
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

# SP



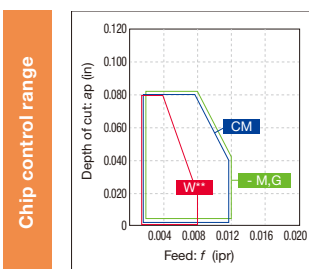
Square  
without hole  
Positive 11°

|   |               |    |    |    |    |    |    |    |   |  |  |   |    |    |    |  |  |  |    |  |
|---|---------------|----|----|----|----|----|----|----|---|--|--|---|----|----|----|--|--|--|----|--|
| P | Steel         | c* | ●c | ●  | ●c | ●c | ●c | ●c | c |  |  |   |    |    |    |  |  |  |    |  |
| M | Stainless     |    | ●c | ●  | ●c | ●c | ●c | ●c | c |  |  | ● | ●c |    |    |  |  |  |    |  |
| K | Cast iron     |    | c  | ●c | ●  | ●c | ●c | ●c | c |  |  | ● |    |    |    |  |  |  | ●c |  |
| N | Non-ferrous   |    |    |    |    |    |    |    |   |  |  | ● |    |    |    |  |  |  |    |  |
| S | Superalloy    |    | ●c | ●  | ●c |    |    |    |   |  |  |   |    |    |    |  |  |  |    |  |
| H | Hard material |    |    |    |    |    |    |    |   |  |  |   |    | ●c | ●c |  |  |  |    |  |



| Application                 | Chipbreaker | Designation           | Material      |             |       |        |       |          |        |         |      |      |     |       | Dimension (in) |       |       |      |       |
|-----------------------------|-------------|-----------------------|---------------|-------------|-------|--------|-------|----------|--------|---------|------|------|-----|-------|----------------|-------|-------|------|-------|
|                             |             |                       | Coated        |             |       | Cermet |       | Uncoated |        | Ceramic |      |      | RE  | IC    | S              | D1    |       |      |       |
|                             |             |                       | T9225         | T5115       | T3130 | AH110  | AH120 | AH330    | NS9530 | NS740   | TH10 | UX30 |     |       |                |       | LX10  | LX11 | FX105 |
| Inch                        | Metric      |                       |               |             |       |        |       |          |        |         |      |      |     |       |                |       |       |      |       |
| Finishing to medium cutting |             | <b>CM</b> SPMR 321 CM | SPMR090304-CM | ●           |       |        |       |          |        |         |      |      |     |       | 0.016          | 0.375 | 0.125 | -    |       |
|                             |             | SPMR 322 CM           | SPMR090308-CM | ●           |       |        |       |          |        |         |      |      |     |       | 0.031          | 0.375 | 0.125 | -    |       |
|                             |             | SPMR 421 CM           | SPMR120304-CM | ●           |       |        |       |          |        |         |      |      |     |       | 0.016          | 0.500 | 0.125 | -    |       |
|                             |             | SPMR 422 CM           | SPMR120308-CM | ●           |       |        |       |          |        |         |      |      |     |       | 0.031          | 0.500 | 0.125 | -    |       |
|                             |             | SPMR 423 CM           | SPMR120312-CM | ●           |       |        |       |          |        |         |      |      |     |       | 0.047          | 0.500 | 0.125 | -    |       |
|                             |             |                       |               |             |       |        |       |          |        |         |      |      |     |       |                |       |       |      |       |
|                             | <b>23</b>   | SPMR 321-23           | SPMR090304-23 |             |       |        |       | ●        |        |         |      |      |     |       | 0.016          | 0.375 | 0.125 | -    |       |
|                             |             | SPMR 322-23           | SPMR090308-23 | ●           |       |        |       | ●        |        |         |      |      |     |       | 0.031          | 0.375 | 0.125 | -    |       |
|                             |             | SPMR 421-23           | SPMR120304-23 | ●           |       |        |       | ●        |        |         |      |      |     |       | 0.016          | 0.500 | 0.125 | -    |       |
|                             |             | SPMR 422-23           | SPMR120308-23 | ●           |       |        |       | ●        |        |         |      |      |     |       | 0.031          | 0.500 | 0.125 | -    |       |
|                             |             |                       |               |             |       |        |       |          |        |         |      |      |     |       |                |       |       |      |       |
|                             |             | <b>-</b>              | SPGR 321 L    | SPGR090304L |       |        |       |          | ●      |         |      |      |     |       | 0.016          | 0.375 | 0.125 | -    |       |
|                             |             |                       |               |             |       |        |       |          |        |         |      |      |     |       |                |       |       |      |       |
|                             | <b>-</b>    | SPGN 321              | SPGN090304    |             |       |        |       |          |        | ●       |      |      | ▲   | 0.016 | 0.375          | 0.125 | -     |      |       |
|                             |             | SPGN 322              | SPGN090308    |             |       |        |       |          |        | ●       |      |      | ● ▲ | 0.031 | 0.375          | 0.125 | -     |      |       |
|                             |             | SPGN 324              | SPGN090316    |             |       |        |       |          |        |         |      |      | ● ▲ | 0.063 | 0.375          | 0.125 | -     |      |       |
|                             |             | SPGN 421              | SPGN120304    |             |       |        |       |          |        | ●       |      |      | ● ▲ | 0.016 | 0.500          | 0.125 | -     |      |       |
|                             |             | SPGN 422              | SPGN120308    |             |       |        | ●     |          |        | ●       |      |      | ● ▲ | 0.031 | 0.500          | 0.125 | -     |      |       |
|                             |             | SPGN 423              | SPGN120312    |             |       |        |       | ●        |        | ●       |      |      | ● ▲ | 0.047 | 0.500          | 0.125 | -     |      |       |
|                             |             | SPGN 432              | SPGN120408    |             |       |        |       |          |        | ●       |      |      |     | 0.031 | 0.500          | 0.187 | -     |      |       |
|                             |             | SPGN 433              | SPGN120412    |             |       |        |       |          |        | ●       |      |      |     | 0.047 | 0.500          | 0.187 | -     |      |       |
|                             |             | SPGN 433TN            | SPGN120412    |             |       |        |       |          |        |         |      |      | ●   | 0.047 | 0.500          | 0.187 | -     |      |       |
|                             | <b>-</b>    | SPMN 321              | SPMN090304    | ●           |       |        |       |          |        |         |      |      |     | 0.016 | 0.375          | 0.125 | -     |      |       |
|                             |             | SPMN 322              | SPMN090308    | ●           |       |        |       | ●        |        |         |      |      |     | 0.031 | 0.375          | 0.125 | -     |      |       |
|                             |             | SPMN 421              | SPMN120304    | ●           |       |        |       |          |        |         |      |      |     | 0.016 | 0.500          | 0.125 | -     |      |       |
|                             |             | SPMN 422              | SPMN120308    | ● ●         |       |        |       | ●        |        | ● ●     |      |      |     | 0.031 | 0.500          | 0.125 | -     |      |       |
|                             |             | SPMN 423              | SPMN120312    | ●           |       |        |       | ●        |        | ● ●     |      |      |     | 0.047 | 0.500          | 0.125 | -     |      |       |
|                             |             | SPMN 432              | SPMN120408    | ●           |       |        | ●     | ●        |        | ● ●     |      |      |     | 0.031 | 0.500          | 0.187 | -     |      |       |
|                             |             | SPMN 433              | SPMN120412    | ●           |       |        | ●     |          |        | ●       |      |      |     | 0.047 | 0.500          | 0.187 | -     |      |       |
|                             |             | SPMN 633              | SPMN190412    |             | ●     | ●      | ●     | ●        |        | ●       |      |      | ● ● | 0.047 | 0.750          | 0.187 | -     |      |       |

● : Line up  
 ▲ : To be discontinued



\*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D053

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index



# Insert POSITIVE TYPE

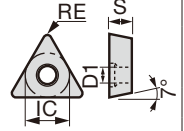
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## TC



**Triangular with hole Positive 7°**

|               | P    | M  | K  | N  | S  | H  |
|---------------|------|----|----|----|----|----|
| Steel         | ●●●✱ | ●● | ●● | ●● | ●● | ●● |
| Stainless     | ●●   | ●● | ●● | ●● | ●● | ●● |
| Cast iron     | ●●   | ●● | ●● | ●● | ●● | ●● |
| Non-ferrous   | ●●   | ●● | ●● | ●● | ●● | ●● |
| Superalloy    | ●●   | ●● | ●● | ●● | ●● | ●● |
| Hard material | ●●   | ●● | ●● | ●● | ●● | ●● |



| Application                      | Chipbreaker | Designation                 | Coated          |       |        |        |        |       |        |       |       |      | Coated cermet | Cermet |       | Uncoated | Dimension (in) |        |       |       |       |       |       |       |       |
|----------------------------------|-------------|-----------------------------|-----------------|-------|--------|--------|--------|-------|--------|-------|-------|------|---------------|--------|-------|----------|----------------|--------|-------|-------|-------|-------|-------|-------|-------|
|                                  |             |                             | T9215           | T9225 | T6215  | AH8015 | AH6225 | AH725 | SH7025 | SH725 | SH730 | J740 | GT9530        | NS9530 | NS520 | TH10     | RE             | IC     | S     | D1    |       |       |       |       |       |
|                                  |             |                             | Inch            |       | Metric |        |        |       |        |       |       |      |               |        |       |          |                |        |       |       |       |       |       |       |       |
| Precision finishing (sharp edge) |             | <b>JP</b> TCGT 21.5V FN-JP  | TCGT110200FN-JP |       |        |        |        |       | ●      | ●     |       |      |               |        |       |          | <0.002         | 0.250  | 0.094 | 0.109 |       |       |       |       |       |
|                                  |             | TCGT 21.50 FN-JP            | TCGT110201FN-JP |       |        |        |        |       | ●      | ●     |       |      |               |        |       |          |                | <0.004 | 0.250 | 0.094 | 0.109 |       |       |       |       |
|                                  |             | TCGT 21.50.5 FN-JP          | TCGT110202FN-JP |       |        |        |        |       | ●      | ●     |       |      |               |        |       |          |                | <0.008 | 0.250 | 0.094 | 0.109 |       |       |       |       |
| Precision finishing              |             | <b>01</b> TCGT 21.50.5 F-01 | TCGT110202F-01  |       |        |        |        |       | ●      | ●     |       |      |               |        |       |          | <0.008         | 0.250  | 0.094 | 0.109 |       |       |       |       |       |
|                                  |             | TCGT 21.51 F-01             | TCGT110204F-01  |       |        |        |        |       | ●      | ●     |       |      |               |        |       |          |                | <0.016 | 0.250 | 0.094 | 0.109 |       |       |       |       |
| Precision finishing              |             | <b>01</b> TCGT 731-01       | TCGT090204-01   |       |        |        |        |       |        |       |       |      |               | ●      | ●     |          | 0.016          | 0.219  | 0.094 | 0.098 |       |       |       |       |       |
|                                  |             | TCGT 21.50.5-01             | TCGT110202-01   |       |        |        |        |       |        |       | ●     |      |               |        |       |          |                | 0.008  | 0.250 | 0.094 | 0.109 |       |       |       |       |
|                                  |             | TCGT 21.51-01               | TCGT110204-01   |       |        |        |        |       |        |       |       | ●    |               |        |       |          |                |        | 0.016 | 0.250 | 0.094 | 0.109 |       |       |       |
|                                  |             | TCGT 21.52-01               | TCGT110208-01   |       |        |        |        |       |        |       |       |      |               |        | ●     |          |                |        | 0.031 | 0.250 | 0.094 | 0.109 |       |       |       |
|                                  |             | TCGT 32.51-01               | TCGT16T304-01   |       |        |        |        |       |        |       |       |      |               |        |       | ●        |                |        |       | 0.016 | 0.375 | 0.156 | 0.173 |       |       |
| Finishing (sharp edge)           |             | <b>JS</b> TCGT 21.5V FN-JS  | TCGT110200FN-JS |       |        |        |        |       | ●      | ●     | ●     |      |               |        |       |          | <0.002         | 0.250  | 0.094 | 0.109 |       |       |       |       |       |
|                                  |             | TCGT 21.50 FN-JS            | TCGT110201FN-JS |       |        |        |        |       | ●      | ●     | ●     |      |               |        |       |          |                | <0.004 | 0.250 | 0.094 | 0.109 |       |       |       |       |
|                                  |             | TCGT 21.50.5 FN-JS          | TCGT110202FN-JS |       |        |        |        |       | ●      | ●     | ●     |      |               |        |       |          |                | <0.008 | 0.250 | 0.094 | 0.109 |       |       |       |       |
|                                  |             | TCGT 21.51 FN-JS            | TCGT110204FN-JS |       |        |        |        |       | ●      | ●     | ●     |      |               |        |       |          |                | <0.016 | 0.250 | 0.094 | 0.109 |       |       |       |       |
| Finishing                        |             | <b>JS</b> TCGT 21.50 N-JS   | TCGT110201N-JS  |       |        |        |        |       | ●      |       |       |      |               |        |       |          |                | 0.004  | 0.250 | 0.094 | 0.109 |       |       |       |       |
|                                  |             | TCGT 21.50.5 N-JS           | TCGT110202N-JS  |       |        |        |        |       | ●      |       |       |      |               |        |       |          |                |        | 0.008 | 0.250 | 0.094 | 0.109 |       |       |       |
|                                  |             | TCGT 21.51 N-JS             | TCGT110204N-JS  |       |        |        |        |       | ●      |       |       |      |               |        |       |          |                |        |       | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|                                  |             | <b>PSF</b> TCMT 730.5 PSF   | TCMT090202-PSF  |       |        |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       | 0.008 | 0.219 | 0.094 | 0.098 |       |       |
|                                  |             | TCMT 731 PSF                | TCMT090204-PSF  | ●     | ●      |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       |       | 0.016 | 0.219 | 0.094 | 0.098 |       |
|                                  |             | TCMT 21.50.5 PSF            | TCMT110202-PSF  |       |        |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       |       | 0.008 | 0.250 | 0.094 | 0.109 |       |
| Finishing                        |             | TCMT 21.51 PSF              | TCMT110204-PSF  | ●     | ●      |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|                                  |             | TCMT 220.5 PSF              | TCMT110302-PSF  |       |        |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       |       | 0.008 | 0.250 | 0.125 | 0.109 |       |
|                                  |             | TCMT 221 PSF                | TCMT110304-PSF  | ●     | ●      |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       |       | 0.016 | 0.250 | 0.125 | 0.109 |       |
|                                  |             | TCMT 32.51 PSF              | TCMT16T304-PSF  | ●     | ●      |        | ●      | ●     |        |       |       |      |               |        |       |          |                |        |       |       |       | 0.016 | 0.375 | 0.156 | 0.173 |
|                                  |             | <b>TSF</b> TCMT 21.51 TSF   | TCMT110204-TSF  | ●     | ●      |        | ●      |       |        |       |       |      |               |        |       |          |                |        |       |       |       | 0.016 | 0.250 | 0.094 | 0.109 |
|                                  |             | TCMT 21.52 TSF              | TCMT110208-TSF  | ●     | ●      |        | ●      |       |        |       |       |      |               |        |       |          |                |        |       |       |       | 0.031 | 0.250 | 0.094 | 0.109 |
| Finishing                        |             | TCMT 220.5 TSF              | TCMT110302-TSF  | ●     | ●      | ●      | ●      | ●     |        |       |       |      |               | ●      |       |          |                |        |       |       | 0.008 | 0.250 | 0.125 | 0.109 |       |
|                                  |             | TCMT 221 TSF                | TCMT110304-TSF  | ●     | ●      | ●      | ●      | ●     |        |       |       |      |               | ●      |       |          |                |        |       |       |       | 0.016 | 0.250 | 0.125 | 0.109 |
|                                  |             | TCMT 222 TSF                | TCMT110308-TSF  | ●     | ●      | ●      | ●      | ●     |        |       |       |      |               | ●      |       |          |                |        |       |       |       | 0.031 | 0.250 | 0.125 | 0.109 |
|                                  |             | TCMT 32.51 TSF              | TCMT16T304-TSF  | ●     | ●      |        | ●      |       |        |       |       |      |               |        |       |          |                |        |       |       |       | 0.016 | 0.375 | 0.156 | 0.173 |
|                                  |             | TCMT 32.52 TSF              | TCMT16T308-TSF  | ●     | ●      |        | ●      |       |        |       |       |      |               |        |       |          |                |        |       |       |       | 0.031 | 0.375 | 0.156 | 0.173 |

\*Corner radius (RE) with a sign of inequality (<) means minus tolerance. ● : Line up

Reference pages: External toolholder → C098 - Internal toolholder → D056  
 J-Series toolholder → G054 -

# Insert POSITIVE TYPE

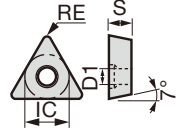
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## TC



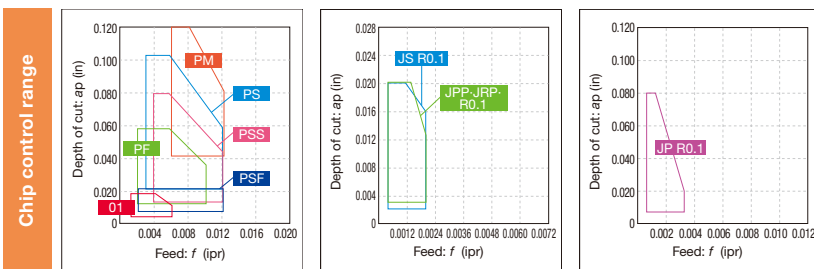
Triangular with hole Positive 7°

|   |               |      |  |  |  |    |  |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------|------|--|--|--|----|--|--|--|----|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel         | ◐◐◐◐ |  |  |  | ◐◐ |  |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless     | ◐◐◐◐ |  |  |  |    |  |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron     |      |  |  |  | ◐◐ |  |  |  | ◐◐ |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |      |  |  |  |    |  |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |      |  |  |  |    |  |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard material |      |  |  |  |    |  |  |  |    |  |  |  |  |  |  |  |  |  |  |  |



| Application            | Chipbreaker         | Designation        |                  | Coated           |       | Coated cermet | Cermet | Uncoated | Dimension (in) |        |        |        |       |       |
|------------------------|---------------------|--------------------|------------------|------------------|-------|---------------|--------|----------|----------------|--------|--------|--------|-------|-------|
|                        |                     | Inch               | Metric           | SH7025           | SH725 | J740          | J9530  | NS9530   | TH10           | RE     | IC     | S      | D1    |       |
|                        |                     | J08                | TCGT 63V FR-J08  | TCGT080200FR-J08 | ●     | ●             | ●      |          |                |        | ●      | 0.0012 | 0.187 | 0.094 |
| Finishing (sharp edge) |                     | TCGT 63V FL-J08    | TCGT080200FL-J08 | ●                | ●     |               |        |          |                | ●      | 0.0012 | 0.187  | 0.094 | 0.091 |
|                        |                     | TCGT 630 FR-J08    | TCGT080201FR-J08 | ●                | ●     | ●             |        |          |                | ●      | 0.004  | 0.187  | 0.094 | 0.091 |
|                        |                     | TCGT 630 FL-J08    | TCGT080201FL-J08 | ●                | ●     |               |        |          |                | ●      | 0.004  | 0.187  | 0.094 | 0.091 |
|                        |                     | TCGT 630.5 FR-J08  | TCGT080202FR-J08 | ●                | ●     | ●             |        |          |                | ●      | 0.008  | 0.187  | 0.094 | 0.091 |
|                        |                     | TCGT 630.5 FL-J08  | TCGT080202FL-J08 | ●                | ●     | ●             |        |          |                | ●      | 0.008  | 0.187  | 0.094 | 0.091 |
|                        |                     | TCGT 631 FR-J08    | TCGT080204FR-J08 | ●                | ●     |               |        |          |                |        | 0.016  | 0.187  | 0.094 | 0.091 |
|                        |                     | TCGT 21.5V FR-J10  | TCGT110200FR-J10 | ●                | ●     | ●             |        |          |                | ●      | 0.0012 | 0.250  | 0.094 | 0.109 |
|                        | TCGT 21.5V FL-J10   | TCGT110200FL-J10   | ●                | ●                |       |               |        |          | ●              | 0.0012 | 0.250  | 0.094  | 0.109 |       |
|                        | TCGT 21.50 FR-J10   | TCGT110201FR-J10   | ●                | ●                | ●     |               |        |          | ●              | 0.004  | 0.250  | 0.094  | 0.109 |       |
|                        | TCGT 21.50 FL-J10   | TCGT110201FL-J10   | ●                | ●                |       |               |        |          | ●              | 0.004  | 0.250  | 0.094  | 0.109 |       |
|                        | TCGT 21.50.5 FR-J10 | TCGT110202FR-J10   | ●                | ●                | ●     |               | ●      |          | ●              | 0.008  | 0.250  | 0.094  | 0.109 |       |
|                        | TCGT 21.50.5 FL-J10 | TCGT110202FL-J10   | ●                | ●                | ●     |               | ●      |          | ●              | 0.008  | 0.250  | 0.094  | 0.109 |       |
|                        | TCGT 21.51 FR-J10   | TCGT110204FR-J10   | ●                | ●                |       |               |        |          |                | 0.016  | 0.250  | 0.094  | 0.109 |       |
|                        | TCGT 22V FR-J10     | TCGT110300FR-J10   | ●                | ●                | ●     |               |        |          | ●              | 0.0012 | 0.250  | 0.125  | 0.109 |       |
| TCGT 22V FL-J10        | TCGT110300FL-J10    | ●                  | ●                |                  |       |               |        | ●        | 0.0012         | 0.250  | 0.125  | 0.109  |       |       |
| TCGT 220 FR-J10        | TCGT110301FR-J10    | ●                  | ●                | ●                |       |               |        | ●        | 0.004          | 0.250  | 0.125  | 0.109  |       |       |
| TCGT 220 FL-J10        | TCGT110301FL-J10    | ●                  | ●                |                  |       |               |        | ●        | 0.004          | 0.250  | 0.125  | 0.109  |       |       |
| TCGT 220.5 FR-J10      | TCGT110302FR-J10    | ●                  | ●                | ●                |       | ●             |        | ●        | 0.008          | 0.250  | 0.125  | 0.109  |       |       |
| TCGT 220.5 FL-J10      | TCGT110302FL-J10    | ●                  | ●                | ●                |       | ●             |        | ●        | 0.008          | 0.250  | 0.125  | 0.109  |       |       |
| Finishing              |                     | TCGT 220.5 R-J10   | TCGT110302R-J10  |                  |       |               | ●      |          |                |        | 0.008  | 0.250  | 0.125 | 0.109 |
|                        |                     | TCGT 220.5 L-J10   | TCGT110302L-J10  |                  |       |               | ●      |          |                |        | 0.008  | 0.250  | 0.125 | 0.109 |
|                        |                     | TCGT 32.50.5 L-W15 | TCGT16T302L-W15  |                  |       |               |        |          |                | ●      | 0.008  | 0.375  | 0.156 | 0.173 |
|                        |                     | TCGT 32.51 L-W15   | TCGT16T304L-W15  |                  |       |               |        | ●        |                | ●      | 0.016  | 0.375  | 0.156 | 0.173 |
|                        |                     | TCGT 32.52 L-W15   | TCGT16T308L-W15  |                  |       |               |        |          |                | ●      | 0.031  | 0.375  | 0.156 | 0.173 |

● : Line up



Reference pages: External toolholder → C098 - Internal toolholder → D056  
 J-Series toolholder → G054 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



Negative

Positive

CBN

PCD

C

D

E

F

G

R

S

T

V

W

Y

OTHERS

# Insert POSITIVE TYPE

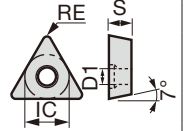
● : Continuous cutting  
 ◐ : Light interrupted cutting  
 ※ : Heavy interrupted cutting

## TC



Triangular with hole  
Positive 7°

|               | P | M | K | N | S | H |
|---------------|---|---|---|---|---|---|
| Steel         | ● | ◐ | ◐ | ◐ | ◐ | ◐ |
| Stainless     | ◐ | ● | ◐ | ◐ | ◐ | ◐ |
| Cast iron     | ◐ | ◐ | ● | ◐ | ◐ | ◐ |
| Non-ferrous   | ◐ | ◐ | ◐ | ● | ◐ | ◐ |
| Superalloy    | ◐ | ◐ | ◐ | ◐ | ● | ◐ |
| Hard material | ◐ | ◐ | ◐ | ◐ | ◐ | ● |



| Application                                      | Chipbreaker     | Designation                 |                 | Coated         |             |               |      |      |       |        |        |        |       | Coated cermet | Cermet | Uncoated | Dimension (in) |       |       |       |       |       |       |
|--|-----------------|-----------------------------|-----------------|----------------|-------------|---------------|------|------|-------|--------|--------|--------|-------|---------------|--------|----------|----------------|-------|-------|-------|-------|-------|-------|
|  |                 | Inch                        | Metric          | T9215          | T9225       | T6215         | T505 | T515 | T5115 | AH8015 | AH6225 | AH6235 | AH725 | GH730         | GT9530 | AT9530   | NS9530         | KS05F | RE    | IC    | S     | D1    |       |
| Application                                      |                 | <b>PSS</b>                  | TCMT 731 PSS    | TCMT090204-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                | 0.016 | 0.219 | 0.094 | 0.098 |       |       |
|  |                 |                             | TCMT 732 PSS    | TCMT090208-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.031 | 0.219 | 0.094 | 0.098 |       |
|  |                 |                             | TCMT 21.51 PSS  | TCMT110204-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.016 | 0.250 | 0.094 | 0.109 |       |
|  |                 |                             | TCMT 21.52 PSS  | TCMT110208-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.031 | 0.250 | 0.094 | 0.109 |       |
|  |                 |                             | TCMT 221 PSS    | TCMT110304-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.016 | 0.250 | 0.125 | 0.109 |       |
|  |                 |                             | TCMT 222 PSS    | TCMT110308-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.031 | 0.250 | 0.125 | 0.109 |       |
|  |                 |                             | TCMT 32.51 PSS  | TCMT16T304-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  |                 |                             | TCMT 32.52 PSS  | TCMT16T308-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|  |                 |                             | TCMT 32.53 PSS  | TCMT16T312-PSS | ●           | ●             |      |      |       |        |        | ●      |       |               |        |          |                |       | 0.047 | 0.375 | 0.156 | 0.173 |       |
|  |                 | Finishing                   |                 | <b>PS</b>      | TCMT 731 PS | TCMT090204-PS |      |      |       |        |        |        |       | ●             |        |          |                |       |       | 0.016 | 0.219 | 0.094 | 0.098 |
|  |                 |                             |                 |                | TCMT 732 PS | TCMT090208-PS |      |      |       |        |        |        |       | ●             |        |          |                |       |       |       | 0.031 | 0.219 | 0.094 |
|  | TCMT 21.50.5 PS |                             |                 | TCMT110202-PS  | ●           | ●             | ●    |      |       |        |        | ●      | ●     | ●             | ●      | ●        | ●              | ●     | 0.008 | 0.250 | 0.094 | 0.109 |       |
|  | TCMT 21.51 PS   |                             |                 | TCMT110204-PS  | ●           | ●             | ●    |      |       |        |        | ●      | ●     | ●             | ●      | ●        | ●              | ●     | 0.016 | 0.250 | 0.094 | 0.109 |       |
|  | TCMT 21.52 PS   |                             |                 | TCMT110208-PS  | ●           | ●             | ●    |      |       |        |        | ●      | ●     | ●             | ●      | ●        | ●              | ●     | 0.031 | 0.250 | 0.094 | 0.109 |       |
|  | TCMT 220.5 PS   |                             |                 | TCMT110302-PS  | ●           | ●             | ●    |      |       |        | ●      | ●      | ●     |               |        |          | ●              |       | 0.008 | 0.250 | 0.125 | 0.109 |       |
|  | TCMT 221 PS     |                             |                 | TCMT110304-PS  | ●           | ●             | ●    |      |       |        | ●      | ●      | ●     |               |        |          | ●              |       | 0.016 | 0.250 | 0.125 | 0.109 |       |
|  | TCMT 222 PS     |                             |                 | TCMT110308-PS  | ●           | ●             | ●    |      |       |        | ●      | ●      | ●     |               |        |          | ●              |       | 0.031 | 0.250 | 0.125 | 0.109 |       |
|  | TCMT 32.50.5 PS |                             |                 | TCMT16T302-PS  | ●           | ●             | ●    |      |       |        |        | ●      | ●     | ●             |        |          | ●              |       | 0.008 | 0.375 | 0.156 | 0.173 |       |
|  | TCMT 32.51 PS   |                             |                 | TCMT16T304-PS  | ●           | ●             | ●    |      |       |        |        | ●      | ●     | ●             |        |          | ●              |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  | TCMT 32.52 PS   |                             |                 | TCMT16T308-PS  | ●           | ●             | ●    |      |       |        |        | ●      | ●     | ●             |        |          | ●              |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
| Application                                      |                 | <b>TM</b>                   | TCMT 21.51 TM   | TCMT110204-TM  | ●           | ●             |      |      |       | ●      |        |        |       |               |        |          |                | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|  |                 |                             | TCMT 21.52 TM   | TCMT110208-TM  | ●           | ●             |      |      |       |        | ●      |        |       |               |        |          |                |       | 0.031 | 0.250 | 0.094 | 0.109 |       |
|  |                 |                             | TCMT 220.5 TM   | TCMT110302-TM  | ●           | ●             | ●    |      |       |        | ●      | ●      |       |               |        | ●        |                |       | 0.008 | 0.250 | 0.125 | 0.109 |       |
|  |                 |                             | TCMT 221 TM     | TCMT110304-TM  | ●           | ●             | ●    |      |       |        | ●      | ●      |       |               |        | ●        |                |       | 0.016 | 0.250 | 0.125 | 0.109 |       |
|  |                 |                             | TCMT 222 TM     | TCMT110308-TM  | ●           | ●             | ●    |      |       |        | ●      | ●      |       |               |        | ●        |                |       | 0.031 | 0.250 | 0.125 | 0.109 |       |
|  |                 |                             | TCMT 32.51 TM   | TCMT16T304-TM  | ●           | ●             |      |      |       |        | ●      |        |       |               |        | ●        |                |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  |                 |                             | TCMT 32.52 TM   | TCMT16T308-TM  | ●           | ●             |      |      |       |        | ●      |        |       |               |        | ●        |                |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|  |                 | Finishing to medium cutting |                 | <b>CM</b>      | TCMT 731 CM | TCMT090204-CM |      |      |       |        |        | ●      |       |               |        |          |                |       |       | 0.016 | 0.219 | 0.094 | 0.098 |
|  | TCMT 732 CM     |                             |                 | TCMT090208-CM  |             |               |      |      |       |        | ●      |        |       |               |        |          |                |       | 0.031 | 0.219 | 0.094 | 0.098 |       |
|  | TCMT 21.51 CM   |                             |                 | TCMT110204-CM  |             |               |      |      |       |        | ●      |        |       |               |        |          |                |       | 0.016 | 0.250 | 0.094 | 0.109 |       |
|  | TCMT 21.52 CM   |                             |                 | TCMT110208-CM  |             |               |      |      |       |        | ●      |        |       |               |        |          |                |       | 0.031 | 0.250 | 0.094 | 0.109 |       |
|  | TCMT 221 CM     |                             |                 | TCMT110304-CM  |             |               |      |      |       |        | ●      |        |       |               |        |          |                |       | 0.016 | 0.250 | 0.125 | 0.109 |       |
|  | TCMT 222 CM     |                             |                 | TCMT110308-CM  |             |               |      |      |       |        | ●      |        |       |               |        |          |                |       | 0.031 | 0.250 | 0.125 | 0.109 |       |
|  | TCMT 32.51 CM   |                             |                 | TCMT16T304-CM  |             |               |      | ●    | ●     | ●      |        |        |       |               |        |          |                |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  | TCMT 32.52 CM   |                             |                 | TCMT16T308-CM  |             |               |      | ●    | ●     | ●      |        |        |       |               |        |          |                |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|  | TCMT 32.53 CM   |                             |                 | TCMT16T312-CM  |             |               |      | ●    | ●     | ●      |        |        |       |               |        |          |                |       | 0.047 | 0.375 | 0.156 | 0.173 |       |
| Finishing to medium cutting for aluminum cutting |                 | <b>AL</b>                   | TCGT 21.50.5 AL | TCGT110202-AL  |             |               |      |      |       |        |        |        |       |               |        |          | ●              | 0.008 | 0.250 | 0.094 | 0.109 |       |       |
|  |                 |                             | TCGT 21.51 AL   | TCGT110204-AL  |             |               |      |      |       |        |        |        |       |               |        |          |                | ●     | 0.016 | 0.250 | 0.094 | 0.109 |       |
|  |                 |                             | TCGT 32.50.5 AL | TCGT16T302-AL  |             |               |      |      |       |        |        |        |       |               |        |          |                | ●     | 0.008 | 0.375 | 0.156 | 0.173 |       |
|  |                 |                             | TCGT 32.51 AL   | TCGT16T304-AL  |             |               |      |      |       |        |        |        |       |               |        |          |                | ●     | 0.016 | 0.375 | 0.156 | 0.173 |       |
|  |                 |                             | TCGT 32.52 AL   | TCGT16T308-AL  |             |               |      |      |       |        |        |        |       |               |        |          |                | ●     | 0.031 | 0.375 | 0.156 | 0.173 |       |

● : Line up

Reference pages: External toolholder → **C098** - Internal toolholder → **D056**  
 J-Series toolholder → **G054** -

# Insert POSITIVE TYPE

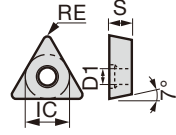
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## TC



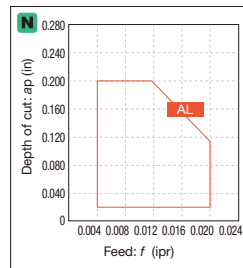
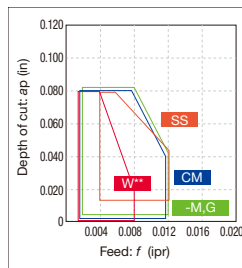
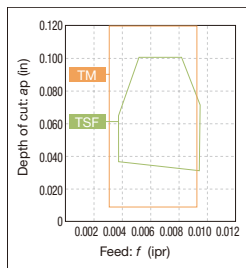
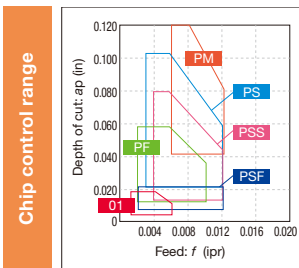
Triangular  
with hole  
Positive 7°

| Material | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloy | H Hard material |
|----------|---------|-------------|-------------|---------------|--------------|-----------------|
| ●        | ●       | ●           | ●           | ●             | ●            | ●               |
| ◐        | ◐       | ◐           | ◐           | ◐             | ◐            | ◐               |
| ◑        | ◑       | ◑           | ◑           | ◑             | ◑            | ◑               |



| Application                 | Chipbreaker   | Designation |                 | Coated          |               |       |        |        |       | Cermet | Uncoated | Dimension (in) |       |       |       |       |       |       |       |
|-----------------------------|---------------|-------------|-----------------|-----------------|---------------|-------|--------|--------|-------|--------|----------|----------------|-------|-------|-------|-------|-------|-------|-------|
|                             |               | Inch        | Metric          | T9215           | T9225         | T6215 | AH6225 | AH6235 | AH725 | NS9530 | TH10     | KS05F          | RE    | IC    | S     | D1    |       |       |       |
| Finishing                   |               | <b>SS</b>   | TCGT 21.50.5 SS | TCGT110202-SS   |               |       |        |        |       |        | ●        |                | 0.008 | 0.250 | 0.094 | 0.109 |       |       |       |
|                             |               |             | TCGT 21.51 SS   | TCGT110204-SS   |               |       |        |        |       |        | ●        |                | 0.016 | 0.250 | 0.094 | 0.109 |       |       |       |
|                             |               |             | TCGT 21.52 SS   | TCGT110208-SS   |               |       |        |        |       |        | ●        |                | 0.031 | 0.250 | 0.094 | 0.109 |       |       |       |
|                             |               |             | TCGT 32.51 SS   | TCGT16T304-SS   |               |       |        |        |       |        | ●        |                | 0.016 | 0.375 | 0.156 | 0.173 |       |       |       |
|                             |               |             |                 |                 |               |       |        |        |       |        |          |                |       |       |       |       |       |       |       |
| Finishing to medium cutting |               | <b>23</b>   | TCMT 731-23     | TCMT090204-23   | ●             |       |        |        |       |        | ●        |                | 0.016 | 0.219 | 0.094 | 0.098 |       |       |       |
|                             |               |             | TCMT 21.51-23   | TCMT110204-23   |               |       |        |        |       |        | ●        |                | 0.016 | 0.250 | 0.094 | 0.109 |       |       |       |
|                             |               |             | TCMT 32.51-23   | TCMT16T304-23   |               |       |        |        |       |        | ●        |                | 0.016 | 0.375 | 0.156 | 0.173 |       |       |       |
|                             |               |             | TCMT 32.52-23   | TCMT16T308-23   | ●             |       |        |        |       |        |          |                |       | 0.031 | 0.375 | 0.156 | 0.173 |       |       |
|                             |               |             |                 |                 |               |       |        |        |       |        |          |                |       |       |       |       |       |       |       |
| Finishing to medium cutting |               | <b>-</b>    | TCGT 620.5 R    | TCGT080102R     |               |       |        |        |       |        | ●        | ●              | 0.008 | 0.187 | 0.063 | 0.106 |       |       |       |
|                             |               |             |                 |                 |               |       |        |        |       |        |          |                |       |       |       |       |       |       |       |
| Medium cutting              |               | <b>PM</b>   | TCMT 21.50.5 PM | TCMT110202-PM   |               |       | ●      | ●      | ●     | ●      |          |                | 0.008 | 0.250 | 0.094 | 0.109 |       |       |       |
|                             |               |             | TCMT 21.51 PM   | TCMT110204-PM   | ●             | ●     | ●      | ●      | ●     | ●      | ●        |                |       | 0.016 | 0.250 | 0.094 | 0.109 |       |       |
|                             |               |             | TCMT 21.52 PM   | TCMT110208-PM   | ●             | ●     | ●      | ●      | ●     | ●      | ●        | ●              |       |       | 0.031 | 0.250 | 0.094 | 0.109 |       |
|                             |               |             | TCMT 220.5 PM   | TCMT110302-PM   |               |       | ●      | ●      | ●     |        |          |                |       |       | 0.008 | 0.250 | 0.125 | 0.109 |       |
|                             |               |             | TCMT 221 PM     | TCMT110304-PM   |               |       | ●      | ●      | ●     |        |          |                |       |       | 0.016 | 0.250 | 0.125 | 0.109 |       |
|                             |               |             | TCMT 222 PM     | TCMT110308-PM   |               |       | ●      | ●      | ●     |        |          |                |       |       | 0.031 | 0.250 | 0.125 | 0.109 |       |
|                             |               |             | TCMT 32.51 PM   | TCMT16T304-PM   | ●             | ●     | ●      | ●      | ●     | ●      | ●        | ●              | ●     |       | 0.016 | 0.375 | 0.156 | 0.173 |       |
|                             |               |             | TCMT 32.52 PM   | TCMT16T308-PM   | ●             | ●     | ●      | ●      | ●     | ●      | ●        | ●              | ●     |       | 0.031 | 0.375 | 0.156 | 0.173 |       |
|                             |               |             | TCMT 32.53 PM   | TCMT16T312-PM   | ●             | ●     | ●      | ●      | ●     | ●      | ●        | ●              | ●     |       | 0.047 | 0.375 | 0.156 | 0.173 |       |
|                             |               |             | <b>24</b>       | TCMT 730.5-24   | TCMT090202-24 |       |        |        |       |        |          |                | ●     |       |       | 0.008 | 0.219 | 0.094 | 0.098 |
|                             |               |             |                 | TCMT 731-24     | TCMT090204-24 | ●     | ●      |        |       |        |          |                | ●     |       |       | 0.016 | 0.219 | 0.094 | 0.098 |
|                             |               |             |                 | TCMT 21.50.5-24 | TCMT110202-24 |       |        |        |       |        |          |                | ●     |       |       | 0.008 | 0.250 | 0.094 | 0.109 |
|                             |               |             |                 | TCMT 21.51-24   | TCMT110204-24 | ●     | ●      |        |       |        |          |                | ●     |       |       | 0.016 | 0.250 | 0.094 | 0.109 |
|                             |               |             |                 | TCMT 21.52-24   | TCMT110208-24 |       | ●      |        |       |        |          |                |       |       |       | 0.031 | 0.250 | 0.094 | 0.109 |
| TCMT 32.51-24               | TCMT16T304-24 | ●           |                 | ●               |               |       |        |        |       | ●      |          |                | 0.016 | 0.375 | 0.156 | 0.173 |       |       |       |
| TCMT 32.52-24               | TCMT16T308-24 | ●           |                 | ●               |               |       |        | ●      |       |        |          |                | 0.031 | 0.375 | 0.156 | 0.173 |       |       |       |
|                             |               |             |                 |                 |               |       |        |        |       |        |          |                |       |       |       |       |       |       |       |

● : Line up



\*-M,G: Without chipbreaker

Reference pages: External toolholder → C098 - Internal toolholder → D056  
J-Series toolholder → G054 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index









# Insert POSITIVE TYPE

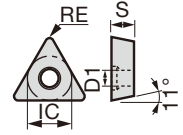
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## TP



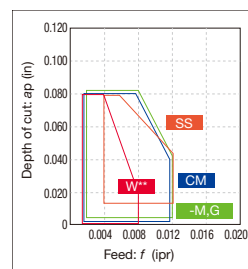
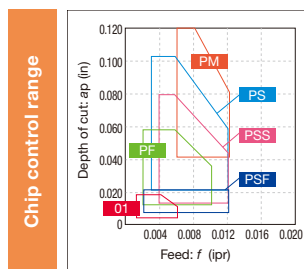
Triangular with hole  
Positive 11°

|               | P | M | K | N | S | H |
|---------------|---|---|---|---|---|---|
| Steel         | ● | ● | ● | ● | ● | ● |
| Stainless     | ● | ● | ● | ● | ● | ● |
| Cast iron     | ● | ● | ● | ● | ● | ● |
| Non-ferrous   | ● | ● | ● | ● | ● | ● |
| Superalloy    | ● | ● | ● | ● | ● | ● |
| Hard material | ● | ● | ● | ● | ● | ● |

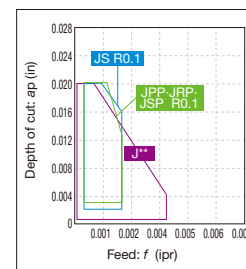
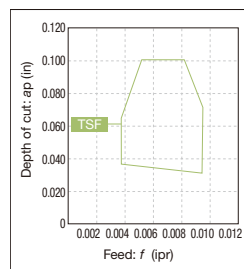


| Application            | Chipbreaker    | Designation     | Coated              |                  |       |        |        |       |       | Coated cermet | Cermet | Uncoated | Dimension (in) |        |        |       |       |       |
|------------------------|----------------|-----------------|---------------------|------------------|-------|--------|--------|-------|-------|---------------|--------|----------|----------------|--------|--------|-------|-------|-------|
|                        |                |                 | T9215               | T9225            | T6215 | AH8015 | AH6225 | GH110 | SH725 | SH730         | GT9530 | NS9530   | TH10           | UX30   | RE     | IC    | S     | D1    |
| Finishing              |                | <b>TSF</b>      | TPMT 21.51 TSF      | TPMT110204-TSF   | ●     | ●      |        |       |       |               |        |          |                | 0.016  | 0.250  | 0.094 | 0.109 |       |
|                        |                |                 | TPMT 21.52 TSF      | TPMT110208-TSF   | ●     | ●      |        |       |       |               |        |          |                |        | 0.031  | 0.250 | 0.094 | 0.109 |
|                        |                |                 | TPMT 220.5 TSF      | TPMT110302-TSF   | ●     | ●      | ●      | ●     | ●     |               |        | ●        |                |        | 0.008  | 0.250 | 0.125 | 0.134 |
|                        |                |                 | TPMT 221 TSF        | TPMT110304-TSF   | ●     | ●      | ●      | ●     | ●     |               |        | ●        |                |        | 0.016  | 0.250 | 0.125 | 0.134 |
|                        |                |                 | TPMT 222 TSF        | TPMT110308-TSF   | ●     | ●      | ●      | ●     | ●     |               |        | ●        |                |        | 0.031  | 0.250 | 0.125 | 0.134 |
|                        |                |                 | TPMT 32.51 TSF      | TPMT16T304-TSF   | ●     | ●      |        |       |       |               |        |          |                |        | 0.016  | 0.375 | 0.156 | 0.173 |
|                        |                |                 | TPMT 32.52 TSF      | TPMT16T308-TSF   | ●     | ●      |        |       |       |               |        |          |                |        | 0.031  | 0.375 | 0.156 | 0.173 |
| Finishing (sharp edge) |                | <b>W08</b>      | TPGT 5.52V FR-W08   | TPGT070100FR-W08 |       |        |        |       |       |               |        |          |                | 0.0012 | 0.172  | 0.063 | 0.102 |       |
|                        |                |                 | TPGT 5.52V FL-W08   | TPGT070100FL-W08 |       |        |        |       |       |               |        |          |                |        | 0.0012 | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520 FR-W08   | TPGT070101FR-W08 |       |        |        |       |       |               |        |          |                |        | 0.004  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520 FL-W08   | TPGT070101FL-W08 |       |        |        |       |       |               |        |          |                |        | 0.004  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520.5 FR-W08 | TPGT070102FR-W08 |       |        |        |       |       |               |        |          |                |        | 0.008  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520.5 FL-W08 | TPGT070102FL-W08 |       |        |        |       |       |               |        |          |                |        | 0.008  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.521 FR-W08   | TPGT070104FR-W08 |       |        |        |       |       |               |        |          |                |        | 0.016  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.521 FL-W08   | TPGT070104FL-W08 |       |        |        |       |       |               |        |          |                |        | 0.016  | 0.172 | 0.063 | 0.102 |
| Finishing              |                | <b>W08</b>      | TPGT 5.52V R-W08    | TPGT070100R-W08  |       |        |        |       |       |               |        | ●        |                | 0.0012 | 0.172  | 0.063 | 0.102 |       |
|                        |                |                 | TPGT 5.52V L-W08    | TPGT070100L-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.0012 | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520 R-W08    | TPGT070101R-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.004  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520 L-W08    | TPGT070101L-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.004  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520.5 R-W08  | TPGT070102R-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.008  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.520.5 L-W08  | TPGT070102L-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.008  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.521 R-W08    | TPGT070104R-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.016  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 5.521 L-W08    | TPGT070104L-W08  |       |        |        |       |       |               |        | ●        |                |        | 0.016  | 0.172 | 0.063 | 0.102 |
|                        |                |                 | TPGT 63V L-W08      | TPGT080200L-W08  |       |        |        |       |       | ●             | ●      |          |                |        | 0.0012 | 0.187 | 0.094 | 0.091 |
|                        |                |                 | TPGT 630.5 L-W08    | TPGT080202L-W08  |       |        |        |       | ●     | ●             | ●      |          | ●              | ●      | 0.008  | 0.187 | 0.094 | 0.091 |
|                        | TPGT 631 L-W08 | TPGT080204L-W08 |                     |                  |       |        | ●      | ●     | ●     |               | ●      | ●        | 0.016          | 0.187  | 0.094  | 0.091 |       |       |
| Finishing              |                | <b>W10</b>      | TPGH 630.5 L-W10    | TPGH080202L-W10  |       |        |        |       |       | ●             | ●      |          |                | 0.008  | 0.187  | 0.094 | 0.091 |       |
|                        |                |                 | TPGH 631 L-W10      | TPGH080204L-W10  |       |        |        |       |       |               | ●      | ●        |                |        | 0.016  | 0.187 | 0.094 | 0.091 |
|                        |                |                 | TPGH 731 L-W10      | TPGH090204L-W10  |       |        |        |       |       |               | ●      | ●        |                |        | 0.016  | 0.219 | 0.094 | 0.118 |

● : Line up



\*-M,G: Without chipbreaker



\*Chip control range with typical R0.1

Reference pages: Mounting hole specification → **B146**  
Internal toolholder → **D057 -**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# Insert POSITIVE TYPE

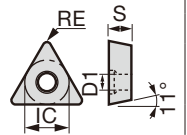
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## TP



Triangular with hole  
 Positive 11°

|          |               |       |  |  |     |  |  |  |  |     |  |  |  |  |  |  |  |
|----------|---------------|-------|--|--|-----|--|--|--|--|-----|--|--|--|--|--|--|--|
| <b>P</b> | Steel         | ● ● ● |  |  | ● ● |  |  |  |  | ● ● |  |  |  |  |  |  |  |
| <b>M</b> | Stainless     | ● ● ● |  |  | ● ● |  |  |  |  | ● ● |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron     | ● ● ● |  |  | ● ● |  |  |  |  | ● ● |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous   |       |  |  |     |  |  |  |  | ● ● |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy    | ●     |  |  |     |  |  |  |  |     |  |  |  |  |  |  |  |
| <b>H</b> | Hard material |       |  |  |     |  |  |  |  |     |  |  |  |  |  |  |  |



| Application   | Chipbreaker                 | Designation        |                 | Coated        |       | Coated cermet | Cermet | Uncoated |      | Dimension (in) |       |       |       |       |       |
|---------------|-----------------------------|--------------------|-----------------|---------------|-------|---------------|--------|----------|------|----------------|-------|-------|-------|-------|-------|
|               |                             | Inch               | Metric          | GH110         | GH330 | GT9530        | NS9530 | TH10     | UX30 | RE             | IC    | S     | D1    |       |       |
|               |                             |                    |                 |               |       |               |        |          |      |                |       |       |       |       |       |
| Finishing     | <b>W13</b>                  | TPGH 21.51 L-W13   | TPGH110204L-W13 |               |       | ●             |        |          |      | 0.016          | 0.250 | 0.094 | 0.134 |       |       |
|               |                             | TPGH 220.5 L-W13   | TPGH110302L-W13 |               |       | ●             |        |          |      | 0.008          | 0.250 | 0.125 | 0.134 |       |       |
|               |                             | TPGH 221 L-W13     | TPGH110304L-W13 |               |       | ●             |        |          |      |                | 0.016 | 0.250 | 0.125 | 0.134 |       |
|               | <b>W15</b>                  | TPGT 730.5 R-W15   | TPGT090202R-W15 |               |       |               |        | ●        |      |                | 0.008 | 0.219 | 0.094 | 0.098 |       |
|               |                             | TPGT 730.5 L-W15   | TPGT090202L-W15 |               |       | ●             |        | ●        |      |                | 0.008 | 0.219 | 0.094 | 0.098 |       |
|               |                             | TPGT 731 R-W15     | TPGT090204R-W15 |               |       |               |        | ●        |      |                | 0.016 | 0.219 | 0.094 | 0.098 |       |
|               |                             | TPGT 731 L-W15     | TPGT090204L-W15 | ● ●           |       | ●             |        | ●        | ● ●  |                | 0.016 | 0.219 | 0.094 | 0.098 |       |
|               |                             | TPGT 21.50.5 R-W15 | TPGT110202R-W15 |               |       |               |        | ●        |      |                | 0.008 | 0.250 | 0.094 | 0.109 |       |
|               |                             | TPGT 21.50.5 L-W15 | TPGT110202L-W15 |               |       | ●             |        | ●        |      |                | 0.008 | 0.250 | 0.094 | 0.109 |       |
|               |                             | TPGT 21.51 L-W15   | TPGT110204L-W15 | ● ●           |       | ●             |        | ●        | ● ●  |                | 0.016 | 0.250 | 0.094 | 0.109 |       |
|               |                             | TPGT 21.52 R-W15   | TPGT110208R-W15 |               |       |               |        | ●        |      |                | 0.031 | 0.250 | 0.094 | 0.109 |       |
|               |                             | TPGT 21.52 L-W15   | TPGT110208L-W15 |               |       |               |        |          |      | ●              | 0.031 | 0.250 | 0.094 | 0.109 |       |
|               |                             | TPGT 220.5 L-W15   | TPGT110302L-W15 |               |       |               |        | ●        |      |                | 0.008 | 0.250 | 0.125 | 0.134 |       |
|               |                             | TPGT 221 R-W15     | TPGT110304R-W15 |               |       |               |        | ●        |      |                | 0.016 | 0.250 | 0.125 | 0.134 |       |
|               |                             | TPGT 221 L-W15     | TPGT110304L-W15 |               |       |               |        | ●        |      |                | 0.016 | 0.250 | 0.125 | 0.134 |       |
|               |                             | TPGT 222 L-W15     | TPGT110308L-W15 |               |       |               |        | ●        |      |                | 0.031 | 0.250 | 0.125 | 0.134 |       |
|               |                             | TPGT 2.520.5 R-W15 | TPGT130302R-W15 |               |       |               |        | ●        |      |                | 0.008 | 0.313 | 0.125 | 0.134 |       |
|               |                             | TPGT 2.520.5 L-W15 | TPGT130302L-W15 |               |       | ●             |        | ●        |      | ●              | 0.008 | 0.313 | 0.125 | 0.134 |       |
|               |                             | TPGT 2.521 R-W15   | TPGT130304R-W15 | ●             |       |               |        | ●        |      |                | 0.016 | 0.313 | 0.125 | 0.134 |       |
|               |                             | TPGT 2.521 L-W15   | TPGT130304L-W15 | ● ●           |       | ●             |        | ●        | ● ●  |                | 0.016 | 0.313 | 0.125 | 0.134 |       |
|               |                             | TPGT 2.522 L-W15   | TPGT130308L-W15 |               |       |               |        | ●        |      | ●              | 0.031 | 0.313 | 0.125 | 0.134 |       |
|               |                             | TPGT 32.50.5 R-W15 | TPGT16T302R-W15 |               |       |               |        | ●        |      |                | 0.008 | 0.375 | 0.156 | 0.173 |       |
|               |                             | TPGT 32.50.5 L-W15 | TPGT16T302L-W15 |               |       | ●             |        | ●        |      | ●              | 0.008 | 0.375 | 0.156 | 0.173 |       |
|               |                             | TPGT 32.51 R-W15   | TPGT16T304R-W15 |               |       |               |        | ●        |      | ●              | 0.016 | 0.375 | 0.156 | 0.173 |       |
|               |                             | TPGT 32.51 L-W15   | TPGT16T304L-W15 | ● ●           |       | ●             |        | ●        | ● ●  |                | 0.016 | 0.375 | 0.156 | 0.173 |       |
|               |                             | TPGT 32.52 L-W15   | TPGT16T308L-W15 |               |       |               |        | ●        |      | ● ●            | 0.031 | 0.375 | 0.156 | 0.173 |       |
|               | Finishing to medium cutting | <b>SS</b>          | TPGT 21.50.5 SS | TPGT110202-SS |       |               |        |          | ●    |                | 0.008 | 0.250 | 0.094 | 0.109 |       |
|               |                             |                    | TPGT 21.51 SS   | TPGT110204-SS | ●     |               |        |          | ●    |                | 0.016 | 0.250 | 0.094 | 0.109 |       |
|               |                             |                    | TPGT 2.520.5 SS | TPGT130302-SS |       |               |        |          | ●    |                |       | 0.008 | 0.313 | 0.125 | 0.134 |
|               |                             |                    | TPGT 2.521 SS   | TPGT130304-SS | ●     |               |        |          | ●    |                |       | 0.016 | 0.313 | 0.125 | 0.134 |
| TPGT 32.51 SS |                             |                    | TPGT16T304-SS   | ●             |       |               |        | ●        |      |                | 0.016 | 0.375 | 0.156 | 0.173 |       |

● : Line up

Reference pages: Mounting hole specification → **B146**  
 Internal toolholder → **D057 -**



# Insert POSITIVE TYPE

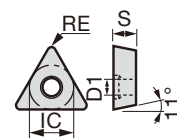
● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

# TP



Triangular  
with hole  
Positive 11°

|   |               |    |   |    |   |  |  |  |   |   |   |  |  |
|---|---------------|----|---|----|---|--|--|--|---|---|---|--|--|
| P | Steel         | ●* |   |    |   |  |  |  | ● | ● |   |  |  |
| M | Stainless     |    |   |    |   |  |  |  | ● | ● |   |  |  |
| K | Cast iron     |    | ● | ●● | ● |  |  |  | ● | ● |   |  |  |
| N | Non-ferrous   |    |   |    |   |  |  |  |   |   | ● |  |  |
| S | Superalloy    |    |   |    |   |  |  |  |   |   | ● |  |  |
| H | Hard material |    |   |    |   |  |  |  |   |   |   |  |  |



| Application                 | Chipbreaker   | Designation                 | Coated           |                 |               |               | Coated cermet |        | Cermet | Uncoated |       | Dimension (in) |       |       |       |       |
|-----------------------------|---------------|-----------------------------|------------------|-----------------|---------------|---------------|---------------|--------|--------|----------|-------|----------------|-------|-------|-------|-------|
|                             |               |                             | T9225            | T505            | T515          | T5115         | GT9530        | NS9530 | TH10   | UX30     | RE    | IC             | S     | D1    |       |       |
|                             |               |                             | Inch             | Metric          |               |               |               |        |        |          |       |                |       |       |       |       |
| Finishing to medium cutting |               | <b>CM</b>                   | TPMT 731 CM      | TPMT090204-CM   |               |               |               |        |        |          |       | 0.016          | 0.219 | 0.094 | 0.098 |       |
|                             |               |                             | TPMT 732 CM      | TPMT090208-CM   |               |               |               |        |        |          |       | 0.031          | 0.219 | 0.094 | 0.098 |       |
|                             |               | TPMT 21.51 CM               | TPMT110204-CM    |                 |               | ●             |               |        |        |          |       | 0.016          | 0.250 | 0.094 | 0.109 |       |
|                             |               | TPMT 21.52 CM               | TPMT110208-CM    |                 |               | ●             |               |        |        |          |       | 0.031          | 0.250 | 0.094 | 0.109 |       |
|                             |               | TPMT 221 CM                 | TPMT110304-CM    |                 |               | ●             |               |        |        |          |       | 0.016          | 0.250 | 0.125 | 0.134 |       |
|                             |               | TPMT 222 CM                 | TPMT110308-CM    |                 |               | ●             |               |        |        |          |       | 0.031          | 0.250 | 0.125 | 0.134 |       |
|                             |               | TPMT 2.521 CM               | TPMT130304-CM    |                 |               | ●             |               |        |        |          |       | 0.016          | 0.313 | 0.125 | 0.134 |       |
|                             |               | TPMT 2.522 CM               | TPMT130308-CM    |                 |               | ●             |               |        |        |          |       | 0.031          | 0.313 | 0.125 | 0.134 |       |
|                             |               | TPMT 32.51 CM               | TPMT16T304-CM    | ●               | ●             | ●             |               |        |        |          |       | 0.016          | 0.375 | 0.156 | 0.173 |       |
|                             |               | TPMT 32.52 CM               | TPMT16T308-CM    | ●               | ●             | ●             |               |        |        |          |       | 0.031          | 0.375 | 0.156 | 0.173 |       |
|                             |               | TPMT 32.53 CM               | TPMT16T312-CM    | ●               | ●             | ●             |               |        |        |          |       | 0.047          | 0.375 | 0.156 | 0.173 |       |
|                             |               | <b>H11</b>                  | TPGH 220.5 L-H11 | TPGH110302L-H11 |               |               |               | ●      |        | ●        |       |                | 0.008 | 0.250 | 0.125 | 0.134 |
|                             |               |                             | TPGH 221 L-H11   | TPGH110304L-H11 |               |               |               | ●      |        | ●        |       |                | 0.016 | 0.250 | 0.125 | 0.134 |
|                             |               | Finishing to medium cutting |                  | <b>23</b>       | TPMT 730.5-23 | TPMT090202-23 |               |        |        | ●        |       |                | 0.008 | 0.219 | 0.094 | 0.098 |
|                             |               |                             |                  |                 | TPMT 731-23   | TPMT090204-23 | ●             |        |        |          | ●     |                |       | 0.016 | 0.219 | 0.094 |
| TPMT 21.51-23               | TPMT110204-23 |                             |                  | ●               |               |               |               |        | ●      |          |       | 0.016          | 0.250 | 0.094 | 0.109 |       |
| TPMT 2.521-23               | TPMT130304-23 |                             |                  | ●               |               |               |               |        | ●      |          |       | 0.016          | 0.313 | 0.125 | 0.134 |       |
| TPMT 2.522-23               | TPMT130308-23 |                             |                  | ●               |               |               |               |        | ●      |          |       | 0.031          | 0.313 | 0.125 | 0.134 |       |
| TPMT 32.51-23               | TPMT16T304-23 |                             |                  | ●               |               |               |               |        | ●      |          |       | 0.016          | 0.375 | 0.156 | 0.173 |       |
| TPMT 32.52-23               | TPMT16T308-23 |                             |                  | ●               |               |               |               |        | ●      |          |       | 0.031          | 0.375 | 0.156 | 0.173 |       |
| Finishing to medium cutting |               | <b>TPGM...R/L</b>           | TPGM 5.520.5 R   | TPGM070102R     |               |               |               | ●      |        |          | 0.008 | 0.172          | 0.063 | 0.106 |       |       |
|                             |               |                             | TPGM 5.520.5 L   | TPGM070102L     |               |               |               | ●      |        | ●        |       | 0.008          | 0.172 | 0.063 | 0.106 |       |
|                             |               |                             | TPGM 5.521 R     | TPGM070104R     |               |               |               |        |        | ●        |       | 0.016          | 0.172 | 0.063 | 0.106 |       |
|                             |               |                             | TPGM 5.521 L     | TPGM070104L     |               |               |               |        |        | ●        |       | 0.016          | 0.172 | 0.063 | 0.106 |       |
|                             |               |                             | TPGM 730.5 R     | TPGM090202R     |               |               |               |        |        | ●        |       | 0.008          | 0.219 | 0.094 | 0.125 |       |
|                             |               |                             | TPGM 730.5 L     | TPGM090202L     |               |               |               |        |        | ●        |       | 0.008          | 0.219 | 0.094 | 0.125 |       |
|                             |               |                             | TPGM 731 L       | TPGM090204L     |               |               |               |        |        | ●        |       | 0.016          | 0.219 | 0.094 | 0.125 |       |
|                             |               |                             | TPGM 21.50.5 R   | TPGM110202R     |               |               |               |        |        | ●        |       | 0.008          | 0.250 | 0.094 | 0.118 |       |
|                             |               |                             | TPGM 21.50.5 L   | TPGM110202L     |               |               |               |        |        | ●        |       | 0.008          | 0.250 | 0.094 | 0.118 |       |
|                             |               |                             | TPGM 21.51 R     | TPGM110204R     |               |               |               |        |        | ●        |       | 0.016          | 0.250 | 0.094 | 0.118 |       |
|                             |               |                             | TPGM 21.51 L     | TPGM110204L     |               |               |               |        |        | ●        |       | 0.016          | 0.250 | 0.094 | 0.118 |       |
|                             |               |                             | TPGM 220.5 R     | TPGM110302R     |               |               |               |        |        | ●        |       | 0.008          | 0.250 | 0.125 | 0.118 |       |
|                             |               |                             | TPGM 220.5 L     | TPGM110302L     |               |               |               |        |        | ●        |       | 0.008          | 0.250 | 0.125 | 0.118 |       |
|                             |               |                             | TPGM 221 R       | TPGM110304R     |               |               |               |        |        | ●        |       | 0.016          | 0.250 | 0.125 | 0.118 |       |
|                             |               |                             | TPGM 221 L       | TPGM110304L     |               |               |               |        |        | ●        |       | 0.016          | 0.250 | 0.125 | 0.118 |       |
|                             |               |                             | TPGM 221 L-2     | TPGM110304L-2   |               |               |               |        |        | ●        |       | 0.016          | 0.250 | 0.125 | 0.118 |       |
|                             |               |                             | TPGM 320.5 L     | TPGM160302L     |               |               |               |        |        | ●        |       | 0.008          | 0.375 | 0.125 | 0.157 |       |
|                             |               |                             | TPGM 321 R       | TPGM160304R     |               |               |               |        |        | ●        |       | 0.016          | 0.375 | 0.125 | 0.157 |       |
| TPGM 321 L                  | TPGM160304L   |                             |                  |                 |               |               | ●             |        | 0.016  | 0.375    | 0.125 | 0.157          |       |       |       |       |
| TPGM 321 L-2                | TPGM160304L-2 |                             |                  |                 |               |               | ●             |        | 0.016  | 0.375    | 0.125 | 0.157          |       |       |       |       |

● : Line up

| Mounting hole specification |       |       |       |       | D1 (in) |        |        |        |        |        |        |        |
|-----------------------------|-------|-------|-------|-------|---------|--------|--------|--------|--------|--------|--------|--------|
|                             |       |       |       |       | 0701**  | 0802** | 0902** | 1102** | 1103** | 1303** | 1603** | 16T3** |
|                             |       |       |       |       | TP*T(W) |        |        |        |        |        |        |        |
| TPGM(A)                     | 0.106 | -     | 0.126 | 0.118 | 0.118   | -      | 0.157  | -      |        |        |        |        |
| TPGH                        | -     | 0.091 | 0.118 | 0.134 | 0.134   | -      | 0.177  | -      |        |        |        |        |

























# Insert POSITIVE TYPE

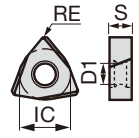
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## WB



Trigon, 80°  
with hole  
Positive 5°

|               | P | M | K | N | S | H |
|---------------|---|---|---|---|---|---|
| Steel         | ● | ◐ | ◐ | ◐ | ◐ | ◐ |
| Stainless     | ● | ◐ | ◐ | ◐ | ◐ | ◐ |
| Cast iron     | ● | ◐ | ◐ | ◐ | ◐ | ◐ |
| Non-ferrous   | ● | ◐ | ◐ | ◐ | ◐ | ◐ |
| Superalloy    | ● | ◐ | ◐ | ◐ | ◐ | ◐ |
| Hard material | ● | ◐ | ◐ | ◐ | ◐ | ◐ |

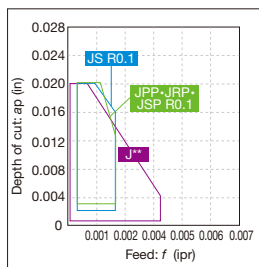
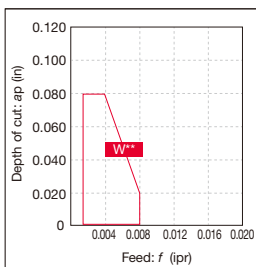


| Application            | Chipbreaker | Designation   | Coated |        |       |       | Cermet | Uncoated |      | Dimension (in) |       |       |       |
|------------------------|-------------|---|--------|--------|-------|-------|--------|----------|------|----------------|-------|-------|-------|
|                        |             |   | GH110  | SH7025 | SH725 | SH730 | NS9530 | TH10     | UX30 | RE             | IC    | S     | D1    |
| Finishing (sharp edge) |             | <b>JS</b> <b>WBGT 520 FR-JS</b> <b>WBGT030101FR-JS</b>    | ●      | ●      |       |       |        |          |      | <0.004*        | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520 FL-JS    WBGT030101FL-JS                         | ●      | ●      |       |       |        |          |      | <0.004*        | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 FR-JS    WBGT030102FR-JS                       | ●      | ●      |       |       |        |          |      | <0.008*        | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 FL-JS    WBGT030102FL-JS                       | ●      | ●      |       |       |        |          |      | <0.008*        | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 FR-JS    WBGT030104FR-JS                         | ●      | ●      |       |       |        |          |      | <0.016*        | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 FL-JS    WBGT030104FL-JS                         | ●      | ●      |       |       |        |          |      | <0.016*        | 0.156 | 0.063 | 0.091 |
| Finishing              |             | <b>JS</b> <b>WBGT 520 R-JS</b> <b>WBGT030101R-JS</b>      |        |        |       | ●     |        |          |      | <0.004         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520 L-JS    WBGT030101L-JS                           |        |        |       | ●     |        |          |      | <0.004         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 R-JS    WBGT030102R-JS                         |        |        |       | ●     |        |          |      | <0.008         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 L-JS    WBGT030102L-JS                         |        |        |       | ●     |        |          |      | <0.008         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 R-JS    WBGT030104R-JS                           |        |        |       | ●     |        |          |      | <0.016         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 L-JS    WBGT030104L-JS                           |        |        |       | ●     |        |          |      | <0.016         | 0.156 | 0.063 | 0.091 |
| Finishing (sharp edge) |             | <b>W08</b> <b>WBGT 52V FR-W08</b> <b>WBGT030100FL-W08</b> | ●      | ●      |       |       |        |          |      | 0.0012         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 52V FL-W08    WBGT030100FR-W08                       |        | ●      |       |       |        |          |      | 0.0012         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520 FR-W08    WBGT030101FL-W08                       | ●      | ●      |       |       |        |          |      | 0.004          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520 FL-W08    WBGT030101FR-W08                       |        | ●      |       |       |        |          |      | 0.004          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 FR-W08    WBGT030102FL-W08                     | ●      | ●      |       |       |        |          |      | 0.008          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 FL-W08    WBGT030102FR-W08                     | ●      | ●      |       |       |        |          |      | 0.008          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 FR-W08    WBGT030104FL-W08                       | ●      | ●      |       |       |        |          |      | 0.016          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 FL-W08    WBGT030104FR-W08                       | ●      | ●      |       |       |        |          |      | 0.016          | 0.156 | 0.063 | 0.091 |
| Finishing              |             | <b>W08</b> <b>WBGT 52V R-W08</b> <b>WBGT030100R-W08</b>   |        |        |       | ●     |        |          |      | 0.0012         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 52V L-W08    WBGT030100L-W08                         |        |        |       | ●     |        | ●        | ●    | 0.0012         | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520 R-W08    WBGT030101R-W08                         |        |        |       | ●     |        |          |      | 0.004          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520 L-W08    WBGT030101L-W08                         |        |        |       | ●     |        | ●        |      | 0.004          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 R-W08    WBGT030102R-W08                       |        |        |       | ●     |        |          |      | 0.008          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 520.5 L-W08    WBGT030102L-W08                       | ●      | ●      |       | ●     |        | ●        | ●    | 0.008          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 R-W08    WBGT030104R-W08                         |        |        |       | ●     |        |          |      | 0.016          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 L-W08    WBGT030104L-W08                         | ●      | ●      |       | ●     |        | ●        | ●    | 0.016          | 0.156 | 0.063 | 0.091 |
| Finishing              |             | <b>W11</b> <b>WBGT 520.5 L-W11</b> <b>WBGT060102L-W11</b> | ●      |        |       |       | ●      |          |      | 0.008          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 521 L-W11    WBGT060104L-W11                         |        |        |       |       | ●      |          |      | 0.016          | 0.156 | 0.063 | 0.091 |
|                        |             | WBGT 630.5 L-W11    WBGT080202L-W11                       |        |        |       |       | ●      |          |      | 0.008          | 0.187 | 0.094 | 0.091 |
|                        |             | WBGT 631 L-W11    WBGT080204L-W11                         |        |        |       |       | ●      |          |      | 0.016          | 0.187 | 0.094 | 0.091 |

\*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

Chip control range



\*Chip control range with typical R0.1

Reference pages: Internal toolholder → **D080**

- : Continuous cutting
- : Light interrupted cutting
- : Heavy interrupted cutting

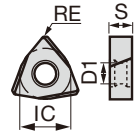
# Insert POSITIVE TYPE / DOUBLE SIDED

## WX



**Trigon, 80°  
with hole**

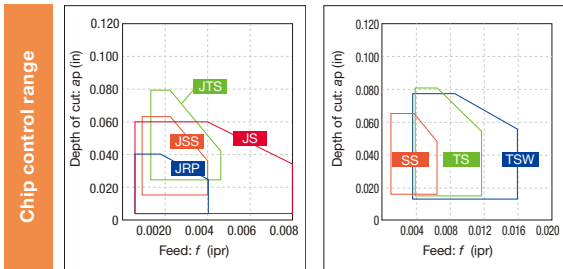
|               | P   | M   | K   | N   | S  | H  |
|---------------|-----|-----|-----|-----|----|----|
| Steel         | ●●● | ●●  | ●●  | ●●  | ●● | ●● |
| Stainless     | ●●● | ●●● | ●●  | ●●  | ●● | ●● |
| Cast iron     | ●●  | ●●  | ●●● | ●●  | ●● | ●● |
| Non-ferrous   | ●●  | ●●  | ●●  | ●●● | ●● | ●● |
| Superalloy    | ●●  | ●●  | ●●  | ●●  | ●● | ●● |
| Hard material | ●●  | ●●  | ●●  | ●●  | ●● | ●● |



| Application                              | Chipbreaker | Designation  | Coated |        |       |        | Coated cermet |       | Cermet | Uncoated | Dimension (in) |       |       |       |
|--|-------------|--|--------|--------|-------|--------|---------------|-------|--------|----------|----------------|-------|-------|-------|
|  |             |  | AH725  | AH8015 | SH725 | GT9530 | NS9530        | KS05F | RE     | IC       | S              | D1    |       |       |
| Finishing                                |             | <b>JSS</b> WXGU 220MFR JSS WXGU040301MFR-JSS             | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.004*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220MFL JSS WXGU040301MFL-JSS                        | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.004*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5MFR JSS WXGU040302MFR-JSS                      | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.008*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5MFL JSS WXGU040302MFL-JSS                      | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.008*        | 0.250 | 0.125 | 0.106 |
| Finishing                                |             | <b>JSS</b> WXGU 220MR JSS WXGU040301MR-JSS               | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.004*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220ML JSS WXGU040301ML-JSS                          | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.004*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5MR JSS WXGU040302MR-JSS                        | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.008*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5ML JSS WXGU040302ML-JSS                        | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.008*        | 0.250 | 0.125 | 0.106 |
| Finishing to medium cutting              |             | <b>SS</b> WXGU 220.5R SS WXGU040302R-SS                  | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.008          | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5L SS WXGU040302L-SS                            | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.008          | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 221R SS WXGU040304R-SS                              | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.016          | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 221L SS WXGU040304L-SS                              | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.016          | 0.250 | 0.125 | 0.106 |
| Finishing                                |             | <b>TSW</b> WXGU 221R TSW WXGU040304R-TSW                 | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.016          | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 221L TSW WXGU040304L-TSW                            | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.016          | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 222R TSW WXGU040308R-TSW                            | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.031          | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 222L TSW WXGU040308L-TSW                            | ●●     | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | 0.031          | 0.250 | 0.125 | 0.106 |
| Finishing to medium cutting (sharp edge) |             | <b>JS</b> WXGU 220MFR JS WXGU040301MFR-JS <sup>(1)</sup> | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.004*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220MFL JS WXGU040301MFL-JS <sup>(1)</sup>           | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.004*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5MFR JS WXGU040302MFR-JS <sup>(1)</sup>         | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.008*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 220.5MFL JS WXGU040302MFL-JS <sup>(1)</sup>         | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.008*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 221MFR JS WXGU040304MFR-JS <sup>(1)</sup>           | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.016*        | 0.250 | 0.125 | 0.106 |
|  |             | WXGU 221MFL JS WXGU040304MFL-JS <sup>(1)</sup>           | ●      | ●●     | ●●    | ●●     | ●●            | ●●    | ●●     | ●●       | <0.016*        | 0.250 | 0.125 | 0.106 |

\*Corner radius (RE) with a sign of inequality (<) means minus tolerance.  
(1) Due to chipbreaker profile, max ap for face or ID turning is 0.039".

● : Line up



Reference pages: External toolholder → C128 - Internal toolholder → D081 -  
J-Series toolholder → G069 - TungCap → K025

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# Insert POSITIVE TYPE

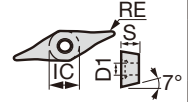
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## YW



Rhombic, 25°  
with hole  
Positive 7°

|   |               |   |   |   |   |   |   |  |  |   |   |  |  |  |  |  |  |  |  |  |
|---|---------------|---|---|---|---|---|---|--|--|---|---|--|--|--|--|--|--|--|--|--|
| P | Steel         | ● | ● | ◐ | ◐ | ● | ● |  |  |   |   |  |  |  |  |  |  |  |  |  |
| M | Stainless     | ● | ● |   | ● | ◐ | ◐ |  |  |   |   |  |  |  |  |  |  |  |  |  |
| K | Cast iron     | ● | ● |   |   |   |   |  |  | ● | ● |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |   |   |   |   |   |   |  |  |   |   |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |   |   |   |   |   |   |  |  |   |   |  |  |  |  |  |  |  |  |  |
| H | Hard material |   |   |   |   |   |   |  |  |   |   |  |  |  |  |  |  |  |  |  |



| Application                 | Chipbreaker | Designation | Coated        |               |       |        |        | Coated cermet | Cermet | Dimension (in) |    |       |       |       |       |       |  |  |  |
|-----------------------------|-------------|-------------|---------------|---------------|-------|--------|--------|---------------|--------|----------------|----|-------|-------|-------|-------|-------|--|--|--|
|                             |             |             | T9215         | T9225         | T6215 | AH8015 | AH6225 | GT9530        | NS9530 | RE             | IC | S     | D1    |       |       |       |  |  |  |
|                             |             | Inch        | Metric        |               |       |        |        |               |        |                |    |       |       |       |       |       |  |  |  |
| Finishing to medium cutting | ZF          | -           | YWMT11T202-ZF | ●             | ●     | ●      | ●      | ●             | ●      |                |    | 0.008 | 0.184 | 0.109 | 0.091 |       |  |  |  |
|                             |             | -           | YWMT11T204-ZF | ●             | ●     | ●      | ●      | ●             | ●      |                |    | 0.016 | 0.184 | 0.109 | 0.091 |       |  |  |  |
|                             |             |             | -             | YWMT16T302-ZF | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.008 | 0.276 | 0.156 | 0.113 |  |  |  |
|                             |             | -           | YWMT16T304-ZF | ●             | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.016 | 0.276 | 0.156 | 0.113 |  |  |  |
|                             |             | -           | YWMT16T308-ZF | ●             | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.031 | 0.276 | 0.156 | 0.113 |  |  |  |
|                             | ZM          | -           | YWMT11T202-ZM | ●             | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.008 | 0.184 | 0.109 | 0.091 |  |  |  |
|                             |             | -           | YWMT11T204-ZM | ●             | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.016 | 0.184 | 0.109 | 0.091 |  |  |  |
|                             |             |             | -             | YWMT16T302-ZM | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.008 | 0.276 | 0.156 | 0.113 |  |  |  |
|                             |             | -           | YWMT16T304-ZM | ●             | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.016 | 0.276 | 0.156 | 0.113 |  |  |  |
|                             |             | -           | YWMT16T308-ZM | ●             | ●     | ●      | ●      | ●             | ●      | ●              |    |       | 0.031 | 0.276 | 0.156 | 0.113 |  |  |  |

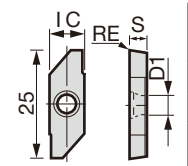
●: Line up

## JXF



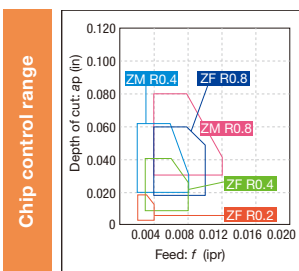
Front turning

|   |               |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel         | ● | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless     | ● | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron     |   |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous   |   |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloy    |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard material |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Application   | Chipbreaker | Designation | Coated    |      | Uncoated | Dimension (in) |    |   |    |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------|-------------|-------------|-----------|------|----------|----------------|----|---|----|--|--|--|--|--|--|--|--|--|--|--|--|
|               |             |             | SH7025    | J740 | TH10     | RE             | IC | S | D1 |  |  |  |  |  |  |  |  |  |  |  |  |
|               |             | Inch        | Metric    |      |          |                |    |   |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Front turning | -           | -           | JXFR8000F | ●    | ●        | ●              |    |   |    |  |  |  |  |  |  |  |  |  |  |  |  |
|               |             | -           | JXFR8010F | ●    | ●        | ●              |    |   |    |  |  |  |  |  |  |  |  |  |  |  |  |

●: Line up



Reference pages: YWMT...: External toolholder → C130 -, Internal toolholder → D088 -  
JXF...: J-Series toolholder → G075



## Insert POSITIVE TYPE

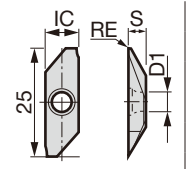
● : Continuous cutting  
 ●● : Light interrupted cutting  
 ●●● : Heavy interrupted cutting

## JXR



Reverse turning

| Material        | Coated | Uncoated |
|-----------------|--------|----------|
| P Steel         | ●●     | ●        |
| M Stainless     | ●●     | ●        |
| K Cast iron     |        | ●        |
| N Non-ferrous   |        | ●        |
| S Superalloy    |        |          |
| H Hard material |        |          |



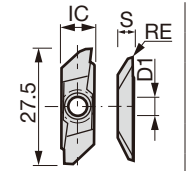
| Application     | Chipbreaker | Designation |           | Coated |      | Uncoated |       | Dimension (in) |       |  |  |
|-----------------|-------------|-------------|-----------|--------|------|----------|-------|----------------|-------|--|--|
|                 |             | Inch        | Metric    | J740   | TH10 | RE       | IC    | S              | D1    |  |  |
| Reverse turning |             | -           | JXRR8000F | ●      | ●    | 0.0012   | 0.315 | 0.156          | 0.173 |  |  |
|                 |             | -           | JXRR8010F | ●      | ●    | 0.004    | 0.315 | 0.156          | 0.173 |  |  |

## JXB



Back turning

| Material        | Coated | Uncoated |
|-----------------|--------|----------|
| P Steel         | ●●●●   | ●        |
| M Stainless     | ●●●●   | ●        |
| K Cast iron     |        | ●        |
| N Non-ferrous   |        | ●        |
| S Superalloy    |        |          |
| H Hard material |        |          |



| Application  | Chipbreaker | Designation |           | Coated         |      | Uncoated |       | Dimension (in) |       |  |  |
|--------------|-------------|-------------|-----------|----------------|------|----------|-------|----------------|-------|--|--|
|              |             | Inch        | Metric    | SH7025<br>J740 | TH10 | RE       | IC    | S              | D1    |  |  |
| Back turning |             | -           | JXBR8000F | ●●             | ●    | 0.0012   | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8000F | ●              | ●    | 0.0012   | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBR8005F | ●●             | ●    | 0.002    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8005F | ●              | ●    | 0.002    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBR8005  | ●              |      | 0.002    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8005  | ●              |      | 0.002    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBR8010F | ●●             | ●    | 0.004    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8010F | ●              | ●    | 0.004    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBR8010  | ●              |      | 0.004    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8010  | ●              |      | 0.004    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBR8015F | ●●             | ●    | 0.006    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8015F | ●              | ●    | 0.006    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBR8015  | ●              |      | 0.006    | 0.315 | 0.156          | 0.173 |  |  |
|              |             | -           | JXBL8015  | ●              |      | 0.006    | 0.315 | 0.156          | 0.173 |  |  |

● : Line up



# Insert POSITIVE TYPE

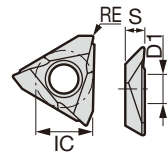
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## JTB\*



Back turning

| Grade | Material      | SH7025 | SH725  | J740 | J9530 | NS9530 | TH10 |
|-------|---------------|--------|--------|------|-------|--------|------|
| P     | Steel         | ◐◐◐◐◐◐ | ◐◐◐◐◐◐ |      | ◐◐    | ◐◐     | ●    |
| M     | Stainless     | ◐◐◐◐◐◐ | ◐◐◐◐◐◐ |      |       |        | ●    |
| K     | Cast iron     |        |        |      | ◐◐    | ◐◐     | ●    |
| N     | Non-ferrous   |        |        |      |       |        | ●    |
| S     | Superalloy    |        |        |      |       |        |      |
| H     | Hard material |        |        |      |       |        |      |



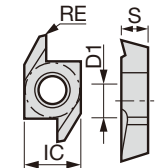
| Application  | Chipbreaker | Designation | Coated |           |      |       | Coated cermet | Cermet | Uncoated | Dimension (in) |       |       |       |       |
|--------------|-------------|-------------|--------|-----------|------|-------|---------------|--------|----------|----------------|-------|-------|-------|-------|
|              |             |             | SH7025 | SH725     | J740 | J9530 | NS9530        | TH10   | RE       | IC             | S     | D1    |       |       |
|              |             | Inch        | Metric |           |      |       |               |        |          |                |       |       |       |       |
| Back turning |             | -           | -      | JTBR3000F | ●    | ●     | ●             |        |          | ●              | 0.001 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBL3000F |      | ●     | ●             |        |          | ●              | 0.001 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBR3005F | ●    | ●     | ●             |        |          | ●              | 0.002 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBL3005F |      | ●     | ●             |        |          | ●              | 0.002 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBR3005  |      |       | ●             | ●      |          |                | 0.002 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBL3005  |      |       | ●             |        |          |                | 0.002 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBR3010F | ●    | ●     | ●             |        | ●        | ●              | 0.004 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBL3010F |      | ●     | ●             |        | ●        | ●              | 0.004 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBR3010  |      |       | ●             | ●      |          |                | 0.004 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBL3010  |      |       | ●             |        |          |                | 0.004 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBR3015F | ●    | ●     | ●             |        | ●        |                | 0.006 | 0.374 | 0.125 | 0.173 |
|              |             | -           | -      | JTBL3015F |      | ●     |               |        |          |                | 0.006 | 0.374 | 0.125 | 0.173 |

## J10E\*



Back turning

| Grade | Material      | SH7025 | SH725  | J740 | J9530 | NS9530 | TH10 |
|-------|---------------|--------|--------|------|-------|--------|------|
| P     | Steel         | ◐◐◐◐◐◐ | ◐◐◐◐◐◐ |      | ◐◐    | ◐◐     | ●    |
| M     | Stainless     | ◐◐◐◐◐◐ | ◐◐◐◐◐◐ |      |       |        | ●    |
| K     | Cast iron     |        |        |      | ◐◐    | ◐◐     | ●    |
| N     | Non-ferrous   |        |        |      |       |        | ●    |
| S     | Superalloy    |        |        |      |       |        |      |
| H     | Hard material |        |        |      |       |        |      |



| Application  | Chipbreaker | Designation | Coated |            |      |       | Coated cermet | Cermet | Uncoated | Dimension (in) |       |       |       |       |
|--------------|-------------|-------------|--------|------------|------|-------|---------------|--------|----------|----------------|-------|-------|-------|-------|
|              |             |             | SH7025 | SH725      | J740 | J9530 | NS9530        | TH10   | RE       | IC             | S     | D1    |       |       |
|              |             | Inch        | Metric |            |      |       |               |        |          |                |       |       |       |       |
| Back turning |             | -           | -      | J10ER005BF | ●    | ●     | ●             |        | ●        | 0.002          | 0.250 | 0.125 | 0.118 |       |
|              |             | -           | -      | J10EL005BF | ●    | ●     | ●             |        | ●        | 0.002          | 0.250 | 0.125 | 0.118 |       |
|              |             | -           | -      | J10ER005B  |      |       | ●             | ●      |          |                | 0.002 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10EL005B  |      |       | ●             |        |          |                | 0.002 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10ER010BF | ●    | ●     | ●             |        | ●        | ●              | 0.004 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10EL010BF | ●    | ●     | ●             |        | ●        | ●              | 0.004 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10ER010B  |      |       | ●             | ●      |          |                | 0.004 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10EL010B  |      |       | ●             |        |          |                | 0.004 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10EL015BF | ●    | ●     |               |        |          |                | 0.006 | 0.250 | 0.125 | 0.118 |
|              |             | -           | -      | J10ER015BF | ●    | ●     |               |        |          |                | 0.006 | 0.250 | 0.125 | 0.118 |

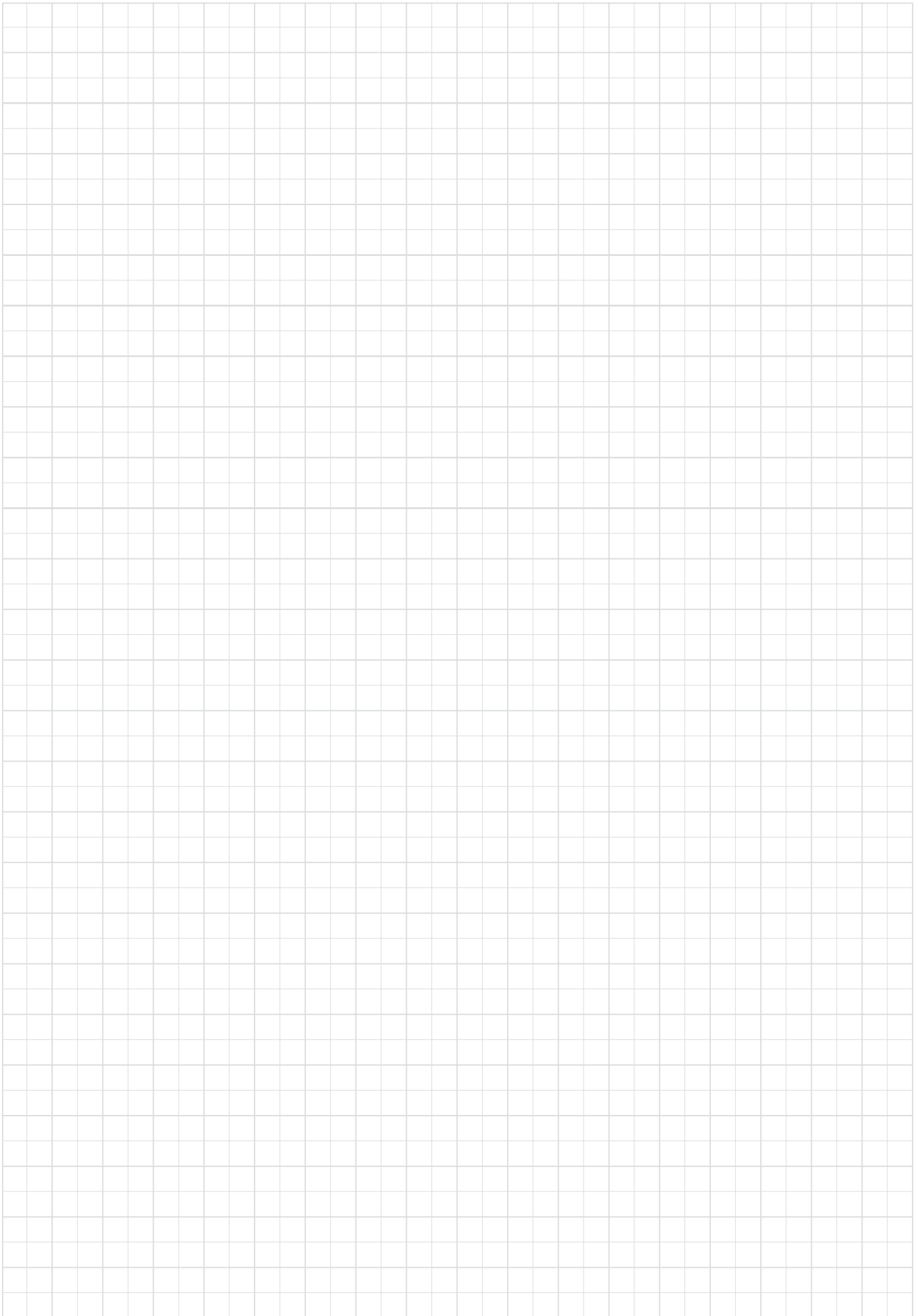
●: Line up

Reference pages: JTB...: J-Series toolholder → [G081](#)  
 J10E...: J-Series toolholder → [G078](#)





# MEMO



Grade

A

Insert

B

Ext. Toolholder

C

Int. Toolholder

D

Threading

E

Grooving

F

Miniature tool

G

Milling cutter

H

Endmill

I

Drilling tool

J

Tooling System

K

User's Guide

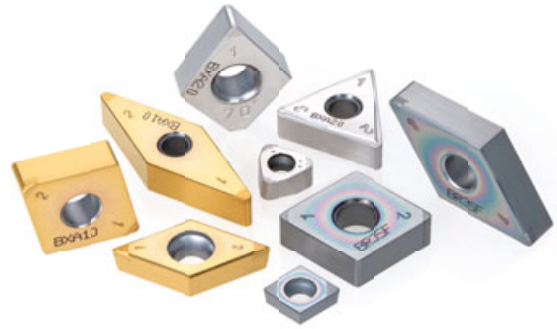
L

Index

M

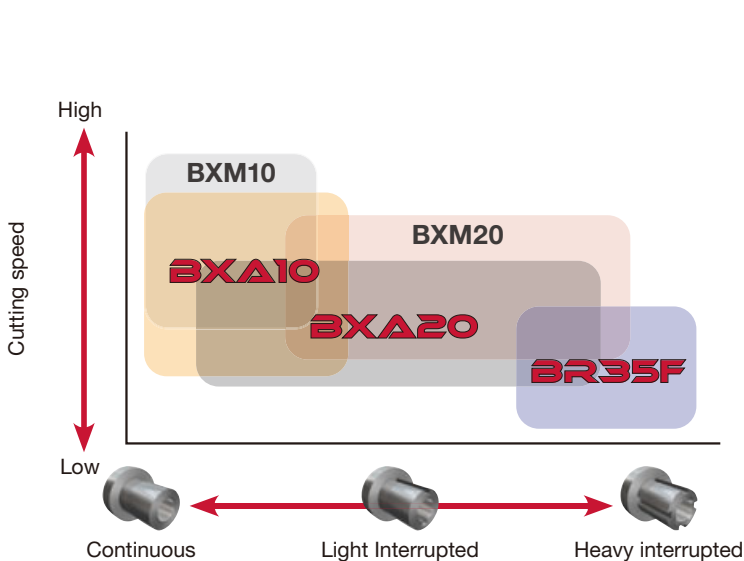
# BXA10 / BXA20 / BR35F

## Coated CBN series for a wide range of hard part turning



### ■ Application areas

The most suitable grade can be selected for your application requirements



#### **BXA10**

- First choice for continuous to light interrupted cuts
- For  $V_c = 755$  sfm or less



#### **BXA20**

- Versatile grade from continuous to heavy interrupted cuts
- For  $V_c = 492$  sfm or less



#### **BR35F**

- First choice for heavy interrupted cuts
- For  $V_c = 492$  sfm or less

#### **BXM10**

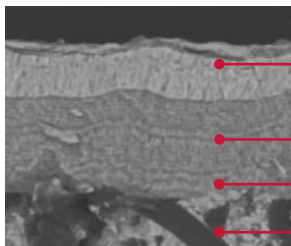
- Complementary grade for continuous to light interrupted cuts
- For extremely high cutting speeds of  $V_c = 984$  sfm

#### **BXM20**

- Complementary versatile grade for continuous to heavy interrupted cuts
- For high cutting speeds of  $V_c = 656$  sfm

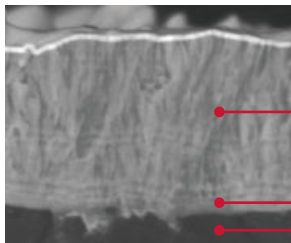
### ■ Grade properties

#### **BXA10**



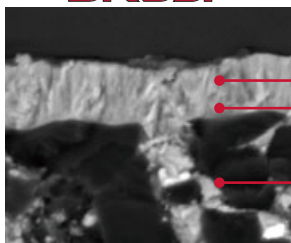
- TiCN coating with high thermal stability and wear resistance
- Multilayer TiAlN coating with good adhesion and resistance to delamination and chipping
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent flank wear and crater wear resistance

#### **BXA20**



- Thick multilayer TiAlN coating with superior wear and chipping resistance
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent crater wear and fracture resistance

#### **BR35F**



- Multilayer AlCrN coating with excellent fracture resistance
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent chipping and fracture resistance

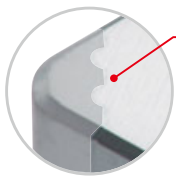
# WavyJoint

## New brazing technology for increased machining efficiency

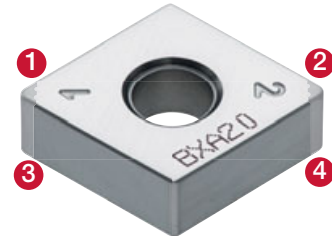
A maximum depth of cut up to 0.031".  
Reduces the number of passes to increase productivity.

### Innovative WavyJoint brazing technology

Prevents the CBN tips from debrazing, eliminating abrupt insert fractures during demanding dry machining, while securing stable and predictable hard turning operations.

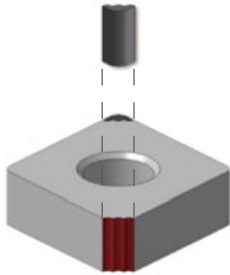


The "wavy" contact surface enhances the brazing strength



Double sided inserts

### WavyJoint

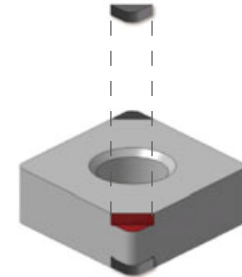


**Vs.**

**CBN Tip Size: 200%** larger for improved wear resistance of the cutting edge

**Brazing Area: 160%** larger for enhanced brazing strength

### Standard



## MINIFORCE-TURN

### Double-sided positive insert with CBN tips

MiniForce-Turn now offers WavyJoint CBN inserts that provide additional strength and security in aggressive cutting conditions.

#### ■ WXGQ 220... (WXGQ0403...) insert

Double-sided positive inserts



6-edged insert with dovetail design

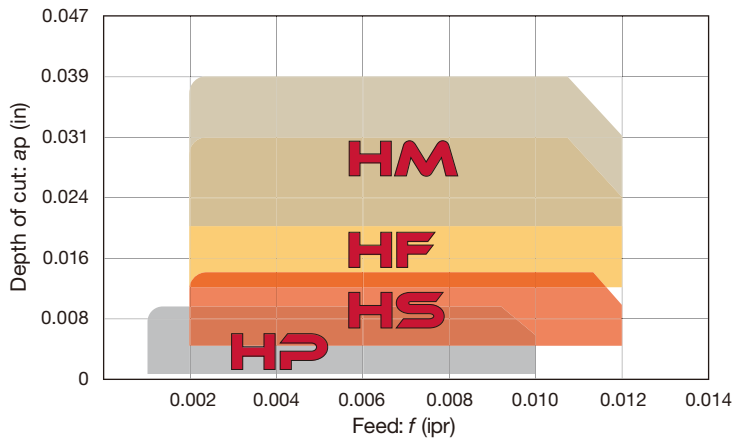


Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# HARDBREAKER SERIES

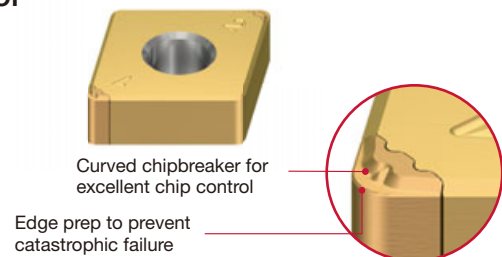
## CBN inserts with chipbreaker ideal for carburized layer removal and finishing hardened steel



### IHS chipbreaker

Optimized chipbreaker design for excellent chip control during hard turning at aggressive conditions

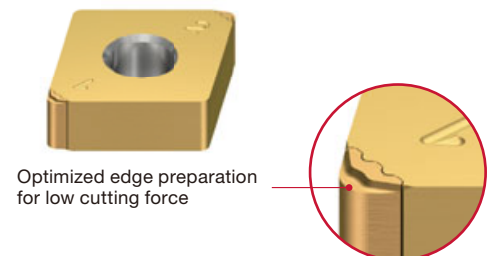
- Designed for high feed machining.
- Provides excellent chip control for a wide range of D.O.C. and feed rates.
- Edge preparation is designed to prevent catastrophic failure.



### IHP chipbreaker

Designed for finish machining of hardened parts with close tolerances

- Optimized chipbreaker geometry significantly reduces cutting force imposed on the cutting edge, ensuring long tool life.
- The edge preparation is designed to generate low cutting force, providing chatter-free machining and close tolerances.
- The built-in wiper yields excellent surface quality and good chip control.



### IHF and HM chipbreaker

- Suited for hard turning applications requiring great D.O.C. such as carburized layer removal.
- Effective chip breaking is possible for a wide range of hard materials.
- **BXA20** and **BXM20** CBN grade inserts are available for aggressive cutting depths.



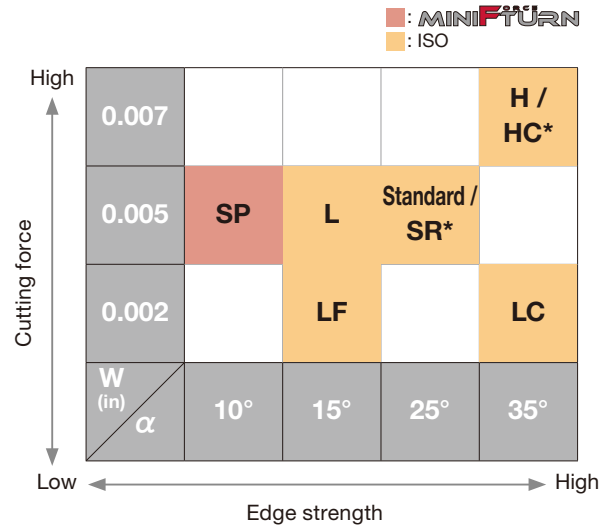
## ■ Edge preparations

Various styles of edge preparations are available according to the application needs

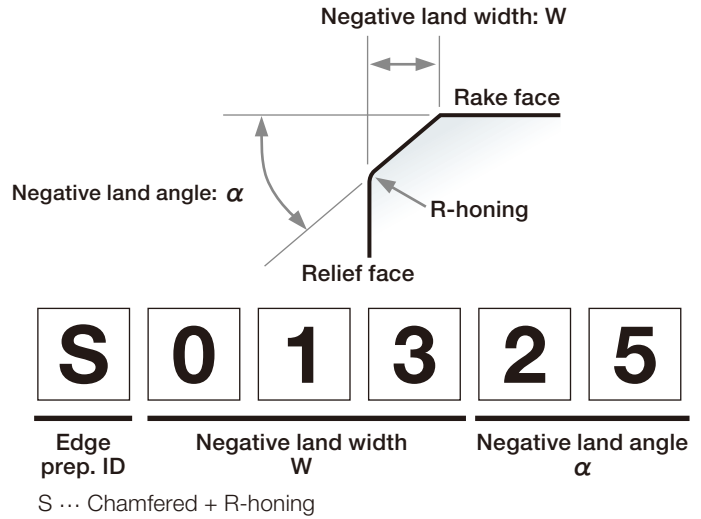
BXA10 and BXA20 grade ISO inserts are available in five different styles of edge preps: L, LF, LC, standard and -H; BR35F grade ISO inserts are offered in two styles of edge preps: SR and HC.

\*For the new BR35F grade ISO inserts, "SR" is assigned for the edge prep symbol for S01325, instead of "Standard" as previously assigned. Likewise, "HC" for S01835, instead of conventional "H".

MiniForce-Turn inserts are available in the SP style edge prep (S01310).



\*Edge prep symbol for BR35F grade inserts only



## Non-Ferrous Application Series

Complete turning solutions for non-ferrous materials



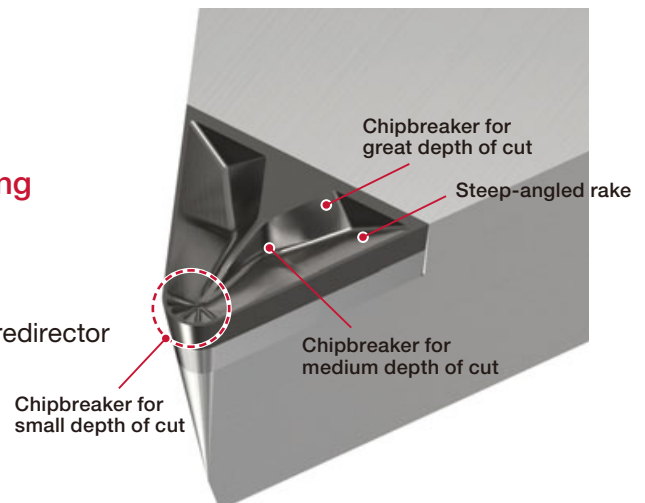
## ■ PCD inserts with 3D chipbreaker

**NS** chipbreaker

No more chip nesting in aluminum alloy machining

Unique 3D chipbreaker

- Versatile geometry allows excellent chip control
- One insert handles from rough to finish operations
- Optimal rake angle design effectively directs chips to the redirector







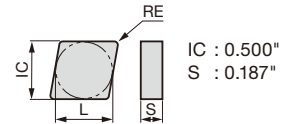


# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## CN Solid insert

 **80° Rhombic without hole**



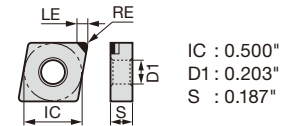
| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       | Material   |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|-------|--|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BX360 |  |
|                |             |              |                |    |                |       |          |                |            |             |          |       |  |
| Medium cutting | S-CNGN 432  | S-CNGN120408 | 0.031          |    | 4              |       | ○        |                |            |             |          | ●     | K Cast iron<br>S Superalloy<br>H Hard material<br>Sintered metal |
|                | S-CNGN 433  | S-CNGN120412 | 0.047          |    | 4              |       | ○        |                |            |             |          | ●     |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## CN

 **80° Rhombic with hole**



| Application    | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       | Material   |
|----------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|--|
|                |                |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BX360 |  |
|                |                |                |                |       |                |       |          |                |            |             |          |       |  |
| Medium cutting | CNGA 430.5 QBN | CNGA120402-QBN | 0.008          | 0.161 | 1              |       | ○        |                |            |             |          | ●     | K Cast iron<br>S Superalloy<br>H Hard material<br>Sintered metal |
|                | CNGA 431 QBN   | CNGA120404-QBN | 0.016          | 0.157 | 1              |       | ○        |                |            |             |          | ●     |  |
|                | CNGA 432 QBN   | CNGA120408-QBN | 0.031          | 0.154 | 1              |       | ○        |                |            |             |          | ●     |  |
|                | CNGA 433 QBN   | CNGA120412-QBN | 0.047          | 0.154 | 1              |       | ○        |                |            |             |          | ●     |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: CNGA, CNGG, CNGM:

External toolholder → C019 -, Internal toolholder → D027 -  
J-Series toolholder → G036, TungCap → K008 -







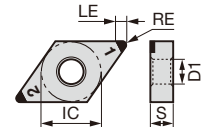


# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## DN with chipbreaker

### 55° Rhombic with hole



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

|          |                |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|---|--|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>K</b> | Cast iron      |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy     |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard material  | ● | ◐ | ✱ |  | ● | ◐ | ✱ |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Sintered metal |   |   |   |  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |

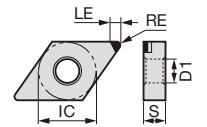
| Application         | Designation |        | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA40 |  |  |  |  |  |  |
|---------------------|-------------|--------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|--|
|                     |             |        | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| Precision finishing | Inch        | Metric | 0.016          | 0.098 | 2              | ○     |          |                |            |             | ●        | ●     | ●     | ●     |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.079       | 4      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.098       | 2      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.079       | 4      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.083       | 2      | ○              |       |                |       |          |                |            |             |          |       |       |       |       | ●     |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.063               | 4           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.083               | 2           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.063               | 4           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| Medium cutting      | 0.031       | 2      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.079       | 4      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.083       | 4      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.083       | 2      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     | 0.063       | 4      | ○              |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.083               | 4           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.079               | 2           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.102               | 4           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.079               | 4           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.079               | 2           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
| 0.079               | 4           | ○      |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |
|                     |             |        |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |  |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## DN

### 55° Rhombic with hole



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

|          |                |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>K</b> | Cast iron      |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy     |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard material  | ● | ◐ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Sintered metal |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Application | Designation |        | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX360 |  |  |  |  |  |  |  |  |  |  |  |
|-------------|-------------|--------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|--|--|--|--|--|--|--|--|--|--|--|
|             |             |        | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |  |  |  |  |  |  |  |  |  |  |  |
|             |             |        |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
| Finishing   | Inch        | Metric | 0.008          | 0.169 | 1              | ○     |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
|             |             |        |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
|             | 0.016       | 1      | ○              |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
|             |             |        |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
| 0.031       | 1           | ○      |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
|             |             |        |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
| 0.047       | 1           | ○      |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |
|             |             |        |                |       |                |       |          |                |            |             |          |       |  |  |  |  |  |  |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

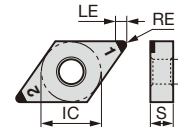
● : Line up

Reference pages: External toolholder → **C036** - Internal toolholder → **D042** -  
J-Series toolholder → **G052** TungCap → **K011** -

## DN



**55° Rhombic with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.250"

| Application         | Designation     |                   | Dimension (in)   |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   | BXA10 | BXA20 | BR35F | BXM10 | BXM20 |
|---------------------|-----------------|-------------------|------------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|-------|-------|-------|-------|-------|
|                     |                 |                   | RE               | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |       |       |       |       |       |
|                     | Inch            | Metric            |                  |       |                |       |          |                |            |             |          |   |       |       |       |       |       |
| Precision finishing | 2QP-DNGA 441-LF | 2QP-DNGA150604-LF | 0.016            | 0.098 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 441-L  | 2QP-DNGA150604-L  |                  | 0.098 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 442-LF | 2QP-DNGA150608-LF | 0.031            | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 442-L  | 2QP-DNGA150608-L  |                  | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 443-LF | 2QP-DNGA150612-LF | 0.047            | 0.079 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 443-L  | 2QP-DNGA150612-L  |                  | 0.079 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |
| Finishing           | 2QP-DNGA 441    | 2QP-DNGA150604    | 0.016            | 0.098 | 2              | ○     |          |                |            |             |          | ● | ●     |       | ●     | ●     |       |
|                     | 2QP-DNGA 441-SR | 2QP-DNGA150604SR  |                  | 0.098 | 2              | ○     |          |                |            |             |          |   |       |       | ●     |       |       |
|                     | 2QP-DNGA 441-LC | 2QP-DNGA150604-LC |                  | 0.098 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 442    | 2QP-DNGA150608    | 0.031            | 0.083 | 2              | ○     |          |                |            |             |          | ● | ●     |       | ●     | ●     |       |
|                     | 2QP-DNGA 442-SR | 2QP-DNGA150608SR  |                  | 0.083 | 2              | ○     |          |                |            |             |          |   |       |       | ●     |       |       |
|                     | 2QP-DNGA 442-LC | 2QP-DNGA150608-LC |                  | 0.083 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |
|                     | 2QP-DNGA 443    | 2QP-DNGA150612    | 0.047            | 0.079 | 2              | ○     |          |                |            |             |          | ● | ●     |       | ●     | ●     |       |
|                     | 2QP-DNGA 443-SR | 2QP-DNGA150612SR  |                  | 0.079 | 2              | ○     |          |                |            |             |          |   |       |       | ●     |       |       |
|                     | 2QP-DNGA 443-LC | 2QP-DNGA150612-LC |                  | 0.079 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |
|                     | Medium cutting  | 2QP-DNGA 441-H    | 2QP-DNGA150604-H | 0.016 | 0.098          | 2     |          |                |            |             | ○        |   | ●     | ●     |       |       |       |
| 2QP-DNGA 441-HC     |                 | 2QP-DNGA150604HC  |                  | 0.098 | 2              |       |          |                |            | ○           |          |   |       |       | ●     |       |       |
| 2QP-DNGA 442-H      |                 | 2QP-DNGA150608-H  | 0.031            | 0.083 | 2              |       |          |                |            | ○           |          | ● | ●     |       |       |       |       |
| 2QP-DNGA 442-HC     |                 | 2QP-DNGA150608HC  |                  | 0.083 | 2              |       |          |                |            | ○           |          |   |       |       | ●     |       |       |
| 2QP-DNGA 443-H      |                 | 2QP-DNGA150612-H  | 0.047            | 0.079 | 2              |       |          |                |            | ○           |          | ● | ●     |       |       |       |       |
| 2QP-DNGA 443-HC     |                 | 2QP-DNGA150612HC  |                  | 0.079 | 2              |       |          |                |            | ○           |          |   |       |       | ●     |       |       |

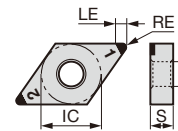
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## DN with chipbreaker



**55° Rhombic with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.250"

| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |  | BXA10 | BXA20 | BR35F | BXM10 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|--|-------|-------|-------|-------|
|                     |                 |                   | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |  |       |       |       |       |
|                     | Inch            | Metric            |                |       |                |       |          |                |            |             |          |  |       |       |       |       |
| Precision finishing | 2QP-DNGM 442 HP | 2QP-DNGM150608-HP | 0.031          | 0.083 | 2              |       | ○        |                |            |             |          |  | ●     | ●     | ●     | ●     |
|                     | 2QP-DNGM 442 HS | 2QP-DNGM150608-HS |                | 0.083 | 2              |       | ○        |                |            |             |          |  | ●     | ●     | ●     |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → **C036** - Internal toolholder → **D042** -  
J-Series toolholder → **G052** TungCap → **K011** -



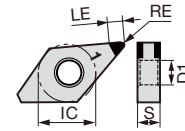
# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## FN



**45° Rhombic with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA20 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|                     | Inch            | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          |       |
| Precision finishing | 2QP-FNGA 431-LF | 2QP-FNGA150404-LF | 0.016          | 0.102 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGA 431-L  | 2QP-FNGA150404-L  |                | 0.102 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGA 432-LF | 2QP-FNGA150408-LF | 0.031          | 0.118 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGA 432-L  | 2QP-FNGA150408-L  |                | 0.118 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGA 433-LF | 2QP-FNGA150412-LF | 0.047          | 0.130 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGA 433-L  | 2QP-FNGA150412-L  |                | 0.130 | 2              |       | ○        |                |            |             | ●        |       |
| Finishing           | 2QP-FNGA 430.5  | 2QP-FNGA150402    | 0.008          | 0.109 | 2              | ○     |          |                |            |             | ●        |       |
|                     | 2QP-FNGA 431    | 2QP-FNGA150404    | 0.016          | 0.102 | 2              | ○     |          |                |            |             | ●        |       |
|                     | 2QP-FNGA 431-LC | 2QP-FNGA150404-LC |                | 0.102 | 2              |       |          |                | ○          |             | ●        |       |
|                     | 2QP-FNGA 432    | 2QP-FNGA150408    | 0.031          | 0.118 | 2              | ○     |          |                |            |             | ●        |       |
|                     | 2QP-FNGA 432-LC | 2QP-FNGA150408-LC |                | 0.118 | 2              |       |          |                | ○          |             | ●        |       |
|                     | 2QP-FNGA 433    | 2QP-FNGA150412    | 0.047          | 0.130 | 2              | ○     |          |                |            |             | ●        |       |
| Medium cutting      | 2QP-FNGA 433-LC | 2QP-FNGA150412-LC |                | 0.130 | 2              |       |          |                | ○          |             | ●        |       |
|                     | 2QP-FNGA 431-H  | 2QP-FNGA150404-H  | 0.016          | 0.102 | 2              |       |          |                |            | ○           | ●        |       |
|                     | 2QP-FNGA 432-H  | 2QP-FNGA150408-H  | 0.031          | 0.118 | 2              |       |          |                |            | ○           | ●        |       |
|                     | 2QP-FNGA 433-H  | 2QP-FNGA150412-H  | 0.047          | 0.130 | 2              |       |          |                |            | ○           | ●        |       |

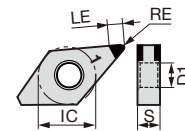
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## FN with chipbreaker



**45° Rhombic with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA20 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|                     | Inch            | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          |       |
| Precision finishing | 2QP-FNGG 431 HP | 2QP-FNGG150404-HP | 0.016          | 0.102 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGG 432 HP | 2QP-FNGG150408-HP | 0.031          | 0.118 | 2              |       | ○        |                |            |             | ●        |       |
|                     | 2QP-FNGG 433 HP | 2QP-FNGG150412-HP | 0.047          | 0.130 | 2              |       | ○        |                |            |             | ●        |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

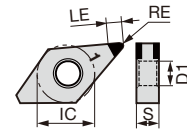
● : Line up

Reference pages: External toolholder → C036 - Internal toolholder → D042 -  
J-Series toolholder → G052 TungCap → K011 -

## FN



**45° Rhombic with hole**



IC : 0.500"  
 D1 : 0.203"  
 S : 0.250"

| Application         | Designation     |                   | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |    |      |            | BXA20 |             |          |
|---------------------|-----------------|-------------------|----------------|--------|----------------|-------|----------|----------------|----|------|------------|-------|-------------|----------|
|                     |                 |                   | Inch           | Metric |                |       |          | RE             | LE | Burr | Flank wear |       | Crater wear | Chipping |
|                     |                 |                   |                |        |                |       |          |                |    |      |            |       |             |          |
| Precision finishing | 2QP-FNGA 441-LF | 2QP-FNGA150604-LF | 0.016          | 0.102  | 2              |       |          | ○              |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 441-L  | 2QP-FNGA150604-L  |                | 0.102  | 2              |       |          | ○              |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 442-LF | 2QP-FNGA150608-LF | 0.031          | 0.118  | 2              |       |          | ○              |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 442-L  | 2QP-FNGA150608-L  |                | 0.118  | 2              |       |          |                |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 443-LF | 2QP-FNGA150612-LF | 0.047          | 0.130  | 2              |       |          | ○              |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 443-L  | 2QP-FNGA150612-L  |                | 0.130  | 2              |       |          |                | ○  |      |            | ●     |             |          |
| Finishing           | 2QP-FNGA 441    | 2QP-FNGA150604    | 0.016          | 0.102  | 2              |       | ○        |                |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 441-LC | 2QP-FNGA150604-LC |                | 0.102  | 2              |       |          |                |    | ○    |            | ●     |             |          |
|                     | 2QP-FNGA 442    | 2QP-FNGA150608    | 0.031          | 0.118  | 2              |       | ○        |                |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 442-LC | 2QP-FNGA150608-LC |                | 0.118  | 2              |       |          |                |    | ○    |            | ●     |             |          |
|                     | 2QP-FNGA 443    | 2QP-FNGA150612    | 0.047          | 0.130  | 2              |       | ○        |                |    |      |            | ●     |             |          |
|                     | 2QP-FNGA 443-LC | 2QP-FNGA150612-LC |                | 0.130  | 2              |       |          |                |    | ○    |            | ●     |             |          |
| Medium cutting      | 2QP-FNGA 441-H  | 2QP-FNGA150604-H  | 0.016          | 0.102  | 2              |       |          |                |    |      | ○          | ●     |             |          |
|                     | 2QP-FNGA 442-H  | 2QP-FNGA150608-H  | 0.031          | 0.118  | 2              |       |          |                |    |      | ○          | ●     |             |          |
|                     | 2QP-FNGA 443-H  | 2QP-FNGA150612-H  | 0.047          | 0.130  | 2              |       |          |                |    |      | ○          | ●     |             |          |

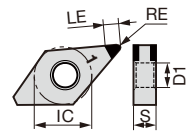
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## FN with chipbreaker



**45° Rhombic with hole**



IC : 0.500"  
 D1 : 0.203"  
 S : 0.250"

| Application         | Designation     |                   | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |    |      |            | BXA20 |             |          |
|---------------------|-----------------|-------------------|----------------|--------|----------------|-------|----------|----------------|----|------|------------|-------|-------------|----------|
|                     |                 |                   | Inch           | Metric |                |       |          | RE             | LE | Burr | Flank wear |       | Crater wear | Chipping |
|                     |                 |                   |                |        |                |       |          |                |    |      |            |       |             |          |
| Precision finishing | 2QP-FNGG 441 HP | 2QP-FNGG150604-HP | 0.016          | 0.102  | 2              |       | ○        |                |    |      |            | ●     |             |          |
|                     | 2QP-FNGG 442 HP | 2QP-FNGG150608-HP | 0.031          | 0.118  | 2              |       | ○        |                |    |      |            | ●     |             |          |
|                     | 2QP-FNGG 443 HP | 2QP-FNGG150612-HP | 0.047          | 0.130  | 2              |       | ○        |                |    |      |            | ●     |             |          |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

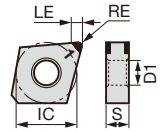
Reference pages: External toolholder → **C036** - Internal toolholder → **D042** -  
 J-Series toolholder → **G052** TungCap → **K011** -



# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## GN



IC : 0.500"  
D1 : 0.203"  
S : 0.187"



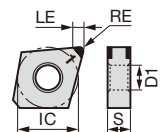
### 70° Rhombic with hole

| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   | BXA10 | BXA20 | BR35F | BXM20 | BX360 | BX470 | BX930 |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|-------|-------|-------|-------|-------|-------|-------|
|                     | Inch              | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |       |       |       |       |       |       |       |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |   |       |       |       |       |       |       |       |
| Precision finishing | 2QP-GNGA 430.5-LF | 2QP-GNGA120402-LF | 0.008          | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 430.5-L  | 2QP-GNGA120402-L  |                | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 431-LF   | 2QP-GNGA120404-LF | 0.016          | 0.083 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 431-L    | 2QP-GNGA120404-L  |                | 0.083 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 432-LF   | 2QP-GNGA120408-LF | 0.031          | 0.083 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 432-L    | 2QP-GNGA120408-L  |                | 0.083 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 433-LF   | 2QP-GNGA120412-LF | 0.047          | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |
| 2QP-GNGA 433-L      | 2QP-GNGA120412-L  |                   | 0.087          | 2     |                |       | ○        |                |            |             | ●        | ● |       |       |       |       |       |       |       |
| Finishing           | 2QP-GNGA 430.5    | 2QP-GNGA120402    | 0.008          | 0.087 | 2              |       | ○        |                |            |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 430.5-LC | 2QP-GNGA120402-LC |                | 0.087 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 431      | 2QP-GNGA120404    | 0.016          | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     | ●     |       |       |       |       |
|                     | 2QP-GNGA 431-SR   | 2QP-GNGA120404SR  |                | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     | ●     |       |       |       |       |
|                     | 2QP-GNGA 431-LC   | 2QP-GNGA120404-LC |                | 0.083 | 2              |       |          |                | ○          |             |          | ● | ●     | ●     | ●     |       |       |       |       |
|                     | 2QP-GNGA 432      | 2QP-GNGA120408    | 0.031          | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     | ●     | ●     | ●     | ●     |       |
|                     | 2QP-GNGA 432-SR   | 2QP-GNGA120408SR  |                | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     | ●     | ●     | ●     | ●     |       |
|                     | 2QP-GNGA 432-LC   | 2QP-GNGA120408-LC |                | 0.083 | 2              |       |          |                | ○          |             |          | ● | ●     | ●     | ●     | ●     | ●     | ●     |       |
|                     | 2QP-GNGA 433      | 2QP-GNGA120412    | 0.047          | 0.087 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     | ●     | ●     | ●     | ●     |       |
|                     | 2QP-GNGA 433-SR   | 2QP-GNGA120412SR  |                | 0.087 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     | ●     | ●     | ●     | ●     |       |
| 2QP-GNGA 433-LC     | 2QP-GNGA120412-LC |                   | 0.087          | 2     |                |       |          | ○              |            |             | ●        | ● | ●     | ●     | ●     | ●     | ●     |       |       |
| Medium cutting      | 2QP-GNGA 431-H    | 2QP-GNGA120404-H  | 0.016          | 0.083 | 2              |       |          |                |            | ○           |          | ● | ●     |       |       |       |       |       |       |
|                     | 2QP-GNGA 431-HC   | 2QP-GNGA120404HC  |                | 0.083 | 2              |       |          |                |            | ○           |          | ● | ●     | ●     |       |       |       |       |       |
|                     | 2QP-GNGA 432-H    | 2QP-GNGA120408-H  | 0.031          | 0.083 | 2              |       |          |                |            | ○           |          | ● | ●     | ●     |       |       |       |       |       |
|                     | 2QP-GNGA 432-HC   | 2QP-GNGA120408HC  |                | 0.083 | 2              |       |          |                |            | ○           |          | ● | ●     | ●     | ●     |       |       |       |       |
|                     | 2QP-GNGA 433-H    | 2QP-GNGA120412-H  | 0.047          | 0.087 | 2              |       |          |                |            | ○           |          | ● | ●     | ●     |       |       |       |       |       |
|                     | 2QP-GNGA 433-HC   | 2QP-GNGA120412HC  |                | 0.087 | 2              |       |          |                |            | ○           |          | ● | ●     | ●     |       |       |       |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## GN with chipbreaker



IC : 0.500"  
D1 : 0.203"  
S : 0.187"



### 70° Rhombic with hole

| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   | BXA10 | BXA20 | BXM10 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|-------|-------|-------|
|                     | Inch            | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |       |       |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          |   |       |       |       |
| Precision finishing | 2QP-GNGG 431 HP | 2QP-GNGG120404-HP | 0.016          | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     |       |
|                     | 2QP-GNGG 431 HS | 2QP-GNGG120404-HS |                | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     |       |
|                     | 2QP-GNGG 432 HP | 2QP-GNGG120408-HP | 0.031          | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     |       |
|                     | 2QP-GNGG 432 HS | 2QP-GNGG120408-HS |                | 0.083 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     |       |
|                     | 2QP-GNGG 433 HP | 2QP-GNGG120412-HP | 0.047          | 0.087 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     |       |
|                     | 2QP-GNGG 433 HS | 2QP-GNGG120412-HS |                | 0.087 | 2              |       | ○        |                |            |             |          | ● | ●     | ●     |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → **C019** - Internal toolholder → **D027** -  
 J-Series toolholder → **G036** TungCap → **K008** -

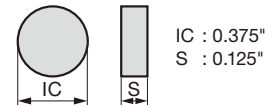


# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## RN Solid insert

 **Round, without hole**



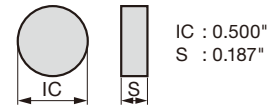
| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          |  | BXC90 |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|--|-------|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |  |       |
|                | Inch        | Metric       |                |    |                |       |          |                |            |             |          |  |       |
| Medium cutting | S-RNGN 320  | S-RNGN090300 |                |    | -              |       | ○        |                |            |             |          |  | ●     |
|                |             |              |                |    |                |       |          |                |            |             |          |  |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## RN Solid insert

 **Round, without hole**



| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          |  | BXC90 |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|--|-------|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |  |       |
|                | Inch        | Metric       |                |    |                |       |          |                |            |             |          |  |       |
| Medium cutting | S-RNGN 430  | S-RNGN120400 |                |    | -              |       | ○        |                |            |             |          |  | ●     |
|                |             |              |                |    |                |       |          |                |            |             |          |  |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

- Grade A
- Insert B
- Toolholder C
- Int. Toolholder D
- Threading E
- Grooving F
- Miniature tool G
- Milling cutter H
- Endmill I
- Drilling tool J
- Tooling System K
- User's Guide L
- Index M

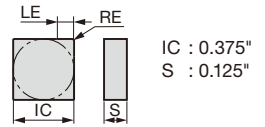


# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## SN Solid insert

 **Square without hole**



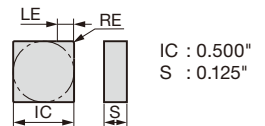
| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXC90 | Material   |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|-------|--|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |  |
|                | Inch        | Metric       |                |    |                |       |          |                |            |             |          |       |  |
| Medium cutting | S-SNGN 322  | S-SNGN090308 | 0.031          |    | 8              |       | ○        |                |            |             |          | ●     | K Cast iron ✱<br>S Superalloy<br>H Hard material<br>Sintered metal |
|                | S-SNGN 323  | S-SNGN090312 | 0.047          |    | 8              |       | ○        |                |            |             |          | ●     |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## SN Solid insert

 **Square without hole**



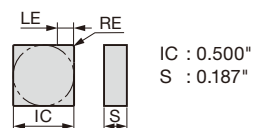
| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXC90 | Material   |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|-------|--|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |  |
|                | Inch        | Metric       |                |    |                |       |          |                |            |             |          |       |  |
| Medium cutting | S-SNGN 422  | S-SNGN120308 | 0.031          |    | 8              |       | ○        |                |            |             |          | ●     | K Cast iron ✱<br>S Superalloy<br>H Hard material<br>Sintered metal |
|                | S-SNGN 423  | S-SNGN120312 | 0.047          |    | 8              |       | ○        |                |            |             |          | ●     |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## SN Solid insert

 **Square without hole**



| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXC90 | Material   |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|-------|--|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |  |
|                | Inch        | Metric       |                |    |                |       |          |                |            |             |          |       |  |
| Medium cutting | S-SNGN 432  | S-SNGN120408 | 0.031          |    | 8              |       | ○        |                |            |             |          | ●     | K Cast iron ✱<br>S Superalloy<br>H Hard material<br>Sintered metal |
|                | S-SNGN 433  | S-SNGN120412 | 0.047          |    | 8              |       | ○        |                |            |             |          | ●     |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up



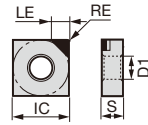
# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## SN



**Square with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX360 |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|             |                |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|             |                |                |                |       |                |       |          |                |            |             |          |       |
| Finishing   | SNGA 430.5 QBN | SNGA120402-QBN | 0.008          | 0.161 | 1              | ○     |          |                |            |             |          | ●     |
|             | SNGA 431 QBN   | SNGA120404-QBN | 0.016          | 0.161 | 1              | ○     |          |                |            |             |          | ●     |
|             | SNGA 432 QBN   | SNGA120408-QBN | 0.031          | 0.161 | 1              | ○     |          |                |            |             |          | ●     |
|             | SNGA 433 QBN   | SNGA120412-QBN | 0.047          | 0.161 | 1              | ○     |          |                |            |             |          | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TN



**Triangular with hole**



IC : 0.375"  
D1 : 0.150"  
S : 0.187"

| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXC50 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX380 | BX470 | BX480 | BX815 | BX930 |      |        |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|
|                     |                   |                   | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | Inch | Metric |
| Precision finishing | 3QP-TNGA 330.5-LF | 3QP-TNGA160402-LF | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 330.5-L  | 3QP-TNGA160402-L  |                | 0.091 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 331-F    | 3QP-TNGA160404F   | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       | ●     |       |       |      |        |
|                     | 3QP-TNGA 331-LF   | 3QP-TNGA160404-LF |                | 0.087 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 6QS-TNGA 331-LF   | 6QS-TNGA160404-LF | 0.075          | 6     |                | ○     |          |                |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 331-L    | 3QP-TNGA160404-L  | 0.087          | 3     |                |       | ○        |                |            |             | ●        | ●     |       | ●     | ●     |       |       |       |       |       |       | ●     |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 331-WG   | 3QP-TNGA160404WG  | 0.094          | 3     | ○              | ○     |          |                |            |             | ●        | ●     |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 332-F    | 3QP-TNGA160408F   | 0.075          | 3     |                |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       | ●     |       |       |       |      |        |
|                     | 3QP-TNGA 332-E    | 3QP-TNGA160408-E  | 0.075          | 3     |                |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | ●     |      |        |
|                     | 3QP-TNGA 332-LT   | 3QP-TNGA160408-LT | 0.075          | 3     |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | ●    |        |
|                     | 3QP-TNGA 332-LF   | 3QP-TNGA160408-LF | 0.031          | 0.075 | 3              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 6QS-TNGA 332-LF   | 6QS-TNGA160408-LF | 0.063          | 6     |                |       | ○        |                |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 332-L    | 3QP-TNGA160408-L  | 0.075          | 3     |                |       |          | ○              |            |             | ●        | ●     |       |       | ●     | ●     |       |       |       |       |       | ●     |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 332-WG   | 3QP-TNGA160408WG  | 0.087          | 3     | ○              | ○     |          |                |            |             | ●        | ●     |       |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 333-LF   | 3QP-TNGA160412-LF | 0.047          | 0.094 | 3              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
| 6QS-TNGA 333-LF     | 6QS-TNGA160412-LF | 0.071             | 6              |       |                | ○     |          |                |            | ●           | ●        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
| 3QP-TNGA 333-L      | 3QP-TNGA160412-L  | 0.094             | 3              |       |                |       | ○        |                |            | ●           | ●        |       |       | ●     | ●     |       |       |       |       |       | ●     |       |       |       |       |       |       |      |        |
| Finishing           | 3QP-TNGA 330.5    | 3QP-TNGA160402    | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 330.5-LC | 3QP-TNGA160402-LC |                | 0.091 | 3              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 331      | 3QP-TNGA160404    | 0.087          | 3     |                |       | ○        |                |            |             | ●        | ●     |       | ●     | ●     |       |       |       |       |       | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●    |        |
|                     | T3QP-TNGA 331     | T3QP-TNGA160404   | 0.087          | 3     |                |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       | ●     |       |       |       |       |      |        |
|                     | 3QP-TNGA 331-SR   | 3QP-TNGA160404SR  | 0.087          | 3     |                |       | ○        |                |            |             |          |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 6QS-TNGA 331      | 6QS-TNGA160404    | 0.075          | 6     |                |       | ○        |                |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 6QS-TNGA 331-SR   | 6QS-TNGA160404SR  | 0.075          | 6     |                |       | ○        |                |            |             |          |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 6QP-TNGA 331      | 6QP-TNGA160404    | 0.087          | 6     |                |       | ○        |                |            |             |          |       |       |       |       |       | ●     | ●     | ●     |       |       |       |       |       |       |       |       |      |        |
|                     | 3QP-TNGA 331-LC   | 3QP-TNGA160404-LC | 0.087          | 3     |                |       |          | ○              |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |
|                     | 6QS-TNGA 331-LC   | 6QS-TNGA160404-LC | 0.075          | 6     |                |       |          | ○              |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |

T at the beginning of the designation means 10 pieces per package.

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

Please see page L031 about the toolholders recommended for wiper inserts of the designation with WG at the end.

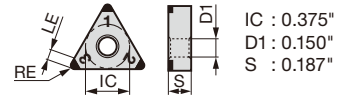
● : Line up



# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## TN with chipbreaker

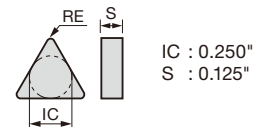


| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA40 |  |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|-------|-------|-------|-------|-------|-------|--|
|                     |                   |                   | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |       |       |       |       |       |       |  |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |   |       |       |       |       |       |       |  |
| Precision finishing | 3QP-TNGM 331 HP   | 3QP-TNGM160404-HP | 0.016          | 0.087 | 3              | ○     |          |                |            |             |          | ● | ●     | ●     | ●     |       |       |       |  |
|                     |                   |                   |                | 0.075 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 331 HS   | 3QP-TNGM160404-HS | 0.016          | 0.087 | 3              | ○     |          |                |            |             |          |   | ●     | ●     | ●     | ●     |       |       |  |
|                     |                   |                   |                | 0.075 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 332 HP   | 3QP-TNGM160408-HP | 0.031          | 0.075 | 3              | ○     |          |                |            |             |          |   | ●     |       |       |       |       |       |  |
|                     |                   |                   |                | 0.063 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 332 HS   | 3QP-TNGM160408-HS | 0.031          | 0.075 | 3              | ○     |          |                |            |             |          |   | ●     |       |       |       |       |       |  |
|                     |                   |                   |                | 0.063 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 333 HP   | 3QP-TNGM160412-HP | 0.047          | 0.094 | 3              | ○     |          |                |            |             |          |   | ●     | ●     | ●     |       |       |       |  |
|                     |                   |                   |                | 0.071 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 333 HS   | 3QP-TNGM160412-HS | 0.047          | 0.094 | 3              | ○     |          |                |            |             |          |   | ●     | ●     | ●     |       |       |       |  |
|                     |                   |                   |                | 0.071 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
| Medium cutting      | 3QP-TNGM 332 HF   | 3QP-TNGM160408-HF | 0.031          | 0.075 | 3              | ○     |          |                |            |             |          | ● |       |       |       | ●     |       |       |  |
|                     |                   |                   |                | 0.083 | 4              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 6QP-TNGG 332 HF   | 6QP-TNGG160408-HF | 0.031          | 0.075 | 6              | ○     |          |                |            |             |          |   |       |       |       |       | ●     |       |  |
|                     |                   |                   |                | 0.063 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 332 HM   | 3QP-TNGM160408-HM | 0.031          | 0.075 | 3              | ○     |          |                |            |             |          |   |       |       |       |       | ●     |       |  |
|                     |                   |                   |                | 0.063 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 6QS-TNGG 332 HM   | 6QS-TNGG160408-HM | 0.031          | 0.075 | 6              | ○     |          |                |            |             |          |   |       |       |       |       | ●     |       |  |
|                     |                   |                   |                | 0.063 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 6QP-TNGG 332 HM   | 6QP-TNGG160408-HM | 0.031          | 0.075 | 6              | ○     |          |                |            |             |          |   |       |       |       |       | ●     |       |  |
|                     |                   |                   |                | 0.063 | 6              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
|                     | 3QP-TNGM 333 HF   | 3QP-TNGM160412-HF | 0.047          | 0.094 | 3              | ○     |          |                |            |             |          |   | ●     |       |       |       | ●     |       |  |
|                     |                   |                   |                | 0.098 | 4              | ○     |          |                |            |             |          |   |       |       |       |       |       |       |  |
| 6QS-TNGG 333 HF     | 6QS-TNGG160412-HF | 0.047             | 0.094          | 6     | ○              |       |          |                |            |             |          | ● |       |       |       | ●     |       |       |  |
|                     |                   |                   | 0.094          | 3     | ○              |       |          |                |            |             |          |   |       |       |       |       |       |       |  |
| 3QP-TNGM 333 HM     | 3QP-TNGM160412-HM | 0.047             | 0.094          | 3     | ○              |       |          |                |            |             |          |   |       |       |       | ●     |       |       |  |
|                     |                   |                   | 0.094          | 6     | ○              |       |          |                |            |             |          |   |       |       |       |       |       |       |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TN Solid insert



| Application    | Designation |              | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          |  | BXC90 |
|----------------|-------------|--------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|--|-------|
|                |             |              | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |  |       |
|                |             |              |                |    |                |       |          |                |            |             |          |  |       |
| Medium cutting | S-TNGN 222  | S-TNGN110308 | 0.031          |    | 6              | ○     |          |                |            |             |          |  | ●     |
|                |             |              |                |    |                |       |          |                |            |             |          |  |       |
| Medium cutting | S-TNGN 223  | S-TNGN110312 | 0.047          |    | 6              | ○     |          |                |            |             |          |  | ●     |
|                |             |              |                |    |                |       |          |                |            |             |          |  |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: TNGG, TNGM: External toolholder → C088 -, Internal toolholder → D063 -  
J-Series toolholder → G056 -, TungCap → K013 -

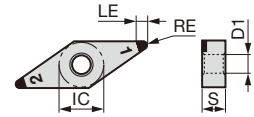




# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- : Light interrupted cutting
- \* : Heavy interrupted cutting

## VN



IC : 0.375"  
D1 : 0.150"  
S : 0.187"



### 35° Rhombic with hole

|   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | Cast iron      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ● | ○ | ● |
| S | Superalloy     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ● |
| H | Hard material  | ● | ○ | * | ● | ○ | * | ● | ○ | * | ● | ○ | * | ● | ○ | * | ● | ○ | * | ● |
|   | Sintered metal |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ● | ○ | * |

| Application         | Designation       |                   | Dimension (in)   |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXC50 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX380 | BX470 | BX480 | BX930 |  |
|---------------------|-------------------|-------------------|------------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                     | Inch              | Metric            | RE               | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     |                   |                   |                  |       |                |       |          |                |            |             |          |   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| Precision finishing | 2QP-VNGA 330.5-LF | 2QP-VNGA160402-LF | 0.008            | 0.138 | 2              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 330.5-LF | 4QS-VNGA160402-LF |                  | 0.118 | 4              |       |          |                |            |             |          |   | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 330.5-L  | 2QP-VNGA160402-L  |                  | 0.138 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 331-LF   | 2QP-VNGA160404-LF | 0.016            | 0.122 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 331-LF   | 4QS-VNGA160404-LF |                  | 0.102 | 4              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 331-L    | 2QP-VNGA160404-L  |                  | 0.122 | 2              |       |          |                | ○          |             |          | ● | ●     | ●     | ●     |       |       |       |       |       |       | ●     |       |       |       |       |       |  |
|                     | 2QP-VNGA 332-LF   | 2QP-VNGA160408-LF | 0.031            | 0.087 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 332-LF   | 4QS-VNGA160408-LF |                  | 0.067 | 4              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 332-L    | 2QP-VNGA160408-L  |                  | 0.087 | 2              |       |          |                |            | ○           |          | ● | ●     | ●     | ●     |       |       |       |       |       |       | ●     |       |       |       |       |       |  |
|                     | 2QP-VNGA 333-LF   | 2QP-VNGA160412-LF | 0.047            | 0.118 | 2              |       |          |                |            | ○           |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 333-LF   | 4QS-VNGA160412-LF |                  | 0.067 | 4              |       |          |                |            | ○           |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 333-L    | 2QP-VNGA160412-L  |                  | 0.118 | 2              |       |          |                |            |             | ○        |   | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| Finishing           | 2QP-VNGA 330.5    | 2QP-VNGA160402    | 0.008            | 0.138 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 330.5    | 4QS-VNGA160402    |                  | 0.118 | 4              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 330.5-LC | 2QP-VNGA160402-LC |                  | 0.138 | 2              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 330.5-LC | 4QS-VNGA160402-LC |                  | 0.118 | 4              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 331      | 2QP-VNGA160404    | 0.016            | 0.122 | 2              |       |          | ○              |            |             |          | ● | ●     | ●     | ●     |       |       |       |       |       |       | ●     | ●     | ●     | ●     | ●     | ●     |  |
|                     | 2QP-VNGA 331-SR   | 2QP-VNGA160404SR  |                  | 0.122 | 2              |       |          | ○              |            |             |          | ● | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 331      | 4QS-VNGA160404    |                  | 0.102 | 4              |       |          | ○              |            |             |          | ● | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 331-SR   | 4QS-VNGA160404SR  |                  | 0.102 | 4              |       |          | ○              |            |             |          | ● | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QP-VNGA 331      | 4QP-VNGA160404    |                  | 0.122 | 4              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 331-LC   | 2QP-VNGA160404-LC |                  | 0.122 | 2              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 331-LC   | 4QS-VNGA160404-LC |                  | 0.102 | 4              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 332      | 2QP-VNGA160408    | 0.031            | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     | ●     | ●     |       |       |       |       |       |       |       | ●     | ●     | ●     | ●     | ●     |  |
|                     | 2QP-VNGA 332-SR   | 2QP-VNGA160408SR  |                  | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 332      | 4QS-VNGA160408    |                  | 0.067 | 4              |       |          | ○              |            |             |          | ● | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 332-SR   | 4QS-VNGA160408SR  |                  | 0.067 | 4              |       |          | ○              |            |             |          | ● | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QP-VNGA 332      | 4QP-VNGA160408    |                  | 0.087 | 4              |       |          | ○              |            |             |          |   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 332-LC   | 2QP-VNGA160408-LC |                  | 0.087 | 2              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 332-LC   | 4QS-VNGA160408-LC |                  | 0.067 | 4              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 333      | 2QP-VNGA160412    | 0.047            | 0.118 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 333      | 4QS-VNGA160412    |                  | 0.067 | 4              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QP-VNGA 333      | 4QP-VNGA160412    |                  | 0.118 | 4              |       |          | ○              |            |             |          |   | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 2QP-VNGA 333-LC   | 2QP-VNGA160412-LC |                  | 0.118 | 2              |       |          |                |            |             |          |   | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | 4QS-VNGA 333-LC   | 4QS-VNGA160412-LC |                  | 0.067 | 4              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                     | Medium cutting    | 2QP-VNGA 331-H    | 2QP-VNGA160404-H | 0.016 | 0.122          | 2     |          |                |            |             |          |   | ●     | ●     |       |       |       |       |       |       |       |       | ●     | ●     |       |       |       |  |
| 2QP-VNGA 331-HC     |                   | 2QP-VNGA160404HC  | 0.122            |       | 2              |       |          |                |            |             |          |   | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QS-VNGA 331-H      |                   | 4QS-VNGA160404-H  | 0.102            | 4     |                |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QS-VNGA 331-HC     |                   | 4QS-VNGA160404HC  | 0.102            | 4     |                |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QP-VNGA 331-H      |                   | 4QP-VNGA160404-H  |                  | 0.122 | 4              |       |          |                |            |             |          | ● | ●     |       |       |       |       |       |       |       |       | ●     |       |       |       |       |       |  |
| 2QP-VNGA 332-H      |                   | 2QP-VNGA160408-H  | 0.031            | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       | ●     | ●     |       |       |       |  |
| 2QP-VNGA 332-HC     |                   | 2QP-VNGA160408HC  |                  | 0.087 | 2              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QS-VNGA 332-H      |                   | 4QS-VNGA160408-H  |                  | 0.067 | 4              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QS-VNGA 332-HC     |                   | 4QS-VNGA160408HC  |                  | 0.067 | 4              |       |          | ○              |            |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QP-VNGA 332-H      |                   | 4QP-VNGA160408-H  |                  | 0.087 | 4              |       |          | ○              |            |             |          |   |       |       |       |       |       |       |       |       |       |       | ●     |       |       |       |       |  |
| 2QP-VNGA 333-H      |                   | 2QP-VNGA160412-H  | 0.047            | 0.118 | 2              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 4QS-VNGA 333-H      |                   | 4QS-VNGA160412-H  |                  | 0.067 | 4              |       |          |                | ○          |             |          | ● | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C103 - Internal toolholder → D077 -  
 TungCap → K014 -

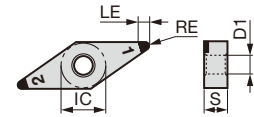
# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## VN with chipbreaker



**35° Rhombic with hole**



IC : 0.375"  
D1 : 0.150"  
S : 0.187"

| Application         | Designation     |                   | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BXM10 | BXM20 | BXA40 |  |
|---------------------|-----------------|-------------------|----------------|--------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|--|
|                     |                 |                   | RE             | LE     |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |  |
|                     |                 |                   | Inch           | Metric |                |       |          |                |            |             |          |       |       |       |       |       |  |
| Precision finishing | 2QP-VNGM 331 HP | 2QP-VNGM160404-HP | 0.016          | 0.122  | 2              | ○     |          |                |            |             |          | ●     | ●     |       |       |       |  |
|                     | 4QS-VNGG 331 HP | 4QS-VNGG160404-HP |                | 0.102  | 4              | ○     |          |                |            |             |          |       | ●     | ●     |       |       |  |
|                     | 2QP-VNGM 331 HS | 2QP-VNGM160404-HS |                | 0.122  | 2              | ○     |          |                |            |             |          |       | ●     | ●     |       |       |  |
|                     | 4QS-VNGG 331 HS | 4QS-VNGG160404-HS |                | 0.102  | 4              | ○     |          |                |            |             |          |       | ●     | ●     |       |       |  |
|                     | 2QP-VNGM 332 HP | 2QP-VNGM160408-HP |                | 0.087  | 2              | ○     |          |                |            |             |          |       | ●     | ●     | ●     |       |  |
|                     | 4QS-VNGG 332 HP | 4QS-VNGG160408-HP |                | 0.067  | 4              | ○     |          |                |            |             |          |       | ●     | ●     |       |       |  |
| Medium cutting      | 2QP-VNGM 332 HS | 2QP-VNGM160408-HS | 0.031          | 0.087  | 2              | ○     |          |                |            |             |          | ●     | ●     |       |       |       |  |
|                     | 4QS-VNGG 332 HS | 4QS-VNGG160408-HS |                | 0.067  | 4              | ○     |          |                |            |             |          | ●     | ●     |       |       |       |  |
|                     | 2QP-VNGM 332 HF | 2QP-VNGM160408-HF |                | 0.087  | 2              | ○     |          |                |            |             |          |       |       | ●     |       |       |  |
|                     | 4QP-VNGG 332 HF | 4QP-VNGG160408-HF |                | 0.087  | 4              | ○     |          |                |            |             |          |       |       |       | ●     |       |  |
|                     | 2QP-VNGM 332 HM | 2QP-VNGM160408-HM |                | 0.087  | 2              | ○     |          |                |            |             |          |       |       | ●     |       |       |  |
|                     | 4QS-VNGG 332 HM | 4QS-VNGG160408-HM |                | 0.067  | 4              | ○     |          |                |            |             |          |       |       | ●     |       |       |  |

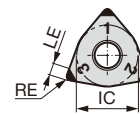
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## WN



**80° Trigon with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

| Application         | Designation     |                   | Dimension (in) |                | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BXM10 | BXM20 | BXC50 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX380 | BX480 | BX930 |   |  |
|---------------------|-----------------|-------------------|----------------|----------------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|--|
|                     |                 |                   | RE             | LE             |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |       |       |   |  |
|                     |                 |                   | Inch           | Metric         |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |   |  |
| Precision finishing | 3QP-WNGA 432-LF | 3QP-WNGA080408-LF | 0.031          | 0.087          | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |   |  |
|                     | 6QS-WNGA 432-LF | 6QS-WNGA080408-LF |                | 0.059          | 6              |       | ○        |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
|                     | 3QP-WNGA 432-L  | 3QP-WNGA080408-L  |                | 0.087          | 3              |       | ○        |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
|                     | 3QP-WNGA 432-FW | 3QP-WNGA080408FW  |                | 0.087          | 3              | ○     | ○        |                |            |             |          |       | ●     | ●     | ●     | ●     |       |       |       |       |       |       |       |       |   |  |
|                     | 6QS-WNGA 432-FW | 6QS-WNGA080408FW  |                | 0.071          | 6              | ○     | ○        |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
|                     | Finishing       | 3QP-WNGA 431      |                | 3QP-WNGA080404 | 0.016          | 0.091 | 3        |                | ○          |             |          |       |       | ●     | ●     |       |       |       |       |       |       |       |       |       |   |  |
| 6QS-WNGA 431        |                 | 6QS-WNGA080404    | 0.063          | 6              |                |       | ○        |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
| 6QP-WNGA 431        |                 | 6QP-WNGA080404    | 0.091          | 6              |                |       | ○        |                |            |             |          |       |       |       | ●     |       |       |       |       |       |       |       |       |       |   |  |
| 3QP-WNGA 432        |                 | 3QP-WNGA080408    | 0.087          | 3              |                |       | ○        |                |            |             |          |       | ●     | ●     | ●     | ●     |       |       |       | ●     | ●     | ●     | ●     | ●     | ● |  |
| 6QS-WNGA 432        |                 | 6QS-WNGA080408    | 0.059          | 6              |                |       | ○        |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
| 6QP-WNGA 432        |                 | 6QP-WNGA080408    | 0.087          | 6              |                |       | ○        |                |            |             |          |       |       |       |       | ●     | ●     | ●     |       |       |       |       |       |       |   |  |
| Medium cutting      | 3QP-WNGA 433    | 3QP-WNGA080412    | 0.047          | 0.094          | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       | ●     |       |       |       |   |  |
|                     | 6QS-WNGA 433    | 6QS-WNGA080412    |                | 0.067          | 6              |       | ○        |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
|                     | 3QP-WNGA 432-H  | 3QP-WNGA080408-H  |                | 0.087          | 3              |       |          |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
|                     | 6QS-WNGA 432-H  | 6QS-WNGA080408-H  |                | 0.059          | 6              |       |          |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |   |  |
|                     |                 |                   |                |                |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |   |  |
|                     |                 |                   |                |                |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |   |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

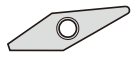
● : Line up

Reference pages: VN : External toolholder → **C103** -, Internal toolholder → **D077** -, TungCap → **K014** -  
WN: External toolholder → **C121** -, Internal toolholder → **D083** -, TungCap → **K010**

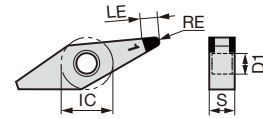
# CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## YN



**25° Rhombic with hole**



IC : 0.375"  
D1 : 0.150"  
S : 0.187"

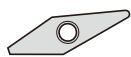
| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA20 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|                     | Inch            | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          |       |
| Precision finishing | 2QP-YNGA 331-LF | 2QP-YNGA160404-LF | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●     |
|                     | 2QP-YNGA 331-L  | 2QP-YNGA160404-L  |                | 0.122 |                |       |          |                |            |             |          |       |
|                     | 2QP-YNGA 332-LF | 2QP-YNGA160408-LF | 0.031          | 0.118 | 2              |       | ○        |                |            |             |          | ●     |
|                     | 2QP-YNGA 332-L  | 2QP-YNGA160408-L  |                | 0.118 |                |       |          |                |            |             |          |       |
| Finishing           | 2QP-YNGA 330.5  | 2QP-YNGA160402    | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●     |
|                     | 2QP-YNGA 331    | 2QP-YNGA160404    | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●     |
|                     | 2QP-YNGA 331-LC | 2QP-YNGA160404-LC |                | 0.122 |                |       |          |                |            |             |          |       |
|                     | 2QP-YNGA 332    | 2QP-YNGA160408    | 0.031          | 0.118 | 2              |       | ○        |                |            |             |          | ●     |
|                     | 2QP-YNGA 332-LC | 2QP-YNGA160408-LC |                | 0.118 |                |       |          |                |            |             |          |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

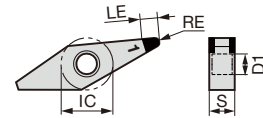
● : Line up

## YN

**with chipbreaker**



**25° Rhombic with hole**



IC : 0.375"  
D1 : 0.150"  
S : 0.187"

| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA20 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|                     | Inch            | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          |       |
| Precision finishing | 2QP-YNGG 331 HP | 2QP-YNGG160404-HP | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●     |
|                     | 2QP-YNGG 332 HP | 2QP-YNGG160408-HP |                | 0.031 |                |       |          |                |            |             |          |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → **C103** - Internal toolholder → **D077** -  
TungCap → **K014** -



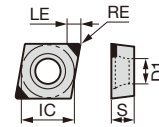
# CBN Insert POSITIVE TYPE

● : Continuous cutting  
 ◐ : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## CC



**80°Rhombic with hole, Positive 7°**



IC : 0.250"  
 D1 : 0.109"  
 S : 0.094"

| Material          | Cast iron | Superalloy | Hard material | Sintered metal | Other | Other | Other | Other | Other | Other | Other | Other | Other | Other | Other | Other |
|-------------------|-----------|------------|---------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cast iron (K)     | ●         |            |               |                |       |       |       |       |       |       |       |       |       |       |       |       |
| Superalloy (S)    |           | ●          |               |                |       |       |       |       |       |       |       |       |       |       |       |       |
| Hard material (H) | ●         | ●          | ✱             | ●              | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     |
| Sintered metal    |           |            |               |                | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     |

| Application         | Designation         |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX930 |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------------|---------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                     | Inch                | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |       |       | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX930 |
|                     |                     |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Precision finishing | 2QP-CCGW 21.50.5-LF | 2QP-CCGW060202-LF | 0.008          | 0.091 | 2              |       |          | ○              |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.50.5-L  | 2QP-CCGW060202-L  |                | 0.091 | 2              |       |          | ○              |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.51-LF   | 2QP-CCGW060204-LF | 0.016          | 0.091 | 2              |       |          | ○              |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.51-L    | 2QP-CCGW060204-L  |                | 0.091 | 2              |       |          | ○              |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.52-LF   | 2QP-CCGW060208-LF | 0.031          | 0.087 | 2              |       |          | ○              |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Finishing           | 2QP-CCGW 21.50.5    | 2QP-CCGW060202    | 0.008          | 0.091 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCMW 21.50.5    | 2QP-CCMW060202    |                | 0.091 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.50.5-LC | 2QP-CCGW060202-LC |                | 0.091 | 2              |       |          |                |            |             |          |       |       |       |       |       |       |       |       | ○     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.51      | 2QP-CCGW060204    | 0.016          | 0.091 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.51-SR   | 2QP-CCGW060204SR  |                | 0.091 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCMW 21.51      | 2QP-CCMW060204    |                | 0.091 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | Q-CCMW 21.51        | Q-CCMW060204      |                | 0.098 | 1              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.51-LC   | 2QP-CCGW060204-LC |                | 0.091 | 2              |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.52      | 2QP-CCGW060208    | 0.031          | 0.087 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.52-SR   | 2QP-CCGW060208SR  |                | 0.087 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCMW 21.52      | 2QP-CCMW060208    |                | 0.087 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-CCGW 21.52-LC   | 2QP-CCGW060208-LC |                | 0.087 | 2              |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

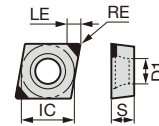
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## CC with chipbreaker



**80°Rhombic with hole, Positive 7°**



IC : 0.250"  
 D1 : 0.109"  
 S : 0.094"

| Material          | Cast iron | Superalloy | Hard material | Sintered metal | Other | Other | Other | Other | Other | Other | Other | Other | Other | Other | Other | Other |
|-------------------|-----------|------------|---------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cast iron (K)     | ●         |            |               |                |       |       |       |       |       |       |       |       |       |       |       |       |
| Superalloy (S)    |           | ●          |               |                |       |       |       |       |       |       |       |       |       |       |       |       |
| Hard material (H) | ●         | ●          | ✱             | ●              |       |       |       |       |       |       |       |       |       |       |       |       |
| Sintered metal    |           |            |               |                | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     | ●     |

| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 |       |       |       |       |  |  |  |  |  |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|
|                     | Inch              | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       | BXA10 | BXA20 | BR35F | BXM10 |  |  |  |  |  |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |  |  |  |  |  |
| Precision finishing | 2QP-CCGT 21.51 HP | 2QP-CCGT060204-HP | 0.016          | 0.091 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | 2QP-CCGT 21.51 HS | 2QP-CCGT060204-HS |                | 0.087 | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |  |  |  |  |  |
| OTHERS              |                   |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → **C034** - Internal toolholder → **D018** -  
 J-Series toolholder → **G030** - TungCap → **K011** -



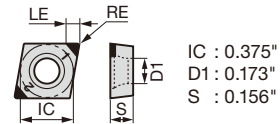
# CBN Insert POSITIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

# CC



**80°Rhombic  
with hole, Positive 7°**



| Application         | Designation         |                   | Dimension (in) |                |       |          | Improve issue* |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|---------------------|---------------------|-------------------|----------------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---|---|
|                     |                     |                   | No. of corners |                | Wiper | Standard | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX930 |                 |   |   |
|                     |                     |                   | RE             | LE             |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       | Material Legend |   |   |
| Inch                | Metric              | RE                | LE             | No. of corners | Wiper | Standard | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX930 |                 |   |   |
| Precision finishing | 2QP-CCGW 32.50.5-LF | 2QP-CCGW09T302-LF | 0.008          | 0.091          | 2     |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.50.5-L  | 2QP-CCGW09T302-L  |                | 0.091          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
|                     | 2QP-CCGW 32.51-LF   | 2QP-CCGW09T304-LF | 0.016          | 0.091          | 2     |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.51-L    | 2QP-CCGW09T304-L  |                | 0.091          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.51 FW   | 2QP-CCGW09T304FW  | 0.031          | 0.091          | 2     | ○        | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.52-LF   | 2QP-CCGW09T308-LF |                | 0.087          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
| 2QP-CCGW 32.52-L    | 2QP-CCGW09T308-L    | 0.031             | 0.087          | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
| 2QP-CCGW 32.52-L    | 2QP-CCGW09T308-L    |                   | 0.087          |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
| 2QP-CCGW 32.52 FW   | 2QP-CCGW09T308FW    | 0.008             | 0.091          | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
| 2QP-CCGW 32.52-LC   | 2QP-CCGW09T302-LC   |                   | 0.091          |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
| Finishing           | 2QP-CCGW 32.51      | 2QP-CCGW09T304    | 0.016          | 0.091          | 2     |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.51-SR   | 2QP-CCGW09T304SR  |                | 0.091          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
|                     | 2QP-CCMW 32.51      | 2QP-CCMW09T304    | 0.016          | 0.091          | 2     |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | Q-CCMW 32.51        | Q-CCMW09T304      |                | 0.098          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 1 |
|                     | 2QP-CCGW 32.51-LC   | 2QP-CCGW09T304-LC | 0.031          | 0.091          | 2     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.52      | 2QP-CCGW09T308    |                | 0.087          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
|                     | 2QP-CCGW 32.52-SR   | 2QP-CCGW09T308SR  | 0.031          | 0.087          | 2     |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCMW 32.52      | 2QP-CCMW09T308    |                | 0.087          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
|                     | 2QP-CCGW 32.52-LC   | 2QP-CCGW09T308-LC | 0.008          | 0.091          | 2     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.52-H    | 2QP-CCGW09T302-H  |                | 0.091          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
| Medium cutting      | 2QP-CCGW 32.51-H    | 2QP-CCGW09T304-H  | 0.016          | 0.091          | 2     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.51-HC   | 2QP-CCGW09T304HC  |                | 0.091          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   | 2 |
|                     | 2QP-CCGW 32.52-H    | 2QP-CCGW09T308-H  | 0.031          | 0.087          | 2     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 |   |   |
|                     | 2QP-CCGW 32.52-HC   | 2QP-CCGW09T308HC  |                | 0.087          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |                 | 2 | ○ |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

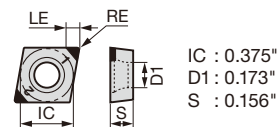
● : Line up

# CC

**with chipbreaker**



**80°Rhombic  
with hole, Positive 7°**



| Application         | Designation          |                     | Dimension (in) |                |       |          | Improve issue* |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|---------------------|----------------------|---------------------|----------------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-----------------|--|--|--|--|--|--|--|--|--|
|                     |                      |                     | No. of corners |                | Wiper | Standard | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BR35F | BXM10 |                 |  |  |  |  |  |  |  |  |  |
|                     |                      |                     | RE             | LE             |       |          |                |            |             |          |       |       |       |       | Material Legend |  |  |  |  |  |  |  |  |  |
| Inch                | Metric               | RE                  | LE             | No. of corners | Wiper | Standard | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BR35F | BXM10 |                 |  |  |  |  |  |  |  |  |  |
| Precision finishing | 2QP-CCGT 32.51 HP    | 2QP-CCGT09T304-HP   | 0.016          | 0.091          | 2     | ○        |                |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|                     | 2QP-CCGT 32.51 HS    | 2QP-CCGT09T304-HS   |                | 0.087          |       |          |                |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|                     | 2QP-CCGT 32.51 FW-HP | 2QP-CCGT09T304FW-HP | 0.031          | 0.087          | 2     | ○        | ○              |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|                     | 2QP-CCGT 32.51 FW-HS | 2QP-CCGT09T304FW-HS |                | 0.087          |       |          |                |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
| Precision finishing | 2QP-CCGT 32.52 HP    | 2QP-CCGT09T308-HP   | 0.031          | 0.087          | 2     | ○        | ○              |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|                     | 2QP-CCGT 32.52 HS    | 2QP-CCGT09T308-HS   |                | 0.087          |       |          |                |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|                     | 2QP-CCGT 32.52 FW-HP | 2QP-CCGT09T308FW-HP | 0.031          | 0.087          | 2     | ○        | ○              |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |
|                     | 2QP-CCGT 32.52 FW-HS | 2QP-CCGT09T308FW-HS |                | 0.087          |       |          |                |            |             |          |       |       |       |       |                 |  |  |  |  |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → **C034** - Internal toolholder → **D018** -  
 J-Series toolholder → **G030** - TungCap → **K011** -

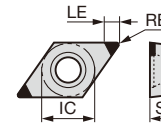




## DC



**55° Rhombic with hole, Positive 7°**



IC : 0.250"  
D1 : 0.109"  
S : 0.094"

| Application    | Designation         |                   | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX930 |  |
|----------------|---------------------|-------------------|----------------|--------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                |                     |                   | RE             | LE     |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|                |                     |                   | Inch           | Metric |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| Finishing      | 2QP-DCGW 21.50.5-LF | 2QP-DCGW070202-LF | 0.008          | 0.106  | 2              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.50.5-L  | 2QP-DCGW070202-L  |                | 0.106  | 2              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.51-LF   | 2QP-DCGW070204-LF | 0.016          | 0.098  | 2              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.51-L    | 2QP-DCGW070204-L  |                | 0.098  | 2              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.52-LF   | 2QP-DCGW070208-LF | 0.031          | 0.083  | 2              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.52-L    | 2QP-DCGW070208-L  |                | 0.083  | 2              |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
| Medium cutting | 2QP-DCGW 21.50.5    | 2QP-DCGW070202    | 0.008          | 0.106  | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     | ●     | ●     |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.50.5-SR | 2QP-DCGW070202SR  |                | 0.106  | 2              |       | ○        |                |            |             |          |       | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCMW 21.50.5    | 2QP-DCMW070202    |                | 0.106  | 2              |       | ○        |                |            |             |          |       |       |       |       |       | ●     | ●     | ●     |       |       |       |       |       |  |
|                | 2QP-DCGW 21.50.5-LC | 2QP-DCGW070202-LC |                | 0.106  | 2              |       |          |                |            | ○           |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.51      | 2QP-DCGW070204    | 0.016          | 0.098  | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     | ●     | ●     |       |       |       |       | ●     | ●     |       |       |  |
|                | 2QP-DCGW 21.51-SR   | 2QP-DCGW070204SR  |                | 0.098  | 2              |       | ○        |                |            |             |          |       | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCMW 21.51      | 2QP-DCMW070204    |                | 0.098  | 2              |       | ○        |                |            |             |          |       |       |       |       |       | ●     | ●     | ●     |       |       |       | ●     |       |  |
|                | Q-DCMW 21.51        | Q-DCMW070204      |                | 0.083  | 1              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       | ●     |       |       |       |  |
|                | 2QP-DCGW 21.51-LC   | 2QP-DCGW070204-LC |                | 0.098  | 2              |       |          |                |            |             | ○        | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.52      | 2QP-DCGW070208    | 0.031          | 0.083  | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       | ●     |       |       |  |
|                | 2QP-DCGW 21.52-SR   | 2QP-DCGW070208SR  |                | 0.083  | 2              |       | ○        |                |            |             |          |       | ●     |       |       |       |       |       |       |       |       |       |       |       |  |
|                | 2QP-DCGW 21.52-LC   | 2QP-DCGW070208-LC |                | 0.083  | 2              |       |          |                |            |             | ○        | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |  |

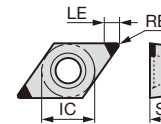
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## DC with chipbreaker



**55° Rhombic with hole, Positive 7°**



IC : 0.250"  
D1 : 0.109"  
S : 0.094"

| Application         | Designation       |                   | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 |  |  |  |  |  |  |  |  |  |  |
|---------------------|-------------------|-------------------|----------------|--------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|--|--|--|--|--|--|--|--|--|--|
|                     |                   |                   | RE             | LE     |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |  |  |  |  |  |  |  |  |  |  |
|                     |                   |                   | Inch           | Metric |                |       |          |                |            |             |          |       |       |       |       |  |  |  |  |  |  |  |  |  |  |
| Precision finishing | 2QP-DCGT 21.51 HP | 2QP-DCGT070204-HP | 0.016          | 0.098  | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     | ●     |  |  |  |  |  |  |  |  |  |  |
|                     | 2QP-DCGT 21.51 HS | 2QP-DCGT070204-HS |                | 0.098  | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     | ●     |  |  |  |  |  |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up



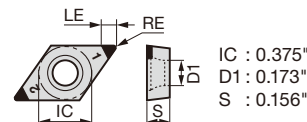
# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- \* : Heavy interrupted cutting

## DC



### 55° Rhombic with hole, Positive 7°



| Application         | Designation         |                     | Dimension (in)      |                   | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX815 | BX930 |  |  |  |  |  |
|---------------------|---------------------|---------------------|---------------------|-------------------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|
|                     | Inch                | Metric              | RE                  | LE                |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     |                     |                   |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
| Precision finishing | 2QP-DCGW 32.50.5 F  | 2QP-DCGW11T302F     | 0.008               | 0.106             | 2              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | 2QP-DCGW 32.50.5-LF | 2QP-DCGW11T302-LF   |                     | 0.106             |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | 2QP-DCGW 32.50.5-L  | 2QP-DCGW11T302-L    |                     | 0.106             |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | Precision finishing | 2QP-DCGW 32.51 F    | 2QP-DCGW11T304F     | 0.016             | 0.098          | 2     |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | 2QP-DCGW 32.51-E    | 2QP-DCGW11T304-E    |                   | 0.098          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | 2QP-DCGW 32.51-LT   | 2QP-DCGW11T304-LT   |                   | 0.098          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | Precision finishing | 2QP-DCGW 32.51-LF   | 2QP-DCGW11T304-LF | 0.016          | 0.098 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.51-L    | 2QP-DCGW11T304-L  |                | 0.098 |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.52-LF   | 2QP-DCGW11T308-LF |                | 0.098 |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
| Precision finishing |                     |                     | 2QP-DCGW 32.52-L    | 2QP-DCGW11T308-L  | 0.031          | 0.083 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.50.2    | 2QP-DCGW11T301    |                | 0.004 |          |                |            | 0.109       | 2        | ○     |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.50.5    | 2QP-DCGW11T302    |                | 0.008 |          |                |            | 0.106       |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | 2QP-DCGW 32.50.5-SR |                     | 2QP-DCGW11T302SR    | 0.008             | 0.106          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | Finishing           |                     | 2QP-DCMW 32.50.5    | 2QP-DCMW11T302    | 0.008          | 0.106 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.50.5-LC | 2QP-DCGW11T302-LC |                | 0.106 |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | 2QP-DCGW 32.51      | 2QP-DCGW11T304      | 0.098             |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | Finishing           | 2QP-DCGW 32.51-SR   | 2QP-DCGW11T304SR  | 0.016          | 0.098 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCMW 32.51      | 2QP-DCMW11T304    |                | 0.098 |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
| Q-DCMW 32.51        |                     |                     | Q-DCMW11T304        | 0.083             |                | 1     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
| Finishing           |                     |                     | 2QP-DCGW 32.51-LC   | 2QP-DCGW11T304-LC | 0.031          | 0.098 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.52      | 2QP-DCGW11T308    |                | 0.083 |          |                |            | 2           |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.52-SR   | 2QP-DCGW11T308SR  |                | 0.083 |          |                |            | 2           |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     | Medium cutting      |                     | 2QP-DCMW 32.52      | 2QP-DCMW11T308    | 0.031          | 0.083 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.52-LC   | 2QP-DCGW11T308-LC |                | 0.083 |          |                |            | 2           |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     |                     | 2QP-DCGW 32.50.5-H  | 2QP-DCGW11T302-H  |                | 0.008 |          |                |            | 0.106       | 2        |       | ○     |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | 2QP-DCGW 32.51-H    | 2QP-DCGW11T304-H    | 0.016             | 0.098          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | 2QP-DCGW 32.51-HC   | 2QP-DCGW11T304HC    | 0.016             | 0.098          |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
|                     |                     | Medium cutting      | 2QP-DCGW 32.52-H    | 2QP-DCGW11T308-H  | 0.031          | 0.083 | 2        |                | ○          |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |
| 2QP-DCGW 32.52-HC   |                     |                     | 2QP-DCGW11T308HC    | 0.031             |                | 0.083 |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

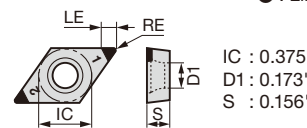
● : Line up

## DC

### with chipbreaker



### 55° Rhombic with hole, Positive 7°

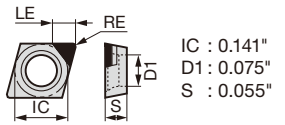


| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|
|                     | Inch              | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |
| Precision finishing | 2QP-DCGT 32.51 HP | 2QP-DCGT11T304-HP | 0.016          | 0.098 | 2              |       | ○        |                |            |             |          |       |       |       |       |
|                     | 2QP-DCGT 32.51 HS | 2QP-DCGT11T304-HS |                | 0.098 |                |       |          |                |            |             |          |       |       |       |       |
|                     | 2QP-DCGT 32.52 HP | 2QP-DCGT11T308-HP | 0.031          | 0.083 | 2              |       | ○        |                |            |             |          |       |       |       |       |
|                     | 2QP-DCGT 32.52 HS | 2QP-DCGT11T308-HS |                | 0.083 |                |       |          |                |            |             |          |       |       |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C052 - Internal toolholder → D032 -  
J-Series toolholder → G037 - TungCap → K015 -



## EP



**75° Rhombic,  
Positive 11°  
with hole**

| Application | Designation        |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       | K | S | H | Sintered metal |
|-------------|--------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|---|---|---|----------------|
|             |                    |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BX310 |   |   |   |                |
|             | Inch               | Metric         |                |       |                |       |          |                |            |             |          |       |   |   |   |                |
| Finishing   | 1QP-EPGW 4.51.80.5 | 1QP-EPGW03X102 | 0.008          | 0.055 | 1              |       | ○        |                |            |             |          | ●     | ● |   |   |                |
|             | 1QP-EPGW 4.51.81   | 1QP-EPGW03X104 | 0.016          | 0.051 | 1              |       | ○        |                |            |             |          | ●     | ● |   |   |                |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## EP



**75° Rhombic,  
Positive 11°  
with hole**

| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       | K | S | H | Sintered metal |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|---|---|---|----------------|
|             |                |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BX310 |   |   |   |                |
|             | Inch           | Metric         |                |       |                |       |          |                |            |             |          |       |   |   |   |                |
| Finishing   | 1QP-EPGW 520.5 | 1QP-EPGW040102 | 0.008          | 0.067 | 1              |       | ○        |                |            |             |          | ●     | ● |   |   |                |
|             | 1QP-EPGW 521   | 1QP-EPGW040104 | 0.016          | 0.063 | 1              |       | ○        |                |            |             |          | ●     | ● |   |   |                |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## SP



**Square Positive 11°  
with hole**

| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       | K | S | H | Sintered metal |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|---|---|---|----------------|
|             |                |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BX910 |   |   |   |                |
|             | Inch           | Metric         |                |       |                |       |          |                |            |             |          |       |   |   |   |                |
| Finishing   | 2QP-SPGW 32.52 | 2QP-SPGW09T308 | 0.031          | 0.094 | 2              |       | ○        |                |            |             |          | ●     |   |   |   |                |
|             | 2QP-SPGW 32.53 | 2QP-SPGW09T312 | 0.047          | 0.094 | 2              |       | ○        |                |            |             |          | ●     |   |   |   |                |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: EP: Internal toolholder → **D048** -  
SP: Internal toolholder → **D052**



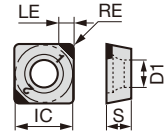
# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## SP



### Square Positive 11° with hole



IC : 0.500"  
D1 : 0.217"  
S : 0.187"

| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX910 |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|             |              |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|             |              |                |                |       |                |       |          |                |            |             |          |       |
| Finishing   | 2QP-SPGW 432 | 2QP-SPGW120408 | 0.031          | 0.094 | 2              |       | ○        |                |            |             |          | ●     |
|             | 2QP-SPGW 433 | 2QP-SPGW120412 | 0.047          | 0.094 | 2              |       | ○        |                |            |             |          | ●     |
|             | 2QP-SPGW 434 | 2QP-SPGW120416 | 0.063          | 0.094 | 2              |       | ○        |                |            |             |          | ●     |

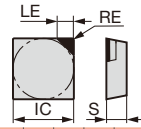
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## SP



### Square Positive 11° without hole



IC : 0.500"  
S : 0.125"

| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX330<br>BX360<br>BX910<br>BX930 |      |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|----------------------------------|------|
|             |              |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |                                  |      |
|             |              |                |                |       |                |       |          |                |            |             |          |                                  | Inch |
| Finishing   | 2QP-SPMN 321 | 2QP-SPMN090304 | 0.016          | 0.094 | 2              |       | ○        |                |            |             |          | ●                                | ●    |
|             | Q-SPGN 321   | Q-SPGN090304   |                | 0.109 | 1              |       | ○        |                |            |             |          | ●                                |      |
|             | 2QP-SPGN 322 | 2QP-SPGN090308 | 0.031          | 0.094 | 2              |       | ○        |                |            |             |          | ●                                |      |
|             | 2QP-SPMN 322 | 2QP-SPMN090308 |                | 0.094 | 2              |       | ○        |                |            |             |          | ●                                | ●    |
|             | Q-SPGN 322   | Q-SPGN090308   | 0.109          | 1     |                | ○     |          |                |            |             | ●        |                                  |      |
|             | 2QP-SPGN 323 | 2QP-SPGN090312 | 0.047          | 0.094 | 2              |       | ○        |                |            |             |          | ●                                |      |

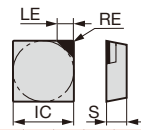
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## SP



### Square Positive 11° without hole



IC : 0.375"  
S : 0.125"

| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX360 |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|             |              |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|             |              |                |                |       |                |       |          |                |            |             |          |       |
| Finishing   | SPGN 321 QBN | SPGN090304-QBN | 0.016          | 0.161 | 1              |       | ○        |                |            |             |          | ●     |
|             | SPGN 322 QBN | SPGN090308-QBN | 0.031          | 0.161 | 1              |       | ○        |                |            |             |          | ●     |
|             | SPGN 323 QBN | SPGN090312-QBN | 0.047          | 0.161 | 1              |       | ○        |                |            |             |          | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

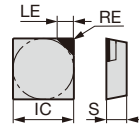
Reference pages: Internal toolholder → **D052** -



# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## SP



IC : 0.500"  
S : 0.125"



### Square Positive 11° without hole

|          |                |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>K</b> | Cast iron      |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy     |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard material  | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Sintered metal |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   |  |  |  |  |  |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|--|--|--|--|--|
|             | Inch         | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |  |  |  |  |  |
|             | SPGN 422 QBN | SPGN120308-QBN | 0.016          | 0.161 |                |       |          | 1              | ○          |             |          |   |  |  |  |  |  |
| Finishing   | SPGN 423 QBN | SPGN120312-QBN | 0.031          | 0.161 | 1              | ○     |          |                |            |             |          | ● |  |  |  |  |  |
|             |              |                |                |       |                |       |          |                |            |             |          |   |  |  |  |  |  |

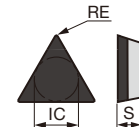
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TB



### Triangular Positive 5° without hole



IC : 0.156"  
S : 0.063"

|          |                |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>K</b> | Cast iron      |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy     |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard material  | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Sintered metal |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Application | Designation  |                   | Dimension (in) |    | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   |  |  |  |  |  |
|-------------|--------------|-------------------|----------------|----|----------------|-------|----------|----------------|------------|-------------|----------|---|--|--|--|--|--|
|             | Inch         | Metric            | RE             | LE |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |  |  |  |  |  |
|             | TBGN 521 QBN | TBGN060104-15-QBN | 0.016          | -  |                |       |          | 3              | ○          |             |          |   |  |  |  |  |  |
| Finishing   | TBGN 522 QBN | TBGN060108-15-QBN | 0.031          | -  | 3              | ○     |          |                |            |             |          | ● |  |  |  |  |  |
|             |              |                   |                |    |                |       |          |                |            |             |          |   |  |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TC



### Triangular Positive 7° with hole



IC : 0.219"  
D1 : 0.098"  
S : 0.094"

|          |                |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>K</b> | Cast iron      |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloy     |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard material  | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Sintered metal |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |   |   |  |  |  |  |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---|---|--|--|--|--|
|             | Inch           | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |   |   |  |  |  |  |
|             | 3QP-TCGW 730.5 | 3QP-TCGW090202 | 0.008          | 0.091 |                |       |          | 3              | ○          |             |          |   |   |  |  |  |  |
| Finishing   | 3QP-TCGW 731   | 3QP-TCGW090204 | 0.016          | 0.087 | 3              | ○     |          |                |            |             |          | ● | ● |  |  |  |  |
|             | 3QP-TCGW 732   | 3QP-TCGW090208 | 0.031          | 0.075 | 3              | ○     |          |                |            |             |          | ● | ● |  |  |  |  |
|             |                |                |                |       |                |       |          |                |            |             |          |   |   |  |  |  |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: SP: Internal toolholder → **D053**  
 TC: External toolholder → **C098 -**, Internal toolholder → **D056**  
 J-Series toolholder → **G054 -**

Grade  
Insert  
Toolholder  
Ext.  
Int.  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## TC



### Triangular Positive 7° with hole



IC : 0.250"  
D1 : 0.109"  
S : 0.094"

| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       |       |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|
|             | Inch             | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |       |
| Finishing   | 3QP-TCGW 21.50.5 | 3QP-TCGW110202 | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          | ●     | ●     |
|             | 3QP-TCGW 21.51   | 3QP-TCGW110204 | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          | ●     | ●     |
|             | 3QP-TCGW 21.52   | 3QP-TCGW110208 | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          | ●     | ●     |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TC



### Triangular Positive 7° with hole



IC : 0.375"  
D1 : 0.173"  
S : 0.156"

| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       |       |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|
|             | Inch             | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |       |
| Finishing   | 3QP-TCGW 32.50.5 | 3QP-TCGW16T302 | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          | ●     | ●     |
|             | 3QP-TCGW 32.51   | 3QP-TCGW16T304 | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          | ●     | ●     |
|             | 3QP-TCGW 32.52   | 3QP-TCGW16T308 | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          | ●     | ●     |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



IC : 0.187"  
D1 : 0.091"  
S : 0.094"

| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       |       |       |       |       |       |       |       |       |       |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|             | Inch           | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX930 |
|             |                |                |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
| Finishing   | 3QP-TPGW 630.5 | 3QP-TPGW080202 | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
|             | 3QP-TPGW 631   | 3QP-TPGW080204 | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
|             | 3QP-TPMW 631   | 3QP-TPMW080204 |                | 0.087 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
|             | Q-TPMW 631     | Q-TPMW080204   | 0.087          | 1     |                | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
|             | 3QP-TPGW 632   | 3QP-TPGW080208 | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
|             |                |                |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

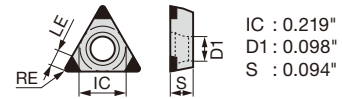
● : Line up

Reference pages: TC: External toolholder → **C098 -**, Internal toolholder → **D056**  
J-Series toolholder → **G054 -**  
TP: Internal toolholder → **D057 -**

## TP



### Triangular Positive 11° with hole



| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       |       |       |       |       |       |       |       |       |       |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|             |                |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX930 |
|             |                |                |                |       |                |       |          | Inch           | Metric     |             |          |       |       |       |       |       |       |       |       |       |       |
| Finishing   | 3QP-TPGW 730.5 | 3QP-TPGW090202 | 0.008          | 0.091 | 3              | ○     |          |                |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |
|             | 3QP-TPMW 730.5 | 3QP-TPMW090202 |                | 0.091 | 3              | ○     |          |                |            |             |          |       |       |       |       | ●     | ●     | ●     |       |       |       |
|             | Q-TPMW 73Y     | Q-TPMW090202   |                | 0.094 | 1              | ○     |          |                |            |             |          |       |       |       |       | ●     |       |       |       |       |       |
|             | 3QP-TPGW 731   | 3QP-TPGW090204 | 0.016          | 0.087 | 3              | ○     |          |                |            |             | ●        | ●     | ●     | ●     |       |       |       |       |       |       |       |
|             | 3QP-TPMW 731   | 3QP-TPMW090204 |                | 0.087 | 3              | ○     |          |                |            |             |          |       |       |       | ●     | ●     | ●     | ●     |       |       |       |
|             | Q-TPMW 731     | Q-TPMW090204   |                | 0.091 | 1              | ○     |          |                |            |             |          |       |       |       |       | ●     |       |       |       |       |       |
|             | 3QP-TPGW 732   | 3QP-TPGW090208 | 0.031          | 0.075 | 3              | ○     |          |                |            |             | ●        | ●     |       |       |       |       |       |       |       |       |       |

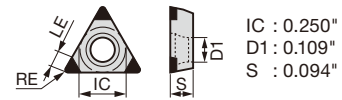
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       |       |       |       |       |       |       |       |       |       |       |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|             |                  |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX930 |
|             |                  |                |                |       |                |       |          | Inch           | Metric     |             |          |       |       |       |       |       |       |       |       |       |       |       |
| Finishing   | 3QP-TPGW 21.50.5 | 3QP-TPGW110202 | 0.008          | 0.091 | 3              | ○     |          |                |            |             |          |       |       | ●     | ●     |       |       |       |       |       |       |       |
|             | 3QP-TPMW 21.50.5 | 3QP-TPMW110202 |                | 0.091 | 3              | ○     |          |                |            |             |          |       |       |       |       |       | ●     | ●     | ●     | ●     |       |       |
|             | Q-TPMW 21.50.5   | Q-TPMW110202   |                | 0.094 | 1              | ○     |          |                |            |             |          |       |       |       |       |       | ●     |       |       |       |       |       |
|             | 3QP-TPGW 21.51   | 3QP-TPGW110204 | 0.016          | 0.087 | 3              | ○     |          |                |            |             | ●        | ●     | ●     | ●     | ●     |       |       |       | ●     |       |       |       |
|             | 3QP-TPMW 21.51   | 3QP-TPMW110204 |                | 0.087 | 3              | ○     |          |                |            |             |          |       |       |       |       | ●     | ●     | ●     | ●     |       |       |       |
|             | Q-TPMW 21.51     | Q-TPMW110204   |                | 0.087 | 1              | ○     |          |                |            |             |          |       |       |       |       |       | ●     |       |       |       |       |       |
|             | 3QP-TPGW 21.52   | 3QP-TPGW110208 | 0.031          | 0.075 | 3              | ○     |          |                |            |             | ●        | ●     |       |       |       |       |       |       | ●     |       |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up



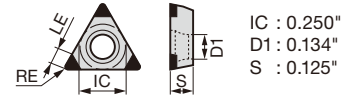
# CBN Insert POSITIVE TYPE

• : Continuous cutting  
◐ : Light interrupted cutting  
✱ : Heavy interrupted cutting

## TP



### Triangular Positive 11° with hole



| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|---|--|--|
|                     |                   |                   | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX470 | BX480 | BX910 | BX930 |      |        |   |  |  |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       | Inch | Metric |   |  |  |
| Precision finishing | 3QP-TPGW 220.5-LF | 3QP-TPGW110302-LF | 0.008          | 0.091 | 3              |       |          | ○              |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       | ●     | ●    | ●      |   |  |  |
|                     | 3QP-TPGW 220.5-L  | 3QP-TPGW110302-L  |                | 0.091 | 3              |       |          |                | ○          |             |          |       |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 221 F    | 3QP-TPGW110304F   | 0.016          | 0.087 | 3              |       |          | ○              |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       | ●     |      |        |   |  |  |
|                     | 3QP-TPGW 221-LF   | 3QP-TPGW110304-LF |                | 0.087 | 3              |       |          | ○              |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       | ●     |      |        |   |  |  |
|                     | 3QP-TPGW 221-L    | 3QP-TPGW110304-L  |                | 0.087 | 3              |       |          | ○              |            |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       | ●     |      |        |   |  |  |
|                     | 3QP-TPGW 222 F    | 3QP-TPGW110308F   | 0.031          | 0.075 | 3              |       |          | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       |       | ●     |      |        |   |  |  |
| 3QP-TPGW 222-LF     | 3QP-TPGW110308-LF | 0.075             |                | 3     |                |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       | ●     |       |      |        |   |  |  |
| 3QP-TPGW 222-L      | 3QP-TPGW110308-L  | 0.075             | 3              |       |                | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       | ●     |       |       |      |        |   |  |  |
| Finishing           | 3QP-TPGW 220.5    | 3QP-TPGW110302    | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          |       | ●     | ●     |       |       |       | ●     | ●     |       |       |       |       |       | ●     |      |        |   |  |  |
|                     | 3QP-TPMW 220.5    | 3QP-TPMW110302    |                | 0.091 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       | ●     | ●     |       |       |       |       | ●     |      |        |   |  |  |
|                     | 3QP-TPGW 220.5-LC | 3QP-TPGW110302-LC |                | 0.091 | 3              |       |          |                |            | ○           |          |       |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 221      | 3QP-TPGW110304    | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          |       | ●     | ●     | ●     | ●     | ●     |       |       |       |       |       |       | ●     | ●     |      |        |   |  |  |
|                     | 3QP-TPGW 221-SR   | 3QP-TPGW110304SR  |                | 0.087 | 3              |       | ○        |                |            |             |          |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPMW 221      | 3QP-TPMW110304    |                | 0.087 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       | ●     | ●     | ●     | ●     |       |       |      |        | ● |  |  |
|                     | Q-TPMW 221        | Q-TPMW110304      | 0.087          | 1     |                | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       | ●     |       |      |        |   |  |  |
|                     | 3QP-TPGW 221-LC   | 3QP-TPGW110304-LC | 0.087          | 3     |                |       |          |                | ○          |             |          |       | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 222      | 3QP-TPGW110308    | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          |       | ●     | ●     | ●     | ●     | ●     |       |       |       |       |       |       | ●     | ●     | ●    |        |   |  |  |
|                     | 3QP-TPGW 222-SR   | 3QP-TPGW110308SR  |                | 0.075 | 3              |       | ○        |                |            |             |          |       |       | ●     |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPMW 222      | 3QP-TPMW110308    |                | 0.075 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       | ●     | ●     | ●     |       |       |       |      |        | ● |  |  |
|                     | Q-TPMW 222        | Q-TPMW110308      | 0.075          | 1     |                | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |       | ●     |       |      |        |   |  |  |
| 3QP-TPGW 222-LC     | 3QP-TPGW110308-LC | 0.075             | 3              |       |                |       |          | ○              |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
| Medium cutting      | 3QP-TPGW 220.5-H  | 3QP-TPGW110302-H  | 0.008          | 0.091 | 3              |       |          |                |            |             |          | ○     |       |       |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 221-H    | 3QP-TPGW110304-H  |                | 0.087 | 3              |       |          |                |            |             |          |       | ○     |       |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 221-HC   | 3QP-TPGW110304HC  | 0.016          | 0.087 | 3              |       |          |                |            |             |          |       | ○     |       |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 222-H    | 3QP-TPGW110308-H  |                | 0.075 | 3              |       |          |                |            |             |          |       |       | ○     |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |
|                     | 3QP-TPGW 222-HC   | 3QP-TPGW110308HC  | 0.031          | 0.075 | 3              |       |          |                |            |             |          |       |       | ○     |       |       |       |       |       |       |       |       |       |       |       |      |        |   |  |  |

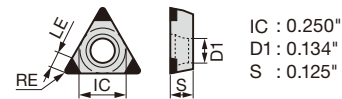
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |      | BXA10 | BXA20 | BR35F | BXM10 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|------|-------|-------|-------|-------|
|                     |                 |                   | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |      |       |       |       |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          | Inch |       |       |       |       |
| Precision finishing | 3QP-TPGT 221 HP | 3QP-TPGT110304-HP | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          |      | ●     | ●     | ●     | ●     |
|                     | 3QP-TPGT 221 HS | 3QP-TPGT110304-HS |                | 0.083 | 3              |       | ○        |                |            |             |          |      |       | ●     | ●     | ●     |
|                     | 3QP-TPGT 222 HP | 3QP-TPGT110308-HP | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          |      |       | ●     | ●     | ●     |
|                     | 3QP-TPGT 222 HS | 3QP-TPGT110308-HS |                | 0.071 | 3              |       | ○        |                |            |             |          |      |       |       | ●     | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

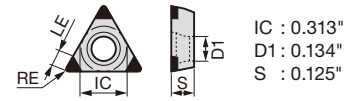
● : Line up

Reference pages: Mounting hole specification → **B146**  
Internal toolholder → **D057 -**

## TP



### Triangular Positive 11° with hole



| Application    | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX480 | BX930 |  |  |
|----------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
|                | Inch             | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |  |  |
| Finishing      | 3QP-TPGW 2.520.5 | 3QP-TPGW130302 | 0.008          | 0.091 | 3              | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |
|                | 3QP-TPMW 2.520.5 | 3QP-TPMW130302 |                | 0.091 |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |
|                | Q-TPMW 2.520.5   | Q-TPMW130302   | 0.016          | 0.094 | 1              | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |
|                | 3QP-TPGW 2.521   | 3QP-TPGW130304 |                | 0.087 |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |
|                | 3QP-TPMW 2.521   | 3QP-TPMW130304 | 0.031          | 0.087 | 3              | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |
|                | Q-TPMW 2.521     | Q-TPMW130304   |                | 0.091 |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |
| 3QP-TPGW 2.522 | 3QP-TPGW130308   |                | 0.075          | 3     | ○              |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |  |

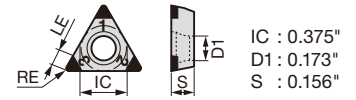
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX480 | BX930 |  |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|             | Inch             | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |       |  |
| Finishing   | 3QP-TPGW 32.50.5 | 3QP-TPGW16T302 | 0.008          | 0.091 | 3              | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |
|             | 3QP-TPGW 32.51   | 3QP-TPGW16T304 |                | 0.087 |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |
|             | 3QP-TPMW 32.51   | 3QP-TPMW16T304 | 0.016          | 0.087 | 3              | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |
|             | Q-TPMW 32.51     | Q-TPMW16T304   |                | 0.091 |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |
|             | 3QP-TPGW 32.52   | 3QP-TPGW16T308 | 0.031          | 0.075 | 3              | ○     |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |
|             | 3QP-TPMW 32.52   | 3QP-TPMW16T308 |                | 0.075 |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |       |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up



# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ⦿ : Light interrupted cutting
- ⦿\* : Heavy interrupted cutting

## TP



### Triangular Positive 11° with hole



IC : 0.375"  
D1 : 0.173"  
S : 0.187"

| Application    | Designation      |                  | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX930 |  |  |   |   |   |   |  |
|----------------|------------------|------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|---|---|---|---|--|
|                | Inch             | Metric           | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
| Finishing      | 3QP-TPGW 330.5   | 3QP-TPGW160402   | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | 3QP-TPGW 331     | 3QP-TPGW160404   |                | 0.087 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | 3QP-TPMW 331     | 3QP-TPMW160404   | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |  |  | ● | ● | ● | ● |  |
|                | Q-TPMW 331       | Q-TPMW160404     |                | 0.091 | 1              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | 3QP-TPGW 332     | 3QP-TPGW160408   | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | 3QP-TPMW 332     | 3QP-TPMW160408   |                | 0.075 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | Q-TPMW 332       | Q-TPMW160408     |                | 0.079 | 1              |       | ○        |                |            |             |          |       |       |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
| Medium cutting | 3QP-TPGW 330.5-H | 3QP-TPGW160402-H | 0.008          | 0.091 | 3              |       |          |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | 3QP-TPGW 331-H   | 3QP-TPGW160404-H | 0.016          | 0.087 | 3              |       |          |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |
|                | 3QP-TPGW 332-H   | 3QP-TPGW160408-H | 0.031          | 0.075 | 3              |       |          |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |  |  |   |   |   |   |  |

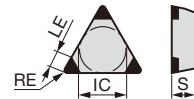
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° without hole



IC : 0.250"  
S : 0.125"

| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX330 | BX360 | BX480 | BX910 | BX930 |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|
|             | Inch           | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |
| Finishing   | 3QP-TPGN 220.5 | 3QP-TPGN110302 | 0.008          | 0.091 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |
|             | 3QP-TPMN 220.5 | 3QP-TPMN110302 |                | 0.091 | 3              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |
|             | 3QP-TPGN 221   | 3QP-TPGN110304 | 0.016          | 0.087 | 3              |       | ○        |                |            |             |          |       |       |       |       |       |
|             | 3QP-TPMN 221   | 3QP-TPMN110304 |                | 0.087 | 3              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |
|             | Q-TPGN 221     | Q-TPGN110304   |                | 0.087 | 1              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |
|             | 3QP-TPGN 222   | 3QP-TPGN110308 | 0.031          | 0.075 | 3              |       | ○        |                |            |             |          |       |       | ●     | ●     |       |
|             | 3QP-TPMN 222   | 3QP-TPMN110308 |                | 0.075 | 3              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |
|             | Q-TPGN 222     | Q-TPGN110308   |                | 0.087 | 1              |       | ○        |                |            |             | ●        | ●     |       |       |       |       |
|             | 3QP-TPGN 223   | 3QP-TPGN110312 | 0.047          | 0.094 | 3              |       | ○        |                |            |             |          |       |       |       |       | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

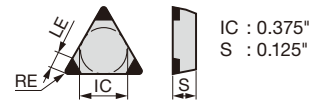
● : Line up



## TP



### Triangular Positive 11° without hole



| Application | Designation  |                | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |    |      |            |             | BX330 | BX360 | BX480 | BX930 |          |            |             |    |
|-------------|--------------|----------------|----------------|--------|----------------|-------|----------|----------------|----|------|------------|-------------|-------|-------|-------|-------|----------|------------|-------------|----|
|             |              |                | Inch           | Metric |                |       |          | RE             | LE | Burr | Flank wear | Crater wear |       |       |       |       | Chipping | Flank wear | Crater wear |    |
|             |              |                |                |        |                |       |          |                |    |      |            |             |       |       |       |       |          |            |             | RE |
| Finishing   | 3QP-TPGN 321 | 3QP-TPGN160304 | 0.016          | 0.087  | 3              | ○     |          |                |    |      |            |             |       |       |       |       |          |            |             |    |
|             | 3QP-TPMN 321 | 3QP-TPMN160304 |                | 0.087  | 3              |       |          |                |    |      |            |             |       |       |       |       | ●        | ●          | ●           |    |
|             | Q-TPGN 321   | Q-TPGN160304   | 0.091          | 1      | ○              |       |          |                |    |      |            |             |       |       |       |       |          |            |             |    |
|             | 3QP-TPGN 322 | 3QP-TPGN160308 | 0.031          | 0.075  | 3              | ○     |          |                |    |      |            |             |       |       |       |       |          |            |             |    |
|             | 3QP-TPMN 322 | 3QP-TPMN160308 |                | 0.075  | 3              |       |          |                |    |      |            |             |       |       |       |       |          | ●          | ●           | ●  |
|             | Q-TPGN 322   | Q-TPGN160308   |                | 0.075  | 1              |       |          |                |    |      |            |             |       |       |       |       |          | ○          |             |    |

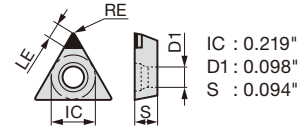
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application | Designation  |                | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |    |      |            |             | BX360 |          |            |             |
|-------------|--------------|----------------|----------------|--------|----------------|-------|----------|----------------|----|------|------------|-------------|-------|----------|------------|-------------|
|             |              |                | Inch           | Metric |                |       |          | RE             | LE | Burr | Flank wear | Crater wear |       | Chipping | Flank wear | Crater wear |
|             |              |                |                |        |                |       |          |                |    |      |            |             |       |          |            |             |
| Finishing   | TPGW 73Y QBN | TPGW090202-QBN | 0.008          | 0.130  | 1              | ○     |          |                |    |      |            |             |       |          |            |             |
|             | TPGW 731 QBN | TPGW090204-QBN | 0.016          | 0.125  | 1              |       |          |                |    |      |            |             |       |          |            |             |

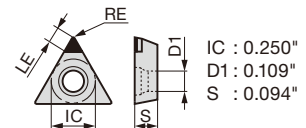
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application | Designation      |                | Dimension (in) |        | No. of corners | Wiper | Standard | Improve issue* |    |      |            |             | BX360 |          |            |             |
|-------------|------------------|----------------|----------------|--------|----------------|-------|----------|----------------|----|------|------------|-------------|-------|----------|------------|-------------|
|             |                  |                | Inch           | Metric |                |       |          | RE             | LE | Burr | Flank wear | Crater wear |       | Chipping | Flank wear | Crater wear |
|             |                  |                |                |        |                |       |          |                |    |      |            |             |       |          |            |             |
| Finishing   | TPGW 21.50.5 QBN | TPGW110202-QBN | 0.008          | 0.154  | 1              | ○     |          |                |    |      |            |             |       |          |            |             |
|             | TPGW 21.51 QBN   | TPGW110204-QBN | 0.016          | 0.146  | 1              |       |          |                |    |      |            |             |       |          |            |             |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → **D057** -

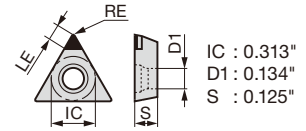
# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

## TP



### Triangular Positive 11° with hole



| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX360 |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|             | Inch             | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |
| Finishing   | TPGW 2.520.5 QBN | TPGW130302-QBN | 0.008          | 0.154 | 1              |       | ○        |                |            |             |          | ●     |
|             | TPGW 2.521 QBN   | TPGW130304-QBN | 0.016          | 0.146 | 1              |       | ○        |                |            |             |          | ●     |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |

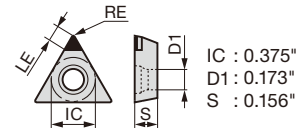
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX360 |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|             | Inch             | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|             |                  |                |                |       |                |       |          |                |            |             |          |       |
| Finishing   | TPGW 32.50.5 QBN | TPGW16T302-QBN | 0.008          | 0.173 | 1              |       | ○        |                |            |             |          | ●     |
|             | TPGW 32.51 QBN   | TPGW16T304-QBN | 0.016          | 0.165 | 1              |       | ○        |                |            |             |          | ●     |
|             | TPGW 32.52 QBN   | TPGW16T308-QBN | 0.031          | 0.157 | 1              |       | ○        |                |            |             |          | ●     |

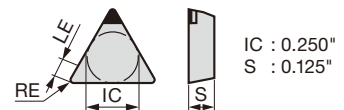
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° without hole



| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BX360 |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|
|             | Inch         | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |
|             |              |                |                |       |                |       |          |                |            |             |          |       |
| Finishing   | TPGN 221 QBN | TPGN110304-QBN | 0.016          | 0.146 | 1              |       | ○        |                |            |             |          | ●     |
|             | TPGN 222 QBN | TPGN110308-QBN | 0.031          | 0.138 | 1              |       | ○        |                |            |             |          | ●     |
|             |              |                |                |       |                |       |          |                |            |             |          |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

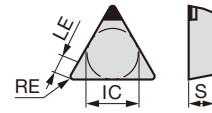
● : Line up

Reference pages: Internal toolholder → **D057** -

## TP



### Triangular Positive 11° without hole



IC : 0.375"  
S : 0.125"

| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | Material |   |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|----------|---|
|             |              |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |          |   |
|             | Inch         | Metric         |                |       |                |       |          |                |            |             |          |          |   |
| Finishing   | TPGN 321 QBN | TPGN160304-QBN | 0.016          | 0.165 | 1              |       | ○        |                |            |             |          | ●        | K Cast iron<br>S Superalloy<br>H Hard material ●●<br>Sintered metal |
|             | TPGN 322 QBN | TPGN160308-QBN | 0.031          | 0.157 | 1              |       | ○        |                |            |             |          | ●        |   |

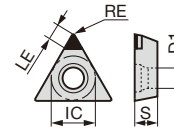
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



IC : 0.219"  
D1 : 0.125"  
S : 0.094"

| Application | Designation  |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | Material |   |
|-------------|--------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|----------|---|
|             |              |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |          |   |
|             | Inch         | Metric         |                |       |                |       |          |                |            |             |          |          |   |
| Finishing   | TPGA 73Y QBN | TPGA090202-QBN | 0.008          | 0.122 | 1              |       | ○        |                |            |             |          | ●        | K Cast iron<br>S Superalloy<br>H Hard material ●●<br>Sintered metal |
|             | TPGA 731 QBN | TPGA090204-QBN | 0.016          | 0.114 | 1              |       | ○        |                |            |             |          | ●        |   |

Tungaloy's standard hole specification (ISO non-compliant)

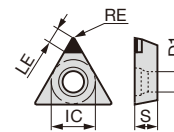
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



IC : 0.250"  
D1 : 0.118"  
S : 0.094"

| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | Material |   |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|----------|---|
|             |                  |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |          |   |
|             | Inch             | Metric         |                |       |                |       |          |                |            |             |          |          |   |
| Finishing   | TPGA 21.50.5 QBN | TPGA110202-QBN | 0.008          | 0.154 | 1              |       | ○        |                |            |             |          | ●        | K Cast iron<br>S Superalloy<br>H Hard material ●●<br>Sintered metal |
|             | TPGA 21.51 QBN   | TPGA110204-QBN | 0.016          | 0.146 | 1              |       | ○        |                |            |             |          | ●        |   |

Tungaloy's standard hole specification (ISO non-compliant)

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Mounting hole specification → **B146**  
Internal toolholder → **D057 -**



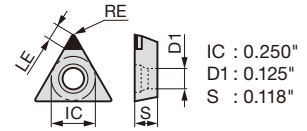
# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## TP



### Triangular Positive 11° with hole



| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |         | BX360 |         |         |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---------|-------|---------|---------|
|             | Inch           | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | Line up |       | Line up | Line up |
|             |                |                |                |       |                |       |          |                |            |             |          |         |       |         |         |
| Finishing   | TPGA 220.5 QBN | TPGA110302-QBN | 0.008          | 0.154 | 1              |       | ○        |                |            |             |          |         | ●     |         |         |
|             | TPGA 221 QBN   | TPGA110304-QBN | 0.016          | 0.146 | 1              |       | ○        |                |            |             |          |         | ●     |         |         |
|             |                |                |                |       |                |       |          |                |            |             |          |         |       |         |         |

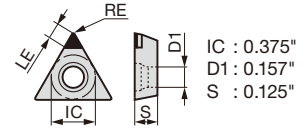
Tungaloy's standard hole specification (ISO non-compliant)  
 \*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## TP



### Triangular Positive 11° with hole



| Application | Designation    |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |         | BX360 |         |         |
|-------------|----------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|---------|-------|---------|---------|
|             | Inch           | Metric         | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping | Line up |       | Line up | Line up |
|             |                |                |                |       |                |       |          |                |            |             |          |         |       |         |         |
| Finishing   | TPGA 320.5 QBN | TPGA160302-QBN | 0.008          | 0.173 | 1              |       | ○        |                |            |             |          |         | ●     |         |         |
|             | TPGA 321 QBN   | TPGA160304-QBN | 0.016          | 0.165 | 1              |       | ○        |                |            |             |          |         | ●     |         |         |
|             | TPGA 322 QBN   | TPGA160308-QBN | 0.031          | 0.157 | 1              |       | ○        |                |            |             |          |         | ●     |         |         |
|             |                |                |                |       |                |       |          |                |            |             |          |         |       |         |         |

Tungaloy's standard hole specification (ISO non-compliant)  
 \*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Mounting hole specification → **B146**  
 Internal toolholder → **D057 -**

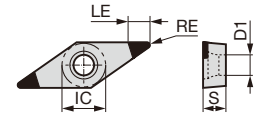
# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## VB



**35° Rhombic  
Positive 5°  
with hole**



IC : 0.250"  
D1 : 0.110"  
S : 0.094"

| Application | Designation      |                | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |      | BXA10 | BXA20 |
|-------------|------------------|----------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|------|-------|-------|
|             |                  |                | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |      |       |       |
|             |                  |                |                |       |                |       |          |                |            |             |          | Inch |       |       |
| Finishing   | 2QP-VBGW 21.50.5 | 2QP-VBGW110202 | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |
|             | 2QP-VBGW 21.51   | 2QP-VBGW110204 | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |
|             | 2QP-VBGW 21.52   | 2QP-VBGW110208 | 0.031          | 0.087 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |

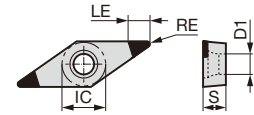
\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## VB



**35° Rhombic  
Positive 5°  
with hole**



IC : 0.250"  
D1 : 0.110"  
S : 0.125"

| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          |      | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 | BX930 |        |  |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--|
|                     |                   |                   | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |      |       |       |       |       |       |       |       |       |       |       |       |        |  |
|                     |                   |                   |                |       |                |       |          |                |            |             |          | Inch |       |       |       |       |       |       |       |       |       |       |       | Metric |  |
| Precision finishing | 2QP-VBGW 220.5-LF | 2QP-VBGW110302-LF | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 220.5-L  | 2QP-VBGW110302-L  |                | 0.138 | 2              |       | ○        |                |            |             |          |      | ●     | ●     |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 221-LF   | 2QP-VBGW110304-LF | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 221-L    | 2QP-VBGW110304-L  |                | 0.122 | 2              |       | ○        |                |            |             |          |      | ●     | ●     |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 222-LF   | 2QP-VBGW110308-LF | 0.031          | 0.087 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 222-L    | 2QP-VBGW110308-L  |                | 0.087 | 2              |       | ○        |                |            |             |          |      | ●     | ●     |       |       |       |       |       |       |       |       |       |        |  |
| Finishing           | 2QP-VBGW 220.2    | 2QP-VBGW110301    | 0.004          | 0.122 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 220.5    | 2QP-VBGW110302    | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●    | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 220.5-LC | 2QP-VBGW110302-LC |                | 0.138 | 2              |       |          | ○              |            |             |          |      | ●     | ●     |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 221      | 2QP-VBGW110304    | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●    | ●     | ●     | ●     | ●     | ●     |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 221-SR   | 2QP-VBGW110304SR  |                | 0.122 | 2              |       | ○        |                |            |             |          |      | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBMW 221      | 2QP-VBMW110304    | 0.031          | 0.122 | 2              |       | ○        |                |            |             |          |      |       |       |       |       |       |       | ●     | ●     | ●     | ●     |       |        |  |
|                     | 2QP-VBGW 221-LC   | 2QP-VBGW110304-LC |                | 0.122 | 2              |       |          | ○              |            |             |          |      | ●     | ●     |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 222      | 2QP-VBGW110308    | 0.087          | 0.087 | 2              |       | ○        |                |            |             |          | ●    | ●     | ●     | ●     | ●     |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBGW 222-SR   | 2QP-VBGW110308SR  |                | 0.087 | 2              |       | ○        |                |            |             |          |      | ●     |       |       |       |       |       |       |       |       |       |       |        |  |
|                     | 2QP-VBMW 222      | 2QP-VBMW110308    |                | 0.087 | 2              |       | ○        |                |            |             |          |      |       |       |       |       |       |       |       | ●     | ●     | ●     | ●     |        |  |
|                     | 2QP-VBGW 222-LC   | 2QP-VBGW110308-LC | 0.087          | 2     |                |       |          |                |            |             |          | ●    | ●     |       |       |       |       |       |       |       |       |       |       |        |  |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → **D068** - J-Series toolholder → **G058** -  
TungCap → **K027**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

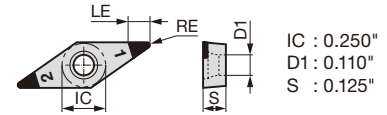


# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## VB with chipbreaker

 **35° Rhombic Positive 5° with hole**

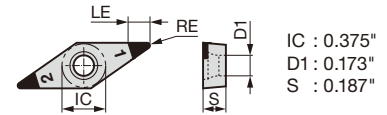


| Application         | Designation     |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BXM10 |
|---------------------|-----------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|
|                     | Inch            | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |
|                     |                 |                   |                |       |                |       |          |                |            |             |          |       |       |       |
| Precision finishing | 2QP-VBGT 331 HP | 2QP-VBGT110304-HP | 0.016          | 0.118 | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     |
|                     | 2QP-VBGT 221 HS | 2QP-VBGT110304-HS |                | 0.118 |                |       |          | 2              | ○          |             |          |       | ●     | ●     |
|                     | 2QP-VBGT 221 HS | 2QP-VBGT110308-HP | 0.031          | 0.087 | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     |
|                     | 2QP-VBGT 222 HS | 2QP-VBGT110308-HS |                | 0.087 |                |       |          | 2              | ○          |             |          |       | ●     | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

 **VB**  
**35° Rhombic Positive 5° with hole**



| Application         | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F | BXM10 | BXM20 | BXA30 | BXA40 | BX310 | BX330 | BX360 |
|---------------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                     | Inch              | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |       |       |       |       |       |       |       |
|                     |                   |                   |                |       |                |       |          |                |            |             |          |       |       |       |       |       |       |       |       |       |       |
| Precision finishing | 2QP-VBGW 330.5-LF | 2QP-VBGW160402-LF | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 330.5-L  | 2QP-VBGW160402-L  |                | 0.138 |                |       |          | 2              | ○          |             |          |       |       |       |       |       |       |       |       |       |       |
| Precision finishing | 2QP-VBGW 331-LF   | 2QP-VBGW160404-LF | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 331-L    | 2QP-VBGW160404-L  |                | 0.122 |                |       |          | 2              | ○          |             |          |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 332-LF   | 2QP-VBGW160408-LF | 0.031          | 0.087 | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 332-L    | 2QP-VBGW160408-L  |                | 0.087 |                |       |          | 2              | ○          |             |          |       |       |       |       |       |       |       |       |       |       |
| Finishing           | 2QP-VBGW 330.5    | 2QP-VBGW160402    | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 330.5-LC | 2QP-VBGW160402-LC |                | 0.138 |                |       |          | 2              | ○          |             |          |       |       |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 331      | 2QP-VBGW160404    | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●     | ●     | ●     | ●     | ●     | ●     |       |       |       |       |
|                     | 2QP-VBGW 331-SR   | 2QP-VBGW160404SR  |                | 0.122 |                |       |          | 2              | ○          |             |          |       |       |       | ●     |       |       |       |       |       | ●     |
|                     | 2QP-VBGW 331-LC   | 2QP-VBGW160404-LC | 0.031          | 0.122 | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 332      | 2QP-VBGW160408    |                | 0.087 |                |       |          | 2              | ○          |             |          |       |       |       | ●     | ●     | ●     | ●     | ●     |       |       |
|                     | 2QP-VBGW 332-SR   | 2QP-VBGW160408SR  | 0.031          | 0.087 | 2              |       | ○        |                |            |             |          |       | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBMW 332      | 2QP-VBMW160408    |                | 0.087 |                |       |          | 2              | ○          |             |          |       |       |       |       |       |       |       |       |       | ●     |
|                     | 2QP-VBGW 332-LC   | 2QP-VBGW160408-LC | 0.047          | 0.087 | 2              |       | ○        |                |            |             |          | ●     | ●     |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 333      | 2QP-VBGW160412    |                | 0.118 |                |       |          | 2              | ○          |             |          |       |       |       | ●     | ●     |       |       |       |       |       |
| Medium cutting      | 2QP-VBGW 330.5-H  | 2QP-VBGW160402-H  | 0.008          | 0.138 | 2              |       | ○        |                |            |             |          | ●     |       |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 331-H    | 2QP-VBGW160404-H  |                | 0.122 |                |       |          | 2              | ○          |             |          |       |       |       | ●     |       |       |       |       |       |       |
|                     | 2QP-VBGW 331-HC   | 2QP-VBGW160404HC  | 0.016          | 0.122 | 2              |       | ○        |                |            |             |          | ●     |       |       |       |       |       |       |       |       |       |
|                     | 2QP-VBGW 332-H    | 2QP-VBGW160408-H  |                | 0.087 |                |       |          | 2              | ○          |             |          |       |       |       | ●     |       |       |       |       |       |       |
| 2QP-VBGW 332-HC     | 2QP-VBGW160408HC  | 0.031             | 0.087          | 2     |                | ○     |          |                |            |             |          | ●     |       |       |       |       |       |       |       |       |       |
|                     |                   |                   | 0.087          |       |                |       | 2        | ○              |            |             |          |       |       |       |       |       |       |       |       |       |       |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: VB: Internal toolholder → **D068 -**, J-Series toolholder → **G058 -**, TungCap → **K027**  
VC: External toolholder → **C113 -**, Internal toolholder → **D072 -**, TungCap → **K015 -**



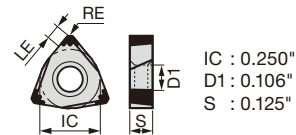


# CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## WX

 **80° Trigon with hole**



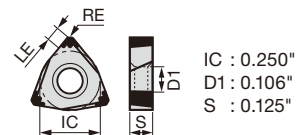
| Application | Designation       |                   | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F |
|-------------|-------------------|-------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|
|             | Inch              | Metric            | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |
| Finishing   | 6QS-WXGQ 220.5SPR | 6QS-WXGQ040302SPR | 0.008          | 0.071 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|             | 6QS-WXGQ 220.5SPL | 6QS-WXGQ040302SPL |                | 0.071 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|             | 6QS-WXGQ 221SPR   | 6QS-WXGQ040304SPR | 0.016          | 0.071 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|             | 6QS-WXGQ 221SPL   | 6QS-WXGQ040304SPL |                | 0.071 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|             | 6QS-WXGQ 222SPR   | 6QS-WXGQ040308SPR | 0.031          | 0.067 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|             | 6QS-WXGQ 222SPL   | 6QS-WXGQ040308SPL |                | 0.067 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

## WX with chipbreaker

 **80° Trigon with hole**



| Application         | Designation      |                    | Dimension (in) |       | No. of corners | Wiper | Standard | Improve issue* |            |             |          | BXA10 | BXA20 | BR35F |
|---------------------|------------------|--------------------|----------------|-------|----------------|-------|----------|----------------|------------|-------------|----------|-------|-------|-------|
|                     | Inch             | Metric             | RE             | LE    |                |       |          | Burr           | Flank wear | Crater wear | Chipping |       |       |       |
| Precision finishing | 6QS-WXGU 221R HP | 6QS-WXGU040304R-HP | 0.016          | 0.071 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|                     | 6QS-WXGU 221L HP | 6QS-WXGU040304L-HP |                | 0.071 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|                     | 6QS-WXGU 222R HP | 6QS-WXGU040308R-HP | 0.031          | 0.067 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |
|                     | 6QS-WXGU 222L HP | 6QS-WXGU040308L-HP |                | 0.067 | 6              | ○     |          |                |            |             |          | ●     | ●     | ●     |

\*Indicates the insert to use if the wear indicated is what happens with the standard hone.

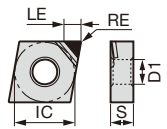
● : Line up

Reference pages: External toolholder → **C128** - Internal toolholder → **D081** -  
J-Series toolholder → **G069** - TungCap → **K025**

# PCD Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

## CN



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

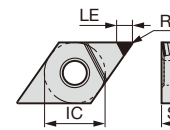
 **80° Rhombic with hole**

| Application | Designation    |                | Dimension (in) |       | No. of corners | Chipbreaker |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------|----------------|----------------|----------------|-------|----------------|-------------|-------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|--|
|             | Inch           | Metric         | RE             | LE    |                |             | DX110 | DX120 | DX140 |  |  |  |  |  |  |  |  |  |  |  |  |
|             |                |                |                |       |                |             |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
| Finishing   | 1QP-CNMM 430.5 | 1QP-CNMM120402 | 0.008          | 0.109 | 1              | ○           | ●     |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
|             | CNMM 430.5-DIA | CNMM120402-DIA |                |       | 0.138          | 1           | ○     | ●     |       |  |  |  |  |  |  |  |  |  |  |  |  |
|             | 1QP-CNMM 431   | 1QP-CNMM120404 | 0.016          | 0.109 | 1              | ○           | ●     |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
|             | CNMM 431-DIA   | CNMM120404-DIA |                |       | 0.138          | 1           | ○     | ●     |       |  |  |  |  |  |  |  |  |  |  |  |  |
|             | CNGA 431 DIA   | CNGA120404-DIA |                |       | 0.138          | 1           |       |       | ●     |  |  |  |  |  |  |  |  |  |  |  |  |
|             | CNGA 432 DIA   | CNGA120408-DIA | 0.031          | 0.109 | 1              |             |       |       | ●     |  |  |  |  |  |  |  |  |  |  |  |  |

● : Line up

## DN

 **55° Rhombic with hole**



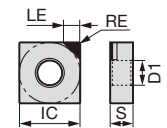
IC : 0.500"  
D1 : 0.203"  
S : 0.187"

| Application | Designation    |                | Dimension (in) |       | No. of corners | Chipbreaker |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------|----------------|----------------|----------------|-------|----------------|-------------|-------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|--|
|             | Inch           | Metric         | RE             | LE    |                |             | DX120 | DX140 | DX160 |  |  |  |  |  |  |  |  |  |  |  |  |
|             |                |                |                |       |                |             |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
| Finishing   | DNMM 430.5-DIA | DNMM150402-DIA | 0.008          | 0.130 | 1              | ○           | ●     |       |       |  |  |  |  |  |  |  |  |  |  |  |  |
|             | DNMM 431-DIA   | DNMM150404-DIA |                |       | 0.122          | 1           | ○     | ●     |       |  |  |  |  |  |  |  |  |  |  |  |  |
|             | DNGA 431 DIA   | DNGA150404-DIA | 0.016          | 0.122 | 1              |             |       | ●     | ●     |  |  |  |  |  |  |  |  |  |  |  |  |
|             | DNGA 432 DIA   | DNGA150408-DIA |                |       | 0.109          | 1           |       |       | ●     |  |  |  |  |  |  |  |  |  |  |  |  |

● : Line up

## SN

 **Square with hole**



IC : 0.500"  
D1 : 0.203"  
S : 0.187"

| Application | Designation  |                | Dimension (in) |       | No. of corners | Chipbreaker |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------|--------------|----------------|----------------|-------|----------------|-------------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|             | Inch         | Metric         | RE             | LE    |                |             | DX140 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|             |              |                |                |       |                |             |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Finishing   | SNGA 431 DIA | SNGA120404-DIA | 0.016          | 0.142 | 1              |             | ●     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|             | SNGA 432 DIA | SNGA120408-DIA |                |       |                |             |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

● : Line up

Reference pages: CN: External toolholder → **C019 -**, Internal toolholder → **D027 -**  
 J-Series toolholder → **G036**, TungCap → **K008 -**  
 DN: External toolholder → **C036 -**, Internal toolholder → **D042 -**  
 J-Series toolholder → **G052**, TungCap → **K011 -**  
 SN: External toolholder → **C076 -**, Internal toolholder → **D054 -**





















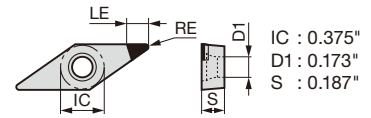




# VB



**35° Rhombic Positive 5° with hole**



| Application | Designation     |                   | Dimension (in) |    | No. of corners | Chipbreaker | DX110 |                 |                 |       |        |             |               |         |                |                |          |           |  |  |  |
|-------------|-----------------|-------------------|----------------|----|----------------|-------------|-------|-----------------|-----------------|-------|--------|-------------|---------------|---------|----------------|----------------|----------|-----------|--|--|--|
|             | Inch            | Metric            | RE             | LE |                |             |       | Int. Toolholder | Ext. Toolholder | Grade | Insert | Tool System | Drilling tool | Endmill | Milling cutter | Miniature tool | Grooving | Threading |  |  |  |
| Finishing   | 1QP-VBGT 331 NS | 1QP-VBGT160404-NS | 0.016          | 3  | 1              | ○           | ●     |                 |                 |       |        |             |               |         |                |                |          |           |  |  |  |
|             | 1QP-VBGT 332 NS | 1QP-VBGT160408-NS | 0.031          | 3  | 1              | ○           | ●     |                 |                 |       |        |             |               |         |                |                |          |           |  |  |  |
|             |                 |                   |                |    |                |             |       |                 |                 |       |        |             |               |         |                |                |          |           |  |  |  |

● : Line up

Grade  
Insert  
Toolholder  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
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M

# Technical Guide - Grade Comparison Chart

## ● CVD Coated Grades for Turning

| ISO            |        | Tungaloy   | Mitsubishi Carbide                   | Sumitomo Electric             | Sandvik                              | Kyocera                  | Moldino                  | NTK | Kennametal                | Seco Tools       | Walter                     | Iscar                                | TaeguTec   | Ceratizit                                    |
|----------------|--------|--|--------------------------------------|-------------------------------|--------------------------------------|--------------------------|--------------------------|-----|---------------------------|------------------|----------------------------|--------------------------------------|--|--|
| Classification | Symbol |  |                                      |                               |                                      |                          |                          |     |                           |                  |                            |                                      |  |  |
| <b>P</b>       | P01    | <b>T9205</b>   | UE6105                               |                               | GC4305                               | CA510                    | HG8010                   |     | KCP05B<br>KCP05<br>KCPK05 | TP0501           | WPP05S                     | IC8150<br>IC9150                     | TT8105<br>TT8105B                                | CTCK110                                      |
|                | P10    | <b>T9205</b><br><b>T9215</b>                               | UE6105<br>UE6110<br>MC6015<br>MC6115 | AC8015P<br>AC8020P            | GC4305<br>GC4315<br>GC4415           | CA515                    | HG8010<br>GM8020         | CP7 | KCP10B<br>KCP10           | TP0501<br>TP1501 | WPP10S<br>WPP10G<br>WPPV10 | IC8150<br>IC9150                     | TT8115<br>TT8115B                                | CTC3110<br>CTCK120<br>CTCP115-P              |
|                | P20    | <b>T9215</b><br><b>T9225</b>                               | MC6015<br>MC6025<br>MC6115<br>MC6125 | AC8015P<br>AC8020P<br>AC8025P | GC4315<br>GC4325<br>GC4415<br>GC4425 | CA515<br>CA525<br>CA025P | HG8025<br>GM8020<br>GM25 | CP7 | KCP25B<br>KCP25           | TP1501<br>TP2501 | WPP20S<br>WPP20G<br>WPPV20 | IC8150<br>IC9150<br>IC8250<br>IC9250 | TT8125<br>TT8125B<br>TT5100                      | CTCP115<br>CTCP115-P<br>CTCP125<br>CTCP125-P |
|                | P30    | <b>T9225</b><br><b>T9235</b>                               | MC6025<br>MC6035<br>MC6125           | AC8025P<br>AC8035P<br>AC8030M | GC4325<br>GC4335<br>GC4425           | CA530<br>CA025P          | HG8025<br>GM8035<br>GM25 |     | KCP30B<br>KCP30           | TP2501<br>TP3501 | WPP30S<br>WPP30G           | IC8350<br>IC9350                     | TT8125<br>TT8125B<br>TT5100<br>TT8135<br>TT8135B | CTCP125<br>CTCP125-P<br>CTCP135-P            |
|                | P40    | <b>T9235</b><br><b>T6215</b>                               | MC6035                               | AC8035P<br>AC8030M            | GC4335                               | CA530                    | GM8035<br>GX30           |     | KCP40B<br>KCP40           | TP3501           |                            | IC8350<br>IC9350                     | TT8135<br>TT8135B<br>TT7100                      |  |
| <b>M</b>       | M10    | <b>T6215</b>   | MC7015                               | AC6020M                       | GC2015                               | CA6515                   |                          |     | KCM15B<br>KCM15           | TM1501           |                            | IC9250                               | TT9215   | CTCM120                                      |
|                | M20    | <b>T6215</b>   | MC7015<br>MC7025                     | AC6020M                       | GC2015<br>GC2025<br>GC2220           | CA6525                   | HG8025<br>GM25           |     | KCM25B<br>KCM25           | TM1501<br>TM2501 |                            | IC9350                               | TT9215<br>TT9225                                 | CTCM120<br>CTCM130                           |
|                | M30    | <b>T6215</b>   | MC7025<br>US735                      | AC6030M                       | GC2025<br>GC2035                     | CA6525                   | GM8035<br>GM25<br>GX30   |     | KCM35B<br>KCM35           | TM2501<br>TM3501 |                            | IC9350                               | TT9225<br>TT9235                                 | CTCM130                                      |
|                | M40    |  | US735                                |                               | GC2035                               |                          | GX30                     |     |                           | TM4000           |                            |                                      | TT9235   |  |
| <b>K</b>       | K01    | <b>T505</b><br><b>T5105</b>                                | MC5005<br>MC5105<br>UC5105           | AC405K                        | GC3005<br>GC3205                     | CA4505<br>CA310          | HX3505                   | CP1 | KCK05B<br>KCK05           | TK0501           |                            | IC5005                               | TT7005   |  |
|                | K10    | <b>T505</b><br><b>T515</b><br><b>T5105</b><br><b>T5115</b> | MC5015<br>MC5115<br>MH515<br>UC5115  | AC4010K<br>AC415K             | GC3210<br>GC3215                     | CA4515<br>CA315          | HX3515<br>HG8010         | CP1 | KCK15B<br>KCK15           | TK0501           | WKK10S<br>WKKV10<br>WAK10  | IC9150<br>IC5005<br>IC5010           | TT7005<br>TT7015                                 | CTC3110<br>CTCK110                           |
|                | K20    | <b>T515</b><br><b>T5115</b><br><b>T5125</b>                | MC5015<br>MC5125<br>UC5125           | AC4015K<br>AC420K             | GC3225                               | CA320                    | HX3515<br>GM8020         | CP1 | KCK20B<br>KCK20           | TK1501           | WKK20S<br>WKKV20<br>WAK20  | IC9150<br>IC5010                     | TT7015<br>TT7025<br>TT7310                       | CTCK120<br>CTCP115                           |
|                | K30    | <b>T5125</b>   |                                      | AC8025P                       |                                      |                          | HG8025                   |     |                           |                  | WAK30                      | IC4050<br>IC8150                     | TT7025   | CTCP125                                      |

Note: The above table is selected from a publication. We have not obtained approval from each company.

## ● PVD Coated Grade for Turning

| ISO Classification | Symbol           | Tungaloy   | Mitsubishi Carbide  | Sumitomo Electric                       | Sandvik            | Kyocera                              | Moldino          | NTK   | Kennametal  | Seco Tools                                  | Walter                    | Iscar  | TaeguTec   | Ceratizit                             |         |
|--------------------|------------------|--|---|---|--------------------|--------------------------------------|------------------|---|---|---|---------------------------|--|--|---------------------------------------|---------|
|                    |                  |  |   |   |                    |                                      |                  |   |   |   |                           |  |  |                                       |         |
| <b>P</b>           | P01              |  |   |   |                    | PR1705                               |                  |   |   |   |                           |  |  |                                       |         |
|                    | P10              | AH8005   | VP10RT<br>MS6015  | AC1030U<br>AC530U<br>ACZ150             | GC1105             | PR1705<br>PR930<br>PR1725            | IP2000           | VM1<br>DT4<br>DM4                             | KC5010<br>KCU10                                       | TS2000<br>CP200                             |                           | IC807<br>IC907<br>IC808<br>IC908<br>IC1007           | TT4410<br>TT7010                                     | CTPX710<br>CTPX715                    |         |
|                    |                  | AH120<br>AH725<br>SH725<br>AH730<br>J740<br>AH8015<br>AH6225           | VP15TF<br>VP20MF<br>VP10RT<br>VP20RT<br>UP20M<br>MS6015           | AC1030U<br>AC530U                       | GC1125             | PR1725<br>PR930<br>PR1225<br>PR1025  | IP2000           | VM1<br>DT4<br>DM4<br>TM4<br>QM3               | KC5025<br>KCU25<br>KCS10<br>KCU10<br>KC5010           | TS2500<br>CP200                             |                           | IC807<br>IC907<br>IC808<br>IC908<br>IC830<br>IC1010  | TT9030<br>TT4410                                     | CTPX710<br>CTPX715<br>CTPM125         |         |
|                    | P30              | AH120<br>AH725<br>AH7025<br>SH725<br>SH730<br>J740<br>AH8015<br>AH6225 | VP15TF<br>VP20MF<br>VP20RT<br>UP20M<br>MS7025                     | AC1030U                                 | GC1125             | PR1725<br>PR1225<br>PR1535<br>PR1025 | IP3000           | QM3<br>TM4                                    | KC5025<br>KCU25<br>KCU25                              | CP500<br>CP600                              |                           | IC928<br>IC528<br>IC228<br>IC830<br>IC1010<br>IC1030 | TT9030<br>TT8020<br>TT8010<br>TT9080<br>TT7220       | CTPM125                               |         |
|                    |                  | AH120<br>AH725<br>AH6225   | MS7025  |   |                    | PR1535                               | IP3000           | QM3   |   | CP500<br>CP600                              |                           | IC228<br>IC528<br>IC1030                             | TT8020<br>TT8010<br>TT4430<br>TT9020                 | CTPM125                               |         |
| <b>M</b>           | M01              |  |   |   |                    |                                      |                  |   |   |   | WSM01                     | IC806<br>IC1007                                      |  |                                       |         |
|                    | M10              | AH8005<br>AH6225   | VP10RT  | AC5005S<br>ACZ150                       | GC1105<br>GC1115   | PR930<br>PR1725                      | IP100S<br>IP050S | VM1<br>DT4<br>DM4<br>ZM3                      | KC5010<br>KCU10<br>KCS10B<br>KCS10                    | TS2000<br>TS2500<br>CP200                   | WSM10<br>WSM10S<br>WSM01  | IC807<br>IC907<br>IC808<br>IC908<br>IC1010           | *TT4410<br>TT5080*                                   | CTPM125<br>CTPX710<br>CTPX715         |         |
|                    |                  | AH8015<br>AH120<br>AH7025<br>AH725<br>SH725<br>SH730<br>AH6225         | VP10RT<br>VP15TF<br>VP20MF<br>VP20RT<br>UP20M<br>MS7025<br>MS9025 | AC5015S                                 | GC1115<br>GC1125   | PR930<br>PR1225<br>PR1725<br>PR1025  | IP100S<br>IP050S | VM1<br>DT4<br>DM4<br>ST4<br>TM4<br>ZM3<br>QM3 | KC5025<br>KCU25<br>KCS10<br>KCU10<br>KC5010           | TS2500<br>CP200<br>CP500<br>CP600           | WSM20S                    | IC808<br>IC908<br>IC830<br>IC1030                    | TT9030<br>TT8010<br>TT4410<br>TT5080<br>TT9080       | CTPM125<br>CWN15                      |         |
|                    | M30              | AH120<br>AH725<br>SH725<br>SH730<br>J740<br>AH6235                     | VP15TF<br>VP20MF<br>VP20RT<br>UP20M<br>MP7035<br>MS7025<br>MS9025 | AC6040M<br>AC1030U<br>AC5025S<br>AC530U | "GC1125<br>GC2035" | PR1225<br>PR1535<br>PR1725<br>PR1025 | IP100S           | DT4<br>DM4<br>QM3<br>ST4<br>TM4<br>ZM3        | KC5025<br>KCU25                                       | CP500<br>CP600                              | WSM30S                    | IC528<br>IC228<br>IC830<br>IC1030                    | TT8020<br>TT4430<br>TT8010<br>TT8080<br>TT7220       | CTPM125                               |         |
|                    |                  | AH6235   | MP7035  | AC6040M                                 | GC2035             | PR1535                               |                  | ST4<br>QM3<br>TM4                             |   | CP600                                       |                           | IC228<br>IC528                                       | TT8010<br>TT8020                                     |                                       |         |
| <b>K</b>           | K01              | AH110<br>GH110<br>AH110  | VP10RT  | ACZ150                                  |                    |                                      |                  |   | KC5010<br>KCU10<br>KCS10B<br>KCS10                    | TS2000<br>CP200                             |                           | IC807<br>IC907                                       | TT9030<br>TT7010<br>TT6080                           | CTPX715                               |         |
|                    | K20              | AH120<br>AH7025<br>AH8015<br>AH6225                                    | VP10RT<br>VP20RT<br>VP15TF  | AC1030U                                 |                    |                                      |                  |   |   | KC5025<br>KCU25                             | TS2500<br>CP200<br>TS2000 |  | IC807<br>IC907<br>IC808<br>IC908<br>IC1007<br>IC1010 | *TT9030<br>TT7010<br>TT6080<br>TT9080 | CTPX715 |
|                    |                  | AH120<br>GH130   | VP15TF<br>VP20RT  |   |                    |                                      |                  |   |   | CP500                                       |                           |  | IC807<br>IC907<br>IC808<br>IC908                     | TT9030                                | CTPX715 |
| <b>S</b>           | S01              | AH8005   | VP05RT<br>MP9005  | AC5005S<br>AC5015S<br>ACZ150            |                    | PR005S                               | JP9105           |   | KCS10B  |   | WSM10S                    | IC804<br>IC806                                       | TT3010   |                                       |         |
|                    | S10              | AH8005<br>AH8015<br>AH6225   | VP10RT<br>MP9015  | AC5005S<br>AC5015S                      | GC1105             | PR015S<br>PR005S                     | JP9105<br>JP9115 | QM3<br>ZM3                                    | KC5025<br>KCU25<br>KCS10B<br>KCS10<br>KC5010<br>KCU10 | TS2000<br>TS2500<br>CP200<br>CP500          | WSM10S<br>WSM01<br>WNN10  | IC806<br>IC1007<br>IC1010                            | TT3010<br>TT3020<br>TT5080                           | CTPX710<br>CTPX715                    |         |
|                    |                  | AH8015<br>AH7025<br>AH6225   | MP9015<br>VP20RT<br>MP9025<br>MS9025                              | AC5015S<br>AC5025S                      | GC1115<br>GC1125   | PR015S<br>PR1535                     | JP9115           |   | KC5025<br>KCU25<br>KCS10B                             | TS2000<br>TS2500<br>CP200<br>CP500<br>CP600 | WSM20S                    | IC807<br>IC907<br>IC808<br>IC908<br>IC806<br>IC1010  | TT3020<br>TT4430<br>TT9030<br>TT9080                 | CTPX710<br>CTPX715                    |         |
|                    | AH7025<br>AH6235 | VP20RT<br>MP9025<br>MS9025   | AC5025S   | GC1125                                  | PR1535             |                                      |                  |   | CP600   | WSM30S                                      | IC830<br>IC928            | TT4430<br>TT8020<br>TT9030                           |  |                                       |         |

Note: The above table is selected from a publication. We have not obtained approval from each company.

# Technical Guide - Grade Comparison Chart

## ● Cermet for Turning

| ISO            |        | Tungaloy  | Mitsubishi Carbide                                    | Sumitomo Electric                    | Sandvik          | Kyocera                                 | Moldino | NTK | Kennametal     | Seco Tools       | Walter | Iscar                              | TaeguTec         | Ceratizit                 |
|----------------|--------|---|---|--------------------------------------|------------------|---|---------|-----|----------------|------------------|--------|------------------------------------|------------------|---------------------------|
| Classification | Symbol |   |   |                                      |                  |   |         |     |                |                  |        |                                    |                  |                           |
| <b>P</b>       | P01    | <b>NS520</b>  | AP25N<br>VP25N  | T1000A                               |                  | TN610<br>PV710                          |         |     |                |                  |        | IC20N<br>IC520N                    | PV3010           | CTEP10<br>TCM407          |
|                | P10    | <b>AT9530</b><br><b>GT9530</b><br><b>J9530</b>                  | AP25N<br>VP25N<br>NX2525                              | T1500Z<br>T1500A                     | CT5015<br>GC1525 | TN610<br>TN620<br>PV710<br>PV720<br>CCX |         |     | KT315<br>KTP10 | TP1020           | WCE10  | IC20N<br>IC30N<br>IC520N<br>IC530N | PV3010<br>CT3000 | CTEP10<br>TCM10<br>TCM407 |
|                | P20    | <b>AT9530</b><br><b>GT9530</b><br><b>NS9530</b><br><b>J9530</b> | AP25N<br>VP25N<br>VP45N<br>NX2525<br>NX3035<br>MP3025 | T1500A<br>T1500Z<br>T2500A<br>T2500Z | GC1525           | TN620<br>PV720                          | CZ25    |     |                | TP1020<br>TP1030 | WCE10  | IC20N<br>IC30N<br>IC520N<br>IC530N | PV3010<br>CT3000 | TCM10                     |
|                | P30    | <b>NS9530</b>   | VP45N<br>NX3035<br>MP3025                             | T2500Z<br>T3000Z                     |                  | PV730                                   | CZ25    |     |                |                  |        | IC530N                             |                  |                           |
| <b>M</b>       | M10    | <b>NS520</b>  | AP25N<br>VP25N<br>NX2525                              | T1000A                               | GC1525           | TN620<br>TN610<br>PV720<br>PV710        |         |     | KT315<br>KTP10 | TP1030           |        | IC20N<br>IC30N<br>IC520N<br>IC530N | PV3010<br>CT3000 | CTEP10<br>TCM10<br>TCM407 |
|                | M20    | <b>AT9530</b><br><b>GT9530</b><br><b>NS9530</b><br><b>J9530</b> | AP25N<br>VP25N<br>NX2525                              | T1500A                               |                  | TN620<br>PV720<br>PV730                 | CZ25    |     |                |                  |        | IC30N<br>IC530N                    | PV3010<br>CT3000 |                           |
|                | M30    | <b>NS9530</b>   |   | T3000Z                               |                  |   | CZ25    |     |                |                  |        |                                    |                  |                           |
| <b>K</b>       | K01    | <b>NS520</b>  | AP25N<br>VP25N  | T1000A                               |                  | PV7005                                  |         |     |                |                  |        |                                    | PV3010           | CTEP10<br>TCM10<br>TCM407 |
|                | K10    | <b>AT9530</b><br><b>GT9530</b><br><b>NS9530</b><br><b>J9530</b> | AP25N<br>VP25N<br>NX2525                              |                                      | CT5015           | TN60<br>CCX                             | CZ25    |     | KT315<br>KTP10 |                  |        |                                    | PV3010<br>CT3000 | TCM10                     |
|                | K20    | <b>NS9530</b>   | AP25N<br>VP25N<br>NX2525                              |                                      |                  |   | CZ25    |     |                |                  |        |                                    | PV3010<br>CT3000 |                           |

Note: The above table is selected from a publication. We have not obtained approval from each company.

## ● Cemented Carbide for Turning

| ISO            |        | Tungaloy              | Mitsubishi Carbide | Sumitomo Electric | Sandvik      | Kyocera      | Moldino | NTK | Kennametal          | Seco Tools             | Walter      | Iscar                | TaeguTec | Ceratizit                        |
|----------------|--------|-----------------------|--------------------|-------------------|--------------|--------------|---------|-----|---------------------|------------------------|-------------|----------------------|----------|----------------------------------|
| Classification | Symbol |                       |                    |                   |              |              |         |     |                     |                        |             |                      |          |                                  |
| <b>P</b>       | P01    |                       |                    |                   |              |              |         |     |                     |                        |             |                      |          |                                  |
|                | P10    | <b>TH10</b>           |                    | ST10P             |              |              |         |     |                     |                        |             |                      |          | S26T                             |
|                | P20    | <b>KS20</b>           |                    | ST20E             |              |              |         |     |                     |                        |             | IC50M                | P20      | S26T<br>S40T                     |
|                | P30    | <b>KS15F<br/>UX30</b> | UTi20T             | A30               |              |              |         |     |                     |                        |             | IC28<br>IC50M        | P30      | S40T                             |
|                | P40    |                       | UTi20T             |                   |              |              |         |     |                     |                        |             | IC28                 |          |                                  |
| <b>M</b>       | M10    | <b>TH10</b>           |                    | EH510             |              |              |         |     | K313<br>KU10<br>K68 | 890                    |             | IC20                 |          |                                  |
|                | M20    | <b>KS20</b>           | UTi20T             | EH520             |              |              |         |     | K313<br>KU10<br>K68 | HX<br>883              |             | IC20                 |          | CTW7120<br>H210T<br>U17T         |
|                | M30    | <b>UX30</b>           | UTi20T             | A30               |              |              |         |     |                     |                        |             | IC28                 |          |                                  |
|                | M40    |                       |                    |                   |              |              |         |     |                     |                        |             | IC28                 |          | S40T                             |
| <b>K</b>       | K01    | <b>TH03<br/>TH10</b>  | HTi05<br>HTi10     | G10E              | H13A         | KW10         | WH10    |     | K313<br>KU10<br>K68 | 890                    |             | IC20                 | K10      | CTWK601<br>H210T<br>H10T<br>U17T |
|                | K10    |                       |                    | G10E              | H13A         | KW10         |         |     |                     |                        |             | IC20                 | K20      | CTW7120<br>H210T<br>H10T<br>U17T |
|                | K20    | <b>KS15F<br/>KS20</b> | UTi20T             | G10E              | H13A         | KW10         |         |     |                     | 890<br>HX<br>883       |             | IC20                 | K20      | CTW7120<br>H210T<br>H10T<br>U17T |
|                | K30    |                       | UTi20T             |                   | H13A         |              |         |     |                     | 883                    |             |                      |          | TSM30                            |
|                | K40    |                       |                    |                   |              |              |         |     |                     |                        |             |                      |          |                                  |
| <b>N</b>       | N01    | <b>KS05F<br/>TH10</b> |                    |                   | H10          | GW05         | WH10    | KM1 | K313<br>KU10<br>K68 | 890<br>HX<br>KX        | WK1         | IC04<br>IC20<br>IC28 | K10      | H210T<br>H10T<br>U17T            |
|                | N10    |                       | HTi10              | H1                | H10          | GW05<br>KW10 |         |     |                     |                        |             | IC20<br>IC28         | K10      | H210T<br>H10T<br>U17T            |
|                | N20    | <b>KS15F</b>          |                    |                   | H1           | H13A         |         | KM1 |                     | 890<br>HX<br>KX<br>883 | WK1         | IC20<br>IC28         | K20      | CTW7120<br>H210T<br>H10T<br>U17T |
|                | N30    |                       |                    |                   |              |              |         |     |                     | 883                    |             |                      |          |                                  |
| <b>S</b>       | S01    |                       | MT9005<br>RT9005   |                   | H10A         | SW05         |         |     |                     |                        |             | IC20                 |          |                                  |
|                | S10    | <b>KS05F<br/>TH10</b> | MT9015<br>RT9010   | EH510             | H10F         | SW10<br>KW10 | WH10    | KM1 | K313<br>KU10<br>K68 | 890<br>883             | WK1<br>WS10 | IC20                 | K10      | H210T<br>H10T                    |
|                | S20    | <b>KS15F<br/>KS20</b> | MT9015<br>RT9010   | EH520             | H13A<br>H10F | SW25         |         | KM1 |                     | 890<br>883             | WK1<br>WS10 | IC20<br>IC28         | K20      | CTW7120<br>H210T<br>H10T         |
|                | S30    |                       |                    |                   |              |              |         |     |                     | 883                    |             |                      |          |                                  |
| <b>H</b>       | H01    |                       |                    |                   |              |              |         |     |                     |                        |             | IC20                 |          |                                  |
|                | H10    | <b>TH10</b>           |                    |                   | H13A         |              | WH10    |     |                     |                        |             | IC20                 | K10      |                                  |
|                | H20    |                       |                    |                   |              |              |         |     |                     | 890<br>HX<br>883       |             |                      |          |                                  |

Note: The above table is selected from a publication. We have not obtained approval from each company.

# Technical Guide - Grade Comparison Chart

## ● CBN and PCD for Turning

| ISO            |        | Tungaloy   | Mitsubishi Carbide                            | Sumitomo Electric   | Sandvik                    | Kyocera  | Moldino | Dijet           | NTK                      | Seco Tools  | Kennametal                 | Iscar  | Ingersoll       | TaeguTec | Widia                      | Walter         | Ceratizit                  |                            |
|----------------|--------|--|---|---|----------------------------|--|---------|-----------------|--------------------------|---|----------------------------|--|-----------------|----------|----------------------------|----------------|----------------------------|----------------------------|
| Classification | Symbol |  |   |   |                            |  |         |                 |                          |   |                            |  |                 |          |                            |                |                            |                            |
| <b>K</b>       | K01    | <b>BX930</b><br><b>BX910</b><br><b>BX870</b>                 | MB710<br>MB730<br>MB5015<br>MB5015            | NCB100<br>BN500<br>BNC500                                 | CB50                       | KBN475<br>KBN60M                               |         |                 | B52                      |   | KB1630<br>KB1345           | IB10K  |                 | TB7015   | WBH10C                     | WCB80          | CTB<br>S10U                |                            |
|                | K10    | <b>BX470</b><br><b>BX480</b>                                 | MB730<br>MB5015<br>MB4020                     | BN7000<br>BN500   | CB7525<br>CB50             | KBN65M<br>KBN65B                               |         | JBN795          | B23<br>B30<br>B52        | CBN200<br>CBN300<br>CBN400C                                 | KB1640<br>KB1345           | IB05S<br>IB10S                                     | TB730           | TB730    | WBK40U                     | WCB80<br>WCB50 | CTB<br>S10U                |                            |
|                | K20    | <b>BXC90</b><br><b>BX90S</b>                                 | MB4020<br>MB4120<br>MBS140                    | BNC8115<br>BNS8125  | CB7925                     | KBN900<br>KBN70M                               |         |                 | B23<br>B30<br>B52        | CBN300<br>CBN500  | KB5630                     | IB90A<br>IB90<br>IB25KD                            |                 | TB7020   | WBK45U                     | WCB80          | CTB<br>S20C                |                            |
|                | K30    | <b>BXC90</b><br><b>BX90S</b>                                 | MBS140<br>BC5030                              | BNS8125   |                            | KBN900   |         |                 | B16                      | CBN500  | KB9640                     | IB90A<br>IB25KD                                    | KB90A           | KB90A    |                            |                |                            |                            |
| <b>S</b>       | S01    | <b>BX815</b>   | MB730   | NCB100<br>BN7000  |                            |  |         | JBN795          | JP2                      | CBN170  |                            | IB05S<br>IB10S                                     |                 | KB90     |                            |                | CTB<br>S10U                |                            |
|                | S10    | <b>BX480</b>   | MB4020<br>MB4120                              | BN7500<br>BN7115  | CB7050                     | KBN65B<br>KBN65M                               |         |                 | B23<br>B30               | CBN200  | KB1630                     | IB05S<br>IB10S                                     | KB90A           | WBK45U   | WCB80                      |                | CTB<br>S20C                |                            |
| <b>H</b>       | H01    | <b>BXM10</b><br><b>BX310</b>                                 | BC8105<br>BC8110<br>MBC010<br>MB810<br>MB8110 | BNC2010<br>BNC2115<br>BN1000<br>BN2000<br>BNX10<br>BN1000 | CB7105                     | KBN510<br>KBN05M<br>KBN10M                     |         |                 | B52<br>B5K               | CBN010<br>CBN100<br>CBN160C<br>CBN050C                      | KB1610<br>KB5610*          | IB05H<br>IB10HC                                    | TB610           | TB610    | WBH10C                     | WCB30          | CTB<br>H15C<br>CTB<br>H15U |                            |
|                | H10    | <b>BXA10</b><br><b>BXM10</b><br><b>BX330</b><br><b>BX530</b> | BC8210<br>MB020<br>MB8025<br>MB8110<br>MB825  | BNC2020<br>BNC2115<br>BN2000                              | CB7015<br>CB7115<br>CB7025 | KBN525<br>KBN05M<br>KBN10M                     |         | JBN245          | B36<br>B52<br>B6K        | CBN150<br>CBN200<br>CBN300<br>CBN060K<br>CBN160C<br>CBN400C | KB9610<br>KB1610<br>KB5610 | IB50<br>IB55<br>IB10H<br>IB10HC<br>IB20H<br>IB25HA |                 | TB2015   | WBH10C<br>WBH10P<br>WBH10U | WCB30<br>WCB50 | CTB<br>H15C<br>CTB<br>H15U |                            |
|                | H20    | <b>BXM20</b><br><b>BXA20</b><br><b>BX360</b>                 | BC8220<br>MBC020<br>MB8025<br>MB8120          | BNC200<br>BNC2020<br>BNC2125<br>BNX20                     | CB7015<br>CB7125<br>CB50   | KBN525<br>KBN05M<br>KBN10M<br>KBN25M<br>KBN020 |         | JBN300          | B22<br>B36<br>B40<br>B6K | CBN200<br>CBN300<br>CBN160C<br>CBN400C<br>CH2540            | KB5625<br>KB1625           | IB20H<br>IB20HC<br>IB25HA<br>IB25HC                | TB650<br>TB2030 | TB650    | WBH25P                     | WCB50<br>WCB80 | CTB<br>H20C<br>CTB<br>H21U |                            |
|                | H30    | <b>BR35F</b><br><b>BXC50</b><br><b>BX380</b>                 | BC8130<br>MB8130<br>MB835                     | BNC300<br>BN350<br>BNX25                                  |                            | KBN30M<br>KBN35M<br>KBN900                     |         | JBN300          | B22<br>B40               | CH3515  | KB1630<br>KB9640           | IB25HC<br>IB90                                     | TB670           | TB670    | WBH40C                     |                |                            | CTB<br>H40C<br>CTB<br>H40U |
| <b>N</b>       | N01    | <b>DX160</b><br><b>DX180</b>                                 | MD205   | DA90  | CD05                       | KPD230   |         | JDA30<br>JDA735 | PD1                      |   | KD1405                     | ID5  |                 |          |                            |                |                            | CTD<br>PU20                |
|                | N10    | <b>DX140</b>   | MD205<br>MD220                                | DA150   | CD10                       | KPD010<br>KPD230                               |         | JDA715          | PD1                      | PCD05<br>PCD10  | KD100<br>KD1400<br>KD1425  | ID5  | IN90D           | TD810    | WDN25U                     | WCD10          | CTD<br>PU20                |                            |
|                | N20    | <b>DX120</b>   | MD220<br>MD230                                | DA2200<br>DA1000  | CD10                       | KPD010   |         | JDA715          | PD2                      | PCD05<br>PCD20  | KD1425                     |  | IN90D           | KP300    | WDN25U                     | WCD10          | CTD<br>PD20                |                            |
|                | N30    | <b>DX110</b>   | MD2030<br>MD230                               | DA2200<br>DA1000  |                            | PKD001   |         | JDA10           |                          | OVD20<br>PCD30<br>PCD30M                                    |                            |  |                 | TD830    |                            | WCD10          |                            |                            |

Note: The above table is selected from a publication. We have not obtained approval from each company.



## ● Ceramic for Turning

| ISO            |        | Tungaloy                        | Mitsubishi Carbide | Sumitomo Electric | Sandvik                   | Kyocera                       | Moldino | Dijet | NTK                      | Seco Tools     | Kennametal                           | Iscar         | Ingersoll | TaeguTec               | Widia            | Walter | Ceratizit   |
|----------------|--------|---------------------------------|--------------------|-------------------|---------------------------|-------------------------------|---------|-------|--------------------------|----------------|--------------------------------------|---------------|-----------|------------------------|------------------|--------|---|
| Classification | Symbol |                                 |                    |                   |                           |                               |         |       |                          |                |                                      |               |           |                        |                  |        |   |
| <b>K</b>       | K01    | <b>TZ120<br/>LX21</b>           |                    | NB90S             | CC620                     | KA30<br>A65<br>KT66<br>PT600M |         |       | HC1<br>HW2               |                | KY1310<br>KY1615                     | IN110         |           | AW120<br>AB30          | CW2015           |        | CTN3105<br>CTS3105                                  |
|                | K10    | <b>CX710<br/>FX105</b>          |                    |                   | CC6190<br>CC650           | A65<br>KT66<br>A66N<br>PT600M |         |       | HC2<br>HC5<br>HC6        |                | KY1310<br>KY1615                     | IN23<br>IS6   | IN70N     | AB30<br>AS10           | CW2015<br>CW5025 | WSN10  | CTN3105<br>CTM3110<br>CTI3105<br>CTN3110<br>CTS3105 |
|                | K20    | <b>FX105<br/>CX710</b>          |                    |                   | CC6190                    | KS6000<br>KS6050              |         |       | SP2<br>SP9<br>SX8<br>SX9 |                | KY1320<br>KY3400<br>KY3500<br>KY4300 | IS8           | IN70N     | SC10                   | CW5025           | WSN10  | CTM3110<br>CTN3110                                  |
| <b>S</b>       | S01    | <b>TS200</b>                    |                    |                   |                           |                               |         |       | JX1                      | CS100          | KY1525<br>KY2100                     | IS25          |           | TC3020                 |                  |        |   |
|                | S10    | <b>TW43<br/>TS300<br/>FX510</b> |                    | WX120             | CC670<br>CC6060<br>CC6065 | KS6030<br>KS6040              |         |       | WA1<br>WA5<br>SX9        | CW100<br>CS300 | KY1540<br>KYS30<br>KY2100<br>KY4300  | IW7<br>IS35   |           | TC430<br>TC3030        | CW3020           | WWS20  |   |
| <b>H</b>       | H01    | <b>LX10<br/>LX11</b>            |                    | NB100C            | CC6050<br>CC650           | PT600M                        |         |       | HC2<br>HC5<br>HC6        |                | KY4300                               | IN420<br>IN22 |           | AB2010                 | CW2015           |        | CTS3105   |
|                | H10    |                                 |                    |                   | CC6050<br>CC670<br>CC6190 | A66N<br>PT600M                |         |       | HC7<br>WA1               |                | KY4400                               | IN23          |           | AB2010<br>AB20<br>AB30 | CW2015           |        | CTS3105   |

Note: The above table is selected from a publication. We have not obtained approval from each company.

# Technical Guide - Chipbreaker Comparison Chart

## ● Negative insert type

| ISO Classification | Cutting Mode                             | Tungaloy                                  | Mitsubishi Carbide               | Sumitomo Electric      | Kyocera                     | Sandvik                       | Moldino                        | Kennametal     | Seco Tools        | Iscar                          | TaeguTec                               | Walter                     | Ceratizit                       |            |
|--------------------|--|---|----------------------------------|------------------------|-----------------------------|-------------------------------|--------------------------------|----------------|-------------------|--------------------------------|--|----------------------------|---------------------------------|------------|
| <b>P</b>           | Precision finishing                      | <b>01 TF</b>                              | PK<br>FH                         | FA                     | GP                          | PF                            | FE                             | FS, LF         | FF1               | SF, PP, TF                     | FA                                     |                            |                                 |            |
|                    | Finishing and light cutting              | <b>TS, TSF PS, ZF NS AS TQ</b>            | FP<br>FY<br>LP<br>SH<br>SA<br>SY | SU<br>FL<br><br>SE, SX | XP, PP<br>XQ, HQ,<br>CJ, XS | PF<br>LC<br>MF<br>R/L-K<br>XF | BE, BH<br><br>AB, CT<br><br>CE | FF, FN         | MF2               | F3P<br>NF, SF                  | FG<br>VF, EA<br>FC<br>MC<br><br>ML, MP | NF3<br>NS6                 | CF, TF                          |            |
|                    | Finishing and light cutting (With Wiper) | <b>AFW, FW ASW, SW</b>                    | SW<br>MW                         | LUW<br>SEW<br>GUW      | WP<br>WQ<br>WF              | WL, WF<br>WMX<br>WM, WR       |                                |                | FW<br>MW<br>RW    | W-FF2<br>W-MF1<br>W-M3<br>W-M6 | WF<br>WG                               | WS<br>WT                   | NF<br>NM                        | TFQ<br>TMQ |
|                    | Medium cutting                           | <b>TM, AM PM, DM ZM, NM All-round, TA</b> | MA<br>MH, MP                     | GU<br>GE, UX           | HS, PT, GT<br>CS, PS        | PM, QM<br>XM, XRM             | AH<br>AE, AY, B                | MN             | MF5<br>M3         | M3P, M3M<br>PP, TF, GN         | PC, MT<br>MC, MG                       | NMT, NM4                   | TMF, TMM<br>M50                 |            |
|                    | Medium to heavy cutting                  | <b>TH THS</b>                             | RP, GH                           | MU, ME<br>HG           | PH<br>All-round             | HM, PR<br>MR                  | RE                             | RN, RP<br>MR   | M5<br>MR7         | NR<br>MR                       | RT                                     | MM5, NM6<br>NM9            | TM<br>TRM                       |            |
| Heavy cutting      | <b>TU TRS TUS</b>                        | HM, HX<br>HL, HR<br>HZ, HV                | HG, HP<br>HU, HW<br>HF           | PX                     | PR, MR<br>HR, QR            | TE, UE<br>HX, HE<br>H         | RM<br>RH                       | R<br>RR        | R3P<br>NM         | HT, HD<br>RX, RH<br>HY, HZ     | NR6<br>NRF<br>NRR                      | TRR, TR<br>R28, R58<br>R88 |                                 |            |
| <b>M</b>           | Finishing and light cutting              | <b>SF SS</b>                              | GM, LM                           | EX, EG<br>SU, EF       | GU<br>MQ                    | MF, XF                        | MP<br>BH, AB                   | FP, FF         | FF1<br>MF1<br>MF3 | TF, VL                         | EA, SF, SU<br>FG                       | NF4<br>NMS                 | CF, F30, M34<br>F32, TF         |            |
|                    | Medium cutting                           | <b>SM, SA S, TA SDM</b>                   | MM, MA<br>MS                     | GU<br>HM               | MU                          | MM, QM<br>XM                  | PV, SE<br>DE                   | MP, P          | MF4<br>M3         | M3M, PP                        | EM, ET                                 | NM4                        | TMF, M42<br>M30, M52            |            |
|                    | Heavy cutting                            | <b>SH, TH TU</b>                          | GH, RM<br>HL                     | EM, MU                 | MS<br>TK                    | MR<br>HM, PR                  | AH, AE                         | UP, RP         | M5<br>MR3         | MR, MH                         |  | NR4<br>NRT, NRS            | TM, M60<br>TRM, TMR,<br>TRR R80 |            |
| <b>K</b>           | Finishing                                | <b>CF</b>                                 | LK, MA                           | UZ                     | C                           | KF, XF                        | Y, AH                          | FN, MT         |                   | GN                             | FG                                     |                            | CF                              |            |
|                    | Medium cutting                           | <b>CM All-round</b>                       | MK<br>GK                         | GZ                     | ZS<br>All-round             | KM, QM<br>XM, XMR             | RE<br>VA                       | RP, UN         | M4<br>M5          |                                | MT<br>MG                               | NM5                        | M50                             |            |
|                    | Heavy cutting                            | <b>CH Flat-top</b>                        | RK<br>Flat-top                   | Flat-top               | GC<br>Flat-top              | KR<br>Flat-top                | RE, V                          | MA<br>Flat-top | MR9<br>Flat-top   |                                | RT                                     | Flat-top                   | TMR, TR<br>R28<br>R58, R88      |            |
| <b>N</b>           | Cutting of non-ferrous metals            | <b>P 28</b>                               |                                  | AX                     | AH, A3                      | MF                            |                                | MS<br>GR       |                   | PP                             |  |                            | F32                             |            |
| <b>S</b>           | Finishing                                | <b>HRF</b>                                | FJ, LS<br>MJ                     | EF<br>EX               | SQ, SX                      | SF                            | VI                             | FS<br>MS       | MF1               |                                |  | NFT<br>NF4                 |                                 |            |
|                    | Medium cutting                           | <b>HRM HMM SA, 28 SDM</b>                 | MS<br>RS, GJ                     | EG<br>MU<br>EM         | SQ, SX                      | SMR                           | VI                             | UP<br>RP       | MF4<br>M1         | PP                             | SM                                     | NMS<br>NM4, NRS, NR4       | M34, M52                        |            |

Note: Above charts are based on published data and not authorized by each manufacturer.

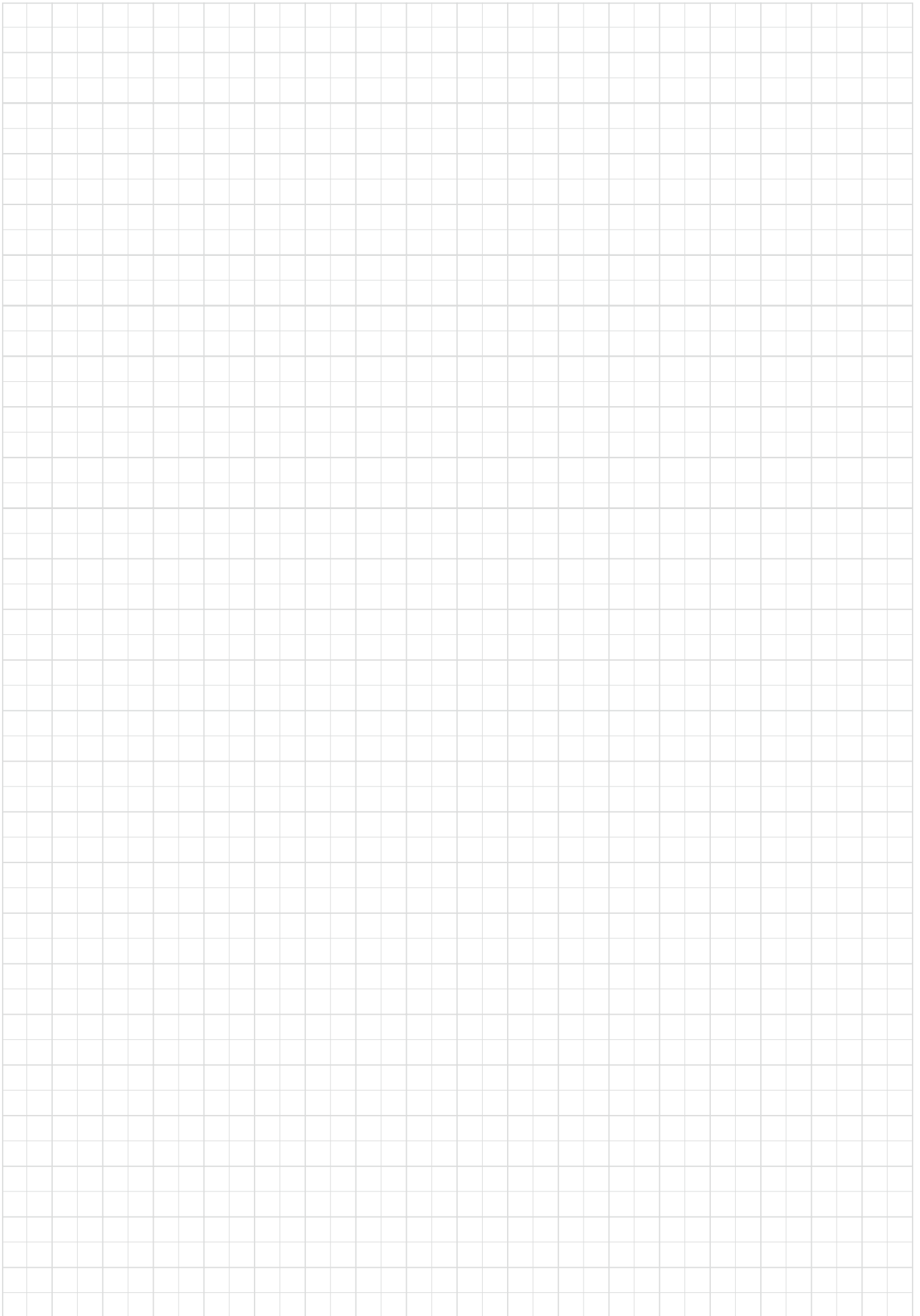


● Positive insert type

| ISO Classification                           | Cutting Mode                  | Tungaloy                           | Mitsubishi Carbide                    | Sumitomo Electric        | Kyocera   | Sandvik                         | Moldino  | NTK  | Kennametal                       | Seco Tools     | Iscar  | TaeguTec                           | Walter                          | Ceratizit                    |  |
|--|-------------------------------|------------------------------------|---------------------------------------|--------------------------|---|---------------------------------|----------|--|----------------------------------|----------------|--|------------------------------------|---------------------------------|------------------------------|--|
| <b>P</b>                                     | Precision finishing           | 01                                 | FV                                    | FC                       | CF, CK  |                                 | JQ       |  | GM                               | FF1<br>F1      | SF   |                                    | PF2                             | F32                          |  |
|  | Finishing and light cutting   | PSF, PF, SS<br>PS, PSS<br>TS, TSF  | FP, FV, SV<br>LP<br>SVX               | FP, LU<br>FK, SC<br>SU   | GQ<br>GP<br>XP<br>PP, VF<br>WP  | R/L-K<br>PF<br>UF<br>WF, WK, WM | JQ<br>JE |  | 11, LF<br>VF, FP<br>FW, MW       | MF2            | PF<br>SM, 14,<br>17<br>19, XL<br><br>R/L<br>RF, LF | FA<br>FG<br><br>GF                 | PF5<br>PF4<br>PS5<br><br>PF, PM | SF<br>SMF<br><br>SMW,<br>25Q |  |
|  |                               | TSW, SW<br>W08-20                  | SW, MW                                | LUW, SDW                 |   |                                 |          |  |                                  |                |  |                                    |                                 |                              |  |
|  | Medium cutting                | PM<br>TM<br><br>All-round<br>RS    | MP<br><br>MV<br>No sign               | SU, MU<br><br>SC         | All-round<br>HQ, XQ<br>GK   | PM<br>UM, PR<br>UR              | JE       |  | MP<br>MF                         | M3<br>M5       | DT, HQ   | MT<br><br><br>MT                   | PM5                             | SM                           |  |
| High-feed, small depth of cut cutting        | 61                            |                                    |                                       |                          |   |                                 |          |  |                                  |                | No sign<br>14                                      | No sign                            |                                 |                              |  |
| <b>M</b>                                     | Finishing                     | PSF, SS                            | FM, SV                                | FC                       |   | R/L-K<br>UF, MF                 |          |  | 11, VF                           | FF1<br>MF2     |  | FG                                 |                                 |                              |  |
|  | Finishing to Medium cutting   | PSS<br>PS                          | LM<br>SV                              | SI, GU<br>LB, SU         | MQ  | MM<br>UM                        |          |  | LF, FP                           | M3             |  |                                    | PF4                             | SF, SMF                      |  |
|  | Medium cutting                | PM                                 | MM                                    | MU                       | HQ  | MR<br>UR                        |          |  | MF, MP                           | M5             |  |                                    | PM5                             | F23, F43<br>SM               |  |
| <b>K</b>                                     | Cutting of cast irons         | CM<br>Flat-top                     | MK<br>Flat-top                        | FC, MU<br>Flat-top       | KF<br>KM<br>UM, KR  | Flat-top                        |          |  | 11, VF, FP<br>MP, MF<br>Flat-top | M5<br>Flat-top | 19   | MT<br>Flat-top                     | PS5, PM5<br>Flat-top            | SF<br>25P<br>27, 29          |  |
| <b>N</b>                                     | Cutting of non-ferrous metals | AL<br>P<br><br>Ground              | AZ<br><br>R/L-F<br>R/L                | AG<br>AY<br>AW<br>LD, GD | AH  | AL                              |          |  | HP, LF                           | AL             | AS   | FL                                 | PF2<br>PM2                      | 23P<br>25P<br>27, 29         |  |
| <b>S</b>                                     | Finishing                     | PSF                                | FJ                                    | FC                       | MQ  | MF, UF, R/L-K                   |          |  | HP                               | F1             |  |                                    |                                 | SF                           |  |
|  | Finishing to Medium cutting   | PSS<br>PS                          | LS, MS                                | SU, GU                   |   | MM<br>SM                        |          |  | LF, FP                           | MF2            |  |                                    |                                 | F23                          |  |
|  | Medium cutting                | All-round                          |                                       | SI                       |   | UM, MR, UR                      |          |  |                                  |                |  | FG                                 | PF2, PF4                        | SM, 25P, 29                  |  |
| <b>P</b><br><b>M</b><br><b>N</b><br><b>S</b> | Turning on small lathes       | JP, 01<br><br>W08, W15, W20<br>J08 | R/L-SR<br>R/L-SN<br>R/L-SS<br>FS-P, F | W, SD<br><br>FX, FY      | CF, SKS<br>R/L-F, R/L-FSF<br>ER/L-U<br>FR/L-U<br>R/L-U<br>FR/L-U,<br>R/L-USF<br>MF, R/F-FSF<br>SK, GF<br><br>CK, GQ | F, M<br>UM                      | No sign  | AMX<br><br>AZ7<br>YL, AM3<br><br>U<br><br>CL | LF                               |                | SM<br>F2M  | GF, GW<br><br>SL<br>SA<br>SM<br>SH | PM5                             |                              |  |
| JS, JSS                                      |                               | LS-P                               | LU, FP, FK, SU<br>FC, SI, SC          |                          |   |                                 |          |  |                                  |                |  |                                    |                                 |                              |  |
| JRP, JSR, JPP<br>J10, TS, JTS<br>TSW<br>SS   |                               | SW, MW<br><br>SRF<br><br>SMG       |                                       |                          |   |                                 |          |  |                                  |                |  |                                    |                                 |                              |  |
|  |                               |                                    |                                       |                          |   |                                 |          |  |                                  |                |  |                                    |                                 |                              |  |

Note: Above charts are based on published data and not authorized by each manufacturer.

# MEMO



# External Toolholder

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# External Toolholder - Content structure

- Indexable toolholders are listed by insert shape.
- Toolholders in the catalog are our standard items.

## How to use the page

**Method 1** Select the insert shape described at the left end of each page, jump to the page on the left index, and choose a designation you need (4) in the dimension table (3). Applicable inserts are shown in (6) and (8).

**Method 2** Select the series name of a toolholder on C003 and check the details on each page.

**Method 3** Select an item from Quick Guide on C004 - C014.

**CN**  
Rhombic, 80°  
with hole

**GN**  
Rhombic, 70°  
with hole

**2 TURNING**  
C-ACLNR/L

Double-clamp toolholder, with 95° approach angle, for negative 60°/70° rhombic inserts (Turning A)

| Metric               | DCONMS | LF  | L2 | WF | DMIN | DMIN2 | RE  | Insert        | Torque |
|----------------------|--------|-----|----|----|------|-------|-----|---------------|--------|
| CSACLNR/L22040-0904H | 32     | 40  | 20 | 22 | 110  | 121   | 0.8 | CN*/GNMG0904L | 3      |
| CSACLNR/L22040-12N   | 32     | 40  | 20 | 22 | 121  | 116   | 0.8 | CN*/GNGA1204L | 3      |
| CSACLNR/L27050-0904H | 40     | 50  | 25 | 27 | 140  | 110   | 0.8 | CN*/GNMG0904L | 3      |
| CSACLNR/L27050-12N   | 40     | 50  | 25 | 27 | 140  | 110   | 0.8 | CN*/GNGA1204L | 3      |
| CSACLNR/L30080-12N   | 50     | 60  | 30 | 35 | 165  | 110   | 0.8 | CN*/GNMG0904L | 3      |
| CSACLNR/L40060-0904H | 63     | 65  | 35 | 45 | 190  | 110   | 0.8 | CN*/GNMG0904L | 3      |
| CSACLNR/L45060-12N   | 63     | 65  | 41 | 45 | 190  | 125   | 0.8 | CN*/GNGA1204L | 3      |
| CSACLNR/L45135-12N   | 63     | 135 | 41 | 45 | 190  | 110   | 0.8 | CN*/GNGA1204L | 3      |
| CSACLNR/L45060-16N   | 63     | 65  | 41 | 45 | 190  | 125   | 1.2 | CN*/1608L     | 6.4    |

**4** Double-clamp toolholder, with 50° approach angle, for negative 80°/70° rhombic inserts

| Metric               | DCONMS | LF  | L2 | WF | DMIN | RE  | Insert | Torque        |     |
|----------------------|--------|-----|----|----|------|-----|--------|---------------|-----|
| CSACLNR/L22040-12N   | 32     | 40  | 20 | 22 | 110  | 121 | 0.8    | CN*/GNMG0904L | 3   |
| CSACLNR/L27050-12N   | 40     | 50  | 25 | 27 | 140  | 110 | 0.8    | CN*/GNMG0904L | 3   |
| CSACLNR/L30080-12N   | 50     | 60  | 30 | 35 | 165  | 110 | 0.8    | CN*/GNMG0904L | 3   |
| CSACLNR/L40060-0904H | 63     | 65  | 35 | 45 | 190  | 110 | 0.8    | CN*/GNMG0904L | 3   |
| CSACLNR/L45060-12N   | 63     | 65  | 41 | 45 | 190  | 125 | 0.8    | CN*/GNGA1204L | 3   |
| CSACLNR/L45135-12N   | 63     | 135 | 41 | 45 | 190  | 110 | 0.8    | CN*/GNGA1204L | 3   |
| CSACLNR/L45060-16N   | 63     | 65  | 41 | 45 | 190  | 125 | 1.2    | CN*/1608L     | 6.4 |

**6** Double-clamp toolholder, with 50° approach angle, for negative 80°/70° rhombic inserts

**SPARE PARTS**

| Designation | Clamp parts   | Lever | Clamping screw | Shim  | Spring pin | Wrench |
|-------------|---------------|-------|----------------|-------|------------|--------|
| C-ACLNR/L   | E2104         | LCL4  | LCS4           | LSC42 | LSP4       | P-3    |
| C-ACLNR/L   | SATZ-AMK01-M5 | LCL4  | LCS4           | LSC42 | LSP4       | P-3    |

Reference pages: C-ACLNR/L, C-ACLNR/L Inserts → B054 -, B075, CBN → B168 -, B178, PCD → B211 -  
Parts for coolant hose → C133

C020 tungaloy.com/us

**TUNECAP**  
C-PCLNR/L

**5** Lever-lock toolholder, with 95° approach angle, for negative 60°/70° rhombic inserts

| Metric            | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert        |
|-------------------|--------|----|----|----|------|-------|-----|---------------|
| CPCLNR/L30080-12N | 50     | 60 | 30 | 35 | 165  | 110   | 0.8 | CN*/GNMG0904L |
| CPCLNR/L45060-12N | 63     | 65 | 41 | 45 | 190  | 125   | 0.8 | CN*/GNGA1204L |

**7** SPARE PARTS

| Designation | Clamp parts   | Lever | Clamping screw | Shim  | Spring pin | Wrench |
|-------------|---------------|-------|----------------|-------|------------|--------|
| C-PCLNR/L   | E2104         | LCL4  | LCS4           | LSC42 | LSP4       | P-3    |
| C-PCLNR/L   | SATZ-AMK01-M5 | LCL4  | LCS4           | LSC42 | LSP4       | P-3    |

**8** DCLNR/L  
\*One-Double\* toolholder with 95° approach angle, for negative 60°/70° rhombic inserts

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert        |
|----------------|----|----|-----|----|----|----|------|---------------|
| DCLNR/L2020K12 | 20 | 20 | 125 | 30 | 25 | 25 | 0.8  | CN*/GNGA1204L |
| DCLNR/L2020L12 | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | CN*/GNGA1204L |
| DCLNR/L2020F12 | 32 | 25 | 170 | 30 | 32 | 32 | 0.8  | CN*/GNGA1204L |

Note: Except for TRS, TU, TUB, S7, and 65-type chipbreaker inserts. \*\*RE: Standard corner radius.

**SPARE PARTS**

| Designation | Clamp  | Lever  | Block  | Clamp screw | Shim  | Spring | Spring pin | Wrench1 | Wrench2 |
|-------------|--------|--------|--------|-------------|-------|--------|------------|---------|---------|
| DCLNR/L     | DCM-43 | DLL4-3 | DLP4-3 | DLS4-3      | LSC42 | BP-10  | LSP4       | P-3     | P-4     |

**9** Reference pages: C-PCLNR/L Inserts → B054 -, CBN → B168 -, B178, PCD → B211 -  
DCLNR/L Inserts → B054 -, CBN → B168 -, B178, PCD → B211 -  
Parts for coolant hose → C133

- 1: Insert shape
- 2: Series name of indexable external toolholders
- 3: Dimension table
- 4: Toolholder designation  
e.g. right-hand, 1 inch square shank

→ **ACLNR16 33-A**

- 5: Dimension drawing (conforming to ISO13399)
- 6: Applicable insert
- 7: Spare parts
- 8: Basic selection
- 9: Reference pages

## When ordering

- Please specify the designation and quantity.  
e.g. ACLNR164-A ... 1 (one external toolholder per package)
- \* Inserts are not included. Please order those separately.



# Main products

|   |   | Inch | Metric |
|---|---|------|--------|
|    | <b>ADDMULTURN</b><br>Ultimate solution for multi-directional turning<br>C015  | ✓    | ✓      |
|    | <b>TURNFEED</b><br>Innovative tool realizing both high productivity and economy<br>C017   | ✓    | ✓      |
|    | <b>ISO ETURN</b> <br>Small-sized "Eco" insert series for maximized profits<br>C018                              | ✓    | ✓      |
|    | <b>MINIFORCE</b> <br>Economical double-sided inserts with excellent sharpness<br>C057, C119<br>C128, C129       | ✓    | ✓      |
|   | <b>TURNINGA</b><br>Highly rigid clamping system with excellent repeatability<br>C019 -  | ✓    | ✓      |
|  | <b>TUNG TJET</b> <br>Toolholders for high pressure coolant supply<br>C024 -, C036 -, C093 -<br>C105 -, C121 - | ✓    | ✓      |
|  | <b>DIMPLEFX</b><br>Ceramic insert with dimple for highly efficient cast iron machining<br>C027, C042 -, C059<br>C081, C109  | ✓    | ✓      |
|  | <b>TURNTEC</b><br>Inserts and toolholders for roughing large depths of cut with high productivity<br>C060, C061   | ✓    | ✓      |
|  | <b>Y-PRO SERIES</b><br>Inserts with 25° corner angle for profiling<br>C103, C107, C110<br>C112, C130 - C132   | ✓    | ✓      |
|  | <b>TURNFEED</b><br>Tool series for super high-feed cutting<br>C127  | ✓    | ✓      |
|  | <b>FIXRTURN</b><br>Highly productive round insert with 6 indexes<br>C071, C074  | ✓    | ✓      |
























# External Toolholder - Quick Guide (Square shanks)

Inch

| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style)  | Designation   | Inserts  | Sizes of square shanks (in) |                          |                          |  |  | Coolant<br>supply |                                     | Page                                |                               |      |
|---|---|---|--|-----------------------------|--------------------------|--------------------------|--|--|-------------------|-------------------------------------|-------------------------------------|-------------------------------|------|
|   |   |   |  | 0.750x0.750                 | 1.000x1.000              | 1.250x1.250              |  |  |                   | External supply                     |                                     | TUNGALOY<br>(Through-coolant) |      |
| <b>ADD TURN</b><br>                          | Front turning: 95°<br>Back turning: 21.5°<br>    | <b>ATXOR/L</b>  | 6C-TOMG**<br>                         | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C102                          |      |
|   | Front turning: 117.5°<br>Back turning: 27.5°<br> | <b>ATXOR/L</b>  | 6V-TOMG**<br>                         | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C102                          |      |
|   | Front turning: 95°<br>Back turning: 21.5°<br>    | <b>STXCR/L-CHP-MC</b>   | 3C-TCMT**<br>                         |                             | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C100 |
| <b>TURN FEED</b><br>                         | 48.5°<br>  | <b>PPXOR/L**-HD</b>   | POMG **<br>                           |                             | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C063                          |      |
|   | 22.5°<br>  | <b>PPXOR/L**-HF</b>   |  |                             | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C063                          |      |
| <b>Double clamp A</b><br><b>TURNING</b><br> | L 95°<br>                                       | <b>ACLNR/L**4</b>   | CN** 43<br>80°<br>                    | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C019                          |      |
|   |   | <b>ACLNR/L**-4-CHP-MC</b>   | GNGA 43<br>70°<br>                    | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C024 |
|   |   | <b>ACLNR/L**33</b>  | CN** 33<br>80°<br>GNMG 33<br>70°<br> | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C019 |
|   | K 95°<br>                                      | <b>ACKNR/L**4</b>   | CN** 43<br>80°<br>                  |                             | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C029 |
|   |   | R 75°<br>                            | <b>ACRNR/L**4</b>  |                             |                          | <input type="checkbox"/> |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C032 |
|   | L 95°<br>                                      | <b>AWLNR/L**4</b>   | WN** 43<br>80°<br>                  | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C121 |
|   |   | <b>AWLNR/L**-4-CHP-MC</b>   |  | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C125 |
|   |   | <b>AWLNR/L**33</b>  | WN** 33<br>80°<br>                  | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C121 |
|   | J 93°<br>                                      | <b>ATJNR/L**3</b>   | TN** 33<br>                         | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C088 |
|   | G 91°<br>                                      | <b>ATGNR/L**3</b>   |                                     | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C091 |
|   | F 91°<br>                                      | <b>ATFNR/L**3</b>   |  | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C094 |
|   | Q 105°<br>                                     | <b>ATQNR/L**3</b>   |  | <input type="checkbox"/>    | <input type="checkbox"/> |                          |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C096 |
|   | J 93°<br>                                      | <b>ADJNR/L**4</b>   | DN** 43<br>55°<br>                  | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> |  |  |                   |                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>      | C036 |
| <b>ADJNR/L**-4-CHP-MC</b>   |   | FNGA 43<br>45°<br>                   | <input type="checkbox"/>   | <input type="checkbox"/>    |                          |                          |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C040                          |      |
| <b>ADJNR/L**33</b>  |   | DN** 33<br>55°<br>FNMG 33<br>45°<br> | <input type="checkbox"/>   | <input type="checkbox"/>    |                          |                          |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C036                          |      |
| P 62.5° *<br>                              | <b>ADPNN**4</b>   | DN** 43<br>55°<br>FNGA 43<br>45°<br> | <input type="checkbox"/>   | <input type="checkbox"/>    |                          |                          |  |  |                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | C049                          |      |

\*: Tungaloy's symbol

Inch

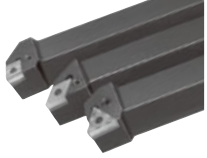




























| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style)  | Designation          | Inserts   | Sizes of square shanks (in) |             |  |  |  | Coolant supply |                 | Page |                               |
|---|---|----------------------|---|-----------------------------|-------------|--|--|--|----------------|-----------------|------|-------------------------------|
|   |   |                      |   | 0.750x0.750                 | 1.000x1.000 |  |  |  |                | External supply |      | TUNGALOY<br>(Through-coolant) |
| <b>TURNING</b><br> | Q 107.5°<br> | <b>ADQNR/L**4</b>    | DN** 43<br>55°<br>FNGA 43<br>45°<br> | ○                           | ○           |  |  |  |                | ✓               |      | C045                          |
|   |   |                      | DN** 33<br>55°<br>FNMG 33<br>45°<br> | ○                           | ○           |  |  |  |                | ✓               |      | C045                          |
|   | J 93°<br>    | <b>AVJNR/L**3</b>    | VN** 33<br>35°<br>                   | ○                           | ○           |  |  |  |                | ✓               |      | C103                          |
|   | V 72.5°<br>  | <b>AVNN**3</b>       | YN** 33<br>                          | ○                           | ○           |  |  |  |                | ✓               |      | C107                          |
|   | Q 117.5°<br> | <b>AVQNR/L**3</b>    | 25°<br>                              | ○                           | ○           |  |  |  |                | ✓               |      | C110                          |
|   | J 93°<br>    | <b>AVJNR/L**2.33</b> | VN** 2.33<br>                        | ○                           | ○           |  |  |  |                | ✓               |      | C103                          |
|   | V 72.5°<br>  | <b>AVNN**2.33</b>    | 35°<br>                              | ○                           | ○           |  |  |  |                | ✓               |      | C107                          |
|   | Q 122.5°<br> | <b>AVQNR/L**2.33</b> |   | ○                           | ○           |  |  |  |                | ✓               |      | C110                          |
|   | B 75°<br>   | <b>ASBNR/L**4</b>    | SN** 43<br>                         | ○                           | ○           |  |  |  |                | ✓               |      | C085                          |
|   | D 45°<br>  | <b>ASDNN**4</b>      | 90°<br>                            | ○                           | ○           |  |  |  |                | ✓               |      | C076                          |
|   | S 45°<br>  | <b>ASSNR/L**4</b>    |   | ○                           | ○           |  |  |  |                | ✓               |      | C078                          |
|   | K 75°<br>  | <b>ASKNR/L**4</b>    |   | ○                           | ○           |  |  |  |                | ✓               |      | C082                          |
|   |            | <b>ARGNR/L</b>       | RN**<br>                           |                             | ○           |  |  |  |                | ✓               |      | C065                          |

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Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
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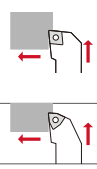


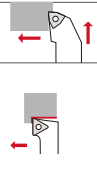











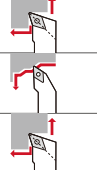

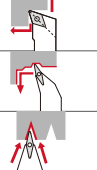

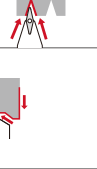
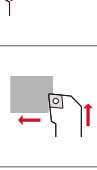
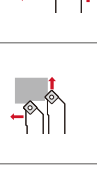
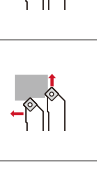


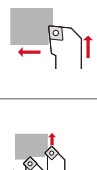

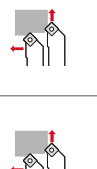

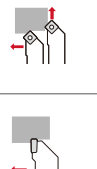

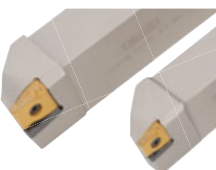
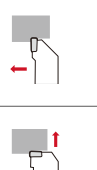

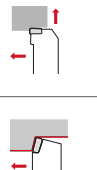

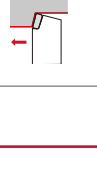



# External Toolholder - Quick Guide (Square shanks)

Inch

| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style)   | Designation   | Inserts   | Sizes of square shanks (in)   |   |             |  |  | Coolant supply |                 | Page |                               |
|---|--|---|---|---|---|-------------|--|--|----------------|-----------------|------|-------------------------------|
|   |  |   |   | 0.625x0.625   | 0.750x0.750   | 1.000x1.000 |  |  |                | External supply |      | TUNGALOY<br>(Through-coolant) |
|                | L 95°<br>   | PCLNR/L**4-CHP  | CN** 43<br>80°<br>   |   |   |             |  |  |                |                 |      |                               |
|   |  |   | GNGA 43<br>70°<br>   |   |   |             |  |  |                |                 |      |                               |
|   |  | PCLNR/L**33   | CN** 33<br>80°<br>   |   |   |             |  |  |                | ✓               |      |                               |
|   |  | PCLNR/L**33-CHP   | GNMG 33<br>70°<br>   |   |   |             |  |  |                |                 | ✓    |                               |
|   |  |  | PCLNR/L**33-CHP-N   |   |   |             |  |  |                |                 | ✓    |                               |
|   | L 95°<br>   | PWLNR/L**4-CHP  | WN** 43<br>80°<br>   |   |   |             |  |  |                |                 | ✓    |                               |
|   |  |   | PWLNR/L**33   | WN** 33<br>80°<br>   |   |             |  |  |                |                 | ✓    |                               |
|   |  |   |                      | PWLNR/L**33-CHP   |   |             |  |  |                |                 |      | ✓                             |
|   | G 91°<br>  | PTGNR/L**3-CHP  | TN** 33<br>60°<br>   |   |   |             |  |  |                |                 | ✓    |                               |
|   |  |   | PTGNR/L**23   | TN** 23<br>60°<br>   |   |             |  |  |                |                 | ✓    |                               |
|   |  |   |                    | PTGNR/L**23-CHP   |   |             |  |  |                |                 |      | ✓                             |
|   | J 93°<br> | PDJNR/L**4-CHP  | DN** 43<br>55°<br> |   |   |             |  |  |                |                 | ✓    |                               |
|   |  |   | FNGA 43<br>45°<br> |   |   |             |  |  |                |                 |      |                               |
|   |  |   |                    | PDJNR/L**33   | DN** 33<br>55°<br>   |             |  |  |                |                 |      | ✓                             |
|   |  |   | PDJNR/L**33-CHP   | FNMG 33<br>45°<br> |   |             |  |  |                |                 | ✓    |                               |
|   | J 93°<br> | PVJNR/L**3-CHP  | VN** 33<br>35°<br> |   |   |             |  |  |                |                 | ✓    |                               |
|   |  |   | YN** 33<br>25°<br> |   |   |             |  |  |                |                 |      |                               |
|   |  |   |                    | PVJNR/L**2.33   | VN** 2.33<br>35°<br> |             |  |  |                |                 |      | ✓                             |
|   |  | PVJNR/L**2.33-CHP   |   |   |   |             |  |  |                | ✓               |      |                               |
| Q 107.5°<br> |  | PVQNR/L**3-CHP  | VN** 33<br>35°<br> |   |   |             |  |  |                | ✓               |      |                               |
|   |  |   | YN** 33<br>25°<br> |   |   |             |  |  |                | ✓               |      |                               |

Inch

| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style)  | Designation  | Inserts  | Sizes of square shanks (in)  |             |             |             |             |             | Coolant supply |                 | Page          |                               |
|---|---|--|--|--|-------------|-------------|-------------|-------------|-------------|----------------|-----------------|---------------|-------------------------------|
|   |   |  |  | 0.375x0.375  | 0.500x0.500 | 0.625x0.625 | 0.750x0.750 | 1.000x1.000 | 1.250x1.250 | 1.500x1.500    | External supply |               | TUNGALOY<br>(Through-coolant) |
| <b>Screw-on S</b><br>  | L 95°<br>      | <b>SCLCR/L**3</b>  | CC** 32.5<br> 80° |  |             | ○           | ○           | ○           |             | ✓              |                 | C034          |                               |
|   |   | <b>SCLCR/L**4</b>  | CC** 43<br> 80°   |  |             |             | ○           | ○           |             | ✓              |                 | C034          |                               |
|   | L 95°<br>      | <b>JSWLXR/L</b><br><b>JSWL2XR/L</b>  | WX** 22<br> 80°   | ○  | ○           | ○           | ○           | ○           |             | ✓              |                 | C128,<br>C129 |                               |
|   |   | <b>STGCR/L**2</b>  | TC** 21.5<br> 60° | ○  | ○           |             |             |             |             | ✓              |                 | C099          |                               |
|   | G 91°<br>      | <b>STGCR/L**3</b>  | TC** 32.5<br> 60° |  |             | ○           | ○           |             |             | ✓              |                 | C099          |                               |
|   |   | J 93°<br> | <b>SDJCR/L**2</b>  | DC** 21.5<br> 55° | ○           | ○           |             |             |             |                | ✓               |               | C052                          |
|   | <b>SDJCR/L**3</b>   |  | DC** 32.5<br> 55° |  | ○           | ○           | ○           | ○           |             | ✓              |                 | C052          |                               |
|   | <b>JSDJXR/L</b><br><b>JSDJ2XR/L</b>   |  | DX** 22<br> 55°   | ○  | ○           | ○           | ○           | ○           |             | ✓              |                 | C057          |                               |
|   | J 93°<br>     | <b>SVJCR/L**3</b>  | VC** 33<br> 35°   |  |             | ○           | ○           | ○           |             | ✓              |                 | C113          |                               |
|   |   | <b>JSVJXR/L</b><br><b>JSVJ2XR/L</b>  | VX** 73.5<br> 35° | ○  | ○           | ○           | ○           | ○           |             | ✓              |                 | C119          |                               |
|   | Q 117.5°<br> | <b>SVQCR/L**3</b>  | VC** 33<br> 35°  |  |             |             |             | ○           |             | ✓              |                 | C116          |                               |
|   | J 93°<br>    | <b>SYJBR/L</b>   | YWMT16<br> 25°  |  |             |             | ○           | ○           |             | ✓              |                 | C130          |                               |
|   | Q 122.5°<br> | <b>SYQBR/L</b>   |  |  |             |             | ○           | ○           |             | ✓              |                 | C131          |                               |
|   | H 100°<br>   | <b>SYHBR/L</b>   |  |  |             |             | ○           | ○           |             | ✓              |                 | C132          |                               |
| I 76.5°<br>  | <b>SYIBN</b>  |  |  |  |             | ○           | ○           |             | ✓           |                | C131            |               |                               |
|   |              | <b>SRGCR/L</b>   | RCM*<br>        |  |             |             |             | ○           |             | ✓              |                 | C070          |                               |
|   |   | <b>SRDCN</b>   |  |  |             |             |             | ○           |             | ✓              |                 | C073          |                               |
| <b>Double clamp for dimple ceramic insert C</b><br><b>DIMPLEFX</b><br> | L 45°<br>    | <b>CCLNR/L-RD</b>  | CNGD<br> 80°    |  |             |             |             | ○           |             | ✓              |                 | C027          |                               |
|   | S 45°<br>    | <b>CSSNR/L-RD</b>  | SNGD<br> 90°    |  |             |             |             | ○           |             | ✓              |                 | C081          |                               |
|   | S 45°<br>    | <b>CHSNR/L-RD</b>  | HNGD<br> 90°    |  |             |             |             | ○           |             | ✓              |                 | C059          |                               |
| <b>TURNTEC</b><br>   | A 93°<br>    | <b>TLANR/L-16</b>  | LNMX16<br>      |  |             |             | ○           | ○           | ○           | ○              | ✓               |               | C060                          |
|   | F 93°<br>    | <b>TLFNR/L-16</b>  | LNMX16<br>      |  |             |             |             | ○           | ○           |                | ✓               |               | C061                          |
|   | B 75°<br>    | <b>TLBNR/L-24</b>  | LNMX24<br>      |  |             |             |             |             |             | ○              | ✓               |               | C061                          |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
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# External Toolholder - Quick Guide (Square shanks)
















Metric

| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style)  | Designation   | Inserts   | Sizes of square shanks (mm) |       |       |       |       | Coolant<br>supply |                               | Page |      |      |
|---|---|---|---|-----------------------------|-------|-------|-------|-------|-------------------|-------------------------------|------|------|------|
|   |   |   |   | 20x20                       | 25x25 | 32x25 | 32x32 | 40x40 | External supply   | TUNGALOY<br>(Through-coolant) |      |      |      |
| <b>ADD TURN</b><br>                          | Front turning: 95°<br>Back turning: 21.5°<br>    | <b>ATXOR/L</b>  | 6C-TOMG**<br>                  | ○                           | ○     |       | ○     |       |                   | ✓                             |      | C102 |      |
|   | Front turning: 117.5°<br>Back turning: 27.5°<br> | <b>ATXOR/L</b>  | 6V-TOMG**<br>                  | ○                           | ○     |       | ○     |       |                   | ✓                             |      | C102 |      |
|   | Front turning: 95°<br>Back turning: 21.5°<br>    | <b>STXCR/L-CHP-MC</b>   | 3C-TCMT**<br>                  |                             |       | ○     |       |       |                   |                               | ✓    |      | C100 |
| <b>TURN FEED</b><br>                         | 48.5°<br>  | <b>PPXOR/L**-HD</b>   | POMG**<br>                     |                             |       |       | ○     | ○     |                   | ✓                             |      | C063 |      |
|   | 22.5°<br>  | <b>PPXOR/L**-HF</b>   |   |                             |       |       | ○     | ○     |                   | ✓                             |      | C063 |      |
| <b>Double clamp A</b><br><b>TURNING</b><br> | L 95°<br>                                       | <b>ACLNR/L**12</b>  | CN**12 80°<br>                 | ○                           | ○     | ○     |       |       |                   | ✓                             |      | C019 |      |
|   |   | <b>ACLNR/L**12-CHP-MC</b>   | GNGA12 70°<br>                 | ○                           | ○     |       |       |       |                   |                               |      | ✓    | C024 |
|   |   | <b>ACLNR/L**0904</b>  | CN**09 80°<br>GNMG09 70°<br>  | ○                           | ○     |       |       |       |                   |                               | ✓    |      | C019 |
|   | L 95°<br>                                      | <b>AWLNR/L**08</b>  | WN**08 80°<br>               | ○                           | ○     | ○     |       |       |                   |                               | ✓    |      | C121 |
|   |   | <b>AWLNR/L**08-CHP-MC</b>   |   | ○                           | ○     |       |       |       |                   |                               |      | ✓    | C125 |
|   |   | <b>AWLNR/L**06</b>  | WN**06 80°<br>               | ○                           | ○     |       |       |       |                   |                               | ✓    |      | C121 |
|   | J 93°<br>                                      | <b>ATJNR/L**16</b>  | TN**16<br>                   | ○                           | ○     |       |       |       |                   | ✓                             |      | C088 |      |
|   | G 91°<br>                                      | <b>ATGNR/L**16</b>  | △ 60°<br>                    | ○                           | ○     |       |       |       |                   | ✓                             |      | C091 |      |
|   | F 91°<br>                                      | <b>ATFNR/L**16</b>  |   | ○                           | ○     |       |       |       |                   | ✓                             |      | C094 |      |
|   | Q 105°<br>                                     | <b>ATQNR/L**16</b>  |   | ○                           | ○     |       |       |       |                   | ✓                             |      | C096 |      |
|   | J 93°<br>                                      | <b>ADJNR/L**15</b>  | DN**15 55°<br>FNGA15 45°<br> | ○                           | ○     | ○     |       |       |                   |                               | ✓    |      | C036 |
|   |   | <b>ADJNR/L**15-CHP-MC</b>   |   | ○                           | ○     |       |       |       |                   |                               |      | ✓    | C040 |
| <b>ADJNR/L**1104</b>  |   | DN**11 55°<br>FNMG11 45°<br> | ○   | ○                           |       |       |       |       |                   | ✓                             |      | C036 |      |
| P 62.5° *<br>                              | <b>ADPNN**15</b>  | DN**15 55°<br>               | ○   | ○                           |       |       |       |       | ✓                 |                               | C049 |      |      |
| Q 107.5°<br>                               | <b>ADQNR/L**15</b>  | FNGA15 45°<br>               | ○   | ○                           |       |       |       |       | ✓                 |                               | C045 |      |      |
|   | <b>ADQNR/L**11</b>  | DN**11 55°<br>FNMG11 45°<br> | ○   | ○                           |       |       |       |       | ✓                 |                               | C045 |      |      |

\*: Tungaloy's symbol



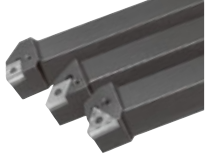



























Metric

| Brand name /<br>Clamp system   | Approach angle<br>(Cutting edge style) | Designation          | Inserts  | Sizes of square shanks (mm)   |       |       |       |       | Coolant supply  |                                | Page |
|--|--|----------------------|--|---|-------|-------|-------|-------|-----------------|--------------------------------|------|
|  |  |                      |  | 20x20   | 25x25 | 32x25 | 32x32 | 40x40 | External supply | TUNGALLOY<br>(Through-coolant) |      |
| <b>Double clamp A</b><br><br> | J 93°                                  | <b>AVJNR/L**16</b>   | VN**16<br>  | ○   | ○     |       |       |       | ✓               |                                | C103 |
|  | V 72.5°                                | <b>AVVNN**16</b>     | YN**16<br>  | ○   | ○     |       |       |       | ✓               |                                | C107 |
|  | Q 117.5°                               | <b>AVQNR/L**16</b>   |  | ○   | ○     |       |       |       | ✓               |                                | C110 |
|  | J 93°                                  | <b>AVJNR/L**1204</b> | VN**1204   | ○   | ○     |       |       |       | ✓               |                                | C103 |
|  | V 72.5°                                | <b>AVVNN**1204</b>   |   | ○   | ○     |       |       |       | ✓               |                                | C107 |
|  | Q 122.5°                               | <b>AVQNR/L**1204</b> |  | ○   | ○     |       |       |       | ✓               |                                | C110 |
|  | B 75°                                  | <b>ASBNR/L12</b>     | SN**12   | ○   | ○     |       |       |       | ✓               |                                | C085 |
|  | D 45°                                  | <b>ASDNN12</b>       |   | ○   | ○     |       |       |       | ✓               |                                | C076 |
|  | S 45°                                  | <b>ASSNR/L12</b>     |  | ○   | ○     |       |       |       | ✓               |                                | C078 |
|  | K 75°                                  | <b>ASKNR/L12</b>     |  | ○   | ○     |       |       |       | ✓               |                                | C082 |
|  |  |                      | <b>ARGNR/L</b>   | RN**<br> |       | ○     |       |       |                 | ✓                              |      |
| <b>One Double D</b><br><br> | L 95°                                  | <b>DCLNR/L12</b>     | CN**12<br><br>GNGA12<br> | ○   | ○     | ○     |       |       | ✓               |                                | C021 |
|  | L 95°                                  | <b>DWLNR/L08</b>     | WN**08<br>  | ○   | ○     | ○     |       |       | ✓               |                                | C122 |
|  | J 93°                                  | <b>DDJNR/L15</b>     | DN**15<br>  | ○   | ○     | ○     |       |       | ✓               |                                | C037 |
|  | Q 105°                                 | <b>DDQNR/L15</b>     | FNGA15<br>  | ○   | ○     | ○     |       |       | ✓               |                                | C046 |
|  | G 91°                                  | <b>DTGNR/L16</b>     | TN**16<br>  | ○   | ○     |       |       |       | ✓               |                                | C092 |
|  | F 91°                                  | <b>DTFNR/L16</b>     |  | ○   | ○     |       |       |       | ✓               |                                | C094 |
|  | B 75°                                  | <b>DSBNR/L12</b>     | SN**12   | ○   | ○     |       |       |       | ✓               |                                | C086 |
|  | D 45°                                  | <b>DSDNN12</b>       |   | ○   | ○     |       |       |       | ✓               |                                | C076 |
|  | S 45°                                  | <b>DSSNR/L12</b>     |  | ○   | ○     |       |       |       | ✓               |                                | C079 |
|  | K 75°                                  | <b>DSKNR/L12</b>     |  | ○   | ○     |       |       |       | ✓               |                                | C082 |
|  |  |                      | <b>DRGNR/L12</b>   | RN**<br> |       | ○     |       |       |                 | ✓                              |      |

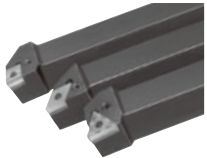






















# External Toolholder - Quick Guide (Square shanks)

Metric

| Brand name /<br>Clamp system   | Approach angle<br>(Cutting edge style)   | Designation  | Inserts  | Sizes of square shanks (mm) |       |       |       |       | Coolant supply  |                               | Page          |               |
|--|--|--|--|-----------------------------|-------|-------|-------|-------|-----------------|-------------------------------|---------------|---------------|
|  |  |  |  | 16x16                       | 20x20 | 25x25 | 32x25 | 32x32 | External supply | TUNGALOY<br>(Through-coolant) |               |               |
|                     | L 95°<br>   | PCLNR/L**12<br>PCL2NR**12  | CN**12<br>80°<br>       | ○                           | ○     | ○     | ○     |       | ✓               |                               | C022          |               |
|  |  | PCLNR/L**12-CHP<br>PCLNR/L**12-CHP-MC  | GNGA12<br>70°<br>       |                             | ○     | ○     |       |       |                 |                               | ✓             | C023,<br>C024 |
|  |  | PCLNR/L**0904  | CN**09<br>80°<br>       |                             | ○     | ○     |       |       |                 | ✓                             |               | C022          |
|  |  | PCLNR/L**09-CHP-MC   | GNGM09<br>70°<br>       |                             | ○     |       |       |       |                 | ✓                             |               | C024          |
|  |  | PCLNR/L**09-CHP-N  |  |                             | ○     | ○     |       |       |                 | ✓                             |               | C025          |
|  | B 75°<br>   | PCBNR/L**12  | CN**12<br>80°<br>       |                             |       | ○     |       |       | ✓               |                               | C031          |               |
|  | F 91°<br>   | PCFNR/L  | CN**12<br>80°<br>       |                             | ○     | ○     |       |       | ✓               |                               | C030          |               |
|  |  |  | GNGA12<br>70°<br>       |                             |       |       |       |       |                 |                               |               |               |
|  | L 95°<br>  | PWLNR/L**08-CHP<br>PWLNR/L**08-CHP-MC<br> | WN**08<br>80°<br>       |                             | ○     | ○     |       |       |                 | ✓                             | C124,<br>C125 |               |
|  |  |  | WN**06<br>80°<br>      |                             | ○     | ○     |       |       |                 | ✓                             |               | C123          |
|  |  |  | PWLNR/L**0604-CHP<br> |                             |       | ○     | ○     |       |                 |                               | ✓             |               |
|  | L 95°<br> | PTL2NR/L**16   | TN**16<br>60°<br>     |                             | ○     |       |       |       | ✓               |                               | C088          |               |
|  | J 93°<br> | PTJNR/L**1104  | TN**11<br>60°<br>     |                             |       | ○     |       |       | ✓               |                               | C089          |               |
|  | G 91°<br> | PTGNR/L**16<br>                           | TN**16<br>60°<br>     | ○                           | ○     | ○     |       |       | ✓               |                               | C092          |               |
|  |  |  | PTGNR/L**16-CHP  |                             |       | ○     | ○     |       |                 |                               | ✓             | C093          |
| PTGNR/L**1104<br> |  | TN**11<br>60°<br>                         |  |                             | ○     | ○     |       |       | ✓               |                               | C092          |               |
|  |  | PTGNR/L**1104-CHP  |  |                             | ○     | ○     |       |       |                 | ✓                             |               | C093          |
| F 91°<br>         | PTFNR/L**16  | TN**16<br>60°<br>                         | ○  | ○                           | ○     |       |       | ✓     |                 | C095                          |               |               |
|  |  | TN**11<br>60°<br>                         |  |                             | ○     | ○     |       |       | ✓               |                               | C095          |               |

Metric
























| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style)  | Designation       | Inserts  | Sizes of square shanks (mm)  |       |       |       |       | Coolant supply  |                               | Page |      |      |
|---|---|-------------------|--|--|-------|-------|-------|-------|-----------------|-------------------------------|------|------|------|
|   |   |                   |  | 16x16  | 20x20 | 25x25 | 32x25 | 32x32 | External supply | TUNGALOY<br>(Through-coolant) |      |      |      |
| Lever lock P<br> | J 93°<br>      | PDJNR/L**15       | DN**15<br>55°<br>   |  | ○     | ○     | ○     |       |                 | ✓                             |      | C038 |      |
|   |   | PDJNR/L**15-CHP   | FNGA15<br>45°<br>   |  | ○     | ○     |       |       |                 |                               | ✓    |      | C039 |
|   |   | PDJNR/L**1104     | DN**11<br>55°<br>   | ○  | ○     | ○     |       |       |                 | ✓                             |      |      | C038 |
|   |   | PDJNR/L**1104-CHP | FNMG11<br>45°<br>   |  | ○     | ○     |       |       |                 |                               | ✓    |      | C039 |
|   | P 62.5° *   | PDPNN**15         | DN**15<br>55°<br>   |  |       | ○     |       |       |                 | ✓                             |      |      | C050 |
|   | Q 107.5°  | PDQNR/L15         | FNGA15<br>45°<br>   |  |       | ○     |       |       |                 | ✓                             |      |      | C047 |
|   | J 93°<br>      | PVJNR/L**16-CHP   | VN**16<br>35°<br><br>YN**16<br>25°<br>     |  | ○     | ○     |       |       |                 |                               | ✓    |      | C105 |
|   |   | PVJNR/L**1204     | VN**12<br>35°<br>   | ○  | ○     | ○     |       |       |                 | ✓                             |      |      | C104 |
|   |   | PVJNR/L**1204-CHP |  |  | ○     | ○     |       |       |                 |                               | ✓    |      | C105 |
|   | Q 107.5°<br> | PVQNR/L**1204     | VN**12<br>35°<br>   |  | ○     | ○     |       |       |                 | ✓                             |      |      | C111 |
|   |   | PVQNR/L**16-CHP   | VN**16<br>35°<br><br>YN**16<br>25°<br> |  | ○     | ○     |       |       |                 |                               | ✓    |      | C112 |
|   | V 72.5°   | PVVNN**1204       | VN**12<br>35°<br>   |  | ○     | ○     |       |       |                 | ✓                             |      |      | C108 |
|   | B 75°   | PSBNR/L12         | SN**12   |  | ○     | ○     |       |       |                 | ✓                             |      |      | C086 |
|   | D 45°   | PSDNN12           |  |  | ○     | ○     |       |       |                 | ✓                             |      |      | C077 |
|   | S 45°   | PSSNR/L12         |  | 90°<br> |       | ○     | ○     | ○     |                 | ✓                             |      |      | C080 |
|   | K 75°   | PSKNR/L12         |  |  | ○     | ○     |       |       |                 | ✓                             |      |      | C083 |
|   |              | PRGNR/L           | RN**<br>  |  | ○     | ○     |       |       |                 | ✓                             |      |      | C066 |
|   |   | PRGCR/L           | RCM**12<br>   |  |       | ○     | ○     | ○     |                 | ✓                             |      |      | C069 |
| PRDCN12   |   |                   |  |  | ○     | ○     |       |       | ✓               |                               |      | C072 |      |

\*: Tungaloy's symbol



# External Toolholder - Quick Guide (Square shanks)

Metric

| Brand name /<br>Clamp system  | Approach angle<br>(Cutting edge style) | Designation                         | Inserts   | Sizes of square shanks (mm)   |       |       |       |       |       |       | Coolant supply  |                                | Page          |               |      |
|---|--|-------------------------------------|---|---|-------|-------|-------|-------|-------|-------|-----------------|--------------------------------|---------------|---------------|------|
|   |  |                                     |   | 10x10   | 16x16 | 20x20 | 25x25 | 32x25 | 32x32 | 40x40 | External supply | TUNGALLOY<br>(Through-coolant) |               |               |      |
|    | L 95°                                  | <b>SCLCR/L</b>                      | CC**12<br> 80° |   |       | ○     |       |       |       |       |                 | ✓                              |               | C034          |      |
|   | L 95°                                  | <b>JSWLXR/L</b><br><b>JSWL2XR/L</b> | WX**04<br> 80° | ○   | ○     | ○     | ○     |       |       |       |                 | ✓                              |               | C128,<br>C129 |      |
|   | A 91°                                  | <b>STACR/L</b>                      | TC**16<br> 60° |   | ○     |       |       |       |       |       |                 | ✓                              |               | C098          |      |
|   | J 93°                                  |                                     | <b>SDJCR/L11</b>  | DC**11<br> 55° |       | ○     | ○     | ○     |       |       |                 |                                | ✓             |               | C052 |
|   |  |                                     | <b>JSDJXR/L</b><br><b>JSDJ2XR/L</b>   | DX**07<br> 55° | ○     | ○     | ○     | ○     |       |       |                 |                                | ✓             |               | C057 |
|   | N 62.5°                                | <b>SDNCN11</b>                      | DC**11<br> 55° |   | ○     | ○     | ○     |       |       |       |                 | ✓                              |               | C054          |      |
|   | Q 107.5°                               | <b>SDQCR/L11</b>                    |   |   |       | ○     | ○     |       |       |       |                 | ✓                              |               | C054          |      |
|   | J 93°                                  |                                     | <b>SVJCR/L</b>  | VC**16<br> 35° |       | ○     | ○     | ○     |       |       |                 |                                | ✓             |               | C113 |
|   |  |                                     | <b>JSVJXR/L</b><br><b>JSVJ2XR/L</b>   | VX**09<br> 35° | ○     | ○     | ○     | ○     |       |       |                 |                                | ✓             |               | C119 |
|   | V 72.5°                                | <b>SVVCN</b>                        | VC**16<br> 35° |   |       | ○     | ○     |       |       |       |                 | ✓                              |               | C115          |      |
|   | Q 117.5°                               | <b>SVQCR/L</b>                      |   |   |       | ○     | ○     |       |       |       |                 | ✓                              |               | C116          |      |
|   | J 93°                                  | <b>SYJBR/L16</b>                    |   | YWMT16<br>    |       |       | ○     | ○     |       |       |                 | ✓                              |               | C130          |      |
|   | Q 122.5°                               | <b>SYQBR/L16</b>                    |   |  25°         |       |       | ○     | ○     |       |       |                 | ✓                              |               | C131          |      |
|   | H 100°                                 | <b>SYHBR/L16</b>                    |   |   |       |       | ○     | ○     |       |       |                 | ✓                              |               | C132          |      |
|   | I 76.5°                                |                                     | <b>SYIBN16</b>  |   |       |       | ○     | ○     |       |       |                 | ✓                              |               | C131          |      |
| <b>SRACR/L</b>  |  |                                     | RCM*  | ○   |       | ○     |       |       |       |       | ✓               |                                | C068          |               |      |
| <b>SRGCR/L</b>  |  |                                     |              | ○   |       | ○     |       |       |       |       | ✓               |                                | C070,<br>C071 |               |      |
|   |  | <b>SRDCN</b>                        |   |   | ○     | ○     |       |       |       | ✓     |                 | C073,<br>C074                  |               |               |      |
|  | L 45°                                  | <b>CCLNR/L-RD</b>                   | CNGD<br> 80° |   |       |       | ○     | ○     |       |       |                 | ✓                              |               | C027          |      |
|   | J 93°                                  | <b>CDJNR/L-RD</b>                   | DNGD<br> 55° |   |       |       | ○     | ○     |       |       |                 | ✓                              |               | C042          |      |
|   | N 63°                                  | <b>CDNNN-RD</b>                     |   |   |       |       | ○     |       |       |       |                 | ✓                              |               | C044          |      |
|   | V72.5°                                 | <b>CVVNN-RD</b>                     | VNGD<br> 35° |   |       |       | ○     |       |       |       |                 | ✓                              |               | C109          |      |
|   | S 45°                                  | <b>CSSNR/L-RD</b>                   | SNGD<br> 90° |   |       |       | ○     |       |       |       |                 | ✓                              |               | C081          |      |
|   | S 45°                                  | <b>CHSNR/L-RD</b>                   | HNGD<br> 90° |   |       |       | ○     |       |       |       |                 | ✓                              |               | C059          |      |
|  | A 93°                                  | <b>TLANR/L6</b>                     | LNMX16<br>   |   |       | ○     | ○     |       | ○     | ○     | ✓               |                                | C060          |               |      |
|   | F 93°                                  | <b>TLFNR/L16</b>                    | LNMX16<br>   |   |       |       | ○     |       | ○     |       | ✓               |                                | C061          |               |      |
|   | B 75°                                  | <b>TLBNR/L24</b>                    | LNMX24<br>   |   |       |       |       |       |       | ○     | ✓               |                                | C061          |               |      |

Metric

| Brand name /<br>Clamp system | Approach angle<br>(Cutting edge style) | Designation                | Inserts                            | Size |    |    |    |  | Coolant<br>supply |                                   | Page |      |
|------------------------------|--|----------------------------|------------------------------------|------|----|----|----|--|-------------------|-----------------------------------|------|------|
|                              |  |                            |                                    | C3   | C4 | C5 | C6 |  | Through-coolant   | TUNG<br>TAPT<br>(Through-coolant) |      |      |
|                              | E                                      | <b>C6STECN-Y-CHP</b>       | 3C-TCMT**<br>                      |      |    |    | ○  |  |                   | ✓                                 |      | C101 |
|                              | N                                      | <b>C6SDNCN-Y-CHP</b>       | 2D-DCMT**<br>                      |      |    |    | ○  |  |                   | ✓                                 |      | C056 |
| Double clamp A               | L 95°                                  | <b>C*ACLNR/L12</b>         | CN**12<br>80°<br>                  | ○    | ○  | ○  | ○  |  |                   | ✓                                 |      | C020 |
|                              | L 95°                                  | <b>C*ACLNN12</b>           | GNGA12<br>70°<br>                  |      |    | ○  | ○  |  |                   | ✓                                 |      | C020 |
|                              | M                                      | <b>C6ACMNN0904</b>         | CN**09<br>80°<br>                  |      |    |    | ○  |  |                   | ✓                                 |      | C032 |
|                              | L 95°                                  | <b>C*ACLNR/L**0904</b>     | GNMG09<br>70°<br>                  | ○    | ○  |    | ○  |  |                   | ✓                                 |      | C020 |
| Lever lock P                 | L 95°                                  | <b>C*PCLNR/L12</b>         | CN**12<br>80°<br>                  |      |    | ○  | ○  |  |                   | ✓                                 |      | C021 |
|                              |  | <b>C*PCLNR/L**12-CHP</b>   | GNGA12<br>70°<br>                  |      | ○  | ○  | ○  |  |                   | ✓                                 |      | C026 |
|                              | M                                      | <b>C6PCMNN**12-CHP</b>     |                                    |      |    |    | ○  |  |                   | ✓                                 |      | C033 |
|                              | L 95°                                  | <b>C*PCLNR/L**0904-CHP</b> | CN**09<br>80°<br>GNMG09<br>70°<br> |      | ○  |    | ○  |  |                   | ✓                                 |      | C026 |
| Double clamp A               | L 95°                                  | <b>C*AWLNR/L08</b>         | WN**08<br>80°<br>                  |      | ○  |    | ○  |  |                   | ✓                                 |      | C122 |
|                              |  | <b>C*AWLNR/L06</b>         | WN**06<br>80°<br>                  |      | ○  |    |    |  |                   | ✓                                 |      | C122 |
| Lever lock P                 | L 95°                                  | <b>C*PWLNR/L**08-CHP</b>   | WN**08<br>80°<br>                  |      | ○  |    | ○  |  |                   | ✓                                 |      | C126 |
|                              |  | <b>C*PWLNR/L**06-CHP</b>   | WN**06<br>80°<br>                  |      | ○  |    |    |  |                   | ✓                                 |      | C126 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
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Index



Metric

| Brand name /<br>Clamp system | Approach angle<br>(Cutting edge style) | Designation                | Inserts                  | Size |    |    |    |  |  | Coolant<br>supply |                              | Page |
|------------------------------|--|----------------------------|--------------------------|------|----|----|----|--|--|-------------------|------------------------------|------|
|                              |  |                            |                          | C3   | C4 | C5 | C6 |  |  | Through-coolant   | TUNGCAP<br>(Through-coolant) |      |
| Double clamp A               | J 93°                                  | <b>C*ADJNR/L15</b>         | DN**15<br>               |      | ○  | ○  | ○  |  |  | ✓                 |                              | C036 |
|                              | N 62.5°                                | <b>C*ADNNN15</b>           |                          |      |    | ○  | ○  |  |  | ✓                 |                              | C043 |
|                              | Q 107.5°                               | <b>C*ADQNR/L15</b>         | FNGA15<br>               |      | ○  | ○  |    |  |  | ✓                 |                              | C046 |
|                              | U 93°                                  | <b>C*ADUNR/L</b>           |                          |      | ○  |    |    |  |  | ✓                 |                              | C051 |
|                              | J 93°                                  | <b>C*ADJNR/L1104</b>       | DN**11<br><br>FNMG11<br> | ○    | ○  |    | ○  |  |  | ✓                 |                              | C036 |
| Lever lock P                 | J 93°                                  | <b>C*PDJNR/L15</b>         | DN**15<br>               |      |    | ○  | ○  |  |  | ✓                 |                              | C040 |
|                              |  | <b>C*PDJNR/L**15-CHP</b>   | FNGA15<br>               |      | ○  | ○  | ○  |  |  |                   | ✓                            | C041 |
|                              |  | <b>C*PDJNR/L**1104-CHP</b> | DN**11<br>               |      | ○  |    | ○  |  |  |                   | ✓                            | C041 |
|                              | M                                      | <b>C6PDMNL1104-CHP</b>     | FNMG11<br>               |      |    |    | ○  |  |  |                   | ✓                            | C048 |
| Screw-on S                   | J 93°                                  | <b>C*SDJCR/L-CHP</b>       | DC**11<br>               | ○    |    |    |    |  |  | ✓                 |                              | C053 |
| Double clamp A               | J 93°                                  | <b>C4ATJNR/L</b>           | TN**16<br>               |      | ○  |    |    |  |  | ✓                 |                              | C089 |
| Lever lock P                 | J 93°                                  | <b>C4PTJNR/L</b>           |                          |      | ○  |    |    |  |  | ✓                 |                              | C090 |
| Double clamp A               | J 93°                                  | <b>C*AVJNR/L12</b>         | VN**12<br>               |      | ○  |    | ○  |  |  | ✓                 |                              | C104 |
|                              | Q 117.5°                               | <b>C*AVQNR/L16</b>         | VN**16<br><br>YN**16<br> |      | ○  |    |    |  |  | ✓                 |                              | C110 |
| Lever lock P                 | J 93°                                  | <b>C*PVJNR/L**-CHP</b>     | VN**16<br><br>YN**16<br> |      | ○  |    | ○  |  |  |                   | ✓                            | C106 |
|                              |  | <b>C*PVJNR/L**1204-CHP</b> | VN**12<br>               |      | ○  |    | ○  |  |  |                   | ✓                            | C106 |
| Screw-on S                   | J 93°                                  | <b>C*SVJCR/L</b>           | VC**16<br>               |      |    | ○  | ○  |  |  | ✓                 |                              | C114 |
|                              | V 72.5°                                | <b>C*SVVCN</b>             |                          |      |    | ○  | ○  |  |  | ✓                 |                              | C114 |



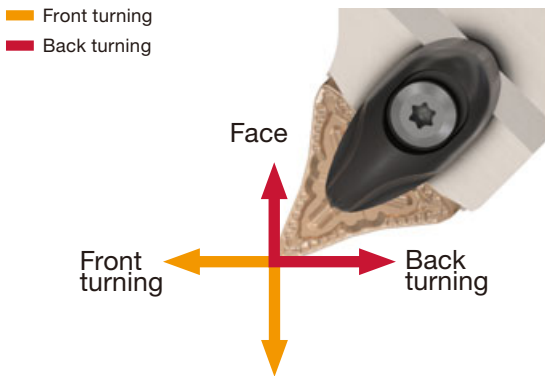


Ultra high productivity of Front Turning, Back Turning, Profiling, and Face Turning with **ONE SINGLE TOOL**

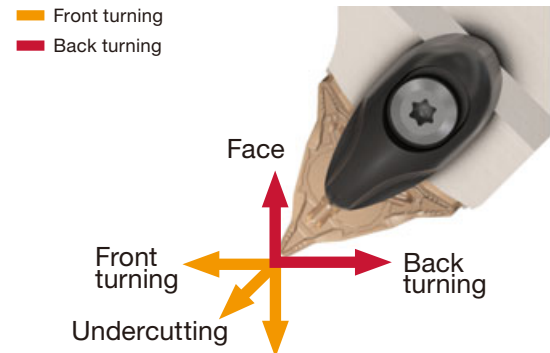
**Double-sided 6-corner insert with 80° or 35° corner angle for versatile applications**

- **Back (pull) turning:** High feed designed cutting edge improves productivity about 200% higher than existing ISO tools with no need for special programming.
- **Front (push) turning:** Same machining process is available using the same cutting edge angle as standard ISO tools.

**6C-TOMG**



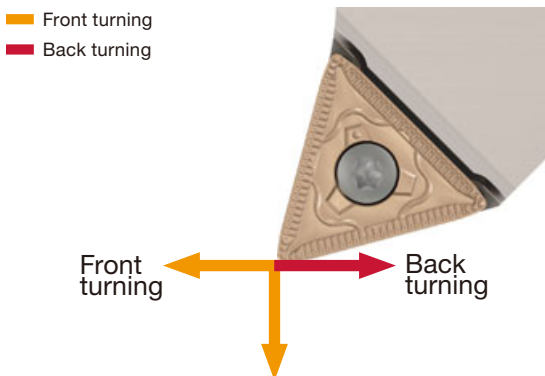
**6V-TOMG**



**Single-sided 3-corner insert for super high productivity**

- **Back (pull) turning:** High feed designed cutting edge improves productivity 300 - 400% higher than standard ISO tools.
- **Front (push) turning:** Applicable to great D.O.C.

**3C-TCMT**



Internal coolant toolholder prevents chip jamming and maximizes performance during back turning operations



Reference pages: **C100, C102**

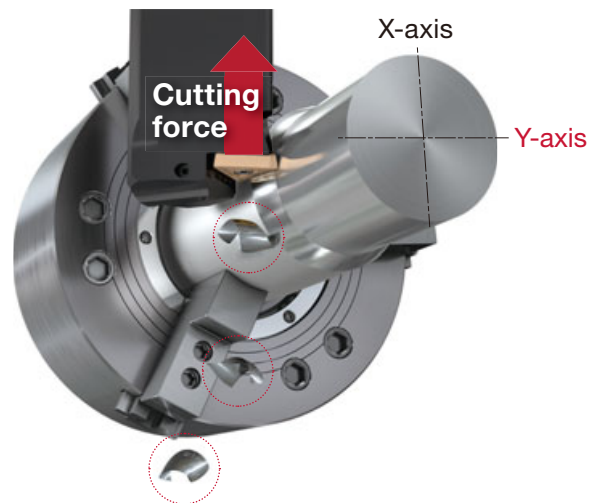
## LEADING IN THE NEW DIRECTION

Y-axis turning tool with PSC connection for multitasking machines



### ■ Y-axis machining benefits

- The cutting force vector is directed in the longitudinal axis of the tool, resulting in higher stability and minimized vibration
- No chip entanglements, chips are directed down and away from the workpiece and toolholder



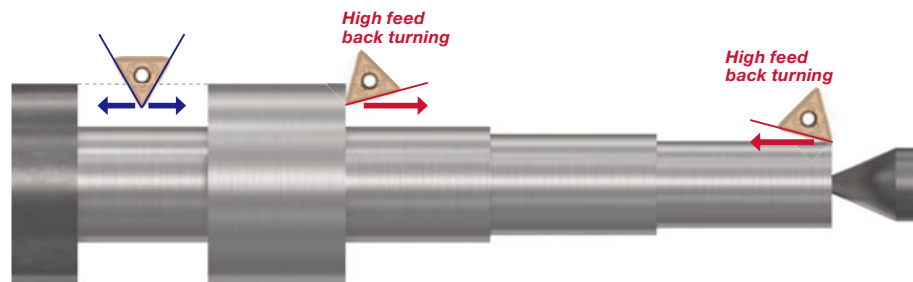
### ■ Tooling image of Y-axis orientation and applying high feed back turning

#### Medium cutting



#### 3C-TCMT

Insert: 3C-TCMT29X608-TM  
(Single-sided, 3 corners)



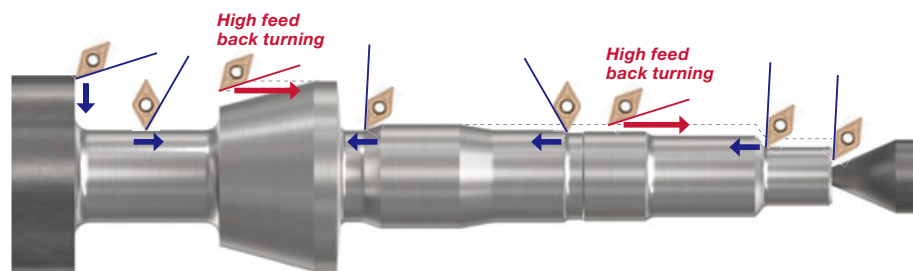
- Thanks to its high-feed geometry, **AddY-axisTurn** insert provides high productivity
- Y-axis tool orientation allows both sides of the cutting edge to be used, providing stable and long tool life

#### Finishing - Profiling



#### 2D-DCMT

Insert: 2D-DCMT13T404-ZF  
(Single-sided, 2 corners)



- **AddY-axisTurn** allows a precision workpiece completion with a single tool setup
- No interference with the tailstock
- Eliminates chip entanglement, promoting fully automated manufacturing

Reference pages: [C056](#), [C101](#)

# TURN<sup>TEN</sup>FEED

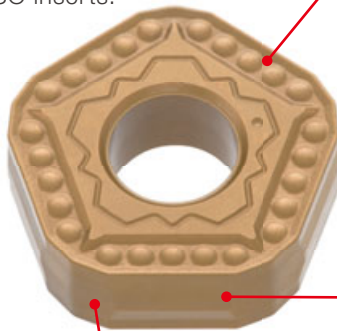


## Economical, 10-cornered insert ensures high machining efficiency

- Available in 2 types of holders: HD type for large depths of cut and HF type for high feed turning
- Maximum 0.276" depth of cut, or maximum 0.079" feed per rev is attainable!

### Economical 10-cornered, double-sided, M-class insert

Achieves outstanding cost efficiency over standard ISO inserts.



#### Flat Wiper

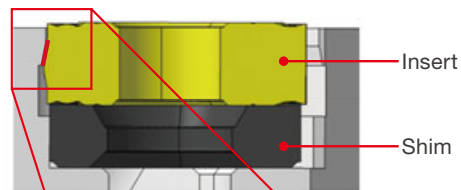
Built in the cutting edge to achieve superior machining surface at higher feed rates!

#### New – MNW style chipbreaker

Features protrusions on the rake face to facilitate smooth chip control, while achieving high crater wear resistance.

#### Dovetail clamping

Ensures secure insert retention while promoting smooth chip flow thanks to the integration of lever lock and dovetail clamping methods.

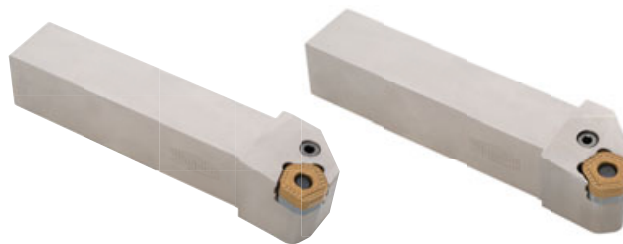


### Holder selections

Available in 2 types:

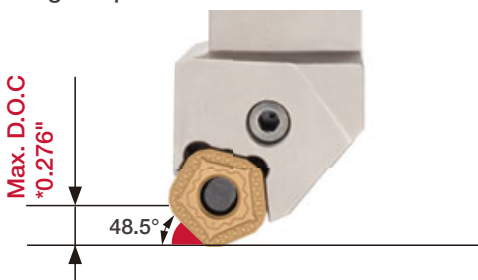
- HD holder for large depths of cut
- HF holder for high feed turning

Inserts are interchangeable between these two holders.

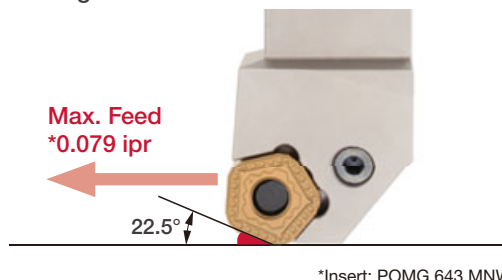


### Features of Holders

HD holder  
For High Depth of Cut



HF holder  
For High Feed



\*Insert: POMG 643 MNW

Reference pages: **C063**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
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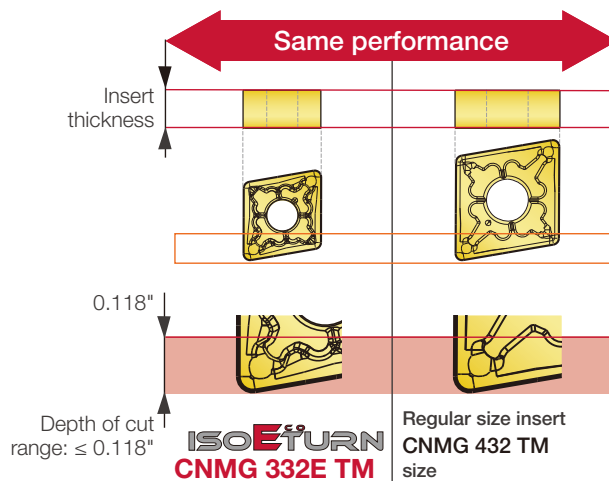




## ISO-EcoTurn Small size inserts, for an economical advantage

### Uncompromising insert performance

Comparison of ISO-EcoTurn and regular size inserts



ISO-EcoTurn inserts feature the identical thickness and chipbreaker geometry as Tungaloy's regular size inserts. These properties provide cutting performance equal to that of the regular size inserts, including chip control at a depth of cut up to 0.118".

### Chip control

ISO-EcoTurn inserts incorporate an identical chipbreaker geometry as regular size inserts providing the same chip removal at a depth of cut up to 0.118".

ISO<sup>Eco</sup>TURN  
CNMG 332E TM

|                   |       |       |       |       |       |  |
|-------------------|-------|-------|-------|-------|-------|--|
| Depth of cut (in) | 0.118 |       |       |       |       |  |
|                   | 0.079 |       |       |       |       |  |
|                   | 0.059 |       |       |       |       |  |
|                   | 0.039 |       |       |       |       |  |
|                   | 0.020 |       |       |       |       |  |
| Condition         | 0.004 | 0.006 | 0.008 | 0.012 | 0.016 |  |
| Feed (ipr)        |       |       |       |       |       |  |

Regular size  
CNMG 432 TM

|                   |       |       |       |       |       |  |
|-------------------|-------|-------|-------|-------|-------|--|
| Depth of cut (in) | 0.118 |       |       |       |       |  |
|                   | 0.079 |       |       |       |       |  |
|                   | 0.059 |       |       |       |       |  |
|                   | 0.039 |       |       |       |       |  |
|                   | 0.020 |       |       |       |       |  |
| Condition         | 0.004 | 0.006 | 0.008 | 0.012 | 0.016 |  |
| Feed (ipr)        |       |       |       |       |       |  |

Workpiece : 1045  
Cutting speed : Vc = 660 sfm  
Coolant : Wet

# CN

# GN



Rhombic, 80°  
with hole

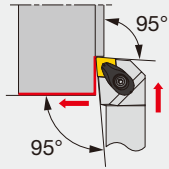


Rhombic, 70°  
with hole

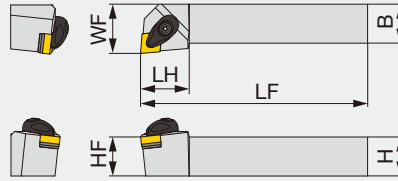
## TURNING

### ACLNR/L

Double-clamp toolholder with 95° approach angle, for negative 80°/70° rhombic inserts



Cutting edge style L



Right hand (R) shown.

| Inch          | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| ACLNR/L1233-A | 0.750 | 0.750 | 4.500 | 0.900 | 0.750 | 1.000 | 0.031 | CN**/GNMG 33... | 2.2    |
| ACLNR/L124-A  | 0.750 | 0.750 | 4.500 | 1.000 | 0.750 | 1.000 | 0.031 | CN**/GNGA 43... | 2.2    |
| ACLNR/L1633-A | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.250 | 0.031 | CN**/GNMG 33... | 2.2    |
| ACLNR/L164-A  | 1.000 | 1.000 | 6.000 | 1.250 | 1.000 | 1.250 | 0.031 | CN**/GNGA 43... | 2.2    |
| ACLNR/L204-A  | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.500 | 0.031 | CN**/GNGA 43... | 2.2    |
| ACLNR/L205-A  | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.500 | 0.047 | CN** 54...      | 4.7    |
| ACLNR/L206-A  | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.500 | 0.047 | CN** 64...      | 4.7    |
| ACLNR/L245-A  | 1.500 | 1.500 | 8.000 | 1.500 | 1.500 | 1.750 | 0.047 | CN** 54...      | 4.7    |
| ACLNR/L246-A  | 1.500 | 1.500 | 8.000 | 1.500 | 1.500 | 1.750 | 0.047 | CN** 64...      | 4.7    |

| Metric             | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|--------------------|----|----|-----|----|----|----|------|------------------|---------|
| ACLNR/L2020K0904-A | 20 | 20 | 125 | 25 | 20 | 25 | 0.8  | CN**/GNMG0904... | 3       |
| ACLNR/L2020H12-A   | 20 | 20 | 100 | 26 | 20 | 25 | 0.8  | CN**/GNGA1204... | 3       |
| ACLNR/L2020K12-A   | 20 | 20 | 125 | 26 | 20 | 25 | 0.8  | CN**/GNGA1204... | 3       |
| ACLNR/L2525M0904-A | 25 | 25 | 150 | 25 | 25 | 32 | 0.8  | CN**/GNMG0904... | 3       |
| ACLNR/L2525K12-A   | 25 | 25 | 125 | 30 | 25 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| ACLNR/L2525M12-A   | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| ACLNR/L2525M16-A   | 25 | 25 | 150 | 31 | 25 | 32 | 1.2  | CN**1606...      | 6.4     |
| ACLNR/L3225P12-A   | 32 | 25 | 170 | 30 | 32 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| ACLNR/L3225P16-A   | 32 | 25 | 170 | 31 | 32 | 32 | 1.2  | CN**1606...      | 6.4     |
| ACLNR/L3232P16-A   | 32 | 32 | 170 | 31 | 32 | 40 | 1.2  | CN**1606...      | 6.4     |
| ACLNR/L3232P19-A   | 32 | 32 | 170 | 40 | 32 | 40 | 1.2  | CN**1906...      | 6.4     |
| ACLNR/L4040S19-A   | 40 | 40 | 250 | 40 | 40 | 50 | 1.2  | CN**1906...      | 6.4     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE: Standard corner radius

### SPARE PARTS

| Designation                    | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench1 | Wrench2  |
|--------------------------------|---------|-------------|--------|------------|--------|------------|---------|----------|
| ACLNR/L**33-A, ACLNR/L**0904-A | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASC322 | CSTB-3.5   | T-15F   | -        |
| ACLNR/L**4-A, ACLNR/L**12-A    | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASC422 | CSTB-3.5   | T-15F   | -        |
| ACLNR/L**5-A, ACLNR/L**16-A    | ACP5S   | ACS-6W      | BP-8.8 | SP-2.5     | ASC533 | CSTB-5     | -       | KEYV-T20 |
| ACLNR/L**6-A, ACLNR/L**19-A    | ACP6S   | ACS-6W      | BP-8.8 | SP-2.5     | ASC634 | CSTB-5     | -       | KEYV-T20 |

### INSERT SELECTION

**P**

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

**M**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

**K**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T515      | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | TH10           |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

**S**

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
| Grade              | BX470               | AH8005    | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: ACLNR/L: Inserts → B054 - , B075, CBN → B168 - , B178, PCD → B211 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
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# CN



Rhombic, 80° with hole

# GN

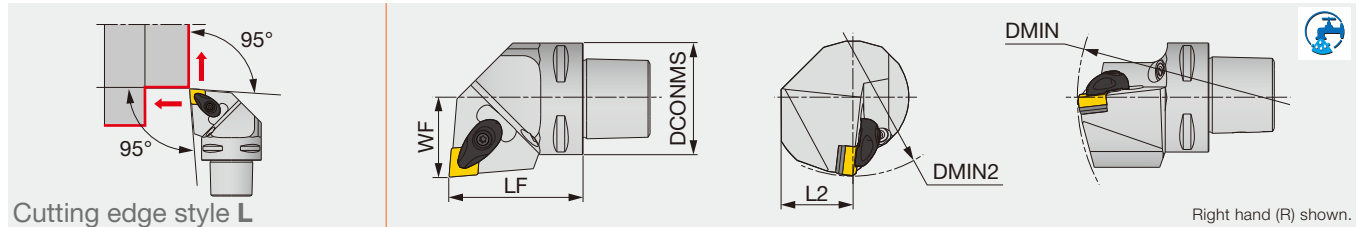


Rhombic, 70° with hole

## TURNINGA

### C-ACLNR/L

Double-clamp toolholder, with 95° approach angle, for negative 80°/70° rhombic inserts (TurningA)

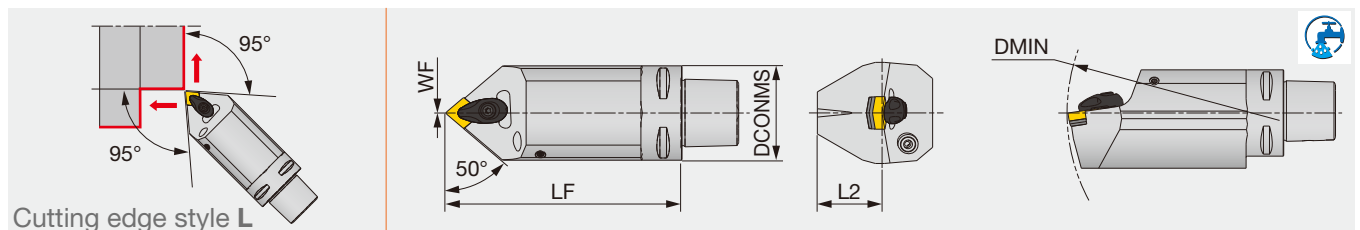


| Metric               | DCONMS | LF  | L2 | WF | DMIN | DMIN2 | RE  | Insert           | Torque |
|----------------------|--------|-----|----|----|------|-------|-----|------------------|--------|
| C3ACLNR/L22040-0904N | 32     | 40  | 20 | 22 | 110  | 121   | 0.8 | CN**/GNMG0904... | 3      |
| C3ACLNR/L22040-12N   | 32     | 40  | 20 | 22 | 121  | 116   | 0.8 | CN**/GNGA1204... | 3      |
| C4ACLNR/L27050-0904N | 40     | 50  | 25 | 27 | 140  | 110   | 0.8 | CN**/GNMG0904... | 3      |
| C4ACLNR/L27050-12N   | 40     | 50  | 25 | 27 | 140  | 110   | 0.8 | CN**/GNGA1204... | 3      |
| C5ACLNR/L35060-12N   | 50     | 60  | 32 | 35 | 165  | 110   | 0.8 | CN**/GNGA1204... | 3      |
| C6ACLNR/L45065-0904N | 63     | 65  | 35 | 45 | 190  | 110   | 0.8 | CN**/GNMG0904... | 3      |
| C6ACLNR/L45065-12N   | 63     | 65  | 41 | 45 | 190  | 125   | 0.8 | CN**/GNGA1204... | 3      |
| C6ACLNR/L45135-12N   | 63     | 135 | 41 | 45 | 190  | 110   | 0.8 | CN**/GNGA1204... | 3      |
| C6ACLNR/L45065-16N   | 63     | 65  | 41 | 45 | 190  | 125   | 1.2 | CN**1606...      | 6.4    |

Applicable for 7 MPa (1015 PSI) coolant  
Torque: Recommended clamping torque: N·m

### C-ACLNN

Double-clamp toolholder, with 50° approach angle, for negative 80°/70° rhombic inserts



| Metric                          | DCONMS | LF  | L2   | WF | DMIN | RE  | Insert           | Torque |
|---------------------------------|--------|-----|------|----|------|-----|------------------|--------|
| C5ACLNN00090-12 <sup>(1)</sup>  | 50     | 90  | 32   | 0  | -    | 0.8 | CN**/GNGA1204... | 3      |
| C5ACLNN00090-12N <sup>(2)</sup> | 50     | 90  | 32   | 0  | 165  | 0.8 | CN**/GNGA1204... | 3      |
| C5ACLNN00125-12 <sup>(1)</sup>  | 50     | 125 | 32   | 0  | -    | 0.8 | CN**/GNGA1204... | 3      |
| C5ACLNN00125-12N <sup>(2)</sup> | 50     | 125 | 32   | 0  | 165  | 0.8 | CN**/GNGA1204... | 3      |
| C6ACLNN00100-12N <sup>(2)</sup> | 63     | 100 | 37.5 | 0  | 190  | 0.8 | CN**/GNGA1204... | 3      |
| C6ACLNN00140-12N <sup>(2)</sup> | 63     | 140 | 37.5 | 0  | 190  | 0.8 | CN**/GNGA1204... | 3      |

The items without DMIN cannot be used for boring.  
Torque: Recommended clamping torque: N·m  
(1) Applicable for 3 MPa (435 PSI) coolant (2) Applicable for 7 MPa (1015 PSI) coolant

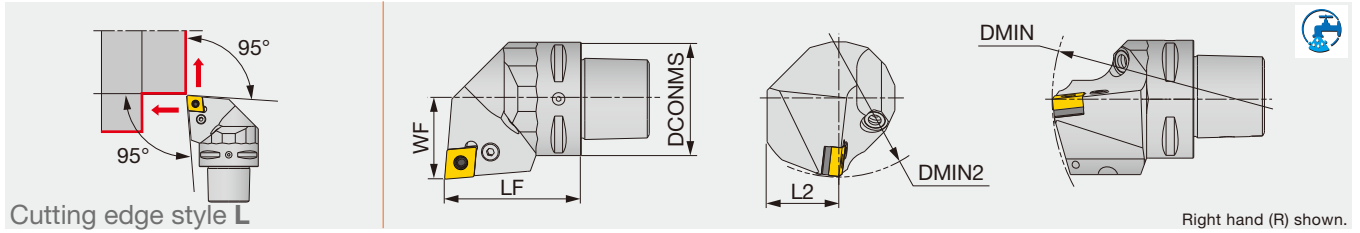
### SPARE PARTS

| Designation      | Clamp   | Clamping screw | Coolant parts | Shim   | Shim screw | Spring | Spring pin | Wrench 1 | Wrench 2 |
|------------------|---------|----------------|---------------|--------|------------|--------|------------|----------|----------|
| C*ACLN***-0904N  | ACP3S-E | ACS-5W         | SATZ-M10X1-5  | ASC322 | CSTB-3.5   | BP-7   | SP-2.5     | -        | T-15F    |
| C*ACLN***-12N    | ACP4S   | ACS-5W         | SATZ-M8X1-M3  | ASC422 | CSTB-3.5   | BP-7   | SP-2.5     | -        | T-15F    |
| C6ACLN*45065-16N | ACP5S   | ACS-6W         | SATZ-M8X1-M3  | ASC533 | CSTB-5     | BP-8.8 | SP-2.5     | KEYV-T20 | -        |
| C5ACLNN00090-12  | ACP4S   | ACS-5W         | EZ83          | ASC422 | CSTB-3.5   | BP-7   | SP-2.5     | -        | T-15F    |
| C5ACLNN00125-12  | ACP4S   | ACS-5W         | EZ83          | ASC422 | CSTB-3.5   | BP-7   | SP-2.5     | -        | T-15F    |

Reference pages: C-ACLNR/L, C-ACLNN: Inserts → **B054 - , B075**, CBN → **B168 - , B178**, PCD → **B211 -**  
Parts for coolant hose → **C133**



Lever-lock toolholder, with 95° approach angle, for negative 80°/70° rhombic inserts



| Metric             | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert           |
|--------------------|--------|----|----|----|------|-------|-----|------------------|
| C5PCLNR/L35060-12N | 50     | 60 | 32 | 35 | 165  | 110   | 0.8 | CN**/GNGA1204... |
| C6PCLNR/L45065-12N | 63     | 65 | 41 | 45 | 190  | 125   | 0.8 | CN**/GNGA1204... |

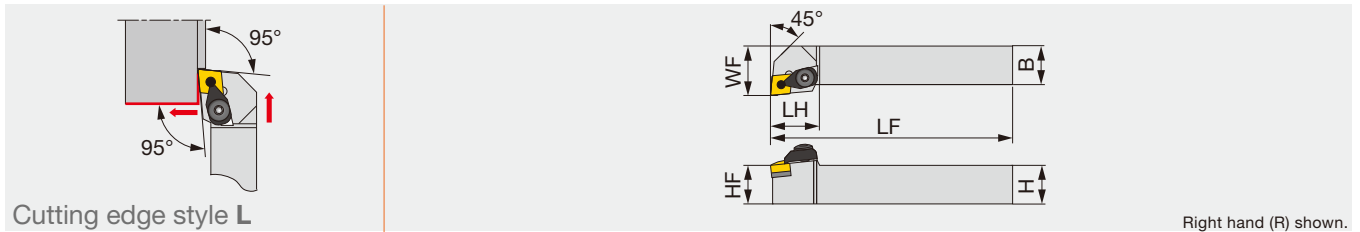
Applicable for 7 MPa (1015 PSI) coolant  
The item without DMIN and DMIN2 cannot be used for boring.

### SPARE PARTS

| Designation     | Coolant parts | Lever | Clamping screw | Shim  | Spring pin | Wrench |
|-----------------|---------------|-------|----------------|-------|------------|--------|
| C5PCLN*35060-12 | EZ104         | LCL4  | LCS4           | LSC42 | LSP4       | P-3    |
| C*PCLN***-12N   | SATZ-M10X1-M5 | LCL4  | LCS4           | LSC42 | LSP4       | P-3    |

## DCLNR/L

"One-Double" toolholder with 95° approach angle, for negative 80°/70° rhombic inserts



| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert           |
|----------------|----|----|-----|----|----|----|------|------------------|
| DCLNR/L2020K12 | 20 | 20 | 125 | 30 | 20 | 25 | 0.8  | CN**/GNGA1204... |
| DCLNR/L2525M12 | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | CN**/GNGA1204... |
| DCLNR/L3225P12 | 32 | 25 | 170 | 30 | 32 | 32 | 0.8  | CN**/GNGA1204... |

Note: Except for TRS, TU, TUS, 57, and 65-type chipbreaker inserts \*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench1 | Wrench2 |
|-------------|---------|--------|--------|-------------|-------|--------|------------|---------|---------|
| DCLNR/L...  | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSC42 | BP-10  | LSP4       | P-3     | P-4     |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: C-PCLNR/L: Inserts → **B054** -, CBN → **B168** -, **B178**, PCD → **B211** -  
DCLNR/L: Inserts → **B054** -, CBN → **B168** -, **B178**, PCD → **B211** -,  
Parts for coolant hose → **C133**



# CN



Rhombic, 80°  
with hole

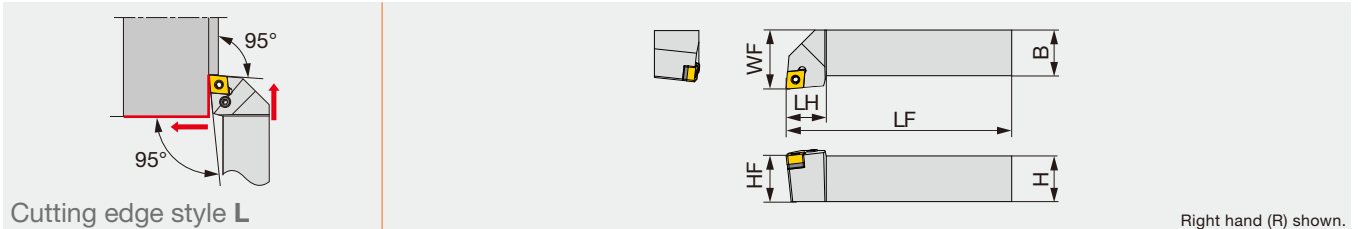
# GN



Rhombic, 70°  
with hole

## PCLNR/L

Lever-lock toolholder with 95° approach angle, for negative 80°/70° rhombic inserts



| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PCLNR/L1233 | 0.750 | 0.750 | 4.500 | 0.813 | 0.750 | 1.000 | 0.031 | CN**/GNMG 33... | 1.5    |
| PCLNR/L1633 | 1.000 | 1.000 | 6.000 | 0.813 | 1.000 | 1.250 | 0.031 | CN**/GNMG 33... | 1.5    |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|----|------|------------------|---------|
| PCLNR/L1616H09   | 16 | 16 | 100 | 20 | 16 | 20 | 0.8  | CN**0903...      | 2       |
| PCLNR/L1616      | 16 | 16 | 100 | 26 | 16 | 20 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L1616H12E  | 16 | 16 | 100 | 26 | 16 | 20 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L2020K09   | 20 | 20 | 125 | 20 | 20 | 25 | 0.8  | CN**0903...      | 2       |
| PCLNR/L2020K0904 | 20 | 20 | 125 | 20 | 20 | 25 | 0.8  | CN**/GNMG0904... | 2       |
| PCLNR/L2020      | 20 | 20 | 125 | 28 | 20 | 25 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L2020K12E  | 20 | 20 | 125 | 28 | 20 | 25 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L2525M09   | 25 | 25 | 150 | 20 | 25 | 32 | 0.8  | CN**0903...      | 2       |
| PCLNR/L2525M0904 | 25 | 25 | 150 | 25 | 25 | 32 | 0.8  | CN**/GNMG0904... | 2       |
| PCLNR/L2525M4    | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L2525M12E  | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L2525M16E  | 25 | 25 | 150 | 31 | 25 | 25 | 1.2  | CN**1606...      | 3       |
| PCLNR/L3225P4    | 32 | 25 | 170 | 28 | 32 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L3232      | 32 | 32 | 170 | 40 | 32 | 40 | 1.2  | CN**1906...      | 5       |
| PCLNR/L3225P12E  | 32 | 25 | 170 | 28 | 32 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L3225P16E  | 32 | 25 | 150 | 31 | 32 | 32 | 1.2  | CN**1606...      | 3       |
| PCLNR/L3232P16E  | 32 | 32 | 170 | 31 | 32 | 40 | 1.2  | CN**1606...      | 3       |
| PCLNR/L3232P19E  | 32 | 32 | 170 | 40 | 32 | 40 | 1.2  | CN**1906...      | 5       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*RE: Standard corner radius

### SPARE PARTS

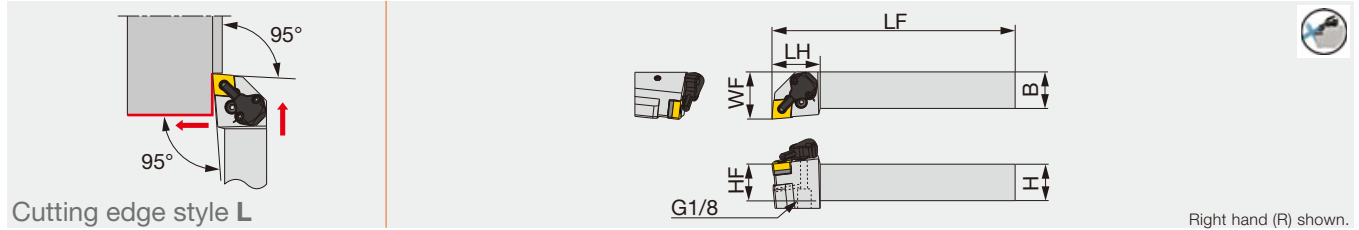
| Designation                             | Shim   | Clamping screw | Wrench | Spring pin | Lever  |
|---|--------|----------------|--------|------------|--------|
| PCLNR/L*33                              | LSC317 | LCS3           | P-2.5  | LSP3       | LCL33  |
| PCLNR/L*09                              | ELSC32 | LCS3           | P-2.5  | LSP3L      | LCL33  |
| PCLNR/L1616                             | LSC42  | LCS4CA         | P-3    | LSP4       | LCL4   |
| PCLNR/L1616H12E                         | ELSC42 | LCS4CA         | P-3    | LSP4S      | LCL43S |
| PCLNR/L**0904                           | LSC317 | LCS3           | P-2.5  | LSP3       | LCL33  |
| PCLNR/L2020                             | LSC42  | LCS4           | P-3    | LSP4       | LCL4   |
| PCLNR/L2020K12E, **2525M12E, **3225P12E | ELSC42 | LCS4           | P-3    | LSP4S      | LCL43M |
| PCLNR/L2525M4, **3225P4                 | LSC42  | LCS4           | P-3    | LSP4       | LCL4   |
| PCLNR/L**16E                            | ELSC53 | LCS5           | P-3    | LSP6C      | LCL54  |
| PCLNR/L3232                             | LSC63  | LCS6           | P-4    | LSP6       | LCL6   |
| PCLNR/L3232P19E                         | ELSC63 | LCS6           | P-4    | LSP6       | LCL6   |

Reference pages: PCLNR/L: Inserts → **B054 - , B075**, CBN → **B168 - , B178**, PCD → **B211 -**

# PCLNR/L-CHP

Tube connection

Lever lock toolholders – 95° approach angle.  
For negative 80°/70° rhombic insert. High-pressure coolant capability.



| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PCLNR/L1233-CHP | 0.750 | 0.750 | 4.500 | 1.300 | 0.750 | 1.250 | 0.031 | CN**/GNMG 33... | 1.48   |
| PCLNR/L124-CHP  | 0.750 | 0.750 | 4.500 | 1.300 | 0.750 | 1.250 | 0.031 | CN**/GNGA 43... | 2.21   |
| PCLNR/L1633-CHP | 1.000 | 1.000 | 6.000 | 1.300 | 1.000 | 1.250 | 0.031 | CN**/GNMG 33... | 1.48   |
| PCLNR/L164-CHP  | 1.000 | 1.000 | 6.000 | 1.300 | 1.000 | 1.250 | 0.031 | CN**/GNGA 43... | 2.21   |

| Metric               | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|----------------------|----|----|-----|----|----|----|------|------------------|---------|
| PCLNR/L2020K0904-CHP | 20 | 20 | 125 | 33 | 20 | 32 | 0.8  | CN**/GNMG0904... | 2       |
| PCLNR/L2020K12-CHP   | 20 | 20 | 125 | 33 | 20 | 32 | 0.8  | CN**/GNGA1204... | 3       |
| PCLNR/L2525M0904-CHP | 25 | 25 | 150 | 33 | 25 | 32 | 0.8  | CN**/GNMG0904... | 2       |
| PCLNR/L2525M12-CHP   | 25 | 25 | 150 | 33 | 25 | 32 | 0.8  | CN**/GNGA1204... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

## SPARE PARTS

| Designation                           | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
|---------------------------------------|--------|----------------|----------|------------|-------|
| PCLNR/L**33-CHP,<br>PCLNR/L**0904-CHP | LSC317 | LCS3           | P-2.5    | LSP3       | LCL33 |
| PCLNR/L**4-CHP,<br>PCLNR/L**12-CHP    | LSC42  | LCS4           | P-3      | LSP4       | LCL4  |

## SPARE PARTS

| Designation                           | Coolant unit | Mounting screw | Wrench 2 | O-ring     | Coolant screw | Wrench 3 |
|---------------------------------------|--------------|----------------|----------|------------|---------------|----------|
| PCLNR/L**33-CHP,<br>PCLNR/L**0904-CHP | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |
| PCLNR/L**4-CHP,<br>PCLNR/L**12-CHP    | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PCLNR/L-CHP: Inserts → **B054 - , B075**, CBN → **B168 - , B178**, PCD → **B211 -**  
Parts for coolant hose → **C133**

# CN



Rhombic, 80°  
with hole

# GN



Rhombic, 70°  
with hole

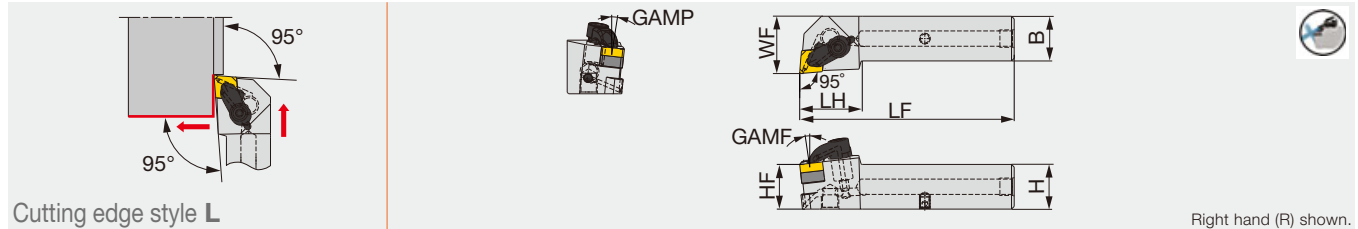
## ACLNR/L-CHP-MC

Direct connection

Tube connection

Double clamping tool holders-95° approach angle

For negative 80°/70° rhombic insert. High-pressure coolant capability with tube and direct connections



| Inch               | H     | B     | LF    | LH    | HF    | WF    | GAMP | GAMF | Insert          | Torque |
|--------------------|-------|-------|-------|-------|-------|-------|------|------|-----------------|--------|
| ACLNR/L12-4-CHP-MC | 0.750 | 0.750 | 4.500 | 1.378 | 0.750 | 1.000 | 6°   | 6°   | CN**/GNGA 43... | 2.95   |
| ACLNR/L16-4-CHP-MC | 1.000 | 1.000 | 6.000 | 1.378 | 1.000 | 1.250 | 6°   | 6°   | CN**/GNGA 43... | 2.95   |

| Metric                 | H  | B  | LF  | LH | HF | WF | GAMP | GAMF | Insert           | Torque* |
|------------------------|----|----|-----|----|----|----|------|------|------------------|---------|
| ACLNR/L2020X-12-CHP-MC | 20 | 20 | 105 | 35 | 20 | 25 | 6°   | 6°   | CN**/GNGA1204... | 4       |
| ACLNR/L2525X-12-CHP-MC | 25 | 25 | 120 | 35 | 25 | 32 | 6°   | 6°   | CN**/GNGA1204... | 4       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
Applicable for 14 MPa (2031 PSI) pressure coolant

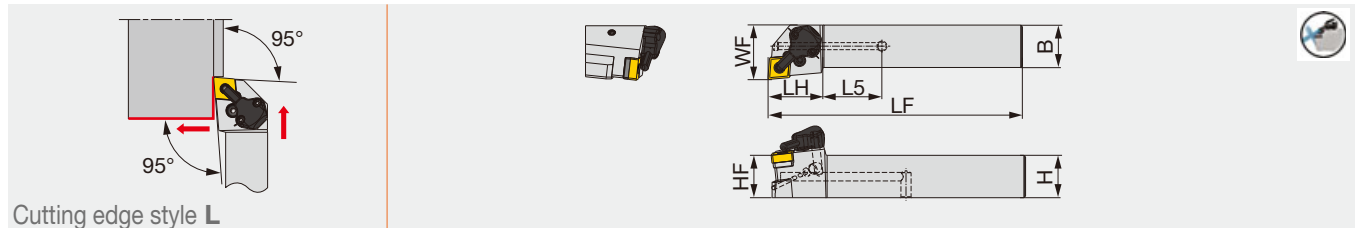
| Designation | Clamp set   | Shim   | Shim screw | screw for tube connection | Coolant plug          | O-ring     | Wrench   |
|-------------|-------------|--------|------------|---------------------------|-----------------------|------------|----------|
| ACLNL...    | LCGL-4JCSET | RCT443 | SR14-506   | PLUGG1/8-6.5TL360         | SRM5X5<br>DIN913TL360 | OR4X3NBR70 | KEYV-T20 |
| ACLNR...    | LCGR-4JCSET | RCT443 | SR14-506   | PLUGG1/8-6.5TL360         | SRM5X5<br>DIN913TL360 | OR4X3NBR70 | KEYV-T20 |

## PCLNR/L2020X-CHP-MC

Direct connection

Lever lock toolholders – 95° approach angle.

For negative 80°/70° rhombic insert. High-pressure coolant capability with bottom direct connection



| Metric                | H  | B  | LF | LH | HF | L5 | WF | Insert           | Torque |
|-----------------------|----|----|----|----|----|----|----|------------------|--------|
| PCLNR/L2020X09-CHP-MC | 20 | 20 | 97 | 27 | 20 | 29 | 25 | CN**/GNMG0904... | 2      |
| PCLNR/L2020X12-CHP-MC | 20 | 20 | 97 | 27 | 25 | 29 | 25 | CN**/GNGA1204... | 3      |

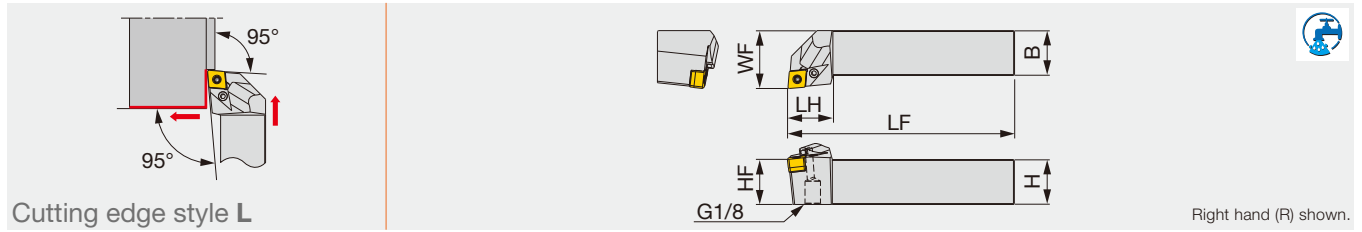
Torque: Recommended clamping torque: N·m

| Designation           | Shim   | Spring | Lever | Spring     | Spring pin | Wrench | Coolant unit | Wrench | Coolant plug          | Wrench |
|-----------------------|--------|--------|-------|------------|------------|--------|--------------|--------|-----------------------|--------|
| PCLNR/L2020X09-CHP-MC | TCN323 | SP3    | LR3   | SR117-2014 | PN3-4      | HW2.5  | CU-CW-CHP    | T-8/5  | SRM5X5<br>DIN913TL360 | -      |
| PCLNR/L2020X12-CHP-MC | TCN443 | SP4    | LR4DH | SR117-2010 | PN3-4L     | HW2.5  | CU-CW-CHP    | T-8/5  | SRM5X5<br>DIN913TL360 | HW3.0  |

Reference pages: ACLNR/L-CHP-MC, PCLNR/L2020X-CHP-MC:

Inserts → **B054 -**, **B075**, CBN → **B168 -**, **B178**, PCD → **B211 -**, Parts for coolant hose → **C133**

Lever-lock toolholder with 95° approach angle, for negative 80°/70° rhombic inserts



| Inch              | H     | B     | LF    | LH    | HF    | WF    | RE**  | Air hole | Insert          | Torque |
|-------------------|-------|-------|-------|-------|-------|-------|-------|----------|-----------------|--------|
| PCLNR/L1233-CHP-N | 0.750 | 0.750 | 4.000 | 1.300 | 0.750 | 1.250 | 0.031 | With     | CN**/GNMG 33... | 1.48   |
| PCLNR/L1633-CHP-N | 1.000 | 1.000 | 5.000 | 1.300 | 1.000 | 1.250 | 0.031 | With     | CN**/GNMG 33... | 1.48   |

| Metric                 | H  | B  | LF  | LH | HF | WF | RE** | Air hole | Insert           | Torque* |
|------------------------|----|----|-----|----|----|----|------|----------|------------------|---------|
| PCLNR/L2020H0904-CHP-N | 20 | 20 | 100 | 25 | 20 | 25 | 0.8  | With     | CN**/GNMG0904... | 2       |
| PCLNR/L2525K0904-CHP-N | 25 | 25 | 125 | 25 | 25 | 32 | 0.8  | With     | CN**/GNMG0904... | 2       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 \*\*RE: The holder measurements are true with this insert radius  
 Applicable for 14 MPa (2031 PSI) pressure coolant

**SPARE PARTS**

| Designation                               | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|---|--------|----------------|--------|------------|-------|
| PCLNR/L**33-CHP-N,<br>PCLNR/L**0904-CHP-N | LSC317 | LCS3           | P-2.5  | LSP3       | LCL33 |

**INSERT SELECTION**

|          |                    |                     |           |                |                         |
|----------|--------------------|---------------------|-----------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|          | Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
|          | Cutting conditions | B004                |           |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>M</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T6215     | AH6225         | AH6225                  |
|          | Chipbreaker shape  | SF        | SM             | SH                      |
|          | Cutting conditions | B006      |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T515      | T515           | T515                    |
|          | Chipbreaker shape  | All-round | All-round      | All-round               |
|          | Cutting conditions | B008      |                |                         |

|          |                    |                     |               |                |
|----------|--------------------|---------------------|---------------|----------------|
| <b>N</b> | Application        | Precision finishing | Finishing     | Medium cutting |
|          | Grade              | DX120               | DX140         | TH10           |
|          | Chipbreaker shape  | DIA                 | with rake DIA | P              |
|          | Cutting conditions | B010                |               |                |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | BX470               | AH8005    | AH8005         |
|          | Chipbreaker shape  | CBN                 | HRF       | HRM            |
|          | Cutting conditions | B012                |           |                |

|          |                    |                     |           |
|----------|--------------------|---------------------|-----------|
| <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BXA10               | BXA20     |
|          | Chipbreaker shape  | CBN                 | CBN       |
|          | Cutting conditions | B014                |           |

Reference pages: PCLNR/L-CHP-N: Inserts → **B054 - , B075**  
 Parts for coolant hose → **C133**



# CN



Rhombic, 80°  
with hole

# GN

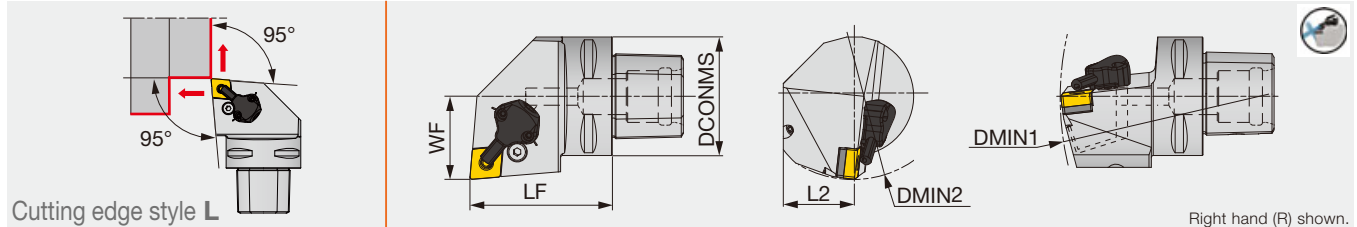


Rhombic, 70°  
with hole

# TUNGCAP

## C-PCLNR/L-CHP

Lever lock toolholders with TungCap connection – 95° approach angle.  
For negative 80°/70° rhombic insert. High-pressure coolant capability.



| Metric                  | DCONMS | LF | L2 | WF | DMIN1 | DMIN2 | RE** | Insert           | Torque |
|-------------------------|--------|----|----|----|-------|-------|------|------------------|--------|
| C4PCLNR/L27050-0904-CHP | 40     | 50 | 25 | 27 | 140   | 110   | 0.8  | CN**/GNMG0904... | 2      |
| C4PCLNR/L27050-12-CHP   | 40     | 50 | 25 | 27 | 140   | 110   | 0.8  | CN**/GNGA1204... | 3      |
| C5PCLNR/L35060-12-CHP   | 50     | 60 | 32 | 35 | 165   | 110   | 0.8  | CN**/GNGA1204... | 3      |
| C6PCLNR/L45065-0904-CHP | 63     | 65 | 41 | 45 | 195   | 125   | 0.8  | CN**/GNMG0904... | 2      |
| C6PCLNR/L45065-12-CHP   | 63     | 65 | 41 | 45 | 195   | 125   | 0.8  | CN**/GNGA1204... | 3      |

Torque: Recommended clamping torque: N·m

Applicable for 14 MPa (2031 PSI) pressure coolant

\*\*RE: Standard corner radius

C

D

F

G

H

R

S

T

V

W

Y

OTHERS

**SPARE PARTS**

| Designation         | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
|---------------------|--------|----------------|----------|------------|-------|
| C*PCLNR/L**0904-CHP | LSC317 | LCS3           | P-2.5    | LSP3       | LCL33 |
| C*PCLNR/L**12-CHP   | LSC42  | LCS4           | P-3      | LSP4       | LCL4  |

**SPARE PARTS**

| Designation         | Coolant unit | Mounting screw | Wrench 2 | O-ring     |
|---------------------|--------------|----------------|----------|------------|
| C*PCLNR/L**0904-CHP | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N |
| C*PCLNR/L**12-CHP   | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N |

### INSERT SELECTION

**P**

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

**M**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

**K**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T515      | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | TH10           |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

**S**

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
| Grade              | BX470               | AH8005    | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: C-PCLNR/L-CHP: Inserts → **B054 - , B075**, CBN → **B168 - , B178**, PCD → **B211 -**  
Parts for coolant hose → **C133**



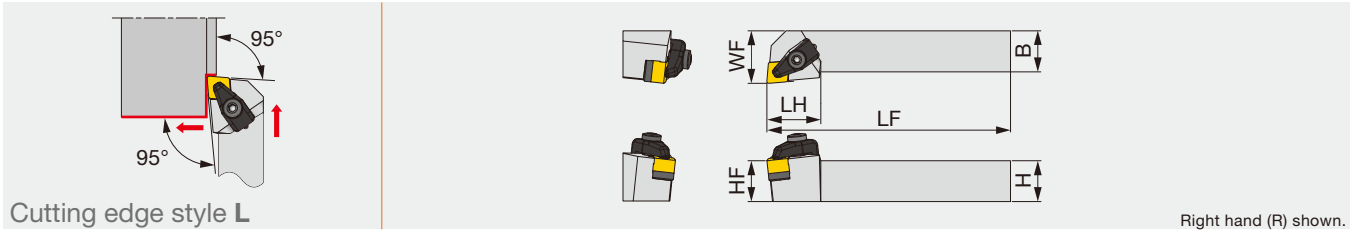
# CN



Rhombic, 80°  
without hole

## DIMPLEFX CCLNR/L-RD

Double-clamp toolholder with 95° approach angle, for negative 80° rhombic ceramic inserts with dimple



| Inch                | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| CCLNR/L16M45-RD     | 1.000 | 1.000 | 6.000 | 1.300 | 1.000 | 1.250 | 0.047 | CNGD 45...  | 3.0     |
| Metric              | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| CCLNR/L2525M1207-RD | 25    | 25    | 150   | 33    | 25    | 32    | 1.2   | CNGD1207... | 4       |
| CCLNR3225P1207-RD   | 32    | 25    | 170   | 33    | 32    | 32    | 1.2   | CNGD1207... | 4       |

Torque: Recommended clamping torque: lb-ft (\*N·m)  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp  | Clamp screw | Shim   | Shim screw | Spring | Wrench1 | Wrench2 |
|-------------|--------|-------------|--------|------------|--------|---------|---------|
| CCLNR/L*-RD | CCP4-A | CCS4-A      | CC44-A | BH5-10-A   | BP-5-A | P-3     | P-4     |

### INSERT SELECTION

|          |                    |                             |
|----------|--------------------|-----------------------------|
| <b>K</b> | Application        | Finishing to medium cutting |
|          | Grade              | FX105                       |
|          | Chipbreaker shape  |                             |
|          | Cutting conditions | C136                        |

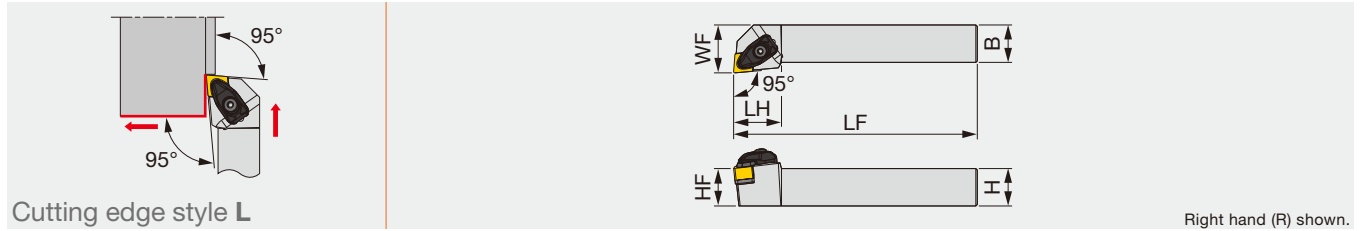
Reference pages: CCLNR/L-RD: Inserts → **B065**,  
Standard cutting conditions → **C136**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# TCLNR/L-F

Toolholder with carbide clamping plate, with 95° approach angle, for negative 80° rhombic ceramic inserts without hole



Right hand (R) shown.

| Inch               | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| TCLNR/L 16-43D-F   | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.250 | 0.031 | CNGN 432... |
| TCLNR/L 16-45D-F   | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.250 | 0.031 | CNGN 432... |
| Metric             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
| TCLNR/L2525M1204-F | 25    | 25    | 150   | 32    | 25    | 32    | 0.8   | CNGN1204... |
| TCLNR/L2525M1207-F | 25    | 25    | 150   | 32    | 25    | 32    | 0.8   | CNGN1207... |

\*\*RE: Standard corner radius

| SPARE PARTS        |         |             |        |            |        |          |          |
|--------------------|---------|-------------|--------|------------|--------|----------|----------|
| Designation        | Clamp   | Clamp screw | Shim   | Shim screw | Spring | Wrench 1 | Wrench 2 |
| TCLNR/L **-43D-F   | DCLS-4F | DLS-4A      | TSC-44 | BH-40050-A | DSP-4A | T-15F    | P-3      |
| TCLNR/L2525M1204-F | DCLS-4F | DLS-4A      | TSC-44 | BH-40050-A | DSP-4A | T-15F    | P-3      |
| TCLNR/L **-45D-F   | DCLS-4F | DLS-4A      | TSC-42 | BH-40050-A | DSP-4A | T-15F    | P-3      |
| TCLNR/L2525M1207-F | DCLS-4F | DLS-4A      | TSC-42 | BH-40050-A | DSP-4A | T-15F    | P-3      |

C

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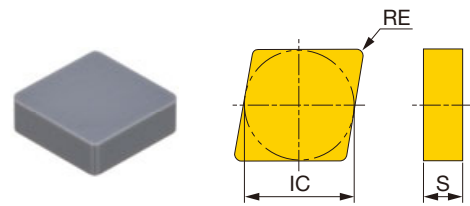
V

W

Y

OTHERS

## INSERT CNGN-E/T1



|   |                |   |   |  |  |  |
|---|----------------|---|---|--|--|--|
| P | Steel          |   |   |  |  |  |
| M | Stainless      |   |   |  |  |  |
| K | Cast iron      |   |   |  |  |  |
| N | Non-ferrous    |   |   |  |  |  |
| S | Superalloys    | ★ | ★ |  |  |  |
| H | Hard materials |   |   |  |  |  |

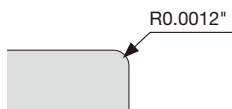
★ : First choice

| Designation |               | Edge prep.* | Ceramic |       |  | RE (in) | IC (in) | S (in) |
|-------------|---------------|-------------|---------|-------|--|---------|---------|--------|
| Inch        | Metric        |             | TS200   | TS300 |  |         |         |        |
| CNGN 432-E  | CNGN120408-E  | E           | ●       |       |  | 0.031   | 0.500   | 0.187  |
| CNGN 433-E  | CNGN120412-E  | E           | ●       |       |  | 0.047   | 0.500   | 0.187  |
| CNGN 433-T1 | CNGN120412-T1 | T1          | ●       |       |  | 0.047   | 0.500   | 0.187  |
| CNGN 452-E  | CNGN120708-E  | E           | ●       |       |  | 0.031   | 0.500   | 0.313  |
| CNGN 453-E  | CNGN120712-E  | E           | ●       | ●     |  | 0.047   | 0.500   | 0.313  |
| CNGN 454-T1 | CNGN120716-T1 | T1          | ●       |       |  | 0.063   | 0.500   | 0.313  |

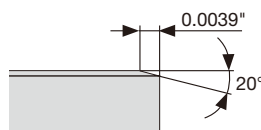
\* Types of cutting edge preparations

● : Line up

E: Low cutting force



T1: Strong cutting edge



Reference pages: TCLNR/L-F: Standard cutting conditions → C136

# CN

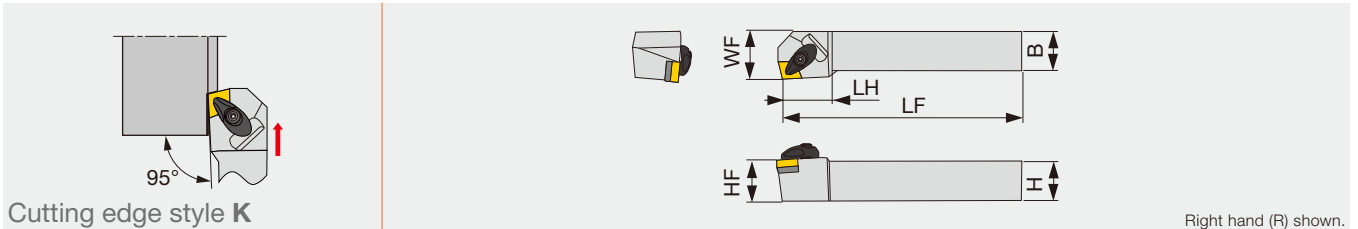


Rhombic, 80°  
with hole

## TURNING

### ACKNR/L

Double-clamp toolholder with 95° approach angle, for negative 80° rhombic inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ACKNR/L164-A | 1.000 | 1.000 | 6.000 | 1.375 | 1.000 | 1.312 | 0.032 | CN** 43... | 2.2    |

Torque: Recommended clamping torque: lb-ft  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation  | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench 1 |
|--------------|-------|-------------|--------|------------|--------|------------|----------|
| ACKNR/L164-A | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASC422 | CSTB-3.5   | T-15F    |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: ACKNR/L: Inserts → **B054 -**, CBN → **B168 -**, PCD → **B211**



# CN



Rhombic, 80° with hole

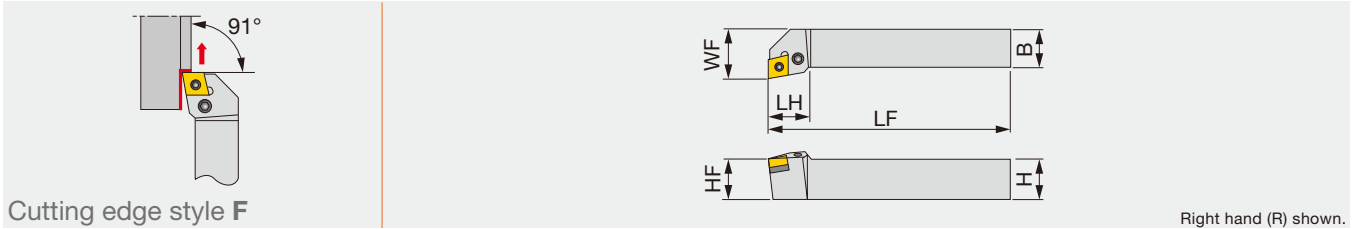
# GN



Rhombic, 70° with hole

## PCFNR/L

Lever-lock type toolholder for facing with 91° approach angle, for negative 80°/70° rhombic inserts



| Metric      | H  | B  | LF  | LH | HF | WF | RE** | Insert           |
|-------------|----|----|-----|----|----|----|------|------------------|
| PCFNR/L2020 | 20 | 20 | 125 | 28 | 20 | 25 | 0.8  | CN**/GNGA1204... |
| PCFNR/L2525 | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | CN**/GNGA1204... |

\*\*RE : Standard corner radius

### SPARE PARTS

| Designation | Shim      | Clamping screw | Wrench | Spring pin | Lever |
|-------------|-----------|----------------|--------|------------|-------|
| PCFNR/L...  | LSC42 D30 | LCS4           | P-3    | LSP4       | LCL4  |

## INSERT SELECTION

| P | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|---------------------|-----------|----------------|-------------------------|
|   | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|   | Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
|   | Cutting conditions | B004                |           |                |                         |

| M | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T6215     | AH6225         | AH6225                  |
|   | Chipbreaker shape  | SF        | SM             | SH                      |
|   | Cutting conditions | B006      |                |                         |

| K | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T515      | T515           | T515                    |
|   | Chipbreaker shape  | All-round | All-round      | All-round               |
|   | Cutting conditions | B008      |                |                         |

| N | Application        | Precision finishing | Finishing     | Medium cutting |
|---|--------------------|---------------------|---------------|----------------|
|   | Grade              | DX120               | DX140         | TH10           |
|   | Chipbreaker shape  | DIA                 | with rake DIA | P              |
|   | Cutting conditions | B010                |               |                |

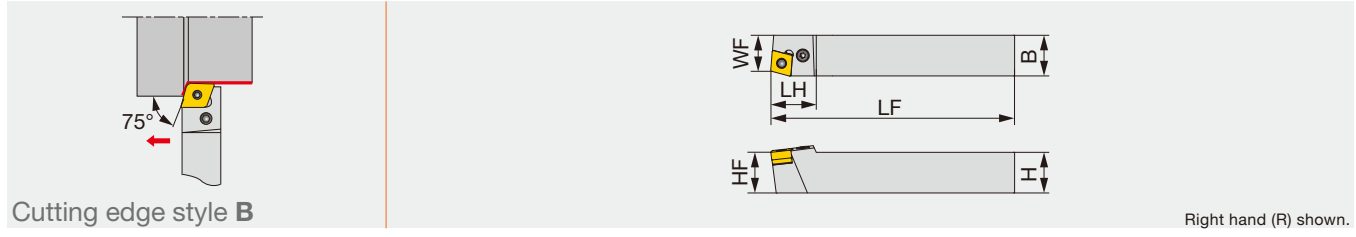
| S | Application        | Precision finishing | Finishing | Medium cutting |
|---|--------------------|---------------------|-----------|----------------|
|   | Grade              | BX470               | AH8005    | AH8005         |
|   | Chipbreaker shape  | CBN                 | HRF       | HRM            |
|   | Cutting conditions | B012                |           |                |

| H | Application        | Precision finishing | Finishing |
|---|--------------------|---------------------|-----------|
|   | Grade              | BXA10               | BXA20     |
|   | Chipbreaker shape  | CBN                 | CBN       |
|   | Cutting conditions | B014                |           |

Reference pages: PCFNR/L: Inserts → B054 -, CBN → B168 -, B178, PCD → B211

# PCBNR/L

Lever-lock toolholder with 75° approach angle, for negative 80° rhombic inserts



| Metric      | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|-------------|----|----|-----|----|----|----|------|-------------|
| PCBNR/L2525 | 25 | 25 | 150 | 28 | 25 | 22 | 0.8  | CN**1204... |

Note: 100° corner is used.  
\*\*RE: Standard corner radius

| SPARE PARTS |       |                |        |            |       |
|-------------|-------|----------------|--------|------------|-------|
| Designation | Shim  | Clamping screw | Wrench | Spring pin | Lever |
| PCBNR/L2525 | LSC42 | LCS4           | P-3    | LSP4       | LCL4  |

## INSERT SELECTION

| P                  | Application | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade       | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker Shape  | TF          | TSF                 | TM        | TH             |                         |
| Cutting conditions | B004        |                     |           |                |                         |

| M                  | Application | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|-----------|----------------|-------------------------|
|                    | Grade       | T6215     | AH6225         | AH6225                  |
| Chipbreaker shape  | SF          | SM        | SH             |                         |
| Cutting conditions | B006        |           |                |                         |

| K                  | Application | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|-----------|----------------|-------------------------|
|                    | Grade       | T515      | T515           | T515                    |
| Chipbreaker Shape  | All-round   | All-round | All-round      |                         |
| Cutting conditions | B008        |           |                |                         |

| N                  | Application | Medium cutting |
|--------------------|-------------|----------------|
|                    | Grade       | TH10           |
| Chipbreaker Shape  | P           |                |
| Cutting conditions | B010        |                |

| S                  | Application | Finishing | Medium cutting |
|--------------------|-------------|-----------|----------------|
|                    | Grade       | AH8005    | AH8005         |
| Chipbreaker Shape  | HRF         | HRM       |                |
| Cutting conditions | B012        |           |                |

Reference pages: PCBNR/L: Inserts → B054 -, CBN → B168 -, PCD → B211

Grade  
A  
Insert  
B  
Ext. Toolholder  
C  
Int. Toolholder  
D  
Threading  
E  
Grooving  
F  
Miniature tool  
G  
Milling cutter  
H  
Endmill  
I  
Drilling tool  
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Tooling System  
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Index  
M

# CN



Rhombic, 80° with hole

# GN

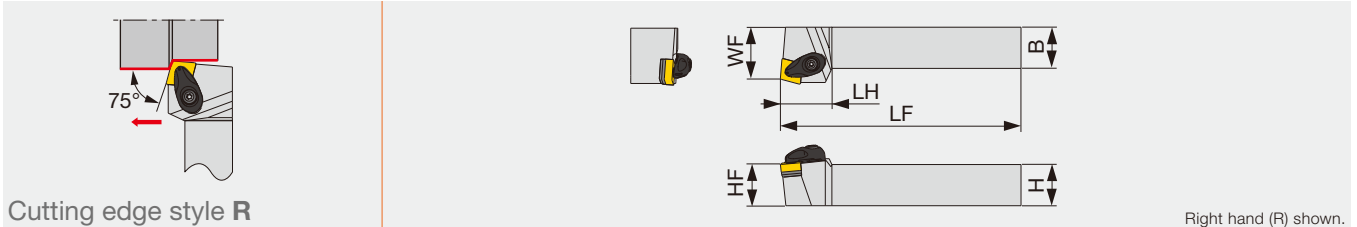


Rhombic, 70° with hole

## TURNING A

### ACRNR/L

Double-clamp toolholder with 75° approach angle, for negative 80° rhombic inserts

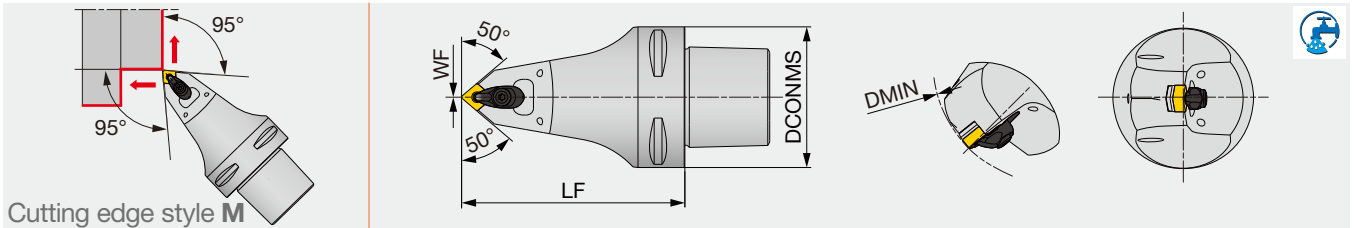


| Inch         | H     | B     | LF    | LH   | HF    | WF   | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|------|-------|------|-------|------------|--------|
| ACRNR/L164-A | 1.000 | 1.000 | 6.000 | 1.25 | 1.000 | 1.25 | 0.032 | CN** 43... | 2.2    |

Torque: Recommended clamping torque: lb-ft  
\*\*RE: Standard corner radius

### C-ACMNN

Double-clamp toolholder, with 50° approach angle, for negative 80°/70° rhombic inserts



| Metric             | DCONMS | LF  | WF | DMIN | RE** | Insert           |
|--------------------|--------|-----|----|------|------|------------------|
| C6ACMNN00100-0904N | 63     | 100 | 0  | 110  | 0.8  | CN**/GNMG0904... |
| C6ACMNN00140-0904N | 63     | 140 | 0  | 110  | 0.8  | CN**/GNMG0904... |

\*\*RE: The holder measurements are true with this insert radius  
Applicable for 7 MPa (1015 PSI) coolant

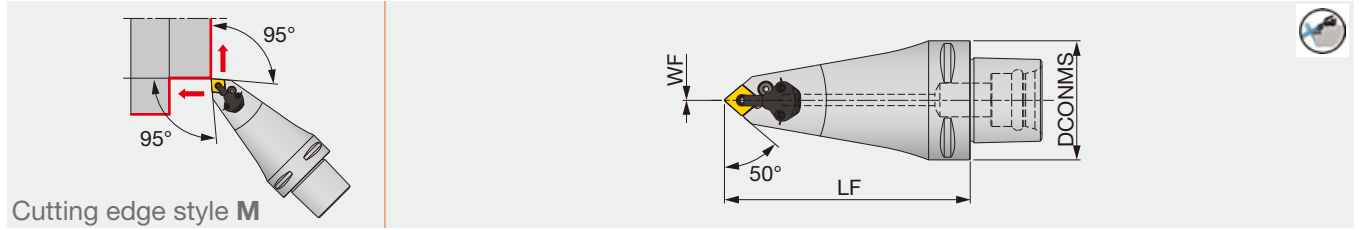
### SPARE PARTS

| Designation        | Clamp   | Clamp screw | Shim   | Shim screw | Spring | Spring pin | Wrench |
|--------------------|---------|-------------|--------|------------|--------|------------|--------|
| ACRNR/L164-A       | ACP4S   | ACS-5W      | ASC422 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C6ACMNN001**-0904N | ACP3S-E | ACS-5W      | ASC322 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |

Reference pages: ACRNR/L: Inserts → **B054 -**, CBN → **B168 -**, PCD → **B211**  
C-ACMNN: Inserts → **B054, B075**  
Parts for coolant hose → **C133**



Lever lock toolholder with TungCap connection.  
For negative 80°/70° rhombic insert. High-pressure coolant capability.



| Metric              | DCONMS | LF  | WF | RE** | Insert           | Torque |
|---------------------|--------|-----|----|------|------------------|--------|
| C6PCMNN00130-12-CHP | 63     | 130 | 0  | 0.8  | CN**/GNGA1204... | 3      |

Torque: Recommended clamping torque: N·m  
Applicable for 14 MPa (2031 PSI) pressure coolant  
\*\*RE: Standard corner radius

| SPARE PARTS         |       |                |          |            |       |
|---------------------|-------|----------------|----------|------------|-------|
| Designation         | Shim  | Clamping screw | Wrench 1 | Spring pin | Lever |
| C6PCMNN00130-12-CHP | LSC42 | LCS4           | P-3      | LSP4       | LCL4  |

| SPARE PARTS         |              |                |          |            |
|---------------------|--------------|----------------|----------|------------|
| Designation         | Coolant unit | Mounting screw | Wrench 2 | O-ring     |
| C6PCMNN00130-12-CHP | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N |

### INSERT SELECTION

|          |                    |                     |                |                         |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |
|          | Chipbreaker shape  | TF                  | TSF            | TM                      | TH                      |
|          | Cutting conditions | B004                |                |                         |                         |
| <b>M</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T6215               | AH6225         | AH6225                  |                         |
|          | Chipbreaker shape  | SF                  | SM             | SH                      |                         |
|          | Cutting conditions | B006                |                |                         |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T515                | T515           | T515                    |                         |
|          | Chipbreaker shape  | All-round           | All-round      | All-round               |                         |
|          | Cutting conditions | B008                |                |                         |                         |
| <b>N</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | DX120               | DX140          | TH10                    |                         |
|          | Chipbreaker shape  | DIA                 | with rake DIA  | P                       |                         |
|          | Cutting conditions | B010                |                |                         |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | BX470               | AH8005         | AH8005                  |                         |
|          | Chipbreaker shape  | CBN                 | HRF            | HRM                     |                         |
|          | Cutting conditions | B012                |                |                         |                         |
| <b>H</b> | Application        | Precision finishing | Finishing      |                         |                         |
|          | Grade              | BXA10               | BXA20          |                         |                         |
|          | Chipbreaker shape  | CBN                 | CBN            |                         |                         |
|          | Cutting conditions | B014                |                |                         |                         |

Reference pages: C-PCMNN-CHP: Inserts → **B054**, CBN → **B168 -**, **B178**, PCD → **B211**  
Parts for coolant hose → **C133**

# CC

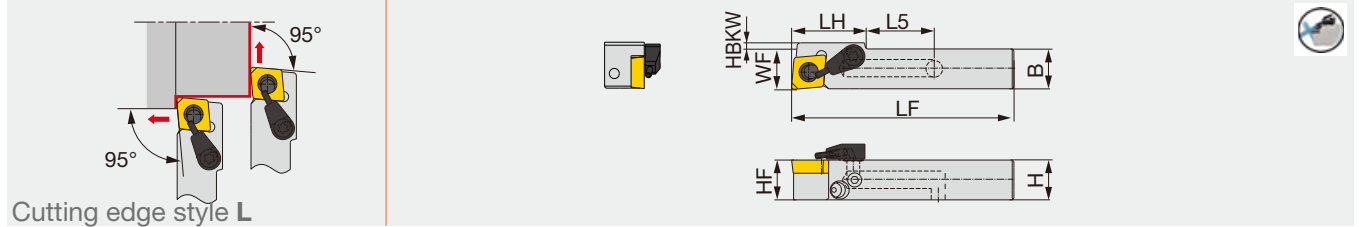


**Rhombic, 80°  
with hole  
Positive 7°**

## PCLCR/L1616X09S-CHP-MC

Direct connection

Lever lock toolholders – 95° approach angle.  
For positive 80° rhombic insert. High-pressure coolant capability with bottom direct connection



| Metric                 | H  | B  | LF | LH | L5 | HF | WF   | HBKW | Insert      |
|------------------------|----|----|----|----|----|----|------|------|-------------|
| PCLCR/L1616X09S-CHP-MC | 16 | 16 | 71 | 23 | 17 | 16 | 16.2 | -    | CC**09T3... |

Applicable for 14 MPa (2031 PSI) pressure coolant

| SPARE PARTS            | Designation | Lever  | Pin        | Clamping screw | Wrench         | Coolant plug | Coolant unit |
|------------------------|-------------|--------|------------|----------------|----------------|--------------|--------------|
| PCLCR/L1616X09S-CHP-MC | SLLV-3      | SLPI-3 | SR10400150 | HW2.5/5        | SR5/16UNFTL360 | S-CU-CHP     |              |

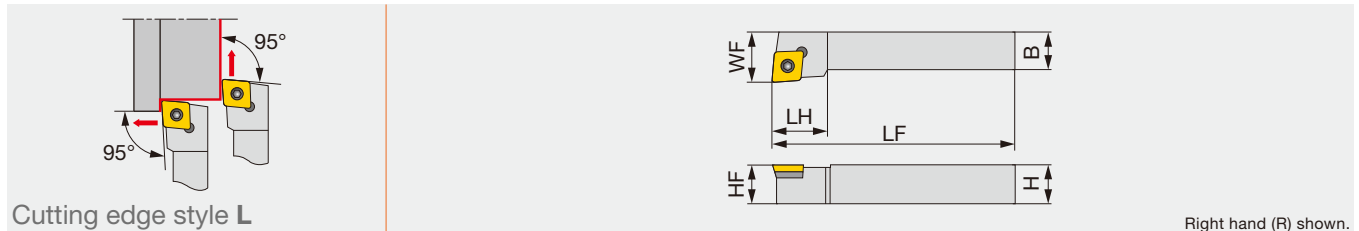
C

D

F

## SCLCR/L

Screw-on toolholder with 95° approach angle, for positive 80° rhombic inserts



| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert       |
|-------------|-------|-------|-------|-------|-------|-------|-------|--------------|
| SCLCR/L103  | 0.625 | 0.625 | 4.000 | 0.625 | 0.625 | 0.750 | 0.031 | CC** 32.5... |
| SCLCR/L123  | 0.750 | 0.750 | 4.500 | 0.625 | 0.750 | 0.750 | 0.031 | CC** 32.5... |
| SCLCR/L124B | 0.750 | 0.750 | 4.500 | 0.625 | 0.750 | 0.750 | 0.031 | CC** 43...   |
| SCLCR/L163  | 1.000 | 1.000 | 6.000 | 0.625 | 1.000 | 0.750 | 0.031 | CC** 32.5... |
| SCLCR/L164D | 1.000 | 1.000 | 6.000 | 0.750 | 1.000 | 0.750 | 0.031 | CC** 43...   |

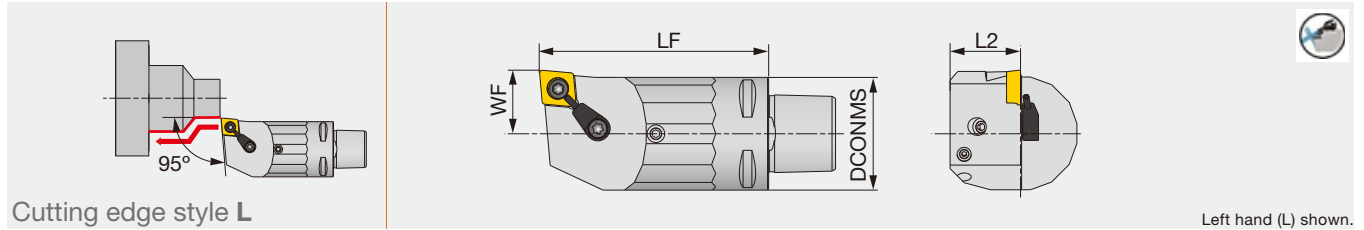
| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| SCLCR/L1616H09 | 16 | 16 | 100 | 16 | 16 | 20 | 0.8  | CC**09T3... |
| SCLCR/L2020K12 | 20 | 20 | 125 | 20 | 20 | 25 | 0.8  | CC**1204... |

\*\*RE: Standard corner radius

| SPARE PARTS                   | Designation | Clamping screw | Shim screw | Shim  | Wrench1 | Wrench2 |
|-------------------------------|-------------|----------------|------------|-------|---------|---------|
| SCLCR/L**3,<br>SCLCR/L1616H09 | CSTB-3.5L   | DTS5-3.5       | SSC32      | P-3.5 | T-15F   |         |
| SCLCR/L124B, 164D             | CSPB-5      | DTS6-4         | SSC4T3     | P-4   | T20F    |         |
| SCLCR/L2020K12                | CSTB-4F     | DTS6-4         | SSC4T3     | P-4   | T-15F   |         |

Reference pages: PCLCR/L1616X09S-CHP-MC: Inserts → **B112 -**, CBN → **B189 -**, PCD → **B213**  
Parts for coolant hose → **C133**  
SCLCR/L: Inserts → **B112 -**, CBN → **B189 -**, PCD → **B213**

Screw-on toolholder, with 95° approach angle, for positive 80° rhombic inserts, with high pressure coolant capability



| Metric              | DCONMS | LF | L2 | WF | RE  | Insert      |
|---------------------|--------|----|----|----|-----|-------------|
| C3SCLCL18040-09-CHP | 32     | 40 | 20 | 18 | 0.8 | CC**09T3... |
| C3SCLCL18065-09-CHP | 32     | 65 | 20 | 18 | 0.8 | CC**09T3... |

Applicable for 14 MPa (2031 PSI) coolant  
Cannot be used for boring

### SPARE PARTS

| Designation | Clamping screw | Coolant unit | Wrench |
|-------------|----------------|--------------|--------|
| C3SCLCL...  | CSTB-4S        | S-CU-CHP     | T-15F  |

## INSERT SELECTION

|          |                    |                             |                             |                             |                |
|----------|--------------------|-----------------------------|-----------------------------|-----------------------------|----------------|
| <b>P</b> | Application        | Precision finishing         | Finishing                   | Finishing to medium cutting | Medium cutting |
|          | Grade              | NS9530                      | NS9530                      | T9215                       | T9215          |
|          | Chipbreaker shape  | 01                          | PSS                         | PS                          | PM             |
|          | Cutting conditions | B016                        |                             |                             |                |
| <b>M</b> | Application        | Precision finishing         | Finishing                   | Finishing to medium cutting | Medium cutting |
|          | Grade              | GH330                       | AH6225                      | AH6225                      | AH6225         |
|          | Chipbreaker shape  | W**                         | PSS                         | PS                          | PM             |
|          | Cutting conditions | B018                        |                             |                             |                |
| <b>K</b> | Application        | Finishing to medium cutting |                             |                             |                |
|          | Grade              | T515                        |                             |                             |                |
|          | Chipbreaker shape  | CM                          |                             |                             |                |
|          | Cutting conditions | B020                        |                             |                             |                |
| <b>N</b> | Application        | Precision finishing         | Finishing                   | Medium cutting              |                |
|          | Grade              | DX120                       | DX140                       | KS05F                       |                |
|          | Chipbreaker shape  | DIA                         | with rake DIA               | AL                          |                |
|          | Cutting conditions | B022                        |                             |                             |                |
| <b>S</b> | Application        | Finishing                   | Finishing to medium cutting |                             |                |
|          | Grade              | AH8015                      | AH8015                      |                             |                |
|          | Chipbreaker shape  | PSS                         | PS                          |                             |                |
|          | Cutting conditions | B024                        |                             |                             |                |
| <b>H</b> | Application        | Precision finishing         | Finishing                   |                             |                |
|          | Grade              | BXA10                       | BXA20                       |                             |                |
|          | Chipbreaker shape  | CBN                         | CBN                         |                             |                |
|          | Cutting conditions | B026                        |                             |                             |                |

Reference pages: C-SCLCL-CHP: Inserts → **B112 -**, CBN → **B189 -**, PCD → **B213**  
Parts for coolant hose → **C133**



# DN

Rhombic, 55° with hole

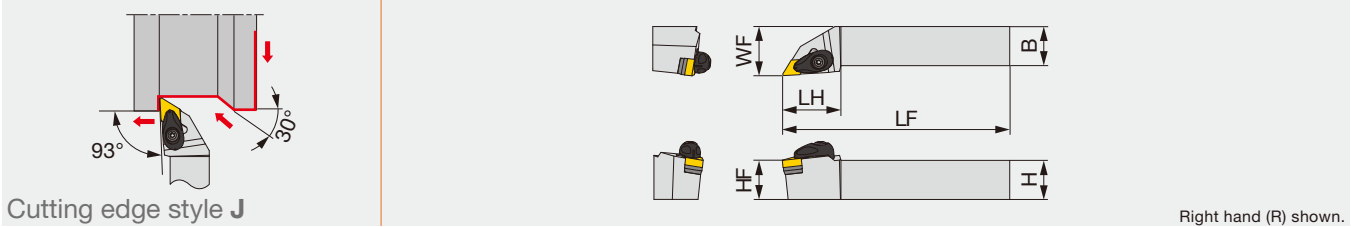
# FN

Rhombic, 45° with hole

## TURNING

### ADJNR/L

Double-clamp toolholder with 93° approach angle, for negative 55°/45° rhombic inserts



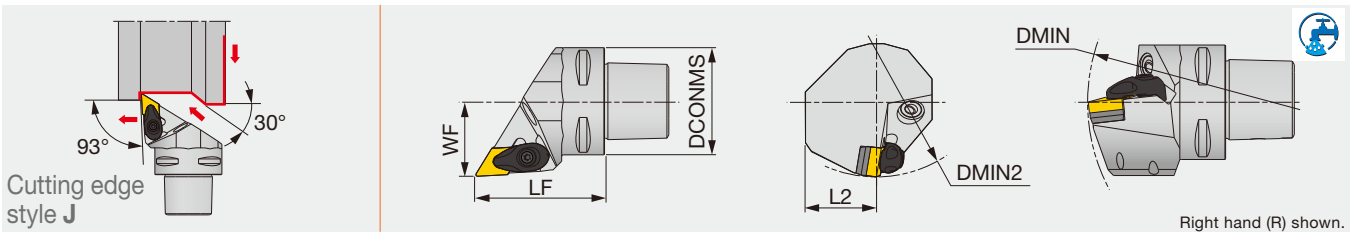
| Inch          | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| ADJNR/L1233-A | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 1.000 | 0.031 | DN**/FNMG 33... | 2.2    |
| ADJNR/L124-A  | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 1.000 | 0.031 | DN**/FNGA 43... | 2.2    |
| ADJNR/L1633-A | 1.000 | 1.000 | 6.000 | 1.250 | 1.000 | 1.250 | 0.031 | DN**/FNMG 33... | 2.2    |
| ADJNR/L164-A  | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | DN**/FNGA 43... | 2.2    |
| ADJNR/L204-A  | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.500 | 0.031 | DN**/FNGA 43... | 2.2    |

| Metric             | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|--------------------|----|----|-----|----|----|----|------|------------------|---------|
| ADJNR/L2020K1104-A | 20 | 20 | 125 | 30 | 20 | 25 | 0.8  | DN**/FNMG1104... | 3       |
| ADJNR/L2020K15-A   | 20 | 20 | 125 | 36 | 20 | 25 | 0.8  | DN**/FNGA1504... | 3       |
| ADJNR/L2020K1506-A | 20 | 20 | 125 | 36 | 20 | 25 | 0.8  | DN**/FNGA1506... | 3       |
| ADJNR/L2525M1104-A | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | DN**/FNMG1104... | 3       |
| ADJNR/L2525M15-A   | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNGA1504... | 3       |
| ADJNR/L2525M1506-A | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNGA1506... | 3       |
| ADJNR/L3225P15-A   | 32 | 25 | 170 | 36 | 32 | 32 | 0.8  | DN**/FNGA1504... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE: Standard corner radius

### C-ADJNR/L

Double-clamp toolholder, with 93° approach angle, for negative 55°/45° rhombic inserts



| Metric               | DCONMS | LF  | L2 | WF | DMIN | DMIN2 | RE  | Insert           |
|----------------------|--------|-----|----|----|------|-------|-----|------------------|
| C3ADJNR/L22050-1104N | 32     | 50  | 20 | 22 | 121  | 85    | 0.8 | DN**/FNMG1104... |
| C4ADJNR/L27050-1104N | 40     | 50  | 25 | 27 | 145  | 110   | 0.8 | DN**/FNMG1104... |
| C4ADJNR/L27050-15N   | 40     | 50  | 25 | 27 | 145  | 110   | 0.8 | DN**/FNGA1504... |
| C5ADJNR/L35060-15N   | 50     | 60  | 32 | 35 | 165  | 110   | 0.8 | DN**/FNGA1504... |
| C6ADJNR/L45065-1104N | 63     | 65  | 35 | 45 | 190  | 110   | 0.8 | DN**/FNMG1104... |
| C6ADJNR/L45065-15N   | 63     | 65  | 41 | 45 | 190  | 110   | 0.8 | DN**/FNGA1504... |
| C6ADJNR/L45135-15N   | 63     | 135 | 41 | 45 | 190  | 110   | 0.8 | DN**/FNGA1504... |

Applicable for 7 MPa (1015 PSI) coolant

Option: ASD423 (Shim for DN\*\*1506\*\*)

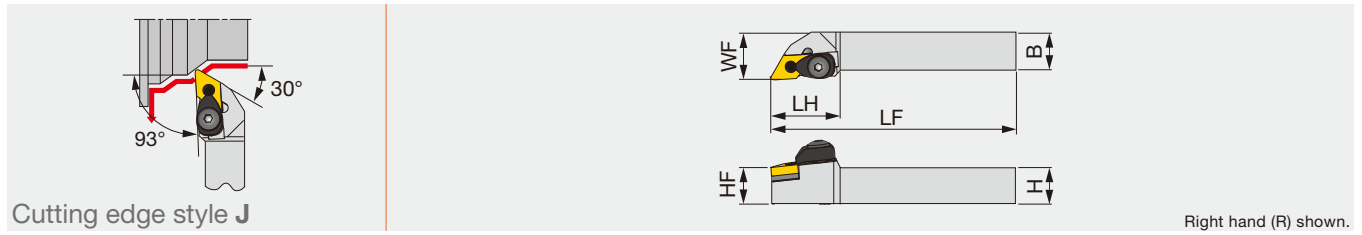
### SPARE PARTS

| Designation                                      | Clamp   | Clamp screw | Coolant parts | Shim   | Shim screw | Spring | Spring pin | Wrench |
|--|---------|-------------|---------------|--------|------------|--------|------------|--------|
| ADJNR/L**33-A, ADJNR/L**1104-A, C*ADJNR/L**1104N | ACP3S-E | ACS-5W      | -             | ASD322 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| ADJNR/L**4-A, ADJNR/L**15-A                      | ACP4S   | ACS-5W      | -             | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| ADJNR/L**1506-A                                  | ACP4S   | ACS-5W      | -             | ASD423 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C*ADJNR/L**15N                                   | ACP4S   | ACS-5W      | SATZ-M10X1-M5 | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |

Reference pages: ADJNR/L, C-ADJNR/L: Inserts → B066 -, B075 -, CBN → B172 -, B176 -,PCD → B211

# DDJNR/L

One-Double toolholder with 93° approach angle, for negative 55°/45° rhombic inserts



Right hand (R) shown.

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert           |
|------------------|----|----|-----|----|----|----|------|------------------|
| DDJNR/L2020K15   | 20 | 20 | 125 | 38 | 20 | 25 | 0.8  | DN**/FNGA1504... |
| DDJNR/L2020K1506 | 20 | 20 | 125 | 38 | 20 | 25 | 0.8  | DN**/FNGA1506... |
| DDJNR/L2525M15   | 25 | 25 | 150 | 38 | 25 | 32 | 0.8  | DN**/FNGA1504... |
| DDJNR/L2525M1506 | 25 | 25 | 150 | 38 | 25 | 32 | 0.8  | DN**/FNGA1506... |
| DDJNR/L3225P15   | 32 | 25 | 170 | 38 | 32 | 32 | 0.8  | DN**/FNGA1504... |
| DDJNR/L3225P1506 | 32 | 25 | 170 | 38 | 32 | 32 | 0.8  | DN**/FNGA1506... |

Note: Except for 57-type chipbreaker inserts  
\*\*RE: Standard corner radius

| SPARE PARTS   |         |        |        |             |       |        |            |         |         |
|---------------|---------|--------|--------|-------------|-------|--------|------------|---------|---------|
| Designation   | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench1 | Wrench2 |
| DDJNR/L**15   | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSD42 | BP-10  | LSP4       | P-3     | P-4     |
| DDJNR/L**1506 | DCPM-43 | DLCL43 | DPIS44 | DLCS43      | LSD42 | BP-10  | LSP4       | P-3     | P-4     |

## INSERT SELECTION

|          |                    |                     |                |                         |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |
|          | Chipbreaker shape  | TF                  | TSF            | TM                      | TH                      |
|          | Cutting conditions | B004                |                |                         |                         |
| <b>M</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T6215               | AH6225         | AH6225                  |                         |
|          | Chipbreaker shape  | SF                  | SM             | SH                      |                         |
|          | Cutting conditions | B006                |                |                         |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T515                | T515           | T515                    |                         |
|          | Chipbreaker shape  | All-round           | All-round      | All-round               |                         |
|          | Cutting conditions | B008                |                |                         |                         |
| <b>N</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | DX120               | DX140          | TH10                    |                         |
|          | Chipbreaker shape  | DIA                 | with rake DIA  | P                       |                         |
|          | Cutting conditions | B010                |                |                         |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | BX470               | AH8005         | AH8005                  |                         |
|          | Chipbreaker shape  | CBN                 | HRF            | HRM                     |                         |
|          | Cutting conditions | B012                |                |                         |                         |
| <b>H</b> | Application        | Precision finishing | Finishing      |                         |                         |
|          | Grade              | BXA10               | BXA20          |                         |                         |
|          | Chipbreaker shape  | CBN                 | CBN            |                         |                         |
|          | Cutting conditions | B014                |                |                         |                         |

Reference pages DDJNR/L: Inserts → B066 -, CBN → B172 -, B176 -, PCD → B211

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



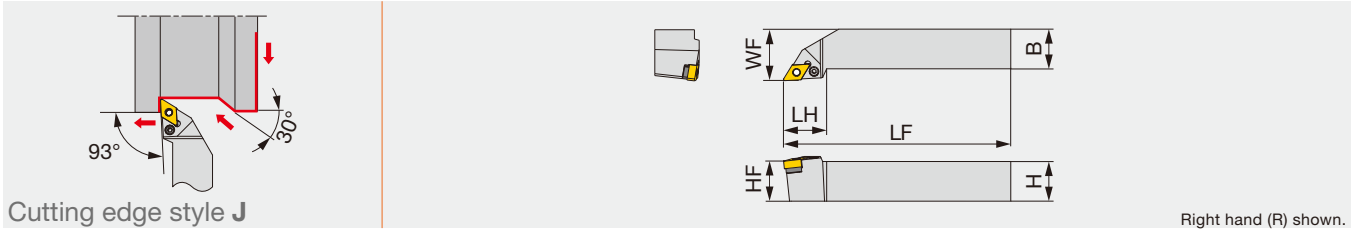
# DN

# FN



## PDJNR/L

Lever-lock toolholder with 93° approach angle, for negative 55°/45° rhombic inserts



Right hand (R) shown.

| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PDJNR/L1033 | 0.625 | 0.625 | 4.000 | 1.125 | 0.625 | 0.875 | 0.031 | DN**/FNMG 33... | 1.5    |
| PDJNR/L1233 | 0.750 | 0.750 | 4.500 | 1.125 | 0.750 | 1.000 | 0.031 | DN**/FNMG 33... | 1.5    |
| PDJNR/L1633 | 1.000 | 1.000 | 6.000 | 1.125 | 1.000 | 1.250 | 0.031 | DN**/FNMG 33... | 1.5    |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|----|------|------------------|---------|
| PDJNR/L1616H1104 | 16 | 16 | 100 | 27 | 16 | 20 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L1616H11   | 16 | 16 | 100 | 27 | 16 | 20 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2020K1104 | 20 | 20 | 125 | 27 | 20 | 25 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2020K11   | 20 | 20 | 125 | 27 | 20 | 25 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2020      | 20 | 20 | 125 | 34 | 20 | 25 | 0.8  | DN**/FNGA1504... | 3       |
| PDJNR2020K15E    | 20 | 20 | 125 | 36 | 20 | 25 | 0.8  | DN**/FNGA1506... | 3       |
| PDJNR/L2520      | 25 | 20 | 150 | 34 | 25 | 25 | 0.8  | DN**/FNGA1504... | 3       |
| PDJNR/L2525M1104 | 25 | 25 | 150 | 27 | 25 | 32 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2525M11   | 25 | 25 | 150 | 27 | 25 | 32 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2525      | 25 | 25 | 150 | 34 | 25 | 32 | 0.8  | DN**/FNGA1504... | 3       |
| PDJNR/L2525M15E  | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNGA1506... | 3       |
| PDJNR/L3225      | 32 | 25 | 170 | 32 | 32 | 32 | 0.8  | DN**/FNGA1504... | 3       |
| PDJNR3225P15E    | 32 | 25 | 170 | 36 | 32 | 34 | 0.8  | DN**/FNGA1506... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius

### SPARE PARTS

| Designation                      | Shim   | Clamping screw | Wrench | Spring pin | Lever  |
|----------------------------------|--------|----------------|--------|------------|--------|
| PDJNR/L**33,<br>PDJNR/L**11/1104 | ELSD32 | LCS3           | P-2.5  | LSP3       | LCL33L |
| PDJNR/L2020                      | LSD42  | LCS4           | P-3    | LSP4       | LCL4   |
| PDJNR2020K15E                    | ELSD42 | ELCS4          | P-3    | LSP4S      | LCL44  |
| PDJNR/L2520                      | LSD42  | LCS4           | P-3    | LSP4       | LCL4   |
| PDJNR/L2525                      | LSD42  | LCS4           | P-3    | LSP4       | LCL4   |
| PDJNR/L2525M15E                  | ELSD42 | ELCS4          | P-3    | LSP4S      | LCL44  |
| PDJNR/L3225                      | LSD42  | LCS4           | P-3    | LSP4       | LCL4   |
| PDJNR3225P15E                    | ELSD42 | ELCS4          | P-3    | LSP4S      | LCL44  |

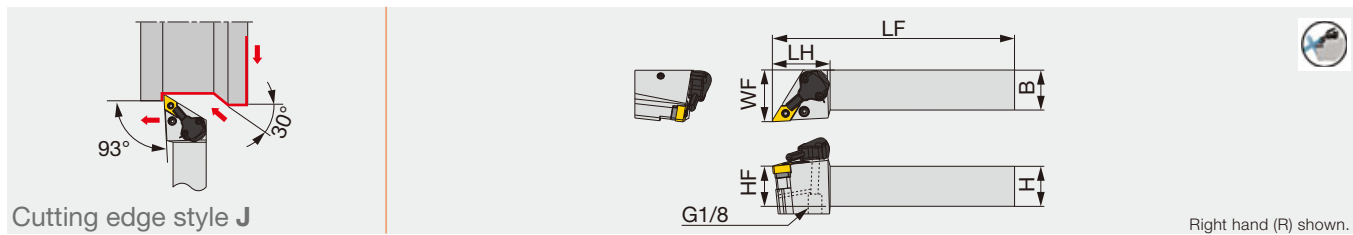
Reference pages: PDJNR/L: Inserts → B066 -, B075 -, CBN → B172 -, B176 -, PCD → B211



# PDJNR/L-CHP

Tube connection

Lever lock toolholders – 93° approach angle.  
For negative 55°/45° rhombic insert. High-pressure coolant capability.



| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PDJNR/L1233-CHP | 0.750 | 0.750 | 4.500 | 1.420 | 0.750 | 1.250 | 0.031 | DN**/FNMG 33... | 1.48   |
| PDJNR/L124-CHP  | 0.750 | 0.750 | 4.500 | 1.420 | 0.750 | 1.250 | 0.031 | DN**/FNGA 43... | 2.21   |
| PDJNR/L1633-CHP | 1.000 | 1.000 | 6.000 | 1.420 | 1.000 | 1.250 | 0.031 | DN**/FNMG 33... | 1.48   |
| PDJNR/L164-CHP  | 1.000 | 1.000 | 6.000 | 1.420 | 1.000 | 1.250 | 0.031 | DN**/FNGA 43... | 2.21   |

| Metric               | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|----------------------|----|----|-----|----|----|----|------|------------------|---------|
| PDJNR/L2020K1104-CHP | 20 | 20 | 125 | 36 | 20 | 32 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2020K15-CHP   | 20 | 20 | 125 | 36 | 20 | 32 | 0.8  | DN**/FNGA1504... | 3       |
| PDJNR/L2525M1104-CHP | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNMG1104... | 2       |
| PDJNR/L2525M15-CHP   | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNGA1504... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*RE: Standard corner radius  
20Mpa (2901 PSI)

## SPARE PARTS

| Designation                           | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever  |
|---------------------------------------|--------|----------------|----------|------------|--------|
| PDJNR/L**33-CHP,<br>PDJNR/L**1104-CHP | ELSD32 | LCS3           | P-2.5    | LSP3       | LCL33L |
| PDJNR/L**4-CHP,<br>PDJNR/L**15-CHP    | LSD43A | LCS4           | P-3      | LSP4       | LCL4   |

## SPARE PARTS

| Designation                           | Coolant unit | Mounting screw | Wrench 2 | O-ring     | Coolant screw | Wrench 3 |
|---------------------------------------|--------------|----------------|----------|------------|---------------|----------|
| PDJNR/L**33-CHP,<br>PDJNR/L**1104-CHP | CU-D-CHP     | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |
| PDJNR/L**4-CHP,<br>PDJNR/L**15-CHP    | CU-D-CHP     | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |

## INSERT SELECTION

**P**

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

**M**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

**K**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T515      | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | TH10           |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

**S**

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
| Grade              | BX470               | AH8005    | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PDJNR/L-CHP: Inserts → **B066 - , B075 -**, CBN → **B172 - , B176 -**,PCD → **B211**  
Parts for coolant hose → **C133**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# DN

# FN

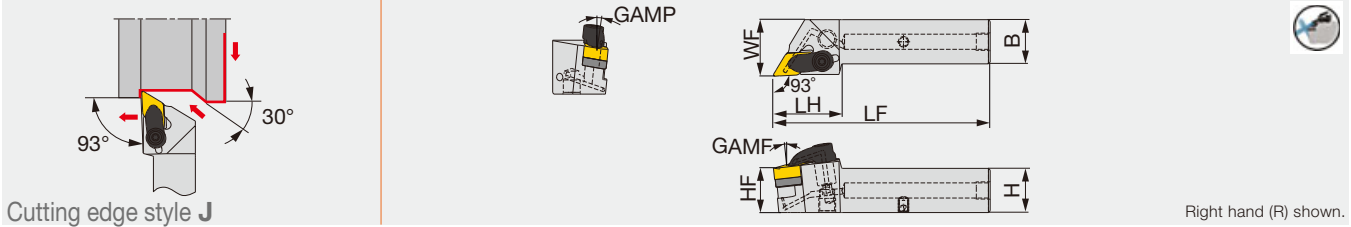


## ADJNR/L-CHP-MC

Direct connection Tube connection

Double clamping tool holders-93° approach angle

For negative 55°/45° rhombic insert. High-pressure coolant capability with tube and direct connections



| Inch               | H     | B     | LF    | LH    | HF    | WF    | GAMP | GAMF | Insert              | Torque |
|--------------------|-------|-------|-------|-------|-------|-------|------|------|---------------------|--------|
| ADJNR/L12-4-CHP-MC | 0.750 | 0.750 | 4.331 | 1.575 | 0.750 | 1.000 | 6°   | 6°   | DN**/FNGA 44(43)... | 2.95   |
| ADJNR/L16-4-CHP-MC | 1.000 | 1.000 | 4.921 | 1.575 | 1.000 | 1.250 | 6°   | 6°   | DN**/FNGA 44(43)... | 2.95   |

| Metric                 | H  | B  | LF  | LH | HF | WF | GAMP | GAMF | Insert               | Torque* |
|------------------------|----|----|-----|----|----|----|------|------|----------------------|---------|
| ADJNR/L2020X-15-CHP-MC | 20 | 20 | 110 | 40 | 20 | 25 | 6°   | 6°   | DN**/FNGA1506(04)... | 4       |
| ADJNR/L2525X-15-CHP-MC | 25 | 25 | 125 | 40 | 25 | 32 | 6°   | 6°   | DN**/FNGA1506(04)... | 4       |

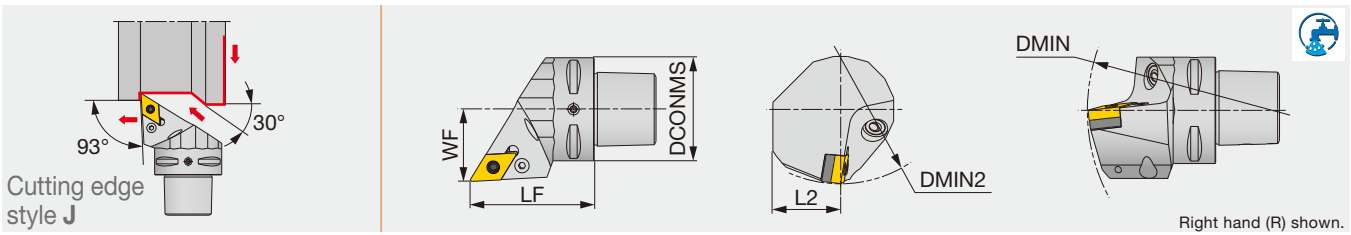
Torque: Recommended clamping torque: lbs-ft (\*N·m)  
Use RDT443 shim when using DN\*\*/FNGA43..., DN\*\*/FNGA1504... inserts  
Applicable for 14 MPa (2031 PSI) pressure coolant

| Designation | Clamp set   | Shim 1 | Shim 2 (Optional) | Shim screw | Screw for tube connection | Coolant plug          | O-ring     | Wrench   |
|-------------|-------------|--------|-------------------|------------|---------------------------|-----------------------|------------|----------|
| ADJNL...    | LCGL-4JCSET | RDT433 | (RDT443)          | SR14-506   | PLUGG1/8-6.5TL360         | SRM5X5<br>DIN913TL360 | OR4X3NBR70 | KEYV-T20 |
| ADJNR...    | LCGR-4JCSET | RDT433 | (RDT443)          | SR14-506   | PLUGG1/8-6.5TL360         | SRM5X5<br>DIN913TL360 | OR4X3NBR70 | KEYV-T20 |

## TUNGCAP

### C-PDJNR/L

Lever-lock toolholder, with 93° approach angle, for negative 55°/45° rhombic inserts



| Metric             | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert               |
|--------------------|--------|----|----|----|------|-------|-----|----------------------|
| C5PDJNR/L35060-15N | 50     | 60 | 32 | 35 | 165  | 110   | 0.8 | DN**/FNGA1504(06)... |
| C6PDJNR/L45065-15N | 63     | 65 | 41 | 45 | 195  | 95    | 0.8 | DN**/FNGA1504(06)... |

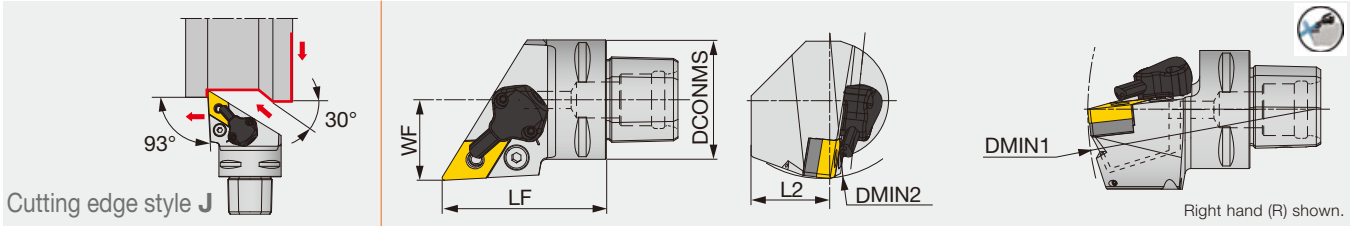
Applicable for 7 MPa (1015 PSI) coolant

| Designation      | Coolant parts | Shim   | Lever | Clamping screw | Spring pin | Wrench |
|------------------|---------------|--------|-------|----------------|------------|--------|
| C5PDJN*35060-15N | SATZ-M10X1-M5 | LSD43A | LCL4  | LCS4           | LSP4       | P-3    |
| C6PDJN*45065-15N | SATZ-M10X1-M5 | LSD43A | LCL4  | LCS4           | LSP4S      | P-3    |

Option: LSD42A (Shim for DN\*\*1506\*\*), LSP4S (Spring pin for DN\*\*1506\*\*)

Reference pages: ADJNR/L-CHP-MC: Inserts → **B066 -**, CBN → **B172 -**, **B176 -**, PCD → **B211**  
C-PDJNR/L: Inserts → **B066 -**, CBN → **B172 -**, **B176 -**, PCD → **B211**  
Parts for coolant hose → **C133**

Lever lock toolholders with TungCap connection – 93° approach angle.  
For negative 55°/45° rhombic insert. High-pressure coolant capability.



| Metric                  | DCONMS | LF | L2 | WF | DMIN1 | DMIN2 | RE** | Insert               | Torque |
|-------------------------|--------|----|----|----|-------|-------|------|----------------------|--------|
| C4PDJNR/L27055-1104-CHP | 40     | 55 | 27 | 27 | 145   | 110   | 0.8  | DN**/FNMG1104...     | 2      |
| C4PDJNR/L27055-15-CHP   | 40     | 55 | 27 | 27 | 145   | 110   | 0.8  | DN**/FNGA1504(06)... | 3      |
| C5PDJNR/L35060-15-CHP   | 50     | 60 | 32 | 35 | 165   | 110   | 0.8  | DN**/FNGA1504(06)... | 3      |
| C6PDJNR/L45065-1104-CHP | 63     | 65 | 35 | 45 | 195   | 95    | 0.8  | DN**/FNMG1104...     | 2      |
| C6PDJNR/L45065-15-CHP   | 63     | 65 | 35 | 45 | 195   | 95    | 0.8  | DN**/FNGA1504(06)... | 3      |

Torque: Recommended clamping torque: N·m  
Applicable for 14 MPa (2031 PSI) pressure coolant  
\*\*RE: Standard corner radius

| Designation         | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever  |
|---------------------|--------|----------------|----------|------------|--------|
| C*PDJNR/L**1104-CHP | ELSD32 | LCS3           | P-2.5    | LSP3       | LCL33L |
| C*PDJNR/L**-15-CHP  | LSD43A | LCS4           | P-3      | LSP4       | LCL4   |

Option: LSD42A (Shim for DN\*\*1506...), LSP4S (Spring pin for DN\*\*1506...)

| Designation         | Coolant unit | Mounting screw | Wrench 2 | O-ring     |
|---------------------|--------------|----------------|----------|------------|
| C*PDJNR/L**1104-CHP | CU-D-CHP     | SRM3           | T-8F     | OR6.4X0.9N |
| C*PDJNR/L**-15-CHP  | CU-D-CHP     | SRM3           | T-8F     | OR6.4X0.9N |

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: C-PDJNR/L-CHP: Inserts → **B066 - B075 - CBN** → **B172 - B176 - PCD** → **B211**  
Parts for coolant hose → **C133**

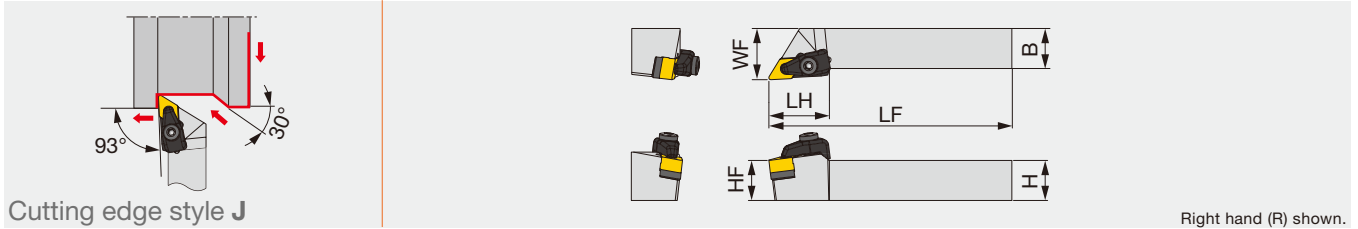


# DN

 Rhombic, 55°  
without hole

## DIMPLEFX CDJNR/L-RD

Double-clamp toolholder with 93° approach angle, for negative 55° rhombic ceramic inserts with dimple



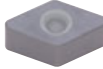
| Metric              | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque |
|---------------------|----|----|-----|----|----|----|------|-------------|--------|
| CDJNR/L2525M1507-RD | 25 | 25 | 150 | 38 | 25 | 32 | 1.2  | DNGD1507... | 4      |
| CDJNR3225P1507-RD   | 32 | 25 | 170 | 38 | 32 | 32 | 1.2  | DNGD1507... | 4      |

Torque: Recommended clamping torque: N·m  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp  | Clamp screw | Shim   | Shim screw | Spring | Wrench1 | Wrench2 |
|-------------|--------|-------------|--------|------------|--------|---------|---------|
| CDJNR/L*-RD | CCP4-A | CCS4-A      | CD44-A | BH5-10-A   | BP-5-A | P-3     | P-4     |

### INSERT SELECTION

|          |                    |   |
|----------|--------------------|---|
| <b>K</b> | Application        | Finishing to medium cutting   |
|          | Grade              | FX105   |
|          | Chipbreaker shape  |  |
|          | Cutting conditions | C136  |

Reference pages: CDJNR/L-RD: Inserts → **B074**  
Standard cutting conditions → **C136**

# DN

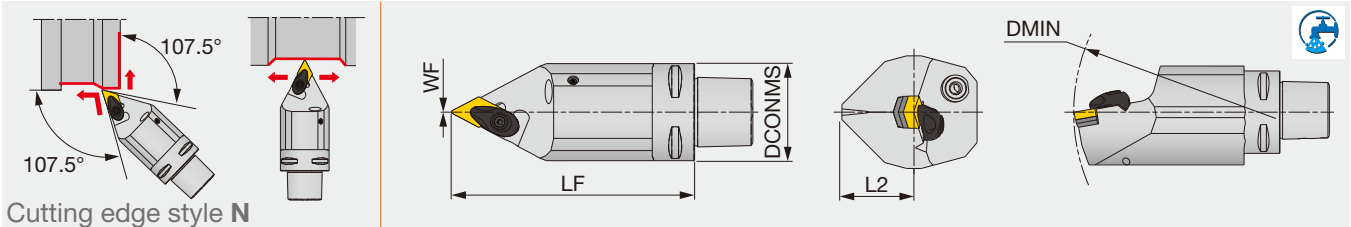
# FN



## TURNING

### C-ADNNN

Double-clamp toolholder, with 62.5° approach angle, for negative 55°/45° rhombic inserts



| Metric                          | DCONMS | LF  | L2   | WF | DMIN | RE  | Insert               |
|---------------------------------|--------|-----|------|----|------|-----|----------------------|
| C5ADNNN00090-15 <sup>(1)</sup>  | 50     | 90  | 32   | 0  | -    | 0.8 | DN**/FNGA1504(06)... |
| C5ADNNN00090-15N <sup>(2)</sup> | 50     | 90  | 32   | 0  | 165  | 0.8 | DN**/FNGA1504(06)... |
| C5ADNNN00125-15 <sup>(1)</sup>  | 50     | 125 | 32   | 0  | -    | 0.8 | DN**/FNGA1504(06)... |
| C5ADNNN00125-15N <sup>(2)</sup> | 50     | 125 | 32   | 0  | 165  | 0.8 | DN**/FNGA1504(06)... |
| C6ADNNN00100-15N <sup>(2)</sup> | 63     | 100 | 37.5 | 0  | 190  | 0.8 | DN**/FNGA1504(06)... |
| C6ADNNN00140-15N <sup>(2)</sup> | 63     | 140 | 37.5 | 0  | 190  | 0.8 | DN**/FNGA1504(06)... |

The items without DMIN cannot be used for boring  
 (1) Applicable for 3 MPa (435 PSI) coolant (2) Applicable for 7 MPa (1015 PSI) coolant

| SPARE PARTS      |       |             |               |        |            |        |            |        |
|------------------|-------|-------------|---------------|--------|------------|--------|------------|--------|
| Designation      | Clamp | Clamp screw | Coolant parts | Shim   | Shim screw | Spring | Spring pin | Wrench |
| C5ADNNN00090-15  | ACP4S | ACS-5W      | EZ104         | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C5ADNNN00090-15N | ACP4S | ACS-5W      | SATZ-M10X1-M5 | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C5ADNNN00125-15  | ACP4S | ACS-5W      | EZ104         | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C5ADNNN00125-15N | ACP4S | ACS-5W      | SATZ-M10X1-M5 | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C6ADNNN00100-15N | ACP4S | ACS-5W      | SATZ-M10X1-M5 | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |
| C6ADNNN00140-15N | ACP4S | ACS-5W      | SATZ-M10X1-M5 | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |

Option: ASD423 (Shim for DN\*\*1506\*\*)

## INSERT SELECTION

| P | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|---------------------|-----------|----------------|-------------------------|
|   | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|   | Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
|   | Cutting conditions | B004                |           |                |                         |

| M | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T6215     | AH6225         | AH6225                  |
|   | Chipbreaker shape  | SF        | SM             | SH                      |
|   | Cutting conditions | B006      |                |                         |

| K | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T515      | T515           | T515                    |
|   | Chipbreaker shape  | All-round | All-round      | All-round               |
|   | Cutting conditions | B008      |                |                         |

| N | Application        | Precision finishing | Finishing     | Medium cutting |
|---|--------------------|---------------------|---------------|----------------|
|   | Grade              | DX120               | DX140         | TH10           |
|   | Chipbreaker shape  | DIA                 | with rake DIA | P              |
|   | Cutting conditions | B010                |               |                |

| S | Application        | Precision finishing | Finishing | Medium cutting |
|---|--------------------|---------------------|-----------|----------------|
|   | Grade              | BX470               | AH8005    | AH8005         |
|   | Chipbreaker shape  | CBN                 | HRF       | HRM            |
|   | Cutting conditions | B012                |           |                |

| H | Application        | Precision finishing | Finishing |
|---|--------------------|---------------------|-----------|
|   | Grade              | BXA10               | BXA20     |
|   | Chipbreaker shape  | CBN                 | CBN       |
|   | Cutting conditions | B014                |           |

Reference pages: C-ADNNN: Inserts → **B066 -**, CBN → **B172 -**, **B176 -**, PCD → **B211**  
 Parts for coolant hose → **C133**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Milling cutter  
Miniature tool  
Endmill  
Drilling tool  
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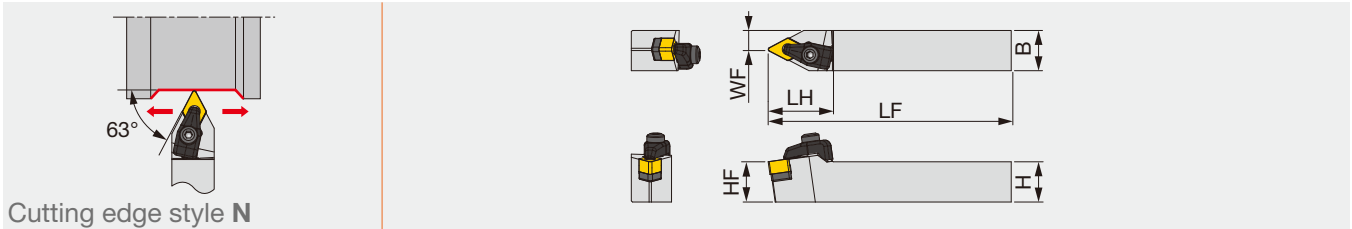


# DN

 Rhombic, 55°  
without hole

## DIMPLEFX CDNNN-RD

Double-clamp toolholder with 63° approach angle, for negative 55° rhombic ceramic inserts with dimple



| Metric            | H  | B  | LF  | LH | HF | WF   | RE** | Insert      | Torque |
|-------------------|----|----|-----|----|----|------|------|-------------|--------|
| CDNNN2525M1507-RD | 25 | 25 | 150 | 40 | 25 | 12.5 | 1.2  | DNGD1507... | 4      |

Torque: Recommended clamping torque: N·m  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation       |  Clamp |  Clamp screw |  Shim |  Shim screw |  Spring |  Wrench1 |  Wrench2 |
|-------------------|---|---|--|--|--|---|---|
| CDNNN2525M1507-RD | CCP4-A  | CCS4-A  | CD44-A   | BH5-10-A   | BP-5-A   | P-3   | P-4   |

C

D

F

G

H

R

S

T

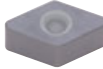
V

W

Y

OTHERS

### INSERT SELECTION

|          |                    |   |
|----------|--------------------|---|
| <b>K</b> | Application        | Finishing to medium cutting   |
|          | Grade              | FX105   |
|          | Chipbreaker shape  |  |
|          | Cutting conditions | C136  |

Reference pages: CDNNN-RD: Inserts → **B074**  
Standard cutting conditions → **C136**



# DN

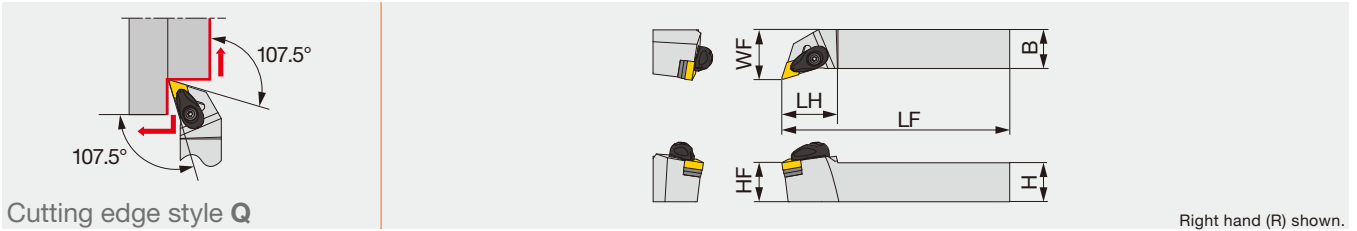
# FN



## TURNING

### ADQNR/L

Double-clamp toolholder with 107.5° approach angle, for negative 55°/45° rhombic inserts



| Inch          | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| ADQNR/L1233-A | 0.750 | 0.750 | 4.500 | 1.150 | 0.750 | 1.000 | 0.031 | DN**/FNMG 33... | 2.2    |
| ADQNR/L124-A  | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 1.000 | 0.031 | DN**/FNGA 43... | 2.2    |
| ADQNR/L1633-A | 1.000 | 1.000 | 6.000 | 1.150 | 1.000 | 1.250 | 0.031 | DN**/FNMG 33... | 2.2    |
| ADQNR/L164-A  | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | DN**/FNGA 43... | 2.2    |

| Metric             | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|--------------------|----|----|-----|----|----|----|------|------------------|---------|
| ADQNR/L2020K1104-A | 20 | 20 | 125 | 30 | 20 | 25 | 0.8  | DN**/FNMG1104... | 3       |
| ADQNR/L2020K15-A   | 20 | 20 | 125 | 32 | 20 | 25 | 0.8  | DN**/FNGA1504... | 3       |
| ADQNR/L2020K1506-A | 20 | 20 | 125 | 32 | 20 | 25 | 0.8  | DN**/FNGA1506... | 3       |
| ADQNR/L2525M1104-A | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | DN**/FNMG1104... | 3       |
| ADQNR/L2525M15-A   | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNGA1504... | 3       |
| ADQNR/L2525M1506-A | 25 | 25 | 150 | 36 | 25 | 32 | 0.8  | DN**/FNGA1506... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 \*\*RE : Standard corner radius

### SPARE PARTS

| Designation                         | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|-------------------------------------|---------|-------------|--------|------------|--------|------------|--------|
| ADQNR/L**33-A,<br>ADQNR/L**1104-A   | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASD322 | CSTB-3.5   | T-15F  |
| ADQNR/L124, 164-A,<br>ADQNR/L**15-A | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASD432 | CSTB-3.5   | T-15F  |
| ADQNR/L**1506-A                     | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASD423 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

**P**

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

**M**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

**K**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T515      | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | TH10           |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

**S**

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
| Grade              | BX470               | AH8005    | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: ADQNR/L: Inserts → B066 -, B075, CBN → B172 -, B176 -, PCD → B211



# DN

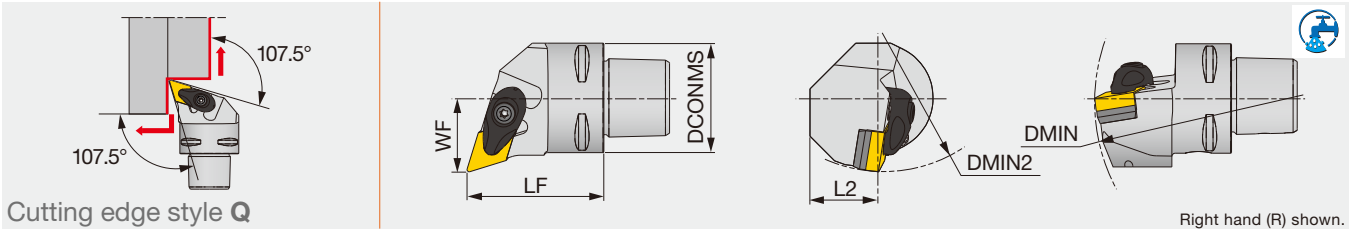
# FN



## TURNING

### C-ADQNR/L

Double-clamp toolholder, with 107.5° approach angle, for negative 55°/45° rhombic inserts



| Metric             | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert           |
|--------------------|--------|----|----|----|------|-------|-----|------------------|
| C3ADQNR/L22040-15N | 32     | 40 | 20 | 22 | 121  | 85    | 0.8 | DN**/FNGA1504... |
| C4ADQNR/L27050-15N | 40     | 50 | 25 | 27 | 145  | 110   | 0.8 | DN**/FNGA1504... |

Applicable for 7 MPa (1015 PSI) a coolant

Option: ASD423 (Shim for DN\*\*1506\*\*)

#### SPARE PARTS

| Designation    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|----------------|-------|-------------|--------|------------|--------|------------|--------|
| C*ADQNR/L**15N | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASD432 | CSTB-3.5   | T-15F  |

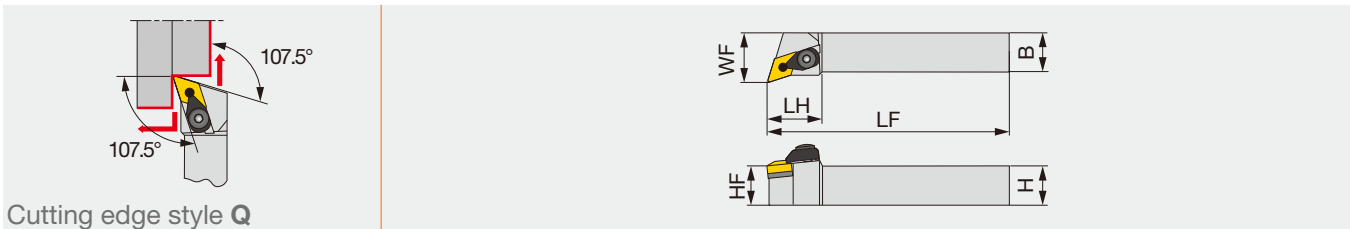
C

D

F

### DDQNR/L

"One-Double" toolholder with 107.5° approach angle, for negative 55°/45° rhombic inserts



| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert           |
|------------------|----|----|-----|----|----|----|------|------------------|
| DDQNR/L2020K15   | 20 | 20 | 125 | 35 | 20 | 25 | 0.8  | DN**/FNGA1504... |
| DDQNR/L2020K1506 | 20 | 20 | 125 | 35 | 20 | 25 | 0.8  | DN**/FNGA1506... |
| DDQNR/L2525M15   | 25 | 25 | 150 | 35 | 25 | 32 | 0.8  | DN**/FNGA1504... |
| DDQNR/L2525M1506 | 25 | 25 | 150 | 35 | 25 | 32 | 0.8  | DN**/FNGA1506... |
| DDQNR/L3225P15   | 32 | 25 | 170 | 35 | 32 | 32 | 0.8  | DN**/FNGA1504... |
| DDQNR/L3225P1506 | 32 | 25 | 170 | 35 | 32 | 32 | 0.8  | DN**/FNGA1506... |

Note: Except for 57-type chipbreaker inserts

\*\*RE : Standard corner radius

#### SPARE PARTS

| Designation   | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench 1 | Wrench 2 |
|---------------|---------|--------|--------|-------------|-------|--------|------------|----------|----------|
| DDQNR/L**15   | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSD42 | BP-10  | LSP4       | P-3      | P-4      |
| DDQNR/L**1506 | DCPM-43 | DLCL43 | DPIS44 | DLCS43      | LSD42 | BP-10  | LSP4       | P-3      | P-4      |

G

H

R

S

T

V

W

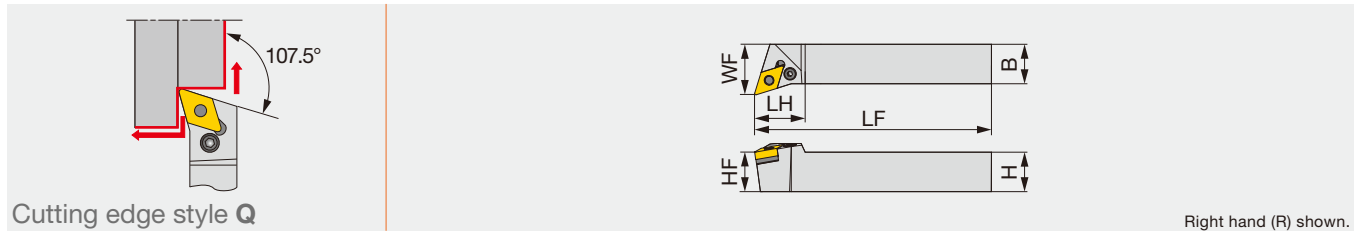
Y

OTHERS

Reference pages: C-ADQNR/L, DDQNR/L: Inserts → **B066 -**, CBN → **B172 -**, **B176 -**, PCD → **B211**

# PDQNR/L

Lever-lock toolholder with 107.5° approach angle, for negative 55°/45° rhombic inserts



| Metric      | H  | B  | LF  | LH | HF | WF | RE** | Insert           |
|-------------|----|----|-----|----|----|----|------|------------------|
| PDQNR/L2525 | 25 | 25 | 150 | 32 | 25 | 32 | 0.8  | DN**/FNGA1504... |

\*\*RE : Standard corner radius

## SPARE PARTS

| Designation | Shim      | Clamping screw | Wrench | Spring pin | Lever |
|-------------|-----------|----------------|--------|------------|-------|
| PDQNR/L...  | LSD42 D30 | LCS4           | P-3    | LSP4       | LCL4  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PDQNR/L: Inserts → B066 -, CBN → B172 -, B176 -, PCD → B211



# DN

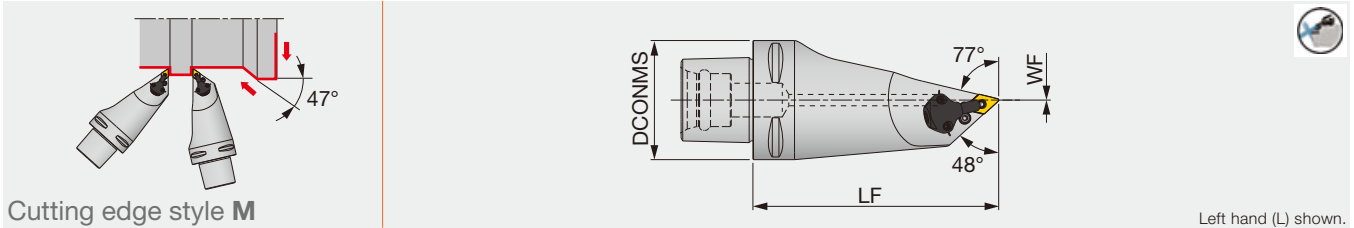
# FN



## TUNGCAP C-PDMNL-CHP

Direct connection

Lever lock toolholder with TungCap connection.  
For negative 55°/45° rhombic insert. High-pressure coolant capability.



| Metric                | DCONMS | LF  | WF | RE ** | Insert           | Torque |
|-----------------------|--------|-----|----|-------|------------------|--------|
| C6PDMNL00130-1104-CHP | 63     | 130 | 0  | 0.8   | DN**/FNMG1104... | 2      |

Torque: Recommended clamping torque: N·m  
Applicable for 14 MPa (2031 PSI) pressure coolant  
\*\*RE: Standard corner radius

For external turning only.

### SPARE PARTS

| Designation           | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever  |
|-----------------------|--------|----------------|----------|------------|--------|
| C6PDMNL00130-1104-CHP | ELSD32 | LCS3           | P-2.5    | LSP3       | LCL33L |

### SPARE PARTS

| Designation           | Coolant unit | Mounting screw | Wrench 2 | O-ring     |
|-----------------------|--------------|----------------|----------|------------|
| C6PDMNL00130-1104-CHP | CU-D-CHP     | SRM3           | T-8F     | OR6.4X0.9N |

## INSERT SELECTION

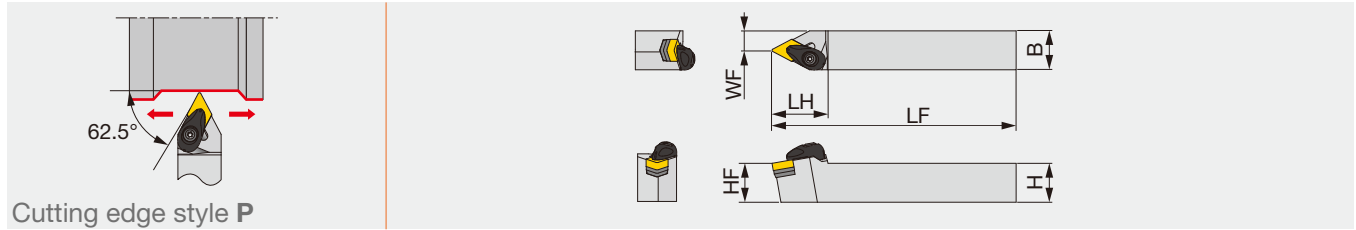
| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T9215          |
| Chipbreaker shape  | TSF       | TM             |
| Cutting conditions | B004      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH6225         |
| Chipbreaker shape  | SS        | SM             |
| Cutting conditions | B006      |                |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T515           |
| Chipbreaker shape  | TM             |
| Cutting conditions | B008           |

Reference pages: C-PDMNL-CHP: Inserts → **B066 - , B075**, CBN → **B172**  
Parts for coolant hose → **C133**

Double-clamp toolholder with 62.5° approach angle, for negative 55°/45° rhombic inserts



| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| ADPNN124-A | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 0.375 | 0.031 | DN**/FNGA 43... | 2.2    |
| ADPNN164-A | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 0.500 | 0.031 | DN**/FNGA 43... | 2.2    |

| Metric         | H  | B  | LF  | LH | HF | WF   | RE** | Insert           | Torque* |
|----------------|----|----|-----|----|----|------|------|------------------|---------|
| ADPNN2020K15-A | 20 | 20 | 125 | 36 | 20 | 7.5  | 0.8  | DN**/FNGA1504... | 3       |
| ADPNN2525M15-A | 25 | 25 | 150 | 36 | 25 | 12.5 | 0.8  | DN**/FNGA1504... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE: Standard corner radius

| SPARE PARTS |       |             |        |            |        |            |        |
|-------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| ADPNN...    | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASD432 | CSTB-3.5   | T-15F  |

## INSERT SELECTION

|          |                    |                     |           |                |                         |
|----------|--------------------|---------------------|-----------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|          | Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
|          | Cutting conditions | B004                |           |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>M</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T6215     | AH6225         | AH6225                  |
|          | Chipbreaker shape  | SF        | SM             | SH                      |
|          | Cutting conditions | B006      |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T515      | T515           | T515                    |
|          | Chipbreaker shape  | All-round | All-round      | All-round               |
|          | Cutting conditions | B008      |                |                         |

|          |                    |                     |               |                |
|----------|--------------------|---------------------|---------------|----------------|
| <b>N</b> | Application        | Precision finishing | Finishing     | Medium cutting |
|          | Grade              | DX120               | DX140         | TH10           |
|          | Chipbreaker shape  | DIA                 | with rake DIA | P              |
|          | Cutting conditions | B010                |               |                |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | BX470               | AH8005    | AH8005         |
|          | Chipbreaker shape  | CBN                 | HRF       | HRM            |
|          | Cutting conditions | B012                |           |                |

|          |                    |                     |           |
|----------|--------------------|---------------------|-----------|
| <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BXA10               | BXA20     |
|          | Chipbreaker shape  | CBN                 | CBN       |
|          | Cutting conditions | B014                |           |

Reference pages: ADPNN: Inserts → B066 -, CBN → B172 -, B176, PCD → B211

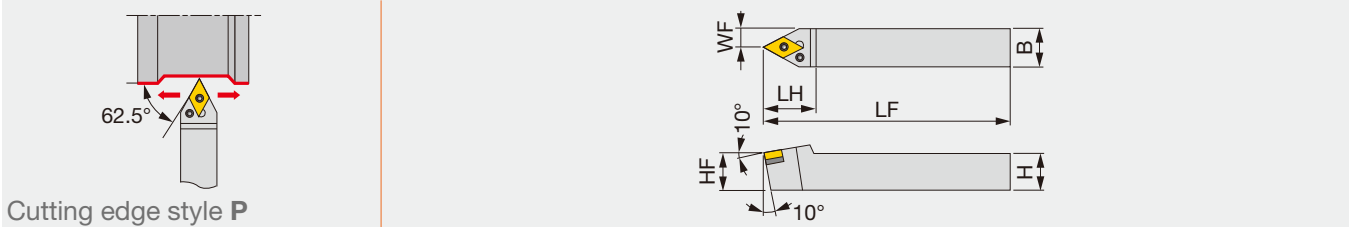
# DN

# FN



## PDPNN

Lever-lock toolholder with 62.5° approach angle, for negative 55°/45° rhombic inserts



| Metric        | H  | B  | LF  | LH | HF | WF   | RE** | Insert           |
|---------------|----|----|-----|----|----|------|------|------------------|
| PDPNN2525     | 25 | 25 | 150 | 36 | 25 | 12.5 | 0.8  | DN**/FNGA1504... |
| PDPNN2525M15E | 25 | 25 | 150 | 36 | 25 | 12.5 | 0.8  | DN**/FNGA1506... |

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation   | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|---------------|--------|----------------|--------|------------|-------|
| PDPNN2525     | LSD42  | LCS4           | P-3    | LSP4       | LCL4  |
| PDPNN2525M15E | ELSD42 | ELCS4          | P-3    | LSP4S      | LCL44 |

## INSERT SELECTION

| P | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|---------------------|-----------|----------------|-------------------------|
|   | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|   | Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
|   | Cutting conditions | B004                |           |                |                         |

| M | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T6215     | AH6225         | AH6225                  |
|   | Chipbreaker shape  | SF        | SM             | SH                      |
|   | Cutting conditions | B006      |                |                         |

| K | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T515      | T515           | T515                    |
|   | Chipbreaker shape  | All-round | All-round      | All-round               |
|   | Cutting conditions | B008      |                |                         |

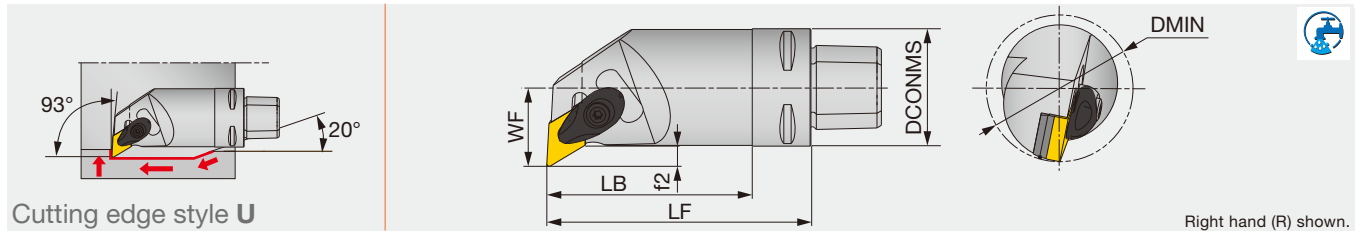
| N | Application        | Precision finishing | Finishing     | Medium cutting |
|---|--------------------|---------------------|---------------|----------------|
|   | Grade              | DX120               | DX140         | TH10           |
|   | Chipbreaker shape  | DIA                 | DIA with rake | P              |
|   | Cutting conditions | B010                |               |                |

| S | Application        | Precision finishing | Finishing | Medium cutting |
|---|--------------------|---------------------|-----------|----------------|
|   | Grade              | BX470               | AH8005    | AH8005         |
|   | Chipbreaker shape  | CBN                 | HRF       | HRM            |
|   | Cutting conditions | B012                |           |                |

| H | Application        | Precision finishing | Finishing |
|---|--------------------|---------------------|-----------|
|   | Grade              | BXA10               | BXA20     |
|   | Chipbreaker shape  | CBN                 | CBN       |
|   | Cutting conditions | B014                |           |

Reference pages: PDPNN: Inserts → B066 -, CBN → B172 -, B176, PCD → B211





| Metric          | DMIN | DCONMS | LF | LB | WF | f2 | RE  | Insert           |
|-----------------|------|--------|----|----|----|----|-----|------------------|
| C4ADUNR20070-15 | 38   | 40     | 70 | 50 | 20 | 5  | 0.8 | DN**/FNGA1504... |
| C4ADUNR27090-15 | 50   | 40     | 90 | -  | 27 | 7  | 0.8 | DN**/FNGA1504... |

Applicable for 7 MPa (1015 PSI) coolant

### SPARE PARTS

| Designation  | Clamp | Clamp screw | Shim   | Shim screw | Spring | Spring pin | Wrench |
|--------------|-------|-------------|--------|------------|--------|------------|--------|
| C*ADUNR/L... | ACP4S | ACS-5W      | ASD432 | CSTB-3.5   | BP-7   | SP-2.5     | T-15F  |

Option: ASD423 (Shim for DN\*\*1506\*\*)

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: C-ADUNR/L: Inserts → B066 -, CBN → B172 -, B176, PCD → B211  
Parts for coolant hose → C133

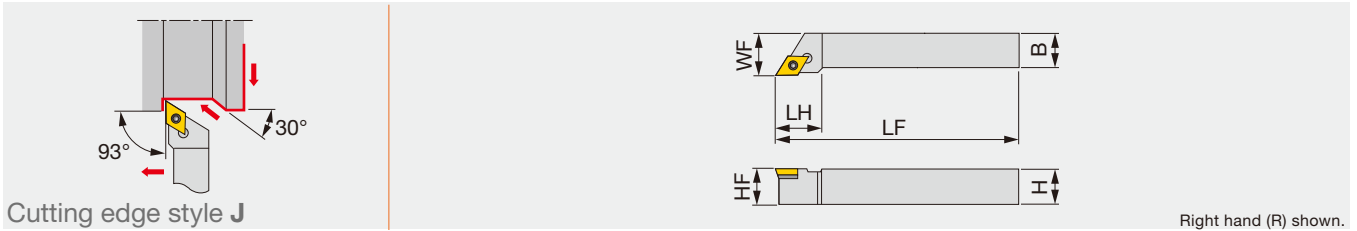


# DC

 **Rhombic, 55°  
with hole  
Positive 7°**

## SDJCR/L

Screw-on toolholder with 93° approach angle, for positive 55° rhombic inserts



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert       |
|------------|-------|-------|-------|-------|-------|-------|-------|--------------|
| SDJCR/L062 | 0.375 | 0.375 | 2.500 | 0.625 | 0.375 | 0.500 | 0.016 | DC** 21.5... |
| SDJCR/L082 | 0.500 | 0.500 | 3.500 | 0.625 | 0.500 | 0.625 | 0.016 | DC** 21.5... |
| SDJCR/L083 | 0.500 | 0.500 | 3.500 | -     | 0.500 | 0.625 | 0.016 | DC** 32.5... |
| SDJCR/L103 | 0.625 | 0.625 | 4.000 | -     | 0.625 | 0.750 | 0.031 | DC** 32.5... |
| SDJCR/L123 | 0.750 | 0.750 | 4.500 | -     | 0.750 | 1.000 | 0.031 | DC** 32.5... |
| SDJCR/L163 | 1.000 | 1.000 | 6.000 | -     | 1.000 | 1.250 | 0.031 | DC** 32.5... |

| Metric         | H  | B  | LF  | LH   | HF | WF | RE** | Insert      |
|----------------|----|----|-----|------|----|----|------|-------------|
| SDJCR1616H11   | 16 | 16 | 100 | 20   | 16 | 20 | 0.8  | DC**11T3... |
| SDJCR/L2020K11 | 20 | 20 | 125 | 20.5 | 20 | 25 | 0.8  | DC**11T3... |
| SDJCR/L2525M11 | 25 | 25 | 150 | 21.5 | 25 | 32 | 0.8  | DC**11T3... |

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation                | Clamping screw | Shim screw | Shim  | Wrench1 | Wrench2 |
|----------------------------|----------------|------------|-------|---------|---------|
| SDJCR/L**2                 | CSTB-2.5       | -          | -     | -       | T-8F    |
| SDJCR/L**3,<br>SDJCR/L**11 | CSTB-3.5L      | DTS5-3.5   | SSD32 | P-3.5   | T-15F   |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
| Grade              | NS9530    | T9215                       | T9215          |
| Chipbreaker shape  | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Precision finishing | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|---------------------|-----------|-----------------------------|----------------|
| Grade              | GH330               | AH6225    | AH6225                      | AH6225         |
| Chipbreaker shape  | W**                 | PSS       | PS                          | PM             |
| Cutting conditions | B018                |           |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Chipbreaker shape  | CM                          |
| Cutting conditions | B020                        |

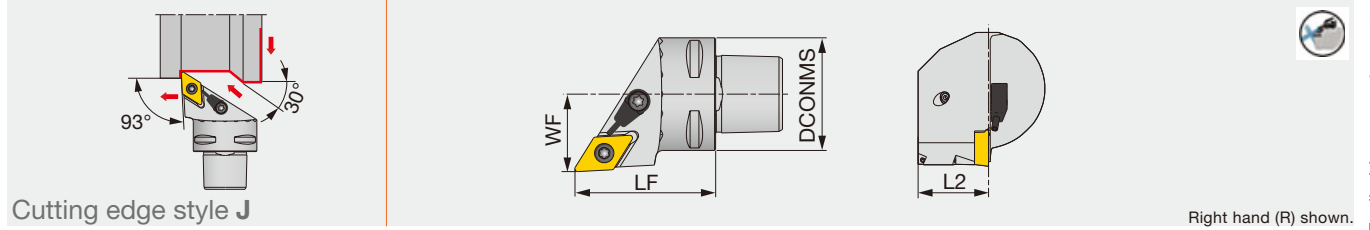
| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | KS05F          |
| Chipbreaker shape  | DIA                 | with rake DIA | AL             |
| Cutting conditions | B022                |               |                |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | AH8015    | AH8015                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B024      |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B026                |           |

Reference pages: SDJCR/L: Inserts → **B121** -, CBN → **B194**, PCD → **B214**

Screw-on toolholder, with 93° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



| Metric                | DCONMS | LF | L2 | WF | RE  | Insert      |
|-----------------------|--------|----|----|----|-----|-------------|
| C3SDJCR/L22040-11-CHP | 32     | 40 | 20 | 22 | 0.8 | DC**11T3... |

Applicable for 14 MPa (2031 PSI) coolant  
Cannot be used for boring

### SPARE PARTS

| Designation           | Clamping screw | Coolant unit | Wrench |
|-----------------------|----------------|--------------|--------|
| C3SDJCR/L22040-11-CHP | CSTB-4S        | S-CU-CHP     | T-15F  |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Chipbreaker shape  | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Precision finishing | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|---------------------|-----------|-----------------------------|----------------|
|                    | Grade               | GH330     | AH6225                      | AH6225         |
| Chipbreaker shape  | W**                 | PSS       | PS                          | PM             |
| Cutting conditions | B018                |           |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
|                    | Grade                       |
| Chipbreaker shape  | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | DIA with rake | AL             |
| Cutting conditions | B022                |               |                |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH8015                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B024      |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B026                |           |

Reference pages: C-SDJCR/L-CHP: Inserts → **B121** -, CBN → **B194**, PCD → **B214**  
Parts for coolant hose → **C133**

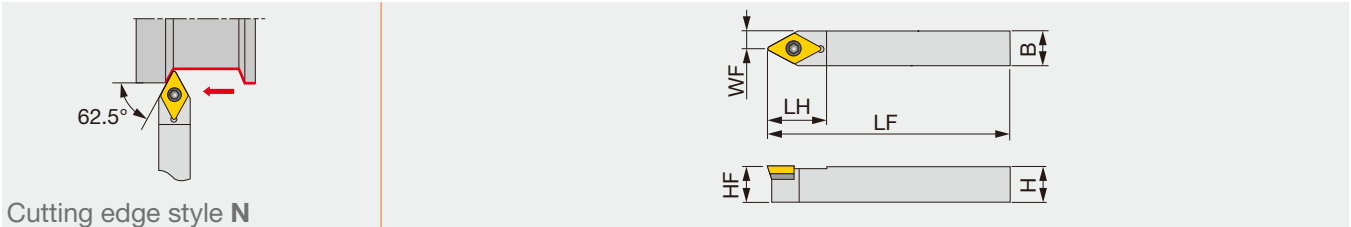


# DC

 **Rhombic, 55°  
with hole  
Positive 7°**

## SDNCN

Screw-on toolholder with 62.5° approach angle, for positive 55° rhombic inserts

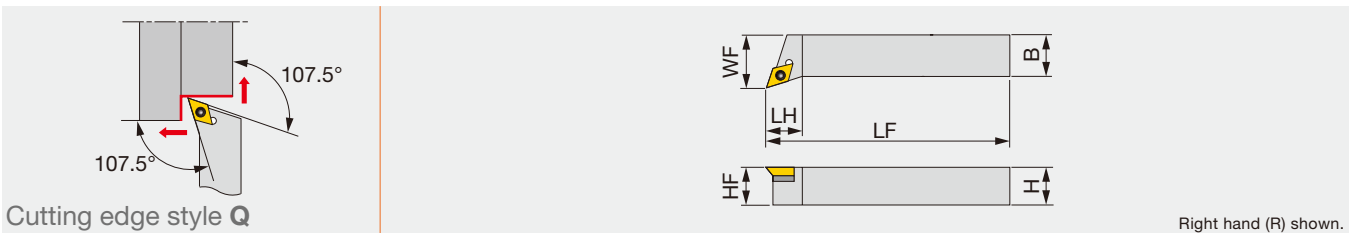


| Metric       | H  | B  | LF  | LH | HF | WF   | RE** | Insert      |
|--------------|----|----|-----|----|----|------|------|-------------|
| SDNCN1616H11 | 16 | 16 | 100 | 21 | 16 | 8    | 0.8  | DC**11T3... |
| SDNCN2020K11 | 20 | 20 | 125 | 21 | 20 | 10   | 0.8  | DC**11T3... |
| SDNCN2525M11 | 25 | 25 | 150 | 21 | 25 | 12.5 | 0.8  | DC**11T3... |

\*\*RE: Standard corner radius

## SDQCR/L

Screw-on toolholder with 107.5° approach angle, for positive 55° rhombic inserts



| Metric         | H  | B  | LF  | LH   | HF | WF | RE** | Insert      |
|----------------|----|----|-----|------|----|----|------|-------------|
| SDQCR/L2020K11 | 20 | 20 | 125 | 20.5 | 20 | 25 | 0.8  | DC**11T3... |
| SDQCR/L2525M11 | 25 | 25 | 150 | 21.5 | 25 | 32 | 0.8  | DC**11T3... |

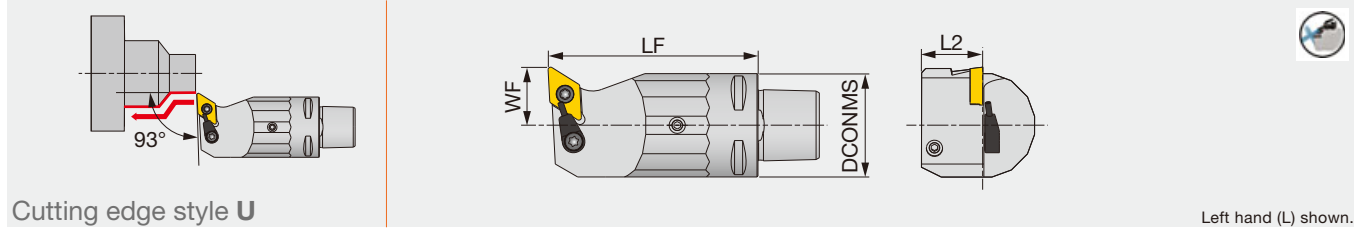
\*\*RE : Standard corner radius

### SPARE PARTS

| Designation             |  Clamping screw |  Shim screw |  Shim |  Wrench1 |  Wrench2 |
|-------------------------|--|--|--|---|---|
| SDNCN...,<br>SDQCR/L... | CSTB-3.5L  | DTS5-3.5   | SSD32  | P-3.5   | T-15F   |

Reference pages: SDNCN, SDQCR/L: Inserts → **B121** -, CBN → **B194**, PCD → **B214**

Screw-on toolholder, with 93° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



Cutting edge style **U**

Left hand (L) shown.

| Metric              | DCONMS | LF | L2 | WF | RE  | Insert      |
|---------------------|--------|----|----|----|-----|-------------|
| C3SDUCL18040-11-CHP | 32     | 40 | 19 | 18 | 0.8 | DC**11T3... |
| C3SDUCL18065-11-CHP | 32     | 65 | 19 | 18 | 0.8 | DC**11T3... |

Applicable for 14 MPa (2031 PSI) coolant  
Cannot be used for boring

### SPARE PARTS

| Designation | Clamping screw | Coolant unit | Wrench |
|-------------|----------------|--------------|--------|
| C3SDUCL...  | CSTB-4S        | S-CU-CHP     | T-15F  |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Chipbreaker shape  | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Precision finishing | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|---------------------|-----------|-----------------------------|----------------|
|                    | Grade               | GH330     | AH6225                      | AH6225         |
| Chipbreaker shape  | W**                 | PSS       | PS                          | PM             |
| Cutting conditions | B018                |           |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
|                    | Grade                       |
| Chipbreaker shape  | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | AL             |
| Cutting conditions | B022                |               |                |

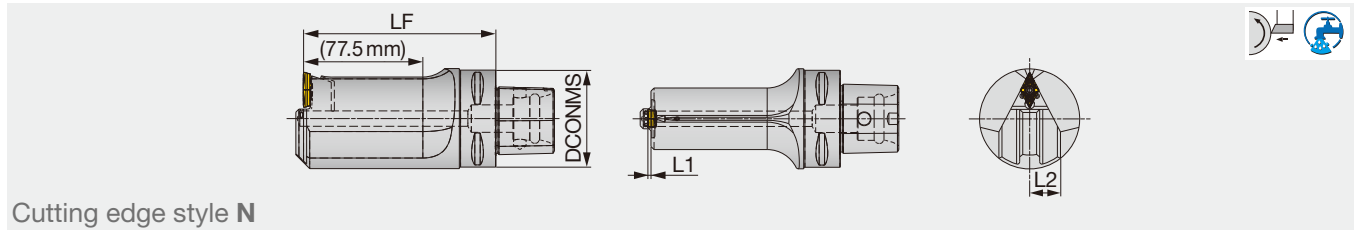
| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH8015                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B024      |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B026                |           |

Reference pages: C-SDUCL-CHP: Inserts → **B121** -, CBN → **B194**, PCD → **B214**  
Parts for coolant hose → **C133**



Screw-on Y-axis turning toolholder with TungCap connection, for positive 55° rhombic inserts



Cutting edge style N

| Metric                | SS | DCONMS | LF  | L1 | L2 | RE  | Insert         | Torque |
|-----------------------|----|--------|-----|----|----|-----|----------------|--------|
| C6SDNCN00125-13-Y-CHP | C6 | 63     | 125 | 2  | 20 | 0.4 | 2D-DCMT13T4... | 3.5    |

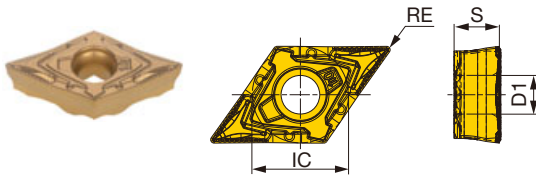
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation           | Clamping screw | Grip   | Torx bit |
|-----------------------|----------------|--------|----------|
| C6SDNCN00125-13-Y-CHP | CSTB-4M        | H-TB2W | BT15M    |

## INSERT

### 2D-DCMT\*\*-ZF



|  | P Steel | M Stainless | K Cast iron | N Non-ferrous | S Superalloys | H Hard materials |  |  |  |  |  |  |  |  |  |  |  |
|--|---------|-------------|-------------|---------------|---------------|------------------|--|--|--|--|--|--|--|--|--|--|--|
|  | ★       | ☆           | ☆           |               |               |                  |  |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation      | RE (in) | Coated |  |  |  |  |  |  |  |  |  | IC (in) | S (in) | D1 (in) |       |
|------------------|---------|--------|--|--|--|--|--|--|--|--|--|---------|--------|---------|-------|
|                  |         | T9215  |  |  |  |  |  |  |  |  |  |         |        |         |       |
| 2D-DCMT13T404-ZF | 0.016   | ●      |  |  |  |  |  |  |  |  |  |         | 0.433  | 0.203   | 0.173 |

Please note that 2D-DCMT... insert is not recommended for pull face-turning method (pulling the insert away from the part center).

● : Line up



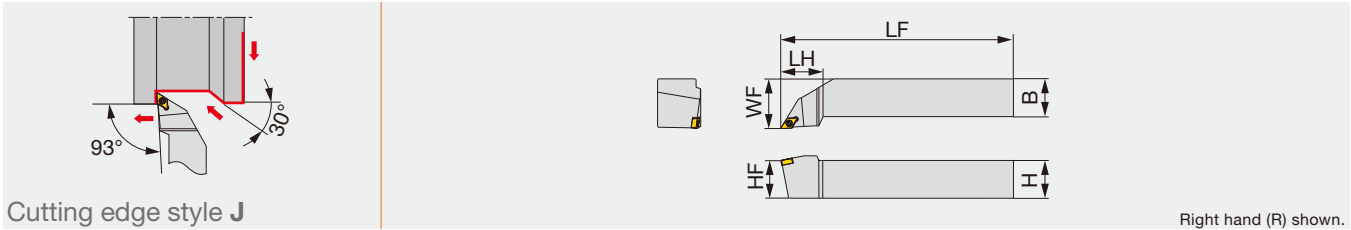
# DX



Rhombic, 55° with hole

## MINIFORCE TURN JSDJXR/L

Screw-on toolholder with 93° approach angle, for DX\*U inserts



| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert           | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|------------------|--------|
| JSDJXR/L122 | 0.750 | 0.750 | 4.500 | 1.125 | 0.750 | 1.000 | 0.008 | DX*U 22**/L/R... | 0.66   |
| JSDJXR/L162 | 1.000 | 1.000 | 6.000 | 1.125 | 1.000 | 1.250 | 0.008 | DX*U 22**/L/R... | 0.66   |

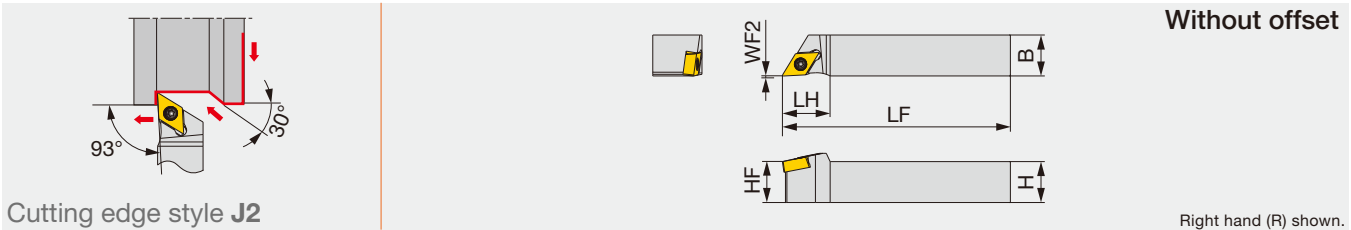
  

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert            | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------------|---------|
| JSDJXR/L2020K07 | 20 | 20 | 125 | 27 | 20 | 25 | 0.4  | DX*U0703**/L/R... | 0.9     |
| JSDJXR/L2525M07 | 25 | 25 | 150 | 27 | 25 | 32 | 0.4  | DX*U0703**/L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius  
Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

## JSDJ2XR/L

Screw-on toolholder with 93° approach angle, for DX\*U inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF2 | RE**  | Insert           | Torque |
|--------------|-------|-------|-------|-------|-------|-----|-------|------------------|--------|
| JSDJ2XR/L062 | 0.375 | 0.375 | 4.750 | 0.625 | 0.375 | 0   | 0.008 | DX*U 22**/L/R... | 0.66   |
| JSDJ2XR/L082 | 0.500 | 0.500 | 4.750 | 0.625 | 0.500 | 0   | 0.008 | DX*U 22**/L/R... | 0.66   |
| JSDJ2XR/L102 | 0.625 | 0.625 | 4.750 | 0.625 | 0.625 | 0   | 0.008 | DX*U 22**/L/R... | 0.66   |

| Metric           | H  | B  | LF  | LH | HF | WF2 | RE** | Insert            | Torque* |
|------------------|----|----|-----|----|----|-----|------|-------------------|---------|
| JSDJ2XR/L1010X07 | 10 | 10 | 120 | 14 | 10 | 0   | 0.2  | DX*U0703**/L/R... | 0.9     |
| JSDJ2XR/L1212F07 | 12 | 12 | 85  | 14 | 12 | 0   | 0.2  | DX*U0703**/L/R... | 0.9     |
| JSDJ2XR/L1212X07 | 12 | 12 | 120 | 14 | 12 | 0   | 0.2  | DX*U0703**/L/R... | 0.9     |
| JSDJ2XR/L1616X07 | 16 | 16 | 120 | 18 | 16 | 0   | 0.2  | DX*U0703**/L/R... | 0.9     |
| JSDJ2XR/L2020H07 | 20 | 20 | 100 | 18 | 20 | 0   | 0.2  | DX*U0703**/L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius  
Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation               | Clamping screw | Wrench |
|---------------------------|----------------|--------|
| JSDJXR/L..., JSDJ2XR/L... | SR34-514       | T-7F   |

## INSERT SELECTION

Swiss lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

Small CNC lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH725          |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH8015         |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

Reference pages:  
JSDJXR/L, JSDJ2XR/L:  
Inserts → **B126 -**,  
Standard cutting conditions → **C136**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

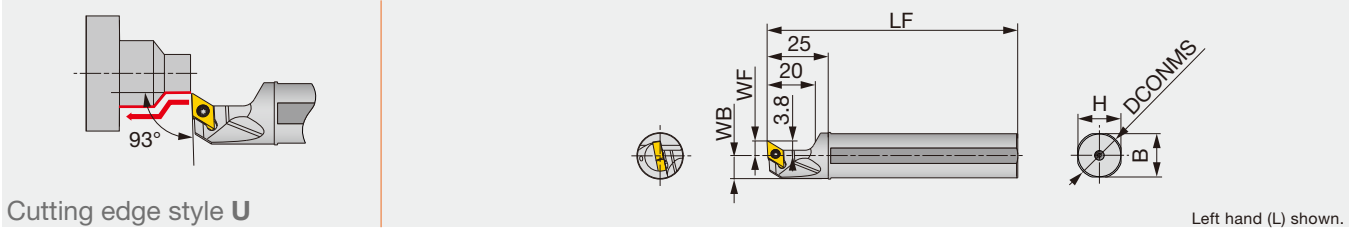


# DX



## MINIFORCE TURN JS-SDUXL

Screw-on round-shank toolholder with 93° approach angle, for DX\*U inserts



| Metric         | DCONMS | WF | LF  | H  | B  | WB    | RE** | Insert         | Torque |
|----------------|--------|----|-----|----|----|-------|------|----------------|--------|
| JS14H-SDUXL07  | 14     | 6  | 100 | 13 | 13 | 6.75  | 0.2  | DX*U0703**L... | 0.9    |
| JS159F-SDUXL07 | 15.875 | 6  | 85  | 15 | 15 | 7.687 | 0.2  | DX*U0703**L... | 0.9    |
| JS16F-SDUXL07  | 16     | 6  | 85  | 15 | 15 | 7.75  | 0.2  | DX*U0703**L... | 0.9    |
| JS19G-SDUXL07  | 19.05  | 6  | 90  | 18 | 18 | 9.275 | 0.2  | DX*U0703**L... | 0.9    |
| JS19X-SDUXL07  | 19.05  | 6  | 120 | 18 | 18 | 9.275 | 0.2  | DX*U0703**L... | 0.9    |
| JS20G-SDUXL07  | 20     | 6  | 90  | 19 | 19 | 9.75  | 0.2  | DX*U0703**L... | 0.9    |
| JS20X-SDUXL07  | 20     | 6  | 120 | 19 | 19 | 9.75  | 0.2  | DX*U0703**L... | 0.9    |
| JS22X-SDUXL07  | 22     | 10 | 120 | 21 | 21 | 10.75 | 0.2  | DX*U0703**L... | 0.9    |
| JS25H-SDUXL07  | 25     | 10 | 100 | 24 | 24 | 12.25 | 0.2  | DX*U0703**L... | 0.9    |
| JS254X-SDUXL07 | 25.4   | 10 | 120 | 24 | 24 | 12.45 | 0.2  | DX*U0703**L... | 0.9    |

Torque: Recommended clamping torque: N·m  
 \*\*RE: Standard corner radius  
 Note: Use left-hand toolholders (L) with left-hand inserts (L).

### SPARE PARTS

| Designation  | Clamping screw | Wrench |
|--------------|----------------|--------|
| JS**-SDUXL07 | SR34-514       | T-7F   |

## INSERT SELECTION

### Swiss lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

### Small CNC lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH725          |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH8015         |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

Reference pages: JS-SDUXL: Inserts → **B126** -  
 Standard cutting conditions → **C136**

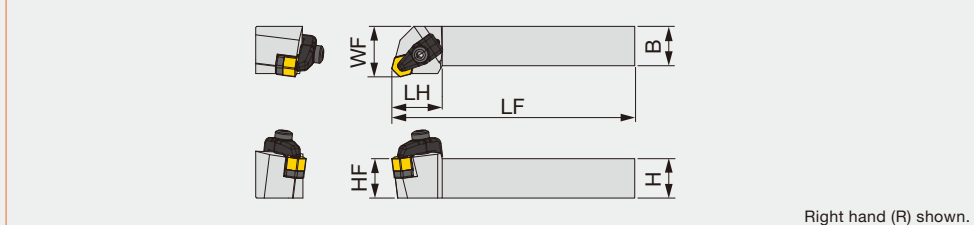
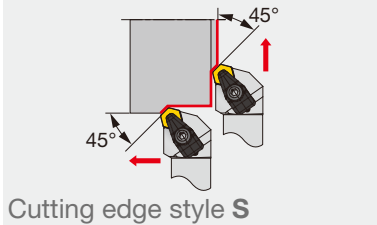
# HN



Hexagonal,  
120°  
without hole

## DIMPLEFX CHSNR/L-RD

Double-clamp toolholder with 45° approach angle, for negative 120° hexagonal ceramic inserts with dimple



| Inch              | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| CHSNR16M45-RD     | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.250 | 0.047 | HNGD 45...  | 3.0     |
| Metric            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| CHSNR2525M0507-RD | 25    | 25    | 150   | 32    | 25    | 32    | 1.2   | HNGD0507... | 4       |

Torque: Recommended clamping torque: lb-ft (\*N·m)  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp  | Clamp screw | Shim   | Shim screw | Spring | Wrench 1 | Wrench 2 |
|-------------|--------|-------------|--------|------------|--------|----------|----------|
| CHSNR...    | CCP4-A | CCS4-A      | CH44-A | BH-40050-A | BP-5-A | P-3      | P-4      |

### INSERT SELECTION

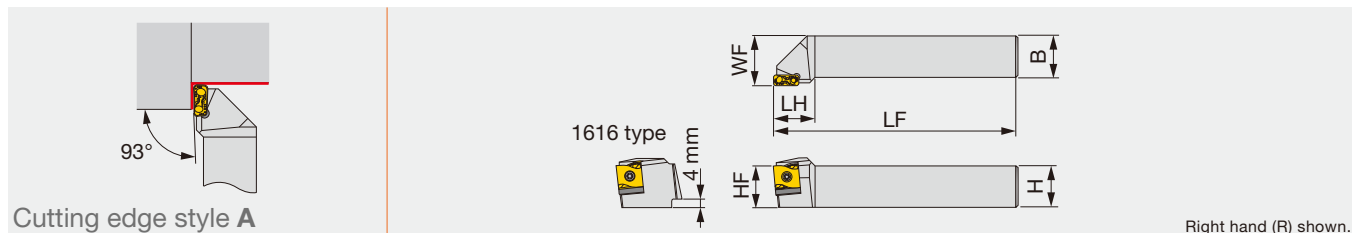
|          |                    |                             |
|----------|--------------------|-----------------------------|
| <b>K</b> | Application        | Finishing to medium cutting |
|          | Grade              | FX105                       |
|          | Chipbreaker Shape  |                             |
|          | Cutting conditions | C136                        |

Reference pages: CHSNR/L-RD: Inserts → **B111**  
Standard cutting conditions → **C136**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



Screw-on toolholder for roughing with 93° approach angle, for negative tangential inserts



Right hand (R) shown.

| Inch         | H     | B     | LF    | LH    | HF    | WF    | Insert           |
|--------------|-------|-------|-------|-------|-------|-------|------------------|
| TLANR/L10-12 | 0.625 | 0.625 | 4.000 | 0.790 | 0.625 | 0.750 | LNMX1204**R/L... |
| TLANR/L12-12 | 0.750 | 0.750 | 4.500 | 0.790 | 0.750 | 1.000 | LNMX1204**R/L... |
| TLANR/L12-16 | 0.750 | 0.750 | 4.500 | 1.000 | 0.750 | 1.000 | LNMX1606**R/L... |
| TLANR/L16-12 | 1.000 | 1.000 | 6.000 | 0.790 | 1.000 | 1.250 | LNMX1204**R/L... |
| TLANR/L16-16 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.180 | LNMX1606**R/L... |
| TLANR/L20-16 | 1.250 | 1.250 | 6.000 | 1.380 | 1.250 | 1.460 | LNMX1606**R/L... |
| TLANR/L20-24 | 1.250 | 1.250 | 6.000 | 1.380 | 1.250 | 1.500 | LNMX2410**R/L... |
| TLANR/L24-16 | 1.500 | 1.500 | 7.000 | 1.380 | 1.500 | 1.700 | LNMX1606**R/L... |
| TLANR/L24-24 | 1.500 | 1.500 | 7.000 | 1.380 | 1.500 | 1.700 | LNMX2410**R/L... |
| TLANR/L32-24 | 2.000 | 2.000 | 8.000 | 1.380 | 2.000 | 2.275 | LNMX2410**R/L... |

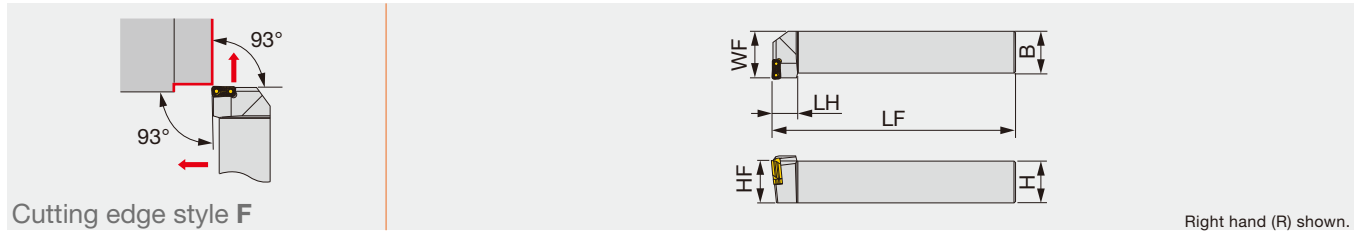
| Metric          | H  | B  | LF  | LH | HF | WF | Insert           |
|-----------------|----|----|-----|----|----|----|------------------|
| TLANR/L1616H12  | 16 | 16 | 100 | 20 | 16 | 20 | LNMX1204**R/L... |
| TLANR/L1616M12S | 16 | 16 | 150 | 20 | 16 | 20 | LNMX1204**R/L... |
| TLANR/L2020K12  | 20 | 20 | 125 | 20 | 20 | 25 | LNMX1204**R/L... |
| TLANR/L2020K16  | 20 | 20 | 125 | 25 | 20 | 25 | LNMX1606**R/L... |
| TLANR/L2525M12  | 25 | 25 | 150 | 20 | 25 | 30 | LNMX1204**R/L... |
| TLANR/L2525M16  | 25 | 25 | 150 | 25 | 25 | 30 | LNMX1606**R/L... |
| TLANR/L3232P16  | 32 | 32 | 170 | 35 | 32 | 37 | LNMX1606**R/L... |
| TLANR/L3232P24  | 32 | 32 | 170 | 35 | 32 | 38 | LNMX2410**R/L... |
| TLANR/L4040R16  | 40 | 40 | 200 | 35 | 40 | 47 | LNMX1606**R/L... |
| TLANR/L4040R24  | 40 | 40 | 200 | 40 | 40 | 47 | LNMX2410**R/L... |
| TLANR/L5050S24  | 50 | 50 | 250 | 40 | 50 | 57 | LNMX2410**R/L... |

### SPARE PARTS

| Designation    | Clamping screw | Shim screw   | Shim   | Spring | Wrench 1 | Wrench 2 |
|----------------|----------------|--------------|--------|--------|----------|----------|
| TLANR**12, 12S | CSTB-3.5L115-S | CSTF-2L055-S | TSL12R | -      | KEYV-T10 | T-6F-S   |
| TLANL**12, 12S | CSTB-3.5L115-S | CSTF-2L055-S | TSL12L | -      | KEYV-T10 | T-6F-S   |
| TLANR**16      | CSTB-4L115-S   | -            | TSL16R | PSP-16 | KEYV-T15 | -        |
| TLANL**16      | CSTB-4L115-S   | -            | TSL16L | PSP-16 | KEYV-T15 | -        |
| TLANR**24      | CSTB-5L163-S   | -            | TSL24R | PSP-16 | KEYV-T20 | -        |
| TLANL**24      | CSTB-5L163-S   | -            | TSL24L | PSP-16 | KEYV-T20 | -        |

Reference pages: TLANR/L: Inserts → **C062**, Standard cutting conditions → **C137**

Screw-on toolholder for roughing with 93° approach angle, for negative tangential inserts



Cutting edge style F

Right hand (R) shown.

| Inch           | H     | B     | LF    | LH    | HF    | WF    | Insert           |
|----------------|-------|-------|-------|-------|-------|-------|------------------|
| TLFNR/L16-16   | 1.000 | 1.000 | 6.000 | 0.750 | 1.000 | 1.181 | LNMX1606**L/R... |
| TLFNR/L20-16   | 1.250 | 1.300 | 6.693 | 0.750 | 1.250 | 1.457 | LNMX1606**L/R... |
| Metric         | H     | B     | LF    | LH    | HF    | WF    | Insert           |
| TLFNR/L2525M16 | 25    | 25    | 150   | 20    | 25    | 30    | LNMX1606**L/R... |
| TLFNR/L3232P16 | 32    | 32    | 170   | 20    | 32    | 37    | LNMX1606**L/R... |

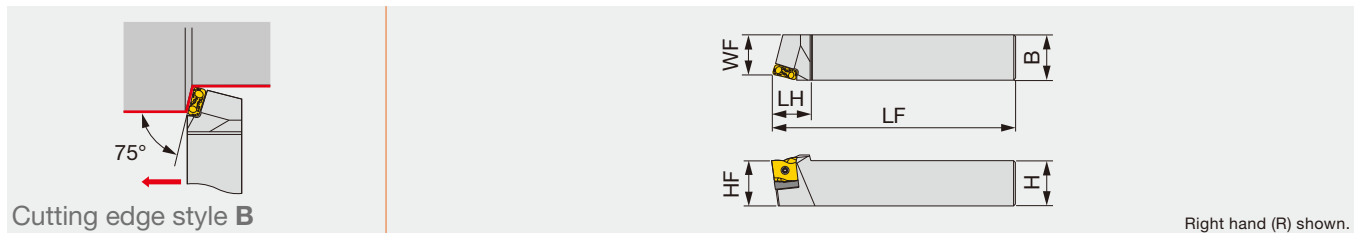
Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

**SPARE PARTS**

| Designation | Clamping screw | Shim   | Spring pin | Wrench   |
|-------------|----------------|--------|------------|----------|
| TLFNR...    | CSTB-4L115-S   | TSL16L | PSP-16     | KEYV-T15 |
| TLFNL...    | CSTB-4L115-S   | TSL16R | PSP-16     | KEYV-T15 |

**TLBNR/L**

Screw-on toolholder for roughing with 75° approach angle, for negative tangential inserts



Cutting edge style B

Right hand (R) shown.

| Inch           | H     | B     | LF    | LH    | HF    | WF    | Insert           |
|----------------|-------|-------|-------|-------|-------|-------|------------------|
| TLBNR/L24-24   | 1.500 | 1.500 | 7.874 | 1.378 | 1.500 | 1.378 | LNMX2410**R/L... |
| Metric         | H     | B     | LF    | LH    | HF    | WF    | Insert           |
| TLBNR/L4040R24 | 40    | 40    | 200   | 35    | 40    | 35    | LNMX2410**R/L... |

**SPARE PARTS**

| Designation | Clamping screw | Shim   | Spring pin | Wrench   |
|-------------|----------------|--------|------------|----------|
| TLBNR...    | CSTB-5L163-S   | TSL24R | PSP-16     | KEYV-T20 |
| TLBNL...    | CSTB-5L163-S   | TSL24L | PSP-16     | KEYV-T20 |

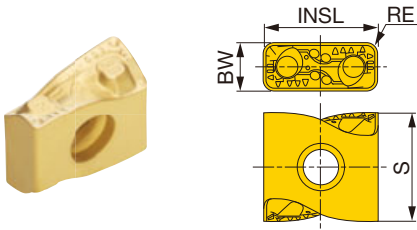
Reference pages: TLFNR/L, TLBNR/L:

Inserts → C062, Standard cutting conditions → C137



**INSERT**

**LNMX12/16/24**



|          |                |   |   |   |  |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ☆ | ☆ | ☆ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ | ☆ | ☆ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |   |   |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation     | HAND | RE (in) | Coated |       |       |  |  |  |  |  |  |  | BW (in) | INSL (in) | S (in) |       |       |
|-----------------|------|---------|--------|-------|-------|--|--|--|--|--|--|--|---------|-----------|--------|-------|-------|
|                 |      |         | T9115  | T9125 | AH725 |  |  |  |  |  |  |  |         |           |        |       |       |
| LNMX120408R-TDR | R    | 0.031   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.189  | 0.472 | 0.457 |
| LNMX120408L-TDR | L    | 0.031   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.189  | 0.472 | 0.457 |
| LNMX120412R-TDR | R    | 0.047   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.189  | 0.472 | 0.457 |
| LNMX120412L-TDR | L    | 0.047   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.189  | 0.472 | 0.457 |
| LNMX160608R-TDR | R    | 0.031   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160608L-TDR | L    | 0.031   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160612R-TDR | R    | 0.047   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160612L-TDR | L    | 0.047   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160616R-TDR | R    | 0.063   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160616L-TDR | L    | 0.063   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX241016R-TDR | R    | 0.063   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.370  | 0.945 | 0.807 |
| LNMX241016L-TDR | L    | 0.063   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.370  | 0.945 | 0.807 |
| LNMX241024R-TDR | R    | 0.094   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.370  | 0.945 | 0.807 |
| LNMX241024L-TDR | L    | 0.094   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.370  | 0.945 | 0.807 |
| LNMX160608R-MDR | R    | 0.031   | ●      | ●     | ●     |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160608L-MDR | L    | 0.031   | ●      | ●     | ●     |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160612R-MDR | R    | 0.047   | ●      | ●     | ●     |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160612L-MDR | L    | 0.047   | ●      | ●     | ●     |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160608R-TWR | R    | 0.031   | ●      |       |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160608L-TWR | L    | 0.031   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160612R-TWR | R    | 0.047   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |
| LNMX160612L-TWR | L    | 0.047   | ●      | ●     |       |  |  |  |  |  |  |  |         |           | 0.252  | 0.638 | 0.531 |

● : Line up

C

D

F

G

H

R

S

T

V

W

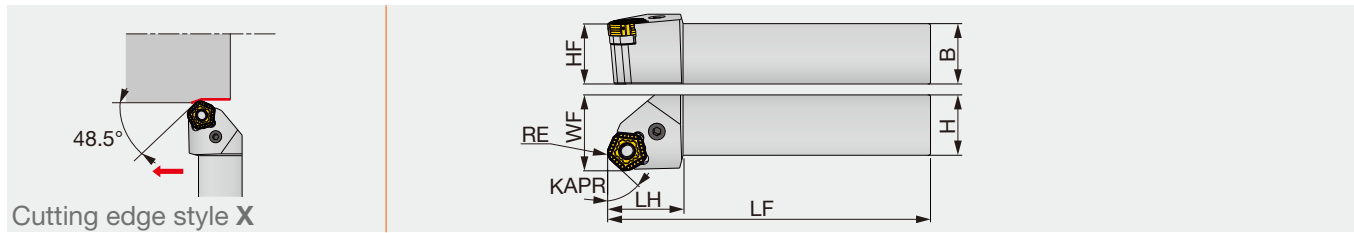
Y

OTHERS

Reference pages: Standard cutting conditions → **C137**



Lever-lock toolholder with 48.5° approach angle, for negative 108° pentagonal inserts

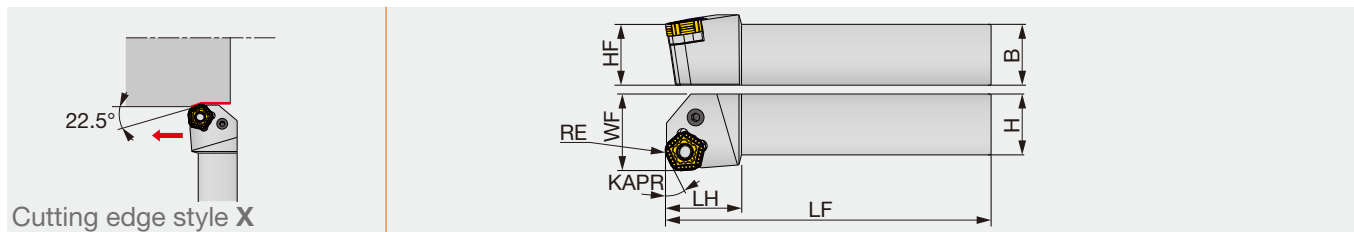


| Inch              | H     | B     | LF    | LH    | HF    | WF    | KAPR  | RE    | Insert        |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| PPXOR/L165-HD     | 1.000 | 1.000 | 6.000 | 1.380 | 1.000 | 1.260 | 48.5° | 0.047 | POMG 543...   |
| PPXOR/L206-HD     | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.510 | 48.5° | 0.047 | POMG 643...   |
| Metric            | H     | B     | LF    | LH    | HF    | WF    | KAPR  | RE    | Insert        |
| PPXOR/L2525M11-HD | 25    | 25    | 150   | 35    | 25    | 32    | 48.5° | 1.2   | POMG110612... |
| PPXOR/L3232P13-HD | 32    | 32    | 170   | 40    | 32    | 40    | 48.5° | 1.2   | POMG130612... |

Note: Since the corner angle of TurnTenFeed insert is 108°, the workpiece corner may require additional post-process to remove stock to achieve a right angle.

## PPXOR/L-HF

Lever-lock toolholder with 22.5° approach angle, for negative 108° pentagonal inserts



| Inch              | H     | B     | LF    | LH    | HF    | WF    | KAPR  | RE    | Insert        |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| PPXOR/L165-HF     | 1.000 | 1.000 | 6.000 | 1.380 | 1.000 | 1.260 | 22.5° | 0.047 | POMG 543...   |
| PPXOR/L206-HF     | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.510 | 22.5° | 0.047 | POMG 643...   |
| Metric            | H     | B     | LF    | LH    | HF    | WF    | KAPR  | RE    | Insert        |
| PPXOR/L2525M11-HF | 25    | 25    | 150   | 35    | 25    | 32    | 22.5° | 1.2   | POMG110612... |
| PPXOR/L3232P13-HF | 32    | 32    | 170   | 40    | 32    | 40    | 22.5° | 1.2   | POMG130612... |

Note: Since the corner angle of TurnTenFeed insert is 108°, the workpiece corner may require additional post-process to remove stock to achieve a right angle.

### SPARE PARTS

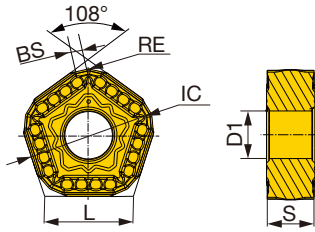
| Designation                         | Shim   | Spring pin | Lever | Clamping screw | Wrench |
|-------------------------------------|--------|------------|-------|----------------|--------|
| PPXOR/L165-H*,<br>PPXOR/L2525M11-H* | LSPO53 | LSP5       | LCL5  | LCS5           | P-3    |
| PPXOR/L206-H*,<br>PPXOR/L3232P13-H* | LSPO63 | LSP6       | LCL6  | LCS6           | P-4    |

Reference pages: PPXOR/L-HD, PPXOR/L-HF:  
Inserts → C064, Standard cutting conditions → C135



**INSERT**

**POMG-MNW**



|          |                |   |   |   |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ |   |  |  |  |  |
| <b>M</b> | Stainless      | ☆ |   | ☆ |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ | ☆ |   |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |
| <b>S</b> | Superalloys    |   |   | ★ |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation  |                | RE (in) | Coated |       |        |  |  | IC (in) | L (in) | BS (in) | S (in) | D1 (in) |
|--------------|----------------|---------|--------|-------|--------|--|--|---------|--------|---------|--------|---------|
|              |                |         | T9215  | T9225 | AH8015 |  |  |         |        |         |        |         |
| Inch         | Metric         | 0.047   | ●      | ●     | ●      |  |  |         |        |         |        |         |
| POMG 543 MNW | POMG110612-MNW | 0.047   | ●      | ●     | ●      |  |  |         |        |         |        |         |
| POMG 643 MNW | POMG130612-MNW | 0.047   | ●      | ●     | ●      |  |  |         |        |         |        |         |

● : Line up

- C
- D
- F
- G
- H
- R**
- S
- T
- V
- W
- Y
- OTHERS

Reference pages: Standard cutting conditions → **C135**

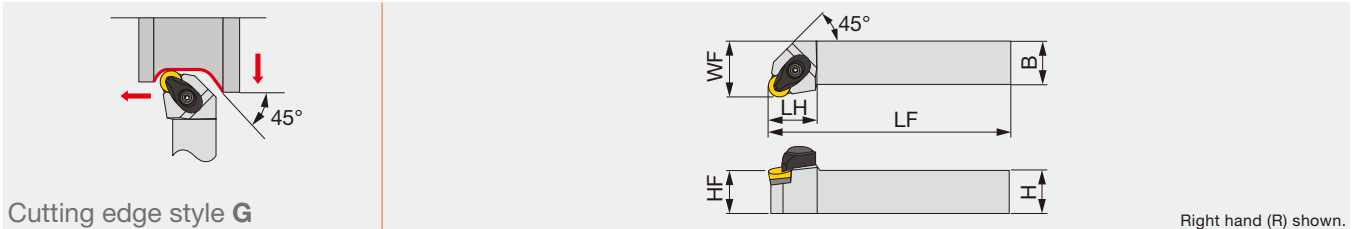
# RN



Round,  
with hole

## TURNINGA ARGNR/L

Double-clamp toolholder with 91° approach angle, for negative round inserts



Right hand (R) shown.

| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|------------|---------|
| ARGNR/L164-A     | 1.000 | 1.000 | 6.000 | 1.125 | 1.000 | 1.250 | 0.250 | RN** 43... | 2.2     |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque* |
| ARGNR/L2525M12-A | 25    | 25    | 150   | 28    | 25    | 32    | 6.35  | RN**120400 | 3       |

Torque: Recommended clamping torque: lb-ft (\*N·m)  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|-------------|-------|-------------|--------|------------|--------|------------|--------|
| ARGNR/L...  | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASR420 | CSTB-3.5   | T-15F  |

## INSERT SELECTION

|          |                    |               |          |                    |               |          |                    |                             |
|----------|--------------------|---------------|----------|--------------------|---------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Heavy cutting | <b>M</b> | Application        | Heavy cutting | <b>K</b> | Application        | Heavy cutting               |
|          | Grade              | T9215         |          | Grade              | T9215         |          | Grade              | T9215                       |
|          | Chipbreaker Shape  |               |          | Chipbreaker Shape  |               |          | Chipbreaker Shape  |                             |
|          | Cutting conditions | B004          |          | Cutting conditions | B006          |          | Cutting conditions | B008                        |
| <b>N</b> | Application        | Heavy cutting | <b>S</b> | Application        | Heavy cutting | <b>H</b> | Application        | Finishing to medium cutting |
|          | Grade              | TH10          |          | Grade              | TH10          |          | Grade              | LX11                        |
|          | Chipbreaker Shape  |               |          | Chipbreaker Shape  |               |          | Chipbreaker Shape  |                             |
|          | Cutting conditions | B010          |          | Cutting conditions | B012          |          | Cutting conditions | B014                        |

Reference pages: ARGNR/L: Inserts → **B076**

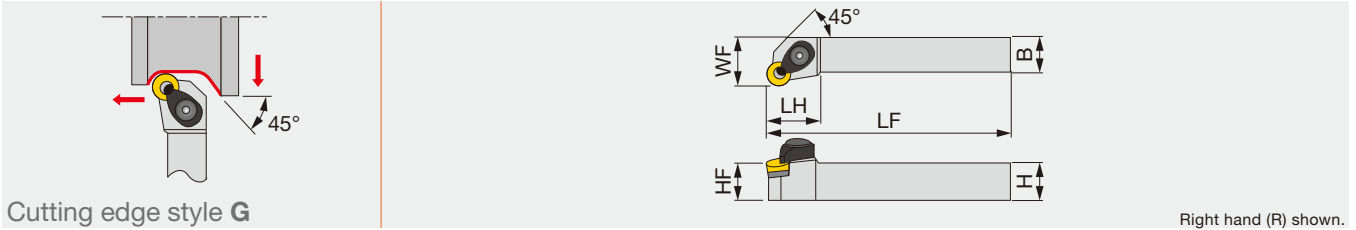
# RN



Round,  
with hole

## DRGNR/L

"One-Double" toolholder with 91° approach angle, for negative round inserts



Right hand (R) shown.

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert     |
|----------------|----|----|-----|----|----|----|------|------------|
| DRGNR/L2525M12 | 25 | 25 | 150 | 28 | 25 | 32 | 6.35 | RN**120400 |

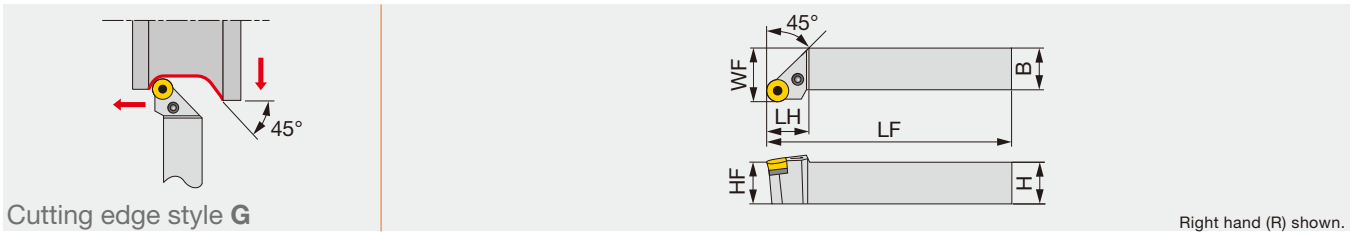
\*\*RE: Standard corner radius

| SPARE PARTS |         |        |        |             |       |        |            |          |          |
|-------------|---------|--------|--------|-------------|-------|--------|------------|----------|----------|
| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench 1 | Wrench 2 |
| DRGNR/L...  | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSR42 | BP-10  | LSP4       | P-3      | P-4      |

C

## PRGNR/L

Lever-lock toolholder with 91° approach angle, for negative round inserts



Right hand (R) shown.

| Metric        | H  | B  | LF  | LH | HF | WF | RE** | Insert        |
|---------------|----|----|-----|----|----|----|------|---------------|
| PRGNR/L2020   | 20 | 20 | 125 | 19 | 20 | 25 | 4.76 | RNMG090300-61 |
| PRGNR/L2525M4 | 25 | 25 | 150 | 25 | 25 | 32 | 6.35 | RN**120400    |

\*\*RE: Standard corner radius

| SPARE PARTS   |       |                |        |            |       |
|---------------|-------|----------------|--------|------------|-------|
| Designation   | Shim  | Clamping screw | Wrench | Spring pin | Lever |
| PRGNR/L2020   | LSR32 | LCS3           | P-2.5  | LSP3       | LCL3  |
| PRGNR/L2525M4 | LSR42 | LCS4           | P-3    | LSP4       | LCL4  |

S

T

V

W

Y

OTHERS

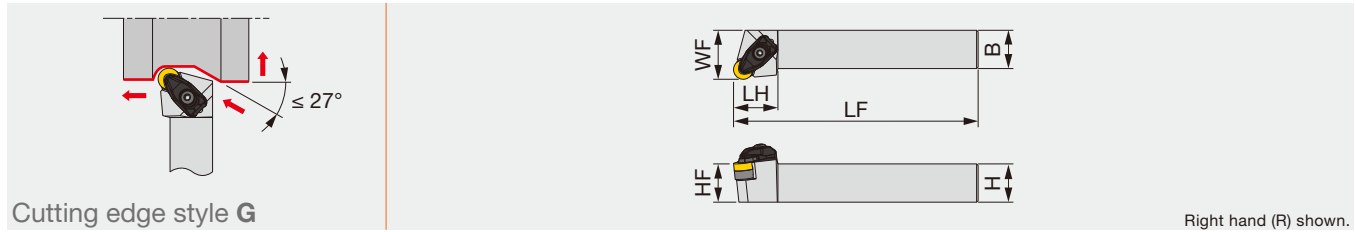
## INSERT SELECTION

|          |                    |               |          |                    |               |          |                    |                             |
|----------|--------------------|---------------|----------|--------------------|---------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Heavy cutting | <b>M</b> | Application        | Heavy cutting | <b>K</b> | Application        | Heavy cutting               |
|          | Grade              | T9215         |          | Grade              | T9215         |          | Grade              | T9215                       |
|          | Chipbreaker        | 61            |          | Chipbreaker        | 61            |          | Chipbreaker        | 61                          |
|          | Shape              |               |          | Shape              |               |          | Shape              |                             |
|          | Cutting conditions | B004          |          | Cutting conditions | B006          |          | Cutting conditions | B008                        |
| <b>N</b> | Application        | Heavy cutting | <b>S</b> | Application        | Heavy cutting | <b>H</b> | Application        | Finishing to medium cutting |
|          | Grade              | TH10          |          | Grade              | TH10          |          | Grade              | LX11                        |
|          | Chipbreaker        | 61            |          | Chipbreaker        | 61            |          | Chipbreaker        | -                           |
|          | Shape              |               |          | Shape              |               |          | Shape              |                             |
|          | Cutting conditions | B010          |          | Cutting conditions | B012          |          | Cutting conditions | B014                        |

Reference pages: DRGNR/L, PRGNR/L: Inserts → **B076**

## TRGNR/L-F

Toolholder with carbide clamping plate, with 90° approach angle, for negative round ceramic inserts without hole



Right hand (R) shown.

| Inch               | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| TRGNR/L 16-45D-F   | 1.000 | 1.000 | 6.000 | 1.142 | 1.000 | 1.250 | 0.250 | RNGN 45...  |
| Metric             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
| TRGNR/L2525M1207-F | 25    | 25    | 150   | 29    | 25    | 32    | 6.35  | RNGN1207... |

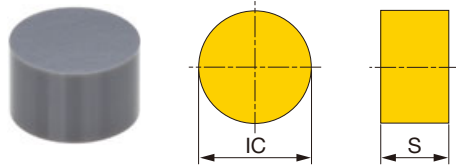
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp   | Clamp screw | Shim | Shim screw    | Spring | Wrench 1 | Wrench 2 |
|-------------|---------|-------------|------|---------------|--------|----------|----------|
| TRGNR/L...  | DCLS-4F | DLS-4A      | S-43 | BH-M5X0.8X0.8 | DSP-4A | T-15F    | P-3      |

## INSERT

### RNGN-E/T1



|   |                |   |   |  |  |
|---|----------------|---|---|--|--|
| P | Steel          |   |   |  |  |
| M | Stainless      |   |   |  |  |
| K | Cast iron      |   |   |  |  |
| N | Non-ferrous    |   |   |  |  |
| S | Superalloys    | ★ | ★ |  |  |
| H | Hard materials |   |   |  |  |

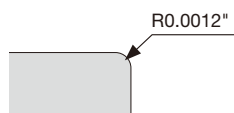
★ : First choice

| Designation |               | Edge prep.* | Ceramic |       | RE (in) | IC (in) | S (in) |
|-------------|---------------|-------------|---------|-------|---------|---------|--------|
| Inch        | Metric        |             | TS200   | TS300 |         |         |        |
| RNGN 45-E   | RNGN120700-E  | E           | ●       | ●     | -       | 0.500   | 0.313  |
| RNGN 45-T1  | RNGN120700-T1 | T1          | ●       | ●     | -       | 0.500   | 0.313  |

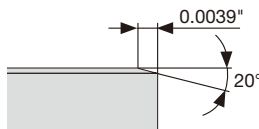
\* Types of cutting edge preparations

● : Line up

**E:** Low cutting force



**T1:** Strong cutting edge



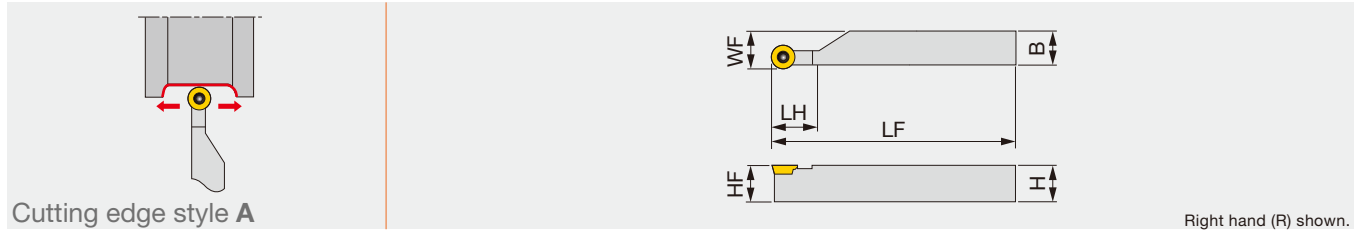
# RC



Round,  
with hole  
Positive 7°

## SRACR/L

Screw-on toolholder with 91° approach angle, for positive round inserts



| Metric         | H  | B  | LF  | LH | HF | WF   | Insert      |
|----------------|----|----|-----|----|----|------|-------------|
| SRACR1010H05   | 10 | 10 | 100 | 10 | 10 | 10.3 | RCMT0502... |
| SRACR/L1212H05 | 12 | 12 | 100 | 10 | 12 | 12.3 | RCMT0502... |
| SRACR/L1212H06 | 12 | 12 | 100 | 12 | 12 | 12.4 | RC*T0602... |
| SRACR1616H05   | 16 | 16 | 100 | 10 | 16 | 16.3 | RCMT0502... |
| SRACR/L1616H06 | 16 | 16 | 100 | 12 | 16 | 16.4 | RC*T0602... |
| SRACR/L1616H08 | 16 | 16 | 100 | 16 | 16 | 16.5 | RC*T0803... |
| SRACR/L2020K05 | 20 | 20 | 125 | 10 | 20 | 20.3 | RCMT0502... |
| SRACR/L2020K06 | 20 | 20 | 125 | 12 | 20 | 20.4 | RC*T0602... |
| SRACR/L2020K08 | 20 | 20 | 125 | 16 | 20 | 20.5 | RC*T0803... |
| SRACR/L2525M05 | 25 | 25 | 150 | 10 | 25 | 25.3 | RCMT0502... |
| SRACR/L2525M06 | 25 | 25 | 150 | 12 | 25 | 25.4 | RC*T0602... |
| SRACR/L2525M08 | 25 | 25 | 150 | 16 | 25 | 25.5 | RC*T0803... |

### SPARE PARTS



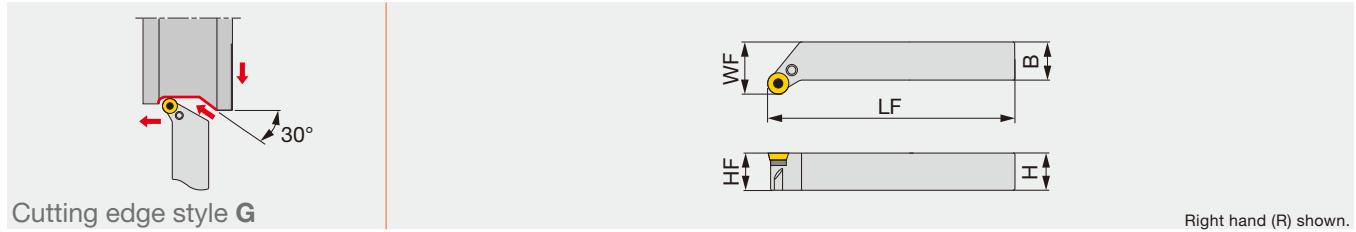
| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| SRACR/L11*H05  | CSTB-2.2R      | T-7F   |
| SRACR/L1212H06 | CSTB-2.5       | T-8F   |
| SRACR1616H05   | CSTB-2.2R      | T-7F   |
| SRACR/L1616H06 | CSTB-2.5       | T-8F   |
| SRACR/L1616H08 | CSTB-3         | T-9F   |
| SRACR/L2020K05 | CSTB-2.2R      | T-7F   |
| SRACR/L2020K06 | CSTB-2.5       | T-8F   |
| SRACR/L2020K08 | CSTB-3         | T-9F   |
| SRACR/L2525M05 | CSTB-2.2R      | T-7F   |
| SRACR/L2525M06 | CSTB-2.5       | T-8F   |
| SRACR/L2525M08 | CSTB-3         | T-9F   |

Reference pages: SRACR/L: Inserts → **B130** -



# PRGCR/L

Lever-lock toolholder with 91° approach angle, for positive round inserts



Right hand (R) shown.

| Metric         | H  | B  | LF  | HF | WF | Insert      |
|----------------|----|----|-----|----|----|-------------|
| PRGCR/L2020K10 | 20 | 20 | 125 | 20 | 25 | RCMM1003... |
| PRGCR/L2525M12 | 25 | 25 | 150 | 25 | 32 | RCM*1204... |
| PRGCR/L3225P16 | 32 | 25 | 170 | 32 | 32 | RCM*1606... |
| PRGCR/L3232P20 | 32 | 32 | 170 | 32 | 40 | RCM*2006... |

## SPARE PARTS

| Designation    | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|----------------|--------|----------------|--------|------------|-------|
| PRGCR/L2020K10 | LSR32C | LCS2           | P-2    | LSP3       | LCL3C |
| PRGCR/L2525M12 | LSR42C | LCS3           | P-2.5  | LSP3       | LCL4C |
| PRGCR/L3225P16 | LSR53C | LCS5           | P-3    | LSP4       | LCL5C |
| PRGCR/L3232P20 | LSR63C | LCS5           | P-3    | LSP6C      | LCL6C |

## INSERT SELECTION

|          |                    |                             |               |          |                    |                             |
|----------|--------------------|-----------------------------|---------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Finishing to medium cutting | Heavy cutting | <b>M</b> | Application        | Heavy cutting               |
|          | Grade              | T9215                       | T9215         |          | Grade              | T9215                       |
|          | Chipbreaker shape  |                             |               |          | Chipbreaker shape  |                             |
|          | Cutting conditions | B016                        |               |          | Cutting conditions | B018                        |
| <b>K</b> | Application        | Heavy cutting               |               | <b>N</b> | Application        | Finishing to medium cutting |
|          | Grade              | T9215                       |               |          | Grade              | KS05F                       |
|          | Chipbreaker shape  |                             |               |          | Chipbreaker shape  |                             |
|          | Cutting conditions | B020                        |               |          | Cutting conditions | B022                        |
| <b>S</b> | Application        | Finishing to medium cutting | Heavy cutting |          |                    |                             |
|          | Grade              | AH8015                      | AH8015        |          |                    |                             |
|          | Chipbreaker shape  |                             |               |          |                    |                             |
|          | Cutting conditions | B024                        |               |          |                    |                             |

Reference pages: PRGCR/L: Inserts → B130 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



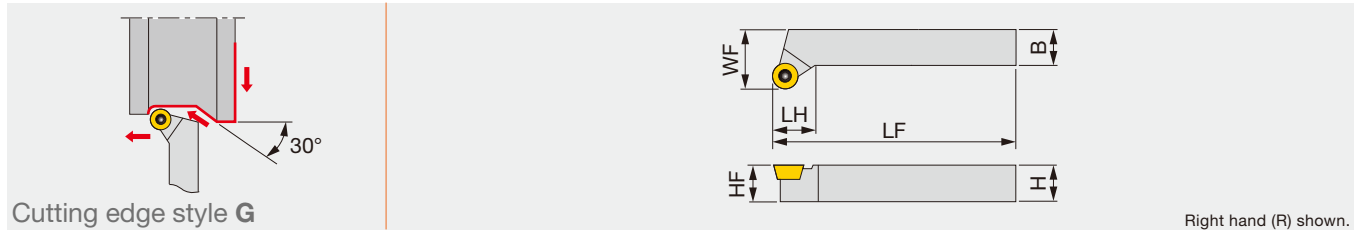
# RC



Round,  
with hole  
Positive 7°

## SRGCR/L

Screw-on toolholder with 91° approach angle, for positive round inserts



| Metric         | H  | B  | LF  | LH   | HF | WF | Insert      |
|----------------|----|----|-----|------|----|----|-------------|
| SRGCR1212H05   | 12 | 12 | 100 | 9.5  | 12 | 16 | RCMT0502... |
| SRGCR/L1212H06 | 12 | 12 | 100 | 10   | 12 | 16 | RC*T0602... |
| SRGCR/L1616H05 | 16 | 16 | 100 | 9.5  | 16 | 20 | RCMT0502... |
| SRGCR/L1616H06 | 16 | 16 | 100 | 10   | 16 | 20 | RC*T0602... |
| SRGCR/L1616H08 | 16 | 16 | 100 | 11   | 16 | 20 | RC*T0803... |
| SRGCR/L2020K05 | 20 | 20 | 125 | 11.2 | 20 | 25 | RCMT0502... |
| SRGCR/L2020K06 | 20 | 20 | 125 | 12   | 20 | 25 | RC*T0602... |
| SRGCR/L2020K08 | 20 | 20 | 125 | 12.7 | 20 | 25 | RC*T0803... |
| SRGCR/L2020K10 | 20 | 20 | 125 | 14   | 25 | 25 | RC*T1003... |
| SRGCR/L2525M05 | 25 | 25 | 150 | 14.7 | 25 | 32 | RCMT0502... |
| SRGCR/L2525M06 | 25 | 25 | 150 | 15   | 25 | 32 | RC*T0602... |
| SRGCR/L2525M08 | 25 | 25 | 150 | 16.2 | 25 | 32 | RC*T0803... |
| SRGCR/L2525M10 | 25 | 25 | 150 | 17.5 | 25 | 32 | RC*T1003... |

### SPARE PARTS

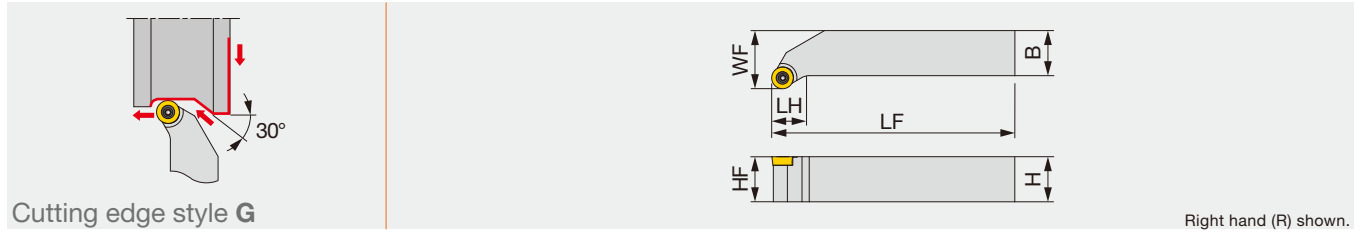
| Designation    | Clamping screw | Shim screw | Shim  | Wrench 1 | Wrench 2 |
|----------------|----------------|------------|-------|----------|----------|
| SRGCR1212H05   | CSTB-2.2R      | -          | -     | -        | T-7F     |
| SRGCR/L1212H06 | CSTB-2.5       | -          | -     | -        | T-8F     |
| SRGCR/L1616H05 | CSTB-2.2R      | -          | -     | -        | T-7F     |
| SRGCR/L1616H06 | CSTB-2.5       | -          | -     | -        | T-8F     |
| SRGCR/L1616H08 | CSTB-3         | -          | -     | -        | T-9F     |
| SRGCR/L2020K05 | CSTB-2.2R      | -          | -     | -        | T-7F     |
| SRGCR/L2020K06 | CSTB-2.5       | -          | -     | -        | T-8F     |
| SRGCR/L2020K08 | CSTB-3         | -          | -     | -        | T-9F     |
| SRGCR/L2020K10 | CSTB-3.5L      | DTS5-3.5   | SSR32 | P-3.5    | T-15F    |
| SRGCR/L2525M05 | CSTB-2.2R      | -          | -     | -        | T-7F     |
| SRGCR/L2525M06 | CSTB-2.5       | -          | -     | -        | T-8F     |
| SRGCR/L2525M08 | CSTB-3         | -          | -     | -        | T-9F     |
| SRGCR/L2525M10 | CSTB-3.5L      | DTS5-3.5   | SSR32 | P-3.5    | T-15F    |

### INSERT SELECTION

|          |                    |                             |               |                    |                             |               |          |                    |               |
|----------|--------------------|-----------------------------|---------------|--------------------|-----------------------------|---------------|----------|--------------------|---------------|
| <b>P</b> | Application        | Finishing to medium cutting | Heavy cutting | <b>M</b>           | Application                 | Heavy cutting | <b>K</b> | Application        | Heavy cutting |
|          | Grade              | T9215                       | T9215         |                    | Grade                       | T9215         |          | Grade              | T9215         |
|          | Chipbreaker shape  |                             |               |                    | Chipbreaker shape           |               |          | Chipbreaker shape  |               |
|          | Cutting conditions | B016                        |               |                    | Cutting conditions          | B018          |          | Cutting conditions | B020          |
| <b>N</b> | Application        | Finishing to medium cutting | <b>S</b>      | Application        | Finishing to medium cutting | Heavy cutting |          |                    |               |
|          | Grade              | KS05F                       |               | Grade              | AH8015                      | AH8015        |          |                    |               |
|          | Chipbreaker shape  |                             |               | Chipbreaker shape  |                             |               |          |                    |               |
|          | Cutting conditions | B022                        |               | Cutting conditions | B024                        |               |          |                    |               |

Reference pages: SRGCR/L: Inserts → **B130 -**

Screw-on toolholder with 91° approach angle, for positive round inserts



Right hand (R) shown.

| Inch              | H     | B     | LF    | LH    | HF    | WF    | Insert              | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|---------------------|---------|
| SRGCR/L164-6F     | 1.000 | 1.000 | 6.000 | 0.690 | 1.000 | 1.250 | RCMT1204M0-6RS/-6RM | 2.21    |
| Metric            | H     | B     | LF    | LH    | HF    | WF    | Insert              | Torque* |
| SRGCR/L2525M12-6F | 25    | 25    | 150   | 18.6  | 25    | 32    | RCMT1204M0-6RS/-6RM | 3       |

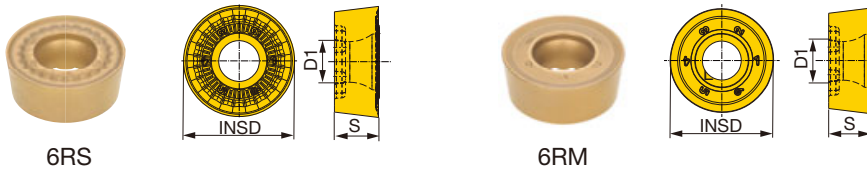
Torque: Recommended clamping torque: lb-ft (\*N·m)

### SPARE PARTS

| Designation | Clamping screw | Lubricant | Wrench |
|-------------|----------------|-----------|--------|
| SRGCR/L...  | CSTB-4         | M-1000    | T-15F  |

## INSERT

### RCMT



|     | Steel | Stainless | Cast iron | Non-ferrous | Superalloys | Hard materials |
|-----|-------|-----------|-----------|-------------|-------------|----------------|
| 6RS | ★     | ★         |           |             |             |                |
| 6RM |       |           | ★         |             |             |                |

★ : First choice  
☆ : Second choice

| Designation    | Coated |       | Cermet |  | INSD (in) | S (in) | D1 (in) |
|----------------|--------|-------|--------|--|-----------|--------|---------|
|                | T9215  | T9225 | NS9530 |  |           |        |         |
| RCMT1204M0-6RS | ●      | ●     | ●      |  | 0.472     | 0.187  | 0.203   |
| RCMT1204M0-6RM | ●      | ●     | ●      |  | 0.472     | 0.187  | 0.203   |

● : Line up

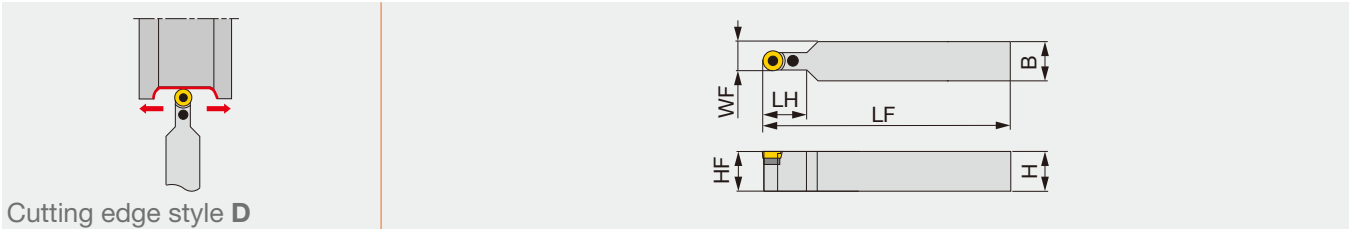
# RC



Round,  
with hole  
Positive 7°

## PRDCN

Lever-lock toolholder with 45° approach angle, for positive round inserts



| Metric       | H  | B  | LF  | LH   | HF | WF   | Insert      |
|--------------|----|----|-----|------|----|------|-------------|
| PRDCN2020K10 | 20 | 20 | 125 | 22.5 | 20 | 15   | RCMM1003... |
| PRDCN2525M12 | 25 | 25 | 150 | 24   | 25 | 18.5 | RCM*1204... |
| PRDCN3225P12 | 32 | 25 | 170 | 24   | 32 | 18.5 | RCM*1204... |
| PRDCN3225P16 | 32 | 25 | 170 | 28   | 32 | 20.5 | RCM*1606... |
| PRDCN3232P20 | 32 | 32 | 170 | 32   | 32 | 26   | RCM*2006... |
| PRDCN4040R25 | 40 | 40 | 200 | 42   | 40 | 32.5 | RCM*2507... |

### SPARE PARTS

| Designation   | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|---------------|--------|----------------|--------|------------|-------|
| PRDCN2020K10  | LSR32C | LCS2           | P-2    | LSP3       | LCL3C |
| PRDCN**25**12 | LSR42C | LCS3           | P-2.5  | LSP3       | LCL4C |
| PRDCN3225P16  | LSR53C | LCS5           | P-3    | LSP4       | LCL5C |
| PRDCN3232P20  | LSR63C | LCS5           | P-3    | LSP6C      | LCL6C |
| PRDCN4040R25  | LSR84C | LCS8C          | P-4    | LSP6       | LCL8C |

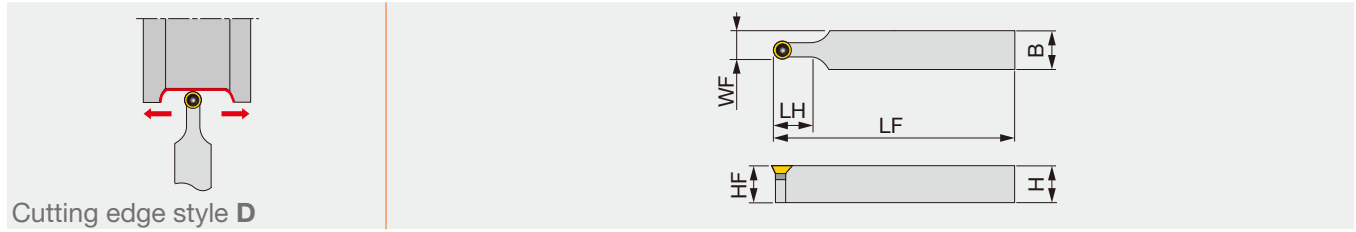
## INSERT SELECTION

|          |                    |                             |               |          |                    |                             |
|----------|--------------------|-----------------------------|---------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Finishing to medium cutting | Heavy cutting | <b>M</b> | Application        | Heavy cutting               |
|          | Grade              | T9215                       | T9215         |          | Grade              | T9215                       |
|          | Chipbreaker Shape  |                             |               |          | Chipbreaker Shape  |                             |
|          | Cutting conditions | B016                        |               |          | Cutting conditions | B018                        |
| <b>K</b> | Application        | Heavy cutting               |               | <b>N</b> | Application        | Finishing to medium cutting |
|          | Grade              | T9215                       |               |          | Grade              | KS05F                       |
|          | Chipbreaker Shape  |                             |               |          | Chipbreaker Shape  |                             |
|          | Cutting conditions | B020                        |               |          | Cutting conditions | B022                        |
| <b>S</b> | Application        | Finishing to medium cutting | Heavy cutting |          |                    |                             |
|          | Grade              | AH8015                      | AH8015        |          |                    |                             |
|          | Chipbreaker Shape  |                             |               |          |                    |                             |
|          | Cutting conditions | B024                        |               |          |                    |                             |

Reference pages: PRDCN: Inserts → **B130**

# SRDCN

Screw-on toolholder with 45° approach angle, for positive round inserts



| Metric       | H  | B  | LF  | LH   | HF | WF   | Insert      |
|--------------|----|----|-----|------|----|------|-------------|
| SRDCN2020K06 | 20 | 20 | 125 | 12   | 20 | 13   | RC*T0602... |
| SRDCN2020K08 | 20 | 20 | 125 | 16   | 20 | 14   | RC*T0803... |
| SRDCN2020K10 | 20 | 20 | 125 | 20.3 | 25 | 15   | RC*T1003... |
| SRDCN2525M06 | 25 | 25 | 150 | 12   | 25 | 15.5 | RC*T0602... |
| SRDCN2525M08 | 25 | 25 | 150 | 16   | 25 | 16.5 | RC*T0803... |
| SRDCN2525M10 | 25 | 25 | 150 | 20.3 | 25 | 17.5 | RC*T1003... |

## SPARE PARTS

| Designation  | Clamping screw | Shim screw | Shim  | Wrench 1 | Wrench 2 |
|--------------|----------------|------------|-------|----------|----------|
| SRDCN2020K06 | CSTB-2.5       | -          | -     | -        | T-8F     |
| SRDCN2020K08 | CSTB-3         | -          | -     | -        | T-9F     |
| SRDCN2020K10 | CSTB-3.5L      | DTS5-3.5   | SSR32 | P-3.5    | T-15F    |
| SRDCN2525M06 | CSTB-2.5       | -          | -     | -        | T-8F     |
| SRDCN2525M08 | CSTB-3         | -          | -     | -        | T-9F     |
| SRDCN2525M10 | CSTB-3.5L      | DTS5-3.5   | SSR32 | P-3.5    | T-15F    |

## INSERT SELECTION

**P** Application: Finishing to medium cutting, Heavy cutting  
 Grade: T9215, T9215  
 Chipbreaker Shape: RS, 61  
 Cutting conditions: B016

**M** Application: Heavy cutting  
 Grade: T9215  
 Chipbreaker Shape: 61  
 Cutting conditions: B018

**K** Application: Heavy cutting  
 Grade: T9215  
 Chipbreaker Shape: 61  
 Cutting conditions: B020

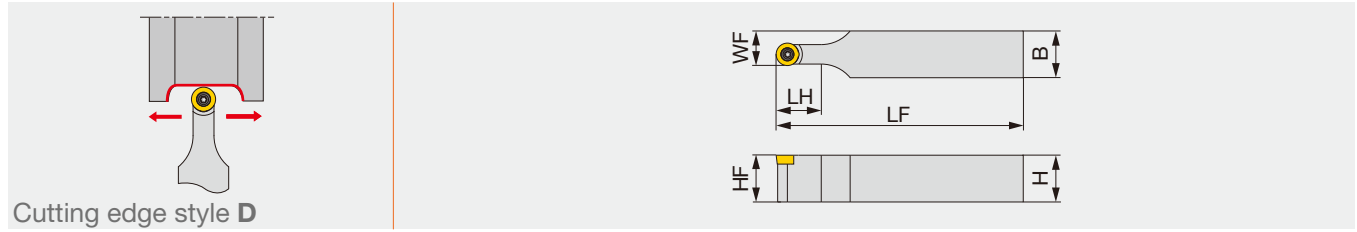
**N** Application: Finishing to medium cutting  
 Grade: KS05F  
 Chipbreaker Shape: AL  
 Cutting conditions: B022

**S** Application: Finishing to medium cutting, Heavy cutting  
 Grade: AH8015, AH8015  
 Chipbreaker Shape: RS, 61  
 Cutting conditions: B024

Reference pages: SRDCN: Inserts → B130

Grade A  
 Insert B  
 Ext. Toolholder C  
 Int. Toolholder D  
 Threading E  
 Grooving F  
 Miniature tool G  
 Milling cutter H  
 Endmill I  
 Drilling tool J  
 Tooling System K  
 User's Guide L  
 Index M

Screw-on toolholder with 45° approach angle, for positive round inserts



| Inch            | H     | B     | LF    | LH    | HF    | WF    | Insert              | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|---------------------|---------|
| SRDCN164-6F     | 1.000 | 1.000 | 6.000 | 0.950 | 1.000 | 0.740 | RCMT1204M0-6RS/-6RM | 2.21    |
| Metric          | H     | B     | LF    | LH    | HF    | WF    | Insert              | Torque* |
| SRDCN2525M12-6F | 25    | 25    | 150   | 24.1  | 25    | 18.5  | RCMT1204M0-6RS/-6RM | 3       |

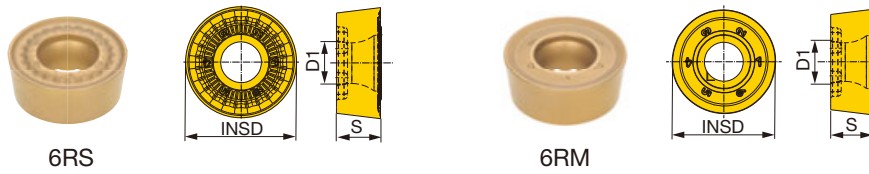
Torque: Recommended clamping torque: lb-ft (\*N·m)

### SPARE PARTS

| Designation | Clamping screw | Lubricant | Wrench |
|-------------|----------------|-----------|--------|
| SRDCN...    | CSTB-4         | M-1000    | T-15F  |

## INSERT

### RCMT



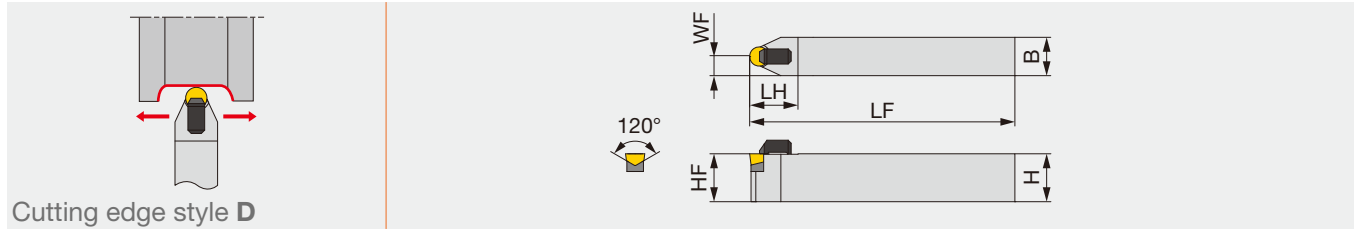
| Designation    | Coated |       | Cermet |  | INSD (in) | S (in) | D1 (in) |
|----------------|--------|-------|--------|--|-----------|--------|---------|
|                | T9215  | T9225 | NS9530 |  |           |        |         |
| RCMT1204M0-6RS | ●      | ●     | ●      |  | 0.472     | 0.187  | 0.203   |
| RCMT1204M0-6RM | ●      | ●     | ●      |  | 0.472     | 0.187  | 0.203   |

★ : First choice  
☆ : Second choice

● : Line up

# TRDCN

Toolholder with carbide clamping plate, with 45° approach angle, for positive round ceramic inserts with V-bottom shape



| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| CRDCN 85-3L-120 | 1.250 | 1.000 | 6.800 | 1.181 | 1.250 | 0.500 | 0.187 | RCGX 350... |
| CRDCN 85-4L-120 | 1.250 | 1.000 | 6.800 | 1.260 | 1.250 | 0.500 | 0.250 | RCGX 450... |

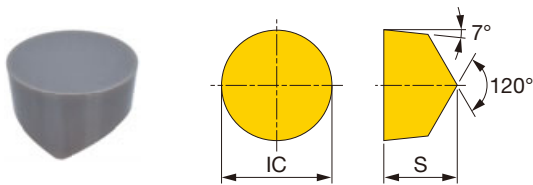
| Metric           | H  | B  | LF  | LH | HF | WF   | RE** | Insert        |
|------------------|----|----|-----|----|----|------|------|---------------|
| TRDCN3225P09-120 | 32 | 25 | 170 | 30 | 32 | 12.5 | 4.76 | RCGX090700... |
| TRDCN3225P12-120 | 32 | 25 | 170 | 32 | 32 | 12.5 | 6.35 | RCGX120700... |

\*\*RE: Standard corner radius

**SPARE PARTS**

| Designation      | Clamp    | Clamp screw | Shim    | Shim screw      | Wrench 1 | Wrench 2 |
|------------------|----------|-------------|---------|-----------------|----------|----------|
| TRDCN3225P09-120 | BCL6-20A | BH-M6X1X25  | CBRS-09 | BH-M2.5X0.45X10 | P-4      | P-1.5    |
| TRDCN3225P12-120 | BCL6     | BH-M6X1X25  | CBRS-12 | BH-M2.5X0.45X10 | P-4      | P-1.5    |

## INSERT RCGX-E/T1



|   |                |   |   |  |  |  |
|---|----------------|---|---|--|--|--|
| P | Steel          |   |   |  |  |  |
| M | Stainless      |   |   |  |  |  |
| K | Cast iron      |   |   |  |  |  |
| N | Non-ferrous    |   |   |  |  |  |
| S | Superalloys    | ★ | ★ |  |  |  |
| H | Hard materials |   |   |  |  |  |

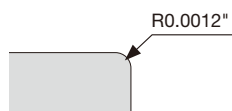
★ : First choice

| Designation |               | Edge prep.* | Ceramic |       | RE (in) | IC (in) | S (in) |
|-------------|---------------|-------------|---------|-------|---------|---------|--------|
| Inch        | Metric        |             | TS200   | TS300 |         |         |        |
| RCGX 350-E  | RCGX090700-E  | E           | ●       | ●     | -       | 0.375   | 0.313  |
| RCGX 350-T1 | RCGX090700-T1 | T1          | ●       | ●     | -       | 0.375   | 0.313  |
| RCGX 450-E  | RCGX120700-E  | E           | ●       | ●     | -       | 0.500   | 0.313  |
| RCGX 450-T1 | RCGX120700-T1 | T1          | ●       | ●     | -       | 0.500   | 0.313  |

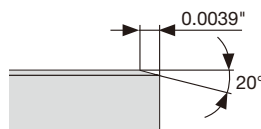
\* Types of cutting edge preparations

● : Line up

**E:** Low cutting force



**T1:** Strong cutting edge





# SN

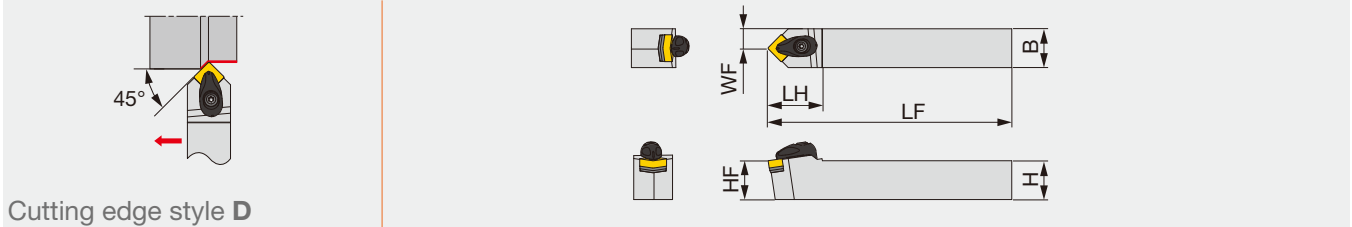


Square  
with hole

## TURNING

### ASDNN

Double-clamp toolholder with 45° approach angle, for negative square inserts



Cutting edge style **D**

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ASDNN124-A | 0.750 | 0.750 | 4.500 | 1.380 | 0.750 | 0.375 | 0.031 | SN** 43... | 2.2    |
| ASDNN164-A | 1.000 | 1.000 | 6.000 | 1.380 | 1.000 | 0.500 | 0.031 | SN** 43... | 2.2    |

| Metric         | H  | B  | LF  | LH | HF | WF   | RE** | Insert      | Torque* |
|----------------|----|----|-----|----|----|------|------|-------------|---------|
| ASDNN2020K12-A | 20 | 20 | 125 | 35 | 20 | 10   | 0.8  | SN**1204... | 3       |
| ASDNN2525M12-A | 25 | 25 | 150 | 35 | 25 | 12.5 | 0.8  | SN**1204... | 3       |

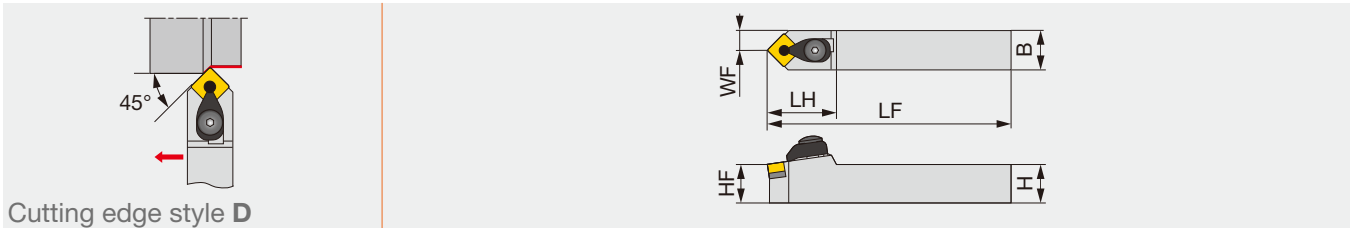
Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE: Standard corner radius

#### SPARE PARTS

| Designation | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|-------------|-------|-------------|--------|------------|--------|------------|--------|
| ASDNN...    | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASS422 | CSTB-3.5   | T-15F  |

## DSDNN

One-Double toolholder with 45° approach angle, for negative square inserts



Cutting edge style **D**

| Metric       | H  | B  | LF  | LH | HF | WF   | RE** | Insert      |
|--------------|----|----|-----|----|----|------|------|-------------|
| DSDNN2020K12 | 20 | 20 | 125 | 36 | 20 | 10   | 0.8  | SN**1204... |
| DSDNN2525M12 | 25 | 25 | 150 | 36 | 25 | 12.5 | 0.8  | SN**1204... |

Note: Except for TRS, TU, TUS, 57, and 65-type chipbreaker inserts \*\*RE: Standard corner radius

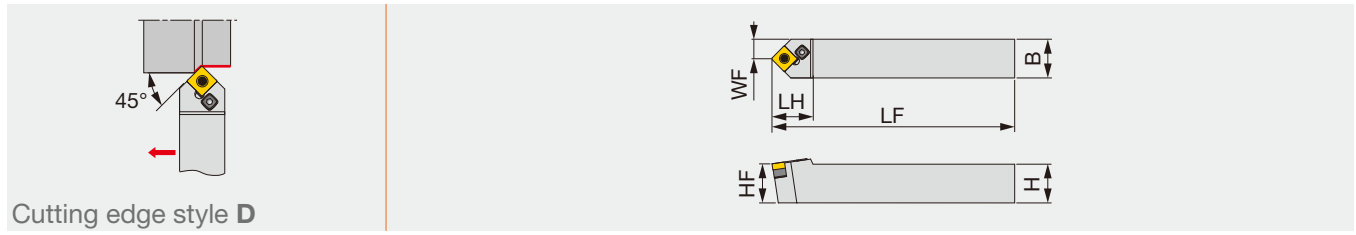
#### SPARE PARTS

| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench 1 | Wrench 2 |
|-------------|---------|--------|--------|-------------|-------|--------|------------|----------|----------|
| DSDNN...    | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSS42 | BP-10  | LSP4       | P-3      | P-4      |

Reference pages: ASDNN, DSDNN: Inserts → **B077** -, CBN → **B180**, PCD → **B211**

# PSDNN

Lever-lock toolholder with 45° approach angle, for negative square inserts



| Metric    | H  | B  | LF  | LH | HF | WF   | RE** | Insert      |
|-----------|----|----|-----|----|----|------|------|-------------|
| PSDNN1616 | 16 | 16 | 100 | 22 | 16 | 8    | 0.8  | SN**0903... |
| PSDNN2020 | 20 | 20 | 125 | 30 | 20 | 10.3 | 0.8  | SN**1204... |
| PSDNN2525 | 25 | 25 | 150 | 30 | 25 | 12.8 | 0.8  | SN**1204... |

\*\*RE: Standard corner radius

## SPARE PARTS

| Designation | Shim  | Clamping screw | Wrench | Spring pin | Lever |
|-------------|-------|----------------|--------|------------|-------|
| PSDNN1616   | LSS33 | LCS3           | P-2.5  | LSP3L      | LCL3  |
| PSDNN2020   | LSS42 | LCS4           | P-3    | LSP4       | LCL4  |
| PSDNN2525   | LSS42 | LCS4           | P-3    | LSP4       | LCL4  |

## INSERT SELECTION

**P**

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker Shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

**M**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker Shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

**K**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T515      | T515           | T515                    |
| Chipbreaker Shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

**N**

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
| Grade              | DX140     | TH10           |
| Chipbreaker Shape  | DIA       | P              |
| Cutting conditions | B010      |                |

**S**

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
| Grade              | BX480               | AH8005    | AH8005         |
| Chipbreaker Shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

Reference pages: PSDNN: Inserts → **B077** -, CBN → **B180**, PCD → **B211**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

# SN

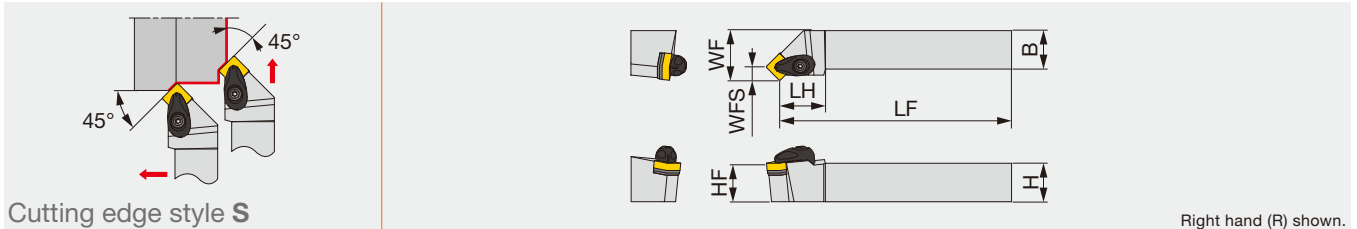


Square  
with hole

## TURNING

### ASSNR/L

Double-clamp toolholder with 45° approach angle (S-style), for negative square inserts



Right hand (R) shown.

| Inch         | H     | B     | LF    | LH    | HF    | WF    | WFS   | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ASSNR/L124-A | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 1.000 | 0.327 | 0.031 | SN** 43... | 2.2    |
| ASSNR/L164-A | 1.000 | 1.000 | 6.000 | 1.250 | 1.000 | 1.250 | 0.327 | 0.031 | SN** 43... | 2.2    |
| ASSNR/L205-A | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.500 | 0.406 | 0.031 | SN** 54... | 4.7    |
| ASSNR/L206-A | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.500 | 0.492 | 0.031 | SN** 64... | 4.7    |
| ASSNR/L245-A | 1.500 | 1.500 | 8.000 | 1.500 | 1.500 | 1.750 | 0.406 | 0.031 | SN** 54... | 4.7    |
| ASSNR/L246-A | 1.500 | 1.500 | 8.000 | 1.500 | 1.500 | 1.750 | 0.492 | 0.031 | SN** 64... | 4.7    |

| Metric           | H  | B  | LF  | LH   | HF | WF | WFS  | RE** | Insert      | Torque* |
|------------------|----|----|-----|------|----|----|------|------|-------------|---------|
| ASSNR/L2020K12-A | 20 | 20 | 125 | 30   | 20 | 25 | 8.3  | 0.8  | SN**1204... | 3       |
| ASSNR/L2525M12-A | 25 | 25 | 150 | 30   | 25 | 32 | 8.3  | 0.8  | SN**1204... | 3       |
| ASSNR/L2525M15-A | 25 | 25 | 150 | 25   | 25 | 32 | 10.3 | 1.2  | SN**1506... | 6.4     |
| ASSNR/L3232P15-A | 32 | 32 | 170 | 25   | 32 | 40 | 10.3 | 1.2  | SN**1506... | 6.4     |
| ASSNR/L3232P19-A | 32 | 32 | 170 | 27.5 | 32 | 40 | 12.5 | 1.2  | SN**1906... | 6.4     |
| ASSNR/L4040S19-A | 40 | 40 | 250 | 27.5 | 40 | 50 | 12.5 | 1.2  | SN**1906... | 6.4     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

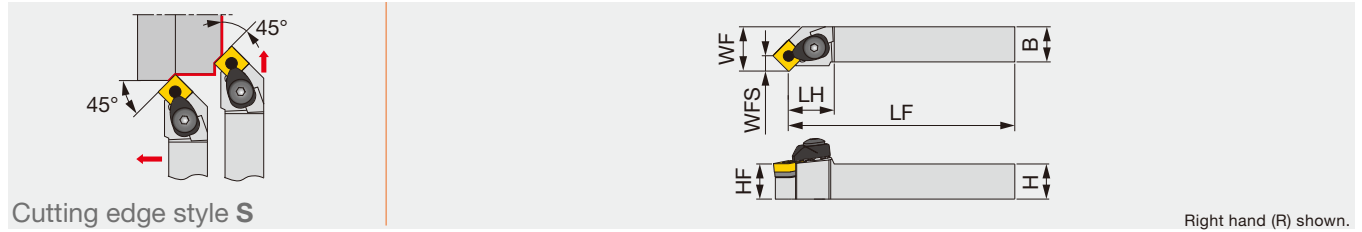
### SPARE PARTS

| Designation                    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench 1 | Wrench 2 |
|--------------------------------|-------|-------------|--------|------------|--------|------------|----------|----------|
| ASSNR/L**4-A,<br>ASSNR/L**12-A | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASS422 | CSTB-3.5   | T-15F    | -        |
| ASSNR/L**5-A,<br>ASSNR/L**15-A | ACP5S | ACS-6W      | BP-8.8 | SP-2.5     | ASS533 | CSTB-5     | -        | KEYV-T20 |
| ASSNR/L**6-A,<br>ASSNR/L**19-A | ACP6S | ACS-6W      | BP-8.8 | SP-2.5     | ASS634 | CSTB-5     | -        | KEYV-T20 |

Reference pages: ASSNR/L: Inserts → **B077 -**, CBN → **B180**, PCD → **B211**

# DSSNR/L

"One-Double" toolholder with 45° approach angle, for negative square inserts



Right hand (R) shown.

| Metric         | H  | B  | LF  | LH   | HF | WF | WFS | RE** | Insert      |
|----------------|----|----|-----|------|----|----|-----|------|-------------|
| DSSNR/L2020K12 | 20 | 20 | 125 | 34.3 | 20 | 25 | 8.3 | 0.8  | SN**1204... |
| DSSNR/L2525M12 | 25 | 25 | 150 | 34.3 | 25 | 32 | 8.3 | 0.8  | SN**1204... |

Note: Except for TRS, TU, TUS, 57, and 65-type chipbreaker inserts

\*\*RE : Standard corner radius

## SPARE PARTS

| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench 1 | Wrench 2 |
|-------------|---------|--------|--------|-------------|-------|--------|------------|----------|----------|
| DSSNR/L...  | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSS42 | BP-10  | LSP4       | P-3      | P-4      |

## INSERT SELECTION

|          |                    |                     |                |                         |                         |                    |                    |                |                |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|--------------------|--------------------|----------------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting | <b>M</b>           | Application        | Finishing      | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |                    | Grade              | T6215          | AH6225         | AH6225                  |
|          | Chipbreaker Shape  | TF                  | TSF            | TM                      | TH                      |                    | Chipbreaker Shape  | SF             | SM             | SH                      |
|          | Cutting conditions | B004                |                |                         |                         |                    | Cutting conditions | B006           |                |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting | <b>N</b>                | Application        | Finishing          | Medium cutting |                |                         |
|          | Grade              | T515                | T515           | T515                    |                         | Grade              | DX140              | TH10           |                |                         |
|          | Chipbreaker Shape  | All-round           | All-round      | All-round               |                         | Chipbreaker Shape  | DIA                | P              |                |                         |
|          | Cutting conditions | B008                |                |                         |                         | Cutting conditions | B010               |                |                |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Index                   |                    |                    |                |                |                         |
|          | Grade              | BX480               | AH8005         | AH8005                  |                         |                    |                    |                |                |                         |
|          | Chipbreaker Shape  | CBN                 | HRF            | HRM                     |                         |                    |                    |                |                |                         |
|          | Cutting conditions | B012                |                |                         |                         |                    |                    |                |                |                         |

Reference pages: DSSNR/L: Inserts → **B077 -**, CBN → **B180**, PCD → **B211**



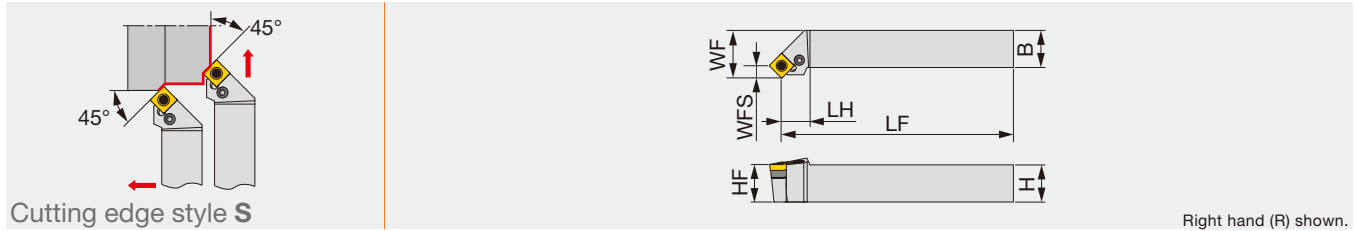
# SN



**Square with hole**

## PSSNR/L

Lever-lock toolholder with 45° approach angle, for negative square inserts



Right hand (R) shown.

| Metric      | H  | B  | LF    | LH   | HF | WF | WFS  | RE** | Insert      |
|-------------|----|----|-------|------|----|----|------|------|-------------|
| PSSNR/L1616 | 16 | 16 | 94    | 16   | 16 | 20 | 6.1  | 0.8  | SN**0903... |
| PSSNR/L2020 | 20 | 20 | 116   | 21   | 20 | 25 | 8.3  | 0.8  | SN**1204... |
| PSSNR/L2525 | 25 | 25 | 141   | 21   | 25 | 32 | 8.3  | 0.8  | SN**1204... |
| PSSNR3225   | 32 | 25 | 161   | 21   | 32 | 32 | 8.3  | 0.8  | SN**1204... |
| PSSNR/L3232 | 32 | 32 | 157.5 | 27.5 | 32 | 40 | 12.5 | 1.2  | SN**1906... |

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Shim  | Clamping screw | Wrench | Spring pin | Lever |
|-------------|-------|----------------|--------|------------|-------|
| PSSNR/L1616 | LSS33 | LCS3           | P-2.5  | LSP3L      | LCL3  |
| PSSNR/L2020 | LSS42 | LCS4           | P-3    | LSP4       | LCL4  |
| PSSNR/L**25 | LSS42 | LCS4           | P-3    | LSP4       | LCL4  |
| PSSNR/L3232 | LSS63 | LCS6           | P-4    | LSP6       | LCL6  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | Grade     | Grade          | Grade                   |
|                    | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker Shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
|                    | T6215     | AH6225         | AH6225                  |
| Chipbreaker Shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |


| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
|                    | T515      | T515           | T515                    |
| Chipbreaker Shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | Grade          |
|                    | DX140     | TH10           |
| Chipbreaker Shape  | DIA       | P              |
| Cutting conditions | B010      |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | Grade     | Grade          |
|                    | BX480               | AH8005    | AH8005         |
| Chipbreaker Shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

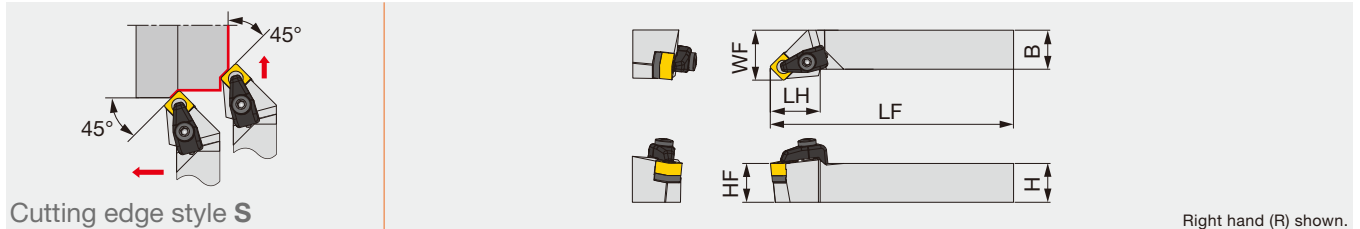
Reference pages: PSSNR/L: Inserts → **B077 -**, CBN → **B180**, PCD → **B211**

# SN

 Square without hole

## DIMPLEFX CSSNR/L-RD

Double-clamp toolholder with 45° approach angle, for negative square ceramic inserts with dimple




| Inch                | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| CSSNR/L16M45-RD     | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.250 | 0.047 | SNGD 45...  | 3.0     |
| Metric              | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| CSSNR/L2525M1207-RD | 25    | 25    | 150   | 32    | 25    | 32    | 1.2   | SNGD1207... | 4       |

Torque: Recommended clamping torque: lb-ft (\*N·m)  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp  | Clamp screw | Shim   | Shim screw | Spring | Wrench 1 | Wrench 2 |
|-------------|--------|-------------|--------|------------|--------|----------|----------|
| CSSNR/L...  | CCP4-A | CCS4-A      | CS44-A | BH5-10-A   | BP-5-A | P-3      | P-4      |

### INSERT SELECTION

|          |                    |   |
|----------|--------------------|---|
| <b>K</b> | Application        | Finishing to medium cutting   |
|          | Grade              | FX105   |
|          | Chipbreaker Shape  |  |
|          | Cutting conditions | C136  |

Reference pages: CSSNR/L-RD: Insert → **B085**  
Standard cutting conditions → **C136**

# SN

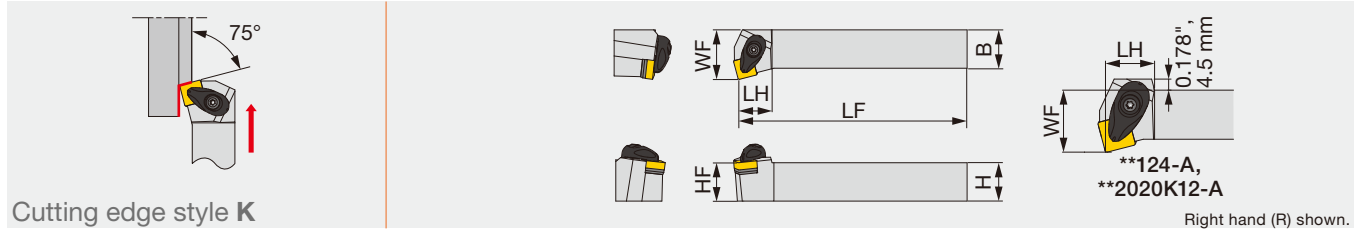


Square with hole

## TURNING

### ASKNR/L

Double-clamp toolholder with 75° approach angle, for negative square inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ASKNR/L124-A | 0.750 | 0.750 | 4.500 | 0.875 | 0.750 | 1.000 | 0.031 | SN** 43... | 2.21   |
| ASKNR/L164-A | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.260 | 0.031 | SN** 43... | 2.21   |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| ASKNR/L2020K12-A | 20 | 20 | 125 | 20 | 20 | 25 | 0.8  | SN**1204... | 3       |
| ASKNR/L2525M12-A | 25 | 25 | 150 | 22 | 25 | 32 | 0.8  | SN**1204... | 3       |

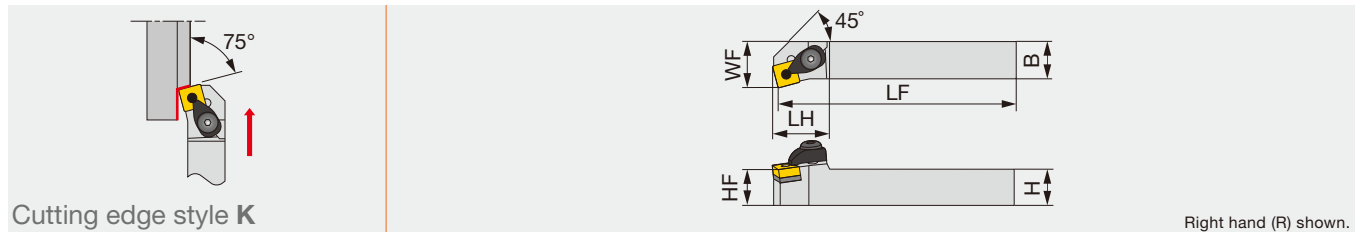
Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE : Standard corner radius

| SPARE PARTS |       |             |        |            |        |            |        |
|-------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| ASKNR/L...  | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASS422 | CSTB-3.5   | T-15F  |

C  
D  
F  
G  
H  
R  
S  
T  
V  
W  
Y  
OTHERS

### DSKNR/L

"One-Double" toolholder with 75° approach angle, for negative square inserts



| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| DSKNR/L2020K12 | 20 | 20 | 125 | 31 | 20 | 25 | 0.8  | SN**1204... |
| DSKNR/L2525M12 | 25 | 25 | 150 | 31 | 25 | 32 | 0.8  | SN**1204... |

Note: Except for TRS, TU, TUS, 57, and 65-type chipbreaker inserts  
 \*\*RE : Standard corner radius

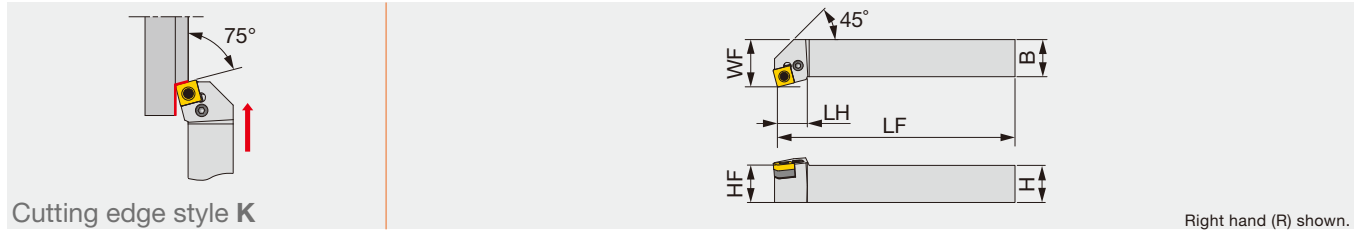
| SPARE PARTS |         |        |        |             |       |        |            |          |          |
|-------------|---------|--------|--------|-------------|-------|--------|------------|----------|----------|
| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench 1 | Wrench 2 |
| DSKNR/L...  | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSS42 | BP-10  | LSP4       | P-3      | P-4      |

Reference pages: ASKNR/L, DSKNR/L: Inserts → **B077 -**, CBN → **B180**, PCD → **B211**



# PSKNR/L

Lever-lock toolholder with 75° approach angle, for negative square inserts



| Metric      | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|-------------|----|----|-----|----|----|----|------|-------------|
| PSKNR/L1616 | 16 | 16 | 100 | 17 | 16 | 25 | 0.8  | SN**0903... |
| PSKNR/L2020 | 20 | 20 | 125 | 22 | 20 | 25 | 0.8  | SN**1204... |
| PSKNR/L2525 | 25 | 25 | 150 | 22 | 25 | 32 | 0.8  | SN**1204... |
| PSKNR3232   | 32 | 32 | 170 | 40 | 32 | 40 | 1.2  | SN**1906... |

\*\*RE : Standard corner radius

## SPARE PARTS

| Designation | Shim  | Clamping screw | Wrench | Spring pin | Lever |
|-------------|-------|----------------|--------|------------|-------|
| PSKNR/L1616 | LSS33 | LCS3           | P-2.5  | LSP3L      | LCL3  |
| PSKNR/L2*2* | LSS42 | LCS4           | P-3    | LSP4       | LCL4  |
| PSKNR3232   | LSS63 | LCS6           | P-4    | LSP6       | LCL6  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | Grade     | Grade          | Grade                   |
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker Shape  | TF                  | TSF       | TM             | TH                      |
| Image              |                     |           |                |                         |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker Shape  | SF        | SM             | SH                      |
| Image              |           |                |                         |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
| Grade              | T515      | T515           | T515                    |
| Chipbreaker Shape  | All-round | All-round      | All-round               |
| Image              |           |                |                         |
| Cutting conditions | B008      |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | Grade          |
| Grade              | DX140     | TH10           |
| Chipbreaker Shape  | DIA       | P              |
| Image              |           |                |
| Cutting conditions | B010      |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | Grade     | Grade          |
| Grade              | BX480               | AH8005    | AH8005         |
| Chipbreaker Shape  | CBN                 | HRF       | HRM            |
| Image              |                     |           |                |
| Cutting conditions | B012                |           |                |

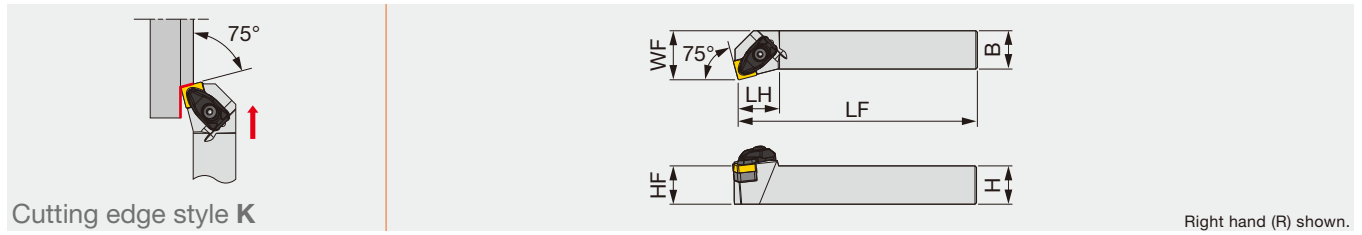
Reference pages: PSKNR/L: Inserts → B077 -, CBN → B180, PCD → B211

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# TSKNR/L-F

Toolholder with carbide clamping plate, with 75° approach angle, for negative square ceramic inserts without hole



Right hand (R) shown.

| Inch               | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| TSKNR/L 16-45D-F   | 1.000 | 1.000 | 6.000 | 1.063 | 1.000 | 1.250 | 0.032 | SNGN 453... |
| Metric             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
| TSKNR/L2525M1207-F | 25    | 25    | 150   | 27    | 25    | 32    | 0.8   | SNGN1207... |

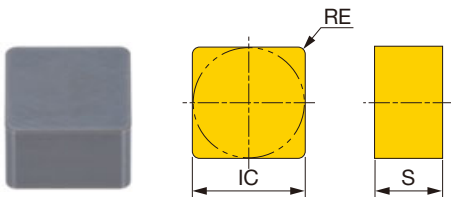
\*\*RE: Standard corner radius

## SPARE PARTS

| Designation        | Clamp   | Clamp screw | Shim   | Shim screw | Spring | Wrench 1 | Wrench 2 |
|--------------------|---------|-------------|--------|------------|--------|----------|----------|
| TSKNR/L2525M1207-F | DCLS-4F | DLS-4A      | TSS-42 | BH-40050-A | DSP-4A | T-15F    | P-3      |

## INSERT

### SNGN-T1



|   |                |   |   |  |  |  |
|---|----------------|---|---|--|--|--|
| P | Steel          |   |   |  |  |  |
| M | Stainless      |   |   |  |  |  |
| K | Cast iron      |   |   |  |  |  |
| N | Non-ferrous    |   |   |  |  |  |
| S | Superalloys    | ★ | ★ |  |  |  |
| H | Hard materials |   |   |  |  |  |

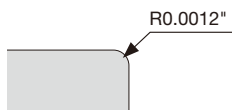
★ : First choice

| Designation |               | Edge prep.* | Ceramic |       | RE (in) | IC (in) | S (in) |
|-------------|---------------|-------------|---------|-------|---------|---------|--------|
| Inch        | Metric        |             | TS200   | TS300 |         |         |        |
| SNGN 453-T1 | SNGN120712-T1 | T1          | ●       |       | 0.047   | 0.500   | 0.313  |

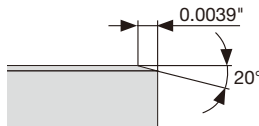
\* Types of cutting edge preparations

● : Line up

**E:** Low cutting force



**T1:** Strong cutting edge



Reference pages: TSKNR/L-F: Standard cutting conditions → C136

# SN

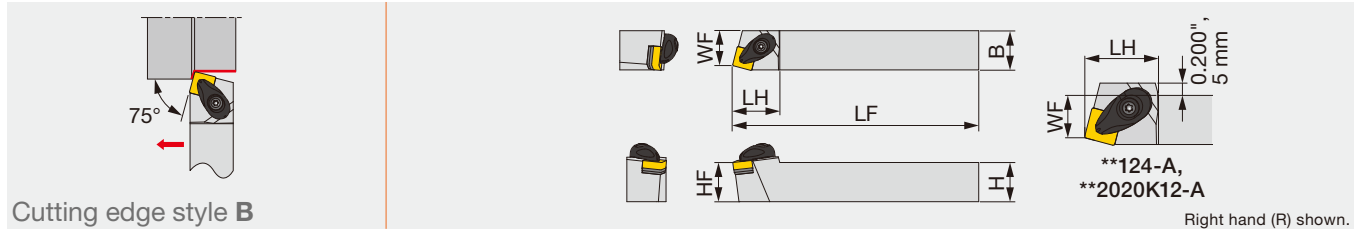


Square with hole

## TURNING

### ASBNR/L

Double-clamp toolholder with 75° approach angle, for negative square inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ASBNR/L124-A | 0.750 | 0.750 | 4.500 | 1.180 | 0.750 | 0.625 | 0.031 | SN** 43... | 2.2    |
| ASBNR/L164-A | 1.000 | 1.000 | 6.000 | 1.180 | 1.000 | 0.875 | 0.031 | SN** 43... | 2.2    |
| ASBNR/L205-A | 1.250 | 1.250 | 7.000 | 1.500 | 1.250 | 1.100 | 0.031 | SN** 54... | 4.7    |
| ASBNR/L206-A | 1.250 | 1.250 | 7.000 | 1.625 | 1.250 | 1.100 | 0.031 | SN** 64... | 4.7    |
| ASBNR/L245-A | 1.500 | 1.500 | 8.000 | 1.500 | 1.500 | 1.350 | 0.031 | SN** 54... | 4.7    |
| ASBNR/L246-A | 1.500 | 1.500 | 8.000 | 1.625 | 1.500 | 1.350 | 0.031 | SN** 64... | 4.7    |

| Metric           | H  | B  | LF  | LH   | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|------|----|----|------|-------------|---------|
| ASBNR/L2020K12-A | 20 | 20 | 125 | 30   | 20 | 17 | 0.8  | SN**1204... | 3       |
| ASBNR/L2525M12-A | 25 | 25 | 150 | 30   | 25 | 22 | 0.8  | SN**1204... | 3       |
| ASBNR/L2525M15-A | 25 | 25 | 150 | 42.5 | 25 | 22 | 1.2  | SN**1506... | 6.4     |
| ASBNR/L3232P15-A | 32 | 32 | 170 | 42.5 | 32 | 27 | 1.2  | SN**1506... | 6.4     |
| ASBNR/L3232P19-A | 32 | 32 | 170 | 47.5 | 32 | 27 | 1.2  | SN**1906... | 6.4     |
| ASBNR/L4040S19-A | 40 | 40 | 250 | 47.5 | 40 | 35 | 1.2  | SN**1906... | 6.4     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 \*\*RE: Standard corner radius

#### SPARE PARTS

| Designation                 | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench 1 | Wrench 2 |
|-----------------------------|-------|-------------|--------|------------|--------|------------|----------|----------|
| ASBNR/L**4-A, ASBNR/L**12-A | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASS422 | CSTB-3.5   | T-15F    | -        |
| ASBNR/L**5-A, ASBNR/L**15-A | ACP5S | ACS-6W      | BP-8.8 | SP-2.5     | ASS533 | CSTB-5     | -        | KEYV-T20 |
| ASBNR/L**6-A, ASBNR/L**19-A | ACP6S | ACS-6W      | BP-8.8 | SP-2.5     | ASS634 | CSTB-5     | -        | KEYV-T20 |

#### INSERT SELECTION

|          |                    |                     |           |                |                         |
|----------|--------------------|---------------------|-----------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|          | Chipbreaker Shape  | TF                  | TSF       | TM             | TH                      |
|          | Cutting conditions | B004                |           |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>M</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T6215     | AH6225         | AH6225                  |
|          | Chipbreaker Shape  | SF        | SM             | SH                      |
|          | Cutting conditions | B006      |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T515      | T515           | T515                    |
|          | Chipbreaker Shape  | All-round | All-round      | All-round               |
|          | Cutting conditions | B008      |                |                         |

|          |                    |           |                |
|----------|--------------------|-----------|----------------|
| <b>N</b> | Application        | Finishing | Medium cutting |
|          | Grade              | DX140     | TH10           |
|          | Chipbreaker Shape  | DIA       | P              |
|          | Cutting conditions | B010      |                |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | BX480               | AH8005    | AH8005         |
|          | Chipbreaker Shape  | CBN                 | HRF       | HRM            |
|          | Cutting conditions | B012                |           |                |

Reference pages: ASBNR/L: Inserts → **B077 -**, CBN → **B180**, PCD → **B211**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



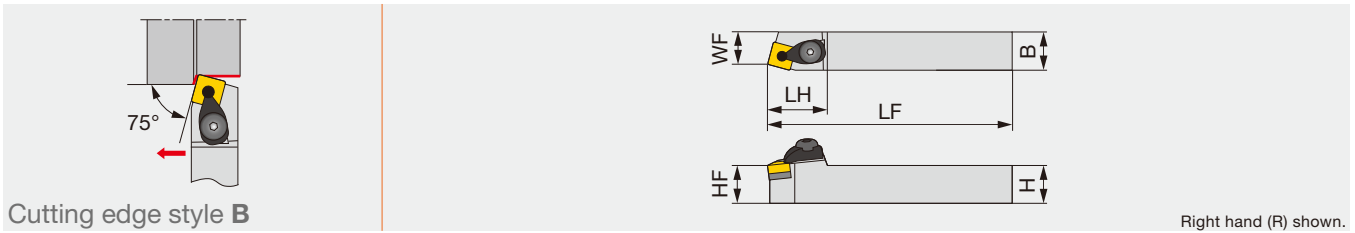
# SN



Square with hole

## DSBNR/L

"One-Double" toolholder with 75° approach angle, for negative square inserts



Cutting edge style B

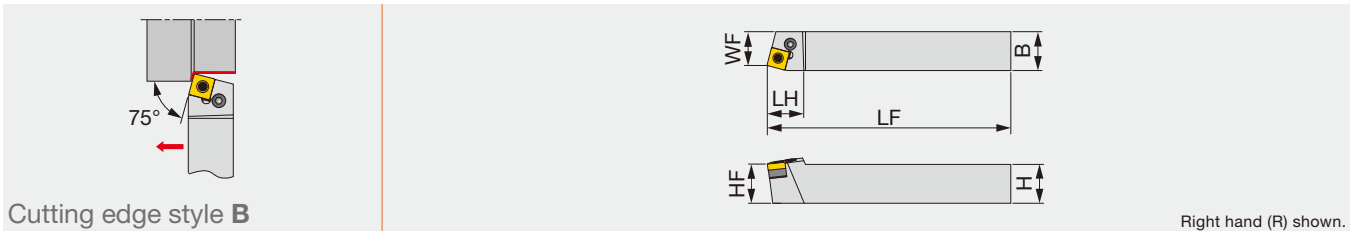
| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| DSBNR/L2020K12 | 20 | 20 | 125 | 35 | 20 | 17 | 0.8  | SN**1204... |
| DSBNR/L2525M12 | 25 | 25 | 150 | 35 | 25 | 22 | 0.8  | SN**1204... |

Note: Except for TRS, TU, TUS, 57, and 65-type chipbreaker inserts \*\*RE: Standard corner radius

| SPARE PARTS |         |        |        |             |       |        |            |          |          |
|-------------|---------|--------|--------|-------------|-------|--------|------------|----------|----------|
| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim  | Spring | Spring pin | Wrench 1 | Wrench 2 |
| DSBNR/L...  | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSS42 | BP-10  | LSP4       | P-3      | P-4      |

## PSBNR/L

Lever-lock toolholder with 75° approach angle, for negative square inserts



Cutting edge style B

| Metric      | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|-------------|----|----|-----|----|----|----|------|-------------|
| PSBNR/L1616 | 16 | 16 | 100 | 22 | 16 | 13 | 0.8  | SN**0903... |
| PSBNR/L2020 | 20 | 20 | 125 | 28 | 20 | 17 | 0.8  | SN**1204... |
| PSBNR/L2525 | 25 | 25 | 150 | 24 | 25 | 22 | 0.8  | SN**1204... |
| PSBNR/L3232 | 32 | 32 | 170 | 40 | 32 | 27 | 1.2  | SN**1906... |

\*\*RE: Standard corner radius

| SPARE PARTS |       |                |        |            |       |
|-------------|-------|----------------|--------|------------|-------|
| Designation | Shim  | Clamping screw | Wrench | Spring pin | Lever |
| PSBNR/L1616 | LSS33 | LCS3           | P-2.5  | LSP3L      | LCL3  |
| PSBNR/L2*2* | LSS42 | LCS4           | P-3    | LSP4       | LCL4  |
| PSBNR/L3232 | LSS63 | LCS6           | P-4    | LSP6       | LCL6  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | Grade     | Grade          | Grade                   |
|                    | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker Shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
|                    | T6215     | AH6225         | AH6225                  |
| Chipbreaker Shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
|                    | T515      | T515           | T515                    |
| Chipbreaker Shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

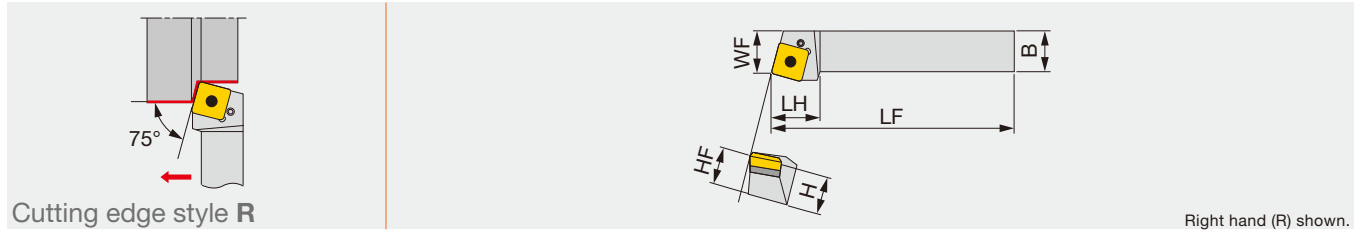
| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | Grade          |
|                    | DX140     | TH10           |
| Chipbreaker Shape  | DIA       | P              |
| Cutting conditions | B010      |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | Grade     | Grade          |
|                    | BX480               | AH8005    | AH8005         |
| Chipbreaker Shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

Reference pages: DSBNR/L, PSBNR/L: Inserts → B077 -, CBN → B180 -, PCD → B211

# HSRNR/L

Retract-pin toolholder with 75° approach angle, for negative square inserts




| Metric       | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|--------------|----|----|-----|----|----|----|------|-------------|
| HSRNR/L4040R | 40 | 40 | 200 | 50 | 40 | 43 | 1.6  | SNMM3109... |
| HSRNR/L5050S | 50 | 50 | 250 | 60 | 50 | 53 | 1.6  | SNMM3109... |

\*\*RE: Standard corner radius

| SPARE PARTS |  |  |  |  |
|-------------|---|---|---|---|
| Designation | Pin   | Clamping screw  | Shim  | Wrench  |
| HSRNR/L...  | SW99  | LS-8  | NAS-04  | P-4   |

## INSERT SELECTION

|          |                    |   |
|----------|--------------------|---|
| <b>P</b> | Application        | Heavy cutting   |
|          | Grade              | T9225   |
|          | Chipbreaker        | 65  |
|          | Shape              |  |
|          | Cutting conditions | B004  |

Reference pages: HSRNR/L: Inserts → **B083**

- Grade **A**
- Insert **B**
- Ext. Toolholder **C**
- Int. Toolholder **D**
- Threading **E**
- Grooving **F**
- Miniature tool **G**
- Milling cutter **H**
- Endmill **I**
- Drilling tool **J**
- Tooling System **K**
- User's Guide **L**
- Index **M**

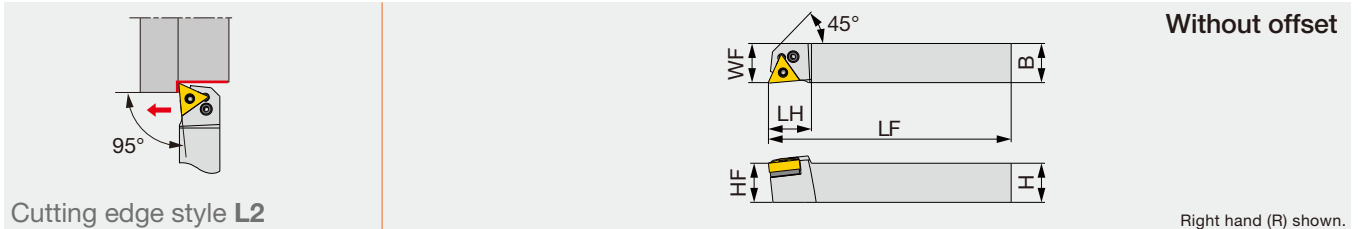
# TN



Triangular with hole

## PTL2NR/L

Lever-lock toolholder with 95° approach angle, for negative 60° triangular inserts



| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque |
|-----------------|----|----|-----|----|----|----|------|-------------|--------|
| PTL2NR/L2020H16 | 20 | 20 | 100 | 22 | 20 | 20 | 0.4  | TN**1604... | 2      |

Torque: Recommended clamping torque: N·m  
 \*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Shim       | Clamping screw | Wrench | Spring pin | Lever |
|-------------|------------|----------------|--------|------------|-------|
| PTL2NR/L... | LST317 D30 | LCS3           | P-2.5  | LSP3       | LCL3  |

C

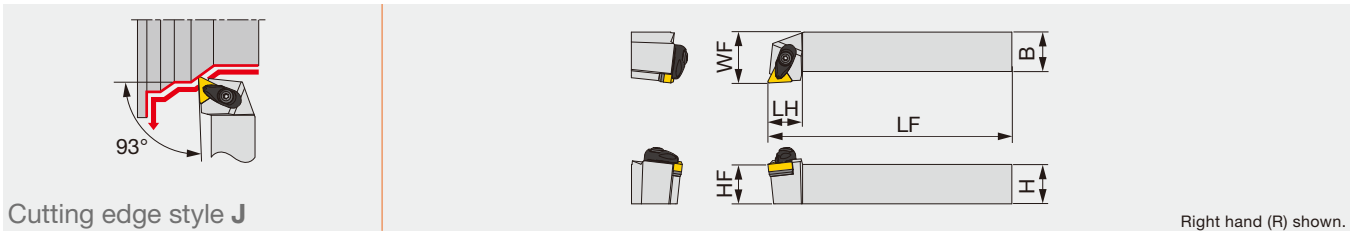
D

F

# TURNING

## ATJNR/L

Double-clamp toolholder with 93° approach angle, for negative 60° triangular inserts



| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| ATJNR/L123-A     | 0.750 | 0.750 | 4.500 | 0.875 | 0.750 | 1.000 | 0.031 | TN** 33...  | 2.2     |
| ATJNR/L163-A     | 1.000 | 1.000 | 6.000 | 0.875 | 1.000 | 1.250 | 0.031 | TN** 33...  | 2.2     |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| ATJNR/L2020K16-A | 20    | 20    | 125   | 22    | 20    | 25    | 0.8   | TN**1604... | 3       |
| ATJNR/L2525M16-A | 25    | 25    | 150   | 22    | 25    | 32    | 0.8   | TN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|-------------|-------|-------------|--------|------------|--------|------------|--------|
| ATJNR/L...  | ACP3S | ACS-5W      | BP-7   | SP-2.5     | AST322 | CSTB-3.5   | T-15F  |

T

V

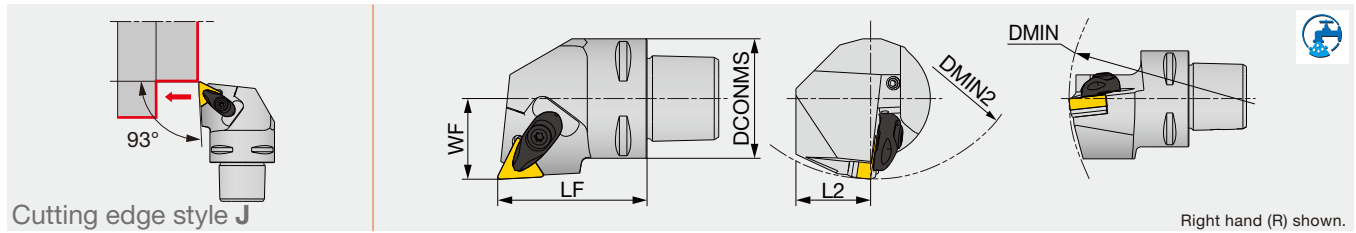
W

Y

OTHERS

Reference pages: PTL2NR/L, ATJNR/L: Inserts → **B087 -**, CBN → **B182 -**, PCD → **B212**

Double-clamp toolholder, with 93° approach angle, for negative 60° triangular inserts



| Metric             | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert      |
|--------------------|--------|----|----|----|------|-------|-----|-------------|
| C4ATJNR/L27050-16N | 40     | 50 | 25 | 27 | 140  | 110   | 0.8 | TN**1604... |

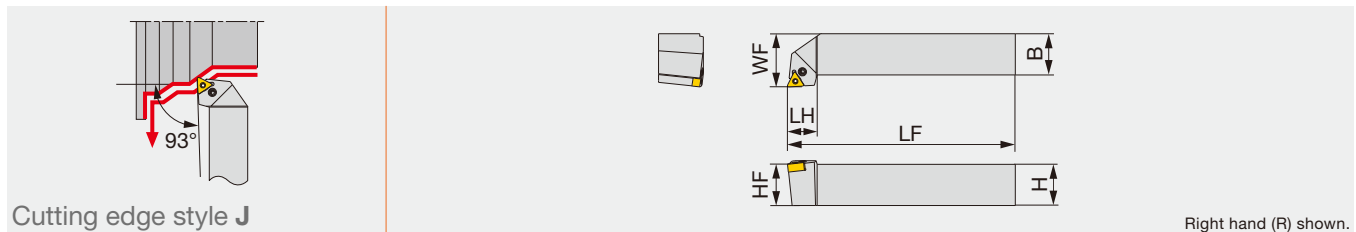
Applicable for 7 MPa (1015 PSI) coolant

| SPARE PARTS     |       |             |        |            |        |            |        |
|-----------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation     | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| C4ATJNR/L**-16N | ACP3S | ACS-5W      | BP-7   | SP-2.5     | AST322 | CSTB-3.5   | T-15F  |

# ISO ETURN

## PTJNR/L-Eco

Lever-lock toolholder with 93° approach angle, for negative triangular inserts



| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque |
|------------------|----|----|-----|----|----|----|------|-------------|--------|
| PTJNR/L2525M1104 | 25 | 25 | 150 | 18 | 25 | 32 | 0.8  | TN**1104... | 2      |

Torque: Recommended clamping torque: N·m \*\*RE: Standard corner radius

| SPARE PARTS      |                |        |       |
|------------------|----------------|--------|-------|
| Designation      | Clamping screw | Wrench | Lever |
| PTJNR/L2525M1104 | LCS23A         | P-2.5  | LCL23 |

## INSERT SELECTION

| P                  | Application | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade       | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker shape  | TF          | TSF                 | TM        | TH             |                         |
| Cutting conditions |             | B004                |           |                |                         |

| M                  | Application | Finishing | Medium cutting |
|--------------------|-------------|-----------|----------------|
|                    | Grade       | T6215     | AH6225         |
| Chipbreaker shape  | SF          | SM        |                |
| Cutting conditions |             | B006      |                |

| K                  | Application | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|-----------|----------------|-------------------------|
|                    | Grade       | T515      | T515           | T515                    |
| Chipbreaker shape  | All-round   | All-round | All-round      |                         |
| Cutting conditions |             | B008      |                |                         |

| N                  | Application | Precision finishing | Finishing | Medium cutting |
|--------------------|-------------|---------------------|-----------|----------------|
|                    | Grade       | DX120               | DX140     | TH10           |
| Chipbreaker shape  | DIA         | with rake DIA       | P         |                |
| Cutting conditions |             | B010                |           |                |

| S                  | Application | Precision finishing | Finishing | Medium cutting |
|--------------------|-------------|---------------------|-----------|----------------|
|                    | Grade       | BX470               | AH8005    | AH8005         |
| Chipbreaker shape  | CBN         | HRF                 | HRM       |                |
| Cutting conditions |             | B012                |           |                |

| H                  | Application | Precision finishing | Finishing |
|--------------------|-------------|---------------------|-----------|
|                    | Grade       | BXA10               | BXA20     |
| Chipbreaker shape  | CBN         | CBN                 |           |
| Cutting conditions |             | B014                |           |

Reference pages: C-ATJNR/L: Inserts → B087 -, CBN → B182 -, PCD → B212  
 PTJNR/L-Eco: Inserts → B087 -

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index





# TN

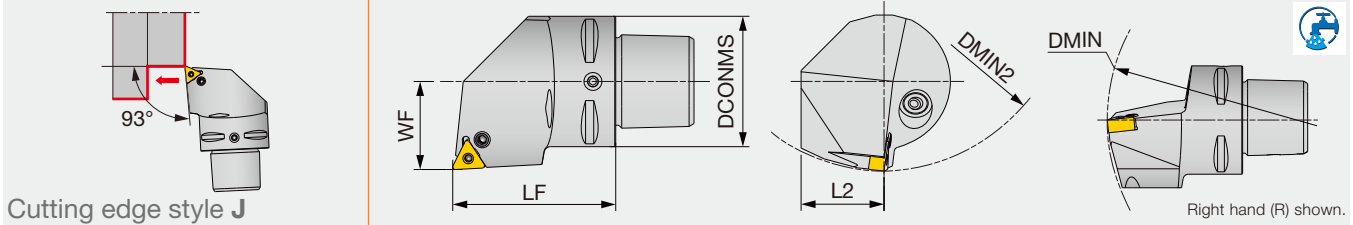


Triangular with hole

## TUNGCAP

### C-PTJNR/L

Lever-lock external turning toolholder (P type)



| Metric               | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE** | Insert      |
|----------------------|--------|----|----|----|------|-------|------|-------------|
| C4PTJNR/L27050-1104N | 40     | 50 | 25 | 27 | 140  | 110   | 0.8  | TN**1104... |

\*\*RE: The holder measurements are true with this insert radius  
Applicable for 7 MPa (1015 PSI) coolant

#### SPARE PARTS

| Designation          | Clamping screw | Wrench | Lever | Coolant parts |
|----------------------|----------------|--------|-------|---------------|
| C4PTJNR/L27050-1104N | LCS23A         | P-2.5  | LCL23 | SATZ-M8X1-M3  |

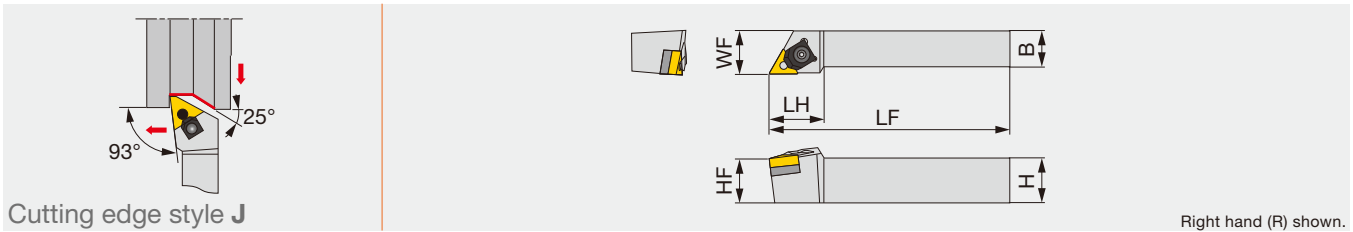
C

D

F

### WTJNR/L

Wedge-on toolholder with 93° approach angle, for negative 60° triangular inserts



| Metric        | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|---------------|----|----|-----|----|----|----|------|-------------|
| WTJNR2020     | 20 | 20 | 125 | 31 | 20 | 25 | 0.8  | TN**1604... |
| WTJNR/L2525M3 | 25 | 25 | 150 | 31 | 25 | 32 | 0.8  | TN**1604... |

\*\*RE: Standard corner radius

#### SPARE PARTS

| Designation   | Clamp | E-ring  | Nut   | Pin   | Clamping screw | Shim  | Wrench |
|---------------|-------|---------|-------|-------|----------------|-------|--------|
| WTJNR2020     | WCW3  | 5103-25 | WCN3S | WCP3S | WCS3           | WST33 | P-3    |
| WTJNR/L2525M3 | WCW3  | 5103-25 | WCN3  | WCP3S | WCS3           | WST33 | P-3    |

T

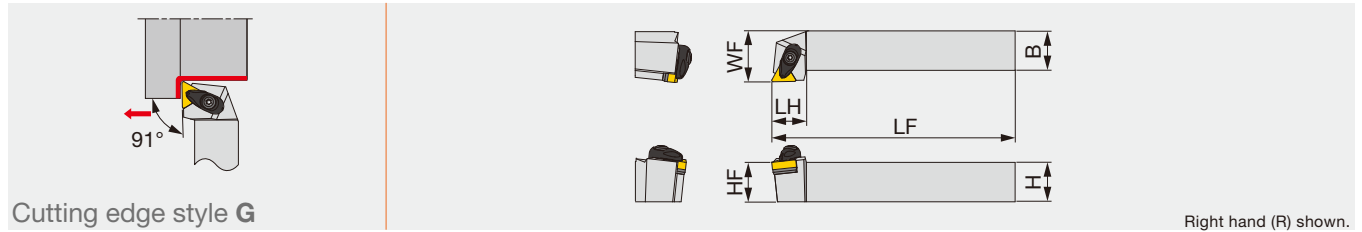
V

W

Y

OTHERS

Reference pages: C-PTJNR/L: Inserts → **B087 -**  
WTJNR/L: Inserts → **B087 -**, CBN → **B182 -**, PCD → **B212**



Right hand (R) shown.

| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ATGNR/L123-A | 0.750 | 0.750 | 4.500 | 0.875 | 0.750 | 1.000 | 0.031 | TN** 33... | 2.2    |
| ATGNR/L163-A | 1.000 | 1.000 | 6.000 | 0.875 | 1.000 | 1.250 | 0.031 | TN** 33... | 2.2    |
| ATGNR/L164-A | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.250 | 0.031 | TN** 43... | 2.2    |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| ATGNR/L2020K16-A | 20 | 20 | 125 | 22 | 20 | 25 | 0.8  | TN**1604... | 3       |
| ATGNR/L2525M16-A | 25 | 25 | 150 | 22 | 25 | 32 | 0.8  | TN**1604... | 3       |
| ATGNR/L2525M22-A | 25 | 25 | 150 | 26 | 25 | 32 | 0.8  | TN**2204... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 \*\*RE: Standard corner radius

| SPARE PARTS                    |       |             |        |            |        |            |        |
|--------------------------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation                    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| ATGNR/L**3-A,<br>ATGNR/L**16-A | ACP3S | ACS-5W      | BP-7   | SP-2.5     | AST322 | CSTB-3.5   | T-15F  |
| ATGNR/L**4-A,<br>ATGNR/L**22-A | ACP4S | ACS-5W      | BP-7   | SP-2.5     | AST422 | CSTB-3.5   | T-15F  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | Grade     | Grade          | Grade                   |
|                    | NS9530              | GT9530    | T9215          | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | Grade          |
|                    | T6215     | AH6225         |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
|                    | T515      | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | Grade         | Grade          |
|                    | DX120               | DX140         | TH10           |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | Grade     | Grade          |
|                    | BX470               | AH8005    | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | Grade     |
|                    | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: ATGNR/L: Inserts → B087 -, CBN → B182 -, PCD → B212



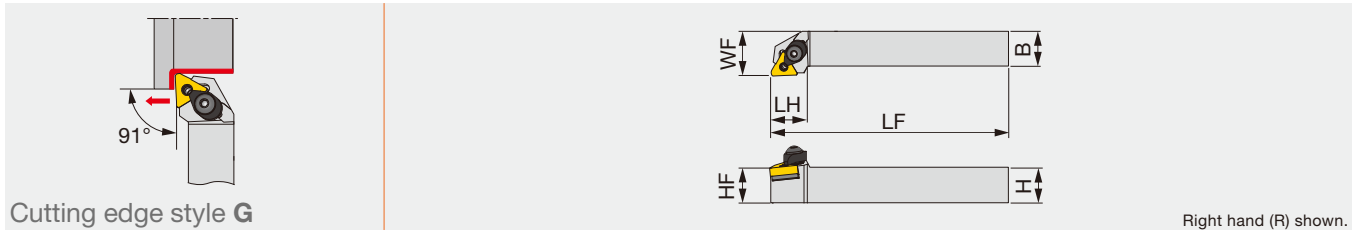
# TN



Triangular  
with hole

## DTGNR/L

"One-Double" toolholder with 91° approach angle, for negative 60° triangular inserts



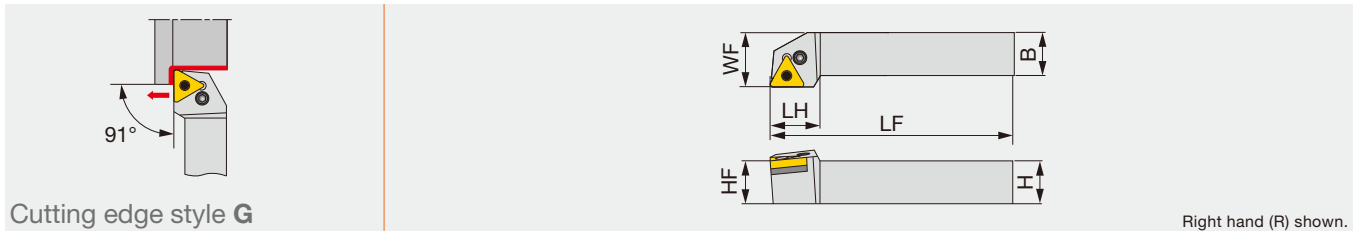
| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| DTGNR/L2020K16 | 20 | 20 | 125 | 21 | 20 | 25 | 0.8  | TN**1604... |
| DTGNR/L2525M16 | 25 | 25 | 150 | 21 | 25 | 32 | 0.8  | TN**1604... |
| DTGNR/L2525M22 | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | TN**2204... |

Note: Except for 57-type chipbreaker inserts  
\*\*RE: Standard corner radius

| SPARE PARTS | Clamp   | Lever  | Piston | Clamp screw | Shim   | Spring | Spring pin | Wrench 1 | Wrench 2 |
|-------------|---------|--------|--------|-------------|--------|--------|------------|----------|----------|
| DTGNR/L**16 | DCPM-33 | LCL33  | DPIS33 | DLCS33      | LST317 | BP-9   | LSP3       | P-2.5    | P-3      |
| DTGNR/L**22 | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LST42  | BP-10  | LSP4       | P-3      | P-4      |

## ISO ETURN PTGNR/L

Lever-lock toolholder with 91° approach angle, for negative triangular inserts



| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| PTGNR/L1223 | 0.750 | 0.750 | 4.500 | 0.750 | 0.750 | 1.000 | 0.031 | TN** 23... | 1.5    |
| PTGNR/L1623 | 1.000 | 1.000 | 6.000 | 0.750 | 1.000 | 1.250 | 0.031 | TN** 23... | 1.5    |

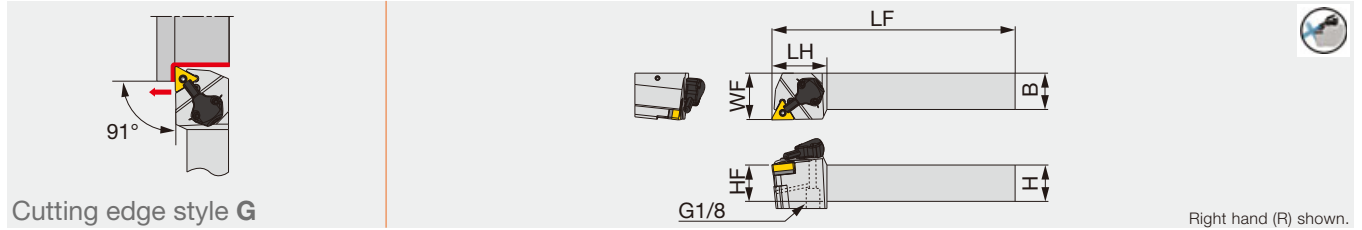
| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| PTGNR/L1616      | 16 | 16 | 100 | 22 | 16 | 20 | 0.8  | TN**1604... | 2       |
| PTGNR/L2020K1104 | 20 | 20 | 125 | 20 | 20 | 25 | 0.8  | TN**1104... | 2       |
| PTGNR/L2020      | 20 | 20 | 125 | 22 | 20 | 25 | 0.8  | TN**1604... | 2       |
| PTGNR/L2525M1104 | 25 | 25 | 150 | 20 | 25 | 32 | 0.8  | TN**1104... | 2       |
| PTGNR/L2525M3    | 25 | 25 | 150 | 22 | 25 | 32 | 0.8  | TN**1604... | 2       |
| PTGNR/L2525M4    | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | TN**2204... | 3       |
| PTGNR3225P4      | 32 | 25 | 170 | 28 | 32 | 32 | 0.8  | TN**2204... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE: Standard corner radius

| SPARE PARTS                   | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|-------------------------------|--------|----------------|--------|------------|-------|
| Designation                   | Shim   | Clamping screw | Wrench | Spring pin | Lever |
| PTGNR/L**23,<br>PTGNR/L**1104 | -      | LCS23A         | P-2.5  | -          | LCL23 |
| PTGNR/L1616, 2020             | LST317 | LCS3           | P-2.5  | LSP3       | LCL3  |
| PTGNR/L2525M3                 | LST317 | LCS3           | P-2.5  | LSP3       | LCL3  |
| PTGNR/L2525M4                 | LST42  | LCS4           | P-3    | LSP4       | LCL4  |
| PTGNR3225P4                   | LST42  | LCS4           | P-3    | LSP4       | LCL4  |

Reference pages: DTGNR/L, PTGNR/L: Inserts → **B087 -**, CBN → **B182 -**, PCD → **B212**

Lever lock toolholders – 91° approach angle.  
For negative triangle insert. High-pressure coolant capability.



| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| PTGNR/L1223-CHP | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 1.250 | 0.031 | TN** 23... | 1.48   |
| PTGNR/L123-CHP  | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 1.250 | 0.031 | TN** 33... | 1.48   |
| PTGNR/L1623-CHP | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | TN** 23... | 1.48   |
| PTGNR/L163-CHP  | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | TN** 33... | 1.48   |

| Metric               | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|----------------------|----|----|-----|----|----|----|------|-------------|---------|
| PTGNR/L2020K1104-CHP | 20 | 20 | 125 | 38 | 20 | 32 | 0.8  | TN**1104... | 2       |
| PTGNR/L2020K16-CHP   | 20 | 20 | 125 | 38 | 20 | 32 | 0.8  | TN**1604... | 2       |
| PTGNR/L2525M1104-CHP | 25 | 25 | 150 | 38 | 25 | 32 | 0.8  | TN**1104... | 2       |
| PTGNR/L2525M16-CHP   | 25 | 25 | 150 | 38 | 25 | 32 | 0.8  | TN**1604... | 2       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation                            | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
|--|--------|----------------|----------|------------|-------|
| PTGNR/L**23-CHP,<br>PTGNR/L**1104-CHP  | -      | LCS23A         | P-2.5    | LSP3       | LCL23 |
| PTGNR/L123, 163-CHP<br>PTGNR/L**16-CHP | LST317 | LCS3           | P-2.5    | LSP3       | LCL3  |

### SPARE PARTS

| Designation                            | Coolant unit | Mounting screw | Wrench 2 | O-ring     | Coolant screw | Wrench 3 |
|--|--------------|----------------|----------|------------|---------------|----------|
| PTGNR/L**23-CHP,<br>PTGNR/L**1104-CHP  | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |
| PTGNR/L123, 163-CHP<br>PTGNR/L**16-CHP | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PTGNR/L-CHP: Inserts → **B087 -**, CBN → **B182 -**, PCD → **B212**  
Parts for coolant hose → **C133**

# TN

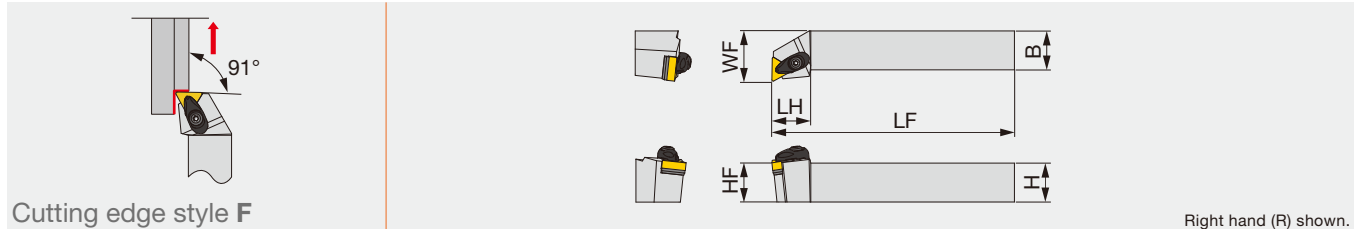


Triangular  
with hole

## TURNING

### ATFNR/L

Double-clamp toolholder for facing with 91° approach angle, for negative 60° triangular inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ATFNR/L123-A | 0.750 | 0.750 | 4.500 | 1.000 | 0.750 | 1.000 | 0.031 | TN** 33... | 2.2    |
| ATFNR/L163-A | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.250 | 0.031 | TN** 33... | 2.2    |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| ATFNR/L2020K16-A | 20 | 20 | 125 | 25 | 20 | 25 | 0.8  | TN**1604... | 3       |
| ATFNR/L2525M16-A | 25 | 25 | 150 | 25 | 25 | 32 | 0.8  | TN**1604... | 3       |
| ATFNR/L2525M22-A | 25 | 25 | 150 | 29 | 25 | 32 | 0.8  | TN**2204... | 3       |

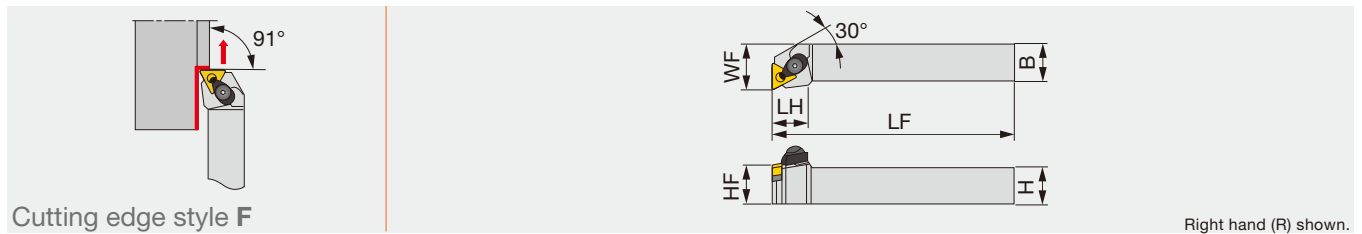
Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE : Standard corner radius

#### SPARE PARTS

| Designation                    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|--------------------------------|-------|-------------|--------|------------|--------|------------|--------|
| ATFNR/L**3-A,<br>ATFNR/L**16-A | ACP3S | ACS-5W      | BP-7   | SP-2.5     | AST322 | CSTB-3.5   | T-15F  |
| ATFNR/L**22-A                  | ACP4S | ACS-5W      | BP-7   | SP-2.5     | AST422 | CSTB-3.5   | T-15F  |

### DTFNR/L

"One-Double" toolholder with 91° approach angle, for negative 60° triangular inserts



| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| DTFNR/L2020K16 | 20 | 20 | 125 | 23 | 20 | 25 | 0.8  | TN**1604... |
| DTFNR/L2525M16 | 25 | 25 | 150 | 23 | 25 | 32 | 0.8  | TN**1604... |
| DTFNR/L2525M22 | 25 | 25 | 150 | 31 | 25 | 32 | 0.8  | TN**2204... |

Note: Except for 57-type chipbreaker inserts  
 \*\*RE : Standard corner radius

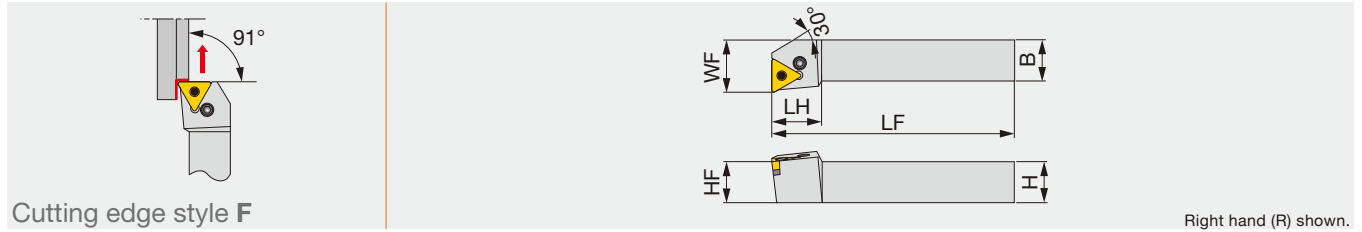
#### SPARE PARTS

| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim   | Spring | Spring pin | Wrench 1 | Wrench 2 |
|-------------|---------|--------|--------|-------------|--------|--------|------------|----------|----------|
| DTFNR/L**16 | DCPM-33 | LCL33  | DPIS33 | DLCS33      | LST317 | BP-9   | LSP3       | P-2.5    | P-3      |
| DTFNR/L**22 | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LST42  | BP-10  | LSP4       | P-3      | P-4      |

Reference pages: ATFNR/L, DTFNR/L: Inserts → **B087 -**, CBN → **B182 -**, PCD → **B212**

# PTFNR/L

Lever-lock toolholder with 91° approach angle, for negative triangular inserts



Cutting edge style F

Right hand (R) shown.

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque |
|------------------|----|----|-----|----|----|----|------|-------------|--------|
| PTFNR/L1616      | 16 | 16 | 100 | 22 | 16 | 20 | 0.8  | TN**1604... | 2      |
| PTFNR/L2020K1104 | 20 | 20 | 125 | 16 | 20 | 25 | 0.8  | TN**1104... | 2      |
| PTFNR/L2020      | 20 | 20 | 125 | 22 | 20 | 25 | 0.8  | TN**1604... | 2      |
| PTFNR/L2525M1104 | 25 | 25 | 150 | 22 | 25 | 32 | 0.8  | TN**1104... | 2      |
| PTFNR/L2525M3    | 25 | 25 | 150 | 22 | 25 | 32 | 0.8  | TN**1604... | 2      |
| PTFNR/L2525M4    | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | TN**2204... | 3      |
| PTFNR/L3225P4    | 32 | 25 | 170 | 28 | 32 | 32 | 0.8  | TN**2204... | 3      |

Torque: Recommended clamping torque: N·m  
 \*\*RE : Standard corner radius

## SPARE PARTS

| Designation       | Shim   | Clamping screw 1 | Clamping screw 2 | Wrench | Spring pin | Lever |
|-------------------|--------|------------------|------------------|--------|------------|-------|
| PTFNR/L1616, 2020 | LST317 | -                | LCS3             | P-2.5  | LSP3       | LCL3  |
| PTFNR/L**1104     | -      | LCS23A           | -                | P-2.5  | -          | LCL23 |
| PTFNR/L2525M3     | LST317 | -                | LCS3             | P-2.5  | LSP3       | LCL3  |
| PTFNR/L**25*4     | LST42  | -                | LCS4             | P-3    | LSP4       | LCL4  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PTFNR/L: Inserts → B087 -, CBN → B182 -, PCD → B212



# TN

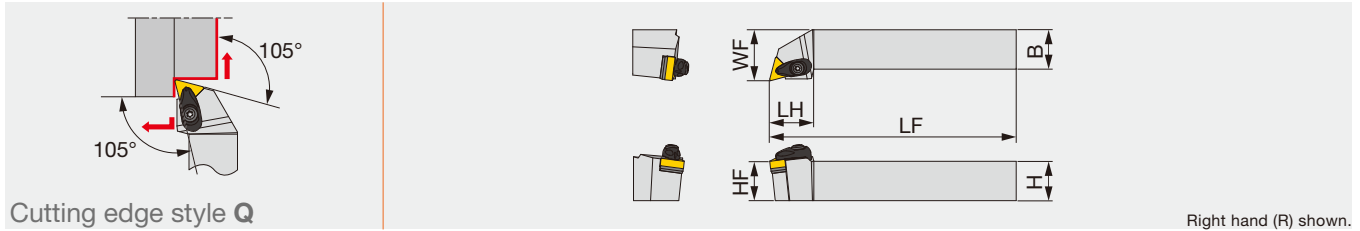


Triangular with hole

## TURNING

### ATQNR/L

Double-clamp toolholder with 105° approach angle, for negative 60° triangular inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| ATQNR/L123-A | 0.750 | 0.750 | 4.500 | 1.125 | 0.750 | 1.000 | 0.031 | TN** 33... | 2.2    |
| ATQNR/L163-A | 1.000 | 1.000 | 6.000 | 1.125 | 1.000 | 1.250 | 0.031 | TN** 33... | 2.2    |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| ATQNR/L2020K16-A | 20 | 20 | 125 | 28 | 20 | 25 | 0.8  | TN**1604... | 3       |
| ATQNR/L2525M16-A | 25 | 25 | 150 | 28 | 25 | 32 | 0.8  | TN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE : Standard corner radius

| SPARE PARTS |       |             |        |            |        |            |        |
|-------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| ATQNR/L...  | ACP3S | ACS-5W      | BP-7   | SP-2.5     | AST322 | CSTB-3.5   | T-15F  |

- C
- D
- F
- G
- H
- R
- S
- T
- V
- W
- Y
- OTHERS

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  |                     |           |                |                         |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  |           |                |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

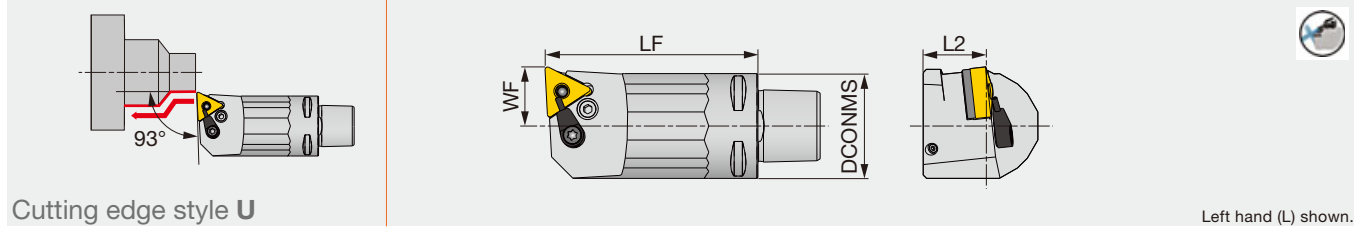
| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: ATQNR/L: Inserts → **B087 -**, CBN → **B182 -**, PCD → **B212**



Lever-lock toolholder, with 93° approach angle, for negative 60° triangular inserts, with high pressure coolant capability



| Metric              | DCONMS | LF | L2 | WF | RE  | Insert      |
|---------------------|--------|----|----|----|-----|-------------|
| C3PTUNL18040-16-CHP | 32     | 40 | 19 | 18 | 0.8 | TN**1604... |
| C3PTUNL18065-16-CHP | 32     | 65 | 19 | 18 | 0.8 | TN**1604... |

Applicable for 14 MPa (2031 PSI) coolant  
Cannot be used for boring

### SPARE PARTS

| Designation | Coolant unit | Shim   | Lever | Clamping screw | Spring pin | Wrench |
|-------------|--------------|--------|-------|----------------|------------|--------|
| C3PTUNL...  | S-CU-CHP     | LST317 | LCL3  | LCS3           | LSP3       | P-2.5  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Chipbreaker shape  | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: C-PTUNL-CHP: Inserts → **B087** -, CBN → **B182** -, PCD → **B212**  
Parts for coolant hose → **C133**



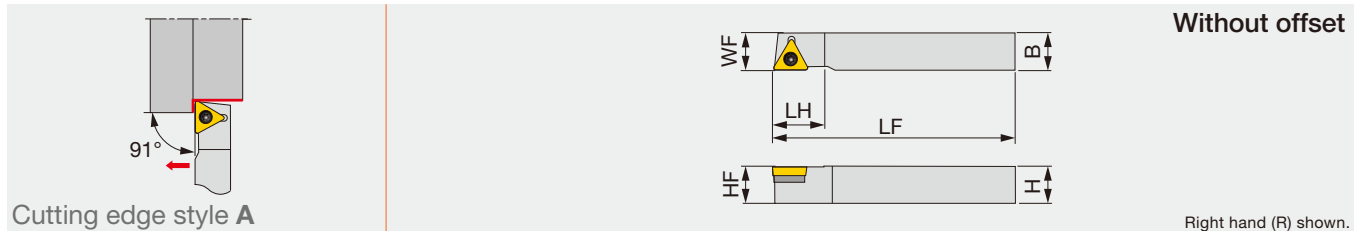
# TC



**Triangular  
with hole  
Positive 7°**

## STACR/L

Screw-on toolholder with 91° approach angle, for positive 60° triangular inserts



| Metric         | H  | B  | LF  | LH   | HF | WF | RE** | Insert      |
|----------------|----|----|-----|------|----|----|------|-------------|
| STACR/L1616H16 | 16 | 16 | 100 | 22.5 | 16 | 16 | 0.8  | TC**16T3... |

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamping screw | Shim screw | Shim  | Wrench1 | Wrench2 |
|-------------|----------------|------------|-------|---------|---------|
| STACR/L...  | CSTB-3.5L      | DTS5-3.5   | SST32 | P-3.5   | T-15F   |

- C
- D
- F
- G
- H
- R
- S
- T**
- V
- W
- Y

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | T9215                       | T9215          |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH725                       | AH6225         |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
|                    | Grade                       |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

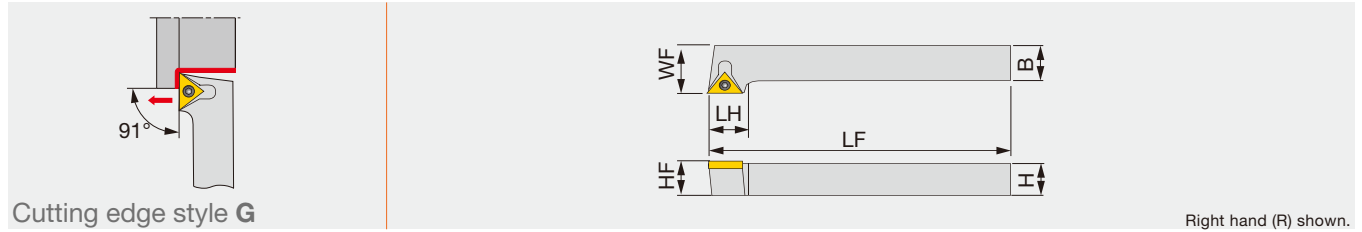
| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
|                    | Grade                       |
| Breaker Shape      | AL with rake                |
| Cutting conditions | B022                        |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH725                       | AH6225         |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B024      |                             |                |

Reference pages: STACR/L: Inserts → **B138 -**, CBN → **B198**

# STGCR/L

Screw-on system toolholder with 91° approach angle for positive 60° triangular inserts



| Inch       | H     | B     | LF    | LH    | HF    | WF    | Insert       |
|------------|-------|-------|-------|-------|-------|-------|--------------|
| STGCR/L062 | 0.375 | 0.375 | 2.500 | 0.625 | 0.375 | 0.500 | TC** 21.5... |
| STGCR/L082 | 0.500 | 0.500 | 3.500 | 0.625 | 0.500 | 0.625 | TC** 21.5... |
| STGCR/L103 | 0.625 | 0.625 | 4.000 | 0.750 | 4.000 | 0.750 | TC** 32.5... |
| STGCR/L123 | 0.750 | 0.750 | 4.500 | 0.750 | 4.500 | 1.000 | TC** 32.5... |

Except for 57-type chipbreaker inserts

| SPARE PARTS |          |            |             |        |
|-------------|----------|------------|-------------|--------|
| Designation | Shim     | Shim screw | Clamp screw | Wrench |
| STGCR/L0... | -        | -          | CSTB2.5     | T-7F   |
| STGCR/L1... | SKTP-343 | SRS-3      | CSTB3.5     | T-15F  |

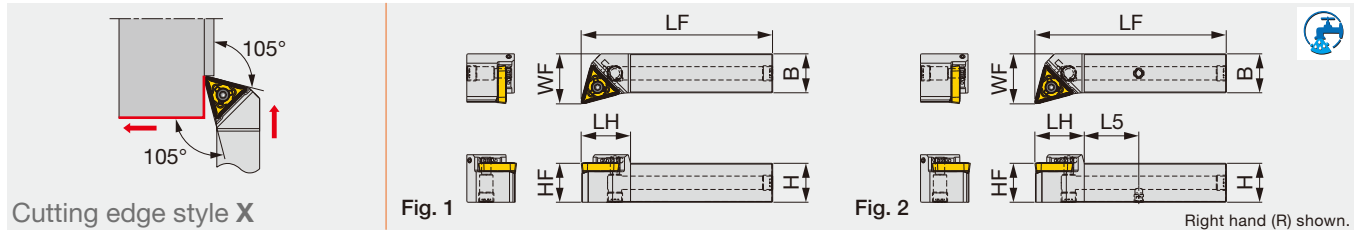
## INSERT SELECTION

|                    |                    |                             |                             |                             |                |
|--------------------|--------------------|-----------------------------|-----------------------------|-----------------------------|----------------|
| <b>P</b>           | Application        | Precision finishing         | Finishing                   | Finishing to medium cutting | Medium cutting |
|                    | Grade              | SH725                       | SH725                       | T9215                       | T9215          |
|                    | Breaker Shape      | JP                          | JS                          | PS                          | PM             |
|                    | Cutting conditions | B016                        |                             |                             |                |
| <b>M</b>           | Application        | Precision finishing         | Finishing                   | Finishing to medium cutting | Medium cutting |
|                    | Grade              | SH725                       | SH725                       | AH6225                      | AH6225         |
|                    | Breaker Shape      | JP                          | JS                          | PS                          | PM             |
|                    | Cutting conditions | B018                        |                             |                             |                |
| <b>K</b>           | Application        | Finishing to medium cutting |                             |                             |                |
|                    | Grade              | T515                        |                             |                             |                |
|                    | Breaker Shape      | CM                          |                             |                             |                |
| Cutting conditions | B020               |                             |                             |                             |                |
| <b>N</b>           | Application        | Precision finishing         | Finishing to medium cutting |                             |                |
|                    | Grade              | DX120                       | KS05F                       |                             |                |
|                    | Breaker Shape      | DIA                         | with rake AL                |                             |                |
|                    | Cutting conditions | B022                        |                             |                             |                |
| <b>S</b>           | Application        | Precision finishing         | Finishing                   | Finishing to medium cutting | Medium cutting |
|                    | Grade              | SH725                       | SH725                       | AH6225                      | AH6225         |
|                    | Breaker Shape      | JP                          | JS                          | PS                          | PM             |
|                    | Cutting conditions | B024                        |                             |                             |                |

Reference pages: STGCR/L: Inserts → **B138** -, CBN → **B198**, PCD → **B216**



Screw-on toolholder with 105° approach angle, for positive triangular inserts



| Inch                  | H     | B     | LF    | LH    | HF    | WF    | L5 | Insert         | Torque  | Fig. |
|-----------------------|-------|-------|-------|-------|-------|-------|----|----------------|---------|------|
| STXCR/L169-CHP-MC     | 1.000 | 1.000 | 6.000 | 1.250 | 1.000 | 1.250 | -  | 3C-TCMT29X6... | 3.69    | 1    |
| Metric                | H     | B     | LF    | LH    | HF    | WF    | L5 | Insert         | Torque* | Fig. |
| STXCR/L2525X29-CHP-MC | 25    | 25    | 122   | 32    | 25    | 32    | 35 | 3C-TCMT29X6... | 5       | 2    |

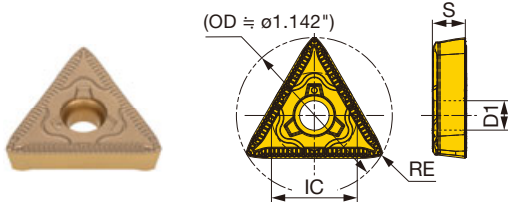
Torque: Recommended clamping torque: lb-ft (\*N-m)

### SPARE PARTS

| Designation | Clamping screw | Grip   | Torx bit | Coolant plug      |
|-------------|----------------|--------|----------|-------------------|
| STXCR/L...  | CSTB-5         | H-TB2W | BT20M    | PLUGG1/8-6.5TL360 |

## INSERT

### 3C-TCMT\*\* -TM



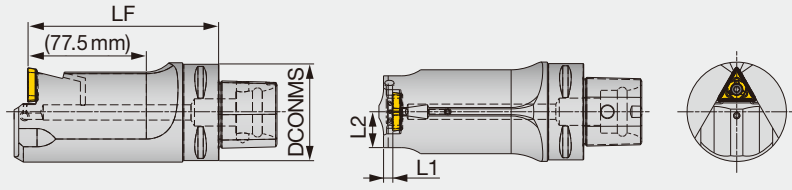
|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ☆ |  |  |  |  |  |  |  |
| K | Cast iron      | ☆ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    |   |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation      | RE (in) | Coated |  |  |  |  |  |  |  | IC (in) | S (in) | D1 (in) |
|------------------|---------|--------|--|--|--|--|--|--|--|---------|--------|---------|
|                  |         | T9215  |  |  |  |  |  |  |  |         |        |         |
| 3C-TCMT29X608-TM | 0.031   | ●      |  |  |  |  |  |  |  | 0.630   | 0.242  | 0.217   |

Please note that 3C-TCMT... insert is not recommended for pull face-turning method (pulling the insert away from the part center).

● : Line up



Cutting edge style E

| Metric                 | SS | DCONMS | LF  | L1 | L2   | RE  | Insert         | Torque |
|------------------------|----|--------|-----|----|------|-----|----------------|--------|
| C6STECHN00125-29-Y-CHP | C6 | 63     | 125 | 6  | 23.5 | 0.8 | 3C-TCMT29X6... | 5      |

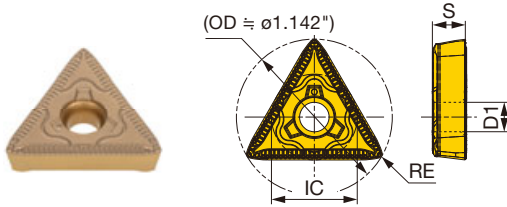
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation            | Clamping screw | Grip   | Torx bit |
|------------------------|----------------|--------|----------|
| C6STECHN00125-29-Y-CHP | CSTB-5         | H-TB2W | BT20M    |

## INSERT

### 3C-TCMT\*\*-TM



|   |                |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

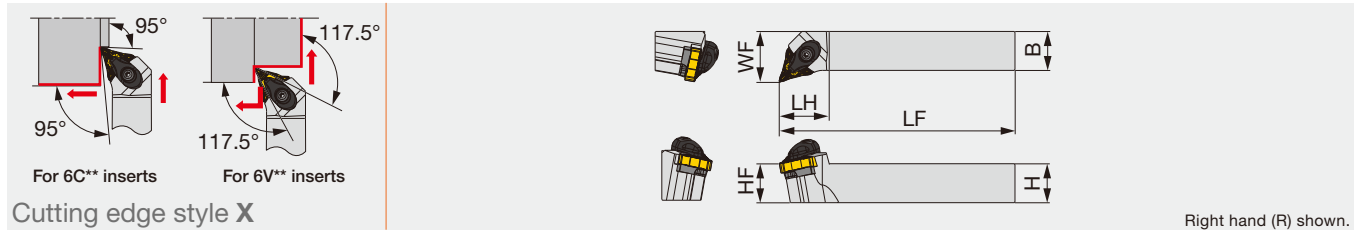
★ : First choice  
☆ : Second choice

| Designation      | RE (in) | Coated |  |  |  |  |  |  |  |  |  | IC (in) | S (in) | D1 (in) |
|------------------|---------|--------|--|--|--|--|--|--|--|--|--|---------|--------|---------|
|                  |         | T9215  |  |  |  |  |  |  |  |  |  |         |        |         |
| 3C-TCMT29X608-TM | 0.031   | ●      |  |  |  |  |  |  |  |  |  | 0.630   | 0.242  | 0.217   |

Please note that 3C-TCMT... insert is not recommended for pull face-turning method (pulling the insert away from the part center).

● : Line up

Double-clamp toolholder with 95°/117.5° approach angle, for negative 80°/35° triangular inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert            | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------------------|--------|
| ATXOR/L128-A | 0.750 | 0.750 | 4.500 | 1.260 | 0.750 | 1.000 | 0.031 | 6C/6V-TOMG2506... | 2.21   |
| ATXOR/L168-A | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.250 | 0.031 | 6C/6V-TOMG2506... | 2.21   |
| ATXOR/L208-A | 1.250 | 1.250 | 7.000 | 1.260 | 1.250 | 1.500 | 0.031 | 6C/6V-TOMG2506... | 2.21   |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert            | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------------|---------|
| ATXOR/L2020K25-A | 20 | 20 | 125 | 32 | 20 | 25 | 0.8  | 6C/6V-TOMG2506... | 3       |
| ATXOR/L2525M25-A | 25 | 25 | 150 | 32 | 25 | 32 | 0.8  | 6C/6V-TOMG2506... | 3       |
| ATXOR/L3232P25-A | 32 | 32 | 170 | 32 | 32 | 40 | 0.8  | 6C/6V-TOMG2506... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
RE\*\*: Standard corner radius

### SPARE PARTS

| Designation                    | Clamp | Clamp screw | Spring | Spring pin | Shim        | Shim screw | Wrench |
|--------------------------------|-------|-------------|--------|------------|-------------|------------|--------|
| ATXOR/L**8-A,<br>ATXOR/L**25-A | ACP4S | ACS-5W      | BP-7   | SP-2.5     | LST33 KS15F | CSTB-3.5   | T-15F  |

### INSERT

#### 6V-TOMG\*\*F-TSF

#### 6C-TOMG\*\*M-TM



|   |                |   |   |   |  |  |  |  |
|---|----------------|---|---|---|--|--|--|--|
| P | Steel          | ★ | ★ |   |  |  |  |  |
| M | Stainless      | ☆ | ☆ |   |  |  |  |  |
| K | Cast iron      | ☆ |   |   |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |  |
| S | Superalloys    |   |   | ★ |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation        | RE (in) | Coated |       |        | IC (in) | S (in) | D1 (in) |
|--------------------|---------|--------|-------|--------|---------|--------|---------|
|                    |         | T9215  | T9225 | AH8015 |         |        |         |
| 6V-TOMG250604F-TSF | 0.016   | ●      | ●     | ●      | 0.500   | 0.250  | 0.203   |
| 6V-TOMG250608F-TSF | 0.031   | ●      | ●     | ●      | 0.500   | 0.250  | 0.203   |
| 6C-TOMG250608M-TM  | 0.031   | ●      | ●     | ●      | 0.476   | 0.250  | 0.203   |
| 6C-TOMG250612M-TM  | 0.047   | ●      | ●     | ●      | 0.476   | 0.250  | 0.203   |

Please note, when machining with pull face-turning method, that 6V-TOMG2506... insert may interfere with the workpiece whose external diameter is 2.756" or smaller and that 6C-TOMG2506... insert 1.181" or smaller. ● : Line up

Reference pages: Standard cutting conditions → C134

# VN

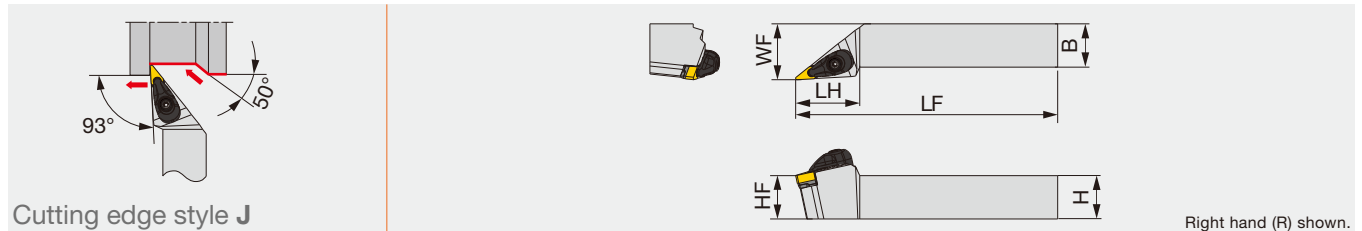
# YN



## TURNING

### AVJNR/L

Double-clamp toolholder with 93° approach angle, for negative 35°/25° rhombic inserts



| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| AVJNR/L122.33-A | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 1.000 | 0.031 | VN** 2.33...    | 2.2    |
| AVJNR/L123-A    | 0.750 | 0.750 | 4.500 | 1.750 | 0.750 | 1.000 | 0.031 | VN**/YN** 33... | 2.2    |
| AVJNR/L162.33-A | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | VN** 2.33...    | 2.2    |
| AVJNR/L163-A    | 1.000 | 1.000 | 6.000 | 1.870 | 1.000 | 1.250 | 0.031 | VN**/YN** 33... | 2.2    |

| Metric             | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|--------------------|----|----|-----|----|----|----|------|------------------|---------|
| AVJNR/L2020K1204-A | 20 | 20 | 125 | 37 | 20 | 25 | 0.8  | VN**1204...      | 3       |
| AVJNR/L2020K16-A   | 20 | 20 | 125 | 43 | 20 | 25 | 0.8  | VN**/YN**1604... | 3       |
| AVJNR/L2525M1204-A | 25 | 25 | 150 | 37 | 25 | 32 | 0.8  | VN**1204...      | 3       |
| AVJNR/L2525M16-A   | 25 | 25 | 150 | 46 | 25 | 32 | 0.8  | VN**/YN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE: Standard corner radius

| SPARE PARTS                      | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|----------------------------------|---------|-------------|--------|------------|--------|------------|--------|
| AVJNR/L**2.33-A, AVJNR/L**1204-A | ACP3L-E | ACS-5W      | BP-7   | SP-2.5     | ASV222 | CSTB-3.0   | T-15F  |
| AVJNR/L123, 163-A, AVJNR/L**16-A | ACP3L   | ACS-5W      | BP-7   | SP-2.5     | ASV322 | CSTB-3.5   | T-15F  |

## INSERT SELECTION

|          |                    |                     |           |                |          |                    |           |                |
|----------|--------------------|---------------------|-----------|----------------|----------|--------------------|-----------|----------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | <b>M</b> | Application        | Finishing | Medium cutting |
|          | Grade              | NS9530              | GT9530    | T9215          |          | Grade              | T6215     | AH6225         |
|          | Chipbreaker shape  | TF                  | TSF       | TM             |          | Chipbreaker shape  | SF        | SM             |
|          | Cutting conditions | B004                |           |                |          | Cutting conditions | B006      |                |

|          |                    |           |                |                         |          |                    |                     |
|----------|--------------------|-----------|----------------|-------------------------|----------|--------------------|---------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting | <b>N</b> | Application        | Precision finishing |
|          | Grade              | T515      | T515           | T515                    |          | Grade              | DX120               |
|          | Chipbreaker shape  | All-round | All-round      | All-round               |          | Chipbreaker shape  | DIA with rake       |
|          | Cutting conditions | B008      |                |                         |          | Cutting conditions | B010                |

|          |                    |                     |           |                |          |                    |                     |           |
|----------|--------------------|---------------------|-----------|----------------|----------|--------------------|---------------------|-----------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting | <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BX470               | AH8005    | AH8005         |          | Grade              | BXA10               | BXA20     |
|          | Chipbreaker shape  | CBN                 | HRF       | HRM            |          | Chipbreaker shape  | CBN                 | CBN       |
|          | Cutting conditions | B012                |           |                |          | Cutting conditions | B014                |           |

Reference pages: AVJNR/L: Inserts → **B098 - B110**, CBN → **B186 - B188**, PCD → **B212**  
 Parts for coolant hose → **C133**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index





# VN

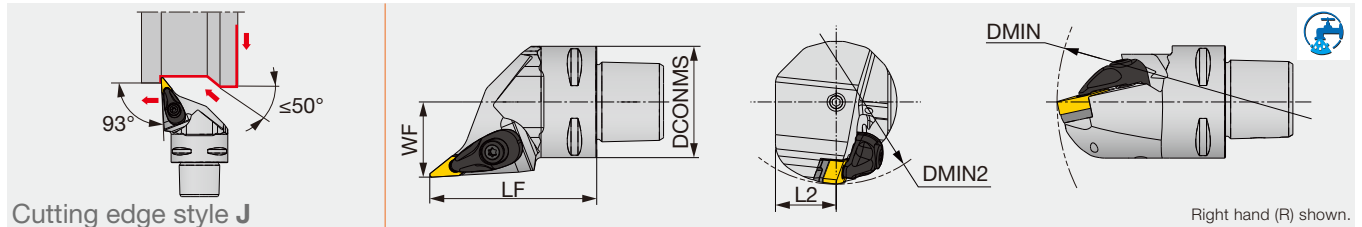
# YN



## TUNGCAP

### C-AVJNR/L

Double-clamp toolholder, with 93° approach angle, for negative 35° rhombic inserts (TurningA)



| Metric               | DCONMS | LF | L2   | WF | DMIN | DMIN2 | RE** | Insert      |
|----------------------|--------|----|------|----|------|-------|------|-------------|
| C4AVJNR/L27060-1204N | 40     | 60 | 20   | 27 | 140  | 55    | 0.8  | VN**1204... |
| C6AVJNR/L45065-1204N | 63     | 65 | 31.5 | 45 | 190  | 81    | 0.8  | VN**1204... |

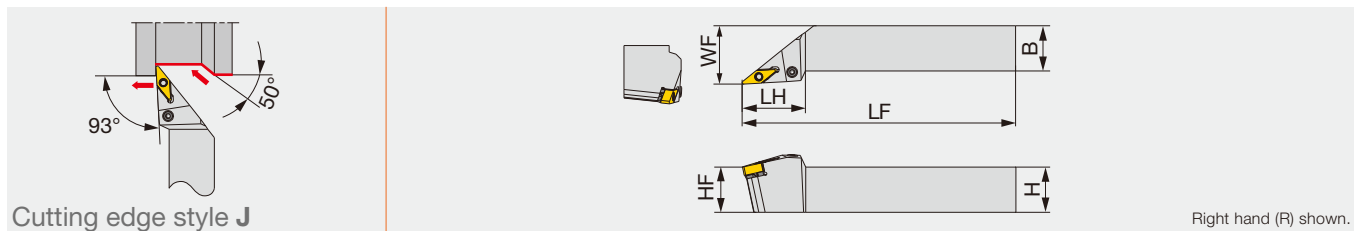
\*\*RE: The holder measurements are true with this insert radius  
Applicable for 7 MPa (1015 PSI) coolant

| SPARE PARTS  |         |             |               |        |            |        |            |          |          |
|--------------|---------|-------------|---------------|--------|------------|--------|------------|----------|----------|
| Designation  | Clamp   | Clamp screw | Coolant parts | Shim   | Shim screw | Spring | Spring pin | Wrench 1 | Wrench 2 |
| C4AVJNR/L... | ACP3L-E | ACS-5W      | -             | ASV222 | CSTB-3     | BP-7   | SP-2.5     | T-9F     | T-15F    |
| C6AVJNR/L... | ACP3L-E | ACS-5W      | SATZ-M10X1-M5 | ASV222 | CSTB-3     | BP-7   | SP-2.5     | T-9F     | T-15F    |

## ISO ETURN

### PVJNR/L-Eco

Lever-lock toolholder with 93° approach angle, for negative 35° rhombic inserts



| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert       | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|--------------|---------|
| PVJNR/L102.33    | 0.625 | 0.625 | 4.000 | 1.380 | 0.625 | 0.875 | 0.031 | VN** 2.33... | 1.48    |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert       | Torque* |
| PVJNR/L1616H1204 | 16    | 16    | 100   | 35    | 16    | 20    | 0.8   | VN**1204...  | 2       |
| PVJNR/L2020K1204 | 20    | 20    | 125   | 35    | 20    | 25    | 0.8   | VN**1204...  | 2       |
| PVJNR/L2525M1204 | 25    | 25    | 150   | 35    | 25    | 32    | 0.8   | VN**1204...  | 2       |

Torque: Recommended clamping torque: lb-ft (\*N·m)  
\*\*RE: The holder measurements are true with this insert radius

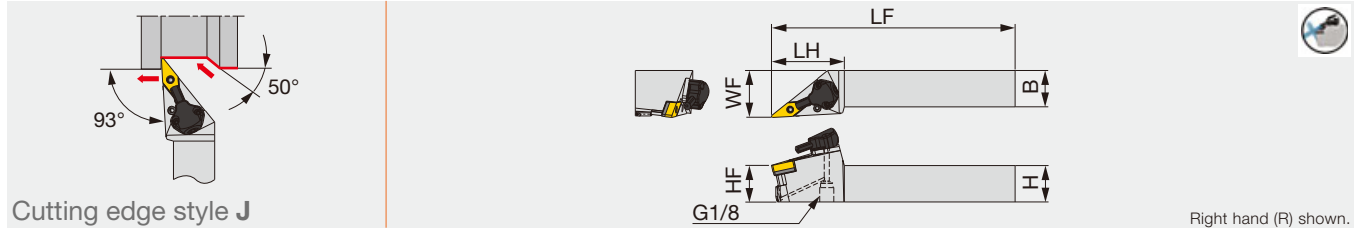
| SPARE PARTS |        |                |        |            |       |
|-------------|--------|----------------|--------|------------|-------|
| Designation | Shim   | Clamping screw | Wrench | Spring pin | Lever |
| PVJNR/L...  | LSV212 | LCS3V          | P-2.5  | LSP3       | LCL3V |

Reference pages: AVJNR/L: Inserts → **B098 -**, Parts for coolant hose → **C133**  
PVJNR/L-Eco: Inserts → **B098 -**

# PVJNR/L-CHP

Tube connection

Lever lock toolholders – 93° approach angle.  
For negative 35°/25° rhombic insert. High-pressure coolant capability.



| Inch              | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PVJNR/L123-CHP    | 0.750 | 0.750 | 4.500 | 1.969 | 0.750 | 1.250 | 0.031 | VN**/YN** 33... | 1.48   |
| PVJNR/L122.33-CHP | 0.750 | 0.750 | 4.500 | 2.000 | 0.750 | 1.250 | 0.031 | VN** 2.33...    | 1.48   |
| PVJNR/L163-CHP    | 1.000 | 1.000 | 6.000 | 1.969 | 1.000 | 1.250 | 0.031 | VN**/YN** 33... | 1.48   |
| PVJNR/L162.33-CHP | 1.000 | 1.000 | 6.000 | 2.000 | 1.000 | 1.250 | 0.031 | VN** 2.33...    | 1.48   |

| Metric               | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|----------------------|----|----|-----|----|----|----|------|------------------|---------|
| PVJNR/L2020K1204-CHP | 20 | 20 | 125 | 50 | 20 | 32 | 0.8  | VN**1204...      | 2       |
| PVJNR/L2020K16-CHP   | 20 | 20 | 125 | 50 | 20 | 32 | 0.8  | VN**/YN**1604... | 2       |
| PVJNR/L2525M1204-CHP | 25 | 25 | 150 | 50 | 25 | 32 | 0.8  | VN**1204...      | 2       |
| PVJNR/L2525M16-CHP   | 25 | 25 | 150 | 50 | 25 | 32 | 0.8  | VN**/YN**1604... | 2       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
\*\*RE: Standard corner radius  
20Mpa (2901 PSI)

## SPARE PARTS

| Designation                             | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
|---|--------|----------------|----------|------------|-------|
| PVJNR/L**2.33-CHP,<br>PVJNR/L**1204-CHP | LSV212 | LCS3V          | P-2.5    | LSP3       | LCL3V |
| PVJNR/L123, 163-CHP,<br>PVJNR/L**16-CHP | LSV317 | LCS3V          | P-2.5    | LSP3       | LCL3V |

## SPARE PARTS

| Designation                             | Coolant unit | Mounting screw | Wrench 2 | O-ring     | Coolant screw | Wrench 3 |
|---|--------------|----------------|----------|------------|---------------|----------|
| PVJNR/L**2.33-CHP,<br>PVJNR/L**1204-CHP | CU-V-CHP     | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |
| PVJNR/L123, 163-CHP,<br>PVJNR/L**16-CHP | CU-V-CHP     | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | NS9530    | GT9530         |
| Chipbreaker shape  | TF                  | TSF       | TM             |
| Cutting conditions | B004                |           |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing |
|--------------------|---------------------|
|                    | Grade               |
| Chipbreaker shape  | DIA with rake       |
| Cutting conditions | B010                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PVJNR/L-CHP: Inserts → **B098 - , B110**, CBN → **B186 - , B188**, PCD → **B212**  
Parts for coolant hose → **C133**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



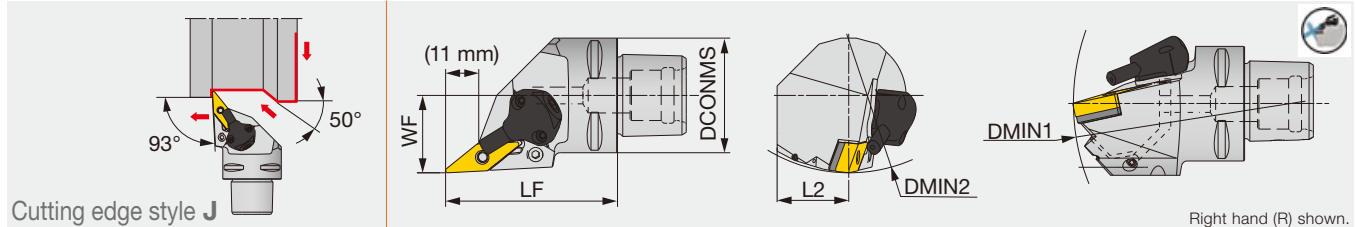
# VN

# YN



## TUNGCAP C-PVJNR/L-CHP

Lever lock toolholders with TungCap connection – 93° approach angle.  
For negative 35°/25° rhombic insert. High-pressure coolant capability.



| Metric                  | DCONMS | LF | L2   | WF | DMIN1 | DMIN2 | RE** | Insert           | Torque |
|-------------------------|--------|----|------|----|-------|-------|------|------------------|--------|
| C4PVJNR/L27060-1204-CHP | 40     | 60 | 20   | 27 | 140   | 90    | 0.8  | VN**1204...      | 2      |
| C4PVJNR/L27060-16-CHP   | 40     | 60 | 20   | 27 | 140   | 110   | 0.8  | VN**/YN**1604... | 2      |
| C6PVJNR/L45065-1204-CHP | 63     | 65 | 31.5 | 45 | 190   | 81    | 0.8  | VN**1204...      | 2      |
| C6PVJNR/L45065-16-CHP   | 63     | 65 | 31.5 | 45 | 190   | 81    | 0.8  | VN**/YN**1604... | 2      |

Torque: Recommended clamping torque: N·m  
Applicable for 14 MPa (2031 PSI) pressure coolant  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation          | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
|----------------------|--------|----------------|----------|------------|-------|
| C*PVJNR/L**-1204-CHP | LSV212 | LCS3V          | P-2.5    | LSP3       | LCL3V |
| C*PVJNR/L**-16-CHP   | LSV317 | LCS3V          | P-2.5    | LSP3       | LCL3V |

### SPARE PARTS

| Designation          | Coolant unit | Mounting screw | Wrench 2 | O-ring     |
|----------------------|--------------|----------------|----------|------------|
| C*PVJNR/L**-1204-CHP | CU-V-CHP     | SRM3           | T-8F     | OR6.4X0.9N |
| C*PVJNR/L**-16-CHP   | CU-V-CHP     | SRM3           | T-8F     | OR6.4X0.9N |

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | NS9530    | GT9530         |
| Chipbreaker shape  | TF                  | TSF       | TM             |
| Cutting conditions | B004                |           |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

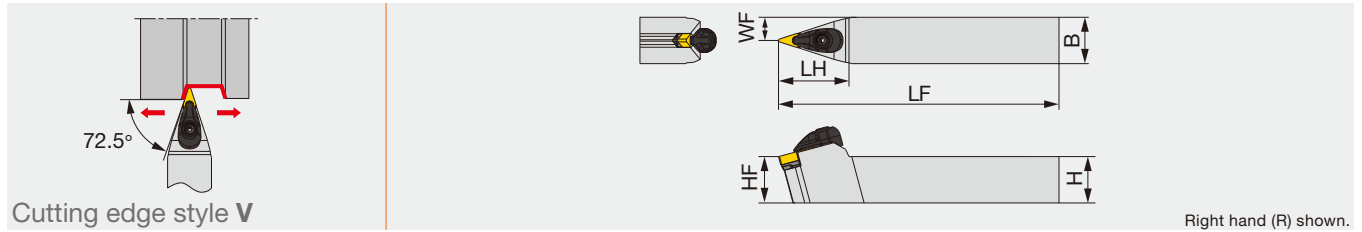
| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing               |
|--------------------|-----------------------------------|
| Grade              | DX120<br><small>with rake</small> |
| Chipbreaker shape  | DIA                               |
| Cutting conditions | B010                              |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: C-PVJNR/L-CHP: Inserts → **B098 - B110**, CBN → **B186 - B188**, PCD → **B212**  
Parts for coolant hose → **C133**



| Inch          | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| AVVNN122.33-A | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 0.375 | 0.031 | VN** 2.33...    | 2.2    |
| AVVNN123-A    | 0.750 | 0.750 | 4.500 | 1.870 | 0.750 | 0.375 | 0.031 | VN**/YN** 33... | 2.2    |
| AVVNN162.33-A | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 0.500 | 0.031 | VN** 2.33...    | 2.2    |
| AVVNN163-A    | 1.000 | 1.000 | 6.000 | 1.870 | 1.000 | 0.500 | 0.031 | VN**/YN** 33... | 2.2    |

| Metric           | H  | B  | LF  | LH | HF | WF   | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|------|------|------------------|---------|
| AVVNN2020K1204-A | 20 | 20 | 125 | 38 | 20 | 10   | 0.8  | VN**1204...      | 3       |
| AVVNN2020K16-A   | 20 | 20 | 125 | 46 | 20 | 10   | 0.8  | VN**/YN**1604... | 3       |
| AVVNN2525M1204-A | 25 | 25 | 150 | 38 | 25 | 13   | 0.8  | VN**1204...      | 3       |
| AVVNN2525M16-A   | 25 | 25 | 150 | 46 | 25 | 12.5 | 0.8  | VN**/YN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius

| SPARE PARTS                  |         |             |        |            |        |            |        |
|------------------------------|---------|-------------|--------|------------|--------|------------|--------|
| Designation                  | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| AVVNN**2.33-A, AVVNN**1204-A | ACP3L-E | ACS-5W      | BP-7   | SP-2.5     | ASV222 | CSTB-3.0   | T-15F  |
| AVVNN123, 163-A, AVVNN**16-A | ACP3L   | ACS-5W      | BP-7   | SP-2.5     | ASV322 | CSTB-3.5   | T-15F  |

## INSERT SELECTION

|          |                    |                     |           |                |          |                    |           |                |
|----------|--------------------|---------------------|-----------|----------------|----------|--------------------|-----------|----------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | <b>M</b> | Application        | Finishing | Medium cutting |
|          | Grade              | NS9530              | GT9530    | T9215          |          | Grade              | T6215     | AH6225         |
|          | Chipbreaker shape  | TF                  | TSF       | TM             |          | Chipbreaker shape  | SF        | SM             |
|          | Cutting conditions | B004                |           |                |          | Cutting conditions | B006      |                |

|          |                    |           |                |                         |          |                    |                     |
|----------|--------------------|-----------|----------------|-------------------------|----------|--------------------|---------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting | <b>N</b> | Application        | Precision finishing |
|          | Grade              | T515      | T515           | T515                    |          | Grade              | DX120               |
|          | Chipbreaker shape  | All-round | All-round      | All-round               |          | Chipbreaker shape  | DIA with rake       |
|          | Cutting conditions | B008      |                |                         |          | Cutting conditions | B010                |

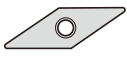
  

|          |                    |                     |           |                |          |                    |                     |           |
|----------|--------------------|---------------------|-----------|----------------|----------|--------------------|---------------------|-----------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting | <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BX470               | AH8005    | AH8005         |          | Grade              | BXA10               | BXA20     |
|          | Chipbreaker shape  | CBN                 | HRF       | HRM            |          | Chipbreaker shape  | CBN                 | CBN       |
|          | Cutting conditions | B012                |           |                |          | Cutting conditions | B014                |           |

Reference pages: AVVNN: Inserts → B098 -, B110, CBN → B186 -, B188, PCD → B212



# VN

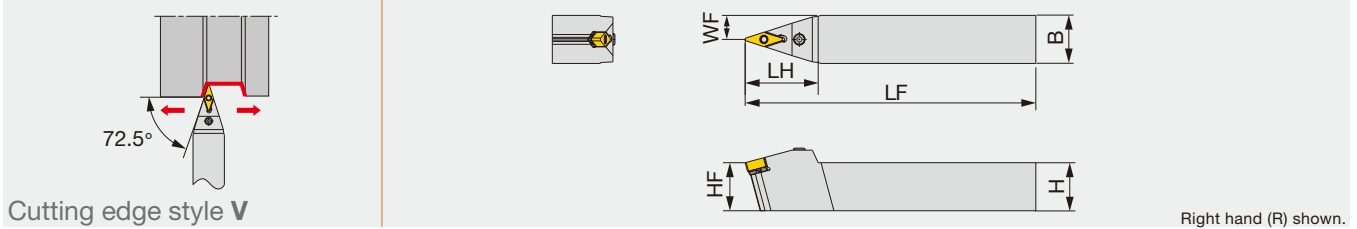


Rhombic, 35°  
with hole

## ISO ETURN

### PVVNN-Eco

Lever-lock toolholder with 72.5° approach angle, for negative 35° rhombic inserts



Right hand (R) shown.

| Metric         | H  | B  | LF  | LH | HF | WF   | RE** | Insert      | Torque |
|----------------|----|----|-----|----|----|------|------|-------------|--------|
| PVVNN2020K1204 | 20 | 20 | 125 | 38 | 20 | 10   | 0.8  | VN**1204... | 2      |
| PVVNN2525M1204 | 25 | 25 | 150 | 38 | 25 | 12.5 | 0.8  | VN**1204... | 2      |

Torque: Recommended clamping torque: N·m \*\*RE: Standard corner radius

#### SPARE PARTS

| Designation | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|-------------|--------|----------------|--------|------------|-------|
| PVVNN**1204 | LSV212 | LCS3V          | P-2.5  | LSP3       | LCL3V |

C

D

F

G

H

R

S

T

V

W

Y

OTHERS

#### INSERT SELECTION

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T9215          |
| Chipbreaker shape  | TSF       | TM             |
| Cutting conditions | B004      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH6225         |
| Chipbreaker shape  | SS        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Chipbreaker shape  |                             |
| Cutting conditions | B008                        |

Reference pages: PVVNN-Eco: Inserts → **B098** -

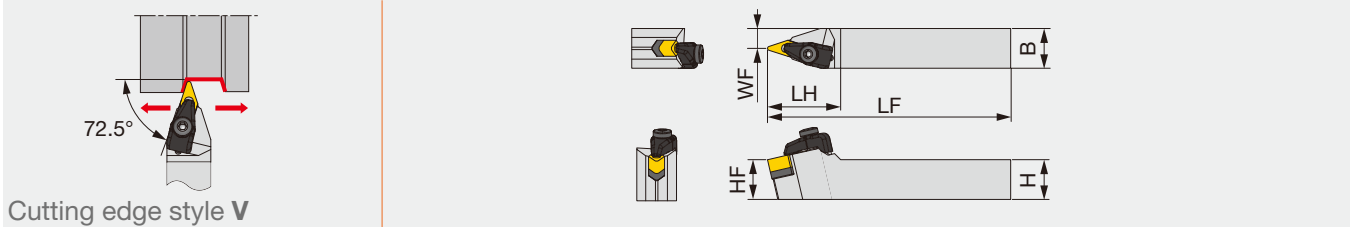
# VN



Rhombic, 35°  
without hole

## DIMPLEFX CVVNN-RD

Double-clamp toolholder with 72.5° approach angle, for negative 35° rhombic ceramic inserts with dimple



| Metric            | H  | B  | LF  | LH | HF | WF   | RE** | Insert     | Torque |
|-------------------|----|----|-----|----|----|------|------|------------|--------|
| CVVNN2525M1607-RD | 25 | 25 | 150 | 46 | 25 | 12.5 | 1.2  | VNGD160712 | 4      |

Torque: Recommended clamping torque: N·m  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation       | Clamp  | Clamp screw | Shim   | Shim screw | Spring | Wrench1 | Wrench2 |
|-------------------|--------|-------------|--------|------------|--------|---------|---------|
| CVVNN2525M1607-RD | CCP4-A | CCS4-A      | CV34-A | BH-4-10-A  | BP-5-A | P-3     | P-4     |

### INSERT SELECTION

|          |                    |                             |
|----------|--------------------|-----------------------------|
| <b>K</b> | Application        | Finishing to medium cutting |
|          | Grade              | FX105                       |
|          | Chipbreaker shape  |                             |
|          | Cutting conditions | C136                        |

Reference pages: CVVNN-RD: Inserts → **B101**  
Standard cutting conditions → **C136**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# VN

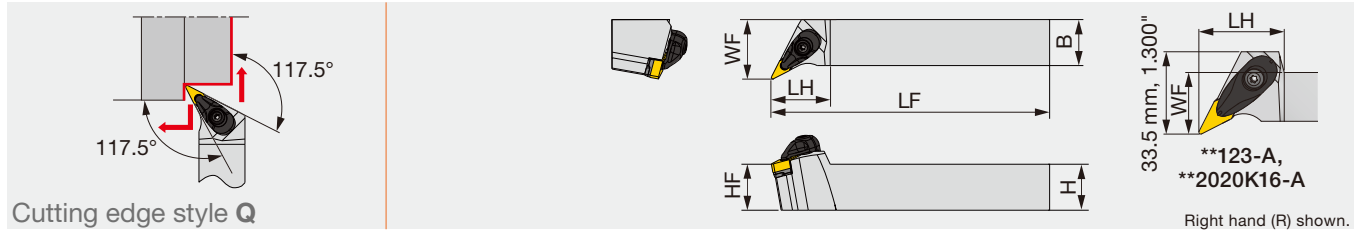
# YN



## TURNING

### AVQNR/L

Double-clamp toolholder with 117.5° approach angle, for negative 35°/25° rhombic inserts



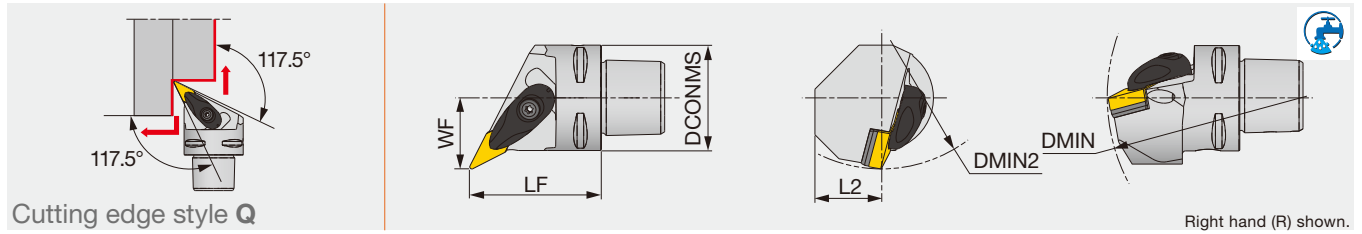
| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| AVQNR/L122.33-A | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 1.000 | 0.031 | VN** 2.33...    | 2.21   |
| AVQNR/L123-A    | 0.750 | 0.750 | 4.500 | 1.380 | 0.750 | 1.000 | 0.031 | VN**/YN** 33... | 2.21   |
| AVQNR/L162.33-A | 1.000 | 1.000 | 6.000 | 1.250 | 1.000 | 1.250 | 0.031 | VN** 2.33...    | 2.21   |
| AVQNR/L163-A    | 1.000 | 1.000 | 6.000 | 1.380 | 1.000 | 1.250 | 0.031 | VN**/YN** 33... | 2.21   |

| Metric             | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|--------------------|----|----|-----|----|----|----|------|------------------|---------|
| AVQNR/L2020K1204-A | 20 | 20 | 125 | 32 | 20 | 25 | 0.8  | VN**1204...      | 3       |
| AVQNR/L2020K16-A   | 20 | 20 | 125 | 35 | 20 | 25 | 0.8  | VN**/YN**1604... | 3       |
| AVQNR/L2525M1204-A | 25 | 25 | 150 | 32 | 25 | 32 | 0.8  | VN**1204...      | 3       |
| AVQNR/L2525M16-A   | 25 | 25 | 150 | 35 | 25 | 32 | 0.8  | VN**/YN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*\*N-m) \*\*RE: Standard corner radius

### C-AVQNR/L

Double-clamp toolholder, with 117.5° approach angle, for negative 35°/25° rhombic inserts



| Metric             | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert           |
|--------------------|--------|----|----|----|------|-------|-----|------------------|
| C4AVQNR/L27050-16N | 40     | 50 | 25 | 27 | 145  | 110   | 0.8 | VN**/YN**1604... |

Applicable for 7 MPa (1015 PSI) coolant

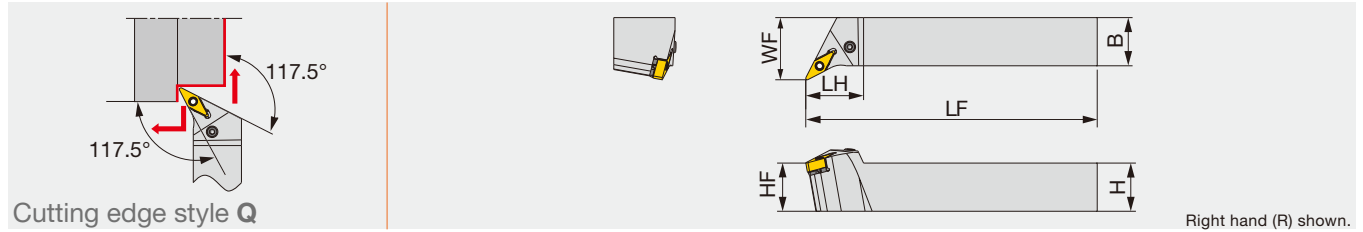
### SPARE PARTS

| Designation                      | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|----------------------------------|---------|-------------|--------|------------|--------|------------|--------|
| AVQNR/L**2.33-A, AVQNR/L**1204-A | ACP3L-E | ACS-5W      | BP-7   | SP-2.5     | ASV222 | CSTB-3.0   | T-15F  |
| AVQNR/L123, 163-A, AVQNR/L**16-A | ACP3L   | ACS-5W      | BP-7   | SP-2.5     | ASV322 | CSTB-3.5   | T-15F  |
| C4AVQNR/L**16N                   | ACP3L   | ACS-5W      | BP-7   | SP-2.5     | ASV322 | CSTB-3.5   | T-15F  |

Reference pages: AVQNR/L, C-AVQNR/L: Inserts → **B098 - , B110**, CBN → **B186 - , B188**, PCD → **B212**



Lever-lock toolholder with 117.5° approach angle, for negative 35° rhombic inserts



| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque |
|------------------|----|----|-----|----|----|----|------|-------------|--------|
| PVQNR/L2020K1204 | 20 | 20 | 125 | 30 | 20 | 25 | 0.8  | VN**1204... | 2      |
| PVQNR/L2525M1204 | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | VN**1204... | 2      |

Torque: Recommended clamping torque: N·m \*\*RE: Standard corner radius

### SPARE PARTS

| Designation   | Shim   | Clamping screw | Wrench | Spring pin | Lever |
|---------------|--------|----------------|--------|------------|-------|
| PVQNR/L**1204 | LSV212 | LCS3V          | P-2.5  | LSP3       | LCL3V |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | NS9530    | GT9530         |
| Chipbreaker shape  | TF                  | TSF       | TM             |
| Cutting conditions | B004                |           |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing |
|--------------------|---------------------|
|                    | Grade               |
| Chipbreaker shape  | DIA                 |
| Cutting conditions | B010                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PVQNR/L-Eco: Inserts → **B098 -**



# VN

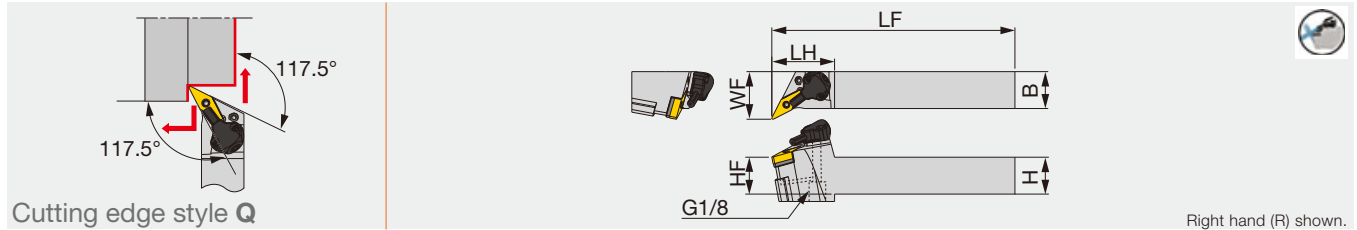
# YN



## TUNG T<sup>URN</sup> TJET PVQNR/L-CHP

Tube connection

Lever lock toolholders – 117.5° approach angle.  
For negative 35°/25° rhombic insert. High-pressure coolant capability.



| Inch           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|----------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PVQNR/L123-CHP | 0.750 | 0.750 | 4.500 | 1.688 | 0.750 | 1.250 | 0.031 | VN**/YN** 33... | 1.48   |
| PVQNR/L163-CHP | 1.000 | 1.000 | 6.000 | 1.688 | 1.000 | 1.250 | 0.031 | VN**/YN** 33... | 1.48   |

| Metric             | H  | B  | LF  | LH   | HF | WF | RE** | Insert           | Torque* |
|--------------------|----|----|-----|------|----|----|------|------------------|---------|
| PVQNR/L2020K16-CHP | 20 | 20 | 125 | 42.5 | 20 | 32 | 0.8  | VN**/YN**1604... | 2       |
| PVQNR/L2525M16-CHP | 25 | 25 | 150 | 42.5 | 25 | 32 | 0.8  | VN**/YN**1604... | 2       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
\*\*RE: Standard corner radius

| SPARE PARTS   |        |                |          |            |       |
|---------------|--------|----------------|----------|------------|-------|
| Designation   | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
| PVQNR/L**-CHP | LSV317 | LCS3V          | P-2.5    | LSP3       | LCL3V |

| SPARE PARTS   |              |                |          |            |               |          |
|---------------|--------------|----------------|----------|------------|---------------|----------|
| Designation   | Coolant unit | Mounting screw | Wrench 2 | O-ring     | Coolant screw | Wrench 3 |
| PVQNR/L**-CHP | CU-V-CHP     | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | NS9530    | GT9530         |
| Chipbreaker shape  | TF                  | TSF       | TM             |
| Cutting conditions | B004                |           |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Chipbreaker shape  | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing               |
|--------------------|-----------------------------------|
| Grade              | DX120<br><small>with rake</small> |
| Chipbreaker shape  | DIA                               |
| Cutting conditions | B010                              |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Chipbreaker shape  | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: PVQNR/L-CHP: Inserts → B098 -, CBN → B186 -, B188 -, PCD → B212  
Parts for coolant hose → C133

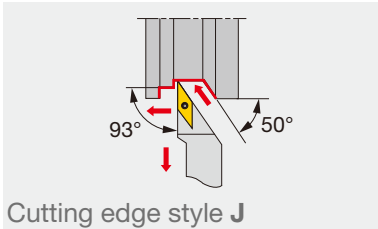
# VC



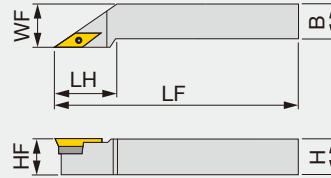
**Rhombic, 35° with hole**  
**Positive 7°**

## SVJCR/L

Screw-on toolholder with 93° approach angle, for positive 35° rhombic inserts



Cutting edge style J



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     |
|------------|-------|-------|-------|-------|-------|-------|-------|------------|
| SVJCR/L103 | 0.625 | 0.625 | 4.500 | 1.000 | 0.625 | 0.725 | 0.031 | VC** 33... |
| SVJCR/L123 | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 0.955 | 0.031 | VC** 33... |
| SVJCR/L163 | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | VC** 33... |

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| SVJCR/L1616H16 | 16 | 16 | 100 | 32 | 16 | 20 | 0.8  | VC**1604... |
| SVJCR/L2020K16 | 20 | 20 | 125 | 32 | 20 | 25 | 0.8  | VC**1604... |
| SVJCR/L2525M16 | 25 | 25 | 150 | 40 | 25 | 32 | 0.8  | VC**1604... |

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation | Clamping screw | Shim  | Shim screw | Wrench 1 | Wrench 2 |
|-------------|----------------|-------|------------|----------|----------|
| SVJCR/L...  | CSTB-3.5L      | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |

## INSERT SELECTION

**P**

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | NS9530    | T9215                       |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B016      |                             |

**M**

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | AH6225    | AH6225                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B018      |                             |

**K**

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Chipbreaker shape  | CM                          |
| Cutting conditions | B020                        |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | KS05F          |
| Chipbreaker shape  | DIA                 | with rake DIA | AL             |
| Cutting conditions | B022                |               |                |

**S**

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | AH8015    | AH8015                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B024      |                             |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B026                |           |

Reference pages: SVJCR/L: Inserts → B152 -, CBN → B209, PCD → B220

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



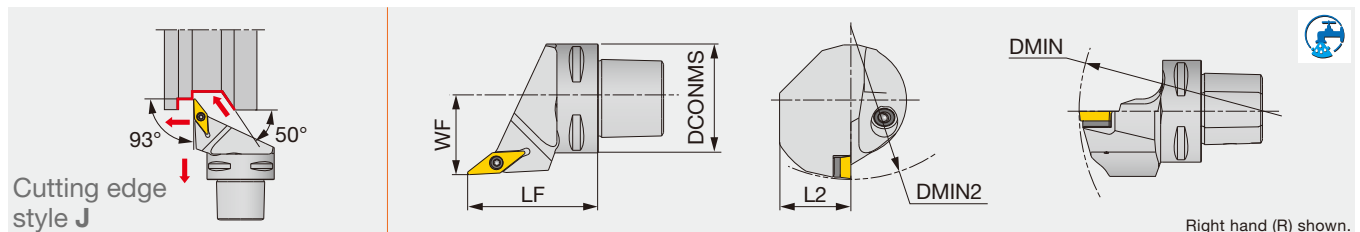
# VC



Rhombic, 35° with hole  
Positive 7°

## TUNGCAP C-SVJCR/L

Screw-on toolholder, with 93° approach angle, for positive 35° rhombic inserts



| Metric                            | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert      |
|-----------------------------------|--------|----|----|----|------|-------|-----|-------------|
| C3SVJCR/L22040-11N <sup>(2)</sup> | 32     | 40 | 20 | 22 | -    | -     | 0.4 | VC**1103... |
| C5SVJCL35060-16 <sup>(1)</sup>    | 50     | 60 | 32 | 35 | -    | -     | 0.8 | VC**1604... |
| C5SVJCR/L35060-16N <sup>(2)</sup> | 50     | 60 | 32 | 35 | 170  | 160   | 0.8 | VC**1604... |
| C6SVJCR/L45065-16 <sup>(1)</sup>  | 63     | 65 | 41 | 45 | -    | -     | 0.8 | VC**1604... |
| C6SVJCR/L45065-16N <sup>(2)</sup> | 63     | 65 | 41 | 45 | 170  | 190   | 0.8 | VC**1604... |

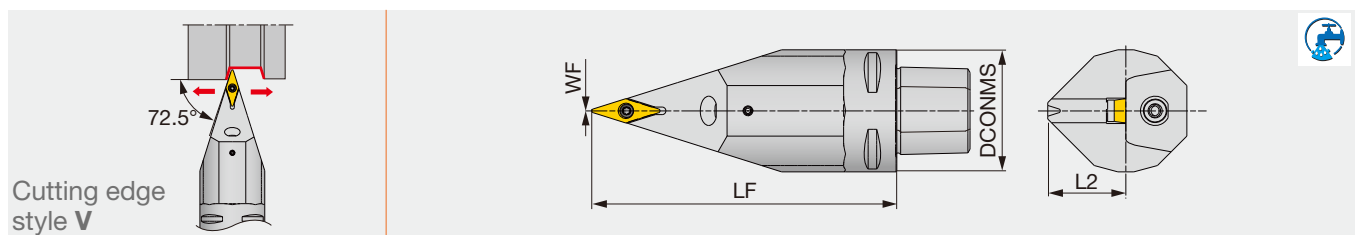
The items without DMIN and DMIN2 cannot be used for boring.  
(1) Applicable for 3 MPa (435 PSI) coolant (2) Applicable for 7 MPa (1015 PSI) coolant

### SPARE PARTS

| Designation      | Clamping screw | Coolant parts | Shim  | Shim screw | Wrench 1 | Wrench 2 |
|------------------|----------------|---------------|-------|------------|----------|----------|
| C3SVJC*22040-11N | CSTB-2.5       | SATZ-M8X1-M3  | -     | -          | -        | T-8F     |
| C5SVJC*35060-16  | CSTB-3.5L      | EZ104         | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C5SVJC*35060-16N | CSTB-3.5L      | SATZ-M10X1-M5 | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C6SVJC*45065-16  | CSTB-3.5L      | EZ104         | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C6SVJC*45065-16N | CSTB-3.5L      | SATZ-M10X1-M5 | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |

## C-SVVCN

Screw-on toolholder, with 72.5° approach angle, for positive 35° rhombic inserts



| Metric                          | DCONMS | LF  | L2   | WF | RE  | Insert      |
|---------------------------------|--------|-----|------|----|-----|-------------|
| C5SVVCN00090-16 <sup>(1)</sup>  | 50     | 90  | 32   | 0  | 0.8 | VC**1604... |
| C5SVVCN00090-16N <sup>(2)</sup> | 50     | 90  | 32   | 0  | 0.8 | VC**1604... |
| C5SVVCN00125-16 <sup>(1)</sup>  | 50     | 125 | 32   | 0  | 0.8 | VC**1604... |
| C5SVVCN00125-16N <sup>(2)</sup> | 50     | 125 | 32   | 0  | 0.8 | VC**1604... |
| C6SVVCN00100-16N <sup>(2)</sup> | 63     | 100 | 37.5 | 0  | 0.8 | VC**1604... |
| C6SVVCN00140-16N <sup>(2)</sup> | 63     | 140 | 37.5 | 0  | 0.8 | VC**1604... |

(1) Applicable for 3 MPa (435 PSI) coolant (2) Applicable for 7 MPa (1015 PSI) coolant

### SPARE PARTS

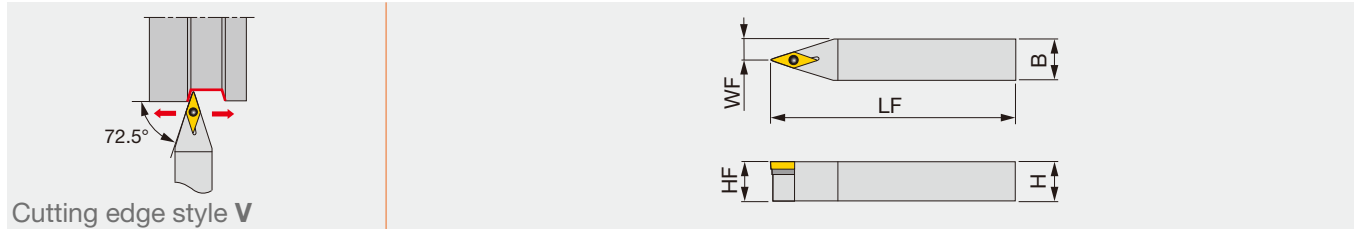
| Designation      | Clamping screw | Coolant parts | Shim  | Shim screw | Wrench 1 | Wrench 2 |
|------------------|----------------|---------------|-------|------------|----------|----------|
| C5SVVCN00090-16  | CSTB-3.5L      | EZ104         | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C5SVVCN00090-16N | CSTB-3.5L      | SATZ-M10X1-M5 | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C5SVVCN00125-16  | CSTB-3.5L      | EZ104         | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C5SVVCN00125-16N | CSTB-3.5L      | SATZ-M10X1-M5 | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C6SVVCN00100-16N | CSTB-3.5L      | SATZ-M10X1-M5 | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |
| C6SVVCN00140-16N | CSTB-3.5L      | SATZ-M10X1-M5 | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |

Reference pages: C-SVJCR/L, C-SVVCN: Inserts → **B152** -, CBN → **B209**, PCD → **B220**

# TUNGCAP

## SVVCN

Screw-on toolholder with 72.5° approach angle, for positive 35° rhombic inserts



| Metric       | H  | B  | LF  | HF | WF   | RE** | Insert      |
|--------------|----|----|-----|----|------|------|-------------|
| SVVCN2020K16 | 20 | 20 | 125 | 20 | 10   | 0.8  | VC**1604... |
| SVVCN2525M16 | 25 | 25 | 150 | 25 | 12.5 | 0.8  | VC**1604... |

\*\*RE: Standard corner radius

| SPARE PARTS |                |       |            |          |          |
|-------------|----------------|-------|------------|----------|----------|
| Designation | Clamping screw | Shim  | Shim screw | Wrench 1 | Wrench 2 |
| SVVCN...    | CSTB-3.5L      | SSV32 | DTS5-3.5   | P-3.5    | T-15F    |

## INSERT SELECTION

|                    |                   |                             |                             |                   |                     |                     |                             |                    |  |  |  |      |  |  |  |
|--------------------|-------------------|-----------------------------|-----------------------------|-------------------|---------------------|---------------------|-----------------------------|--------------------|--|--|--|------|--|--|--|
| <b>P</b>           | Application       | Finishing                   | Finishing to medium cutting | <b>M</b>          | Application         | Finishing           | Finishing to medium cutting |                    |  |  |  |      |  |  |  |
|                    | Grade             | NS9530                      | T9215                       |                   | Grade               | AH6225              | AH6225                      |                    |  |  |  |      |  |  |  |
|                    | Chipbreaker shape |                             |                             |                   | Chipbreaker shape   |                     |                             |                    |  |  |  |      |  |  |  |
| Cutting conditions |                   |                             |                             | B016              |                     |                     |                             | Cutting conditions |  |  |  | B018 |  |  |  |
| <b>K</b>           | Application       | Finishing to medium cutting | <b>N</b>                    | Application       | Precision finishing | Finishing           | Medium cutting              |                    |  |  |  |      |  |  |  |
|                    | Grade             | T515                        |                             | Grade             | DX120               | DX140               | KS05F                       |                    |  |  |  |      |  |  |  |
|                    | Chipbreaker shape |                             |                             | Chipbreaker shape |                     |                     |                             |                    |  |  |  |      |  |  |  |
| Cutting conditions |                   |                             |                             | B020              |                     |                     |                             | Cutting conditions |  |  |  | B022 |  |  |  |
| <b>S</b>           | Application       | Finishing                   | Finishing to medium cutting | <b>H</b>          | Application         | Precision finishing | Finishing                   |                    |  |  |  |      |  |  |  |
|                    | Grade             | AH8015                      | AH8015                      |                   | Grade               | BXA10               | BXA20                       |                    |  |  |  |      |  |  |  |
|                    | Chipbreaker shape |                             |                             |                   | Chipbreaker shape   |                     |                             |                    |  |  |  |      |  |  |  |
| Cutting conditions |                   |                             |                             | B024              |                     |                     |                             | Cutting conditions |  |  |  | B026 |  |  |  |

Reference pages: SVVCN: Inserts → **B152 -**, CBN → **B209**, PCD → **B220**



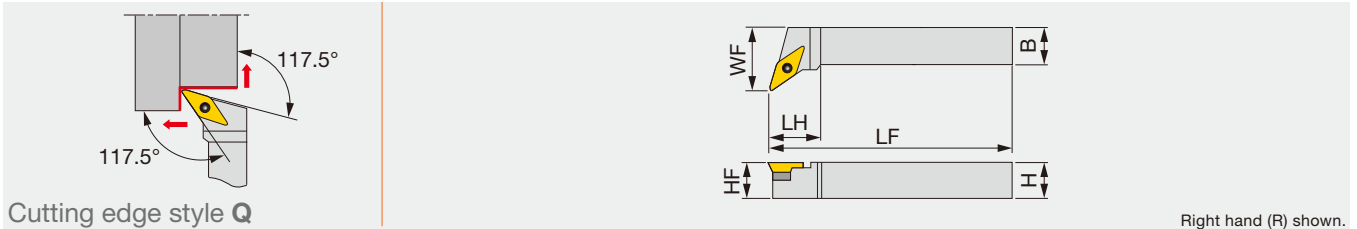
# VC



**Rhombic, 35° with hole**  
**Positive 7°**

## SVQCR/L

Screw-on toolholder with 117.5° approach angle, for positive 35° rhombic inserts



Right hand (R) shown.

| Inch     | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     |
|----------|-------|-------|-------|-------|-------|-------|-------|------------|
| SVQCR163 | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | VC** 33... |

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| SVQCR/L2020K16 | 20 | 20 | 125 | 35 | 20 | 27 | 0.8  | VC**1604... |
| SVQCR/L2525M16 | 25 | 25 | 150 | 35 | 25 | 32 | 0.8  | VC**1604... |

\*\*RE : Standard corner radius

### SPARE PARTS

| Designation | Clamping screw | Shim screw | Shim  | Wrench 1 | Wrench 2 |
|-------------|----------------|------------|-------|----------|----------|
| SVQCR/L...  | CSTB-3.5L      | DTS5-3.5   | SSV32 | P-3.5    | T-15F    |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | NS9530                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B016      |                             |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH6225                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B018      |                             |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
|                    | Grade                       |
| Chipbreaker shape  | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Chipbreaker shape  | DIA                 | with rake DIA | AL             |
| Cutting conditions | B022                |               |                |

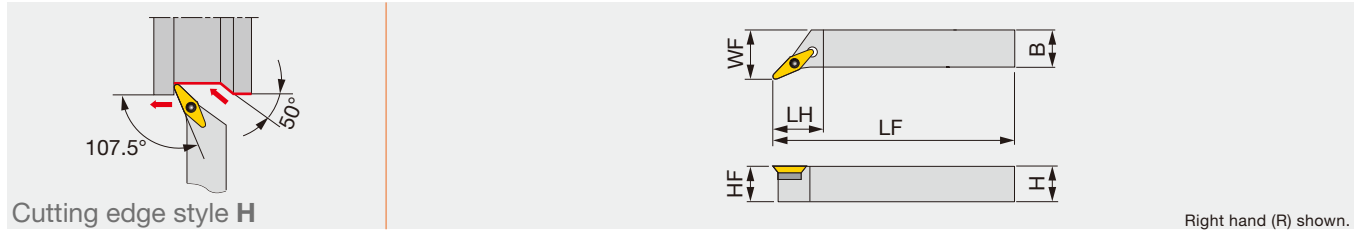
| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH8015                      |
| Chipbreaker shape  | PSS       | PS                          |
| Cutting conditions | B024      |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Chipbreaker shape  | CBN                 | CBN       |
| Cutting conditions | B026                |           |

Reference pages: SVQCR/L: Inserts → B152 -, CBN → B209, PCD → B220

# SVHCR/L

Screw-on toolholder with 107.5° approach angle, for positive 35° rhombic inserts



Right hand (R) shown.

| Metric         | H  | B  | LF  | LH   | HF | WF | RE** | Insert      |
|----------------|----|----|-----|------|----|----|------|-------------|
| SVHCR/L2525M22 | 25 | 25 | 150 | 33.8 | 25 | 32 | 0.8  | VCG*2205... |

\*\*RE : Standard corner radius

## SPARE PARTS

| Designation    | Clamping screw | Shim screw | Shim  | Wrench 1 | Wrench 2 |
|----------------|----------------|------------|-------|----------|----------|
| SVHCR/L2525M22 | CSTB-4.5L110P  | DTS6-4.5   | SSV42 | P-4.5    | T-15F    |

## INSERT SELECTION

**K**

|                    |                             |
|--------------------|-----------------------------|
| Application        | Finishing to medium cutting |
| Grade              | KS05F                       |
| Chipbreaker Shape  | AL                          |
| Cutting conditions | B020                        |

**N**

|                    |                             |
|--------------------|-----------------------------|
| Application        | Finishing to medium cutting |
| Grade              | KS05F                       |
| Chipbreaker Shape  | AL                          |
| Cutting conditions | B022                        |

**S**

|                    |                             |
|--------------------|-----------------------------|
| Application        | Finishing to medium cutting |
| Grade              | KS05F                       |
| Chipbreaker Shape  | AL                          |
| Cutting conditions | B024                        |

Reference pages: SVHCR/L: Inserts → **B153**



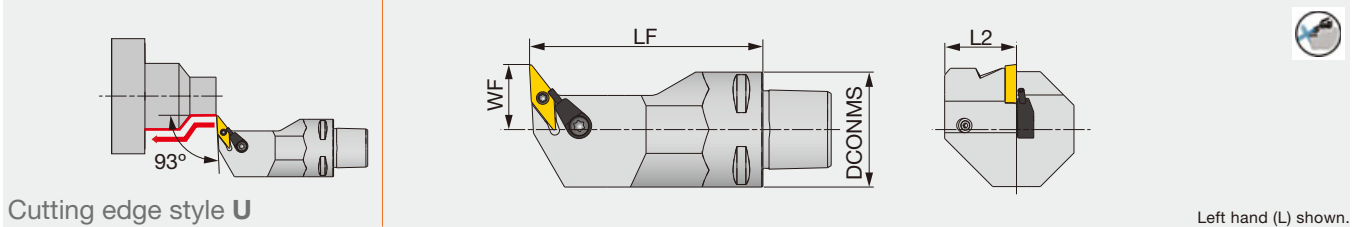


# VC

 Rhombic, 35° with hole  
Positive 7°

## TUNGCAP C-SVUCL-CHP

Screw-on toolholder, with 93° approach angle, for positive 35° rhombic inserts, with high pressure coolant capability



Left hand (L) shown.

| Metric              | DCONMS | LF | L2 | WF | RE  | Insert      |
|---------------------|--------|----|----|----|-----|-------------|
| C3SVUCL18065-11-CHP | 32     | 65 | 20 | 18 | 0.4 | VC**1103... |

Applicable for 14 MPa (2031 PSI) coolant  
Cannot be used for boring

### SPARE PARTS

| Designation         | Clamping screw | Coolant unit | Wrench |
|---------------------|----------------|--------------|--------|
| C3SVUCL18065-11-CHP | CSTB-2.5       | S-CU-CHP     | T-8F   |

C

D

F

G

H

R

S

T

V

W


Y


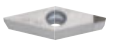

OTHERS



### INSERT SELECTION



| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | NS9530  |
| Chipbreaker shape  |  |  |
| Cutting conditions | B016  |   |

| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | AH6225  |
| Chipbreaker shape  |  |  |
| Cutting conditions | B018  |   |

| Application        | Finishing to medium cutting   |
|--------------------|---|
|                    | Grade   |
| Chipbreaker shape  |  |
| Cutting conditions | B020  |

| Application        | Precision finishing   | Finishing   | Medium cutting   |
|--------------------|---|---|--|
|                    | Grade   | DX120   | DX140  |
| Chipbreaker shape  |  |  |  |
| Cutting conditions | B022  |   |  |

| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | AH8015  |
| Chipbreaker shape  |  |  |
| Cutting conditions | B024  |   |

| Application        | Precision finishing   | Finishing   |
|--------------------|---|---|
|                    | Grade   | BXA10   |
| Chipbreaker shape  |  |  |
| Cutting conditions | B026  |   |

Reference pages: C-SVUCL-CHP: Inserts → **B152**

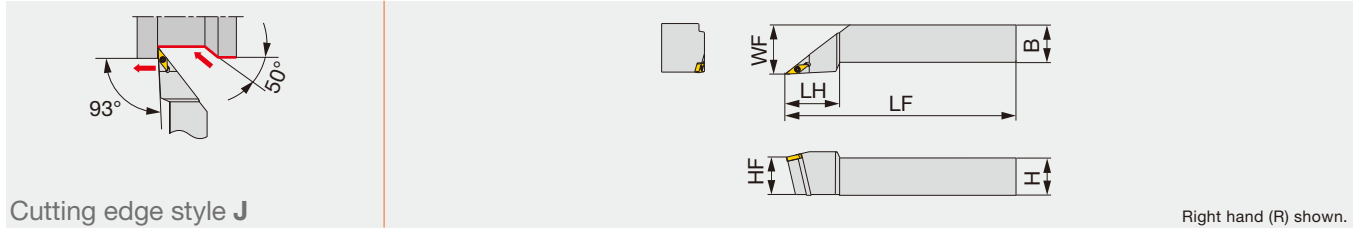
Parts for coolant hose → **C133**

# VX

Rhombic, 35°  
with hole

## MINIFORCE JSVJXR/L

Screw-on toolholder with 93° approach angle, for VXGU inserts

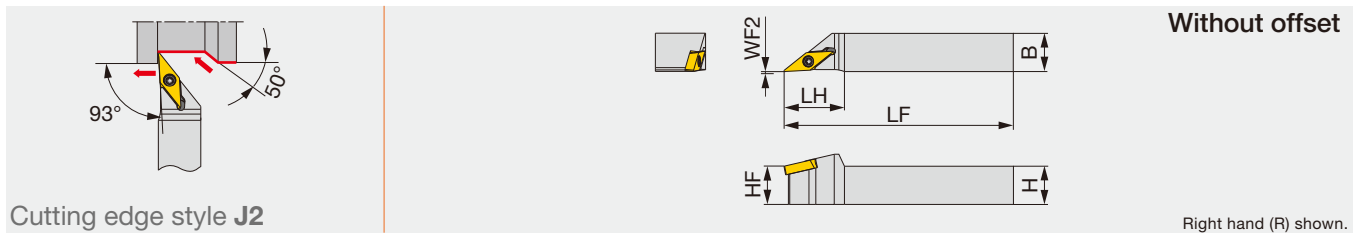


| Inch            | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert           | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|------------------|---------|
| JSVJXR/L127     | 0.750 | 0.750 | 4.500 | 1.500 | 0.750 | 1.000 | 0.008 | VXGU 73.5**/R... | 0.66    |
| JSVJXR/L167     | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.008 | VXGU 73.5**/R... | 0.66    |
| Metric          | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert           | Torque* |
| JSVJXR/L2020K09 | 20    | 20    | 125   | 35    | 20    | 25    | 0.4   | VXGU09T2**/R...  | 0.9     |
| JSVJXR/L2525M09 | 25    | 25    | 150   | 35    | 25    | 32    | 0.4   | VXGU09T2**/R...  | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius  
Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

## JSVJ2XR/L

Screw-on toolholder with 93° approach angle, for VXGU inserts



| Inch             | H     | B     | LF    | LH    | HF    | WF2 | RE**  | Insert           | Torque  |
|------------------|-------|-------|-------|-------|-------|-----|-------|------------------|---------|
| JSVJ2XR/L067     | 0.375 | 0.375 | 4.750 | 0.669 | 0.375 | 0   | 0.008 | VXGU 73.5**/R... | 0.66    |
| JSVJ2XR/L087     | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0   | 0.008 | VXGU 73.5**/R... | 0.66    |
| JSVJ2XR/L107     | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0   | 0.008 | VXGU 73.5**/R... | 0.66    |
| Metric           | H     | B     | LF    | LH    | HF    | WF2 | RE**  | Insert           | Torque* |
| JSVJ2XR/L1010X09 | 10    | 10    | 120   | 17    | 10    | 0   | 0.2   | VXGU09T2**/R...  | 0.9     |
| JSVJ2XR/L1212F09 | 12    | 12    | 85    | 19    | 12    | 0   | 0.2   | VXGU09T2**/R...  | 0.9     |
| JSVJ2XR/L1212X09 | 12    | 12    | 120   | 19    | 12    | 0   | 0.2   | VXGU09T2**/R...  | 0.9     |
| JSVJ2XR/L1616X09 | 16    | 16    | 120   | 19    | 16    | 0   | 0.2   | VXGU09T2**/R...  | 0.9     |
| JSVJ2XR/L2020H09 | 20    | 20    | 100   | 19    | 20    | 0   | 0.2   | VXGU09T2**/R...  | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius  
Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation  | Clamping screw | Wrench |
|--------------|----------------|--------|
| JSVJXR/L...  | SR34-508       | T-7F   |
| JSVJ2XR/L... |                |        |

### INSERT SELECTION

| P | Application        | Finishing | M | Application        | Finishing |
|---|--------------------|-----------|---|--------------------|-----------|
|   | Grade              | SH725     |   | Grade              | SH725     |
|   | Chipbreaker shape  | JRP       |   | Chipbreaker shape  | JRP       |
|   | Cutting conditions | C136      |   | Cutting conditions | C136      |

Reference pages: JSVJXR/L, JSVJ2XR/L: Inserts → **B155**  
Standard cutting conditions → **C136**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

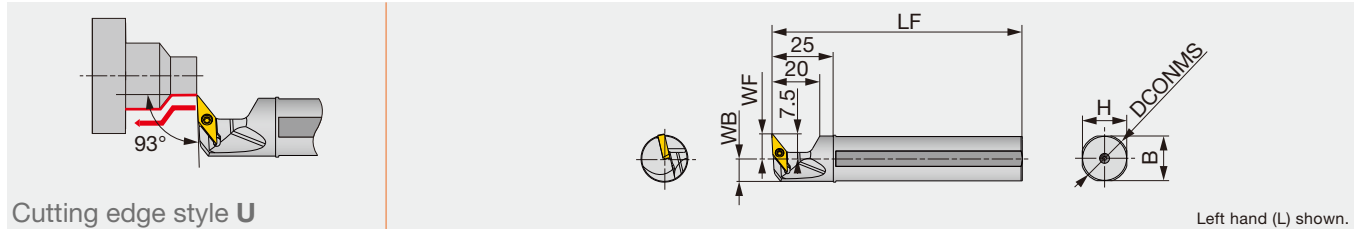
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M

# VX

 **Rhombic, 35° with hole**

## MINIFORCE TURN JS-SVUXL

Screw-on round-shank toolholder with 93° approach angle, for VXGU inserts



Cutting edge style **U**

| Metric         | DCONMS | WF | LF  | H  | B  | WB   | RE** | Insert         | Torque |
|----------------|--------|----|-----|----|----|------|------|----------------|--------|
| JS159F-SVUXL09 | 15.875 | 10 | 85  | 15 | 15 | 7.7  | 0.2  | VXGU09T2**L... | 0.9    |
| JS16F-SVUXL09  | 16     | 10 | 85  | 15 | 15 | 7.7  | 0.2  | VXGU09T2**L... | 0.9    |
| JS19G-SVUXL09  | 19.05  | 10 | 90  | 18 | 18 | 9.2  | 0.2  | VXGU09T2**L... | 0.9    |
| JS19X-SVUXL09  | 19.05  | 10 | 120 | 18 | 18 | 9.2  | 0.2  | VXGU09T2**L... | 0.9    |
| JS20G-SVUXL09  | 20     | 10 | 90  | 19 | 19 | 9.7  | 0.2  | VXGU09T2**L... | 0.9    |
| JS20X-SVUXL09  | 20     | 10 | 120 | 19 | 19 | 9.7  | 0.2  | VXGU09T2**L... | 0.9    |
| JS22X-SVUXL09  | 22     | 10 | 120 | 21 | 21 | 10.7 | 0.2  | VXGU09T2**L... | 0.9    |
| JS25H-SVUXL09  | 25     | 10 | 100 | 24 | 24 | 12.2 | 0.2  | VXGU09T2**L... | 0.9    |
| JS254X-SVUXL09 | 25.4   | 10 | 120 | 24 | 24 | 12.4 | 0.2  | VXGU09T2**L... | 0.9    |

Torque: Recommended clamping torque: N·m



\*\*RE: Standard corner radius

Note: Use left-hand toolholders (L) with left-hand inserts (L).

### SPARE PARTS

| Designation  | Clamping screw | Wrench |
|--------------|----------------|--------|
| JS**-SVUXL09 | SR34-508       | T-7F   |

### INSERT SELECTION

| P | Application        | Finishing   | M | Application        | Finishing   |
|---|--------------------|---|---|--------------------|---|
|   | Grade              | SH725   |   | Grade              | SH725   |
|   | Chipbreaker shape  | JRP  |   | Chipbreaker shape  | JRP  |
|   | Cutting conditions | C136  |   | Cutting conditions | C136  |

Reference pages: JS-SVUXL: Inserts → **B155**

Standard cutting conditions → **C136**

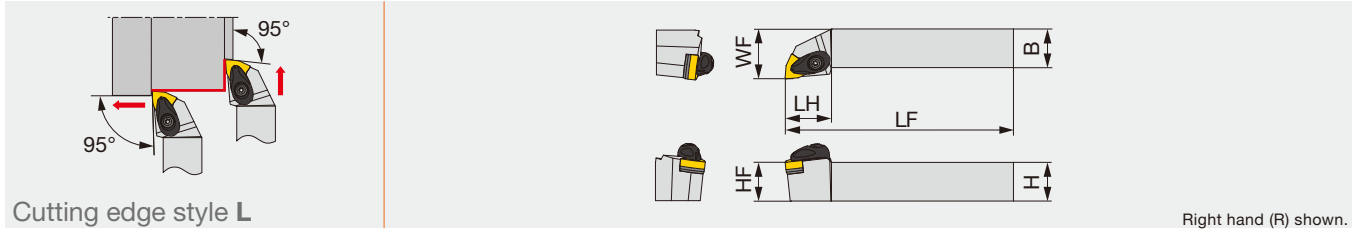
# WN



## TURNING A

### AWLNR/L

Double-clamp toolholder with 95° approach angle, for negative 80° trigon inserts



| Inch          | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| AWLNR/L1233-A | 0.750 | 0.750 | 4.500 | 1.125 | 0.750 | 1.000 | 0.031 | WN** 33... | 2.21   |
| AWLNR/L123-A  | 0.750 | 0.750 | 4.500 | 1.125 | 0.750 | 1.000 | 0.031 | WN** 33... | 2.21   |
| AWLNR/L124-A  | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 1.000 | 0.031 | WN** 43... | 2.21   |
| AWLNR/L1633-A | 1.000 | 1.000 | 6.000 | 1.125 | 1.000 | 1.250 | 0.031 | WN** 33... | 2.21   |
| AWLNR/L163-A  | 1.000 | 1.000 | 6.000 | 1.125 | 1.000 | 1.250 | 0.031 | WN** 33... | 2.21   |
| AWLNR/L164-A  | 1.000 | 1.000 | 6.000 | 1.250 | 1.000 | 1.250 | 0.031 | WN** 43... | 2.21   |
| AWLNR/L204-A  | 1.250 | 1.250 | 7.000 | 1.250 | 1.250 | 1.500 | 0.031 | WN** 43... | 2.21   |

| Metric             | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|--------------------|----|----|-----|----|----|----|------|-------------|---------|
| AWLNR/L2020K0604-A | 20 | 20 | 125 | 27 | 20 | 25 | 0.8  | WN**0604... | 3       |
| AWLNR/L2020H08-A   | 20 | 20 | 100 | 30 | 20 | 25 | 0.8  | WN**0804... | 3       |
| AWLNR/L2020K08-A   | 20 | 20 | 125 | 30 | 20 | 25 | 0.8  | WN**0804... | 3       |
| AWLNR/L2525M0604-A | 25 | 25 | 150 | 27 | 25 | 32 | 0.8  | WN**0604... | 3       |
| AWLNR/L2525K08-A   | 25 | 25 | 125 | 30 | 25 | 32 | 0.8  | WN**0804... | 3       |
| AWLNR/L2525M08-A   | 25 | 25 | 150 | 30 | 25 | 32 | 0.8  | WN**0804... | 3       |
| AWLNR/L3225P08-A   | 32 | 25 | 170 | 30 | 32 | 32 | 0.8  | WN**0804... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE: Standard corner radius

| SPARE PARTS                    | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|--------------------------------|---------|-------------|--------|------------|--------|------------|--------|
| Designation                    | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  |
| AWLNR/L**33-A, AWLNR/L**0604-A | ACP3S   | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  |
| AWLNR/L**3-A                   | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASW422 | CSTB-3.5   | T-15F  |
| AWLNR/L**4-A, AWLNR/L**08-A    |         |             |        |            |        |            |        |

## INSERT SELECTION

|          |                    |                     |           |                |                         |
|----------|--------------------|---------------------|-----------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|          | Breaker Shape      | TF                  | TSF       | TM             | TH                      |
|          | Cutting conditions | B004                |           |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>M</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T6215     | AH6225         | AH6225                  |
|          | Breaker Shape      | SF        | SM             | SH                      |
|          | Cutting conditions | B006      |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T515      | T515           | T515                    |
|          | Breaker Shape      | All-round | All-round      | All-round               |
|          | Cutting conditions | B008      |                |                         |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | BX480               | AH8005    | AH8005         |
|          | Breaker Shape      | CBN                 | HRF       | HRM            |
|          | Cutting conditions | B012                |           |                |

|          |                    |                     |           |
|----------|--------------------|---------------------|-----------|
| <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BXA10               | BXA20     |
|          | Breaker Shape      | CBN                 | CBN       |
|          | Cutting conditions | B014                |           |

Reference pages: AWLNR/L: Inserts → **B102 -**, CBN → **B187**  
 Parts for coolant hose → **C133**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# WN

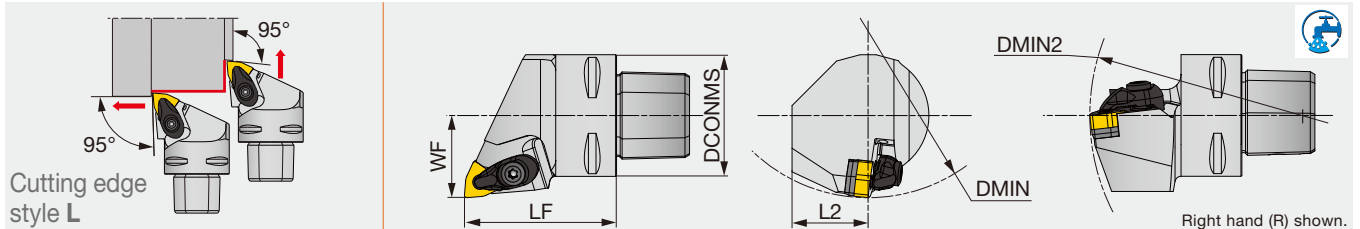


Trigon, 80°  
with hole

## TURNING

### C-AWLNR/L

Double-clamp toolholder, with 95° approach angle, for negative 80° trigon inserts



| Metric               | DCONMS | LF | L2 | WF | DMIN | DMIN2 | RE  | Insert      |
|----------------------|--------|----|----|----|------|-------|-----|-------------|
| C4AWLNR/L27050-0604N | 40     | 50 | 25 | 27 | 140  | 110   | 0.8 | WN**0604... |
| C4AWLNR/L27050-08N   | 40     | 50 | 25 | 27 | -    | -     | 0.8 | WN**0804... |
| C6AWLNR/L45065-08N   | 63     | 65 | 35 | 45 | 190  | 110   | 0.8 | WN**0804... |

Applicable for 7 MPa (1015 PSI) coolant

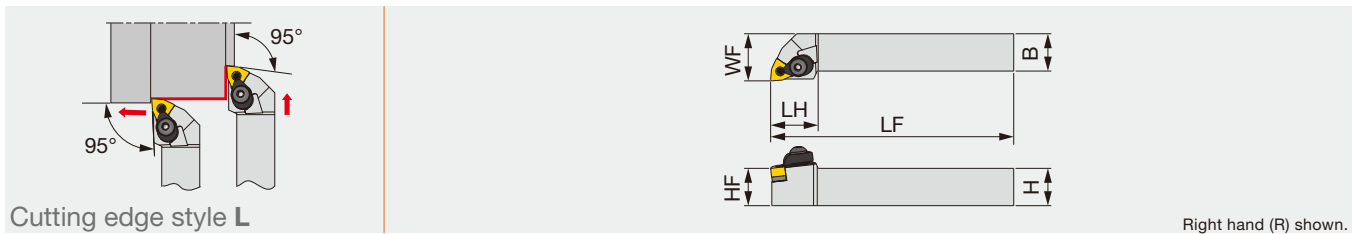
The items without DMIN and DMIN2 cannot be used for boring.

#### SPARE PARTS

| Designation      | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench | Coolant parts |
|------------------|---------|-------------|--------|------------|--------|------------|--------|---------------|
| C4AWLNR/L**0604N | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  | -             |
| C4AWLNR/L**08N   | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASW422 | CSTB-3.5   | T-15F  | -             |
| C6AWLNR/L**08N   | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASW422 | CSTB-3.5   | T-15F  | SATZ-M8X1-M3  |

### DWLNR/L

One-Double toolholder with 95° approach angle, for negative 80° trigon inserts



| Metric         | H  | B  | LF  | LH   | HF | WF | RE** | Insert      |
|----------------|----|----|-----|------|----|----|------|-------------|
| DWLNR/L2020K06 | 20 | 20 | 125 | 25.5 | 20 | 25 | 0.8  | WN**0604... |
| DWLNR/L2020K08 | 20 | 20 | 125 | 31   | 20 | 25 | 0.8  | WN**0804... |
| DWLNR/L2525M06 | 25 | 25 | 150 | 26   | 25 | 32 | 0.8  | WN**0604... |
| DWLNR/L2525M08 | 25 | 25 | 150 | 31   | 25 | 32 | 0.8  | WN**0804... |
| DWLNR/L3225P08 | 32 | 25 | 170 | 30   | 32 | 32 | 0.8  | WN**0804... |

Note: Except for 57-type chipbreaker inserts

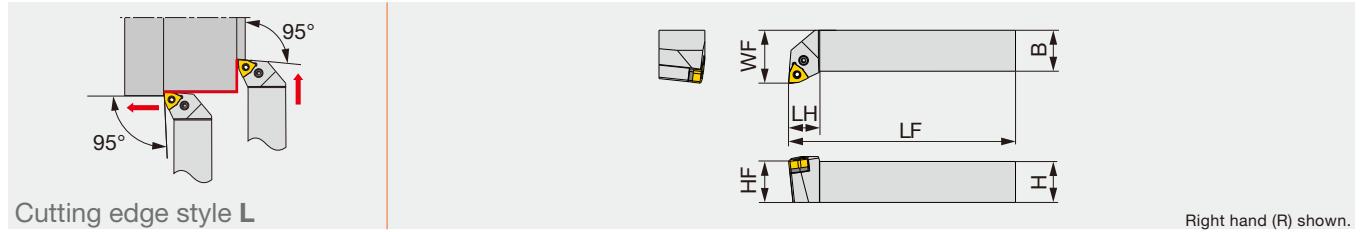
\*\*RE: Standard corner radius

#### SPARE PARTS

| Designation | Clamp   | Lever  | Piston | Clamp screw | Shim   | Spring | Spring pin | Wrench1 | Wrench2 |
|-------------|---------|--------|--------|-------------|--------|--------|------------|---------|---------|
| DWLNR/L**06 | DCPM-33 | LCL33  | DPIS33 | DLCS33      | LSW312 | BP-9   | LSP3       | P-2.5   | P-3     |
| DWLNR/L**08 | DCPM-43 | DLCL43 | DPIS43 | DLCS43      | LSW42  | BP-10  | LSP4       | P-3     | P-4     |

Reference pages: C-AWLNR/L, DWLNR/L: Inserts → **B102 -**, CBN → **B187**  
Parts for coolant hose → **C133**

Lever-lock toolholder with 95° approach angle, for negative 80° trigon inserts



| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| PWLNR/L1233 | 0.750 | 0.750 | 4.500 | 0.625 | 0.750 | 1.000 | 0.031 | WN** 33... | 1.48   |
| PWLNR/L1633 | 1.000 | 1.000 | 6.000 | 0.719 | 1.000 | 1.250 | 0.031 | WN** 33... | 1.48   |

| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| PWLNR/L2020K0604 | 20 | 20 | 125 | 15 | 20 | 25 | 0.8  | WN**0604... | 2       |
| PWLNR/L2525M0604 | 25 | 25 | 150 | 19 | 25 | 32 | 0.8  | WN**0604... | 2       |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE: Standard corner radius

| SPARE PARTS |        |                |        |            |       |
|-------------|--------|----------------|--------|------------|-------|
| Designation | Shim   | Clamping screw | Wrench | Spring pin | Lever |
| PWLNR/L...  | LSW312 | LCS3           | P-2.5  | LSP3       | LCL3  |

## INSERT SELECTION

| P                  | Application | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade       | NS9530              | GT9530    | T9215          | T9215                   |
| Breaker Shape      |             |                     |           |                |                         |
| Cutting conditions | B004        |                     |           |                |                         |

| M                  | Application | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|-----------|----------------|-------------------------|
|                    | Grade       | T6215     | AH6225         | AH6225                  |
| Breaker Shape      |             |           |                |                         |
| Cutting conditions | B006        |           |                |                         |

| K                  | Application | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|-----------|----------------|-------------------------|
|                    | Grade       | T515      | T515           | T515                    |
| Breaker Shape      |             |           |                |                         |
| Cutting conditions | B008        |           |                |                         |

| S                  | Application | Precision finishing | Finishing | Medium cutting |
|--------------------|-------------|---------------------|-----------|----------------|
|                    | Grade       | BX480               | AH8005    | AH8005         |
| Breaker Shape      |             |                     |           |                |
| Cutting conditions | B012        |                     |           |                |

| H                  | Application | Precision finishing | Finishing |
|--------------------|-------------|---------------------|-----------|
|                    | Grade       | BXA10               | BXA20     |
| Breaker Shape      |             |                     |           |
| Cutting conditions | B014        |                     |           |

Reference pages: PWLNR/L-Eco: Inserts → **B102 -**

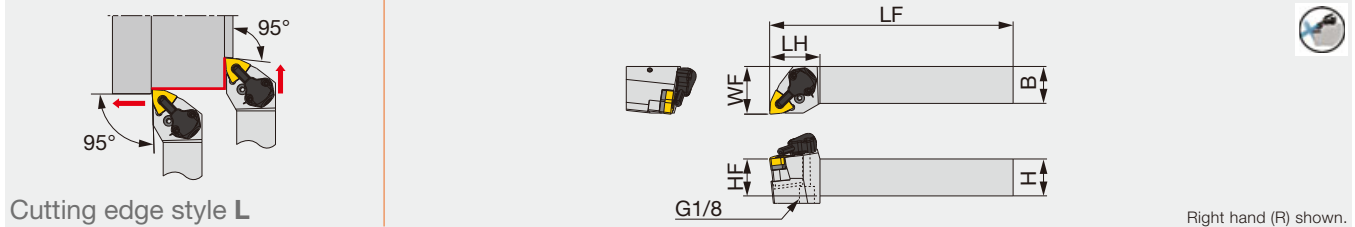




## PWLNLR/L-CHP

Tube connection

Lever lock toolholders – 95° approach angle.  
For negative 80° trigon insert. High-pressure coolant capability.



| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert     | Torque |
|------------------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| PWLNLR/L1233-CHP | 0.750 | 0.750 | 4.500 | 1.344 | 0.750 | 1.250 | 0.031 | WN** 33... | 1.48   |
| PWLNLR/L124-CHP  | 0.750 | 0.750 | 4.500 | 1.344 | 0.750 | 1.250 | 0.031 | WN** 43... | 2.22   |
| PWLNLR/L1633-CHP | 1.000 | 1.000 | 6.000 | 1.344 | 1.000 | 1.250 | 0.031 | WN** 33... | 1.48   |
| PWLNLR/L164-CHP  | 1.000 | 1.000 | 6.000 | 1.344 | 1.000 | 1.250 | 0.031 | WN** 43... | 2.22   |

| Metric                | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------------|----|----|-----|----|----|----|------|-------------|---------|
| PWLNLR/L2020K0604-CHP | 20 | 20 | 125 | 34 | 20 | 32 | 0.8  | WN**0604... | 2       |
| PWLNLR/L2020K08-CHP   | 20 | 20 | 125 | 34 | 20 | 32 | 0.8  | WN**0804... | 3       |
| PWLNLR/L2525M0604-CHP | 25 | 25 | 150 | 34 | 25 | 32 | 0.8  | WN**0604... | 2       |
| PWLNLR/L2525M08-CHP   | 25 | 25 | 150 | 34 | 25 | 32 | 0.8  | WN**0804... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation                             | Shim   | Clamping screw | Wrench 1 | Spring pin | Lever |
|---|--------|----------------|----------|------------|-------|
| PWLNLR/L**33-CHP,<br>PWLNLR/L**0604-CHP | LSW312 | LCS3           | P-2.5    | LSP3       | LCL3  |
| PWLNLR/L**4-CHP,<br>PWLNLR/L**08-CHP    | LSW42  | LCS4           | P-2.5    | LSP4       | LCL4  |

### SPARE PARTS

| Designation                             | Coolant unit | Mounting screw | Wrench 2 | O-ring     | Coolant screw | Wrench 3 |
|---|--------------|----------------|----------|------------|---------------|----------|
| PWLNLR/L**33-CHP,<br>PWLNLR/L**0604-CHP | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |
| PWLNLR/L**4-CHP,<br>PWLNLR/L**08-CHP    | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N | SRM4X4TL360   | P-2      |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Breaker Shape      | TF                  | TSF       | TM             | TH                      |
| Cutting conditions |                     |           |                |                         |
| B004               |                     |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Breaker Shape      | SF        | SM             | SH                      |
| Cutting conditions |           |                |                         |
| B006               |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Cutting conditions |           |                |                         |
| B008               |           |                |                         |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX480     | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Cutting conditions |                     |           |                |
| B012               |                     |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Breaker Shape      | CBN                 | CBN       |
| Cutting conditions |                     |           |
| B014               |                     |           |

Reference pages: PWLNLR/L-CHP: Inserts → **B102 -**, CBN → **B187**  
Parts for coolant hose → **C133**



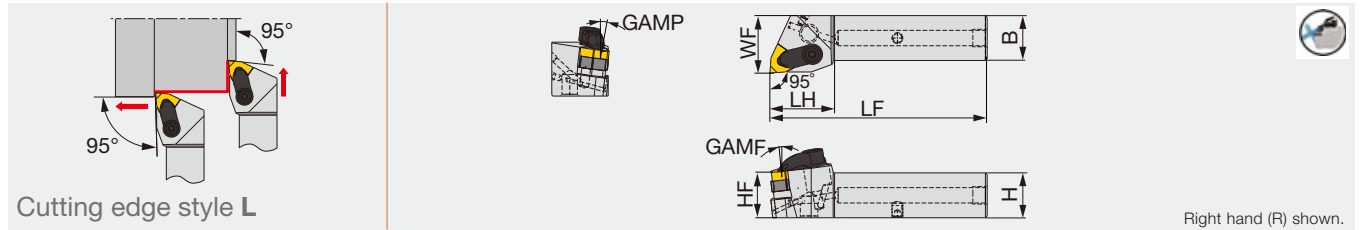
## AWLNR/L-CHP-MC

Direct connection

Tube connection

Double clamping tool holders-95° approach angle

For negative 80° trigon insert. High-pressure coolant capability with tube and direct connections



| Inch               | H     | B     | LF    | LH    | HF    | WF    | GAMP | GAMF | Insert     | Torque |
|--------------------|-------|-------|-------|-------|-------|-------|------|------|------------|--------|
| AWLNR/L12-4-CHP-MC | 0.750 | 0.75  | 4.173 | 1.417 | 0.750 | 1.000 | 6°   | 6°   | WN** 43... | 2.95   |
| AWLNR/L16-4-CHP-MC | 1.000 | 1.000 | 4.716 | 1.417 | 1.000 | 1.250 | 6°   | 6°   | WN** 43... | 2.95   |

| Metric                 | H  | B  | LF  | LH | HF | WF | GAMP | GAMF | Insert      | Torque* |
|------------------------|----|----|-----|----|----|----|------|------|-------------|---------|
| AWLNR/L2020X-08-CHP-MC | 20 | 20 | 106 | 36 | 20 | 25 | 6°   | 6°   | WN**0804... | 4       |
| AWLNR/L2525X-08-CHP-MC | 25 | 25 | 121 | 36 | 25 | 32 | 6°   | 6°   | WN**0804... | 4       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
Applicable for 14 MPa (2031 PSI) pressure coolant

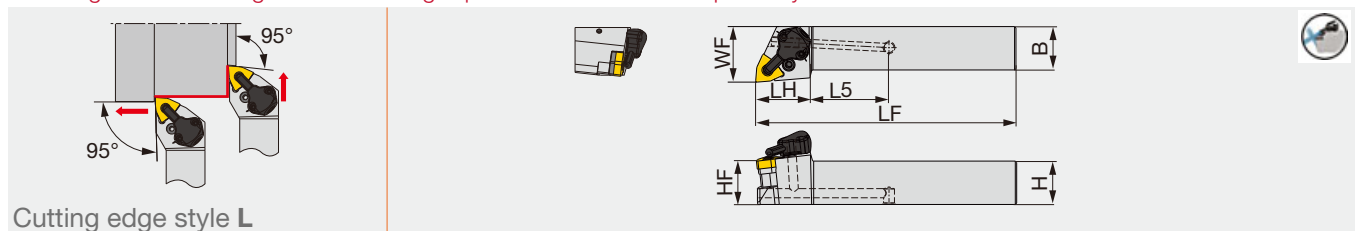
| SPARE PARTS | Clamp set   | Shim   | Shim screw | Screw for tube connection | Coolant plug          | O-ring     | Wrench   |
|-------------|-------------|--------|------------|---------------------------|-----------------------|------------|----------|
| AWLNL...    | LCGL-4JCSET | RWT443 | SR14-506   | PLUGG1/8-6.5TL360         | SRM5X5<br>DIN913TL360 | OR4X3NBR70 | KEYV-T20 |
| AWLNR...    | LCGR-4JCSET | RWT443 | SR14-506   | PLUGG1/8-6.5TL360         | SRM5X5<br>DIN913TL360 | OR4X3NBR70 | KEYV-T20 |

## PWLNR/L2020X-CHP-MC

Direct connection

Lever lock toolholders – 95° approach angle.

For negative 80° trigon insert. High-pressure coolant capability with bottom direct connection



| Metric                | H  | B  | LF | LH | HF | L5 | WF | Insert      | Torque |
|-----------------------|----|----|----|----|----|----|----|-------------|--------|
| PWLNR/L2020X06-CHP-MC | 20 | 20 | 97 | 27 | 20 | 29 | 25 | WN**0604... | 2      |
| PWLNR/L2020X08-CHP-MC | 20 | 20 | 97 | 27 | 20 | 29 | 25 | WN**0804... | 3      |

Torque: Recommended clamping torque: N·m  
Applicable for 30 MPa (4351 PSI) pressure coolant

| SPARE PARTS           | Shim   | Spring | Lever | Spring     | Spring pin | Wrench | Coolant unit | Wrench | Coolant plug          | Wrench |
|-----------------------|--------|--------|-------|------------|------------|--------|--------------|--------|-----------------------|--------|
| PWLNR/L2020X06-CHP-MC | TWN3   | SP3    | LR3   | SR117-2014 | PN3-4      | HW2.5  | CU-CW-CHP    | T-8/5  | SRM5X5<br>DIN913TL360 | -      |
| PWLNR/L2020X08-CHP-MC | TWN443 | SP4    | LR4DH | SR117-2010 | PN3-4L     | HW2.5  | CU-CW-CHP    | T-8/5  | SRM5X5<br>DIN913TL360 | HW3.0  |

Reference pages: AWLNR/L-CHP-MC, PWLNR/L2020X-CHP-MC:

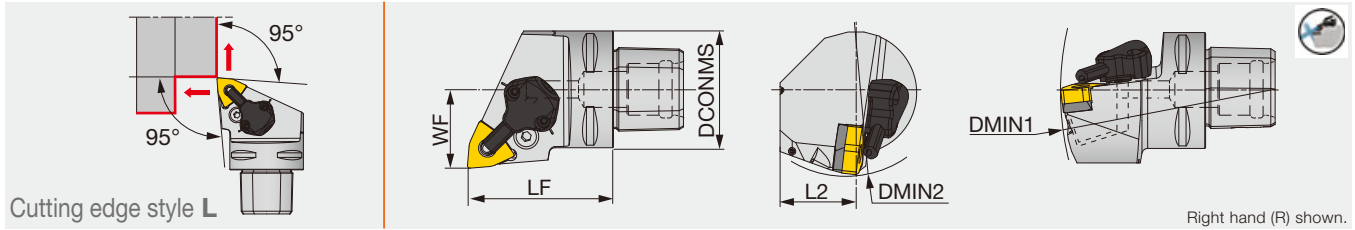
Inserts → **B102** -, CBN → **B187**, Parts for coolant hose → **C133**

# WN



## TUNGCAP C-PWLN/L-CHP

Lever lock toolholders with TungCap connection – 95° approach angle.  
For negative 80° trigon insert. High-pressure coolant capability.



| Metric                 | DCONMS | LF | L2 | WF | DMIN1 | DMIN2 | RE** | Insert      | Torque |
|------------------------|--------|----|----|----|-------|-------|------|-------------|--------|
| C4PWLN/L27050-0604-CHP | 40     | 50 | 25 | 27 | 140   | 110   | 0.8  | WN**0604... | 2      |
| C4PWLN/L27050-08-CHP   | 40     | 50 | 25 | 27 | 140   | 110   | 0.8  | WN**0804... | 3      |
| C6PWLN/L45065-08-CHP   | 63     | 65 | 41 | 45 | 190   | 110   | 0.8  | WN**0804... | 3      |

Torque: Recommended clamping torque: N·m  
Applicable for 14 MPa (2031 PSI) pressure coolant  
\*\*RE: Standard corner radius

| SPARE PARTS        |         |                |          |            |       |
|--------------------|---------|----------------|----------|------------|-------|
| Designation        | Shim    | Clamping screw | Wrench 1 | Spring pin | Lever |
| C*PWLN/L**0604-CHP | LSW312  | LCS3           | P-2.5    | LSP3       | LCL3  |
| C*PWLN/L**-08-CHP  | LSW42BL | LCS4           | P-3      | LSP4       | LCL4  |

| SPARE PARTS        |              |                |          |            |
|--------------------|--------------|----------------|----------|------------|
| Designation        | Coolant unit | Mounting screw | Wrench 2 | O-ring     |
| C*PWLN/L**0604-CHP | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N |
| C*PWLN/L**-08-CHP  | CU-CW-CHP    | SRM3           | T-8F     | OR6.4X0.9N |

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | NS9530              | GT9530    | T9215          | T9215                   |
| Grade              | TF                  | TSF       | TM             | TH                      |
| Breaker Shape      |                     |           |                |                         |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | T6215     | AH6225         | AH6225                  |
| Grade              | SF        | SM             | SH                      |
| Breaker Shape      |           |                |                         |
| Cutting conditions | B006      |                |                         |

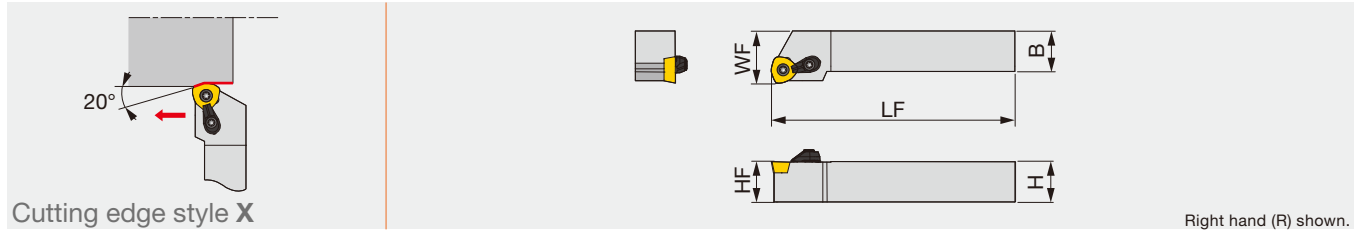
| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | T515      | T515           | T515                    |
| Grade              | All-round | All-round      | All-round               |
| Breaker Shape      |           |                |                         |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | BX480               | AH8005    | AH8005         |
| Grade              | CBN                 | HRF       | HRM            |
| Breaker Shape      |                     |           |                |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | BXA10               | BXA20     |
| Grade              | CBN                 | CBN       |
| Breaker Shape      |                     |           |
| Cutting conditions | B012                |           |

Reference pages: C-PWLN/L-CHP: Inserts → **B102 -**, CBN → **B187**  
Parts for coolant hose → **C133**

Double-clamp toolholder for roughing with 20° approach angle, for positive 80° trigon inserts



| Inch         | H     | B     | LF    | HF    | WF    | Insert             |
|--------------|-------|-------|-------|-------|-------|--------------------|
| XWXPR/L16-09 | 1.000 | 1.000 | 6.000 | 1.000 | 1.250 | WPMT090725ZPR/L-ML |
| XWXPR/L20-09 | 1.250 | 1.250 | 7.000 | 1.250 | 1.500 | WPMT090725ZPR/L-ML |
| XWXPR/L24-09 | 1.500 | 1.500 | 7.000 | 1.500 | 2.000 | WPMT090725ZPR/L-ML |

| Metric         | H  | B  | LF  | HF | WF | Insert             |
|----------------|----|----|-----|----|----|--------------------|
| XWXPR/L2525M09 | 25 | 25 | 150 | 25 | 32 | WPMT090725ZPR/L-ML |
| XWXPR/L3232P09 | 32 | 32 | 170 | 32 | 40 | WPMT090725ZPR/L-ML |
| XWXPR/L4040S09 | 40 | 40 | 250 | 40 | 50 | WPMT090725ZPR/L-ML |

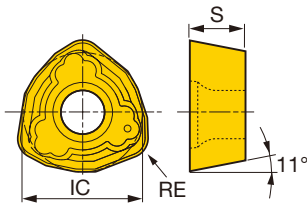
**SPARE PARTS**

| Designation | Clamp set | Clamping screw | Wrench |
|-------------|-----------|----------------|--------|
| XWXPR/L...  | CSY-20    | CSPB-5         | IP-20T |

Note: Each insert is either right- or left-handed. Please be sure not to use a wrong insert.

### INSERT

#### WPMT09-ML



| Material | Steel | Stainless | Cast iron | Non-ferrous | Superalloys | Hard materials |
|----------|-------|-----------|-----------|-------------|-------------|----------------|
| ★        | ★     | ☆         | ☆         |             |             |                |
| ☆        |       | ☆         | ☆         |             |             |                |

★ : First choice  
☆ : Second choice

| Designation      | RE (in) | Max. ap (in) | Coated |       |       |  |  |  |  | IC (in) | S (in) |
|------------------|---------|--------------|--------|-------|-------|--|--|--|--|---------|--------|
|                  |         |              | T9215  | T9225 | AH120 |  |  |  |  |         |        |
| WPMT090725ZPR-ML | 0.098   | 0.118        | ●      | ●     | ●     |  |  |  |  | 0.591   | 0.276  |
| WPMT090725ZPL-ML | 0.098   | 0.118        | ●      | ●     | ●     |  |  |  |  | 0.591   | 0.276  |

● : Line up



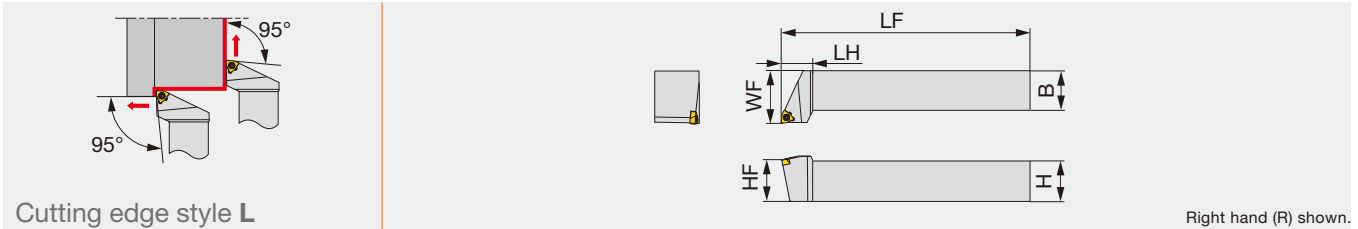
# WX



Trigon, 80°  
with hole

## MINIFORCE JSWLXR/L

Screw-on toolholder with 95° approach angle, for negative 80° trigon inserts



| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| JSWLXR/L122 | 0.750 | 0.750 | 4.500 | 0.625 | 0.750 | 1.000 | 0.008 | WXGU 22**L/R... | 0.66   |
| JSWLXR/L162 | 1.000 | 1.000 | 6.000 | 0.750 | 1.000 | 1.250 | 0.008 | WXGU 22**L/R... | 0.66   |

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|-----------------|----|----|-----|----|----|----|------|------------------|---------|
| JSWLXR/L2020K04 | 20 | 20 | 125 | 15 | 20 | 25 | 0.4  | WXGU0403**L/R... | 0.9     |
| JSWLXR/L2525M04 | 25 | 25 | 150 | 19 | 25 | 32 | 0.4  | WXGU0403**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| JSWLXR/L... | SR34-514       | T-7F   |

## INSERT SELECTION

### Swiss lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

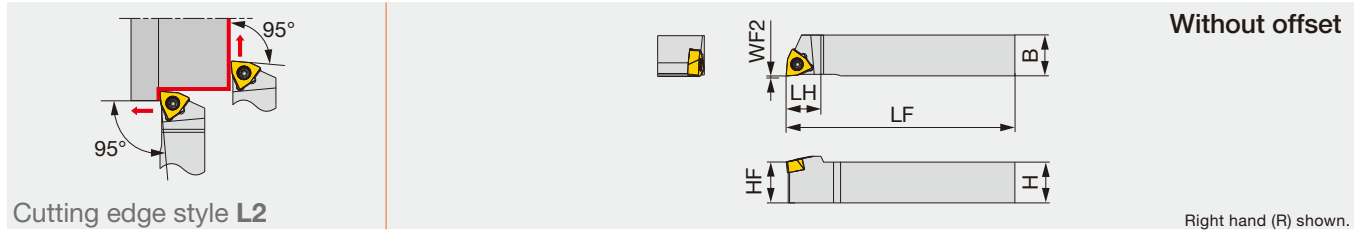
### Small CNC lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH725          |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH8015         |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

Reference pages: JSWLXR/L: Inserts → **B157 -**, CBN → **B210**  
Standard cutting conditions → **C136**

Screw-on toolholder with 95° approach angle, for WXGU inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF2 | RE**  | Insert          | Torque |
|--------------|-------|-------|-------|-------|-------|-----|-------|-----------------|--------|
| JSWL2XR/L062 | 0.375 | 0.375 | 4.750 | 0.500 | 0.375 | 0   | 0.008 | WXGU 22**L/R... | 0.66   |
| JSWL2XR/L082 | 0.500 | 0.500 | 4.750 | 0.500 | 0.500 | 0   | 0.008 | WXGU 22**L/R... | 0.66   |
| JSWL2XR/L102 | 0.625 | 0.625 | 4.750 | 0.500 | 0.625 | 0   | 0.008 | WXGU 22**L/R... | 0.66   |

| Metric           | H  | B  | LF  | LH | HF | WF2 | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|-----|------|------------------|---------|
| JSWL2XR/L1010X04 | 10 | 10 | 120 | 11 | 10 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L1212F04 | 12 | 12 | 85  | 11 | 12 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L1212X04 | 12 | 12 | 120 | 11 | 12 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L1616X04 | 16 | 16 | 120 | 13 | 16 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L2020H04 | 20 | 20 | 100 | 13 | 20 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*RE: Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation  | Clamping screw | Wrench |
|--------------|----------------|--------|
| JSWL2XR/L... | SR34-514       | T-7F   |

## INSERT SELECTION

### Swiss lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | SH725          |
| Chipbreaker shape  | JSS       | JTS            |
| Cutting conditions | C136      |                |

### Small CNC lathes

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH725          |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH8015         |
| Chipbreaker shape  | SS        | TS             |
| Cutting conditions | C136      |                |

Reference pages: JSWL2XR/L: Inserts → **B157 -**, CBN → **B210**  
Standard cutting conditions → **C136**

# YW

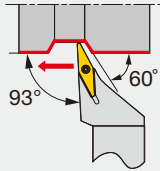


Rhombic, 25°  
with hole  
Positive 7°

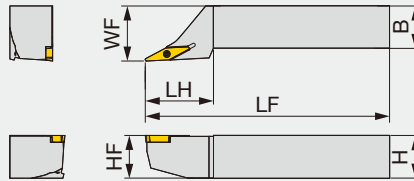
## Y-PRO SERIES

### SYJBR/L

Screw-on toolholder with 93° approach angle, for positive 25° rhombic inserts



Cutting edge style J



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| SYJBR/L123 | 0.750 | 0.750 | 4.500 | 1.350 | 0.750 | 1.000 | 0.031 | YWMT16T3... |
| SYJBR/L163 | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | YWMT16T3... |

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| SYJBR/L2020K16 | 20 | 20 | 125 | 35 | 20 | 25 | 0.8  | YWMT16T3... |
| SYJBR/L2525M16 | 25 | 25 | 150 | 40 | 25 | 32 | 0.8  | YWMT16T3... |

\*\*RE: Standard corner radius

### SPARE PARTS



| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| SYJBR/L...  | CSTB-2.5L080   | T-8F   |

C

D

F

G

H

R

S

T

V

W

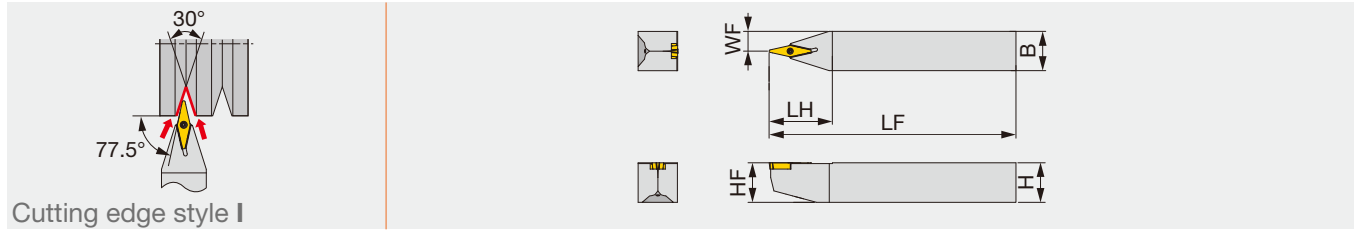
Y

### INSERT SELECTION

|          |                    |                             |          |                    |                             |          |                    |                             |          |                    |                             |
|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Finishing to medium cutting | <b>M</b> | Application        | Finishing to medium cutting | <b>K</b> | Application        | Finishing to medium cutting | <b>S</b> | Application        | Finishing to medium cutting |
|          | Grade              | T9225                       |          | Grade              | AH8015                      |          | Grade              | GT9530                      |          | Grade              | AH8015                      |
|          | Breaker Shape      | ZM                          |          | Breaker Shape      | ZM                          |          | Breaker Shape      | ZM                          |          | Breaker Shape      | ZM                          |
|          | Cutting conditions | B016                        |          | Cutting conditions | B018                        |          | Cutting conditions | B020                        |          | Cutting conditions | B024                        |

Reference pages: SYJBR/L: Inserts → **B159**

Screw-on toolholder with 77.5° approach angle, for positive 25° rhombic inserts



| Inch     | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|----------|-------|-------|-------|-------|-------|-------|-------|-------------|
| SYIBN123 | 0.750 | 0.750 | 4.500 | 1.250 | 0.750 | 0.375 | 0.031 | YWMT16T3... |
| SYIBN163 | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 0.500 | 0.031 | YWMT16T3... |

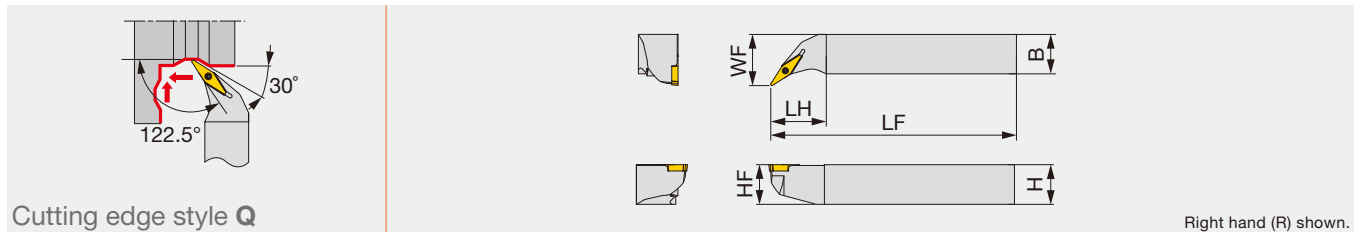
  

| Metric       | H  | B  | LF  | LH | HF | WF   | RE** | Insert      |
|--------------|----|----|-----|----|----|------|------|-------------|
| SYIBN2020K16 | 20 | 20 | 125 | 32 | 20 | 10   | 0.8  | YWMT16T3... |
| SYIBN2525M16 | 25 | 25 | 150 | 40 | 25 | 12.5 | 0.8  | YWMT16T3... |

\*\*RE : Standard corner radius

## SYQBR/L

Screw-on toolholder with 122.5° approach angle, for positive 25° rhombic inserts



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| SYQBR/L123 | 0.750 | 0.750 | 4.500 | 1.350 | 0.750 | 1.000 | 0.031 | YWMT16T3... |
| SYQBR/L163 | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | YWMT16T3... |

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| SYQBR/L2020K16 | 20 | 20 | 125 | 35 | 20 | 27 | 0.8  | YWMT16T3... |
| SYQBR/L2525M16 | 25 | 25 | 150 | 35 | 25 | 32 | 0.8  | YWMT16T3... |

\*\*RE : Standard corner radius

### SPARE PARTS

| Designation            | Clamping screw | Wrench |
|------------------------|----------------|--------|
| SYIBN...<br>SYQBR/L... | CSTB-2.5L080   | T-8F   |





# YW

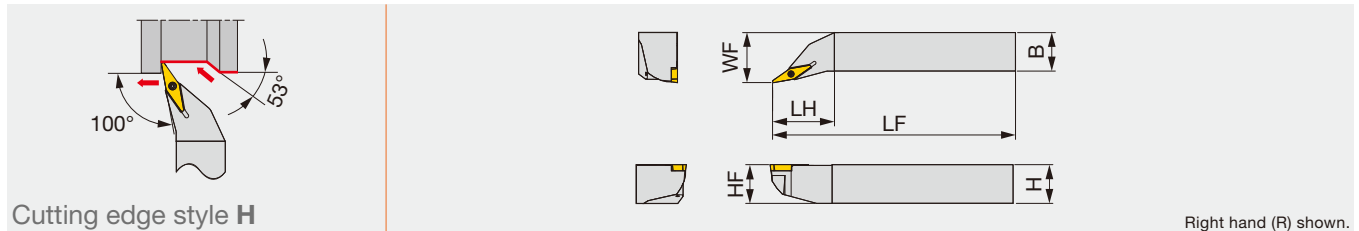


Rhombic, 25°  
with hole  
Positive 7°

## Y-PRO SERIES

SYHBR/L

Screw-on toolholder with 100° approach angle, for positive 25° rhombic inserts



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      |
|------------|-------|-------|-------|-------|-------|-------|-------|-------------|
| SYHBR/L123 | 0.750 | 0.750 | 4.500 | 1.350 | 0.750 | 1.000 | 0.031 | YWMT16T3... |
| SYHBR/L163 | 1.000 | 1.000 | 6.000 | 1.500 | 1.000 | 1.250 | 0.031 | YWMT16T3... |

| Metric         | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|----------------|----|----|-----|----|----|----|------|-------------|
| SYHBR/L2020K16 | 20 | 20 | 125 | 35 | 20 | 27 | 0.8  | YWMT16T3... |
| SYHBR/L2525M16 | 25 | 25 | 150 | 40 | 25 | 32 | 0.8  | YWMT16T3... |

\*\*RE : Standard corner radius

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| SYHBR/L...  | CSTB-2.5L080   | T-8F   |

### INSERT SELECTION

|          |                    |                             |          |                    |                             |          |                    |                             |          |                    |                             |
|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Finishing to medium cutting | <b>M</b> | Application        | Finishing to medium cutting | <b>K</b> | Application        | Finishing to medium cutting | <b>S</b> | Application        | Finishing to medium cutting |
|          | Grade              | T9225                       |          | Grade              | AH8015                      |          | Grade              | GT9530                      |          | Grade              | AH8015                      |
|          | Breaker Shape      | ZM                          |          | Breaker Shape      | ZM                          |          | Breaker Shape      | ZM                          |          | Breaker Shape      | ZM                          |
|          | Cutting conditions | B016                        |          | Cutting conditions | B018                        |          | Cutting conditions | B020                        |          | Cutting conditions | B024                        |

Reference pages: SYHBR/L: Inserts → **B159**



## PARTS FOR COOLANT HOSE

### Connecting hose

Fig. 1

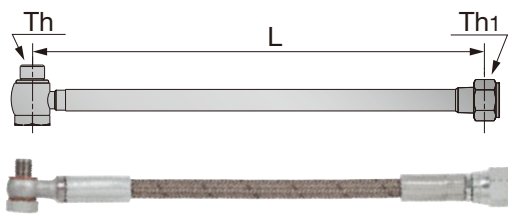
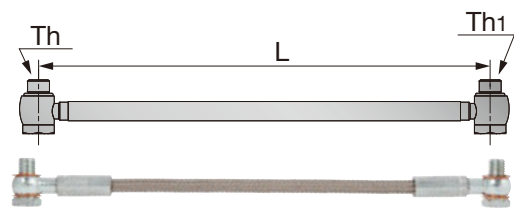
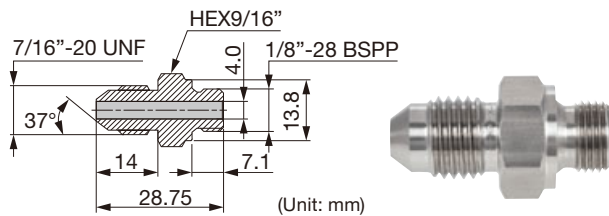


Fig. 2



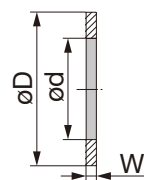
| Metric                   | L   | Th            | Th1           | Max. pressure<br>Mpa (PSI) | Fig. |
|--------------------------|-----|---------------|---------------|----------------------------|------|
| CHP-HOSE-G1/8-7/16-200BS | 200 | G1/8"-28 BSPP | 7/16"-20 UNF  | 26 (3771)                  | 1    |
| CHP-HOSE-G1/8-7/16-250BS | 250 | G1/8"-28 BSPP | 7/16"-20 UNF  | 26 (3771)                  | 1    |
| CHP-HOSE-5/16-7/16-200BS | 200 | 5/16"-24UNF   | 7/16"-20 UNF  | 20 (2901)                  | 1    |
| CHP-HOSE-5/16-G1/8-200BS | 200 | 5/16"-24UNF   | G1/8"-28 BSPP | 20 (2901)                  | 1    |
| CHP-HOSE-G1/8-G1/8-200BB | 200 | G1/8"-28 BSPP | G1/8"-28 BSPP | 26 (3771)                  | 2    |
| CHP-HOSE-G1/8-G1/8-250BB | 250 | G1/8"-28 BSPP | G1/8"-28 BSPP | 26 (3771)                  | 2    |

### Connector



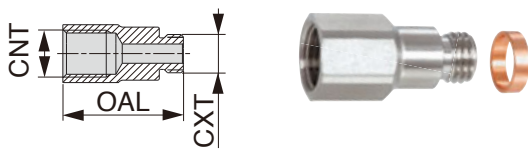
| Metric                  |
|-------------------------|
| CHP-NIPPLE-G1/8-7/16UNF |

### Seal washer



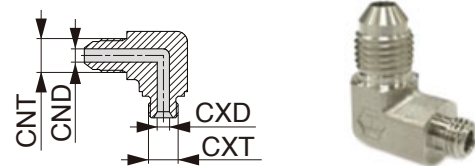
| Metric                  | øD   | ød   | W    |
|-------------------------|------|------|------|
| CHP-COPPER-SEAL1/8      | 15   | 10   | 1    |
| CHP-COPPER-SEAL5/16     | 11.9 | 8.15 | 1.35 |
| CHP-COPPER-SEAL5/16-2.5 | 9.4  | 8    | 2.5  |

### Connector for small lathe with seal washer



| Metric                  | CNT           | CXT           | OAL |
|-------------------------|---------------|---------------|-----|
| CHP-CONNECTOR5/16-G1/8  | G1/8"-28 BSPP | 5/16"-24 UNF  | 25  |
| CHP-CONNECTOR-G1/8-R1/8 | G1/8"-28 BSPP | R1/8"-28 BSPT | 25  |

### Connector elbow



| Metric                    | CNT          | CND | CXT          | CXD |
|---------------------------|--------------|-----|--------------|-----|
| CHP-ELBOW-90-G1/8-7/16UNF | 7/16"-20 UNF | 4.4 | 1/8"-28 BSPP | 4   |
| CHP-ELBOW-90-5/16-7/16UNF | 7/16"-20 UNF | 4.4 | 5/16"-24 UNF | 4   |

# Technical Guide

## STANDARD CUTTING CONDITIONS

### ADD<sup>ULTI</sup>TURN

#### Double-sided 6-corner insert

| ISO | Operation               | Chipbreaker | Grade  | Depth of cut: $a_p$ (in) |               | Feed: $f$ (ipr) |               | Cutting speed |
|-----|-------------------------|-------------|--------|--------------------------|---------------|-----------------|---------------|---------------|
|     |                         |             |        | Front turning            | Back turning  | Front turning   | Back turning  | $V_c$ (sfm)   |
| P   | Finishing               | TSF         | T9215  | 0.008 - 0.059            | 0.008 - 0.059 | 0.003 - 0.016   | 0.008 - 0.047 | 492 - 1312    |
|     |                         | TSF         | T9225  | 0.008 - 0.059            | 0.008 - 0.059 | 0.003 - 0.016   | 0.008 - 0.047 | 262 - 984     |
|     | Medium to heavy cutting | TM          | T9215  | 0.02 - 0.098             | 0.02 - 0.098  | 0.008 - 0.024   | 0.016 - 0.047 | 492 - 1312    |
|     |                         | TM          | T9225  | 0.02 - 0.098             | 0.02 - 0.098  | 0.008 - 0.024   | 0.016 - 0.047 | 262 - 984     |
| M   | Finishing               | TSF         | T9215  | 0.008 - 0.059            | 0.008 - 0.059 | 0.003 - 0.016   | 0.008 - 0.047 | 328 - 820     |
|     |                         | TSF         | AH8015 | 0.008 - 0.059            | 0.008 - 0.059 | 0.003 - 0.016   | 0.008 - 0.047 | 295 - 623     |
|     | Medium to heavy cutting | TM          | T9215  | 0.02 - 0.098             | 0.02 - 0.098  | 0.008 - 0.024   | 0.016 - 0.047 | 328 - 820     |
|     |                         | TM          | AH8015 | 0.02 - 0.098             | 0.02 - 0.098  | 0.008 - 0.024   | 0.016 - 0.047 | 295 - 623     |
| K   | Finishing               | TSF         | T9215  | 0.008 - 0.059            | 0.008 - 0.059 | 0.003 - 0.016   | 0.008 - 0.047 | 459 - 1640    |
|     | Medium to heavy cutting | TM          | T9215  | 0.02 - 0.098             | 0.02 - 0.098  | 0.008 - 0.024   | 0.016 - 0.047 | 459 - 1640    |
| S   | Finishing               | TSF         | AH8015 | 0.008 - 0.059            | 0.008 - 0.059 | 0.003 - 0.016   | 0.008 - 0.047 | 66 - 262      |
|     | Medium to heavy cutting | TM          | AH8015 | 0.02 - 0.098             | 0.02 - 0.098  | 0.008 - 0.024   | 0.016 - 0.047 | 66 - 262      |

#### Single-sided 3-corner insert

| ISO | Operation               | Chipbreaker | Grade | Depth of cut: $a_p$ (in) |              | Feed: $f$ (ipr) |               | Cutting speed |
|-----|-------------------------|-------------|-------|--------------------------|--------------|-----------------|---------------|---------------|
|     |                         |             |       | Front turning            | Back turning | Front turning   | Back turning  | $V_c$ (sfm)   |
| P   | Medium to heavy cutting | TM          | T9215 | 0.02 - 0.157             | 0.02 - 0.079 | 0.008 - 0.024   | 0.016 - 0.079 | 492 - 1312    |
| M   | Medium to heavy cutting | TM          | T9215 | 0.02 - 0.157             | 0.02 - 0.079 | 0.008 - 0.024   | 0.016 - 0.079 | 328 - 820     |
| K   | Medium to heavy cutting | TM          | T9215 | 0.02 - 0.157             | 0.02 - 0.079 | 0.008 - 0.024   | 0.016 - 0.079 | 459 - 1640    |

### ADD<sup>AXIS</sup>TURN

| ISO | Operation               | Chipbreaker | Grade | Cutting speed |
|-----|-------------------------|-------------|-------|---------------|
|     |                         |             |       | $V_c$ (sfm)   |
| P   | Finishing               | ZF          | T9215 | 492 - 1312    |
|     | Medium to heavy cutting | TM          | T9215 | 492 - 1312    |
| M   | Finishing               | ZF          | T9215 | 328 - 820     |
|     | Medium to heavy cutting | TM          | T9215 | 328 - 820     |
| K   | Finishing               | ZF          | T9215 | 459 - 1640    |
|     | Medium to heavy cutting | TM          | T9215 | 459 - 1640    |

Reference pages: C6SDNCN-Y-CHP → C056, STXCR/L-CHP-MC → C100  
 C6STECN-Y-CHP → C101, ATXOR/L → C102

**STANDARD CUTTING CONDITIONS**

**TURN<sup>TEN</sup>FEED**

For HD holder  
(High Depth of Cut)

| ISO      | Insert Designation |                | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm) |           |
|----------|--------------------|----------------|-------------------------|-----------------|-------------------------|-----------|
|          | Inch               | Metric         |                         |                 | T9215                   | T9225     |
| <b>P</b> | POMG 543 MNW       | POMG110612-MNW | 0.031 - 0.217           | 0.016 - 0.047   | 492 - 1312              | 394 - 984 |
|          | POMG 643 MNW       | POMG130612-MNW | 0.039 - 0.276           | 0.016 - 0.051   | 492 - 1312              | 394 - 984 |

| ISO      | Insert Designation |                | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm) |  |
|----------|--------------------|----------------|-------------------------|-----------------|-------------------------|--|
|          | Inch               | Metric         |                         |                 | AH8015                  |  |
| <b>M</b> | POMG 543 MNW       | POMG110612-MNW | 0.031 - 0.217           | 0.016 - 0.047   | 164 - 492               |  |
|          | POMG 643 MNW       | POMG130612-MNW | 0.039 - 0.276           | 0.016 - 0.051   | 164 - 492               |  |
| <b>S</b> | POMG 543 MNW       | POMG110612-MNW | 0.031 - 0.217           | 0.016 - 0.047   | 66 - 262                |  |
|          | POMG 643 MNW       | POMG130612-MNW | 0.039 - 0.276           | 0.016 - 0.051   | 66 - 262                |  |

For HF holder  
(High Feed)

| ISO      | Insert Designation |                | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm) |           |
|----------|--------------------|----------------|-------------------------|-----------------|-------------------------|-----------|
|          | Inch               | Metric         |                         |                 | T9215                   | T9225     |
| <b>P</b> | POMG 543 MNW       | POMG110612-MNW | 0.039 - 0.098           | 0.020 - 0.059   | 492 - 1312              | 394 - 984 |
|          | POMG 643 MNW       | POMG130612-MNW | 0.039 - 0.118           | 0.020 - 0.079   | 492 - 1312              | 394 - 984 |

| ISO      | Insert Designation |                | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm) |  |
|----------|--------------------|----------------|-------------------------|-----------------|-------------------------|--|
|          | Inch               | Metric         |                         |                 | AH8015                  |  |
| <b>M</b> | POMG 543 MNW       | POMG110612-MNW | 0.039 - 0.098           | 0.020 - 0.059   | 164 - 492               |  |
|          | POMG 643 MNW       | POMG130612-MNW | 0.039 - 0.118           | 0.020 - 0.079   | 164 - 492               |  |
| <b>S</b> | POMG 543 MNW       | POMG110612-MNW | 0.039 - 0.098           | 0.020 - 0.059   | 66 - 262                |  |
|          | POMG 643 MNW       | POMG130612-MNW | 0.039 - 0.118           | 0.020 - 0.079   | 66 - 262                |  |

# Technical Guide

## STANDARD CUTTING CONDITIONS

### MINIFORCE TURN

| Applications     | ISO   | Workpiece material  | Priority        | Chipbreaker | Grade         | Cutting speed Vc (sfm) | Depth of cut ap (in) | Feed f (ipr)  |
|------------------|---|---|-----------------|-------------|---------------|------------------------|----------------------|---------------|
| Swiss lathes     | <b>P</b>  | Low carbon steels, Carbon steels 1045, etc.<br>Low alloy steels, Alloy steels 4140, etc.  | First choice    | JS          | SH725         | 164 - 590              | 0.004 - 0.118        | 0.001 - 0.004 |
|                  |   |   | Sharpness       | JSS         | SH725         | 164 - 590              | 0.004 - 0.059        | 0.001 - 0.004 |
|                  | <b>M</b>  | Stainless steels (Austenitic) 304, etc.<br>Stainless steels (Martensitic and ferritic) 430, etc.<br>Stainless steels (Precipitation hardened) 174, etc. | First choice    | JS          | SH725         | 164 - 590              | 0.004 - 0.049        | 0.001 - 0.004 |
|                  |   |   | Sharpness       | JSS         | SH725         | 164 - 590              | 0.004 - 0.059        | 0.001 - 0.004 |
| Small CNC lathes | <b>P</b>  | Low carbon steels, Carbon steels 1045, etc.<br>Low alloy steels, Alloy steels 4140, etc.  | First choice    | SS          | AH725         | 164 - 590              | 0.006 - 0.059        | 0.002 - 0.008 |
|                  |   |   |                 | TS          | AH725         | 164 - 590              | 0.012 - 0.079        | 0.003 - 0.012 |
|                  |   |   | Surface quality | SS          | NS9530        | 164 - 656              | 0.006 - 0.059        | 0.002 - 0.008 |
|                  |   |   |                 | TS          | NS9530        | 164 - 656              | 0.012 - 0.079        | 0.003 - 0.012 |
|                  | Wear resistance   | SS  | GT9530          | 164 - 820   | 0.006 - 0.059 | 0.002 - 0.008          |                      |               |
|                  |   | TS  | GT9530          | 164 - 820   | 0.012 - 0.079 | 0.003 - 0.012          |                      |               |
| <b>M</b>         | Stainless steels (Austenitic) 304, etc.<br>Stainless steels (Martensitic and ferritic) 430, etc.<br>Stainless steels (Precipitation hardened) 174, etc. | First choice  | SS              | AH725       | 164 - 492     | 0.006 - 0.059          | 0.002 - 0.008        |               |
|                  |   | Fracture resistance   | TS              | AH725       | 164 - 492     | 0.012 - 0.079          | 0.003 - 0.012        |               |

### DIMPLEFX

| ISO      | Workpiece material | Grade | Cutting speed Vc (sfm) | Depth of cut ap (in)  | Feed f (ipr)          |
|----------|--------------------|-------|------------------------|-----------------------|-----------------------|
| <b>K</b> | Gray cast irons    | FX105 | 2300 (1000 - 3300)     | 0.040 (0.002 - 0.120) | 0.012 (0.002 - 0.024) |
|          | Ductile cast irons | FX105 | 650 (330 - 1000)       | 0.040 (0.002 - 0.120) | 0.008 (0.002 - 0.016) |

### TS200 & TS300

| ISO      | Workpiece materials   | Grades | Cutting speed Vc (sfm) | Feed f (ipr)  | Depth of cut ap (in) |
|----------|-----------------------|--------|------------------------|---------------|----------------------|
| <b>S</b> | Ni-based super alloys | TS200  | 656 - 1148             | 0.004 - 0.016 | 0.004 - 0.079        |
|          |                       | TS300  | 492 - 820              | 0.004 - 0.008 | 0.004 - 0.079        |
|          | Co-based super alloys | TS200  | 656 - 1148             | 0.004 - 0.016 | 0.004 - 0.079        |
|          |                       | TS300  | 492 - 820              | 0.004 - 0.008 | 0.004 - 0.079        |

Reference pages: CCLNR/L-RD → **C027**, TCLNR/L-F → **C028**, CDJNR/L-RD → **C042**  
 CDNNN-RD → **C044**, JSVJXR/L, JSVJ2XR/L → **C047**,  
 JSDJXR/L, JSDJ2XR/L → **C057**, JS-SDUXL, JS-SVUXL → **C058**  
 CHSNR/L → **C059**, TRGNR/L-F → **C067**, TRDCN → **C075**,  
 CSSNR/L → **C081**, TSKNR/L-F → **C084**, CVVNN-RD → **C119**  
 JSWLXR/L, JSWL2XR/L → **C128**

## STANDARD CUTTING CONDITIONS

### TURNTEC

#### LNMX1204

\*Values in red are for facing.

| ISO      | Workpiece material                 | Chip breaker | Grade | Cutting speed<br>Vc (sfm) | Depth of cut: ap (in)                 |                                       | Feed: f (ipr) |               |
|----------|------------------------------------|--------------|-------|---------------------------|---------------------------------------|---------------------------------------|---------------|---------------|
|          |                                    |              |       |                           | RE : 0.031                            | RE : 0.047                            | RE : 0.031    | RE : 0.047    |
| <b>P</b> | Steels<br>1045, 4130, etc.         | TDR          | T9115 | 390 - 820                 | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |
|          |                                    | TDR          | T9125 | 260 - 590                 | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |
| <b>M</b> | Stainless steels<br>304, 316, etc. | TDR          | T9115 | 330 - 590                 | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |
|          |                                    | TDR          | T9125 | 260 - 590                 | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |

#### LNMX1606

| ISO      | Workpiece material                 | Chip breaker | Grade | Cutting speed<br>Vc (sfm) | Depth of cut: ap (in)                 |                                       |                                       | Feed: f (ipr) |               |               |
|----------|------------------------------------|--------------|-------|---------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------|---------------|---------------|
|          |                                    |              |       |                           | RE : 0.031                            | RE : 0.047                            | RE : 0.063                            | RE : 0.031    | RE : 0.047    | RE : 0.063    |
| <b>P</b> | Steels<br>1045, 4130, etc.         | TDR          | T9115 | 390 - 820                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | TDR          | T9125 | 260 - 590                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | TWR          | T9115 | 390 - 820                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |
|          |                                    | TWR          | T9125 | 260 - 590                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |
| <b>M</b> | Stainless steels<br>304, 316, etc. | TDR          | T9115 | 330 - 590                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | TDR          | T9125 | 260 - 590                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | MDR          | T9115 | 330 - 490                 | 0.059 - 0.236<br><b>0.020 - 0.126</b> | 0.059 - 0.276<br><b>0.031 - 0.126</b> | -                                     | 0.004 - 0.020 | 0.006 - 0.028 | -             |
|          |                                    | MDR          | AH725 | 160 - 490                 | 0.059 - 0.236<br><b>0.020 - 0.126</b> | 0.059 - 0.276<br><b>0.031 - 0.126</b> | -                                     | 0.004 - 0.020 | 0.006 - 0.028 | -             |
|          |                                    | TWR          | T9115 | 330 - 590                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |
|          |                                    | TWR          | T9125 | 260 - 590                 | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |

#### LNMX2410

| ISO      | Workpiece material                 | Chip breaker | Grade | Cutting speed<br>Vc (sfm) | Depth of cut: ap (in)                 |                                       | Feed: f (ipr) |               |
|----------|------------------------------------|--------------|-------|---------------------------|---------------------------------------|---------------------------------------|---------------|---------------|
|          |                                    |              |       |                           | RE : 0.063                            | RE : 0.094                            | RE : 0.063    | RE : 0.094    |
| <b>P</b> | Steels<br>1045, 4130, etc.         | TDR          | T9115 | 390 - 820                 | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |
|          |                                    | TDR          | T9125 | 260 - 490                 | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |
| <b>M</b> | Stainless steels<br>304, 316, etc. | TDR          | T9115 | 330 - 590                 | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |
|          |                                    | TDR          | T9125 | 260 - 490                 | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |

### TURNFEED

| ISO      | Workpiece material                                       | Grade | Chipbreaker | Cutting speed<br>Vc (sfm) | Depth of cut<br>ap (in) | Feed<br>f (ipr) |
|----------|--|-------|-------------|---------------------------|-------------------------|-----------------|
| <b>P</b> | Mild and low carbon steels<br>400SS, 1025, etc. < 180 HB | T9225 | ML          | 330 - 990                 | 0.025 - 0.100           | 0.025 - 0.100   |
|          | Carbon and alloy steels<br>1049, 4142, etc. < 300HB      | T9215 | ML          | 390 - 1150                | 0.025 - 0.100           | 0.025 - 0.100   |
| <b>M</b> | Stainless steels<br>304, 316, etc. < 250 HB              | T9225 | ML          | 330 - 990                 | 0.025 - 0.100           | 0.025 - 0.100   |
| <b>K</b> | Gray and ductile cast irons<br>No35B, 60-40-18, etc.     | AH120 | ML          | 330 - 820                 | 0.025 - 0.100           | 0.025 - 0.100   |

When the side cutting edge is used for facing, the maximum feed is limited to within 0.040 ipr.

Reference pages: TLANR/L → C060, TLFNR/L, TLBNR/L → C061  
XWXPR/L → C127

# Technical Guide

## STANDARD CUTTING CONDITIONS

### Y-PRO SERIES

For negative insert

| ISO                          | Operation           | Chipbreaker | Grades | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm)            |                                       |                                     |
|------------------------------|---------------------|-------------|--------|-------------------------|-----------------|------------------------------------|---------------------------------------|-------------------------------------|
|                              |                     |             |        |                         |                 | Low carbon steels,<br>alloy steels | Medium carbon<br>steels, alloy steels | High carbon steels,<br>alloy steels |
| <b>P</b>                     | Finishing           | ZF          | GT9530 | 0.008 - 0.059           | 0.001 - 0.008   | 490 - 980                          | 490 - 980                             | 490 - 980                           |
|                              |                     |             | NS9530 | 0.008 - 0.059           | 0.001 - 0.008   | 490 - 980                          | 490 - 980                             | 490 - 984                           |
|                              |                     |             | T9225  | 0.008 - 0.059           | 0.001 - 0.008   | 390 - 980                          | 390 - 980                             | 330 - 820                           |
|                              | Finishing to medium | ZM          | GT9530 | 0.028 - 0.079           | 0.006 - 0.016   | 164 - 660                          | 164 - 660                             | 164 - 490                           |
|                              |                     |             | NS9530 | 0.028 - 0.079           | 0.006 - 0.016   | 490 - 980                          | 490 - 980                             | 490 - 980                           |
|                              |                     |             | T9225  | 0.028 - 0.079           | 0.006 - 0.016   | 490 - 980                          | 490 - 980                             | 330 - 820                           |
|                              |                     |             | T9235  | 0.028 - 0.079           | 0.006 - 0.016   | 164 - 660                          | 164 - 660                             | 164 - 490                           |
| <b>Stainless steels</b>      |                     |             |        |                         |                 |                                    |                                       |                                     |
| <b>M</b>                     | Finishing           | ZF          | AH8015 | 0.008 - 0.059           | 0.001 - 0.008   | 164 - 490                          | 164 - 490                             | 164 - 490                           |
|                              | Finishing to medium | ZM          | AH8015 | 0.028 - 0.079           | 0.006 - 0.016   | 164 - 490                          | 164 - 490                             | 164 - 490                           |
| <b>Cast iron</b>             |                     |             |        |                         |                 |                                    |                                       |                                     |
| <b>K</b>                     | Finishing           | ZF          | T9225  | 0.008 - 0.059           | 0.001 - 0.008   | 460 - 1640                         | 460 - 1640                            | 460 - 1640                          |
|                              | Finishing to medium | ZM          | T9225  | 0.028 - 0.079           | 0.006 - 0.016   | 460 - 1640                         | 460 - 1640                            | 460 - 1640                          |
| <b>Heat-resistant alloys</b> |                     |             |        |                         |                 |                                    |                                       |                                     |
| <b>S</b>                     | Finishing           | ZF          | AH8015 | 0.008 - 0.059           | 0.001 - 0.008   | 66 - 260                           | 66 - 260                              | 66 - 260                            |
|                              | Finishing to medium | ZM          | AH8015 | 0.028 - 0.079           | 0.006 - 0.016   | 66 - 260                           | 66 - 260                              | 66 - 260                            |

For positive insert

| ISO                          | Operation           | Chipbreaker | Grades | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm)            |                                       |                                     |
|------------------------------|---------------------|-------------|--------|-------------------------|-----------------|------------------------------------|---------------------------------------|-------------------------------------|
|                              |                     |             |        |                         |                 | Low carbon steels,<br>alloy steels | Medium carbon<br>steels, alloy steels | High carbon steels,<br>alloy steels |
| <b>P</b>                     | Finishing to medium | ZF          | GT9530 | 0.008 - 0.059           | 0.002 - 0.010   | 490 - 980                          | 490 - 980                             | 490 - 980                           |
|                              |                     |             | T9225  | 0.008 - 0.059           | 0.002 - 0.010   | 330 - 980                          | 260 - 980                             | 260 - 820                           |
|                              |                     | ZM          | GT9530 | 0.020 - 0.079           | 0.002 - 0.012   | 490 - 980                          | 490 - 980                             | 490 - 980                           |
|                              |                     |             | T9225  | 0.020 - 0.079           | 0.002 - 0.012   | 330 - 980                          | 260 - 980                             | 260 - 820                           |
| <b>Stainless steels</b>      |                     |             |        |                         |                 |                                    |                                       |                                     |
| <b>M</b>                     | Finishing to medium | ZF          | AH8015 | 0.008 - 0.059           | 0.002 - 0.010   | 164 - 490                          | 164 - 490                             | 164 - 490                           |
|                              |                     | ZM          | AH8015 | 0.020 - 0.079           | 0.002 - 0.012   | 164 - 490                          | 164 - 490                             | 164 - 490                           |
| <b>Cast iron</b>             |                     |             |        |                         |                 |                                    |                                       |                                     |
| <b>K</b>                     | Finishing to medium | ZF          | T9225  | 0.008 - 0.059           | 0.002 - 0.010   | 460 - 1640                         | 460 - 1640                            | 460 - 1640                          |
|                              |                     | ZM          | T9225  | 0.020 - 0.079           | 0.002 - 0.012   | 460 - 1640                         | 460 - 1640                            | 460 - 1640                          |
| <b>Heat-resistant alloys</b> |                     |             |        |                         |                 |                                    |                                       |                                     |
| <b>S</b>                     | Finishing to medium | ZF          | AH8015 | 0.008 - 0.059           | 0.002 - 0.010   | 66 - 260                           | 66 - 260                              | 66 - 260                            |
|                              |                     | ZM          | AH8015 | 0.020 - 0.079           | 0.002 - 0.012   | 66 - 260                           | 66 - 260                              | 66 - 260                            |

### FIXTURN

| ISO      | Workpiece material   | Chipbreaker | Grade  | Cutting Speed<br>Vc (sfm) | Depth of cut<br>ap (in) | Feed<br>f (ipr) |
|----------|----------------------|-------------|--------|---------------------------|-------------------------|-----------------|
| <b>P</b> | Steels<br>1045, etc. | 6RS         | T9215  | 394 - 1148                | 0.020 - 0.079           | 0.020 - 0.039   |
|          |                      | 6RS         | T9225  | 328 - 984                 | 0.020 - 0.079           | 0.020 - 0.039   |
|          |                      | 6RS         | NS9530 | 492 - 820                 | 0.020 - 0.079           | 0.020 - 0.039   |
|          |                      | 6RM         | T9215  | 394 - 1148                | 0.039 - 0.118           | 0.020 - 0.039   |
|          |                      | 6RM         | T9225  | 328 - 984                 | 0.039 - 0.118           | 0.020 - 0.039   |
|          |                      | 6RM         | NS9530 | 492 - 820                 | 0.039 - 0.118           | 0.020 - 0.039   |

Reference pages: SRGCR/L-6F → **C070**, SRDCN-6F → **C074**, SVHCR/L → **C117**  
 SYJBR/L → **C130**, SYIB, SYQBR/L → **C131**



# Internal Toolholder

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# Internal Toolholder - Content structure

- Indexable toolholders are listed by insert shape.
- Toolholders in the catalog are our standard items.

## How to use the page

- Method ①** Select the insert shape described at the left end of each page, jump to the page on the left index, and choose a designation you need (④) in the dimension table (③). Applicable inserts are shown in (⑥) and (⑧).
- Method ②** Select the series name of a toolholder on D003 and check the details on each page.
- Method ③** Select an item from Quick Guide on D004 - D013.

**CX**  
Rhombic, 80° with hole

**②** **MINIFURN**  
S-SCLXR/L-H  
Screw-on clamp exchangeable boring head, for CXMU inserts

Cutting edge style L

| Insert          | DMIN  | DCONMS | WF    | LF    | Shank               | Insert        |
|-----------------|-------|--------|-------|-------|---------------------|---------------|
| S2S-SCLXR/L06-H | 1.260 | 0.984  | 0.669 | 0.787 | D1.00               | CXMU 22"LR... |
| S3S-SCLXR/L06-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | CXMU 22"LR... |
| S4S-SCLXR/L06-H | 1.909 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | CXMU 22"LR... |

① **C** SPARE ④ **D** **E** **F** **G** **H** **I** **J** **K** **L** **M** **N** **O** **P** **Q** **R** **S** **T** **V** **W** **Y** **INDEX**

**③** **INSERT SELECTION**

| Application        | Finishing to medium cutting | Medium cutting | Application        | Finishing to medium cutting | Medium cutting |
|--------------------|-----------------------------|----------------|--------------------|-----------------------------|----------------|
| Grade              | TS                          | TS             | Grade              | TS                          | TS             |
| Breaker Shape      | TS                          | TS             | Breaker Shape      | TS                          | TS             |
| Cutting conditions | D005                        | D005           | Cutting conditions | D005                        | D005           |

Reference pages: S-SCLXR/L-H: Insert → B120, Shank → D090 - D092  
Standard cutting conditions → D096

D026 tungaloy.com/us

**CN** Rhombic, 80° with hole    **GN** Rhombic, 70° with hole

**STREAMJETBAR**  
A-PCNLN/L  
Lever-lock boring bar, for negative 80°/70° rhombic inserts

Cutting edge style L

| Designation          | Material | DMIN | DCONMS | WF | LF  | LH | H  | I2  | GAMP | GAMP | RE  | Insert       | Torque |
|----------------------|----------|------|--------|----|-----|----|----|-----|------|------|-----|--------------|--------|
| A18M-PCNLN/L090-D050 | Steel    | 20   | 18     | 11 | 150 | 32 | 15 | 3   | -6°  | -12° | 0.8 | CN"/GNM0000L | 1.7    |
| A200-PCNLN/L090-D050 | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -12° | 0.8 | CN"/GNM0000L | 1.7    |
| A18M-PCNLN/L09-D030  | Steel    | 20   | 16     | 11 | 150 | 32 | 15 | 3   | -6°  | -12° | 0.8 | CN"/GN003L   | 1.7    |
| A200-PCNLN/L09-D030  | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -12° | 0.8 | CN"/GN003L   | 1.7    |
| A25R-PCNLN/L09-D030  | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -11° | 0.8 | CN"/GN003L   | 1.7    |
| A25R-PCNLN/L12-D030  | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -11° | 0.8 | CN"/GN003L   | 1.7    |
| A25S-PCNLN/L12-D040  | Steel    | 40   | 35     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 0.8 | CN"/GN040L   | 4.8    |
| A40T-PCNLN/L12-D050  | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7   | -6°  | -10° | 0.8 | CN"/GN040L   | 4.8    |
| A50U-PCNLN/L12-D030  | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -8°  | 0.8 | CN"/GN040L   | 4.8    |

Torque: Recommended clamping torque: N m "RE: Standard corner radius  
Note: Use right-hand toolholders (PCNLN) with left-hand inserts (L), and left-hand toolholders (PCNL) with right-hand inserts (R).

**⑦** **SPARE PARTS**

| Designation          | Shank  | Clamping screw | Wrench | Wrench 1 | Wrench 2 | Spring pin | Lever  | CD Supply Attachment | Shank for CD Tool |
|----------------------|--------|----------------|--------|----------|----------|------------|--------|----------------------|-------------------|
| A18M-PCNLN/L090-D050 | -      | LCS33          | P-2F   | -        | -        | -          | LCL32N | -                    | SSM42-4           |
| A200-PCNLN/L090-D050 | -      | LCS33          | P-2F   | -        | -        | -          | LCL32N | EA-20                | SSM42-4           |
| A"-PCNLN/L09-D"0     | -      | LCS32A         | -      | P-2F     | -        | -          | LCL32N | EA-25                | SSM45-4           |
| A25R-PCNLN/L12-D030  | -      | LCS43          | -      | P-2.5    | -        | -          | LCL43N | EA-25                | SSM45-4           |
| A25S-PCNLN/L12-D040  | LSC45R | -              | LCS4   | -        | P-3      | LSP4       | LCL4   | EA-25                | SSM45-4           |
| A25S-PCNLN/L12-D040  | LSC45L | -              | LCS4   | -        | P-3      | LSP4       | LCL4   | EA-25                | SSM45-4           |
| A40T-PCNLN/L12-D050  | LSC45R | -              | LCS4   | -        | P-3      | LSP4       | LCL4   | -                    | SSM46-4           |
| A40T-PCNLN/L12-D050  | LSC45L | -              | LCS4   | -        | P-3      | LSP4       | LCL4   | -                    | SSM46-4           |
| A50U-PCNLN/L12-D030  | LSC45R | -              | LCS4   | -        | P-3      | LSP4       | LCL4   | -                    | SSM46-4           |
| A50U-PCNLN/L12-D030  | LSC45L | -              | LCS4   | -        | P-3      | LSP4       | LCL4   | -                    | SSM46-4           |

**⑧** **INSERT SELECTION**

| Application        | Finishing to medium cutting | Medium cutting | Medium to heavy cutting | Application | Finishing to medium cutting | Medium cutting | Medium to heavy cutting |
|--------------------|-----------------------------|----------------|-------------------------|-------------|-----------------------------|----------------|-------------------------|
| Grade              | NS520                       | TSF            | TM                      | TS15        | TS15                        | TS15           | TS15                    |
| Breaker Shape      | TSF                         | TM             | TM                      | TS15        | TS15                        | TS15           | TS15                    |
| Cutting conditions | D005                        | D005           | D005                    | D005        | D005                        | D005           | D005                    |

Reference pages: A-PCNLN/L: Insert → B054 - B075, CBN → B168 - PCD → B211

Tungaloy D027

- ① : Insert shape
- ② : Series name of indexable boring bars
- ③ : Dimension table
- ④ : Toolholder designation  
e.g. To select right-handed steel shank with minimum machining diameter  $\phi 0.750''$   
→ **A12-SCLCR3-D16**

- ⑤ : Dimension drawing (conforming to ISO13399)
- ⑥ : Applicable insert
- ⑦ : Spare parts
- ⑧ : Insert selection
- ⑨ : Reference pages

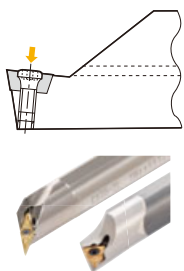
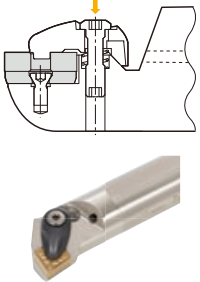
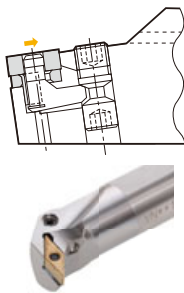
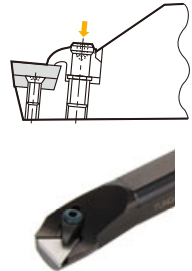
## When ordering

- Please specify the designation and quantity.  
e.g. **A12-SCLCR/L3-D16 ... 1** (one boring bar per package)
- \* Inserts are not included. Please order those separately.

# Main products

|   |   | Inch                                | Metric                              |
|---|---|-------------------------------------|-------------------------------------|
|    | <b>BOREMEISTER</b><br>Boring head suitable for L/D=10<br> Shank $\varnothing 0.625'' - \varnothing 2.500''$  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
|    | <b>MINIFORCE TURN</b><br>Economical double-sided inserts with excellent sharpness<br> Shank $\varnothing 0.375'' - \varnothing 1.000''$ , $\varnothing 10 - 20$ mm | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|    | <b>ISOETURN</b><br>Small-sized "Eco" insert series for maximized profits<br> Shank $\varnothing 1.000'' - \varnothing 1.250''$ , $\varnothing 16 - 32$ mm          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|    | <b>STREAMJETBAR</b><br>Highly rigid toolholders providing good chip evacuation<br> Shank $\varnothing 0.313'' - \varnothing 1.250''$ , $\varnothing 4 - 50$ mm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|   | <b>Y-PRO SERIES</b><br>Inserts with 25° corner angle for profiling<br> Shank $\varnothing 0.500'' - \varnothing 0.625''$ , $\varnothing 12 - 16$ mm              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|  | <b>TURNINGA</b><br>Highly rigid clamping system with excellent repeatability<br> Shank $\varnothing 1.000'' - \varnothing 2.000''$ , $\varnothing 25 - 50$ mm    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|  | <b>TUNGTURN TJET</b><br>Toolholders for high pressure coolant supply<br>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|  | <b>TUNGBOREMINI</b><br>Multifunctional tool for drilling, external turning and internal turning<br> Shank $\varnothing 8 - 12$ mm                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|   | <b>Sleeve</b><br><br>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
|   |   |                                     | D093 -                              |

# Internal Toolholder - Quick Guide

| Screw-on   | Double clamping  | Lever-lock   | Clamp-on  |
|--|--|--|---|
|  <p><b>STREAMJETBAR<br/>MINIFURN</b></p>  |  <p><b>TURNINGA</b></p>   |  <p><b>ISO ETURN</b></p>   |    |
| <ul style="list-style-type: none"> <li>Simple clamping mechanism.</li> <li>Smart shape without overhang area.</li> <li>Minimum bore diameter: 0.250", ø4.5 mm.</li> <li>Good cutting action by using positive inserts.</li> <li>Carbide shanks that have excellent resistance to chatter.</li> <li>"Tsuppari-Ichiban" shanks (reinforced with carbide plates) are also stocked.</li> </ul> | <ul style="list-style-type: none"> <li>Increased clamping rigidity contributes to superior cutting edge positioning accuracy &amp; longer tool life.</li> <li>Enlarged insert holding area of the clamp allows more accurate cutting edge positioning. It delivers high performance even when using VNMG type (35° corner angle) inserts, which tend to destabilize cutting edge positioning.</li> <li>Simple structure keeps cost low. Easy clamping with only one wrench.</li> </ul> | <ul style="list-style-type: none"> <li>Negative rake, lever-lock type, round shank boring bars.</li> <li>The insert is positively held into a two wall pocket, excelling in indexing accuracy.</li> <li>Minimum bore diameter: 1.250", ø20 mm.</li> <li>"Tsuppari-Ichiban" shanks that are reinforced with carbide plates are also stocked.</li> </ul> | <ul style="list-style-type: none"> <li>Clamp-on type insert locking mechanism assures secure holding &amp; accurate indexing.</li> <li>For inserts without a hole, it provides stronger cutting edge strength than S-type tools &amp; can withstand heavier cutting conditions.</li> <li>Minimum bore diameter: ø16 mm</li> </ul> |

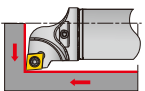
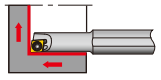
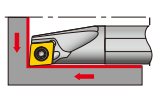
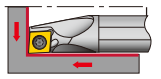
## Tool selection according to the ratio of length to tool diameter (L/D) for different shank materials

| Steel shank | Carbide reinforced | Carbide shank | BoreMeister |
|-------------|--------------------|---------------|-------------|
| L/D ≤ 3     | L/D ≤ 4            | L/D ≤ 5       | L/D ≤ 10    |

For custom tooling inquiries, contact Tungaloy

## Positive type

Inch

| Application              | Style   | Designation | Insert | Material         | Through coolant | ISO Insert | BOREMEISTER | STREAMJETBAR | Min. bore diameter DMIN (in) |         |       |         |       |         | Page |
|--------------------------|---|-------------|--------|------------------|-----------------|------------|-------------|--------------|------------------------------|---------|-------|---------|-------|---------|------|
|                          |   |             |        |                  |                 |            |             |              | 0                            | 0.375   | 0.750 | 1.125   | 1.500 | 2.000   |      |
| Boring & internal facing |  | S-SCLCR/L-H | CC...  | Steel<br>Carbide | ○               | ✓          | ✓           |              | ø0.787"                      |         |       |         |       | ø1.969" | D021 |
|                          |  | SEXPR/L     | EP...  | Steel<br>Carbide | ○               | ✓          |             | ✓            |                              | ø0.250" |       |         |       | ø0.250" | D048 |
|                          |  | SCLCR/L     | CC...  | Steel<br>Carbide | ○               | ✓          |             | ✓            |                              | ø0.500" |       |         |       | ø1.250" | D018 |
|                          |  | SCLPR/L     | CP...  | Steel<br>Carbide | ○               | ✓          |             | ✓            |                              | ø0.500" |       | ø0.875" |       | ø0.875" | D022 |

Positive type  
Inch

| Application                 | Style | Designation | Insert | Material         | Through coolant | ISO Insert | Min. bore diameter DMIN (in) |       |       |       |       |  | Page |
|-----------------------------|-------|-------------|--------|------------------|-----------------|------------|------------------------------|-------|-------|-------|-------|--|------|
|                             |       |             |        |                  |                 |            | 0                            | 0.375 | 0.750 | 1.125 | 1.500 | 2.000                                  |      |
| Boring & internal profiling |       | S-SDUCR/L-H | DC...  | Steel<br>Carbide | ○               | ✓          | ✓                            |       |       |       |       | ø0.787"   ø1.969"                      | D034 |
|                             |       | S-SVUCR/L-H | VC...  | Steel<br>Carbide | ○               | ✓          | ✓                            |       |       |       |       | ø1.063"   ø1.220"                      | D073 |
|                             |       | S-SVLCR/L-H | VC...  | Steel<br>Carbide | ○               | ✓          | ✓                            |       |       |       |       | ø1.575"   ø1.969"                      | D072 |
|                             |       | S-DDUNR/L-H | DN...  | Steel<br>Carbide | ○               | ✓          | ✓                            |       |       |       |       | ø1.575"   ø1.969"                      | D046 |
|                             |       | S-DVUNR/L-H | VN...  | Steel<br>Carbide | ○               | ✓          | ✓                            |       |       |       |       | ø2.205"                                | D079 |
|                             |       | SDUCR/L     | DC...  | Steel<br>Carbide | ○               | ✓          | ✓                            |       |       |       |       | ø0.625"   ø1.000"<br>ø0.625"   ø1.000" | D032 |
|                             |       | SVUCR/L     | VC...  | Steel            | ○               | ✓          | ✓                            |       |       |       |       | ø0.875"   ø1.000"                      | D072 |
|                             |       | SVUBR/L     | VB...  | Steel            | ○               | ✓          | ✓                            |       |       |       |       | ø1.000"                                | D068 |
|                             |       | SDQCR/L     | DC...  | Steel            | ○               | ✓          | ✓                            |       |       |       |       | ø0.625"   ø0.875"                      | D035 |
|                             |       | SVQCR/L     | VC...  | Steel            | ○               | ✓          | ✓                            |       |       |       |       | ø0.688"   ø1.000"                      | D074 |
|                             |       | SVQBR/L     | VB...  | Steel            | ○               | ✓          | ✓                            |       |       |       |       | ø1.000"                                | D069 |
|                             |       | SYUBR/L     | YW...  | Steel<br>Carbide | ○               |            | ✓                            |       |       |       |       | ø1.000"<br>ø0.875"   ø1.000"           | D088 |

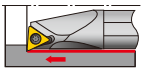
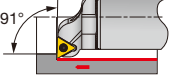
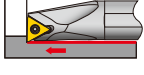

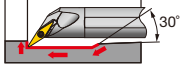
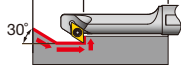
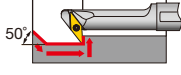
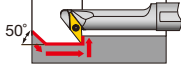
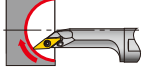
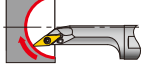
ISO Insert  
**BOREMEISTER**  
**STREAMJETBAR**

|                 |   |
|-----------------|---|
| Grade           | A |
| Insert          | B |
| Ext. Toolholder | C |
| Int. Toolholder | D |
| Threading       | E |
| Grooving        | F |
| Miniature tool  | G |
| Milling cutter  | H |
| Endmill         | I |
| Drilling tool   | J |
| Tooling System  | K |
| User's Guide    | L |
| Index           | M |

# Internal Toolholder - Quick Guide

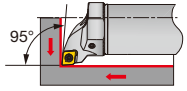
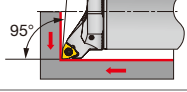
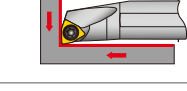
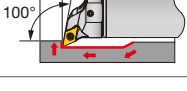
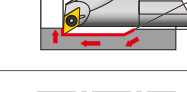
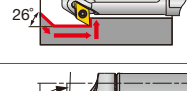
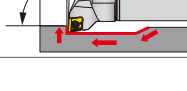
Positive type

Inch

| Application   | Style   | Designation | Insert  | Material | Through coolant | ISO Insert | BOREMEISTER<br>STREAMJETBAR | Min. bore diameter DMIN (in) |       |       |       |       |       | Page |
|---|---|-------------|---------|----------|-----------------|------------|-----------------------------|------------------------------|-------|-------|-------|-------|-------|------|
|   |   |             |         |          |                 |            |                             | 0                            | 0.375 | 0.750 | 1.125 | 1.500 | 2.000 |      |
| Boring  |    | STUPR/L     | TP...   | Steel    | ○               | ✓          | ✓                           | 0.438" - 1.250"              |       |       |       |       |       | D060 |
|   |   |             |         | Carbide  | ○               | ✓          | ✓                           | 0.438" - 0.875"              |       |       |       |       |       |      |
| Blind hole boring   |    | S-STFPR/L-H | TP...   | Steel    | ○               | ✓          | ✓                           | 0.787" - 1.969"              |       |       |       |       | D059  |      |
|   |   |             |         | Carbide  | ○               | ✓          | ✓                           |                              |       |       |       |       |       |      |
|   |    | STFPR/L     | TP...   | Carbide  | ○               | ✓          | ✓                           | 0.500" - 1.000"              |       |       |       |       | D057  |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |
|    | STFCR/L   | TC...       | Carbide | ○        | ✓               | ✓          | 0.500" - 1.000"             |                              |       |       |       | D056  |       |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |
| Boring, un-dercutting & profiling   |   | SYQBR/L     | YW...   | Steel    | ○               |            | ✓                           | 0.750" - 0.875"              |       |       |       |       | D089  |      |
|   |   |             |         | Carbide  | ○               |            | ✓                           | 0.750" - 0.875"              |       |       |       |       |       |      |
| Back boring   |  | SDZCR/L     | DC...   | Steel    | ○               | ✓          | ✓                           | 0.875"                       |       |       |       |       | D037  |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |
|   |  | SVZCR/L     | VC...   | Steel    | ○               | ✓          | ✓                           | 0.750" - 1.000"              |       |       |       |       | D076  |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |
| Internal sphere cutting   |  | SVZBR/L     | VB...   | Steel    | ○               | ✓          | ✓                           | 1.000"                       |       |       |       |       | D071  |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |
|   |  | SVJCR/L     | VC...   | Steel    | ○               | ✓          | ✓                           | 1.000"                       |       |       |       |       | D075  |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |
|  | SVJBR/L   | VB...       | Steel   | ○        | ✓               | ✓          | 1.000"                      |                              |       |       |       | D070  |       |      |
|   |   |             |         |          |                 |            |                             |                              |       |       |       |       |       |      |

## Positive double side

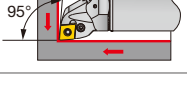
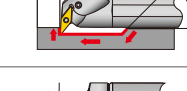

Inch

| Application                 | Style   | Designation | Insert | Material         | Through coolant | TUNGBÄMINI<br>BOREMEISTER<br>MINIFÜHRN |       |       |       |       |       | Page   |      |
|-----------------------------|---|-------------|--------|------------------|-----------------|--|-------|-------|-------|-------|-------|--|------|
|                             |   |             |        |                  |                 | 0                                      | 0.375 | 0.750 | 1.125 | 1.500 | 2.000 |  |      |
| Boring & internal facing    |    | S-SCLXR/L-H | CX...  | Steel<br>Carbide | ○               | ✓                                      | ✓     |       |       |       |       | ø1.260" <span style="background-color: #f4a460;">ø1.969"</span>  | D026 |
|                             |    | S-SWLXR/L-H | WX...  | Steel<br>Carbide | ○               | ✓                                      | ✓     |       |       |       |       | ø1.260" <span style="background-color: #f4a460;">ø1.969"</span>  | D082 |
|                             |    | SWLXR/L     | WX...  | Steel<br>Carbide | ○               |  |       | ✓     |       |       |       | ø0.500" <span style="background-color: #f4a460;">ø1.250"</span><br>ø0.500" <span style="background-color: #f4a460;">ø1.250"</span> | D081 |
| Boring & internal profiling |    | S-SDXXR/L-H | DX...  | Steel<br>Carbide | ○               | ✓                                      | ✓     |       |       |       |       | ø1.260" <span style="background-color: #f4a460;">ø1.969"</span>  | D040 |
|                             |   | SDXXR/L     | DX...  | Steel<br>Carbide | ○               |  |       | ✓     |       |       |       | ø0.625" <span style="background-color: #f4a460;">ø1.000"</span><br>ø0.625" <span style="background-color: #f4a460;">ø1.000"</span> | D040 |
| Back boring                 |  | SDZXR/L     | DX...  | Steel            | ○               |  |       | ✓     |       |       |       | ø0.625" <span style="background-color: #f4a460;">ø0.875"</span>  | D041 |
| Boring & internal profiling |  | S-SXUOR05-H | XOMU   | Steel<br>Carbide | ○               | ✓                                      | ✓     |       |       |       |       | ø0.984" <span style="background-color: #f4a460;">ø1.260"</span>  | D087 |

## Negative type

Inch

## Lever lock

| Application                 | Style   | Designation | Insert          | Material         | Through coolant | ISOETURN<br>BOREMEISTER<br>STREAMJETBAR |       |       |       |       |       | Page  |      |
|-----------------------------|---|-------------|-----------------|------------------|-----------------|---|-------|-------|-------|-------|-------|---|------|
|                             |   |             |                 |                  |                 | 0                                       | 0.375 | 0.750 | 1.125 | 1.500 | 2.000 |   |      |
| Boring & internal facing    |  | S-PCLNR/L-H | CN...,<br>GN... | Steel<br>Carbide | ○               | ✓                                       | ✓     |       |       |       |       | ø1.575" <span style="background-color: #f4a460;">ø1.969"</span> | D030 |
| Boring & internal profiling |  | PVUNR/L     | VN...           | Steel            | ○               | ✓                                       |       | ✓     |       |       |       | ø1.250" <span style="background-color: #f4a460;">ø1.650"</span> | D077 |
| Boring                      |  | S-PTFNR/L-H | TN...           | Steel<br>Carbide | ○               | ✓                                       | ✓     |       |       |       |       | ø1.575" <span style="background-color: #f4a460;">ø1.969"</span> | D064 |



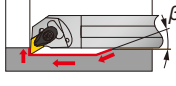
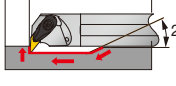

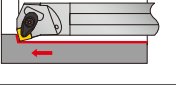


# Internal Toolholder - Quick Guide

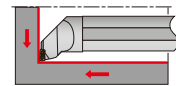
Negative type

Inch

## Double clamp

| Applica-<br>tion               | Style   | Designation | Insert          | Material | Through<br>coolant | ISO Insert | ISO FURN | TURNING A | Min. bore diameter DMIN (in)                                    |       |       |       |       |       | Page |
|--------------------------------|---|-------------|-----------------|----------|--------------------|------------|----------|-----------|---|-------|-------|-------|-------|-------|------|
|                                |   |             |                 |          |                    |            |          |           | 0   | 0.500 | 1.000 | 1.500 | 2.000 | 2.500 |      |
| Boring &<br>internal facing    |    | ACLNR/L     | CN...,<br>GN... | Steel    | ○                  | ✓          | ✓        | ✓         | ø1.250" <span style="background-color: #f4a460;">ø2.500"</span> |       |       |       |       |       | D031 |
|                                |    | AWLNR/L     | WN...           | Steel    | ○                  | ✓          | ✓        | ✓         | ø1.250" <span style="background-color: #f4a460;">ø2.500"</span> |       |       |       |       |       | D085 |
| Boring &<br>internal profiling |    | ADUNR/L     | DN...,<br>FN... | Steel    | ○                  | ✓          | ✓        | ✓         | ø1.250" <span style="background-color: #f4a460;">ø2.000"</span> |       |       |       |       |       | D045 |
|                                |    | AVUNR/L     | VN...,<br>YN... | Steel    | ○                  | ✓          | ✓        |           | ø1.560" <span style="background-color: #f4a460;">ø2.000"</span> |       |       |       |       |       | D078 |
| Boring                         |   | ATFNR/L     | TN...           | Steel    | ○                  | ✓          | ✓        |           | ø1.250" <span style="background-color: #f4a460;">ø1.560"</span> |       |       |       |       |       | D065 |
|                                |  | ASKNR/L     | SN...           | Steel    | ○                  | ✓          | ✓        |           | ø1.250" <span style="background-color: #f4a460;">ø1.500"</span> |       |       |       |       |       | D055 |

## Screw-on

| Applica-<br>tion            | Style   | Designation | Insert | Material | Through<br>coolant | TURNTEC | Min. bore diameter DMIN (in)                                    |       |       |       |       |       | Page |
|-----------------------------|---|-------------|--------|----------|--------------------|---------|---|-------|-------|-------|-------|-------|------|
|                             |   |             |        |          |                    |         | 1.500   | 2.000 | 2.500 | 3.000 | 3.500 | 4.000 |      |
| Boring &<br>internal facing |  | S-TLANR/L   | LNMX   | Steel    |                    | ✓       | ø2.090" <span style="background-color: #f4a460;">ø3.350"</span> |       |       |       |       |       | D050 |

Positive type  
Metric

| Applica-<br>tion            | Style | Designation | Insert | Material                       | Through<br>coolant | ISO Insert | BOREMEISTER<br>STREAMJETBAR | Min. bore diameter DMIN (mm)          |    |    |    |    | Page           |
|-----------------------------|-------|-------------|--------|--------------------------------|--------------------|------------|-----------------------------|---------------------------------------|----|----|----|----|----------------|
|                             |       |             |        |                                |                    |            |                             | 0                                     | 10 | 20 | 30 | 40 |                |
| Boring & internal facing    |       | SEXPR/L     | EP...  | Steel<br>Carbide               | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø4.5 - ø7<br>ø4.5 - ø7                |    |    |    |    | D048           |
|                             |       | SCLCR/L     | CC...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø5 - ø27<br>ø5 - ø27<br>ø16 - ø32     |    |    |    |    | D018 -<br>D020 |
|                             |       | SCLPR/L     | CP...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø10 - ø27<br>ø10 - ø20<br>ø14 - ø32   |    |    |    |    | D022<br>D024   |
| Boring & internal profiling |       | SDUCR/L     | DC...  | Steel<br>Carbide               | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø13 - ø32<br>ø13 - ø27                |    |    |    |    | D032           |
|                             |       | SDUPR/L     | DP...  | Steel<br>Carbide               | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø15 - ø22<br>ø15 - ø22                |    |    |    |    | D038           |
|                             |       | SVUCR/L     | VC...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø16 - ø32<br>ø18 - ø32<br>ø32         |    |    |    |    | D072<br>D073   |
|                             |       | SVUBR/L     | VB...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø20 - ø32<br>ø24.5 - ø34<br>ø25       |    |    |    |    | D068           |
|                             |       | SDQCR/L     | DC...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø13 - ø30<br>ø13 - ø25<br>ø20 - ø32   |    |    |    |    | D035<br>D036   |
|                             |       | SDQPR/L     | DP...  | Steel<br>Carbide               | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø15 - ø22<br>ø15 - ø22                |    |    |    |    | D039           |
|                             |       | SVQCR/L     | VC...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø13.5 - ø21.5<br>ø13.5 - ø21.5<br>ø32 |    |    |    |    | D074           |
|                             |       | SVQBR/L     | VB...  | Steel<br>Carbide<br>Reinforced | ○<br>○             | ✓<br>✓     | ✓<br>✓                      | ø17 - ø30.5<br>ø17 - ø30.5<br>ø25     |    |    |    |    | D069<br>D070   |

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# Internal Toolholder - Quick Guide

Positive type

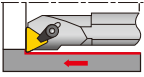


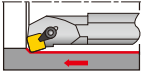

Metric

| Application                       | Style | Designation | Insert | Material | Through coolant | ISO Insert | Min. bore diameter DMIN (mm) |    |    |    |    |    | Page        |
|-----------------------------------|-------|-------------|--------|----------|-----------------|------------|------------------------------|----|----|----|----|----|-------------|
|                                   |       |             |        |          |                 |            | 0                            | 10 | 20 | 30 | 40 | 50 |             |
| Boring & internal profiling       |       | SYUBR/L     | YW...  | Steel    | ○               | ✓          | ø20                          |    |    |    |    |    | D088        |
|                                   |       |             |        | Carbide  | ○               |            | ø20   ø24.5                  |    |    |    |    |    |             |
| Boring                            |       | SWUBR/L     | WB...  | Steel    | ○               | ✓          | ø6   ø8                      |    |    |    |    |    | D080        |
|                                   |       |             |        | Carbide  | ○               |            | ø6   ø8                      |    |    |    |    |    |             |
| Boring                            |       | STUPR/L     | TP...  | Steel    | ○               | ✓          | ø8   ø34                     |    |    |    |    |    | D060 - D062 |
|                                   |       |             |        | Carbide  | ○               |            | ø8   ø27                     |    |    |    |    |    |             |
| Blind hole boring                 |       | STFPR/L     | TP...  | Steel    | ○               | ✓          | ø10   ø27                    |    |    |    |    |    | D057        |
|                                   |       |             |        | Carbide  | ○               |            | ø10   ø22                    |    |    |    |    |    |             |
| Blind hole boring                 |       | STFCR/L     | TC...  | Steel    | ○               | ✓          | ø12   ø18                    |    |    |    |    |    | D056        |
|                                   |       |             |        | Carbide  | ○               |            | ø12   ø18                    |    |    |    |    |    |             |
| Through boring                    |       | SSKPR       | SP...  | Steel    | ○               | ✓          | ø20   ø31                    |    |    |    |    |    | D052        |
| Boring, un-dercutting & profiling |       | SYQBR/L     | YW...  | Steel    | ○               | ✓          | ø17   ø21.5                  |    |    |    |    |    | D089        |
|                                   |       |             |        | Carbide  | ○               |            | ø17   ø21.5                  |    |    |    |    |    |             |
| Back boring                       |       | SDZCR/L     | DC...  | Steel    | ○               | ✓          | ø14   ø25                    |    |    |    |    |    | D037        |
|                                   |       |             |        | Carbide  | ○               |            | ø18   ø22                    |    |    |    |    |    |             |
| Back boring                       |       | SVZCR/L     | VC...  | Steel    | ○               | ✓          | ø16                          |    |    |    |    |    | D076        |
|                                   |       |             |        | Carbide  | ○               |            | ø16                          |    |    |    |    |    |             |
| Back boring                       |       | SVZBR/L     | VB...  | Steel    | ○               | ✓          | ø20   ø40                    |    |    |    |    |    | D071        |
|                                   |       |             |        | Carbide  | ○               |            | ø20   ø40                    |    |    |    |    |    |             |
| Internal sphere cutting           |       | SEZPR/L     | EP...  | Steel    | ○               | ✓          | ø5.5   ø6.5                  |    |    |    |    |    | D049        |
|                                   |       |             |        | Carbide  | ○               |            | ø5.5   ø6.5                  |    |    |    |    |    |             |
| Internal sphere cutting           |       | SVJCR/L     | VC...  | Steel    | ○               | ✓          | ø16   ø20                    |    |    |    |    |    | D075        |
|                                   |       |             |        | Carbide  | ○               |            | ø16   ø20                    |    |    |    |    |    |             |
| Internal sphere cutting           |       | SVJBR/L     | VB...  | Steel    | ○               | ✓          | ø25   ø30                    |    |    |    |    |    | D070        |
|                                   |       |             |        | Carbide  | ○               |            | ø25   ø30                    |    |    |    |    |    |             |

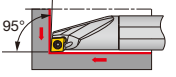


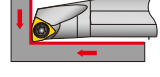
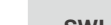



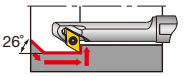



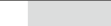

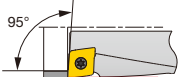

STREAMJETBAR

Positive type  
Metric

Clamp on

| Application       | Style   | Designation | Insert                | Material | Through coolant | ISO Insert | Min. bore diameter DMIN (mm)  |    |    |    |    | Page |
|-------------------|---|-------------|-----------------------|----------|-----------------|------------|---|----|----|----|----|------|
|                   |   |             |                       |          |                 |            | 0   | 10 | 20 | 30 | 40 |      |
| Blind hole boring |  | CTFPR/L     | TP...<br>Without hole | Steel    |                 | ✓          | ø16  ø40 |    |    |    |    | D058 |
|                   |   |             |                       | Carbide  |                 |            | ø16  ø20 |    |    |    |    |      |
| Through boring    |  | CSKPR/L     | SP...<br>Without hole | Steel    |                 | ✓          | ø20  ø32 |    |    |    |    | D053 |

Positive double side  
Metric

| Application                 | Style   | Designation | Insert | Material | Through coolant | TUNGBÄMINI | BOREMEISTER | MINIFÜHRN | Min. bore diameter DMIN (mm)  |    |    |    |    | Page |
|-----------------------------|---|-------------|--------|----------|-----------------|------------|-------------|-----------|---|----|----|----|----|------|
|                             |   |             |        |          |                 |            |             |           | 0   | 10 | 20 | 30 | 40 |      |
| Boring & internal facing    |  | SCLXR/L     | CX...  | Steel    | ○               |            |             | ✓         | ø12  ø22 |    |    |    |    | D025 |
|                             |   |             |        | Carbide  |                 |            |             |           | ø12  ø22 |    |    |    |    |      |
| Boring & internal facing    |  | SWLXR/L     | WX...  | Steel    | ○               |            |             | ✓         | ø12  ø22 |    |    |    |    | D081 |
|                             |   |             |        | Carbide  |                 |            |             |           | ø12  ø22 |    |    |    |    |      |
| Boring & internal profiling |  | SDXXR/L     | DX...  | Steel    | ○               |            |             | ✓         | ø13  ø24 |    |    |    |    | D040 |
| Back boring                 |  | SDZXR/L     | DX...  | Steel    | ○               |            |             | ✓         | ø14  ø20 |    |    |    |    | D041 |
|                             |   |             |        | Carbide  |                 |            |             |           | ø18  ø22 |    |    |    |    |      |
| Boring                      |  | A/E-SXUOR/L | XOMU   | Steel    | ○               | ✓          |             |           | ø10  ø14 |    |    |    |    | D086 |
|                             |   |             |        | Carbide  |                 |            |             |           | ø10  ø14 |    |    |    |    |      |
| Boring                      |  | TBM         | XOMU   | Steel    | ○               | ✓          |             |           | ø10  ø16 |    |    |    |    | D086 |

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# Internal Toolholder - Quick Guide

Negative type

Metric

Lever lock

| Application                 | Style | Designation | Insert       | Material            | Through coolant | ISO Insert |       |              |         | Min. bore diameter DMIN (mm) |     |     |     |              | Page |
|-----------------------------|-------|-------------|--------------|---------------------|-----------------|------------|-------|--------------|---------|------------------------------|-----|-----|-----|--------------|------|
|                             |       |             |              |                     |                 | ISO        | EFURN | STREAMJETBAR | TUNGJET | 20                           | 30  | 40  | 50  | 60           |      |
| Boring & internal facing    |       | PCLNR/L     | CN..., GN... | Steel<br>Reinforced | ○               | ✓          | ✓     | ✓            | ✓       | ø20                          | ø20 | ø63 | ø63 | D027 - D029  |      |
|                             |       | PVLNR/L     | WN...        | Steel               | ○               | ✓          | ✓     | ✓            |         | ø20                          |     | ø50 |     | D083<br>D084 |      |
| Boring & internal profiling |       | PDUNR/L     | DN..., FN... | Steel<br>Reinforced | ○               | ✓          | ✓     | ✓            | ✓       | ø25                          |     | ø63 | ø63 | D042 - D044  |      |
|                             |       | PVUNR/L     | VN..., YN... | Steel               | ○               | ✓          | ✓     | ✓            |         |                              | ø37 | ø50 |     | D077         |      |
| Boring                      |       | PTUNR/L     | TN...        | Steel<br>Reinforced | ○               | ✓          | ✓     | ✓            |         | ø20                          | ø40 |     | ø63 | D066<br>D067 |      |
|                             |       | PTFNR/L     | TN...        | Steel               | ○               | ✓          | ✓     | ✓            |         | ø32                          |     | ø63 |     | D063<br>D064 |      |
| Through boring              |       | PSKNR/L     | SN...        | Steel               | ○               | ✓          |       | ✓            |         |                              | ø40 | ø63 |     | D054         |      |
| Back boring                 |       | PDZNR/L     | DN...        | Steel               | ○               | ✓          |       | ✓            |         |                              | ø40 | ø63 |     | D046<br>D047 |      |

Negative type  
Metric

Double clamp

| Application                 | Style | Designation | Insert       | Material | Through coolant | ISO Insert |     |         | Min. bore diameter DMIN (mm) |       |    |     |      |      |     | Page |
|-----------------------------|-------|-------------|--------------|----------|-----------------|------------|-----|---------|------------------------------|-------|----|-----|------|------|-----|------|
|                             |       |             |              |          |                 | ISO        | ISO | TURNING | 20                           | 30    | 40 | 50  | 60   | 70   |     |      |
| Boring & internal facing    |       | ACLNR/L     | CN..., GN... | Steel    | ○               | ✓          | ✓   | ✓       | ø32                          | [Bar] |    |     |      |      | ø63 | D031 |
|                             |       | AWLNR/L     | WN...        | Steel    | ○               | ✓          | ✓   | ✓       | ø32                          | [Bar] |    |     |      |      | ø63 | D085 |
| Boring & internal profiling |       | ADUNR/L     | DN..., FN... | Steel    | ○               | ✓          | ✓   | ✓       | ø32                          | [Bar] |    |     |      |      | ø63 | D045 |
|                             |       | AVUNR/L     | VN..., YN... | Steel    | ○               | ✓          |     | ✓       | ø40                          | [Bar] |    |     | ø50  | D078 |     |      |
| Boring                      |       | ATFNR/L     | TN...        | Steel    | ○               | ✓          |     | ✓       | ø32                          | [Bar] |    | ø40 | D065 |      |     |      |
|                             |       | ASKNR/L     | SN...        | Steel    | ○               | ✓          |     | ✓       | ø32                          | [Bar] |    | ø40 | D055 |      |     |      |

Screw-on

| Application              | Style | Designation | Insert | Material | Through coolant | TURNTEC |         | Min. bore diameter DMIN (mm) |       |    |    |    |    |     | Page |
|--------------------------|-------|-------------|--------|----------|-----------------|---------|---------|------------------------------|-------|----|----|----|----|-----|------|
|                          |       |             |        |          |                 | TURNTEC | TURNTEC | 40                           | 50    | 60 | 70 | 80 | 90 |     |      |
| Boring & internal facing |       | S-TLANR/L   | LNMX   | Steel    |                 | ✓       |         | ø53                          | [Bar] |    |    |    |    | ø85 | D050 |

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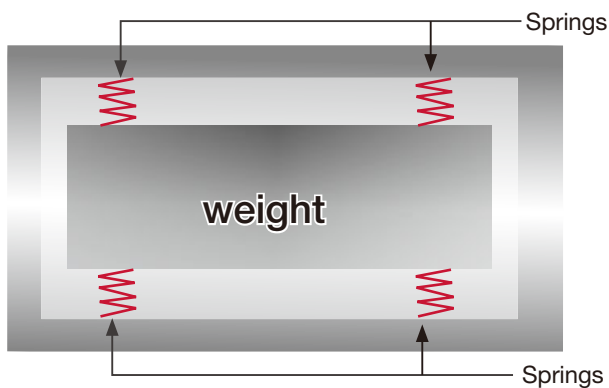


Unique anti-vibration mechanism in the tool body reduces vibration during deep hole boring with long overhangs of up to **L/D = 10**

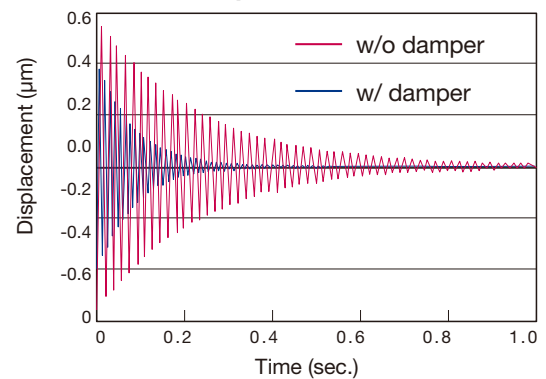
## Vibration Dampening Mechanism

When cutting forces create vibration on boring bar set up with long overhangs, the bar's dampening mechanism counters the tool's motion and cancels the vibration. The dampening mechanism consists of a weight supported by spring elements. The vibrations die out quickly eliminating noise and chatter marks.

### - Concept image of dampening



### - Tool vibrations with and without vibration damper



## Standard Lineup

BoreMeister is comprised of the anti-vibration bar and interchangeable boring head, featuring serrated interfaces for high precision indexing. They are connected by screws, allowing the fitting of a wide range of cutting heads for great flexibility.

- Minimum bore diameter : ø20 mm (0.787")



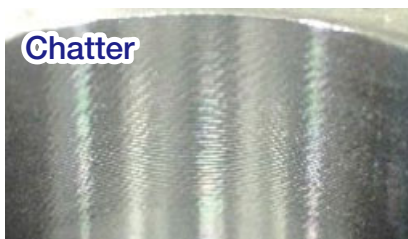


# STREAMJETBAR



Engineered for tool strength and optimal chip evacuation

■ Tool body of special alloy steel, designed to reduce chatter !



Competitor



**STREAMJETBAR**

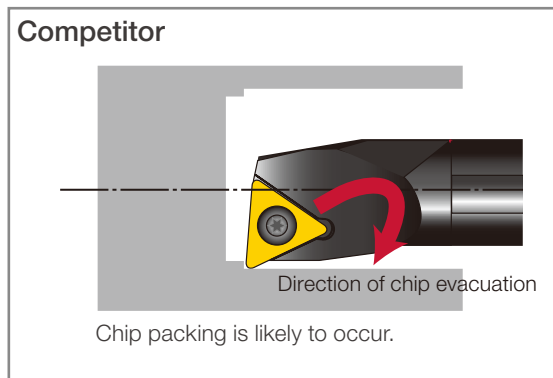
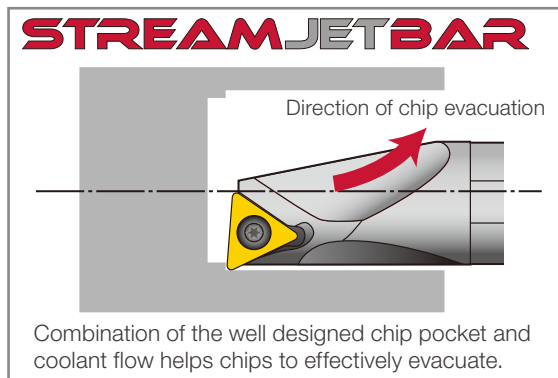
■ Minimum bore diameter from  $\varnothing 0.177$ " ( $\varnothing 4.5$  mm)

■ Steel and carbide shank available

■ New pocket design for excellent chip evacuation

## Cutting performance

The excellent chip evacuation minimizes tool failure caused by recutting chips and poor chip control. Damage to the work surface from chips is also eliminated.



Reference pages: [D018 -](#) [D032 -](#) [D048 -](#) [D052 -](#) [D056 -](#) [D070 -](#) [D076 -](#) [D080 -](#)

# TUNGB<sup>ORE</sup>MINI

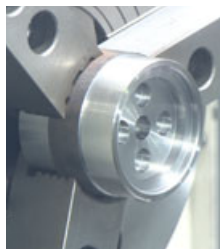


Reduced machine downtime thanks to eliminating the need for tool changes. Multifunctional Tool for Drilling and Turning.

## Minimum number of tools for maximum productivity

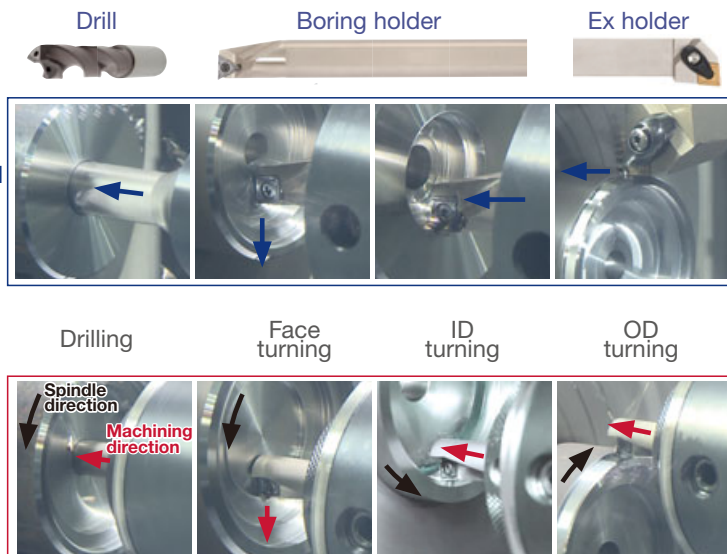
- A single TungBoreMini tool can handle multiple operations such as ID turning after drilling without exchanging the tools
- Allows drilling and hole enlargement on various materials, instead of using a drill and turning tool
- Can be used just like a standard ISO turning tool for ID, OD, and/or face turning applications

No rotating tools in lathe



Conventional Tooling - 3 Tools

Accelerated Tooling - 1 Tool



TUNGB<sup>ORE</sup>MINI



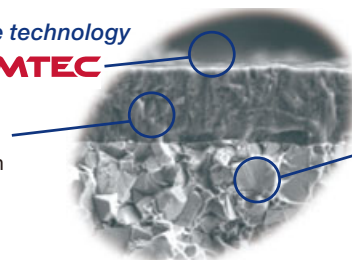
## PVD grade: AH725

AH725 features a super tough substrate with a new PVD coating layer.

Special surface technology

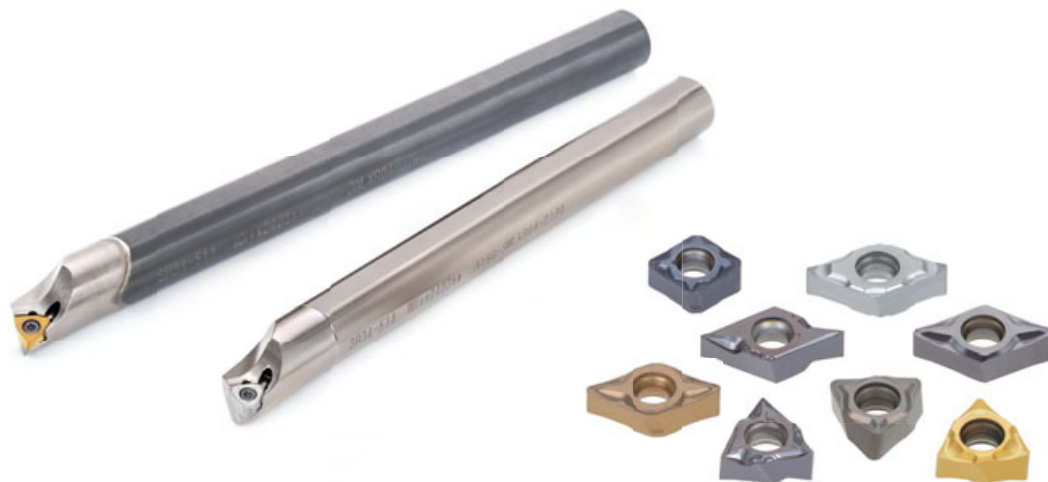
**PREMIUMTEC**

Coating layer with excellent adhesion strength  
**PVD coating**



Remarkable toughness  
**Fine grain carbide**

Reference pages: **D086** -

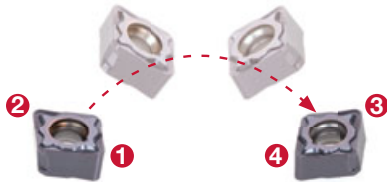


## Economical double-sided positive insert

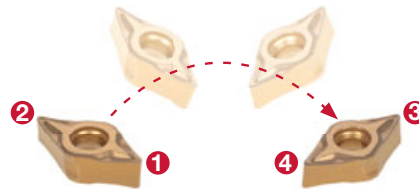
Innovative geometry and seat interface ensures stability and high performance.

### Insert

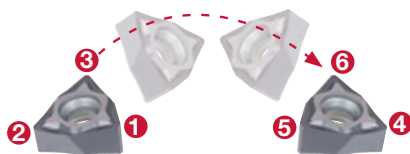
**CXMU 22...** 4 edges, rhombic 80°



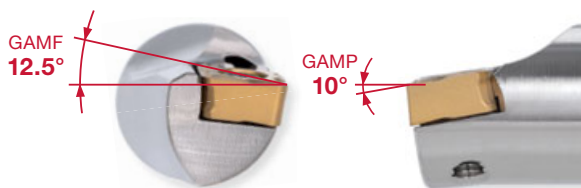
**DXM/GU 22...** 4 edges, rhombic 55°



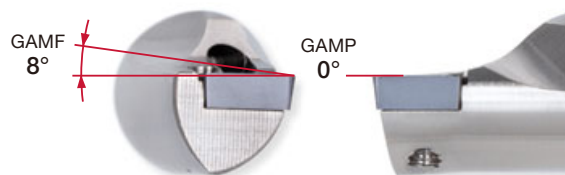
**WXGU 22...** 6 positive cutting edges



### Low cutting force machining with high rake angle



**MINIFORCE**  
A12M-SCLXR06-D140



**Conventional**  
A12M-SCLCR06-D140

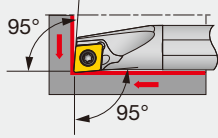
# CC



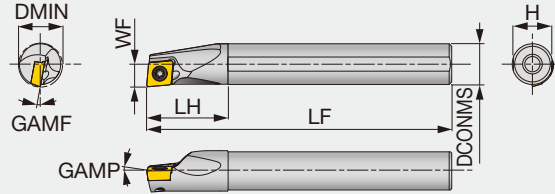
**Rhombic, 80°  
with hole  
Positive 7°**

## STREAMJETBAR A/E-SCLCR/L

Screw-on boring bar, for positive 80° rhombic inserts



Cutting edge style L



Right hand (R) shown.

| Inch             | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | GAMP | GAMF | RE**  | Insert       | Torque |
|------------------|----------|-------|--------|-------|--------|-------|-------|------|------|-------|--------------|--------|
| A05-SCLCR/L2-D06 | Steel    | 0.375 | 0.313  | 0.200 | 4.500  | 0.630 | 0.300 | 0°   | -14° | 0.016 | CC** 21.5... | 0.89   |
| A06-SCLCR/L2-D08 | Steel    | 0.500 | 0.375  | 0.281 | 5.000  | 0.750 | 0.350 | 0°   | -9°  | 0.016 | CC** 21.5... | 0.89   |
| A08-SCLCR/L2-D11 | Steel    | 0.687 | 0.500  | 0.406 | 5.000  | 1.000 | 0.475 | 0°   | -6°  | 0.016 | CC** 21.5... | 0.89   |
| A10-SCLCR/L3-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | 0°   | -7°  | 0.016 | CC** 32.5... | 2.2    |
| A12-SCLCR/L3-D16 | Steel    | 1.000 | 0.750  | 0.594 | 7.000  | 1.438 | 0.725 | 0°   | -5°  | 0.031 | CC** 32.5... | 2.2    |
| A16-SCLCR/L3-D20 | Steel    | 1.250 | 1.000  | 0.687 | 7.000  | 1.750 | 0.975 | 0°   | -4°  | 0.031 | CC** 32.5... | 2.2    |
| E06-SCLCR/L2-D08 | Carbide  | 0.500 | 0.375  | 0.281 | 5.000  | 0.750 | 0.350 | 0°   | -9°  | 0.016 | CC** 21.5... | 0.89   |
| E08-SCLCR/L2-D11 | Carbide  | 0.688 | 0.500  | 0.406 | 5.000  | 1.000 | 0.475 | 0°   | -6°  | 0.016 | CC** 21.5... | 0.89   |
| E10-SCLCR/L2-D14 | Carbide  | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | 0°   | -7°  | 0.016 | CC** 21.5... | 0.89   |
| E10-SCLCR/L3-D14 | Carbide  | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | 0°   | -7°  | 0.016 | CC** 32.5... | 2.2    |
| E12-SCLCR/L3-D16 | Carbide  | 1.000 | 0.750  | 0.594 | 7.000  | 1.438 | 0.725 | 0°   | -5°  | 0.031 | CC** 32.5... | 2.2    |
| E16-SCLCR/L3-D20 | Carbide  | 1.250 | 1.000  | 0.687 | 10.000 | 1.750 | 0.975 | 0°   | -4°  | 0.031 | CC** 32.5... | 2.2    |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H    | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|------|------|------|------|-------------|---------|
| A04F-SCLCR/L03-D050 | Steel    | 5    | 4      | 2.5  | 80  | 8  | 3.8  | 0°   | -15° | 0.2  | CC**03X1... | 0.6     |
| A05F-SCLCR/L03-D060 | Steel    | 6    | 5      | 3    | 80  | 9  | 4.8  | 0°   | -13° | 0.2  | CC**03X1... | 0.6     |
| A06G-SCLCR/L04-D070 | Steel    | 7    | 6      | 3.5  | 90  | 11 | 5.75 | 0°   | -13° | 0.2  | CC**04T1... | 0.6     |
| A07G-SCLCR/L04-D080 | Steel    | 8    | 7      | 4    | 90  | 12 | 6.75 | 0°   | -11° | 0.2  | CC**04T1... | 0.6     |
| A08H-SCLCR/L06-D100 | Steel    | 10   | 8      | 5.5  | 100 | 16 | 7.5  | 0°   | -13° | 0.4  | CC**0602... | 1.2     |
| A10F-SCLCR06-D120   | Steel    | 12   | 10     | 6    | 80  | 20 | 9    | 0°   | -10° | 0.4  | CC**0602... | 1.2     |
| A10K-SCLCR/L06-D120 | Steel    | 12   | 10     | 6    | 125 | 20 | 9    | 0°   | -10° | 0.4  | CC**0602... | 1.2     |
| A12H-SCLCR06-D140   | Steel    | 14   | 12     | 7    | 100 | 24 | 11   | 0°   | -8°  | 0.4  | CC**0602... | 1.2     |
| A12M-SCLCR/L06-D140 | Steel    | 14   | 12     | 7    | 150 | 24 | 11   | 0°   | -8°  | 0.4  | CC**0602... | 1.2     |
| A12H-SCLCR06-D160   | Steel    | 16   | 12     | 9    | 100 | 24 | 11   | 0°   | -7°  | 0.4  | CC**0602... | 1.2     |
| A12M-SCLCR/L06-D160 | Steel    | 16   | 12     | 9    | 150 | 24 | 11   | 0°   | -7°  | 0.4  | CC**0602... | 1.2     |
| A16K-SCLCR09-D180   | Steel    | 18   | 16     | 9    | 125 | 32 | 15   | 0°   | -9°  | 0.8  | CC**09T3... | 3       |
| A16Q-SCLCR/L09-D180 | Steel    | 18   | 16     | 9    | 180 | 32 | 15   | 0°   | -10° | 0.8  | CC**09T3... | 3       |
| A16K-SCLCR09-D200   | Steel    | 20   | 16     | 11   | 125 | 32 | 15   | 0°   | -9°  | 0.8  | CC**09T3... | 3       |
| A16Q-SCLCR/L09-D200 | Steel    | 20   | 16     | 11   | 180 | 32 | 15   | 0°   | -9°  | 0.8  | CC**09T3... | 3       |
| A20R-SCLCR/L09-D220 | Steel    | 22   | 20     | 11   | 200 | 32 | 18   | 0°   | -8°  | 0.8  | CC**09T3... | 3       |
| A25S-SCLCR/L09-D270 | Steel    | 27   | 25     | 13.5 | 250 | 45 | 23   | 0°   | -6°  | 0.8  | CC**09T3... | 3       |
| E04G-SCLCR/L03-D050 | Carbide  | 5    | 4      | 2.5  | 90  | 9  | 3.8  | 0°   | -15° | 0.2  | CC**03X1... | 0.6     |
| E05G-SCLCR/L03-D060 | Carbide  | 6    | 5      | 3    | 90  | 10 | 4.8  | 0°   | -13° | 0.2  | CC**03X1... | 0.6     |
| E06H-SCLCR/L04-D070 | Carbide  | 7    | 6      | 3.5  | 100 | 12 | 5.75 | 0°   | -13° | 0.2  | CC**04T1... | 0.6     |
| E07H-SCLCR/L04-D080 | Carbide  | 8    | 7      | 4    | 100 | 14 | 6.75 | 0°   | -11° | 0.2  | CC**04T1... | 0.6     |
| E08G-SCLCR06-D100   | Carbide  | 10   | 8      | 5.5  | 90  | 22 | 7.5  | 0°   | -13° | 0.4  | CC**0602... | 1.2     |
| E08K-SCLCR/L06-D100 | Carbide  | 10   | 8      | 5.5  | 125 | 22 | 7.5  | 0°   | -13° | 0.4  | CC**0602... | 1.2     |
| E10F-SCLCR06-D120   | Carbide  | 12   | 10     | 6    | 80  | 25 | 9    | 0°   | -10° | 0.4  | CC**0602... | 1.2     |
| E10H-SCLCR06-D120   | Carbide  | 12   | 10     | 6    | 100 | 25 | 9    | 0°   | -10° | 0.4  | CC**0602... | 1.2     |
| E10M-SCLCR/L06-D120 | Carbide  | 12   | 10     | 6    | 150 | 25 | 9    | 0°   | -10° | 0.4  | CC**0602... | 1.2     |
| E12G-SCLCR06-D140   | Carbide  | 14   | 12     | 7    | 90  | 27 | 11   | 0°   | -8°  | 0.4  | CC**0602... | 1.2     |
| E12J-SCLCR06-D140   | Carbide  | 14   | 12     | 7    | 110 | 27 | 11   | 0°   | -8°  | 0.4  | CC**0602... | 1.2     |
| E12Q-SCLCR/L06-D140 | Carbide  | 14   | 12     | 7    | 180 | 27 | 11   | 0°   | -8°  | 0.4  | CC**0602... | 1.2     |
| E12G-SCLCR06-D160   | Carbide  | 16   | 12     | 9    | 90  | 27 | 11   | 0°   | -7°  | 0.4  | CC**0602... | 1.2     |
| E12J-SCLCR06-D160   | Carbide  | 16   | 12     | 9    | 110 | 27 | 11   | 0°   | -7°  | 0.4  | CC**0602... | 1.2     |
| E12Q-SCLCR/L06-D160 | Carbide  | 16   | 12     | 9    | 180 | 27 | 11   | 0°   | -7°  | 0.4  | CC**0602... | 1.2     |
| E16H-SCLCR09-D180   | Carbide  | 18   | 16     | 9    | 100 | 32 | 15   | 0°   | -10° | 0.8  | CC**09T3... | 3       |
| E16L-SCLCR09-D180   | Carbide  | 18   | 16     | 9    | 130 | 32 | 15   | 0°   | -10° | 0.8  | CC**09T3... | 3       |
| E16R-SCLCR/L09-D180 | Carbide  | 18   | 16     | 9    | 200 | 32 | 15   | 0°   | -10° | 0.8  | CC**09T3... | 3       |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|------|------|------|-------------|---------|
| E16H-SCLCR09-D200   | Carbide  | 20   | 16     | 11   | 100 | 32 | 15 | 0°   | -9°  | 0.8  | CC**09T3... | 3       |
| E16L-SCLCR09-D200   | Carbide  | 20   | 16     | 11   | 130 | 32 | 15 | 0°   | -9°  | 0.8  | CC**09T3... | 3       |
| E16R-SCLCR/L09-D200 | Carbide  | 20   | 16     | 11   | 200 | 32 | 15 | 0°   | -9°  | 0.8  | CC**09T3... | 3       |
| E20S-SCLCR09-D220   | Carbide  | 22   | 20     | 11   | 250 | 36 | 18 | 0°   | -8°  | 0.8  | CC**09T3... | 3       |
| E25T-SCLCR09-D270   | Carbide  | 27   | 25     | 13.5 | 300 | 45 | 23 | 0°   | -6°  | 0.8  | CC**09T3... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

Note: Use right-hand toolholders (SCLCR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLCL\*\*) with right-hand inserts (R).

### INCH SPARE PARTS

| Designation       | Clamping screw | Wrench |
|-------------------|----------------|--------|
| A**-SCLCR/L2-D... | CSTB-2.5S      | T-8F   |
| A**-SCLCR/L3-D... | CSTB-4S        | T-15F  |
| E06-SCLCR/L2-D08  | CSTB-2.5S      | T-8F   |
| E**-SCLCR/L2-D... | CSTB-2.5B      | T-8F   |
| E**-SCLCR/L3-D... | CSTB-4S        | T-15F  |

### METRIC SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A**-SCLCR/L03-D...  | CSTA-1.6       | T-6F   |
| A**-SCLCR/L04-D...  | CSTB-2         | T-6F   |
| A**-SCLCR/L06-D...  | CSTB-2.5S      | T-8F   |
| A**-SCLCR/L09-D...  | CSTB-4S        | T-15F  |
| E**-SCLCR/L03-D...  | CSTA-1.6       | T-6F   |
| E**-SCLCR/L04-D...  | CSTB-2         | T-6F   |
| E**-SCLCR/L06-D...  | CSTB-2.5S      | T-8F   |
| E16*-SCLCR/L09-D... | CSTB-4L060     | T-15F  |
| E2*-SCLCR/L09-D...  | CSTB-4S        | T-15F  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | Grade               | SH725     | NS9530 | SH725                       |
| Breaker Shape      | JP                  | PSS       | JS     | PS                          |
| Cutting conditions | B016                |           |        |                             |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | Grade               | SH725     | AH6225 | SH725                       |
| Chipbreaker shape  | JP                  | PSS       | JS     | PS                          |
| Cutting conditions | B018                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      | PM             |
| Cutting conditions | B016           |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH6225         |
| Chipbreaker shape  | PM             |
| Cutting conditions | B018           |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | KS05F          |
| Breaker Shape      | DIA                 | DIA with rake | AL             |
| Cutting conditions | B022                |               |                |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
| Grade              | BX470               | AH8005    | AH8015                      |
| Breaker Shape      | CBN                 | PS        | PS                          |
| Cutting conditions | B024                |           |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

Reference pages: A/E-SCLCR/L: Insert → B112 -, CBN → B189 -, PCD → B213



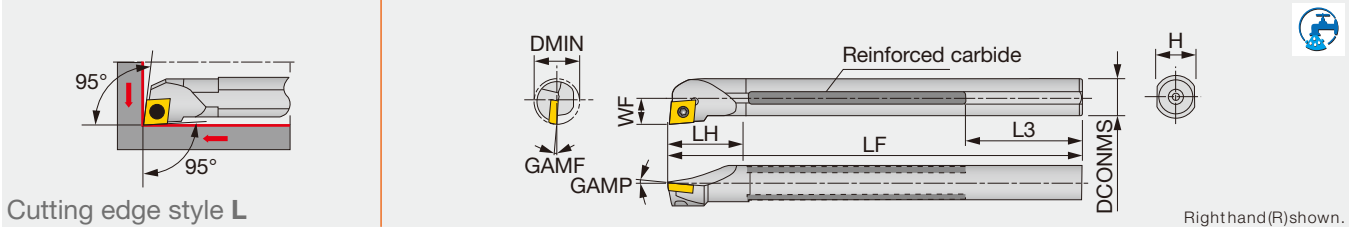
# CC



**Rhombic, 80°  
with hole  
Positive 7°**

## T-SCLCR/L

Screw-on boring bar, for positive 80° rhombic inserts (Tsuppari-Ichiban)



| Metric          | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3 | H  | GAMF | GAMP | RE** | Insert      | Torque |
|-----------------|------------|------|-------|--------|----|-----|----|----|----|------|------|------|-------------|--------|
| T12M-SCLCR/L06  | Reinforced | 16   | -     | 12     | 9  | 150 | 22 | 59 | 11 | -10° | 0°   | 0.4  | CC**0602... | 1.2    |
| T16Q-SCLCR/L09  | Reinforced | 20   | -     | 16     | 11 | 180 | 27 | 59 | 15 | -10° | 0°   | 0.8  | CC**09T3... | 3      |
| T20R-SCLCR/L09C | Reinforced | 25   | Rc1/4 | 20     | 13 | 200 | 35 | 49 | 18 | -8°  | 0°   | 0.8  | CC**09T3... | 3      |
| T25S-SCLCR/L09C | Reinforced | 32   | Rc1/4 | 25     | 17 | 250 | 40 | 64 | 23 | -6°  | 0°   | 0.8  | CC**09T3... | 3      |

Torque: Recommended clamping torque: N·m

\*\*RE: Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Note: Use right-hand toolholders (SCLCR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLCL\*\*) with right-hand inserts (R).

C

D

E

F

G

S

T

V

W

Y

OTHERS

### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| T12M-SCLCR/L06  | CSTB-2.5       | T-8F   |
| T16Q-SCLCR/L09  | CSTB-4S        | T-15F  |
| T20R-SCLCR/L09C | CSTB-4S        | T-15F  |
| T25S-SCLCR/L09C | CSTB-4S        | T-15F  |

### INSERT SELECTION

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | Grade               | SH725     | NS9530 | SH725                       |
| Grade              | JP                  | PSS       | JS     | PS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | B016                |           |        |                             |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | Grade               | SH725     | AH6225 | SH725                       |
| Grade              | JP                  | PSS       | JS     | PS                          |
| Chipbreaker shape  |                     |           |        |                             |
| Cutting conditions | B018                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      |                |
| Cutting conditions | B016           |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH6225         |
| Chipbreaker shape  |                |
| Cutting conditions | B018           |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      |                             |
| Cutting conditions | B020                        |

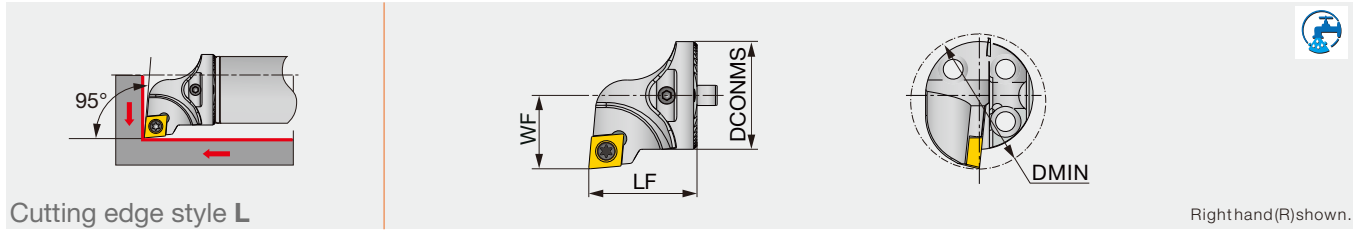
| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Grade              | DIA                 | with rake DIA | AL             |
| Breaker Shape      |                     |               |                |
| Cutting conditions | B022                |               |                |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
|                    | Grade               | BX470     | AH8005                      |
| Grade              | CBN                 | PS        | PS                          |
| Breaker Shape      |                     |           |                             |
| Cutting conditions | B024                |           |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Grade              | HP                  | HS        |
| Breaker Shape      |                     |           |
| Cutting conditions | B026                |           |

Reference pages: T-SCLCR/L: Insert → B112 -, CBN → B189 -, PCD → B213





Cutting edge style L

Right hand(R) shown.

| Inch             | DMIN  | DCONMS | WF    | LF    | Shank               | Insert       |
|------------------|-------|--------|-------|-------|---------------------|--------------|
| S16-SCLCR/L06-H  | 0.787 | 0.630  | 0.433 | 0.787 | D/G.625             | CC** 21.5... |
| S20-SCLCR/L09-H  | 0.984 | 0.787  | 0.512 | 0.787 | D/G.750             | CC** 32.5... |
| S25-SCLCR/L09-H  | 1.260 | 0.984  | 0.669 | 0.866 | D1.00               | CC** 32.5... |
| S32-SCLCR/L09-H  | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | CC** 32.5... |
| S40-SCLCR/L12T-H | 1.969 | 1.575  | 1.063 | 1.496 | D1.50, D2.00, D2.50 | CC** 43...   |

Note: Use right-hand toolholders (SCLCR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation      | Clamping screw | Wrench | Shim   | Shim screw |
|------------------|----------------|--------|--------|------------|
| S16-SCLCR/L06-H  | SR14-548       | T-7/5  | -      | -          |
| S20-SCLCR/L09-H  | SR16-236       | T-15/5 | -      | -          |
| S25-SCLCR/L09-H  | SR16-236       | T-15/5 | -      | -          |
| S32-SCLCR/L09-H  | SR16-236       | T-15/5 | -      | -          |
| S40-SCLCR/L12T-H | SR16-212       | T-20/5 | TCC4-2 | SRTC-4     |

### INSERT SELECTION

|          |                    |                             |                    |                             |                             |                     |                    |                     |           |       |                             |  |
|----------|--------------------|-----------------------------|--------------------|-----------------------------|-----------------------------|---------------------|--------------------|---------------------|-----------|-------|-----------------------------|--|
| <b>P</b> | Application        | Precision finishing         | Finishing          |                             | Finishing to medium cutting | <b>M</b>            | Application        | Precision finishing | Finishing |       | Finishing to medium cutting |  |
|          | Grade              | SH725                       | NS9530             | SH725                       | T9215                       |                     | Grade              | SH725               | AH6225    | SH725 | AH6225                      |  |
|          | Breaker Shape      | JP                          | PSS                | JS                          | PS                          |                     | Chipbreaker shape  | JP                  | PSS       | JS    | PS                          |  |
|          | Cutting conditions | B016                        |                    |                             |                             |                     |                    | Cutting conditions  | B018      |       |                             |  |
| <b>P</b> | Application        | Medium cutting              | <b>M</b>           |                             | Application                 | Medium cutting      |                    |                     |           |       |                             |  |
|          | Grade              | T9215                       | Grade              |                             | AH6225                      |                     |                    |                     |           |       |                             |  |
|          | Breaker Shape      | PM                          | Chipbreaker shape  |                             | PM                          |                     |                    |                     |           |       |                             |  |
|          | Cutting conditions | B016                        | Cutting conditions |                             | B018                        |                     |                    |                     |           |       |                             |  |
| <b>K</b> | Application        | Finishing to medium cutting | <b>N</b>           |                             | Application                 | Precision finishing | Finishing          | Medium cutting      |           |       |                             |  |
|          | Grade              | T515                        | Grade              |                             | DX120                       | DX140               | KS05F              |                     |           |       |                             |  |
|          | Breaker Shape      | CM                          | Breaker Shape      |                             | DIA                         | DIA with rake       | AL                 |                     |           |       |                             |  |
|          | Cutting conditions | B020                        | Cutting conditions |                             | B022                        |                     |                    |                     |           |       |                             |  |
| <b>S</b> | Application        | Precision finishing         | Finishing          | Finishing to medium cutting | <b>H</b>                    |                     | Application        | Precision finishing | Finishing |       |                             |  |
|          | Grade              | BX470                       | AH8005             | AH8015                      | Grade                       |                     | BXA10              | BXA20               |           |       |                             |  |
|          | Breaker Shape      | CBN                         | PS                 | PS                          | Breaker Shape               |                     | HP                 | HS                  |           |       |                             |  |
|          | Cutting conditions | B024                        |                    |                             |                             |                     | Cutting conditions |                     | B026      |       |                             |  |

Reference pages: S-SCLCR/L-H: Insert → **B112 -**, CBN → **B189 -**, PCD → **B213**  
Shank → **D090 - D092**





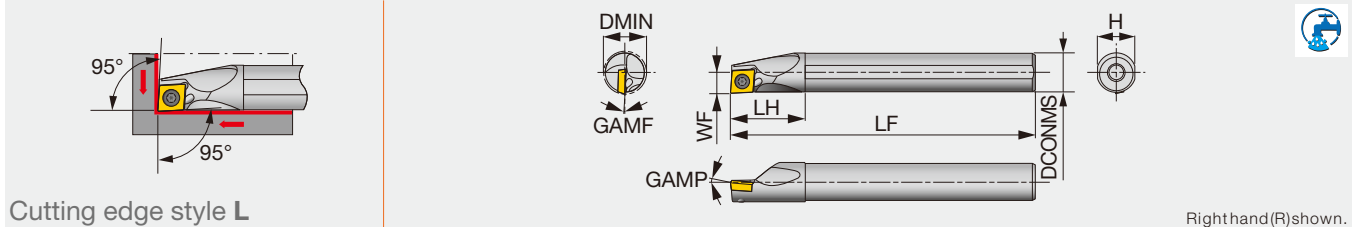
# CP



**Rhombic, 80°  
with hole  
Positive 11°**

## STREAMJETBAR A/E-SCLPR/L

Screw-on boring bar, for positive 80° rhombic inserts



| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | GAMP | GAMF | RE**  | Insert       | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|------|------|-------|--------------|--------|
| A06-SCLPR/L2-D08 | Steel    | 0.500 | 0.375  | 0.281 | 5.000 | 0.750 | 0.350 | 5°   | -5°  | 0.016 | CP** 21.5... | 0.89   |
| A08-SCLPR/L2-D11 | Steel    | 0.687 | 0.500  | 0.406 | 5.000 | 1.000 | 0.475 | 5°   | -2°  | 0.016 | CP** 21.5... | 0.89   |
| A10-SCLPR/L3-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.600 | 5°   | -2°  | 0.016 | CP** 32.5... | 2.21   |
| E06-SCLPR/L2-D08 | Carbide  | 0.500 | 0.375  | 0.281 | 5.000 | 0.750 | 0.350 | 0°   | -9°  | 0.016 | CP** 21.5... | 0.89   |
| E08-SCLPR/L2-D11 | Carbide  | 0.688 | 0.500  | 0.406 | 5.000 | 1.000 | 0.475 | 0°   | -6°  | 0.016 | CP** 21.5... | 0.89   |
| E10-SCLPR/L3-D14 | Carbide  | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.600 | 0°   | -7°  | 0.032 | CP** 32.5... | 2.21   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H   | GAMP | GAMF  | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|-----|------|-------|------|-------------|---------|
| A08H-SCLPR/L06-D100 | Steel    | 10   | 8      | 5.5  | 100 | 16 | 7.5 | 5°   | -8°   | 0.4  | CP**0602... | 1.2     |
| A10K-SCLPR/L06-D120 | Steel    | 12   | 10     | 6    | 125 | 20 | 9   | 5°   | -5°   | 0.4  | CP**0602... | 1.2     |
| A10K-SCLPR/L08-D120 | Steel    | 12   | 10     | 6    | 125 | 20 | 9   | 5°   | -5°   | 0.4  | CP**0802... | 1.4     |
| A12M-SCLPR/L06-D140 | Steel    | 14   | 12     | 7    | 150 | 24 | 11  | 5°   | -4°   | 0.4  | CP**0602... | 1.2     |
| A12M-SCLPR/L08-D140 | Steel    | 14   | 12     | 7    | 150 | 24 | 11  | 5°   | -4°   | 0.4  | CP**0802... | 1.4     |
| A12M-SCLPR/L08-D160 | Steel    | 16   | 12     | 9    | 150 | 24 | 11  | 5°   | -3°   | 0.4  | CP**0802... | 1.4     |
| A16Q-SCLPR/L09-D180 | Steel    | 18   | 16     | 9    | 180 | 32 | 15  | 5°   | -3.5° | 0.8  | CP**0903... | 3       |
| A16Q-SCLPR/L09-D200 | Steel    | 20   | 16     | 11   | 180 | 32 | 15  | 5°   | -3°   | 0.8  | CP**0903... | 3       |
| A20R-SCLPR/L09-D220 | Steel    | 22   | 20     | 11   | 200 | 36 | 18  | 5°   | -2°   | 0.8  | CP**0903... | 3       |
| A25S-SCLPR/L09-D270 | Steel    | 27   | 25     | 13.5 | 250 | 45 | 23  | 5°   | -1°   | 0.8  | CP**0903... | 3       |
| E08K-SCLPR/L06-D100 | Carbide  | 10   | 8      | 5.5  | 125 | 22 | 7.5 | 5°   | -8°   | 0.4  | CP**0602... | 1.2     |
| E10M-SCLPR/L06-D120 | Carbide  | 12   | 10     | 6    | 150 | 25 | 9   | 5°   | -5°   | 0.4  | CP**0602... | 1.2     |
| E10H-SCLPR08-D120   | Carbide  | 12   | 10     | 6    | 100 | 25 | 9   | 5°   | -5°   | 0.4  | CP**0802... | 1.4     |
| E10M-SCLPR/L08-D120 | Carbide  | 12   | 10     | 6    | 150 | 25 | 9   | 5°   | -5°   | 0.4  | CP**0802... | 1.4     |
| E12Q-SCLPR/L06-D140 | Carbide  | 14   | 12     | 7    | 180 | 27 | 11  | 5°   | -4°   | 0.4  | CP**0602... | 1.2     |
| E12G-SCLPR08-D140   | Carbide  | 14   | 12     | 7    | 90  | 27 | 11  | 5°   | -4°   | 0.4  | CP**0802... | 1.4     |
| E12J-SCLPR08-D140   | Carbide  | 14   | 12     | 7    | 110 | 27 | 11  | 5°   | -4°   | 0.4  | CP**0802... | 1.4     |
| E12Q-SCLPR/L08-D140 | Carbide  | 14   | 12     | 7    | 180 | 27 | 11  | 5°   | -4°   | 0.4  | CP**0802... | 1.4     |
| E12G-SCLPR08-D160   | Carbide  | 16   | 12     | 9    | 90  | 27 | 11  | 5°   | -3°   | 0.4  | CP**0802... | 1.4     |
| E12J-SCLPR08-D160   | Carbide  | 16   | 12     | 9    | 110 | 27 | 11  | 5°   | -3°   | 0.4  | CP**0802... | 1.4     |
| E12Q-SCLPR/L08-D160 | Carbide  | 16   | 12     | 9    | 180 | 27 | 11  | 5°   | -3°   | 0.4  | CP**0802... | 1.4     |
| E16H-SCLPR09-D180   | Carbide  | 18   | 16     | 9    | 100 | 32 | 15  | 5°   | -3.5° | 0.8  | CP**0903... | 3       |
| E16L-SCLPR09-D180   | Carbide  | 18   | 16     | 9    | 130 | 32 | 15  | 5°   | -3.5° | 0.8  | CP**0903... | 3       |
| E16R-SCLPL09-D180   | Carbide  | 18   | 16     | 9    | 200 | 32 | 15  | 5°   | -3.5° | 0.8  | CP**0903... | 3       |
| E16H-SCLPR09-D200   | Carbide  | 20   | 16     | 11   | 100 | 32 | 15  | 5°   | -3°   | 0.8  | CP**0903... | 3       |
| E16L-SCLPR09-D200   | Carbide  | 20   | 16     | 11   | 130 | 32 | 15  | 5°   | -3°   | 0.8  | CP**0903... | 3       |
| E16R-SCLPL09-D200   | Carbide  | 20   | 16     | 11   | 200 | 32 | 15  | 5°   | -3°   | 0.8  | CP**0903... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

Note: Use right-hand toolholders (SCLPR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLPL\*\*) with right-hand inserts (R).

Reference pages: A/E-SCLPR/L: Insert → **B118 -**, CBN → **B192**

## INCH SPARE PARTS



| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| A06-SCLPR/L2-D08 | CSTB-2.5L042   | T-8F   |
| A08-SCLPR/L2-D11 | CSTB-2.5S      | T-8F   |
| A10-SCLPR/L3-D14 | CSTB-4L070     | T-15F  |
| E06-SCLPR/L2-D08 | CSTB-2.5S      | T-8F   |
| E08-SCLPR/L2-D11 | CSTB-2.5B      | T-8F   |
| E10-SCLPR/L3-D14 | CSTB-4S        | T-15F  |

## METRIC SPARE PARTS



| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A*-SCLPR/L06-D...   | CSTB-2.5S      | T-8F   |
| A10K-SCLPR/L08-D120 | CSTB-3L042     | T-9F   |
| A12M-SCLPR/L08-D... | CSTB-3L050     | T-9F   |
| A*-SCLPR/L09-D...   | CSTB-4L060     | T-15F  |
| E*-SCLPR/L06-D...   | CSTB-2.5S      | T-8F   |
| E10*-SCLPR/L08-D... | CSTB-3L042     | T-9F   |
| E12*-SCLPR/L08-D... | CSTB-3L050     | T-9F   |
| E16*-SCLPR/L09-D... | CSTB-4L060     | T-15F  |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH6225                      | AH6225         |
| Chipbreaker shape  | PSS       | PS                          | PM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Finishing |
|--------------------|-----------|
| Grade              | DX140     |
| Breaker Shape      | DIA       |
| Cutting conditions | B022      |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH8005                      |
| Breaker Shape      | PSS       | PS                          |
| Cutting conditions | B024      |                             |

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

Index

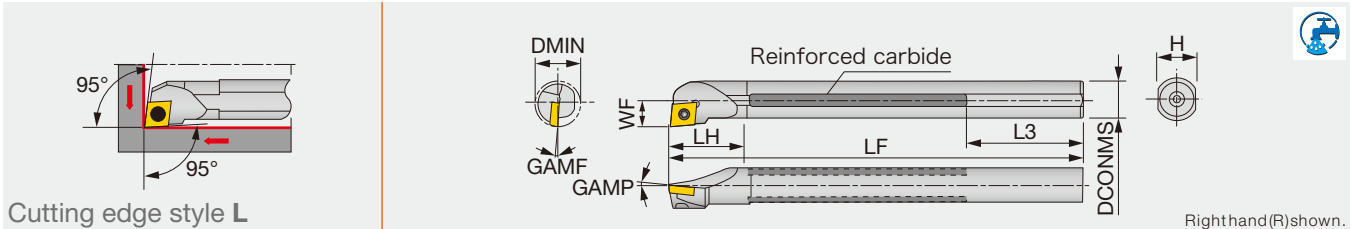
# CP



**Rhombic, 80°  
with hole  
Positive 11°**

## T-SCLPR/L

Screw-on boring bar, for positive 80° rhombic inserts (Tsuppari-Ichiban)



| Metric            | Material   | DMIN | CNT   | DCONMS | WF   | LF  | LH | L3 | H  | GAMF  | GAMP | RE** | Insert      | Torque |
|-------------------|------------|------|-------|--------|------|-----|----|----|----|-------|------|------|-------------|--------|
| T12M-SCLPR08-D14  | Reinforced | 14   | -     | 12     | 7    | 150 | 22 | 59 | 11 | -4°   | 5°   | 0.4  | CP**0802... | 1.4    |
| T12M-SCLPR/L08    | Reinforced | 16   | -     | 12     | 9    | 150 | 25 | 59 | 11 | -3°   | 5°   | 0.4  | CP**0802... | 1.4    |
| T16Q-SCLPR09-D18  | Reinforced | 18   | -     | 16     | 9    | 180 | 27 | 59 | 15 | -3.5° | 5°   | 0.8  | CP**0903... | 3      |
| T16Q-SCLPR/L09    | Reinforced | 20   | -     | 16     | 11   | 180 | 30 | 59 | 15 | -4°   | 5°   | 0.8  | CP**0903... | 3      |
| T20R-SCLPR09C-D22 | Reinforced | 22   | Rc1/4 | 20     | 11   | 200 | 35 | 49 | 18 | -2°   | 5°   | 0.8  | CP**0903... | 3      |
| T20R-SCLPR/L09    | Reinforced | 25   | -     | 20     | 13   | 200 | 35 | 49 | 18 | -2°   | 5°   | 0.8  | CP**0903... | 3      |
| T25S-SCLPR09C-D27 | Reinforced | 27   | Rc1/4 | 25     | 13.5 | 250 | 40 | 64 | 23 | -1°   | 5°   | 0.8  | CP**0903... | 3      |
| T25S-SCLPR/L09    | Reinforced | 32   | -     | 25     | 17   | 250 | 40 | 64 | 23 | 0°    | 5°   | 0.8  | CP**0903... | 3      |

Torque: Recommended clamping torque: N·m

\*\*RE: Standard corner radius

Note: Use right-hand toolholders (SCLPR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLPL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation       | Clamping screw | Wrench |
|-------------------|----------------|--------|
| T12M-SCLPR/L08... | CSTB-3L050     | T-9F   |
| T16Q-SCLPR09-D18  | CSTB-4L060     | T-15F  |
| T16Q-SCLPR/L09    | CSTB-4S        | T-15F  |
| T20R-SCLPR09C-D22 | CSTB-4L060     | T-15F  |
| T20R-SCLPR/L09    | CSTB-4S        | T-15F  |
| T25S-SCLPR09C-D27 | CSTB-4L060     | T-15F  |
| T25S-SCLPR/L09    | CSTB-4S        | T-15F  |

### INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH6225                      | AH6225         |
| Chipbreaker shape  | PSS       | PS                          | PM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Finishing |
|--------------------|-----------|
| Grade              | DX140     |
| Breaker Shape      | DIA       |
| Cutting conditions | B022      |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH8005                      |
| Breaker Shape      | PSS       | PS                          |
| Cutting conditions | B024      |                             |

Reference pages: T-SCLPR/L: Insert → **B118** -, CBN → **B192**

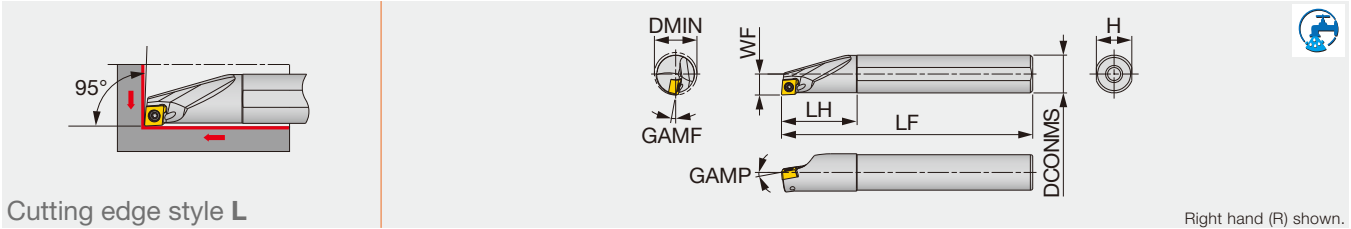
# CX



Rhombic, 80°  
with hole

## MINIFORCE A/E-SCLXR/L

Screw-on boring bar, for CXMU inserts



Cutting edge style L

Right hand (R) shown.

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | GAMP | GAMF   | RE** | Insert          | Torque |
|---------------------|----------|------|--------|----|-----|----|----|------|--------|------|-----------------|--------|
| A10K-SCLXR/L06-D120 | Steel    | 12   | 10     | 6  | 125 | 20 | 9  | -10° | -14.5° | 0.4  | CXMU0603**/L... | 0.9    |
| A12M-SCLXR/L06-D140 | Steel    | 14   | 12     | 7  | 150 | 24 | 11 | -10° | -12.5° | 0.4  | CXMU0603**/L... | 0.9    |
| A16Q-SCLXR/L06-D180 | Steel    | 18   | 16     | 9  | 180 | 32 | 15 | -10° | -9.5°  | 0.4  | CXMU0603**/L... | 0.9    |
| A20R-SCLXR/L06-D220 | Steel    | 22   | 20     | 11 | 200 | 36 | 18 | -10° | -8°    | 0.4  | CXMU0603**/L... | 0.9    |
| E10M-SCLXR/L06-D120 | Carbide  | 12   | 10     | 6  | 150 | 25 | 9  | -10° | -14.5° | 0.4  | CXMU0603**/L... | 0.9    |
| E12Q-SCLXR/L06-D140 | Carbide  | 14   | 12     | 7  | 180 | 27 | 11 | -10° | -12.5° | 0.4  | CXMU0603**/L... | 0.9    |
| E16R-SCLXR/L06-D180 | Carbide  | 18   | 16     | 9  | 200 | 32 | 15 | -10° | -9.5°  | 0.4  | CXMU0603**/L... | 0.9    |
| E20S-SCLXR/L06-D220 | Carbide  | 22   | 20     | 11 | 250 | 36 | 18 | -10° | -8°    | 0.4  | CXMU0603**/L... | 0.9    |

Torque: Recommended clamping torque: N·m \*\*RE: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| A/E**SCLXR/L... | SR34-514       | T-7F   |

- 1 Use the right hand toolholder (R) for the left hand insert (L)
- 2 Use the left hand toolholder (L) for the right hand insert (R)



1 Right hand toolholder with left hand insert shown



2 Left hand toolholder with right hand insert shown

### INSERT SELECTION

| Application             | Finishing to medium cutting |       | Medium cutting |
|-------------------------|-----------------------------|-------|----------------|
|                         | Grade                       | Grade |                |
| Grade                   | T9215                       | T9215 |                |
| Breaker Shape           | TS                          | TS    |                |
| Cutting conditions D096 |                             |       |                |

| Application             | Finishing to medium cutting |        | Medium cutting |
|-------------------------|-----------------------------|--------|----------------|
|                         | Grade                       | Grade  |                |
| Grade                   | AH8015                      | AH8015 |                |
| Breaker Shape           | TS                          | TS     |                |
| Cutting conditions D096 |                             |        |                |

| Application             | Finishing to medium cutting |       | Medium cutting |
|-------------------------|-----------------------------|-------|----------------|
|                         | Grade                       | Grade |                |
| Grade                   | T9215                       | T9215 |                |
| Breaker Shape           | TS                          | TS    |                |
| Cutting conditions D096 |                             |       |                |

| Application             | Finishing to medium cutting |        | Medium cutting |
|-------------------------|-----------------------------|--------|----------------|
|                         | Grade                       | Grade  |                |
| Grade                   | AH8015                      | AH8015 |                |
| Breaker Shape           | TS                          | TS     |                |
| Cutting conditions D096 |                             |        |                |

Reference pages: A/E-SCLXR/L: Insert → B120

Standard cutting conditions → D096

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



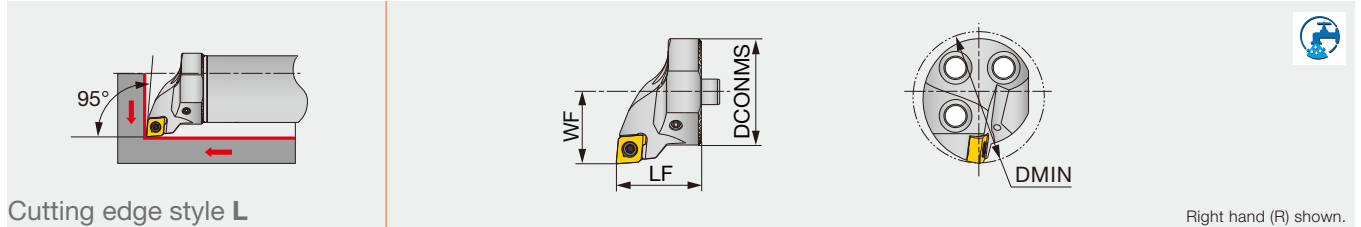
# CX



Rhombic, 80°  
with hole

## MINIFORCE S-SCLXR/L-H

Screw-on clamp exchangeable boring head, for CXMU inserts



Cutting edge style L

Right hand (R) shown.

| Inch            | DMIN  | DCONMS | WF    | LF    | Shank               | Insert          |
|-----------------|-------|--------|-------|-------|---------------------|-----------------|
| S25-SCLXR/L06-H | 1.260 | 0.984  | 0.669 | 0.787 | D1.00               | CXMU 22**L/R... |
| S32-SCLXR/L06-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | CXMU 22**L/R... |
| S40-SCLXR/L06-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | CXMU 22**L/R... |

Note: Use right-hand toolholders (SCLXR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLXL\*\*) with right-hand inserts (R).

C

### SPARE PARTS



| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| S**-SCLXR/L06-H | SR34-514       | T-7F   |

D

E

F

G

S

T

V

### INSERT SELECTION

P

| Application        | Finishing to medium cutting | Medium cutting |
|--------------------|-----------------------------|----------------|
| Grade              | T9215                       | T9215          |
| Breaker Shape      | TS                          | TS             |
| Cutting conditions | D096                        |                |

M

| Application        | Finishing to medium cutting | Medium cutting |
|--------------------|-----------------------------|----------------|
| Grade              | AH8015                      | AH8015         |
| Breaker Shape      | TS                          | TS             |
| Cutting conditions | D096                        |                |

K

| Application        | Finishing to medium cutting | Medium cutting |
|--------------------|-----------------------------|----------------|
| Grade              | T9215                       | T9215          |
| Breaker Shape      | TS                          | TS             |
| Cutting conditions | D096                        |                |

S

| Application        | Finishing to medium cutting | Medium cutting |
|--------------------|-----------------------------|----------------|
| Grade              | AH8015                      | AH8015         |
| Breaker Shape      | TS                          | TS             |
| Cutting conditions | D096                        |                |

Reference pages: S-SCLXR/L-H: Insert → **B120**, Shank → **D090 - D092**  
Standard cutting conditions → **D096**

# CN

# GN



Rhombic, 80° with hole

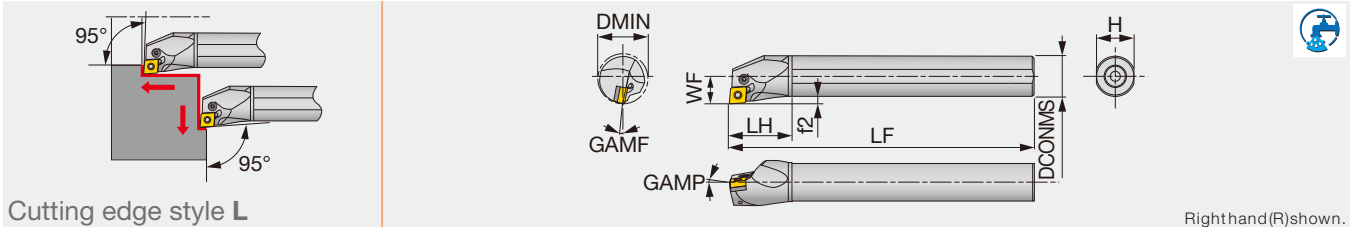


Rhombic, 70° with hole

## STREAMJETBAR

### A-PCLNR/L

Lever-lock boring bar, for negative 80°/70° rhombic inserts



| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert           | Torque |
|-----------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|------------------|--------|
| A16M-PCLNR/L0904-D200 | Steel    | 20   | 16     | 11 | 150 | 32 | 15 | 3   | -6°  | -16° | 0.8  | CN**/GNMG0904... | 1.7    |
| A20Q-PCLNR/L0904-D250 | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -12° | 0.8  | CN**/GNMG0904... | 1.7    |
| A16M-PCLNR/L09-D200   | Steel    | 20   | 16     | 11 | 150 | 32 | 15 | 3   | -6°  | -14° | 0.8  | CN**0903...      | 1.7    |
| A20Q-PCLNR/L09-D250   | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -12° | 0.8  | CN**0903...      | 1.7    |
| A25R-PCLNR/L09-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -11° | 0.8  | CN**0903...      | 1.7    |
| A25R-PCLNR/L12-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | CN**/GNGA1204... | 2.7    |
| A32S-PCLNR/L12-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 0.8  | CN**/GNGA1204... | 4.8    |
| A40T-PCLNR/L12-D500   | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7   | -6°  | -10° | 0.8  | CN**/GNGA1204... | 4.8    |
| A50U-PCLNR/L12-D630   | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -8°  | 0.8  | CN**/GNGA1204... | 4.8    |

Torque: Recommended clamping torque: N·m \*\*RE: Standard corner radius

Note: Use right-hand toolholders (PCLNR\*\*) with left-hand inserts (L); and left-hand toolholders (PCLNL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation           | Shim    | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  | Oil supply attachment* | Screw for oil hole* |
|-----------------------|---------|------------------|------------------|----------|----------|------------|--------|------------------------|---------------------|
| A16M-PCLNR/L0904-D200 | -       | -                | LCS33            | P-2F     | -        | -          | LCL33N | -                      | SSHM3-4             |
| A20Q-PCLNR/L0904-D250 | -       | -                | LCS33            | P-2F     | -        | -          | LCL33N | EA-20                  | SSHM3-4             |
| A**-PCLNR/L09-D**0    | -       | LCS22A           | -                | P-2F     | -        | -          | LCL32N | EA-25                  | SSHM5-6             |
| A25R-PCLNR/L12-D320   | -       | LCS43            | -                | -        | P-2.5    | -          | LCL43N | EA-25                  | SSHM5-6             |
| A32S-PCLNR12-D400     | LSC42BR | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | EA-32                  | SSHM5-6             |
| A32S-PCLNL12-D400     | LSC42BL | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | -                      | SSHM6-6             |
| A40T-PCLNR12-D500     | LSC42BR | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | -                      | SSHM6-6             |
| A40T-PCLNL12-D500     | LSC42BL | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | -                      | SSHM6-6             |
| A50U-PCLNR12-D630     | LSC42BR | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | -                      | SSHM6-6             |
| A50U-PCLNL12-D630     | LSC42BL | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | -                      | SSHM6-6             |

\*Optional

### INSERT SELECTION

**P**

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
| Grade              | NS9530              | GT9530    | T9215          | T9215                   |
| Breaker Shape      | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

**M**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T6215     | AH6225         | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

**K**

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
| Grade              | T515      | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | TH10           |
| Breaker Shape      | DIA                 | DIA with rake | P              |
| Cutting conditions | B010                |               |                |

**S**

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
| Grade              | BX815               | AH8005    | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B014                |           |

Reference pages: A-PCLNR/L: Insert → B054 -, B075, CBN → B168 -, PCD → B211

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# CN

# GN



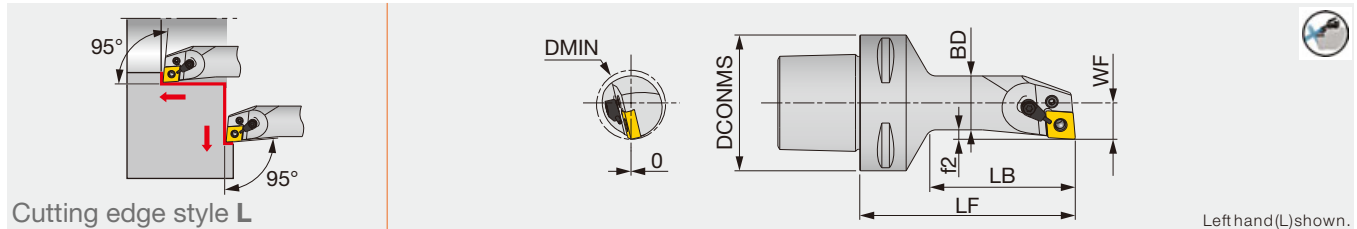
Rhombic, 80°  
with hole



Rhombic, 70°  
with hole

## TUNGCAP C-PCLNL-CHP

Lever-lock boring bar with TungCap connection, with 95° approach angle, for negative 80°/70° rhombic inserts, with high pressure coolant capability



| Metric              | DMIN | DCONMS | BD | LF  | LB   | WF | f2  | RE** | Insert           |
|---------------------|------|--------|----|-----|------|----|-----|------|------------------|
| C6PCLNL17100-12-CHP | 32   | 63     | 25 | 100 | 67.5 | 17 | 4.5 | 0.8  | CN**/GNGA1204... |

Applicable for 14 MPa coolant  
\*\*RE: Standard corner radius

### SPARE PARTS

| Designation         | Clamping screw | Coolant unit | Wrench | Lever  |
|---------------------|----------------|--------------|--------|--------|
| C6PCLNL17100-12-CHP | LCS43          | S-CU-CHP     | P-2.5F | LCL43N |

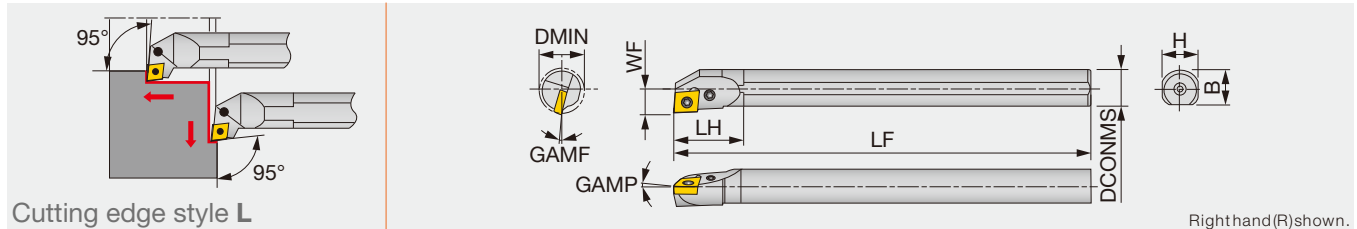
C

D

E

## S-PCLNR/L

Lever-lock boring bar, for negative 80°/70° rhombic inserts



| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMP | GAMF | RE** | Insert           | Torque |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|------|------------------|--------|
| S16M-PCLNR/L09 | Steel    | 20   | 16     | 11 | 150 | 30 | 15 | 15.5 | -6°  | -14° | 0.8  | CN**0903...      | 1.7    |
| S20Q-PCLNR/L09 | Steel    | 25   | 20     | 13 | 180 | 35 | 18 | 19   | -6°  | -12° | 0.8  | CN**0903...      | 1.7    |
| S25R-PCLNR/L09 | Steel    | 32   | 25     | 17 | 200 | 40 | 23 | 24   | -6°  | -11° | 0.8  | CN**0903...      | 1.7    |
| S32S-PCLNR/L12 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 29.5 | -6°  | -11° | 0.8  | CN**/GNGA1204... | 4.8    |
| S40T-PCLNR/L12 | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 37.5 | -6°  | -10° | 0.8  | CN**/GNGA1204... | 4.8    |
| S50U-PCLNR/L12 | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 47.5 | -6°  | -8°  | 0.8  | CN**/GNGA1204... | 4.8    |

Torque: Recommended clamping torque: N·m  
\*\*RE: Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

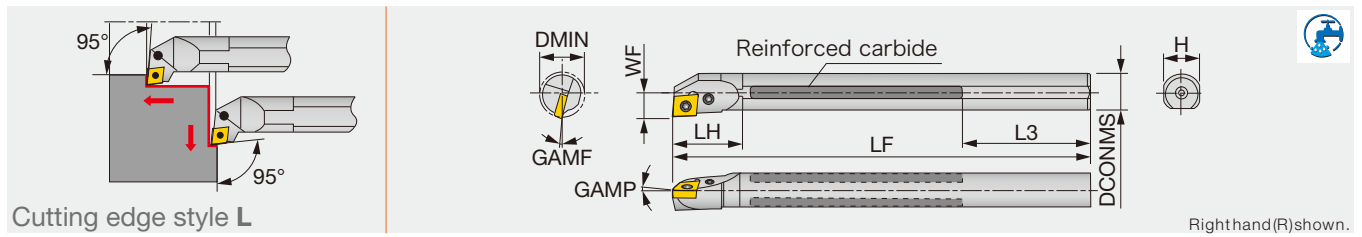
| Designation    | Shim      | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  |
|----------------|-----------|------------------|------------------|----------|----------|------------|--------|
| S**-PCLNR/L09  | -         | LCS22A           | -                | P-2F     | -        | -          | LCL32N |
| S32S-PCLNR/L12 | LSC42BR/L | -                | LCS4             | -        | P-3      | LSP4       | LCL4   |
| S40T-PCLNR/L12 | LSC42BR/L | -                | LCS4             | -        | P-3      | LSP4       | LCL4   |
| S50U-PCLNR/L12 | LSC42BR/L | -                | LCS4             | -        | P-3      | LSP4       | LCL4   |

Reference pages: C-PCLNL-CHP, S-PCLNR/L: Insert → **B054 -**, **B075**, CBN → **B168 -**, PCD → **B211**



# T-PCLNR

Lever-lock boring bar, for negative 80°/70° rhombic inserts (Tsuppari-Ichiban)



| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3  | H  | GAMP | GAMF | RE** | Insert           | Torque |
|---------------|------------|------|-------|--------|----|-----|----|-----|----|------|------|------|------------------|--------|
| T16Q-PCLNR09  | Reinforced | 20   | -     | 16     | 11 | 180 | 27 | 59  | 15 | -6°  | -14° | 0.8  | CN**0903...      | 1.7    |
| T20R-PCLNR09C | Reinforced | 25   | Rc1/4 | 20     | 13 | 200 | 35 | 49  | 18 | -6°  | -12° | 0.8  | CN**0903...      | 1.7    |
| T25S-PCLNR09C | Reinforced | 32   | Rc1/4 | 25     | 17 | 250 | 40 | 64  | 23 | -6°  | -11° | 0.8  | CN**0903...      | 1.7    |
| T32U-PCLNR12C | Reinforced | 40   | Rc1/2 | 32     | 22 | 350 | 50 | 103 | 30 | -6°  | -11° | 0.8  | CN**/GNGA1204... | 4.8    |
| T40V-PCLNR12C | Reinforced | 50   | Rc1/2 | 40     | 27 | 400 | 55 | 88  | 37 | -6°  | -10° | 0.8  | CN**/GNGA1204... | 4.8    |
| T50W-PCLNR12C | Reinforced | 63   | Rc1/2 | 50     | 35 | 450 | 65 | 63  | 47 | -6°  | -8°  | 0.8  | CN**/GNGA1204... | 4.8    |

Torque: Recommended clamping torque: N·m

\*\*RE: Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

| SPARE PARTS    |         |                  |                  |          |          |            |        |
|----------------|---------|------------------|------------------|----------|----------|------------|--------|
| Designation    | Shim    | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  |
| T**-PCLNR09... | -       | LCS22A           | -                | P-2F     | -        | -          | LCL32N |
| T**-PCLNR12C   | LSC42BR | -                | LCS4             | -        | P-3      | LSP4       | LCL4   |

## INSERT SELECTION

|          |                    |                     |                |                         |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |
|          | Breaker Shape      |                     |                |                         |                         |
|          | Cutting conditions | B004                |                |                         |                         |
| <b>M</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T6215               | AH6225         | AH6225                  |                         |
|          | Chipbreaker shape  |                     |                |                         |                         |
|          | Cutting conditions | B006                |                |                         |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T515                | T515           | T515                    |                         |
|          | Breaker Shape      |                     |                |                         |                         |
|          | Cutting conditions | B008                |                |                         |                         |
| <b>N</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | DX120               | DX140          | TH10                    |                         |
|          | Breaker Shape      |                     |                |                         |                         |
|          | Cutting conditions | B010                |                |                         |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | BX815               | AH8005         | AH8005                  |                         |
|          | Breaker Shape      |                     |                |                         |                         |
|          | Cutting conditions | B012                |                |                         |                         |
| <b>H</b> | Application        | Precision finishing | Finishing      |                         |                         |
|          | Grade              | BXA10               | BXA20          |                         |                         |
|          | Breaker Shape      |                     |                |                         |                         |
|          | Cutting conditions | B014                |                |                         |                         |

Reference pages: T-PCLNR: Insert → B054 -, B075, CBN → B168 -, PCD → B211

# CN

# GN



Rhombic, 80°  
with hole

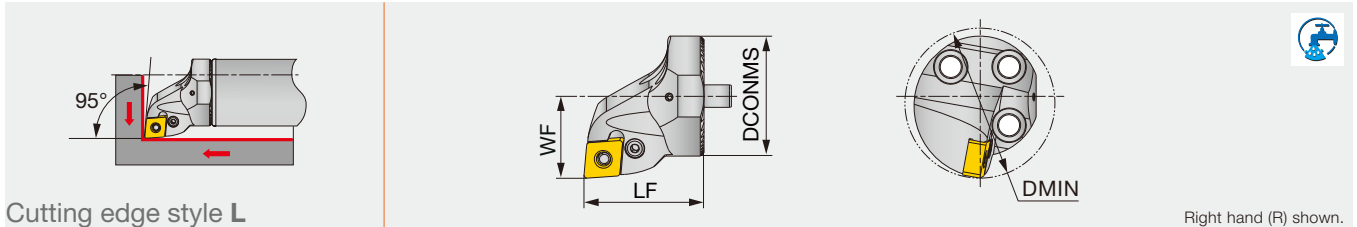


Rhombic, 70°  
with hole

## BOREMEISTER

### S-PCLNR/L-H

Lever-lock clamp exchangeable boring head, for negative 80°/70° rhombic inserts



Cutting edge style L

Right hand (R) shown.

| Inch            | DMIN  | DCONMS | WF    | LF    | Shank               | Insert          |
|-----------------|-------|--------|-------|-------|---------------------|-----------------|
| S32-PCLNR/L09-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | CN**/GNMG 33... |
| S40-PCLNR/L09-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | CN**/GNMG 33... |

Note: Use right-hand toolholders (PCLNR\*\*) with left-hand inserts (L); and left-hand toolholders (PCLNL\*\*) with right-hand inserts (R).

#### SPARE PARTS

| Designation     | Lever  | Clamping screw | Shim   | Spring pin | Wrench |
|-----------------|--------|----------------|--------|------------|--------|
| S32-PCLNR/L09-H | LCL33N | LCS33          | -      | -          | P-2F   |
| S40-PCLNR/L09-H | LCL33  | LCS3           | LSC317 | LSP3       | P-2.5  |

C

D

E

F

G

S

T

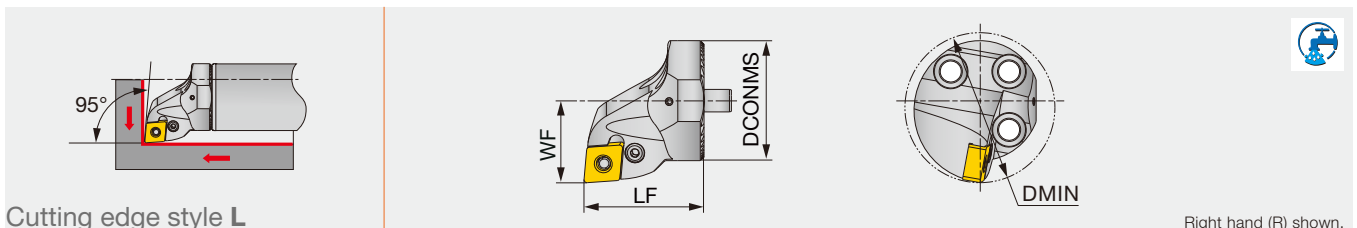
V

W

Y

### S-PCLNR/L-H-SP

Lever-lock clamp exchangeable boring head, for negative 80°/70° rhombic inserts



Cutting edge style L

Right hand (R) shown.

| Inch               | DMIN  | DCONMS | WF    | LF   | Shank               | Insert     |
|--------------------|-------|--------|-------|------|---------------------|------------|
| S25-PCLNR/L12-H-SP | 1.260 | 0.984  | 0.669 | 1.38 | D/G1.00             | CNMG 43... |
| S32-PCLNR/L12-H-SP | 1.575 | 1.260  | 0.866 | 1.38 | D/G1.25             | CNMG 43... |
| S40-PCLNR/L12-H-SP | 1.969 | 1.575  | 1.063 | 1.57 | D/G1.50/D2.00/D2.50 | CNMG 43... |

#### SPARE PARTS

| Designation        | Lever           | Clamping screw  | Shim            | Spring pin      | Wrench |
|--------------------|-----------------|-----------------|-----------------|-----------------|--------|
| S**-PCLNR/L12-H-SP | WCD.ER3.101.000 | WCD.ER4.101.107 | WCD.ER2.101.003 | WCD.ER1.101.000 | P-2F   |

#### INSERT SELECTION

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T9215          |
| Chipbreaker shape  | TSF       | TM             |
| Cutting conditions | B004      |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | AH6225         |
| Chipbreaker shape  | SS        | SM             |
| Cutting conditions | B006      |                |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T515           |
| Chipbreaker shape  | TM             |
| Cutting conditions | B008           |

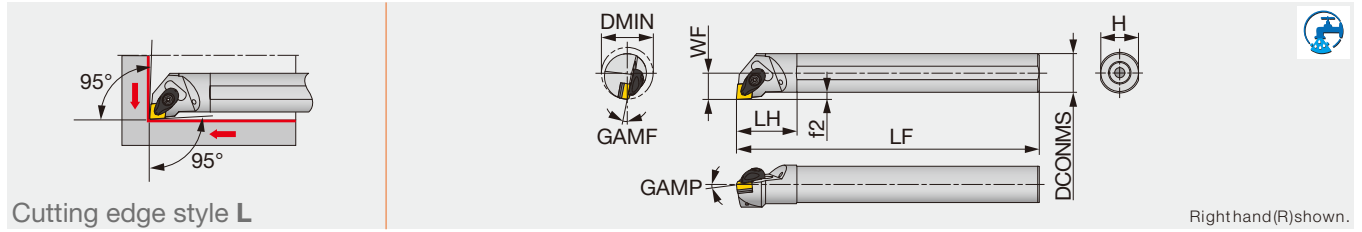
| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Chipbreaker shape  | TM             |
| Cutting conditions | B012           |

Reference pages: S-PCLNR/L-H, S-PCLNR/L-H-SP: Insert → B054 -, B075, CBN → B168 -, PCD → B211  
Shank → D090 - D092

# TURNINGA

## A-ACLNR/L

Double-clamp boring bar, for negative 80°/70° rhombic inserts



| Inch              | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert          | Torque |
|-------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|-----------------|--------|
| A16-ACLNR/L33-D20 | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.750 | 0.906 | 0.172 | -6°  | -13° | 0.031 | CN**/GNMG 33... | 2.21   |
| A20-ACLNR/L33-D25 | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.938 | 1.188 | 0.234 | -6°  | -10° | 0.031 | CN**/GNMG 33... | 2.21   |
| A16-ACLNR/L4-D20  | Steel    | 1.250 | 1.000  | 0.640 | 12.000 | 1.750 | 0.906 | 0.177 | -6°  | -13° | 0.031 | CN**/GNGA 43... | 2.21   |
| A20-ACLNR/L4-D25  | Steel    | 1.560 | 1.250  | 0.770 | 14.000 | 1.930 | 1.180 | 0.236 | -6°  | -10° | 0.031 | CN**/GNGA 43... | 2.21   |
| A24-ACLNR/L4-D32  | Steel    | 2.000 | 1.500  | 0.890 | 14.000 | 2.160 | 1.450 | 0.275 | -6°  | -8°  | 0.031 | CN**/GNGA 43... | 2.21   |
| A32-ACLNR/L4-D40  | Steel    | 2.500 | 2.000  | 1.280 | 16.000 | 2.550 | 1.850 | 0.393 | -6°  | -7°  | 0.031 | CN**/GNGA 43... | 2.21   |

| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert           | Torque* |
|-----------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|------------------|---------|
| A25R-ACLNR/L0904-D320 | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | CN**/GNMG0904... | 3       |
| A32S-ACLNR/L0904-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | CN**/GNMG0904... | 3       |
| A25R-ACLNR/L12-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | CN**/GNGA1204... | 3       |
| A32S-ACLNR/L12-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | CN**/GNGA1204... | 3       |
| A40T-ACLNR/L12-D500   | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 7   | -6°  | -8°  | 0.8  | CN**/GNGA1204... | 3       |
| A50U-ACLNR12-D630     | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -7°  | 0.8  | CN**/GNGA1204... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE: Standard corner radius

| SPARE PARTS                                 |         |             |        |            |        |            |        |
|---|---------|-------------|--------|------------|--------|------------|--------|
| Designation                                 | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| A**-ACLNR/L33-D...,<br>A**-ACLNR/L0904-D... | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASC322 | CSTB-3.5   | T-15F  |
| A**-ACLNR/L4-D...,<br>A**-ACLNR/L12-D...    | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASC422 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

|          |                    |                     |           |                |                         |
|----------|--------------------|---------------------|-----------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|          | Breaker Shape      |                     |           |                |                         |
|          | Cutting conditions | B004                |           |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>M</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T6215     | AH6225         | AH6225                  |
|          | Chipbreaker shape  |           |                |                         |
|          | Cutting conditions | B006      |                |                         |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T515      | T515           | T515                    |
|          | Breaker Shape      |           |                |                         |
|          | Cutting conditions | B008      |                |                         |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>N</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | DX120               | DX140     | TH10           |
|          | Breaker Shape      |                     |           |                |
|          | Cutting conditions | B010                |           |                |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | BX815               | AH8005    | AH8005         |
|          | Breaker Shape      |                     |           |                |
|          | Cutting conditions | B012                |           |                |

|          |                    |                     |           |
|----------|--------------------|---------------------|-----------|
| <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BXA10               | BXA20     |
|          | Breaker Shape      |                     |           |
|          | Cutting conditions | B014                |           |

Reference pages: A-ACLNR/L: Insert → B054 -, B075, CBN → B168 -, PCD → B211

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
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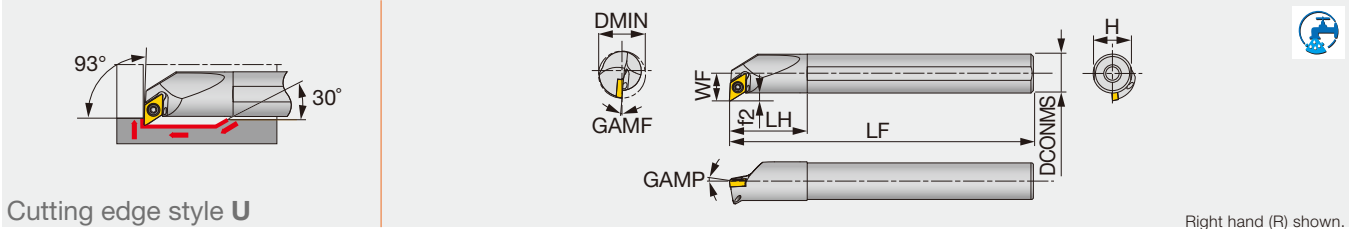
# DC

 Rhombic, 55°  
with hole  
Positive 7°

## STREAMJETBAR

### A/E-SDUCR/L

Screw-on boring bar, for positive 55° rhombic inserts



Cutting edge style U

Right hand (R) shown.

| Inch             | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert       | Torque |
|------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|--------------|--------|
| A06-SDUCR2-D10   | Steel    | 0.625 | 0.375  | 0.406 | 5.000  | 0.750 | 0.350 | 0.218 | 0°   | -8°  | 0.016 | DC** 21.5... | 0.89   |
| A08-SDUCR/L2-D11 | Steel    | 0.688 | 0.500  | 0.406 | 5.000  | 1.000 | 0.475 | 0.156 | 0°   | -6°  | 0.016 | DC** 21.5... | 0.89   |
| A10-SDUCR2-D14   | Steel    | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | 0.218 | 0°   | -4°  | 0.016 | DC** 21.5... | 0.89   |
| A12-SDUCR/L3-D16 | Steel    | 1.000 | 0.750  | 0.594 | 10.000 | 1.500 | 0.700 | 0.218 | 0°   | -2°  | 0.032 | DC** 32.5... | 2.2    |
| E06-SDUCR2-D10   | Carbide  | 0.625 | 0.375  | 0.406 | 5.000  | 1.000 | 0.375 | 0.218 | 0°   | -7°  | 0.016 | DC** 21.5... | 0.89   |
| E08-SDUCR2-D11   | Carbide  | 0.688 | 0.500  | 0.406 | 5.000  | 1.062 | 0.475 | 0.156 | 0°   | -6°  | 0.016 | DC** 21.5... | 0.89   |
| E10-SDUCR2-D14   | Carbide  | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | 0.218 | 0°   | -4°  | 0.016 | DC** 21.5... | 0.89   |
| E12-SDUCR/L3-D16 | Carbide  | 1.000 | 0.750  | 0.594 | 7.000  | 1.438 | 0.750 | 0.218 | 0°   | -5°  | 0.032 | DC** 32.5... | 2.2    |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF  | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|-----|------|-------|------|-------------|---------|
| A10K-SDUCR/L07-D130 | Steel    | 13   | 10     | 7    | 125 | 20 | 9  | 2   | 0°   | -10°  | 0.4  | DC**0702... | 1.2     |
| A12M-SDUCR/L07-D160 | Steel    | 16   | 12     | 9.3  | 150 | 24 | 11 | 3.3 | 0°   | -6°   | 0.4  | DC**0702... | 1.2     |
| A16Q-SDUCR/L07-D200 | Steel    | 20   | 16     | 11.3 | 180 | 32 | 15 | 3.3 | 0°   | -5°   | 0.4  | DC**0702... | 1.2     |
| A20R-SDUCR/L11-D270 | Steel    | 27   | 20     | 16.1 | 200 | 36 | 18 | 6.1 | 0°   | -5°   | 0.8  | DC**11T3... | 3       |
| A25S-SDUCR/L11-D320 | Steel    | 32   | 25     | 18.6 | 250 | 45 | 23 | 6.1 | 0°   | -4°   | 0.8  | DC**11T3... | 3       |
| E10H-SDUCR07-D130   | Carbide  | 13   | 10     | 7    | 100 | 25 | 9  | 1.9 | 5°   | -3.5° | 0.4  | DC**0702... | 1.2     |
| E10M-SDUCR/L07-D130 | Carbide  | 13   | 10     | 7    | 150 | 25 | 9  | 2   | 0°   | -10°  | 0.4  | DC**0702... | 1.2     |
| E12J-SDUCR07-D160   | Carbide  | 16   | 12     | 9.3  | 110 | 27 | 11 | 3.2 | 0°   | -6°   | 0.4  | DC**0702... | 1.2     |
| E12Q-SDUCR/L07-D160 | Carbide  | 16   | 12     | 9.3  | 180 | 27 | 11 | 3.3 | 0°   | -6°   | 0.4  | DC**0702... | 1.2     |
| E16L-SDUCR07-D200   | Carbide  | 20   | 16     | 11.3 | 130 | 32 | 15 | 3.2 | 0°   | -5°   | 0.4  | DC**0702... | 1.2     |
| E16R-SDUCR/L07-D200 | Carbide  | 20   | 16     | 11.3 | 200 | 32 | 15 | 3.3 | 0°   | -5°   | 0.4  | DC**0702... | 1.2     |
| E20S-SDUCR11-D270   | Carbide  | 27   | 20     | 16.1 | 250 | 36 | 18 | 6.1 | 0°   | -5°   | 0.8  | DC**11T3... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SDUCR\*\*) with left-hand inserts (L); and left-hand toolholders (SDUCL\*\*) with right-hand inserts (R).

Reference pages: A/E-SDUCR/L: Insert → **B121**, CBN → **B193 -**, PCD → **B214**

## INCH SPARE PARTS



| Designation                           | Clamping screw | Wrench |
|---------------------------------------|----------------|--------|
| A/E06-SDUCR2-D10,<br>A/E10-SDUCR2-D14 | CSTB-2.5       | T-8F   |
| A08-SDUCR/L2-D11<br>E08-SDUCR2-D11    | CSTB-2.5B      | T-8F   |
| A12-SDUCR/L3-D16                      | CSTB-3.5       | T-15F  |
| E12-SDUCR/L3-D16                      | CSTB-4S        | T15-F  |

## METRIC SPARE PARTS



| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A1**-SDUCR/L07-D1*0 | CSTB-2.5S      | T-8F   |
| A16Q-SDUCR/L07-D200 | CSTB-2.5       | T-8F   |
| A2**-SDUCR/L11-D**0 | CSTB-4S        | T-15F  |
| E1**-SDUCR/L07-D1*0 | CSTB-2.5S      | T-8F   |
| E16*-SDUCR/L07-D200 | CSTB-2.5       | T-8F   |
| E20S-SDUCR11-D270   | CSTB-4S        | T-15F  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing |       | Finishing to medium cutting |
|--------------------|---------------------|-----------|-------|-----------------------------|
|                    | Grade               | SH725     | SH725 | NS9530                      |
| Breaker Shape      | JP                  | JS        | PSS   | PS                          |
| Cutting conditions | B016                |           |       |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      | PM             |
| Cutting conditions | B016           |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
|                    | Grade               | BX470     | AH8005                      |
| Breaker Shape      | CBN                 | PS        | PS                          |
| Cutting conditions | B024                |           |                             |

| Application        | Precision finishing | Finishing |       | Finishing to medium cutting |
|--------------------|---------------------|-----------|-------|-----------------------------|
|                    | Grade               | SH725     | SH725 | AH6225                      |
| Breaker Shape      | JP                  | JS        | PSS   | PS                          |
| Cutting conditions | B018                |           |       |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH6225         |
| Breaker Shape      | PM             |
| Cutting conditions | B018           |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
|                    | Grade               | DX120     | DX140                       |
| Breaker Shape      | DIA                 | with rake | AL                          |
| Cutting conditions | B022                |           |                             |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

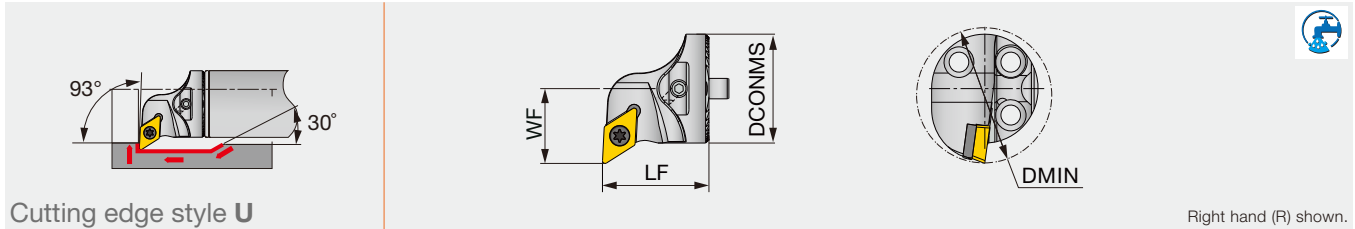


# DC

 **Rhombic, 55°  
with hole  
Positive 7°**

## BOREMEISTER S-SDUCR/L-H

Screw-on clamp exchangeable boring head, for positive 55° rhombic inserts



| Inch             | DMIN  | DCONMS | WF    | LF    | Shank               | Insert       |
|------------------|-------|--------|-------|-------|---------------------|--------------|
| S16-SDUCR/L07-H  | 0.787 | 0.630  | 0.433 | 0.787 | D/G.625             | DC** 21.5... |
| S20-SDUCR/L11-H  | 0.984 | 0.787  | 0.512 | 0.787 | D/G.750             | DC** 32.5... |
| S25-SDUCR/L11-H  | 1.260 | 0.984  | 0.669 | 0.787 | D1.00               | DC** 32.5... |
| S32-SDUCR/L11T-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | DC** 32.5... |
| S40-SDUCR/L11T-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | DC** 32.5... |

Note: Use right-hand toolholders (SDUCR\*\*) with left-hand inserts (L); and left-hand toolholders (SDUCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation      | Clamping screw | Wrench | Shim    | Shim screw |
|------------------|----------------|--------|---------|------------|
| S16-SDUCR/L07-H  | SR14-548       | T-7/5  | -       | -          |
| S20-SDUCR/L11-H  | SR16-236P      | T-15/5 | -       | -          |
| S25-SDUCR/L11-H  | SR16-236P      | T-15/5 | -       | -          |
| S32-SDUCR/L11T-H | SR16-236P      | T-15/5 | TDC3-1P | SRTC-3P    |
| S40-SDUCR/L11T-H | SR16-236P      | T-15/5 | TDC3-1P | SRTC-3P    |

### INSERT SELECTION

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | NS9530 | T9215                       |
| Grade              | JP                  | JS        | PSS    | PS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | B016                |           |        |                             |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | AH6225 | AH6225                      |
| Grade              | JP                  | JS        | PSS    | PS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | B018                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      | PM             |
| Cutting conditions | B016           |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH6225         |
| Breaker Shape      | PM             |
| Cutting conditions | B018           |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
| Grade              | DX120               | DX140     | KS05F                       |
| Breaker Shape      | DIA                 | with rake | AL                          |
| Cutting conditions | B022                |           |                             |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
| Grade              | BX470               | AH8005    | AH8015                      |
| Breaker Shape      | CBN                 | PS        | PS                          |
| Cutting conditions | B024                |           |                             |

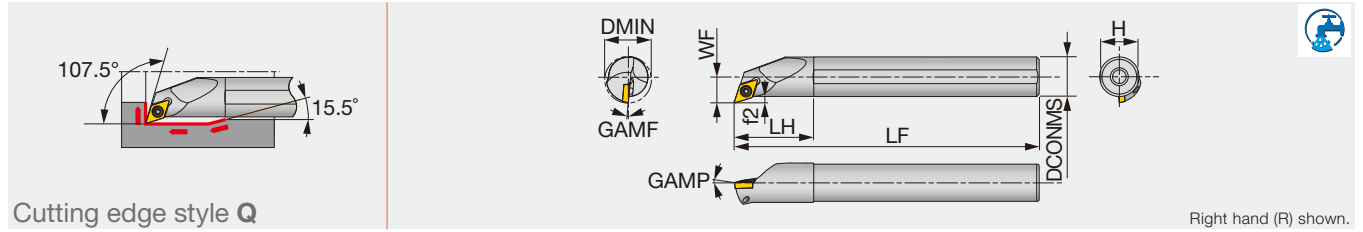
| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

Reference pages: S-SDUCR/L-H: Insert → **B121 -**, CBN → **B193 -**, PCD → **B214**  
Shank → **D090 - D092**

# STREAMJETBAR

## A/E-SDQCR/L

Screw-on boring bar, for positive 55° rhombic inserts



Cutting edge style Q

Right hand (R) shown.

| Inch           | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2 | GAMP | GAMF | RE**  | Insert       | Torque |
|----------------|----------|-------|--------|-------|-------|-------|-------|----|------|------|-------|--------------|--------|
| A06-SDQCR2-D10 | Steel    | 0.625 | 0.375  | 0.406 | 5.000 | 0.750 | 0.350 | -  | 0°   | -7°  | 0.016 | DC** 21.5... | 0.89   |
| A08-SDQCR2-D11 | Steel    | 0.688 | 0.500  | 0.406 | 5.000 | 1.000 | 0.475 | -  | 0°   | -6°  | 0.016 | DC** 21.5... | 0.89   |
| A10-SDQCR2-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.600 | -  | 0°   | -4°  | 0.016 | DC** 21.5... | 0.89   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|-----|------|------|------|-------------|---------|
| A10K-SDQCR/L07-D130 | Steel    | 13   | 10     | 7.6  | 125 | 20 | 9  | 2.6 | 0°   | -8°  | 0.4  | DC**0702... | 1.2     |
| A12M-SDQCR/L07-D160 | Steel    | 16   | 12     | 8.6  | 150 | 24 | 11 | 2.6 | 0°   | -6°  | 0.4  | DC**0702... | 1.2     |
| A16Q-SDQCR/L07-D200 | Steel    | 20   | 16     | 10.6 | 180 | 32 | 15 | 2.6 | 0°   | -5°  | 0.4  | DC**0702... | 1.2     |
| A20R-SDQCR/L11-D250 | Steel    | 25   | 20     | 13.7 | 200 | 36 | 18 | 3.7 | 0°   | -7°  | 0.8  | DC**11T3... | 3       |
| A25S-SDQCR/L11-D300 | Steel    | 30   | 25     | 16.2 | 250 | 45 | 23 | 3.7 | 0°   | -4°  | 0.8  | DC**11T3... | 3       |
| E10H-SDQCR07-D130   | Carbide  | 13   | 10     | 7.6  | 100 | 25 | 9  | 2.5 | 0°   | -8°  | 0.4  | DC**0702... | 1.2     |
| E10M-SDQCR/L07-D130 | Carbide  | 13   | 10     | 7.6  | 150 | 25 | 9  | 2.6 | 0°   | -8°  | 0.4  | DC**0702... | 1.2     |
| E12J-SDQCR07-D160   | Carbide  | 16   | 12     | 8.6  | 110 | 27 | 11 | 2.5 | 0°   | -6°  | 0.4  | DC**0702... | 1.2     |
| E12Q-SDQCR/L07-D160 | Carbide  | 16   | 12     | 8.6  | 180 | 27 | 11 | 2.6 | 0°   | -6°  | 0.4  | DC**0702... | 1.2     |
| E16L-SDQCR07-D200   | Carbide  | 20   | 16     | 10.6 | 130 | 32 | 15 | 2.5 | 0°   | -5°  | 0.4  | DC**0702... | 1.2     |
| E16R-SDQCR/L07-D200 | Carbide  | 20   | 16     | 10.6 | 200 | 32 | 15 | 2.6 | 0°   | -5°  | 0.4  | DC**0702... | 1.2     |
| E20S-SDQCR/L11-D250 | Carbide  | 25   | 20     | 13.7 | 250 | 36 | 18 | 3.7 | 0°   | -7°  | 0.8  | DC**11T3... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SDQCR\*\*) with left-hand inserts (L); and left-hand toolholders (SDQCL\*\*) with right-hand inserts (R).

### SPARE PARTS



| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A**-SDQCR2-D...     | CSTB-2.5B      | T-8F   |
| A1**-SDQCR/L07-D**0 | CSTB-2.5S      | T-8F   |
| A2**-SDQCR/L11-D**0 | CSTB-4S        | T-15F  |
| E1**-SDQCR/L07-D**0 | CSTB-2.5S      | T-8F   |
| E20S-SDQCR/L11-D250 | CSTB-4S        | T-15F  |

Reference pages: A/E-SDQCR/L: Insert → **B121**, CBN → **B193 -**, PCD → **B214**

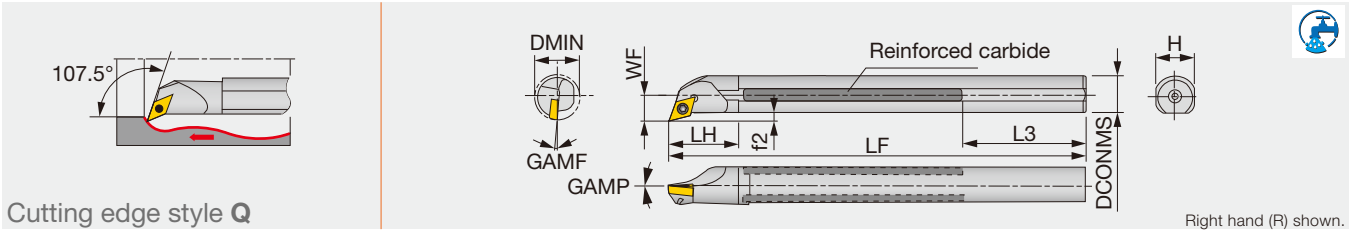


# DC

**Rhombic, 55°  
with hole  
Positive 7°**

## T-SDQCR/L

Screw-on boring bar, for positive 55° rhombic inserts (Tsuppari-Ichiban)



| Metric          | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3 | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|-----------------|------------|------|-------|--------|----|-----|----|----|----|-----|------|------|------|-------------|--------|
| T16Q-SDQCR/L07  | Reinforced | 20   | -     | 16     | 11 | 180 | 27 | 59 | 15 | 3   | 0°   | -6°  | 0.4  | DC**0702... | 1.2    |
| T20R-SDQCR/L11C | Reinforced | 25   | Rc1/4 | 20     | 13 | 200 | 35 | 49 | 18 | 3   | 0°   | -6°  | 0.8  | DC**11T3... | 3      |
| T25S-SDQCR/L11C | Reinforced | 32   | Rc1/4 | 25     | 17 | 250 | 40 | 64 | 23 | 4.5 | 0°   | -4°  | 0.8  | DC**11T3... | 3      |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Note: Use right-hand toolholders (SDQCR\*\*) with left-hand inserts (L); and left-hand toolholders (SDQCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| T16Q-SDQCR/L07  | CSTB-2.5       | T-8F   |
| T20R-SDQCR/L11C | CSTB-4M        | T-15F  |
| T25S-SDQCR/L11C | CSTB-4         | T-15F  |

### INSERT SELECTION

| Application        | Precision finishing | Finishing |       | Finishing to medium cutting |
|--------------------|---------------------|-----------|-------|-----------------------------|
|                    | Grade               | SH725     | SH725 | NS9530                      |
| Breaker Shape      | JP                  | JS        | PSS   | PS                          |
| Cutting conditions | B016                |           |       |                             |

| Application        | Precision finishing | Finishing |       | Finishing to medium cutting |
|--------------------|---------------------|-----------|-------|-----------------------------|
|                    | Grade               | SH725     | SH725 | AH6225                      |
| Breaker Shape      | JP                  | JS        | PSS   | PS                          |
| Cutting conditions | B018                |           |       |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      | PM             |
| Cutting conditions | B016           |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH6225         |
| Breaker Shape      | PM             |
| Cutting conditions | B018           |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
| Grade              | DX120               | DX140     | KS05F                       |
| Breaker Shape      | DIA with rake       | AL        |                             |
| Cutting conditions | B022                |           |                             |

| Application        | Precision finishing | Finishing | Finishing to medium cutting |
|--------------------|---------------------|-----------|-----------------------------|
| Grade              | BX470               | AH8005    | AH8015                      |
| Breaker Shape      | CBN                 | PS        | PS                          |
| Cutting conditions | B024                |           |                             |

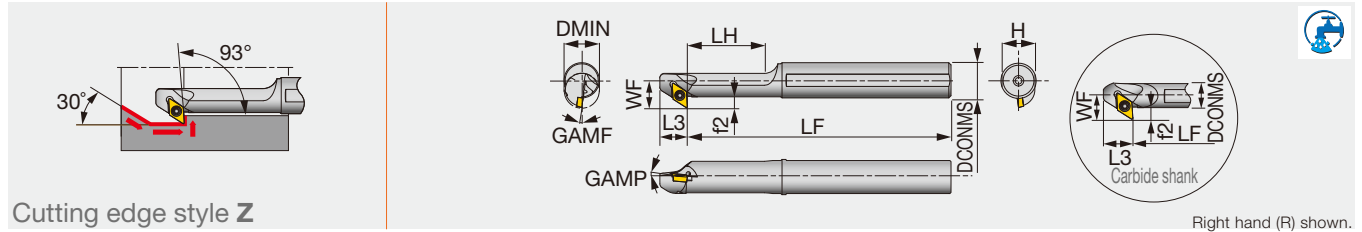
| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

Reference pages: T-SDQCR/L: Insert → **B121**, CBN → **B193 -**, PCD → **B214**

# STREAMJETBAR

## A/E-SDZCR/L

Screw-on boring bar, for positive 55° rhombic inserts



| Inch           | Material | DMIN  | DCONMS | WF    | LF    | LH    | L3    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque |
|----------------|----------|-------|--------|-------|-------|-------|-------|-------|-------|------|------|-------|-------------|--------|
| A10-SDZCR2-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.500 | 0.600 | 0.219 | 0°   | -4°  | 0.016 | DC**21.5... | 0.89   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | L3   | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|------|----|-----|------|------|------|-------------|---------|
| A12M-SDZCR/L07-D140 | Steel    | 14   | 12     | 10.5 | 150 | 30 | 12.5 | 11 | 4.5 | 0°   | -9°  | 0.4  | DC**0702... | 1.2     |
| A16Q-SDZCR/L07-D160 | Steel    | 16   | 16     | 12.5 | 180 | 35 | 12.5 | 15 | 4.5 | 0°   | -8°  | 0.4  | DC**0702... | 1.2     |
| A20R-SDZCR/L11-D200 | Steel    | 20   | 20     | 15.5 | 200 | 40 | 15.0 | 18 | 5.5 | 0°   | -8°  | 0.8  | DC**11T3... | 3       |
| A25S-SDZCR/L11-D250 | Steel    | 25   | 25     | 18   | 250 | 50 | 15   | 23 | 5.5 | 0°   | -6°  | 0.8  | DC**11T3... | 3       |
| E12Q-SDZCR/L07-D180 | Carbide  | 18   | 12     | 10.5 | 180 | -  | 12.5 | 11 | 4.5 | 0°   | -8°  | 0.4  | DC**0702... | 1.2     |
| E16R-SDZCR/L07-D220 | Carbide  | 22   | 16     | 12.5 | 200 | -  | 12.5 | 15 | 4.5 | 0°   | -6°  | 0.4  | DC**0702... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SDZCR\*\*) with right-hand inserts (R); and left-hand toolholders (SDZCL\*\*) with left-hand inserts (L).

### SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A10-SDZCR2-D14      | CSTB-2.5       | T-8F   |
| A1**-SDZCR/L07-D1*0 | CSTB-2.5       | T-8F   |
| A2**-SDZCR/L11-D2*0 | CSTB-4S        | T-15F  |
| E1**-SDZCR/L07-D**0 | CSTB-2.5       | T-8F   |

### INSERT SELECTION

|          |                    |                             |           |                             |                             |
|----------|--------------------|-----------------------------|-----------|-----------------------------|-----------------------------|
| <b>P</b> | Application        | Precision finishing         | Finishing |                             | Finishing to medium cutting |
|          | Grade              | SH725                       | SH725     | NS9530                      | T9215                       |
|          | Breaker Shape      | JP                          | JS        | PSS                         | PS                          |
|          | Cutting conditions | B016                        |           |                             |                             |
| <b>M</b> | Application        | Precision finishing         | Finishing |                             | Finishing to medium cutting |
|          | Grade              | SH725                       | SH725     | AH6225                      | AH6225                      |
|          | Breaker Shape      | JP                          | JS        | PSS                         | PS                          |
|          | Cutting conditions | B018                        |           |                             |                             |
| <b>P</b> | Application        | Medium cutting              |           |                             |                             |
|          | Grade              | T9215                       |           |                             |                             |
|          | Breaker Shape      | PM                          |           |                             |                             |
|          | Cutting conditions | B016                        |           |                             |                             |
| <b>M</b> | Application        | Medium cutting              |           |                             |                             |
|          | Grade              | AH6225                      |           |                             |                             |
|          | Breaker Shape      | PM                          |           |                             |                             |
|          | Cutting conditions | B018                        |           |                             |                             |
| <b>K</b> | Application        | Finishing to medium cutting |           |                             |                             |
|          | Grade              | T515                        |           |                             |                             |
|          | Breaker Shape      | CM                          |           |                             |                             |
|          | Cutting conditions | B020                        |           |                             |                             |
| <b>N</b> | Application        | Precision finishing         | Finishing | Finishing to medium cutting |                             |
|          | Grade              | DX120                       | DX140     | KS05F                       |                             |
|          | Breaker Shape      | DIA with rake               | AL        | AL                          |                             |
|          | Cutting conditions | B022                        |           |                             |                             |
| <b>S</b> | Application        | Precision finishing         | Finishing | Finishing to medium cutting |                             |
|          | Grade              | BX470                       | AH8005    | AH8015                      |                             |
|          | Breaker Shape      | CBN                         | PS        | PS                          |                             |
|          | Cutting conditions | B024                        |           |                             |                             |
| <b>H</b> | Application        | Precision finishing         | Finishing |                             |                             |
|          | Grade              | BXA10                       | BXA20     |                             |                             |
|          | Breaker Shape      | HP                          | HS        |                             |                             |
|          | Cutting conditions | B026                        |           |                             |                             |

Reference pages: A/E-SDZCR/L: Insert → B121, CBN → B193 -, PCD → B214

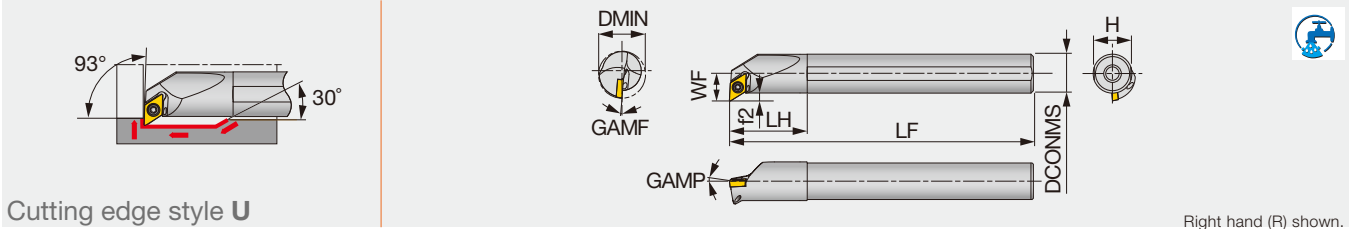
# DP

 **Rhombic, 55°  
with hole  
Positive 11°**

## STREAMJETBAR

### A/E-SDUPR/L

Screw-on boring bar, for positive 55° rhombic inserts



Cutting edge style U

Right hand (R) shown.

| Metric              | Material            | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|---------------------|---------------------|------|--------|------|-----|----|----|-----|------|------|------|-------------|--------|
| A12M-SDUPR07-D150-P | Special alloy steel | 15   | 12     | 8.3  | 150 | 24 | 11 | 2.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| A12M-SDUPL07-D150-P | Special alloy steel | 15   | 12     | 8.3  | 150 | 24 | 11 | 2.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| A12M-SDUPR07-D180-P | Special alloy steel | 18   | 12     | 10.3 | 150 | 24 | 11 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| A12M-SDUPL07-D180-P | Special alloy steel | 18   | 12     | 10.3 | 150 | 24 | 11 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| A16Q-SDUPR07-D220-P | Special alloy steel | 22   | 16     | 12.3 | 180 | 32 | 15 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| A16Q-SDUPL07-D220-P | Special alloy steel | 22   | 16     | 12.3 | 180 | 32 | 15 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| E12Q-SDUPR07-D150   | Carbide             | 15   | 12     | 8.3  | 180 | 27 | 11 | 2.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| E12Q-SDUPL07-D150   | Carbide             | 15   | 12     | 8.3  | 180 | 27 | 11 | 2.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| E12Q-SDUPR07-D180   | Carbide             | 18   | 12     | 10.3 | 180 | 27 | 11 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| E12Q-SDUPL07-D180   | Carbide             | 18   | 12     | 10.3 | 180 | 27 | 11 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| E16R-SDUPR07-D220   | Carbide             | 22   | 16     | 12.3 | 200 | 32 | 15 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |
| E16R-SDUPL07-D220   | Carbide             | 22   | 16     | 12.3 | 200 | 32 | 15 | 4.3 | 5    | 0    | 0.4  | DPMT0702... | 1.2    |

Torque: Recommended clamping torque: N·m



\*\*RE : Standard corner radius



Note: Use right-hand toolholders (SCLPR\*\*) with left-hand inserts (L); and left-hand toolholders (SCLPL\*\*) with right-hand inserts (R).



#### SPARE PARTS



| Designation          | Clamping screw | Wrench |
|----------------------|----------------|--------|
| A**-SDUPR/L07-D**0-P | CSTB-2.5S      | T-8F   |
| E**-SDUPR/L07-D**0   | CSTB-2.5S      | T-8F   |

#### INSERT SELECTION

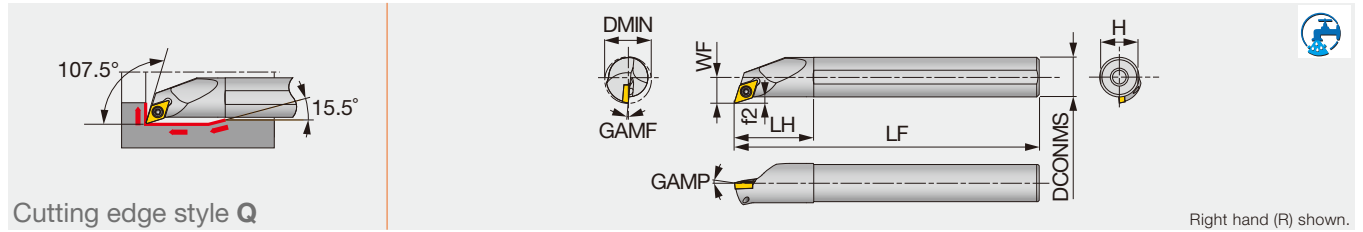
| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | NS9530  |
| Breaker Shape      |  |  |
| Cutting conditions | B016  |   |

| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | AH6225  |
| Chipbreaker shape  |  |  |
| Cutting conditions | B018  |   |

| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | NS9530  |
| Breaker Shape      |  |  |
| Cutting conditions | B020  |   |

| Application        | Finishing   | Finishing to medium cutting   |
|--------------------|---|---|
|                    | Grade   | AH8015  |
| Breaker Shape      |  |  |
| Cutting conditions | B024  |   |

Reference pages: A/E-SDUPR/L: Insert → **B126**



Cutting edge style Q

Right hand (R) shown.

| Metric              | Material            | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|---------------------|---------------------|------|--------|------|-----|----|----|-----|------|------|------|-------------|--------|
| A12M-SDQPR07-D150-P | Special alloy steel | 15   | 12     | 8.3  | 150 | 24 | 11 | 2.3 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| A12M-SDQPL07-D150-P | Special alloy steel | 15   | 12     | 8.3  | 150 | 24 | 11 | 2.3 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| A12M-SDQPR07-D180-P | Special alloy steel | 18   | 12     | 9.6  | 150 | 24 | 11 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| A12M-SDQPL07-D180-P | Special alloy steel | 18   | 12     | 9.6  | 150 | 24 | 11 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| A16Q-SDQPR07-D220-P | Special alloy steel | 22   | 16     | 11.6 | 180 | 32 | 15 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| A16Q-SDQPL07-D220-P | Special alloy steel | 22   | 16     | 11.6 | 180 | 32 | 15 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| E12Q-SDQPR07-D150   | Carbide             | 15   | 12     | 8.3  | 180 | 27 | 11 | 2.3 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| E12Q-SDQPL07-D150   | Carbide             | 15   | 12     | 8.3  | 180 | 27 | 11 | 2.3 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| E12Q-SDQPR07-D180   | Carbide             | 18   | 12     | 9.6  | 180 | 27 | 11 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| E12Q-SDQPL07-D180   | Carbide             | 18   | 12     | 9.6  | 180 | 27 | 11 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| E16R-SDQPR07-D220   | Carbide             | 22   | 16     | 11.6 | 200 | 32 | 15 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |
| E16R-SDQPL07-D220   | Carbide             | 22   | 16     | 11.6 | 200 | 32 | 15 | 3.6 | 5    | 0    | 0.40 | DPMT0702... | 1.2    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SDQCR\*\*) with left-hand inserts (L); and left-hand toolholders (SDQCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation          | Clamping screw | Wrench |
|----------------------|----------------|--------|
| A**-SDQPR/L07-D**0-P | CSTB-2.5S      | T-8F   |
| E**-SDQPR/L07-D**0   | CSTB-2.5S      | T-8F   |

### INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | NS9530                      |
| Breaker Shape      |           |                             |
| Cutting conditions | B016      |                             |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH6225                      |
| Chipbreaker shape  |           |                             |
| Cutting conditions | B018      |                             |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | NS9530                      |
| Breaker Shape      |           |                             |
| Cutting conditions | B020      |                             |

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
|                    | Grade     | AH8015                      |
| Breaker Shape      |           |                             |
| Cutting conditions | B024      |                             |

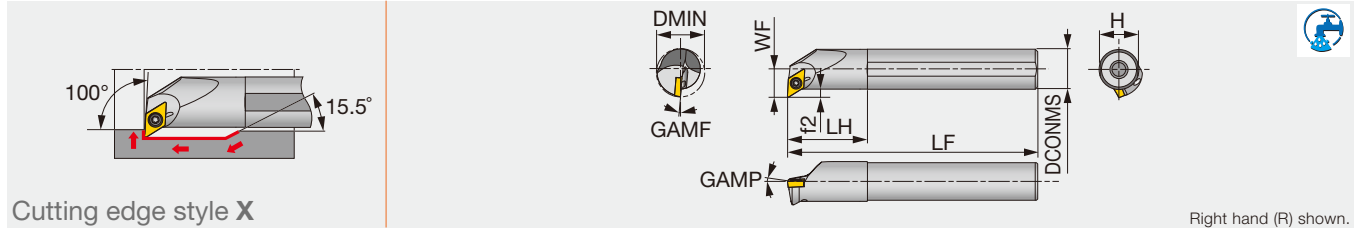


# DX



## MINIFORCE A/E-SDXXR/L

Screw-on boring bar, for DXG/MU inserts



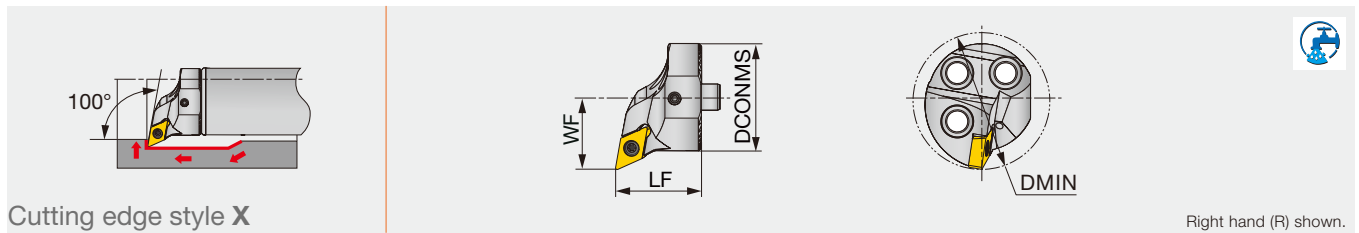
| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert            | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|-------|------|------|-------|-------------------|--------|
| A06-SDXXR/L2-D10 | Steel    | 0.625 | 0.375  | 0.406 | 5.000 | 0.750 | 0.350 | 0.218 | -14° | -16° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| A08-SDXXR/L2-D11 | Steel    | 0.688 | 0.500  | 0.406 | 5.000 | 1.000 | 0.475 | 0.156 | -14° | -14° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| A10-SDXXR/L2-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.600 | 0.218 | -13° | -13° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| A12-SDXXR/L2-D16 | Steel    | 1.000 | 0.750  | 0.593 | 7.000 | 1.438 | 0.725 | 0.218 | -13° | -12° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| E06-SDXXR/L2-D10 | Carbide  | 0.625 | 0.375  | 0.406 | 5.000 | 1.000 | 0.350 | -     | -14° | -16° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| E08-SDXXR/L2-D11 | Carbide  | 0.688 | 0.500  | 0.406 | 5.000 | 1.063 | 0.475 | -     | -14° | -14° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| E10-SDXXR/L2-D14 | Carbide  | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.600 | -     | -13° | -13° | 0.016 | DXG/MU 22**L/R... | 0.66   |
| E12-SDXXR/L2-D16 | Carbide  | 1.000 | 0.750  | 0.593 | 7.000 | 1.438 | 0.725 | -     | -13° | -12° | 0.016 | DXG/MU 22**L/R... | 0.66   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert             | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|-----|------|------|------|--------------------|---------|
| A10K-SDXXR/L07-D130 | Steel    | 13   | 10     | 7.6  | 125 | 20 | 9  | 2.6 | -14° | -16° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| A12M-SDXXR/L07-D160 | Steel    | 16   | 12     | 8.6  | 150 | 24 | 11 | 2.6 | -14° | -14° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| A16Q-SDXXR/L07-D200 | Steel    | 20   | 16     | 10.6 | 180 | 32 | 15 | 2.6 | -13° | -13° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| A20R-SDXXR/L07-D240 | Steel    | 24   | 20     | 12.6 | 200 | 36 | 18 | 2.6 | -13° | -12° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| E10M-SDXXR/L07-D130 | Carbide  | 13   | 10     | 7.6  | 150 | 25 | 9  | 2.6 | -14° | -16° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| E12Q-SDXXR/L07-D160 | Carbide  | 16   | 12     | 8.6  | 180 | 27 | 11 | 2.6 | -14° | -14° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| E16R-SDXXR/L07-D200 | Carbide  | 20   | 16     | 10.6 | 200 | 32 | 15 | 2.6 | -13° | -13° | 0.4  | DXG/MU0703**L/R... | 0.9     |
| E20S-SDXXR/L07-D240 | Carbide  | 24   | 20     | 12.6 | 250 | 36 | 18 | 2.6 | -13° | -12° | 0.4  | DXG/MU0703**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE : Standard corner radius  
 Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R)

## S-SDXXR/L-H

Screw-on clamp exchangeable boring head, for DXG/MU inserts



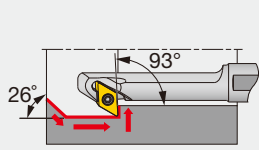
| Inch            | DMIN  | DCONMS | WF    | LF    | Shank               | Insert            |
|-----------------|-------|--------|-------|-------|---------------------|-------------------|
| S25-SDXXR/L07-H | 1.260 | 0.984  | 0.669 | 0.787 | D1.00               | DXG/MU 22**L/R... |
| S32-SDXXR/L07-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | DXG/MU 22**L/R... |
| S40-SDXXR/L07-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | DXG/MU 22**L/R... |

Note: Use right-hand toolholders (SDXXR\*\*) with left-hand inserts (L); and left-hand toolholders (SDXXL\*\*) with right-hand inserts (R).

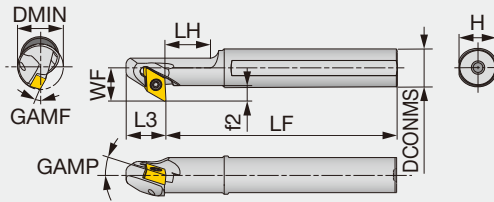
### SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| A/E**-SDXXR/L... | SR34-514       | T-7F   |
| S**-SDXXR/L07-H  | SR34-514       | T-7F   |

Reference pages: A/E-SDXXR/L: Insert → **B126 -**  
 S-SDXXR/L-H: Insert → **B126 -**, Shank → **D090 - D092**  
 Standard cutting conditions → **D096**



Cutting edge style Z



Right hand (R) shown.

| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | L3    | H     | f2    | GAMP | GAMF   | RE**  | Insert            | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|-------|-------|------|--------|-------|-------------------|--------|
| A08-SDZXR/L2-D10 | Steel    | 0.625 | 0.500  | 0.438 | 5.000 | 1.125 | 0.500 | 0.475 | 0.188 | -10° | -14°   | 0.016 | DXG/MU 22**R/L... | 0.66   |
| A10-SDZXR/L2-D11 | Steel    | 0.688 | 0.625  | 0.500 | 7.000 | 1.250 | 0.500 | 0.600 | 0.188 | -10° | -12.5° | 0.016 | DXG/MU 22**R/L... | 0.66   |
| A12-SDZXR/L2-D14 | Steel    | 0.875 | 0.750  | 0.563 | 7.000 | 1.375 | 0.500 | 0.725 | 0.188 | -10° | -10.5° | 0.016 | DXG/MU 22**R/L... | 0.66   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | L3 | H  | f2  | GAMP | GAMF   | RE** | Insert             | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|----|-----|------|--------|------|--------------------|---------|
| A12M-SDZXR/L07-D140 | Steel    | 14   | 12     | 10.5 | 150 | 30 | 13 | 11 | 4.5 | -10° | -14°   | 0.4  | DXG/MU0703**R/L... | 0.9     |
| A16Q-SDZXR/L07-D160 | Steel    | 16   | 16     | 12.5 | 180 | 35 | 13 | 15 | 4.5 | -10° | -12.5° | 0.4  | DXG/MU0703**R/L... | 0.9     |
| A20R-SDZXR/L07-D200 | Steel    | 20   | 20     | 14.5 | 200 | 40 | 13 | 18 | 4.5 | -10° | -10.5° | 0.4  | DXG/MU0703**R/L... | 0.9     |
| E12Q-SDZXR/L07-D180 | Carbide  | 18   | 12     | 10.5 | 180 | -  | 13 | 11 | 4.5 | -11° | -11°   | 0.4  | DXG/MU0703**R/L... | 0.9     |
| E16R-SDZXR/L07-D220 | Carbide  | 22   | 16     | 12.5 | 200 | -  | 13 | 15 | 4.5 | -11° | -9°    | 0.4  | DXG/MU0703**R/L... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with right-hand inserts (R); and left-hand toolholders (L) with left-hand inserts (L).

### SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| A/E**-SDZXR/L... | SR34-514       | T-7F   |

## INSERT SELECTION

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | NS9530 | T9215                       |
| Grade              | JS                  | JTS       | SS     | TS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | D096                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      |                |
| Cutting conditions | D096           |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | NS9530 | T9215                       |
| Grade              | JS                  | JTS       | SS     | TS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | D096                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | T9215          |
| Breaker Shape      |                |
| Cutting conditions | D096           |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | AH8015 | AH8015                      |
| Grade              | JS                  | JTS       | SS     | TS                          |
| Chipbreaker shape  |                     |           |        |                             |
| Cutting conditions | D096                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Chipbreaker shape  |                |
| Cutting conditions | D096           |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | KS05F     | KS05F                       | KS05F          |
| Grade              | SS        | TS                          | TS             |
| Breaker Shape      |           |                             |                |
| Cutting conditions | D096      |                             |                |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | AH8015 | AH8015                      |
| Grade              | JS                  | JTS       | SS     | TS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | D096                |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Breaker Shape      |                |
| Cutting conditions | D096           |

Reference pages: A/E-SDZXR/L: Insert → B126 -

Standard cutting conditions → D096



# DN

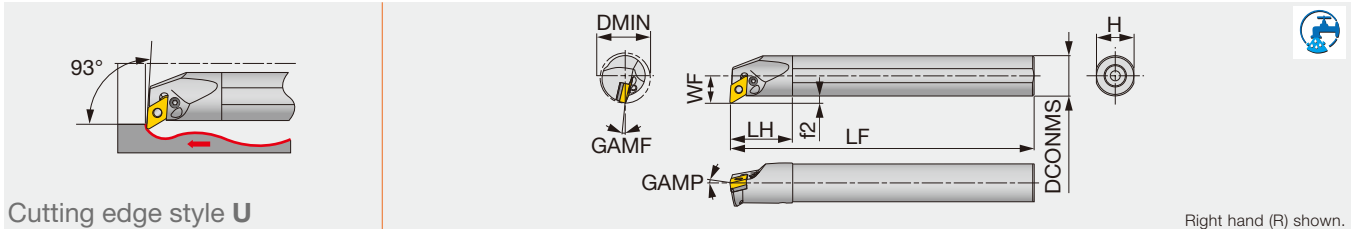
# FN



## STREAMJETBAR

### A-PDUNR/L

Lever-lock boring bar, for negative 55°/45° rhombic inserts



| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert           | Torque |
|-----------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|------------------|--------|
| A20Q-PDUNR/L1104-D250 | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -14° | 0.8  | DN**/FNMG1104... | 1.7    |
| A20Q-PDUNR/L11-D250   | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -14° | 0.8  | DN**/FNMG1104... | 1.7    |
| A25R-PDUNR/L11-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -12° | 0.8  | DN**/FNMG1104... | 2.7    |
| A32S-PDUNR/L15-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -13° | 0.8  | DN**/FNGA1504... | 4.8    |
| A40T-PDUNR/L15-D500   | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7   | -6°  | -10° | 0.8  | DN**/FNGA1504... | 4.8    |
| A50U-PDUNR/L15-D630   | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -8°  | 0.8  | DN**/FNGA1504... | 4.8    |
| A32S-PDUNR/L1506-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -13° | 0.8  | DN**/FNGA1506... | 4.8    |
| A40T-PDUNR/L1506-D500 | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7   | -6°  | -11° | 0.8  | DN**/FNGA1506... | 4.8    |
| A50U-PDUNR/L1506-D630 | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -10° | 0.8  | DN**/FNGA1506... | 4.8    |

Torque: Recommended clamping torque: N-m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (PDUNR\*\*) with left-hand inserts (L); and left-hand toolholders (PDUNL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation           | Shim        | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever   | Oil supply attachment* | Screw for oil hole* |
|-----------------------|-------------|------------------|------------------|----------|----------|------------|---------|------------------------|---------------------|
| A20Q-PDUNR/L1104-D250 | -           | LCS22A           | -                | P-2F     | -        | -          | LCL33NL | EA-20                  | SSHM2.5-3           |
| A20Q-PDUNR/L11-D250   | -           | LCS22A           | -                | P-2F     | -        | -          | LCL33NL | EA-20                  | SSHM2.5-3           |
| A25R-PDUNR/L11-D320   | ELSD317BR/L | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33L  | EA-25                  | SSHM3-4             |
| A32S-PDUNR/L15-D400   | LSD42BR/L   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    | EA-32                  | SSHM5-6             |
| A40T-PDUNR/L15-D500   | LSD42BR/L   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    | -                      | SSHM6-6             |
| A50U-PDUNR/L15-D630   | LSD42BR/L   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    | -                      | SSHM6-6             |
| A32S-PDUNR/L1506-D400 | ELSD42      | -                | ELCS4            | -        | P-3      | LSP4S      | LCL44   | EA-20                  | SSHM5-6             |
| A40T-PDUNR/L1506-D500 | ELSD42      | -                | ELCS4            | -        | P-3      | LSP4S      | LCL44   | -                      | SSHM6-6             |
| A50U-PDUNR/L1506-D630 | ELSD42      | -                | ELCS4            | -        | P-3      | LSP4S      | LCL44   | -                      | SSHM6-6             |

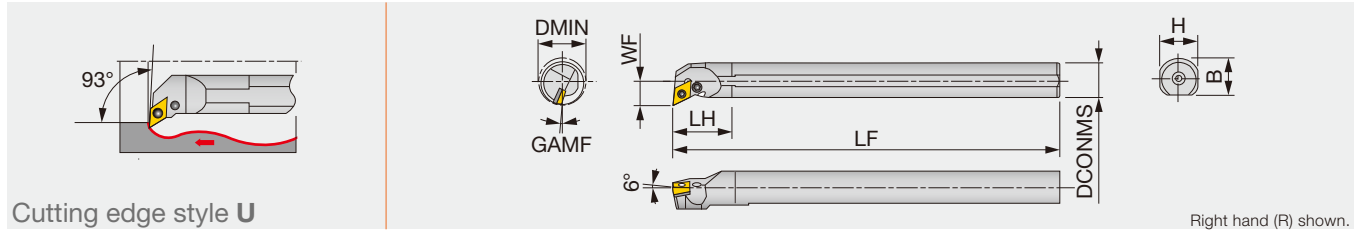
\*Optional

Reference pages: A-PDUNR/L: Insert → **B066 -**, **B075**, CBN → **B172 -**, PCD → **B211**



# S-PDUNR/L

Lever-lock boring bar, for negative 55°/45° rhombic inserts



Cutting edge style U

Right hand (R) shown.

| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert           |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|------------------|
| S20Q-PDUNR/L11 | Steel    | 25   | 20     | 13 | 180 | 35 | 18 | 19   | -14° | 0.8  | DN**/FNMG1104... |
| S25R-PDUNR/L11 | Steel    | 32   | 25     | 17 | 200 | 40 | 23 | 24   | -12° | 0.8  | DN**/FNMG1104... |
| S32S-PDUNR/L15 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 29.5 | -13° | 0.8  | DN**/FNGA1504... |
| S40T-PDUNR/L15 | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 37.5 | -10° | 0.8  | DN**/FNGA1504... |
| S50U-PDUNR/L15 | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 47.5 | -8°  | 0.8  | DN**/FNGA1504... |

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

## SPARE PARTS

| Designation    | Shim      | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever   |
|----------------|-----------|------------------|------------------|----------|----------|------------|---------|
| S20Q-PDUNR/L11 | -         | LCS22A           | -                | P-2F     | -        | -          | LCL33NL |
| S25R-PDUNR11   | ELSD317BR | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33L  |
| S25R-PDUNL11   | ELSD317BL | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33L  |
| S32S-PDUNR15   | LSD42BR   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    |
| S32S-PDUNL15   | LSD42BL   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    |
| S40T-PDUNR15   | LSD42BR   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    |
| S40T-PDUNL15   | LSD42BL   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    |
| S50U-PDUNR15   | LSD42BR   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    |
| S50U-PDUNL15   | LSD42BL   | -                | LCS4             | -        | P-3      | LSP4       | LCL4    |

## INSERT SELECTION

|          |                    |                     |                |                         |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |
|          | Breaker Shape      | TF                  | TSF            | TM                      | TH                      |
|          | Cutting conditions | B004                |                |                         |                         |
| <b>M</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T6215               | AH6225         | AH6225                  |                         |
|          | Chipbreaker shape  | SF                  | SM             | SH                      |                         |
|          | Cutting conditions | B006                |                |                         |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T515                | T515           | T515                    |                         |
|          | Breaker Shape      | All-round           | All-round      | All-round               |                         |
|          | Cutting conditions | B008                |                |                         |                         |
| <b>N</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | DX120               | DX140          | TH10                    |                         |
|          | Breaker Shape      | DIA                 | with rake DIA  | P                       |                         |
|          | Cutting conditions | B010                |                |                         |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | BX470               | AH8005         | AH8005                  |                         |
|          | Breaker Shape      | CBN                 | HRF            | HRM                     |                         |
|          | Cutting conditions | B012                |                |                         |                         |
| <b>H</b> | Application        | Precision finishing | Finishing      |                         |                         |
|          | Grade              | BXA10               | BXA20          |                         |                         |
|          | Breaker Shape      | HP                  | HS             |                         |                         |
|          | Cutting conditions | B014                |                |                         |                         |

Reference pages: S-PDUNR/L: Insert → B066 -, B075, CBN → B172 -, PCD → B211



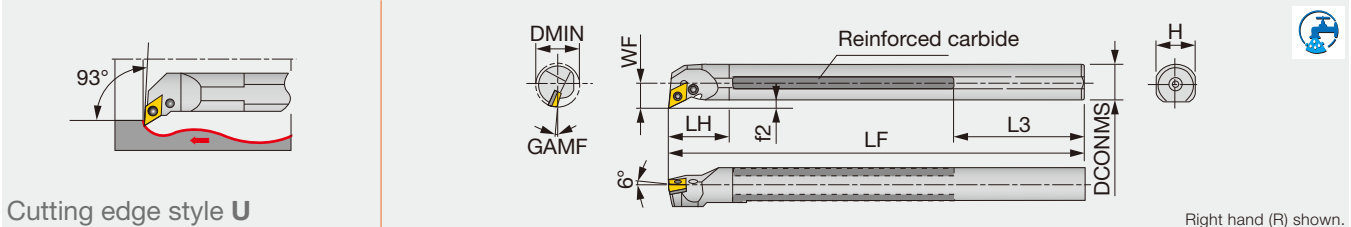
# DN

# FN



## T-PDUNR

Lever-lock boring bar, for negative 55°/45° rhombic inserts (Tsuppari-Ichiban)



| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3  | H  | f2 | GAMF | RE** | Insert           |
|---------------|------------|------|-------|--------|----|-----|----|-----|----|----|------|------|------------------|
| T32U-PDUNR15C | Reinforced | 40   | Rc1/2 | 32     | 22 | 350 | 50 | 103 | 30 | 6  | -13° | 0.8  | DN**/FNGA1504... |
| T40V-PDUNR15C | Reinforced | 50   | Rc1/2 | 40     | 27 | 400 | 55 | 88  | 37 | 7  | -10° | 0.8  | DN**/FNGA1504... |
| T50W-PDUNR15C | Reinforced | 63   | Rc1/2 | 50     | 35 | 450 | 65 | 63  | 47 | 10 | -8°  | 0.8  | DN**/FNGA1504... |

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

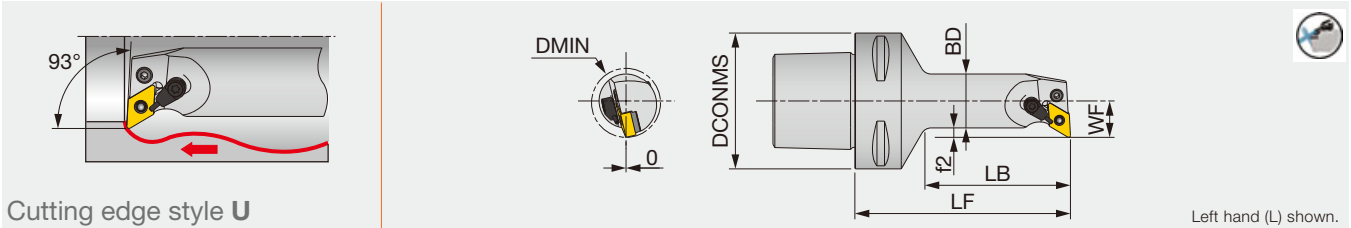
### SPARE PARTS

| Designation  | Shim    | Clamping screw | Wrench | Spring pin | Lever |
|--------------|---------|----------------|--------|------------|-------|
| T**-PDUNR15C | LSD42BR | LCS4           | P-3    | LSP4       | LCL4  |

# TUNGCAP

## C-PDUNL-CHP

Lever-lock boring bar with TungCap connection, with 93° approach angle, for negative 55°/45° rhombic inserts, with high pressure coolant capability



| Metric                | DMIN | DCONMS | BD | LF  | LB   | WF | f2  | RE** | Insert           |
|-----------------------|------|--------|----|-----|------|----|-----|------|------------------|
| C6PDUNL17100-1104-CHP | 32   | 63     | 25 | 100 | 67.5 | 17 | 4.5 | 0.8  | DN**/FNMG1104... |

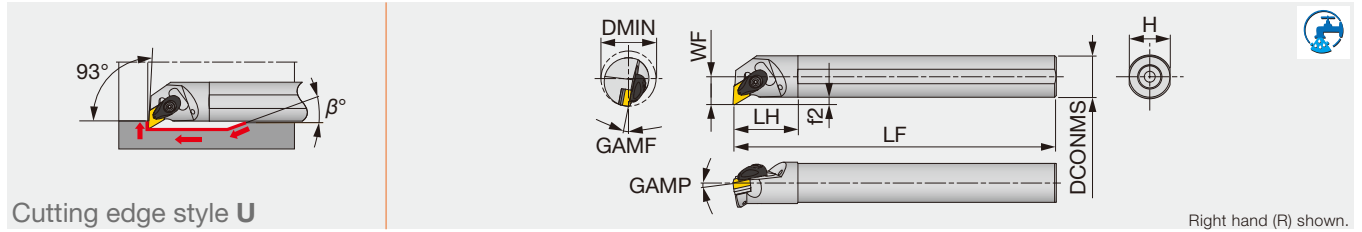
Applicable for 14 MPa coolant

\*\*RE : Standard corner radius

### SPARE PARTS

| Designation           | Shim      | Clamping screw | Coolant unit | Wrench | Spring pin | Lever  |
|-----------------------|-----------|----------------|--------------|--------|------------|--------|
| C6PDUNL17100-1104-CHP | ELSD317BL | LCS43          | S-CU-CHP     | P-2.5  | LSP3       | LCL33L |

Reference pages: T-PDUNR, C-PDUNL-CHP: Insert → **B066 - , B075**, CBN → **B172 -**, PCD → **B211**



| Inch              | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | β° | RE**  | Insert          | Torque |
|-------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|----|-------|-----------------|--------|
| A16-ADUNR/L33-D20 | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.750 | 0.906 | 0.172 | -6°  | -13° | 20 | 0.031 | DN**/FNMG 33... | 2.21   |
| A20-ADUNR/L33-D25 | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.938 | 1.188 | 0.234 | -6°  | -11° | 20 | 0.031 | DN**/FNMG 33... | 2.21   |
| A16-ADUNR/L4-D20  | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.770 | 0.906 | 0.177 | -6°  | -13° | 30 | 0.031 | DN**/FNGA 43... | 2.21   |
| A20-ADUNR/L4-D25  | Steel    | 1.500 | 1.250  | 0.859 | 14.000 | 1.960 | 1.180 | 0.236 | -6°  | -11° | 20 | 0.031 | DN**/FNGA 43... | 2.21   |
| A24-ADUNR/L4-D32  | Steel    | 2.000 | 1.500  | 1.063 | 14.000 | 2.160 | 1.450 | 0.275 | -6°  | -8°  | 15 | 0.031 | DN**/FNGA 43... | 2.21   |

| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | β° | RE** | Insert           | Torque* |
|-----------------------|----------|------|--------|----|-----|----|----|-----|------|------|----|------|------------------|---------|
| A25R-ADUNR/L1104-D320 | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 20 | 0.8  | DN**/FNMG1104... | 3       |
| A32S-ADUNR/L1104-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 20 | 0.8  | DN**/FNMG1104... | 3       |
| A25R-ADUNR/L15-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 30 | 0.8  | DN**/FNGA1504... | 3       |
| A32S-ADUNR/L15-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 20 | 0.8  | DN**/FNGA1504... | 3       |
| A40T-ADUNR15-D500     | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 7   | -6°  | -8°  | 15 | 0.8  | DN**/FNGA1504... | 3       |
| A50U-ADUNR15-D630     | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -7°  | 15 | 0.8  | DN**/FNGA1504... | 3       |
| A25R-ADUNR/L1506-D320 | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 15 | 0.8  | DN**/FNGA1506... | 3       |
| A32S-ADUNR/L1506-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 20 | 0.8  | DN**/FNGA1506... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

### SPARE PARTS

| Designation                              | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|--|---------|-------------|--------|------------|--------|------------|--------|
| A**-ADUNR/L33-D..., A**-ADUNR/L1104-D... | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASD322 | CSTB-3.5   | T-15F  |
| A**-ADUNR/L4-D..., A**-ADUNR/L15-D...    | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASD432 | CSTB-3.5   | T-15F  |
| A**-ADUNR/L1506-D...                     | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASD423 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

|          |                    |                     |                |                         |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |
|          | Breaker Shape      | TF                  | TSF            | TM                      | TH                      |
|          | Cutting conditions | B004                |                |                         |                         |
| <b>M</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T6215               | AH6225         | AH6225                  |                         |
|          | Chipbreaker shape  | SF                  | SM             | SH                      |                         |
|          | Cutting conditions | B006                |                |                         |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T515                | T515           | T515                    |                         |
|          | Breaker Shape      | All-round           | All-round      | All-round               |                         |
|          | Cutting conditions | B008                |                |                         |                         |
| <b>N</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | DX120               | DX140          | TH10                    |                         |
|          | Breaker Shape      | DIA                 | with rake DIA  | P                       |                         |
|          | Cutting conditions | B010                |                |                         |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | BX470               | AH8005         | AH8005                  |                         |
|          | Breaker Shape      | CBN                 | HRF            | HRM                     |                         |
|          | Cutting conditions | B012                |                |                         |                         |
| <b>H</b> | Application        | Precision finishing | Finishing      |                         |                         |
|          | Grade              | BXA10               | BXA20          |                         |                         |
|          | Breaker Shape      | HP                  | HS             |                         |                         |
|          | Cutting conditions | B014                |                |                         |                         |

Reference pages: A-ADUNR/L: Insert → B066 -, B075, CBN → B172 -, PCD → B211



# DN

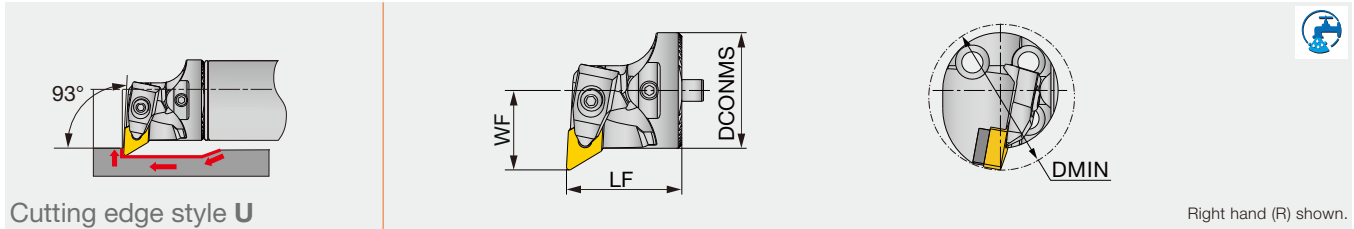
# FN



## BOREMEISTER

### S-DDUNR/L-H

Double-clamp exchangeable boring head, for negative 55°/45° rhombic inserts



Cutting edge style U

Right hand (R) shown.

| Inch                            | DMIN  | DCONMS | WF    | LF    | Shank size          | Insert              |
|---------------------------------|-------|--------|-------|-------|---------------------|---------------------|
| S32-DDUNR/L11T-H                | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | DN**/FNMG 33...     |
| S40-DDUNR/L15T-H <sup>(1)</sup> | 1.969 | 1.575  | 1.063 | 1.496 | D1.50, D2.00, D2.50 | DN**/FNGA 44(43)... |

Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (DDUNL\*\* type), and the left hand insert (L) is used for the right hand toolholders (DDUNR\*\* type).

(1) DN\*\*/FNGA 43... inserts require a separate shim (# RDT443).

C

#### SPARE PARTS

| Designation      | Shim 1 | Shim 2 (Optional) | Shim screw | Clamp  | Clamping screw | Spring | Wrench |
|------------------|--------|-------------------|------------|--------|----------------|--------|--------|
| S32-DDUNR/L11T-H | RDT3-2 | -                 | SR40085I   | LCGR-3 | SRRC3          | KSP3   | HW2.5  |
| S40-DDUNR/L15T-H | RDT433 | (RDT443)          | SR14-506   | DLM4   | DLS4           | DSP4   | HW3.0  |

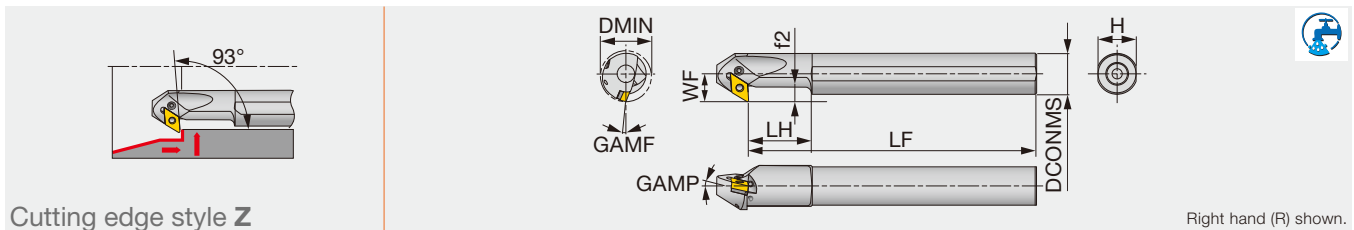
D

E

F

#### A-PDZNR/L

Lever-lock boring bar, for negative 55°/45° rhombic inserts



Cutting edge style Z

Right hand (R) shown.

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2   | GAMP | GAMF | RE** | Insert           | Torque |
|---------------------|----------|------|--------|----|-----|----|----|------|------|------|------|------------------|--------|
| A32S-PDZNR/L15-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 11.5 | -6°  | -13° | 0.8  | DN**/FNGA1504... | 4.8    |
| A40T-PDZNR/L15-D500 | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 14.5 | -6°  | -10° | 0.8  | DN**/FNGA1504... | 4.8    |
| A50U-PDZNR/L15-D630 | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 14.5 | -6°  | -8°  | 0.8  | DN**/FNGA1504... | 4.8    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (PDZNR\*\*) with right-hand inserts (R); and left-hand toolholders (PDZNL\*\*) with left-hand inserts (L).

G

S

T

V

W

Y

OTHERS

#### SPARE PARTS

| Designation       | Shim    | Clamping screw | Wrench | Spring pin | Lever | Oil supply attachment* | Screw for oil hole* |
|-------------------|---------|----------------|--------|------------|-------|------------------------|---------------------|
| A32S-PDZNR15-D400 | LSZ42BR | LCS4           | P-3    | LSP4       | LCL4  | EA-32                  | SSHM4-5             |
| A32S-PDZNL15-D400 | LSZ42BL | LCS4           | P-3    | LSP4       | LCL4  | EA-32                  | SSHM4-5             |
| A40T-PDZNR15-D500 | LSZ42BR | LCS4           | P-3    | LSP4       | LCL4  | -                      | SSHM5-6             |
| A40T-PDZNL15-D500 | LSZ42BL | LCS4           | P-3    | LSP4       | LCL4  | -                      | SSHM5-6             |
| A50U-PDZNR15-D630 | LSZ42BR | LCS4           | P-3    | LSP4       | LCL4  | -                      | SSHM6-6             |
| A50U-PDZNL15-D630 | LSZ42BL | LCS4           | P-3    | LSP4       | LCL4  | -                      | SSHM6-6             |

\*Optional

Reference pages: S-DDUNR/L-H: Insert → **B066 - , B075**, CBN → **B172 -**, PCD → **B211**

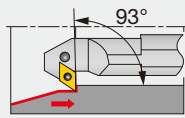
Shank → **D090 - D092**

A-PDZNR/L: Insert → **B066 - , B075**, CBN → **B172 -**, PCD → **B211**

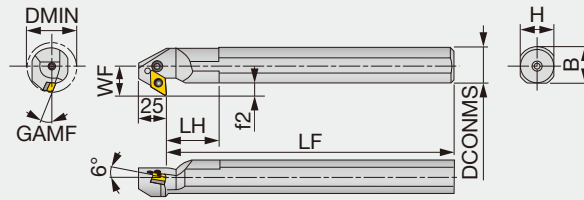
# STREAMJETBAR

## S-PDZNR/L

Lever-lock boring bar, for negative 55°/45° rhombic inserts



Cutting edge style Z



Right hand (R) shown.

| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2 | B    | GAMF | RE** | Insert           |
|----------------|----------|------|--------|----|-----|----|----|----|------|------|------|------------------|
| S32S-PDZNR/L15 | Steel    | 40   | 32     | 22 | 250 | 30 | 30 | 6  | 29.5 | -13° | 0.8  | DN**/FNGA1504... |
| S40T-PDZNR15   | Steel    | 50   | 40     | 27 | 300 | 35 | 37 | 7  | 37.5 | -10° | 0.8  | DN**/FNGA1504... |
| S50U-PDZNR15   | Steel    | 60   | 50     | 35 | 350 | 40 | 47 | 10 | 47.5 | -8°  | 0.8  | DN**/FNGA1504... |

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with right-hand inserts (R); and left-hand toolholders (L) with left-hand inserts (L)

### SPARE PARTS



| Designation  | Shim    | Clamping screw | Wrench | Spring pin | Lever |
|--------------|---------|----------------|--------|------------|-------|
| S32S-PDZNR15 | LSZ42BR | LCS4           | P-3    | LSP4       | LCL4  |
| S32S-PDZNL15 | LSZ42BL | LCS4           | P-3    | LSP4       | LCL4  |
| S*0*-PDZNR15 | LSZ42BR | LCS4           | P-3    | LSP4       | LCL4  |

## INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Breaker Shape      | TF                  | TSF       | TM             | TH                      |
| Images             |                     |           |                |                         |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Chipbreaker shape  | SF        | SM             | SH                      |
| Images             |           |                |                         |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Images             |           |                |                         |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Breaker Shape      | DIA                 | with rake DIA | P              |
| Images             |                     |               |                |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Images             |                     |           |                |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Breaker Shape      | HP                  | HS        |
| Images             |                     |           |
| Cutting conditions | B014                |           |

Reference pages: S-PDZNR/L: Insert → B066 -, B075, CBN → B172 -, PCD → B211



# EP

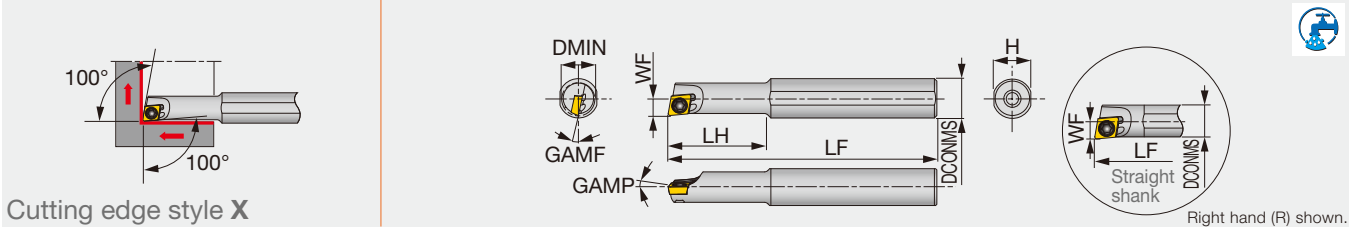


Rhombic, 75°  
with hole  
Positive 11°

## STREAMJETBAR

A/E-SEXPR/L

Screw-on boring bar, for positive 75° rhombic inserts



Cutting edge style X

Right hand (R) shown.

| Inch              | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | GAMP | GAMF | RE**  | Insert     | Torque |
|-------------------|----------|-------|--------|-------|-------|-------|-------|------|------|-------|------------|--------|
| A05-SEXPR/L04-D04 | Steel    | 0.250 | 0.313  | 0.125 | 5.000 | 0.812 | 0.287 | 0°   | -12° | 0.016 | EPGT 52... | 0.44   |
| E05-SEXPR04-D04   | Carbide  | 0.250 | 0.313  | 0.125 | 5.000 | 1.562 | 0.287 | 0°   | -12° | 0.016 | EPGT 52... | 0.44   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H    | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|------|------|------|------|-------------|---------|
| A04F-SEXPR/L03-D045 | Steel    | 4.5  | 4      | 2.3  | 80  | 8  | 3.8  | 0°   | -15° | 0.2  | EP**03X1... | 0.6     |
| A04F-SEXPR/L03-D050 | Steel    | 5    | 4      | 2.5  | 80  | 8  | 3.8  | 0°   | -13° | 0.2  | EP**03X1... | 0.6     |
| A05F-SEXPR/L04-D055 | Steel    | 5.5  | 5      | 2.75 | 80  | 9  | 4.8  | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| A06G-SEXPR/L04-D070 | Steel    | 7    | 6      | 3.6  | 90  | 11 | 5.75 | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| A08H-SEXPR/L04-D055 | Steel    | 5.5  | 8      | 2.75 | 100 | 16 | 7.5  | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| A08H-SEXPR/L04-D070 | Steel    | 7    | 8      | 3.6  | 100 | 20 | 7.5  | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| E04G-SEXPR/L03-D045 | Carbide  | 4.5  | 4      | 2.3  | 90  | 9  | 3.8  | 0°   | -15° | 0.2  | EP**03X1... | 0.6     |
| E04G-SEXPR/L03-D050 | Carbide  | 5    | 4      | 2.5  | 90  | 9  | 3.8  | 0°   | -13° | 0.2  | EP**03X1... | 0.6     |
| E05G-SEXPR/L04-D055 | Carbide  | 5.5  | 5      | 2.75 | 90  | 10 | 4.8  | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| E06H-SEXPR/L04-D070 | Carbide  | 7    | 6      | 3.6  | 100 | 12 | 5.75 | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| E08K-SEXPR/L04-D055 | Carbide  | 5.5  | 8      | 2.75 | 125 | 28 | 7.5  | 0°   | -12° | 0.4  | EP**0401... | 0.6     |
| E08K-SEXPR/L04-D070 | Carbide  | 7    | 8      | 3.6  | 125 | 40 | 7.5  | 0°   | -12° | 0.4  | EP**0401... | 0.6     |

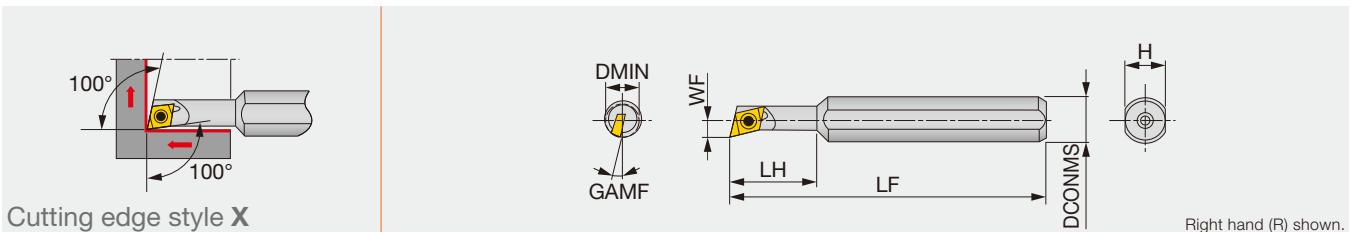
Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE : Standard corner radius

Note: Use right-hand toolholders (SEXPR\*\*) with left-hand inserts (L); and left-hand toolholders (SEXPL\*\*) with right-hand inserts (R).

## J-SERIES

JS-SEXPR/L

Screw-on boring bar, for positive 75° rhombic inserts



Cutting edge style X

Right hand (R) shown.

| Metric         | Material | DMIN | DCONMS | WF  | LF  | LH | H | GAMP | RE** | Insert      | Torque |
|----------------|----------|------|--------|-----|-----|----|---|------|------|-------------|--------|
| JS08H-SEXPR045 | Steel    | 5.5  | 8      | 2.7 | 100 | 16 | 7 | 12°  | 0.4  | EP**0401... | 0.6    |
| JS08H-SEXPR047 | Steel    | 7    | 8      | 3.6 | 100 | 20 | 7 | 12°  | 0.4  | EP**0401... | 0.6    |

Torque: Recommended clamping torque: N-m \*\*RE : Standard corner radius

Note: Use right-hand toolholders (SEXPR\*\*) with left-hand inserts (L); and left-hand toolholders (SEXPL\*\*) with right-hand inserts (R).

### SPARE PARTS

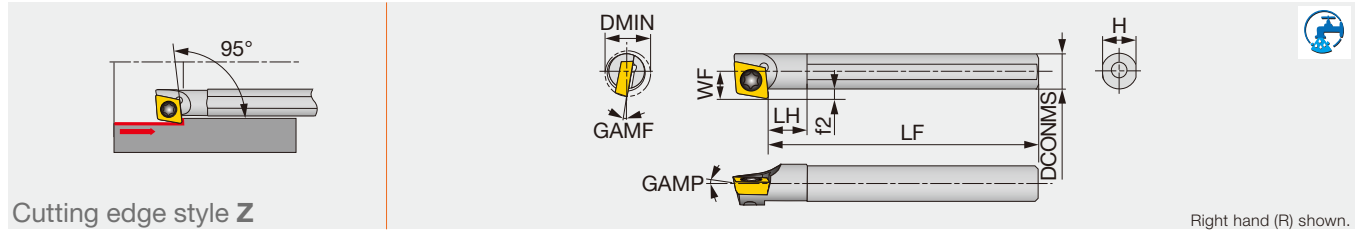
| Designation        | Clamping screw | Wrench |
|--------------------|----------------|--------|
| A**-SEXPR/L03-D... | CSTA-1.6       | T-6F   |
| A**-SEXPR/L04-D... | CSTB-2         | T-6F   |
| E**-SEXPR/L03-D... | CSTA-1.6       | T-6F   |
| E**-SEXPR/L04-D... | CSTB-2         | T-6F   |
| JS08H-SEXPR04...   | CSTB-2         | T-6F   |

Reference pages: A/E-SEXPR/L, JS-SEXPR/L: Insert → **B128** -, CBN → **B195**, PCD → **B214**

# STREAMJETBAR

## A/E-SEZPR/L

Screw-on boring bar, for positive 75° rhombic inserts



Cutting edge style Z

Right hand (R) shown.

| Metric              | Material | DMIN | DCONMS | WF  | LF | LH | H   | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|---------------------|----------|------|--------|-----|----|----|-----|-----|------|------|------|-------------|--------|
| A04F-SEZPR/L03-D055 | Steel    | 5.5  | 4      | 3.2 | 80 | 4  | 3.8 | 1.2 | 0°   | -8°  | 0.2  | EP**03X1... | 0.6    |
| A05F-SEZPR/L03-D065 | Steel    | 6.5  | 5      | 3.7 | 80 | 5  | 4.8 | 1.2 | 0°   | -6°  | 0.2  | EP**03X1... | 0.6    |
| E04G-SEZPR/L03-D055 | Carbide  | 5.5  | 4      | 3.2 | 90 | 5  | 3.8 | 1.2 | 0°   | -8°  | 0.2  | EP**03X1... | 0.6    |
| E05G-SEZPR/L03-D065 | Carbide  | 6.5  | 5      | 3.7 | 90 | 6  | 4.8 | 1.2 | 0°   | -6°  | 0.2  | EP**03X1... | 0.6    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SEZPR\*\*) with right-hand inserts (R); and left-hand toolholders (SEZPL\*\*) with left-hand inserts (L).

### SPARE PARTS

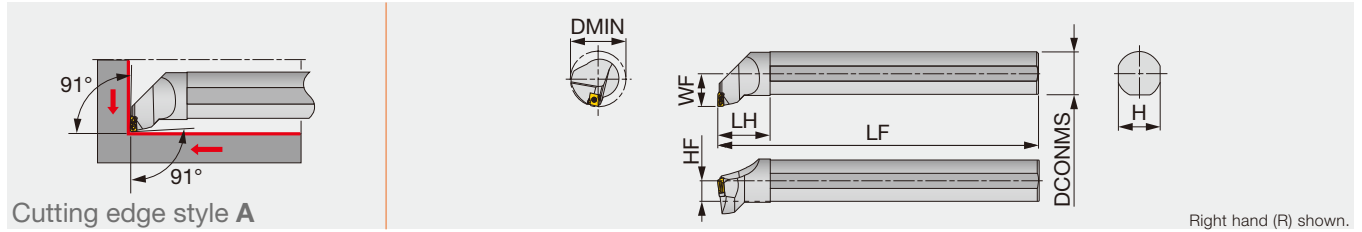
| Designation        | Clamping screw | Wrench |
|--------------------|----------------|--------|
| A**-SEZPR/L03-D... | CSTA-1.6       | T-6F   |
| E**-SEZPR/L03-D... | CSTA-1.6       | T-6F   |

### INSERT SELECTION

|          |             |           |          |             |           |          |             |           |          |             |           |
|----------|-------------|-----------|----------|-------------|-----------|----------|-------------|-----------|----------|-------------|-----------|
| <b>P</b> | Application | Finishing | <b>M</b> | Application | Finishing | <b>K</b> | Application | Finishing | <b>S</b> | Application | Finishing |
|          | Grade       | SH725     |          | Grade       | SH725     |          | Grade       | SH725     |          | Grade       | SH725     |
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Screw-on boring bar for roughing, for negative tangential inserts



| Inch              | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | HF    | Insert           |
|-------------------|----------|-------|--------|-------|--------|-------|-------|-------|------------------|
| S16-TLANR/L12-D34 | Steel    | 2.090 | 1.000  | 0.670 | 12.000 | 1.500 | 0.920 | 0.460 | LNMX1204**L/R... |
| S20-TLANR/L12-D34 | Steel    | 2.090 | 1.250  | 0.870 | 14.000 | 1.750 | 1.140 | 0.570 | LNMX1204**L/R... |
| S24-TLANR/L12-D34 | Steel    | 2.090 | 1.500  | 1.060 | 16.000 | 2.000 | 1.340 | 0.670 | LNMX1204**L/R... |
| S32-TLANR/L16-D54 | Steel    | 3.350 | 2.000  | 1.460 | 16.000 | 2.360 | 1.810 | 0.905 | LNMX1606**L/R... |

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | HF   | Insert           |
|---------------------|----------|------|--------|----|-----|----|----|------|------------------|
| S25T-TLANR/L12-D530 | Steel    | 53   | 25     | 17 | 300 | 40 | 23 | 11.5 | LNMX1204**L/R... |
| S32U-TLANR/L12-D530 | Steel    | 53   | 32     | 22 | 350 | 45 | 30 | 15   | LNMX1204**L/R... |
| S40V-TLANR/L12-D530 | Steel    | 53   | 40     | 27 | 400 | 53 | 37 | 18.5 | LNMX1204**L/R... |
| S50U-TLANR/L16-D850 | Steel    | 85   | 50     | 37 | 350 | 63 | 47 | 23.5 | LNMX1606**L/R... |

Note: Use right-hand toolholders (TLANR\*\*) with left-hand inserts (L); and left-hand toolholders (TLANL\*\*) with right-hand inserts (R).

| SPARE PARTS                              |                |              |           |            |          |          |  |
|--|----------------|--------------|-----------|------------|----------|----------|--|
| Designation                              | Clamping screw | Shim screw   | Shim      | Spring pin | Wrench 1 | Wrench 2 |  |
| S**-TLANR/L12-D34,<br>S**-TLANR/L12-D530 | CSTB-3.5L115-S | CSTF-2L055-S | TSL12L/RI | -          | KEYV-T10 | T-6F-S   |  |
| S32-TLANR16-D54,<br>S50U-TLANR16-D850    | CSTB-4L115-S   | -            | TSL16LI   | PSP-16     | KEYV-T15 | -        |  |
| S32-TLANL16-D54,<br>S50U-TLANL16-D850    | CSTB-4L115-S   | -            | TSL16RI   | PSP-16     | KEYV-T15 | -        |  |

C

D

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F

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S

T

V

W

Y

OTHERS

Reference pages: Standard cutting conditions → **D097**



# SP

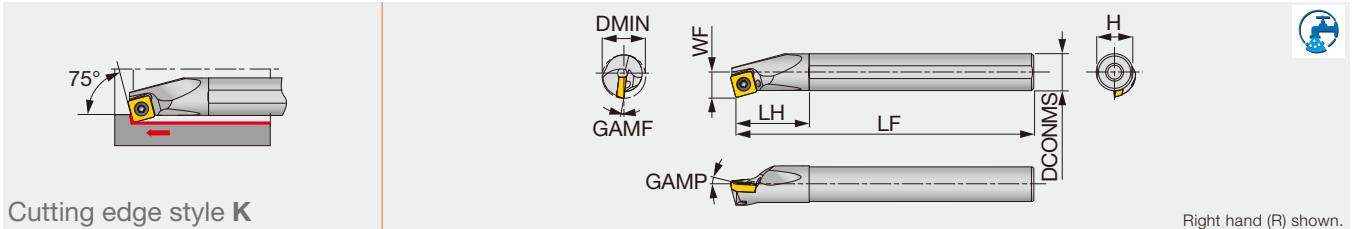


**Square with hole**  
**Positive 11°**

## STREAMJETBAR

**A-SSKPR**

Screw-on boring bar, for positive square inserts



Cutting edge style **K**

Right hand (R) shown.

| Metric            | Material | DMIN | DCONMS | WF | LF  | LH | H  | GAMP | GAMF | RE** | Insert      | Torque |
|-------------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|--------|
| A16Q-SSKPR09-D200 | Steel    | 20   | 16     | 11 | 180 | 32 | 15 | 5°   | -6°  | 0.8  | SP**0903... | 3      |
| A20R-SSKPR09-D240 | Steel    | 24   | 20     | 13 | 200 | 36 | 18 | 5°   | -2°  | 0.8  | SP**0903... | 3      |
| A25S-SSKPR12-D310 | Steel    | 31   | 25     | 17 | 250 | 45 | 23 | 5°   | -2°  | 0.8  | SP**1204... | 6      |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SSKPR\*\*) with left-hand inserts (L); and left-hand toolholders (SSKPL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation       | Clamping screw | Wrench |
|-------------------|----------------|--------|
| A**-SSKPR09-D2*0  | CSTB-4L060     | T-15F  |
| A25S-SSKPR12-D310 | CSTB-5S        | T-20F  |

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### INSERT SELECTION

|          |                    |                             |          |                    |                             |
|----------|--------------------|-----------------------------|----------|--------------------|-----------------------------|
| <b>P</b> | Application        | Finishing to medium cutting | <b>M</b> | Application        | Finishing to medium cutting |
|          | Grade              | T9215                       |          | Grade              | AH6225                      |
|          | Breaker Shape      | PS                          |          | Breaker Shape      | PS                          |
|          | Cutting conditions | B016                        |          | Cutting conditions | B018                        |
| <b>K</b> | Application        | Finishing to medium cutting |          |                    |                             |
|          | Grade              | T515                        |          |                    |                             |
|          | Breaker Shape      | CM                          |          |                    |                             |
|          | Cutting conditions | B020                        |          |                    |                             |

Reference pages: A-SSKPR: Insert → **B135 -**, CBN → **B195 -**

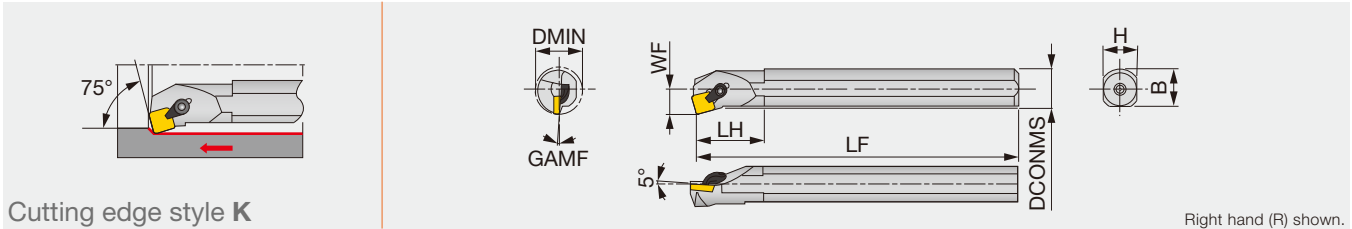
# SP



**Square without hole**  
**Positive 11°**

## S/C-CSKPR/L

Clamp-on boring bar, for positive square inserts



| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert      |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|
| S16Q-CSKPR09   | Steel    | 20   | 16     | 11 | 180 | 30 | 15 | 15   | -4°  | 0.8  | SP**0903... |
| S20R-CSKPR/L09 | Steel    | 25   | 20     | 13 | 200 | 40 | 18 | 18.5 | -2°  | 0.8  | SP**0903... |
| S25S-CSKPR12   | Steel    | 32   | 25     | 17 | 250 | 45 | 23 | 22.5 | 0°   | 0.8  | SP**1203... |

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS



| Designation    | Clamp set | Wrench |
|----------------|-----------|--------|
| S16Q-CSKPR09   | CSG-5S    | P-2.5  |
| S20R-CSKPR/L09 | CSG-5     | P-2.5  |
| S25S-CSKPR12   | CSG-6     | P-3    |

Reference pages: S/C-CSKPR/L: Insert → **B135 -**, CBN → **B195 -**, PCD → **B215**

# SN

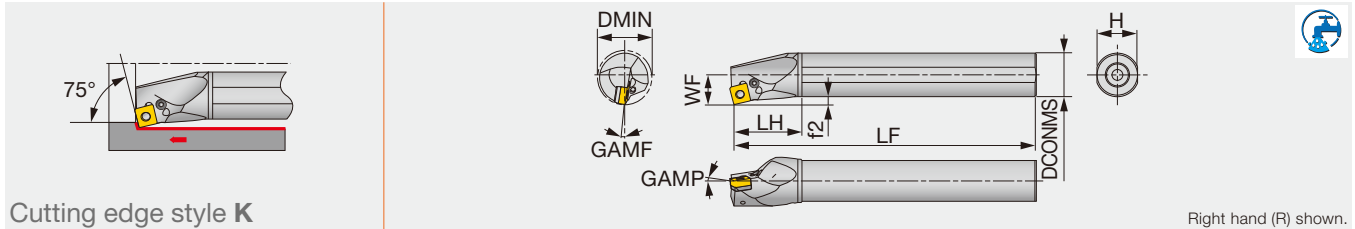


Square with hole

## STREAMJETBAR

A-PSKNR/L

Lever-lock boring bar, for negative square inserts



| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2 | GAMP | GAMF | RE** | Insert      | Torque |
|---------------------|----------|------|--------|----|-----|----|----|----|------|------|------|-------------|--------|
| A32S-PSKNR/L12-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6  | -6°  | -10° | 0.8  | SN**1204... | 4.8    |
| A40T-PSKNR/L12-D500 | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7  | -6°  | -10° | 0.8  | SN**1204... | 4.8    |
| A50U-PSKNR/L12-D630 | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10 | -6°  | -8°  | 0.8  | SN**1204... | 4.8    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (PSKNR\*\*) with left-hand inserts (L); and left-hand toolholders (PSKNL\*\*) with right-hand inserts (R).

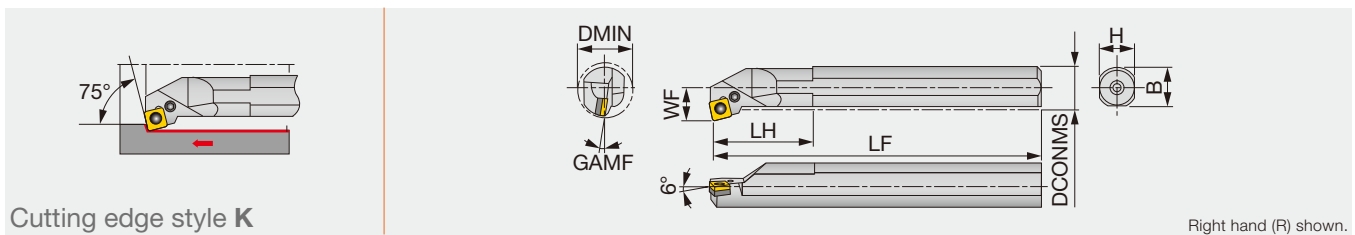
### SPARE PARTS

| Designation         | Shim      | Screw | Wrench | Spring pin | Lever | Oil supply attachment* | Screw for oil hole* |
|---------------------|-----------|-------|--------|------------|-------|------------------------|---------------------|
| A32S-PSKNR/L12-D400 | LSS42BR/L | LCS4  | P-3    | LSP4       | LCL4  | EA-32                  | SSHM4-5             |
| A40T-PSKNR/L12-D500 | LSS42BR/L | LCS4  | P-3    | LSP4       | LCL4  | -                      | SSHM6-6             |
| A50U-PSKNR/L12-D630 | LSS42BR/L | LCS4  | P-3    | LSP4       | LCL4  | -                      | SSHM6-6             |

\*Optional

## S-PSKNR

Lever-lock boring bar, for negative square inserts



| Metric       | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert      |
|--------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|
| S32S-PSKNR12 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 29.5 | -10° | 0.8  | SN**1204... |
| S40T-PSKNR12 | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 37.5 | -10° | 0.8  | SN**1204... |
| S50U-PSKNR12 | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 47.5 | -8°  | 0.8  | SN**1204... |

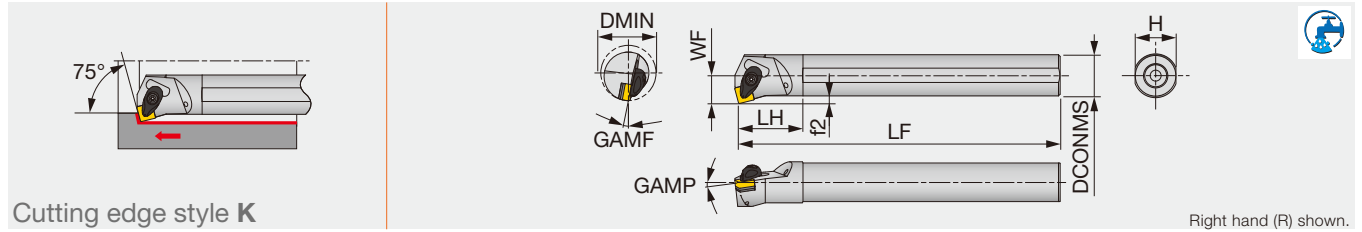
\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation | Shim    | Clamping screw | Wrench | Spring pin | Lever |
|-------------|---------|----------------|--------|------------|-------|
| S**-PSKNR12 | LSS42BR | LCS4           | P-3    | LSP4       | LCL4  |

Reference pages: A-PSKNR/L, S-PSKNR: Insert → **B077** -, CBN → **B180**, PCD → **B211**



| Inch             |  | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert     | Torque |
|------------------|--|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|------------|--------|
| A16-ASKNR/L4-D20 |  | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.770 | 0.906 | 0.177 | -6°  | -13° | 0.031 | SN** 43... | 2.21   |
| A20-ASKNR/L4-D25 |  | Steel    | 1.500 | 1.250  | 0.859 | 14.000 | 1.960 | 1.180 | 0.236 | -6°  | -10° | 0.031 | SN** 43... | 2.21   |

| Metric              |  | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|--|----------|------|--------|----|-----|----|----|-----|------|------|------|-------------|---------|
| A25R-ASKNR/L12-D320 |  | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | SN**1204... | 3       |
| A32S-ASKNR/L12-D400 |  | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | SN**1204... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE : Standard corner radius

| SPARE PARTS    |       |             |        |            |        |            |        |
|----------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| A**-ASKNR/L... | ACP4S | ACS-5W      | BP-7   | SP-2.5     | ASS422 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

|                          |                   |                     |                |                         |                         |
|--------------------------|-------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b>                 | Application       | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|                          | Grade             | NS9530              | GT9530         | T9215                   | T9215                   |
|                          | Breaker Shape     | TF                  | TSF            | TM                      | TH                      |
|                          | Images            |                     |                |                         |                         |
| Cutting conditions: B004 |                   |                     |                |                         |                         |
| <b>M</b>                 | Application       | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|                          | Grade             | T6215               | AH6225         | AH6225                  |                         |
|                          | Chipbreaker Shape | SF                  | SM             | SH                      |                         |
|                          | Images            |                     |                |                         |                         |
| Cutting conditions: B006 |                   |                     |                |                         |                         |
| <b>K</b>                 | Application       | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|                          | Grade             | T515                | T515           | T515                    |                         |
|                          | Breaker Shape     | All-round           | All-round      | All-round               |                         |
|                          | Images            |                     |                |                         |                         |
| Cutting conditions: B008 |                   |                     |                |                         |                         |
| <b>N</b>                 | Application       | Finishing           | Medium cutting |                         |                         |
|                          | Grade             | DX140               | TH10           |                         |                         |
|                          | Breaker Shape     | T-DIA               | P              |                         |                         |
|                          | Images            |                     |                |                         |                         |
| Cutting conditions: B010 |                   |                     |                |                         |                         |
| <b>S</b>                 | Application       | Precision finishing | Finishing      | Medium cutting          |                         |
|                          | Grade             | BX480               | AH8005         | AH8005                  |                         |
|                          | Breaker Shape     | T-CBN               | HRF            | HRM                     |                         |
|                          | Images            |                     |                |                         |                         |
| Cutting conditions: B012 |                   |                     |                |                         |                         |

Reference pages: A-ASKNR/L: Insert → **B077 -**, CBN → **B180**, PCD → **B211**



# TC

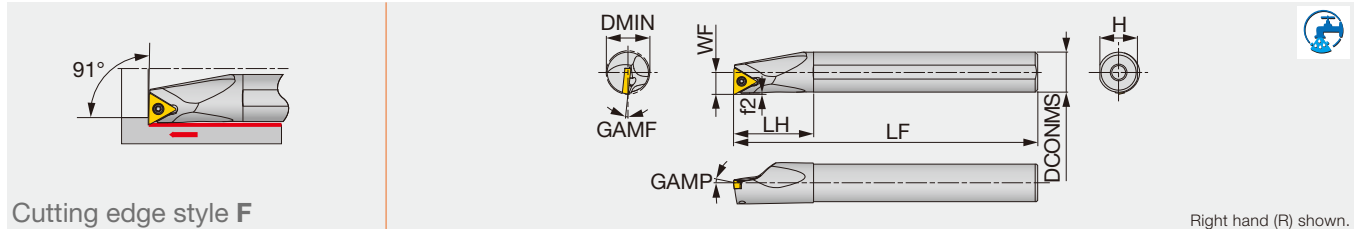


Triangular  
with hole  
Positive 7°

## STREAMJETBAR

A/E-STFCR/L

Screw-on boring bar, for positive 60° triangular inserts



| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2 | GAMP | GAMF | RE**  | Insert       | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|----|------|------|-------|--------------|--------|
| E06-STFCR/L2-D08 | Carbide  | 0.500 | 0.375  | 0.281 | 5.000 | 1.000 | 0.350 | -  | 0°   | -9°  | 0.016 | TC** 21.5... | 0.89   |
| E08-STFCR2-D11   | Carbide  | 0.688 | 0.500  | 0.406 | 5.000 | 1.062 | 0.475 | -  | 0°   | -6°  | 0.016 | TC** 21.5... | 0.89   |
| E10-STFCR2-D14   | Carbide  | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.600 | -  | 0°   | -5°  | 0.016 | TC** 21.5... | 0.89   |
| E12-STFCR3-D16   | Carbide  | 1.000 | 0.750  | 0.594 | 7.000 | 1.438 | 0.750 | -  | 0°   | -5°  | 0.032 | TC** 32.5... | 2.2    |

| Metric                | Material | DMIN | DCONMS | WF  | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|-----------------------|----------|------|--------|-----|-----|----|----|-----|------|------|------|-------------|---------|
| A10K-STFCR/L1103-D120 | Steel    | 12   | 10     | 6.5 | 125 | 20 | 9  | 0.6 | 0°   | -13° | 0.4  | TC**1103... | 1.2     |
| A12M-STFCR/L1103-D140 | Steel    | 14   | 12     | 7   | 150 | 24 | 11 | 0.5 | 0°   | -10° | 0.4  | TC**1103... | 1.2     |
| A16Q-STFCR/L1103-D180 | Steel    | 18   | 16     | 9   | 180 | 32 | 15 | 0.5 | 0°   | -7°  | 0.4  | TC**1103... | 1.2     |
| E10M-STFCR/L1103-D120 | Carbide  | 12   | 10     | 6.5 | 150 | 25 | 9  | 0.7 | 0°   | -13° | 0.4  | TC**1103... | 1.2     |
| E12Q-STFCR/L1103-D140 | Carbide  | 14   | 12     | 7   | 180 | 27 | 11 | 0.5 | 0°   | -10° | 0.4  | TC**1103... | 1.2     |
| E16R-STFCR/L1103-D180 | Carbide  | 18   | 16     | 9   | 200 | 32 | 15 | 0.5 | 0°   | -7°  | 0.4  | TC**1103... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (STFCR\*\*) with left-hand inserts (L); and left-hand toolholders (STFCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation          | Clamping screw | Wrench |
|----------------------|----------------|--------|
| E**-STFCR/L2-D...    | CSTB-2.5       | T-8F   |
| E12-STFCR3-D16       | CSTB-4S        | T15-F  |
| A**-STFCR/L1103-D... | CSTB-2.5       | T-8F   |
| E**-STFCR/L1103-D... | CSTB-2.5       | T-8F   |

### INSERT SELECTION

| P | Application        | Precision finishing | Finishing | Finishing to medium cutting | Medium cutting |
|---|--------------------|---------------------|-----------|-----------------------------|----------------|
|   | Grade              | SH725               | SH725     | T9215                       | T9215          |
|   | Breaker Shape      | JP                  | JS        | PS                          | PM             |
|   | Cutting conditions | B016                |           |                             |                |

| M | Application        | Precision finishing | Finishing | Finishing to medium cutting | Medium cutting |
|---|--------------------|---------------------|-----------|-----------------------------|----------------|
|   | Grade              | SH725               | SH725     | AH6225                      | AH6225         |
|   | Breaker Shape      | JP                  | JS        | PS                          | PM             |
|   | Cutting conditions | B018                |           |                             |                |

| K | Application        | Finishing to medium cutting |
|---|--------------------|-----------------------------|
|   | Grade              | T515                        |
|   | Breaker Shape      | CM                          |
|   | Cutting conditions | B020                        |

| N | Application        | Precision finishing | Finishing to medium cutting |
|---|--------------------|---------------------|-----------------------------|
|   | Grade              | DX120               | KS05F                       |
|   | Breaker Shape      | DIA                 | with rake AL                |
|   | Cutting conditions | B022                |                             |

| S | Application        | Precision finishing | Finishing | Finishing to medium cutting | Medium cutting |
|---|--------------------|---------------------|-----------|-----------------------------|----------------|
|   | Grade              | SH725               | SH725     | AH6225                      | AH6225         |
|   | Breaker Shape      | JP                  | JS        | PS                          | PM             |
|   | Cutting conditions | B024                |           |                             |                |

Reference pages: A/E-STFCR/L: Insert → **B138** -, PCD → **B216**



# TP

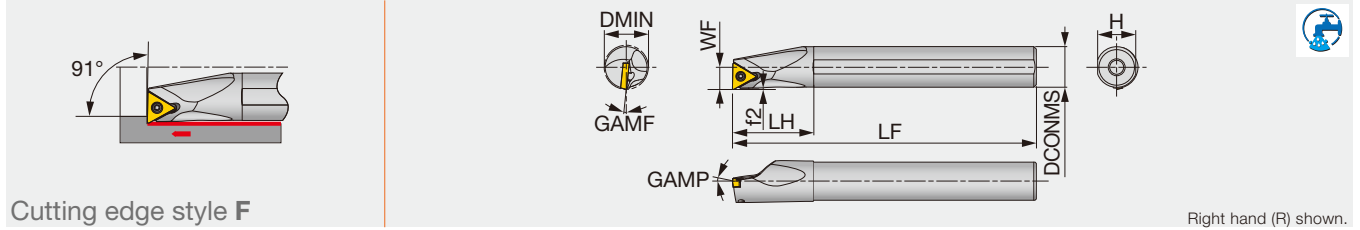


Triangular  
with hole  
Positive 11°

## STREAMJETBAR

A/E-STFPR/L

Screw-on boring bar, for positive 60° triangular inserts



Cutting edge style F

Right hand (R) shown.

| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2 | GAMP | GAMF | RE**  | Insert       | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|----|------|------|-------|--------------|--------|
| E06-STFPR2-D08   | Carbide  | 0.500 | 0.375  | 0.281 | 5.000 | 1.000 | 0.350 | -  | 0°   | -5°  | 0.016 | TP** 21.5... | 0.89   |
| E08-STFPR2-D11   | Carbide  | 0.688 | 0.500  | 0.406 | 5.000 | 1.062 | 0.475 | -  | 0°   | -3°  | 0.016 | TP** 21.5... | 0.89   |
| E10-STFPR2-D14   | Carbide  | 0.875 | 0.625  | 0.531 | 7.000 | 1.250 | 0.605 | -  | 0°   | -2°  | 0.016 | TP** 21.5... | 0.89   |
| E12-STFPR/L3-D16 | Carbide  | 1.000 | 0.750  | 0.594 | 7.000 | 1.438 | 0.725 | -  | 0°   | -2°  | 0.032 | TP** 32.5... | 2.2    |

| Metric                | Material | DMIN | DCONMS | WF   | LF  | LH | H   | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|-----------------------|----------|------|--------|------|-----|----|-----|-----|------|------|------|-------------|---------|
| A08H-STFPR/L09-D100   | Steel    | 10   | 8      | 5.5  | 100 | 16 | 7.5 | 0.7 | 5°   | -8°  | 0.4  | TP**0902... | 0.9     |
| A10K-STFPR/L1102-D120 | Steel    | 12   | 10     | 6.5  | 125 | 20 | 9   | 0.7 | 5°   | -6°  | 0.4  | TP**1102... | 1.2     |
| A12M-STFPR/L1102-D140 | Steel    | 14   | 12     | 7.0  | 150 | 24 | 11  | 0.6 | 5°   | -4°  | 0.4  | TP**1102... | 1.2     |
| A16Q-STFPR/L13-D180   | Steel    | 18   | 16     | 9    | 180 | 32 | 15  | 0.7 | 5°   | -2°  | 0.4  | TP**1303... | 1.4     |
| A20R-STFPR13-D220     | Steel    | 22   | 20     | 11   | 200 | 36 | 18  | 0.8 | 5°   | -2°  | 0.4  | TP**1303... | 1.4     |
| A25S-STFPR16-D270     | Steel    | 27   | 25     | 13.5 | 250 | 45 | 23  | 0.6 | 5°   | -1°  | 0.4  | TP**16T3... | 3       |
| E08K-STFPR/L09-D100   | Carbide  | 10   | 8      | 5.5  | 125 | 22 | 7.5 | 0.7 | 5°   | -8°  | 0.4  | TP**0902... | 0.9     |
| E10M-STFPR/L1102-D120 | Carbide  | 12   | 10     | 6.5  | 150 | 25 | 9   | 0.7 | 5°   | -6°  | 0.4  | TP**1102... | 1.2     |
| E12Q-STFPR/L1102-D140 | Carbide  | 14   | 12     | 7    | 180 | 27 | 11  | 0.6 | 5°   | -4°  | 0.4  | TP**1102... | 1.2     |
| E16R-STFPR13-D180     | Carbide  | 18   | 16     | 9    | 200 | 32 | 15  | 0.7 | 5°   | -2°  | 0.4  | TP**1303... | 1.4     |
| E20S-STFPR13-D220     | Carbide  | 22   | 20     | 11   | 250 | 36 | 18  | 0.8 | 5°   | -2°  | 0.4  | TP**1303... | 1.4     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE : Standard corner radius

Note: Use right-hand toolholders (STFPR\*\*) with left-hand inserts (L); and left-hand toolholders (STFPL\*\*) with right-hand inserts (R). TPGH, TPGM, and TPGA inserts cannot be used.

### INCH SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| E06-STFPR2-D08      | CSTB-2.5B      | T-8F   |
| E08/10-STFPR2-D1... | CSTB-2.5       | T-8F   |
| E12-STFPR/L3-D16    | CSTB-4S        | T-15F  |

### METRIC SPARE PARTS

| Designation           | Clamping screw | Wrench |
|-----------------------|----------------|--------|
| A08H-STFPR/L09-D100   | CSTB-2.2S      | T-7F   |
| A10K-STFPR/L1102-D120 | CSTB-2.5B      | T-8F   |
| A12M-STFPR/L1102-D140 | CSTB-2.5       | T-8F   |
| A16Q-STFPR/L13-D180   | CSTB-3S        | T-9F   |
| A20R-STFPR13-D220     | CSTB-3         | T-9F   |
| A25S-STFPR16-D270     | CSTB-4M        | T-15F  |
| E08K-STFPR/L09-D100   | CSTB-2.2S      | T-7F   |
| E10M-STFPR/L1102-D120 | CSTB-2.5B      | T-8F   |
| E12Q-STFPR/L1102-D140 | CSTB-2.5       | T-8F   |
| E16R-STFPR13-D180     | CSTB-3S        | T-9F   |
| E20S-STFPR13-D220     | CSTB-3         | T-9F   |

### INSERT SELECTION

|                    |               |                             |                             |                |                     |                    |               |                             |                    |               |                     |           |
|--------------------|---------------|-----------------------------|-----------------------------|----------------|---------------------|--------------------|---------------|-----------------------------|--------------------|---------------|---------------------|-----------|
| <b>P</b>           | Application   | Finishing                   | Finishing to medium cutting | Medium cutting | <b>M</b>            | Application        | Finishing     | Finishing to medium cutting | Medium cutting     |               |                     |           |
|                    | Grade         | NS9530                      | T9215                       | T9215          |                     | Grade              | AH6225        | AH6225                      | AH6225             |               |                     |           |
|                    | Breaker Shape | PSS                         | PS                          | PM             |                     | Breaker Shape      | PSS           | PS                          | PM                 |               |                     |           |
| Cutting conditions |               |                             |                             | B016           | Cutting conditions  |                    |               |                             | B018               |               |                     |           |
| <b>K</b>           | Application   | Finishing to medium cutting | <b>N</b>                    | Application    | Precision finishing | <b>S</b>           | Application   | Precision finishing         | <b>H</b>           | Application   | Precision finishing | Finishing |
|                    | Grade         | T515                        |                             | Grade          | DX140               |                    | Grade         | BX470                       |                    | Grade         | BXA10               | BXA20     |
|                    | Breaker Shape | CM                          |                             | Breaker Shape  | DIA                 |                    | Breaker Shape | CBN                         |                    | Breaker Shape | HP                  | HS        |
| Cutting conditions |               | B020                        | Cutting conditions          |                | B022                | Cutting conditions |               | B024                        | Cutting conditions |               | B026                |           |

Reference pages: A/E-STFPR/L: Insert → B142 -, CBN → B199 -, PCD → B216 -



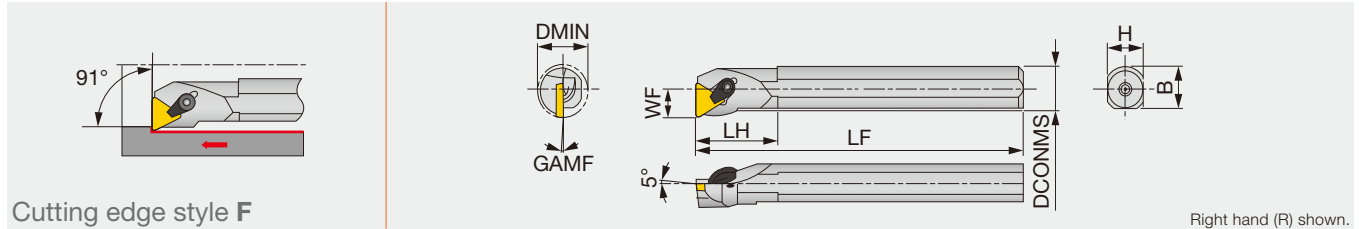
# TP



**Triangular  
without hole  
Positive 11°**

## S/C-CTFPR/L

Clamp-on boring bar, for positive 60° triangular inserts



| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert      |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|
| S12M-CTFPR/L11 | Steel    | 16   | 12     | 9  | 150 | 25 | 11 | 11.5 | -6°  | 0.4  | TP**1103... |
| S16Q-CTFPR/L11 | Steel    | 20   | 16     | 11 | 180 | 30 | 15 | 15   | -4°  | 0.4  | TP**1103... |
| S20R-CTFPR/L16 | Steel    | 25   | 20     | 13 | 200 | 40 | 18 | 18.5 | -2°  | 0.8  | TP**1603... |
| S25S-CTFPR/L16 | Steel    | 32   | 25     | 17 | 250 | 45 | 23 | 22.5 | 0°   | 0.8  | TP**1603... |
| S32T-CTFPR/L16 | Steel    | 40   | 32     | 22 | 300 | 50 | 30 | 29.5 | 0°   | 0.8  | TP**1603... |
| C12Q-CTFPR/L11 | Carbide  | 16   | 12     | 9  | 180 | -  | 11 | -    | -6°  | 0.4  | TP**1103... |
| C16R-CTFPR/L11 | Carbide  | 20   | 16     | 11 | 200 | -  | 15 | -    | -4°  | 0.4  | TP**1103... |

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation    | Clamp set 1 | Clamp set 2 | Wrench | Shim   | Shim screw |
|----------------|-------------|-------------|--------|--------|------------|
| S12M-CTFPR/L11 | CSW-00      | -           | P-2.5  | -      | -          |
| S16Q-CTFPR/L11 | -           | CSG-5S      | P-2.5  | -      | -          |
| S20R-CTFPR/L16 | -           | CSG-6S      | P-3    | -      | -          |
| S25S-CTFPR/L16 | -           | CSG-6       | P-3    | -      | -          |
| S32T-CTFPR/L16 | -           | CSG-6       | P-3    | PAT-32 | M3X0.5X6   |
| C12Q-CTFPR/L11 | CSW-00      | -           | P-2.5  | -      | -          |
| C16R-CTFPR/L11 | -           | CSG-5S      | P-2.5  | -      | -          |

Reference pages: S/C-CTFPR/L: Insert → **B142 -**, CBN → **B199 -**, PCD → **B217 -**

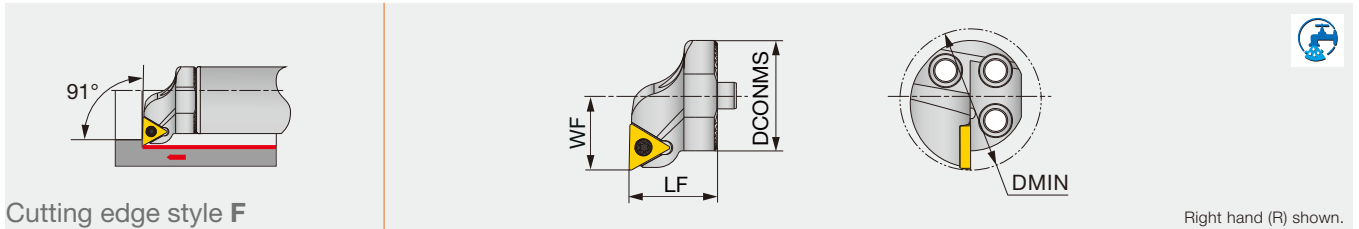
# TP



**Triangular  
with hole  
Positive 11°**

## BOREMEISTER S-STFPR/L-H

Screw-on clamp exchangeable boring head, for positive 60° triangular inserts



Cutting edge style F

Right hand (R) shown.

| Inch            | DMIN  | DCONMS | WF    | LF    | Shank               | Insert       |
|-----------------|-------|--------|-------|-------|---------------------|--------------|
| S16-STFPR/L09-H | 0.787 | 0.630  | 0.433 | 0.787 | D/G.625             | TP** 73...   |
| S16-STFPR/L11-H | 0.787 | 0.630  | 0.433 | 0.787 | D/G.625             | TP** 21.5... |
| S20-STFPR/L11-H | 0.984 | 0.787  | 0.512 | 0.787 | D/G.750             | TP** 21.5... |
| S25-STFPR/L11-H | 1.260 | 0.984  | 0.669 | 0.787 | D1.00               | TP** 21.5... |
| S32-STFPR/L16-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | TP** 32.5... |
| S40-STFPR/L16-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | TP** 32.5... |

Note: Use right-hand toolholders (STFPR\*\*) with left-hand inserts (L); and left-hand toolholders (STFPL\*\*) with right-hand inserts (R).

### SPARE PARTS



| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| S16-STFPR/L09-H | CSTB-2.2S      | T-7F   |
| S16-STFPR/L11-H | CSTB-2.5       | T-8F   |
| S20-STFPR/L11-H | CSTB-2.5       | T-8F   |
| S25-STFPR/L11-H | CSTB-2.5       | T-8F   |
| S32-STFPR/L16-H | CSTB-4M        | T-15F  |
| S40-STFPR/L16-H | CSTB-4M        | T-15F  |

### INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH6225                      | AH6225         |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | DX140               |
| Breaker Shape      | DIA with rake       |
| Cutting conditions | B022                |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | BX470               |
| Breaker Shape      | CBN                 |
| Cutting conditions | B024                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

Reference pages: S-STFPR/L-H: Insert → B142 -, CBN → B199 -, PCD → B216 -  
Shank → D090 - D092



# TP

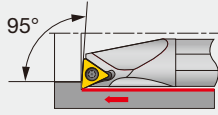


Triangular  
with hole  
Positive 11°

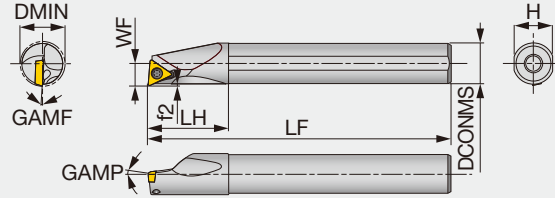
## STREAMJETBAR

A/E-STUPR/L

Screw-on boring bar, for positive 60° triangular inserts



Cutting edge style U



Right hand (R) shown.

| Inch               | Material | DMIN  | DCONMS | WF    | LF   | LH    | H     | f2 | GAMP | GAMF | RE**  | Insert                      | Torque |
|--------------------|----------|-------|--------|-------|------|-------|-------|----|------|------|-------|-----------------------------|--------|
| A05-STUPR/L7-D07   | Steel    | 0.438 | 0.313  | 0.250 | 5.00 | 0.625 | 2.880 | -  | 5°   | -7°  | 0.016 | TP** 73... <sup>(1)</sup>   | 0.66   |
| A06-STUPR/L2-D08   | Steel    | 0.500 | 0.375  | 0.281 | 5.00 | 0.750 | 0.350 | -  | 5°   | -5°  | 0.016 | TP** 21.5... <sup>(1)</sup> | 0.89   |
| A08-STUPR/L2-D11   | Steel    | 0.688 | 0.500  | 0.406 | 5.00 | 1.000 | 0.475 | -  | 5°   | -3°  | 0.016 | TP** 21.5... <sup>(1)</sup> | 0.89   |
| A10-STUPR/L2-D14   | Steel    | 0.875 | 0.625  | 0.531 | 7.00 | 1.250 | 0.600 | -  | 5°   | -2°  | 0.016 | TP** 21.5... <sup>(1)</sup> | 1.00   |
| A10-STUPR/L2.5-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.00 | 1.250 | 0.600 | -  | 5°   | -2°  | 0.016 | TP** 22... <sup>(1)</sup>   | 1.00   |
| A12-STUPR/L3-D16   | Steel    | 1.000 | 0.750  | 0.594 | 7.00 | 1.437 | 0.725 | -  | 5°   | -2°  | 0.032 | TP** 32.5... <sup>(1)</sup> | 1.00   |
| A16-STUPR/L3-D20   | Steel    | 1.250 | 1.000  | 0.688 | 7.00 | 1.750 | 0.975 | -  | 5°   | 0°   | 0.032 | TP** 32.5... <sup>(1)</sup> | 2.20   |
| E05-STUPR7-D07     | Carbide  | 0.438 | 0.313  | 0.250 | 5.00 | 0.625 | 2.880 | -  | 5°   | -7°  | 0.016 | TP** 73... <sup>(1)</sup>   | 0.66   |
| E06-STUPR2-D08     | Carbide  | 0.500 | 0.375  | 0.281 | 5.00 | 0.750 | 0.350 | -  | 5°   | -5°  | 0.016 | TP** 21.5... <sup>(1)</sup> | 0.89   |
| E08-STUPR2-D11     | Carbide  | 0.688 | 0.500  | 0.406 | 5.00 | 1.000 | 0.475 | -  | 5°   | -3°  | 0.016 | TP** 21.5... <sup>(1)</sup> | 0.89   |
| E10-STUPR2.5-D14   | Carbide  | 0.875 | 0.625  | 0.531 | 7.00 | 1.250 | 0.600 | -  | 5°   | -2°  | 0.016 | TP** 22... <sup>(1)</sup>   | 1.00   |

| Metric                | Material | DMIN | DCONMS | WF   | LF  | LH   | H    | f2  | GAMP | GAMF | RE** | Insert                     | Torque* |
|-----------------------|----------|------|--------|------|-----|------|------|-----|------|------|------|----------------------------|---------|
| A07G-STUPR/L07-D080   | Steel    | 8    | 7      | 4    | 90  | 12   | 6.75 | 0.4 | 5°   | -10° | 0.4  | TP**0701...                | 0.9     |
| A08H-STUPR/L07-D080   | Steel    | 8    | 8      | 4    | 100 | 19.5 | 7.5  | 0.5 | 5°   | -10° | 0.4  | TP**0701...                | 0.9     |
| A08H-STUPR/L09-D100   | Steel    | 10   | 8      | 5.5  | 100 | 16   | 7.5  | 0.6 | 5°   | -8°  | 0.4  | TP**0902... <sup>(1)</sup> | 0.9     |
| A10F-STUPR1102-D120   | Steel    | 12   | 10     | 6.5  | 80  | 20   | 9    | 1.4 | 5°   | -6°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| A10K-STUPR/L1102-D120 | Steel    | 12   | 10     | 6.5  | 125 | 20   | 9    | 0.7 | 5°   | -6°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| A10K-STUPR/L1103-D120 | Steel    | 12   | 10     | 6.5  | 125 | 20   | 9    | 0.6 | 5°   | -10° | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| A12H-STUPR1102-D140   | Steel    | 14   | 12     | 7    | 100 | 24   | 11   | 0.8 | 5°   | -4°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| A12M-STUPR/L1102-D140 | Steel    | 14   | 12     | 7    | 150 | 24   | 11   | 0.8 | 5°   | -4°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| A12M-STUPR/L1103-D140 | Steel    | 14   | 12     | 7    | 150 | 24   | 11   | 0.6 | 5°   | -6°  | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| A12H-STUPR1102-D160   | Steel    | 16   | 12     | 9    | 100 | 24   | 11   | 0.6 | 5°   | -3°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| A12M-STUPR/L1102-D160 | Steel    | 16   | 12     | 9    | 150 | 24   | 11   | 0.6 | 5°   | -3°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| A16K-STUPR13-D180     | Steel    | 18   | 16     | 9    | 125 | 32   | 15   | 0.8 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| A16Q-STUPR/L1103-D180 | Steel    | 18   | 16     | 9    | 180 | 32   | 15   | 0.8 | 5°   | -4°  | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| A16Q-STUPR/L13-D180   | Steel    | 18   | 16     | 9    | 180 | 32   | 15   | 0.8 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| A16K-STUPR13-D200     | Steel    | 20   | 16     | 11   | 125 | 32   | 15   | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| A16Q-STUPR/L13-D200   | Steel    | 20   | 16     | 11   | 180 | 32   | 15   | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| A20R-STUPR/L1103-D220 | Steel    | 22   | 20     | 11   | 200 | 36   | 18   | 0.7 | 5°   | -2°  | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| A20R-STUPR/L13-D220   | Steel    | 22   | 20     | 11   | 200 | 36   | 18   | 0.7 | 5°   | -2°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| A25S-STUPR/L16-D270   | Steel    | 27   | 25     | 13.5 | 250 | 45   | 23   | 0.5 | 5°   | -1°  | 0.8  | TP**16T3... <sup>(1)</sup> | 3       |
| A32T-STUPR/L16-D340   | Steel    | 34   | 32     | 17   | 300 | 50   | 30   | 0.7 | 5°   | 0°   | 0.8  | TP**16T3...                | 3       |
| E07H-STUPR/L07-D080   | Carbide  | 8    | 7      | 4    | 100 | 14   | 6.75 | 0.3 | 5°   | -10° | 0.4  | TP**0701...                | 0.9     |
| E08G-STUPR07-D080     | Carbide  | 8    | 8      | 4    | 90  | 44.5 | 7.5  | 0.5 | 5°   | -10° | 0.4  | TP**0701...                | 0.9     |
| E08K-STUPR/L07-D080   | Carbide  | 8    | 8      | 4    | 125 | 44.5 | 7.5  | 0.5 | 5°   | -10° | 0.4  | TP**0701...                | 0.9     |
| E08G-STUPR09-D100     | Carbide  | 10   | 8      | 5.5  | 90  | 22   | 7    | 0.6 | 5°   | -8°  | 0.4  | TP**0902... <sup>(1)</sup> | 0.9     |
| E08K-STUPR/L09-D100   | Carbide  | 10   | 8      | 5.5  | 125 | 22   | 7    | 0.6 | 5°   | -8°  | 0.4  | TP**0902... <sup>(1)</sup> | 0.9     |
| E10F-STUPR1102-D120   | Carbide  | 12   | 10     | 6.5  | 80  | 25   | 9    | 0.5 | 5°   | -6°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E10H-STUPR1102-D120   | Carbide  | 12   | 10     | 6.5  | 100 | 25   | 9    | 0.6 | 5°   | -6°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E10M-STUPR/L1102-D120 | Carbide  | 12   | 10     | 6.5  | 150 | 25   | 9    | 0.6 | 5°   | -6°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E10M-STUPR/L1103-D120 | Carbide  | 12   | 10     | 6.5  | 150 | 25   | 9    | 0.7 | 5°   | -10° | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| E12G-STUPR1102-D140   | Carbide  | 14   | 12     | 7    | 90  | 27   | 11   | 0.8 | 5°   | -4°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E12J-STUPR1102-D140   | Carbide  | 14   | 12     | 7    | 110 | 27   | 11   | 0.8 | 5°   | -4°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E12Q-STUPR/L1102-D140 | Carbide  | 14   | 12     | 7    | 180 | 27   | 11   | 0.8 | 5°   | -4°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E12Q-STUPR/L1103-D140 | Carbide  | 14   | 12     | 7    | 180 | 27   | 11   | 0.7 | 5°   | -6°  | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| E12G-STUPR1102-D160   | Carbide  | 16   | 12     | 9    | 90  | 27   | 11   | 0.6 | 5°   | -3°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E12J-STUPR1102-D160   | Carbide  | 16   | 12     | 9    | 110 | 27   | 11   | 0.6 | 5°   | -3°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |

| Metric                | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert                     | Torque* |
|-----------------------|----------|------|--------|------|-----|----|----|-----|------|------|------|----------------------------|---------|
| E12Q-STUPR/L1102-D160 | Carbide  | 16   | 12     | 9    | 180 | 27 | 11 | 0.6 | 5°   | -3°  | 0.4  | TP**1102... <sup>(1)</sup> | 1.2     |
| E16H-STUPR13-D180     | Carbide  | 18   | 16     | 9    | 100 | 32 | 15 | 0.9 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E16R-STUPR/L1103-D180 | Carbide  | 18   | 16     | 9    | 200 | 32 | 15 | 0.8 | 5°   | -3°  | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| E16R-STUPR13-D180     | Carbide  | 18   | 16     | 9    | 130 | 32 | 15 | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E16R-STUPR/L13-D180   | Carbide  | 18   | 16     | 9    | 200 | 32 | 15 | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E16H-STUPR13-D200     | Carbide  | 20   | 16     | 11   | 100 | 32 | 15 | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E16L-STUPR13-D200     | Carbide  | 20   | 16     | 11   | 130 | 32 | 15 | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E16R-STUPR/L13-D200   | Carbide  | 20   | 16     | 11   | 200 | 32 | 15 | 0.6 | 5°   | -3°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E20S-STUPR1103-D220   | Carbide  | 22   | 20     | 11   | 250 | 36 | 18 | 0.7 | 5°   | -2°  | 0.4  | TP**1103... <sup>(1)</sup> | 1.4     |
| E20S-STUPR13-D220     | Carbide  | 22   | 20     | 11   | 250 | 36 | 18 | 0.6 | 5°   | -2°  | 0.4  | TP**1303... <sup>(1)</sup> | 1.4     |
| E25T-STUPR16-D270     | Carbide  | 27   | 25     | 13.5 | 300 | 45 | 23 | 0.5 | 5°   | -1°  | 0.8  | TP**16T3...                | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (STUPR\*\*) with left-hand inserts (L); and left-hand toolholders (STUPL\*\*) with right-hand inserts (R).

(1) TPGH, TPGM, and TPGA inserts cannot be used.

### INCH SPARE PARTS

| Designation        | Clamping screw | Wrench |
|--------------------|----------------|--------|
| A05-STUPR/L7-D07   | CSTB-2.2S      | T-7F   |
| A06-STUPR/L2-D08   | CSTB-2.5S      | T-8F   |
| A08-STUPR/L2-D11   | CSTB-2.5B      | T-8F   |
| A10-STUPR/L2-D14   | CSTB-2.5       | T-8F   |
| A10-STUPR/L2.5-D14 | CSTB-2.5       | T-8F   |
| A12-STUPR/L3-D16   | CSTB-4M        | T-15F  |
| A16-STUPR/L3-D20   | CSTB-4M        | T-15F  |
| E05-STUPR7-D07     | CSTB-2.2S      | T-7F   |
| E06-STUPR2-D08     | CSTB-2.5S      | T-8F   |
| E08-STUPR2-D11     | CSTB-2.5B      | T-8F   |
| E10-STUPR2.5-D14   | CSTB-3         | T-9F   |

### METRIC SPARE PARTS

| Designation            | Clamping screw | Wrench |
|------------------------|----------------|--------|
| A/E07*-STUPR/L07-...   | CSTB-2.2L038   | T-7F   |
| A/E08*-STUPR/L07-...   | CSTB-2.2L038   | T-7F   |
| A/E08*-STUPR/L09-...   | CSTB-2.2L038   | T-7F   |
| A/E10*-STUPR/L1102-... | CSTB-2.5S      | T-8F   |
| A/E10*-STUPR/L1103-... | CSTB-3L050     | T-9F   |
| A/E12*-STUPR/L1102-... | CSTB-2.5B      | T-8F   |
| A/E12*-STUPR/L1103-... | CSTB-3L050     | T-9F   |
| A/E16*-STUPR/L1103-... | CSTB-3S        | T-9F   |
| A/E16*-STUPR/L13-...   | CSTB-3S        | T-9F   |
| A/E20*-STUPR/L1103-... | CSTB-3S        | T-9F   |
| A/E20*-STUPR/L13-...   | CSTB-3         | T-9F   |
| A/E25*-STUPR/L16-...   | CSTB-4M        | T-15F  |
| A32*-STUPR/L16-...     | CSTB-4M        | T-15F  |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH6225                      | AH6225         |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | DX140               |
| Breaker Shape      | DIA                 |
| Cutting conditions | B022                |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | BX470               |
| Breaker Shape      | CBN                 |
| Cutting conditions | B024                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

Reference pages: A/E-STUPR/L: Insert → B142 -, CBN → B199 -, PCD → B216 -

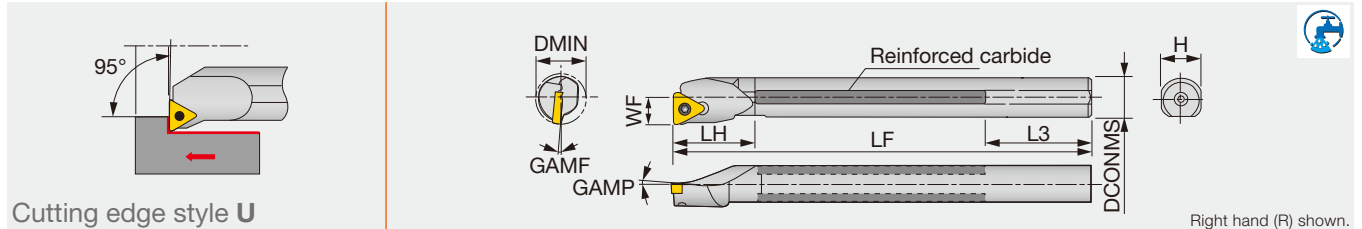
# TP



**Triangular  
with hole  
Positive 11°**

## T-STUPR/L

Screw-on boring bar, for positive 60° triangular inserts (Tsuppari-Ichiban)



| Metric            | Material   | DMIN | CNT   | DCONMS | WF   | LF  | LH | L3 | H  | GAMP | GAMF  | RE** | Insert      | Torque |
|-------------------|------------|------|-------|--------|------|-----|----|----|----|------|-------|------|-------------|--------|
| T12M-STUPR11-D14  | Reinforced | 14   | -     | 12     | 7    | 150 | 24 | 59 | 11 | 5°   | -4°   | 0.4  | TP**1102... | 1.2    |
| T12M-STUPR/L11    | Reinforced | 16   | -     | 12     | 9    | 150 | 24 | 58 | 11 | 5°   | -4°   | 0.4  | TP**1102... | 1.2    |
| T16Q-STUPR13-D18  | Reinforced | 18   | -     | 16     | 9    | 180 | 30 | 59 | 15 | 5°   | -3.5° | 0.4  | TP**1303... | 1.4    |
| T16Q-STUPR/L13    | Reinforced | 20   | -     | 16     | 11   | 180 | 30 | 59 | 15 | 5°   | -3°   | 0.4  | TP**1303... | 1.4    |
| T20R-STUPR13C-D22 | Reinforced | 22   | Rc1/4 | 20     | 11   | 200 | 35 | 49 | 18 | 5°   | -2°   | 0.4  | TP**1303... | 1.4    |
| T20R-STUPR/L13    | Reinforced | 24   | -     | 20     | 13   | 200 | 40 | 49 | 18 | 5°   | -2°   | 0.4  | TP**1303... | 1.4    |
| T25S-STUPR16C-D27 | Reinforced | 27   | Rc1/4 | 25     | 13.5 | 250 | 40 | 64 | 23 | 5°   | -1°   | 0.8  | TP**16T3... | 3      |
| T25S-STUPR/L16    | Reinforced | 31   | -     | 25     | 17   | 250 | 45 | 64 | 23 | 5°   | 0°    | 0.8  | TP**16T3... | 3      |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (STUPR\*\*) with left-hand inserts (L); and left-hand toolholders (STUPL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation       | Clamping screw | Wrench |
|-------------------|----------------|--------|
| T12M-STUPR11-D14  | CSTB-2.5B      | T-8F   |
| T12M-STUPR/L11    | CSTB-2.5       | T-8F   |
| T16Q-STUPR13-D18  | CSTB-3S        | T-9F   |
| T16Q-STUPR/L13    | CSTB-3         | T-9F   |
| T20R-STUPR13C-D22 | CSTB-3S        | T-9F   |
| T20R-STUPR/L13    | CSTB-3         | T-9F   |
| T25S-STUPR/L16... | CSTB-4S        | T-15F  |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | NS9530                      | T9215          |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH6225                      | AH6225         |
| Breaker Shape      | PSS       | PS                          | PM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Cutting conditions | B020                        |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | DX140               |
| Breaker Shape      | DIA with rake       |
| Cutting conditions | B022                |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | BX470               |
| Breaker Shape      | CBN                 |
| Cutting conditions | B024                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B026                |           |

Reference pages: T-STUPR/L: Insert → **B142 -**, CBN → **B199 -**, PCD → **B216 -**

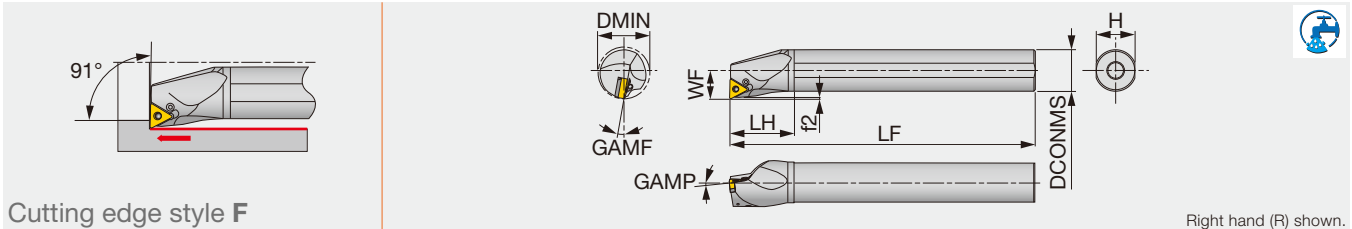
# TN



Triangular with hole

## STREAMJETBAR A-PTFNR/L

Lever-lock boring bar, for negative triangular inserts



| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2   | GAMP | GAMF | RE** | Insert      | Torque |
|-----------------------|----------|------|--------|----|-----|----|----|------|------|------|------|-------------|--------|
| A25R-PTFNR/L1104-D320 | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 1.31 | -6°  | -12° | 0.8  | TN**1104... | 2      |
| A32S-PTFNR/L1104-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 1.25 | -6°  | -10° | 0.8  | TN**1104... | 2      |
| A25R-PTFNR/L16-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 1.2  | -6°  | -12° | 0.8  | TN**1604... | 2.7    |
| A32S-PTFNR/L16-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 1.1  | -6°  | -10° | 0.8  | TN**1604... | 2.7    |
| A40T-PTFNR/L16-D500   | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 1.1  | -6°  | -10° | 0.8  | TN**1604... | 2.7    |
| A50U-PTFNR/L16-D630   | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 1.1  | -6°  | -8°  | 0.8  | TN**1604... | 2.7    |

Torque: Recommended clamping torque: N·m \*\*RE : Standard corner radius

Note: Use right-hand toolholders (PTFNR\*\*) with left-hand inserts (L); and left-hand toolholders (PTFNL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation           | Shim        | Clamping screw 1 | Clamping screw 2 | Wrench | Spring pin | Lever | Oil supply attachment* | Screw for oil hole* |
|-----------------------|-------------|------------------|------------------|--------|------------|-------|------------------------|---------------------|
| A25R-PTFNR/L1104-D320 | -           | LCS23A           | -                | P-2.5  | -          | LCL23 | EA-25                  | SSHM4-5             |
| A32S-PTFNR/L1104-D400 | -           | LCS23A           | -                | P-2.5  | -          | LCL23 | EA-32                  | SSHM4-5             |
| A25R-PTFNR/L16-D320   | ELST317BR/L | -                | LCS3             | P-2.5  | LSP3       | LCL33 | EA-25                  | SSHM4-5             |
| A32S-PTFNR/L16-D400   | LST317BR/L  | -                | LCS3             | P-2.5  | LSP3       | LCL3  | EA-32                  | SSHM4-5             |
| A40T-PTFNR/L16-D500   | LST317BR/L  | -                | LCS3             | P-2.5  | LSP3       | LCL3  | -                      | SSHM6-6             |
| A50U-PTFNR/L16-D630   | LST317BR/L  | -                | LCS3             | P-2.5  | LSP3       | LCL3  | -                      | SSHM6-6             |

\*Optional

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Breaker Shape      | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Breaker Shape      | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
|                    | Grade               | DX120         | DX140          |
| Breaker Shape      | DIA                 | with rake DIA | P              |
| Cutting conditions | B010                |               |                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B014                |           |

Reference pages: A-PTFNR/L: Insert → B087 -, CBN → B182 -, PCD → B212





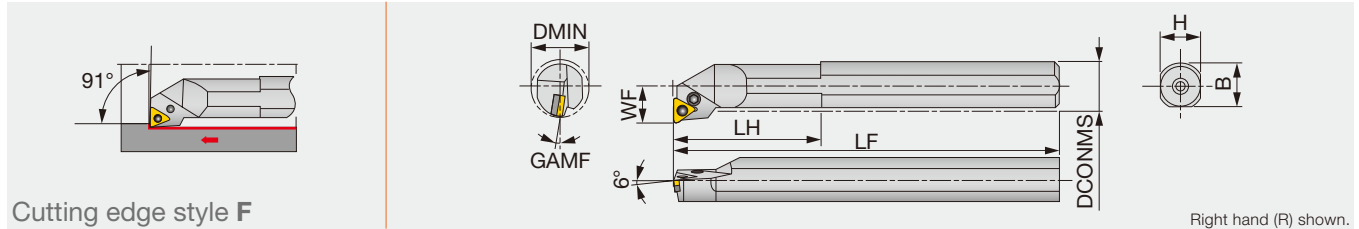
# TN



Triangular  
with hole

## S-PTFNR/L

Lever-lock boring bar, for negative 60° triangular inserts



| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert      | Torque |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|--------|
| S32S-PTFNR/L16 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 29.5 | -10° | 0.8  | TN**1604... | 2.7    |
| S40T-PTFNR/L16 | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 37.5 | -10° | 0.8  | TN**1604... | 2.7    |
| S50U-PTFNR16   | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 47.5 | -8°  | 0.8  | TN**1604... | 2.7    |

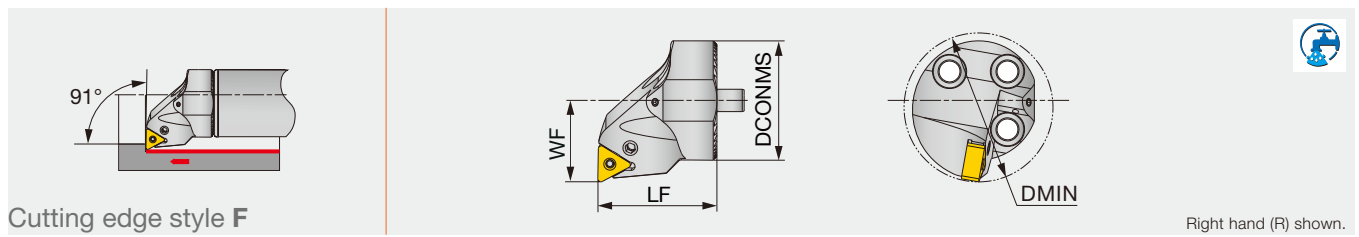
Torque: Recommended clamping torque: N·m \*\*RE : Standard corner radius  
 Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

| SPARE PARTS  | Shim     | Clamping screw | Wrench | Spring pin | Lever |
|--------------|----------|----------------|--------|------------|-------|
| S32S-PTFNR16 | LST317BR | LCS3           | P-2.5  | LSP3       | LCL3  |
| S32S-PTFNL16 | LST317BL | LCS3           | P-2.5  | LSP3       | LCL3  |
| S40T-PTFNR16 | LST317BR | LCS3           | P-2.5  | LSP3       | LCL3  |
| S40T-PTFNL16 | LST317BL | LCS3           | P-2.5  | LSP3       | LCL3  |
| S50U-PTFNR16 | LST317BR | LCS3           | P-2.5  | LSP3       | LCL3  |

# BOREMEISTER

## S-PTFNR/L-H

Lever-lock clamp exchangeable boring head, for negative 60° triangular inserts

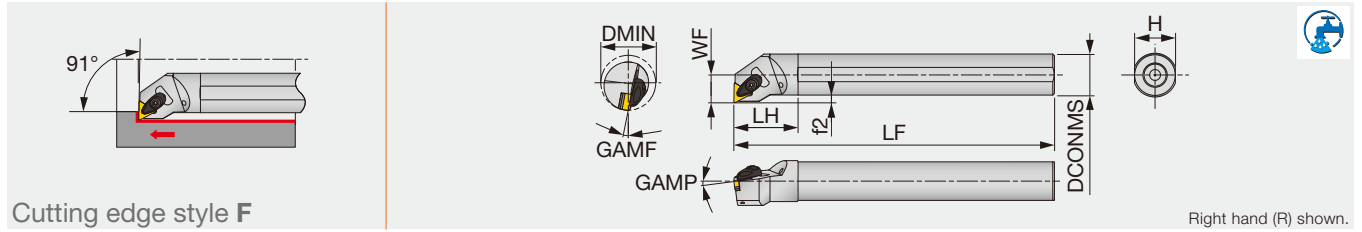


| Inch            | DMIN  | DCONMS | WF    | LF    | Shank               | Insert     |
|-----------------|-------|--------|-------|-------|---------------------|------------|
| S32-PTFNR/L11-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | TN** 23... |
| S40-PTFNR/L11-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | TN** 23... |

Note: Use right-hand toolholders (PTFNR\*\*) with left-hand inserts (L); and left-hand toolholders (PTFNL\*\*) with right-hand inserts (R).

| SPARE PARTS     | Lever | Clamping screw | Wrench |
|-----------------|-------|----------------|--------|
| S**-PTFNR/L11-H | LCL23 | LCS23A         | P-2.5  |

Reference pages: S-PTFNR/L: Insert → **B087 -**, CBN → **B182 -**, PCD → **B212**  
 S-PTFNR/L-H: Insert → **B087 -**  
 Shank → **D090 - D092**



| Inch             |  | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert     | Torque |
|------------------|--|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|------------|--------|
| A16-ATFNR/L3-D20 |  | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.770 | 0.906 | 0.177 | -6°  | -13° | 0.031 | TN** 33... | 2.21   |
| A20-ATFNR/L3-D25 |  | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.960 | 1.180 | 0.236 | -6°  | -10° | 0.031 | TN** 33... | 2.21   |

| Metric              |  | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|--|----------|------|--------|----|-----|----|----|-----|------|------|------|-------------|---------|
| A25R-ATFNR/L16-D320 |  | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | TN**1604... | 3       |
| A32S-ATFNR/L16-D400 |  | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | TN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 \*\*RE : Standard corner radius

| SPARE PARTS    |       |             |        |            |        |            |        |
|----------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| A**-ATFNR/L... | ACP3S | ACS-5W      | BP-7   | SP-2.5     | AST322 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

|          |                    |                     |           |                |                         |
|----------|--------------------|---------------------|-----------|----------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530    | T9215          | T9215                   |
|          | Breaker Shape      | TF                  | TSF       | TM             | TH                      |
|          | Cutting conditions | B004                |           |                |                         |

|          |                    |           |                |
|----------|--------------------|-----------|----------------|
| <b>M</b> | Application        | Finishing | Medium cutting |
|          | Grade              | T6215     | AH6225         |
|          | Breaker Shape      | SF        | SM             |
|          | Cutting conditions | B006      |                |

|          |                    |           |                |                         |
|----------|--------------------|-----------|----------------|-------------------------|
| <b>K</b> | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|          | Grade              | T515      | T515           | T515                    |
|          | Breaker Shape      | All-round | All-round      | All-round               |
|          | Cutting conditions | B008      |                |                         |

|          |                    |                     |               |                |
|----------|--------------------|---------------------|---------------|----------------|
| <b>N</b> | Application        | Precision finishing | Finishing     | Medium cutting |
|          | Grade              | DX120               | DX140         | TH10           |
|          | Breaker Shape      | DIA                 | with rake DIA | P              |
|          | Cutting conditions | B010                |               |                |

|          |                    |                     |           |                |
|----------|--------------------|---------------------|-----------|----------------|
| <b>S</b> | Application        | Precision finishing | Finishing | Medium cutting |
|          | Grade              | BX470               | AH8005    | AH8005         |
|          | Breaker Shape      | CBN                 | HRF       | HRM            |
|          | Cutting conditions | B012                |           |                |

|          |                    |                     |           |
|----------|--------------------|---------------------|-----------|
| <b>H</b> | Application        | Precision finishing | Finishing |
|          | Grade              | BXA10               | BXA20     |
|          | Breaker Shape      | HP                  | HS        |
|          | Cutting conditions | B014                |           |

Reference pages: A-ATFNR/L: Insert → **B087 -**, CBN → **B182 -**, PCD → **B212**

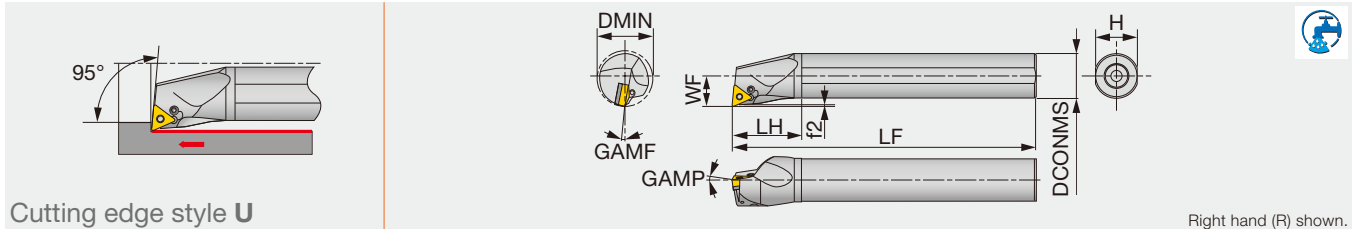
# TN



Triangular with hole

## STREAMJETBAR A-PTUNR/L

Lever-lock boring bar, for negative 60° triangular inserts



| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2   | GAMP | GAMF | RE** | Insert      | Torque |
|-----------------------|----------|------|--------|----|-----|----|----|------|------|------|------|-------------|--------|
| A25R-PTUNR/L1104-D320 | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 1.22 | -6°  | -12° | 0.8  | TN**1104... | 2      |
| A32S-PTUNR/L1104-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 1.16 | -6°  | -10° | 0.8  | TN**1104... | 2      |
| A16M-PTUNR/L11-D200   | Steel    | 20   | 16     | 11 | 150 | 32 | 15 | 1    | -6°  | -14° | 0.4  | TN**1103... | 1.7    |
| A20Q-PTUNR/L11-D250   | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 1    | -6°  | -12° | 0.4  | TN**1103... | 1.7    |
| A25R-PTUNR/L16-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 1.4  | -6°  | -12° | 0.8  | TN**1604... | 2.7    |
| A32S-PTUNR/L16-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 1.3  | -6°  | -10° | 0.8  | TN**1604... | 2.7    |

Torque: Recommended clamping torque: N·m \*\*RE : Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Toolholder length may not conform to ISO standard.

Note: Use right-hand toolholders (PTUNR\*\*) with left-hand inserts (L); and left-hand toolholders (PTUNL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation           | Shim        | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  | Oil supply attachment* | Screw for oil hole* |
|-----------------------|-------------|------------------|------------------|----------|----------|------------|--------|------------------------|---------------------|
| A25R-PTUNR/L1104-D320 | -           | LCS23A           | -                | -        | P-2.5    | -          | LCL23  | EA-25                  | SSHM4-5             |
| A32S-PTUNR/L1104-D400 | -           | LCS23A           | -                | -        | P-2.5    | -          | LCL23  | EA-32                  | SSHM4-5             |
| A16M-PTUNR/L11-D200   | -           | LCS22A           | -                | P-2F     | -        | -          | LCL22N | -                      | SSHM3-4             |
| A20Q-PTUNR/L11-D250   | -           | LCS22A           | -                | P-2F     | -        | -          | LCL22N | EA-20                  | SSHM3-4             |
| A25R-PTUNR/L16-D320   | ELST317BR/L | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33  | EA-25                  | SSHM4-5             |
| A32S-PTUNR/L16-D400   | LST317BR/L  | -                | LCS3             | -        | P-2.5    | LSP3       | LCL3   | EA-32                  | SSHM4-5             |

\*Optional

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | Grade     | Grade          | Grade                   |
|                    | NS9530              | GT9530    | T9215          | T9215                   |
| Breaker Shape      | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | Grade          |
|                    | T6215     | AH6225         |
| Breaker Shape      | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | Grade          | Grade                   |
|                    | T515      | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing | Finishing       | Medium cutting |
|--------------------|---------------------|-----------------|----------------|
|                    | Grade               | Grade           | Grade          |
|                    | DX120               | DX140           | TH10           |
| Breaker Shape      | DIA                 | with rake T-DIA | P              |
| Cutting conditions | B010                |                 |                |

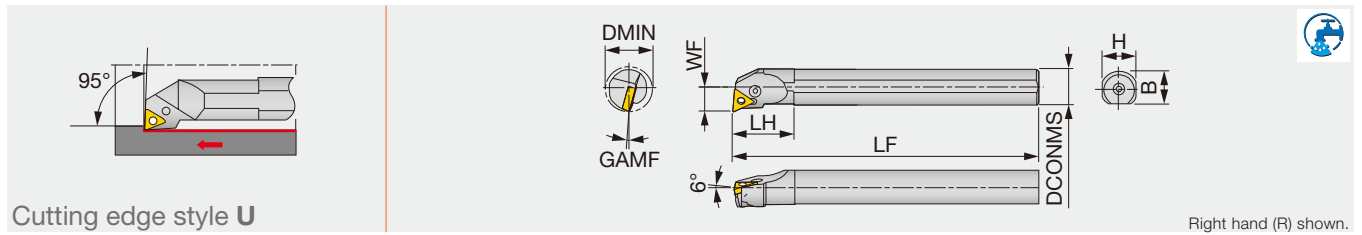
| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | Grade     | Grade          |
|                    | BX470               | AH8005    | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | Grade     |
|                    | BXA10               | BXA20     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B014                |           |

Reference pages: A-PTUNR/L: Insert → B087 -, CBN → B182 -, PCD → B212

## A/S-PTUNR/L

Lever-lock boring bar, for negative 60° triangular inserts



Cutting edge style U

Right hand (R) shown.

| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert      | Torque |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|--------|
| S16M-PTUNR/L11 | Steel    | 20   | 16     | 11 | 150 | 30 | 15 | 15.5 | -14° | 0.4  | TN**1103... | 1.7    |
| S20Q-PTUNR/L11 | Steel    | 25   | 20     | 13 | 180 | 35 | 18 | 19   | -12° | 0.4  | TN**1103... | 1.7    |
| S25R-PTUNR/L16 | Steel    | 32   | 25     | 17 | 200 | 40 | 23 | 24   | -12° | 0.8  | TN**1604... | 2.7    |
| A32S-PTUNR/L16 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 29.5 | -12° | 0.8  | TN**1604... | 2.7    |

Torque: Recommended clamping torque: N·m \*\*RE : Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Toolholder length may not conform to ISO standard.

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

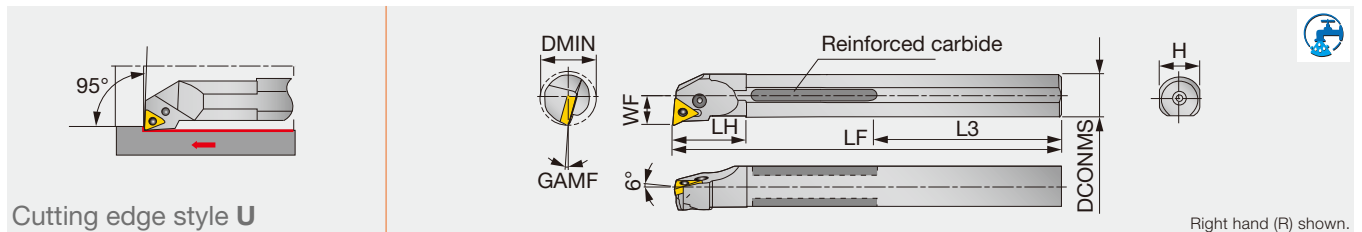
### SPARE PARTS

| Designation   | Shim      | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  | Oil supply attachment* |
|---------------|-----------|------------------|------------------|----------|----------|------------|--------|------------------------|
| S**-PTUNR/L11 | -         | LCS22A           | -                | P-2F     | -        | -          | LCL22N | -                      |
| S25R-PTUNR16  | ELST317BR | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33  | -                      |
| S25R-PTUNL16  | ELST317BL | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33  | -                      |
| A32S-PTUNR16  | LST317BR  | -                | LCS3             | -        | P-2.5    | LSP3       | LCL3   | EA-32                  |
| A32S-PTUNL16  | LST317BL  | -                | LCS3             | -        | P-2.5    | LSP3       | LCL3   | EA-32                  |

\*Optional

## T-PTUNR

Lever-lock boring bar, for negative 60° triangular inserts (Tsuppari-Ichiban)



Cutting edge style U

Right hand (R) shown.

| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3  | H  | GAMF | RE** | Insert      | Torque |
|---------------|------------|------|-------|--------|----|-----|----|-----|----|------|------|-------------|--------|
| T16Q-PTUNR11  | Reinforced | 20   | -     | 16     | 11 | 180 | 27 | 59  | 15 | -14° | 0.4  | TN**1103... | 1.7    |
| T20R-PTUNR11C | Reinforced | 25   | Rc1/4 | 20     | 13 | 200 | 35 | 49  | 18 | -12° | 0.4  | TN**1103... | 1.7    |
| T25S-PTUNR16C | Reinforced | 32   | Rc1/4 | 25     | 17 | 250 | 40 | 64  | 23 | -12° | 0.8  | TN**1604... | 2.7    |
| T32U-PTUNR16C | Reinforced | 40   | Rc1/2 | 32     | 22 | 350 | 50 | 103 | 30 | -10° | 0.8  | TN**1604... | 2.7    |
| T40V-PTUNR16C | Reinforced | 50   | Rc1/2 | 40     | 27 | 400 | 55 | 88  | 37 | -10° | 0.8  | TN**1604... | 2.7    |
| T50W-PTUNR16C | Reinforced | 63   | Rc1/2 | 50     | 35 | 450 | 65 | 63  | 47 | -8°  | 0.8  | TN**1604... | 2.7    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Toolholder length may not conform to ISO standard.

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation    | Shim      | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  |
|----------------|-----------|------------------|------------------|----------|----------|------------|--------|
| T**-PTUNR11... | -         | LCS22A           | -                | P-2F     | -        | -          | LCL22N |
| T25S-PTUNR16C  | ELST317BR | -                | LCS3             | -        | P-2.5    | LSP3       | LCL33  |
| T**-PTUNR16C   | LST317BR  | -                | LCS3             | -        | P-2.5    | LSP3       | LCL3   |

Reference pages: A/S-PTUNR/L, T-PTUNR: Insert → **B087** -, CBN → **B182** -, PCD → **B212**

# VB

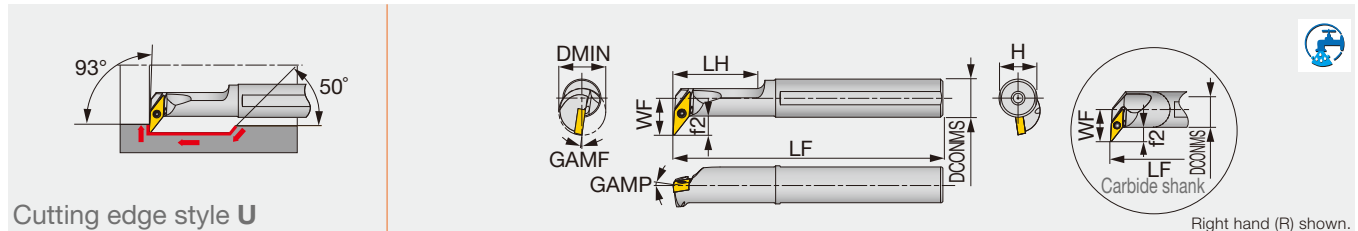


Rhombic, 35° with hole  
Positive 5°

## STREAMJETBAR

### A/E-SVUBR/L

Screw-on boring bar, for positive 35° rhombic inserts



| Inch                | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque  |
|---------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|-------------|---------|
| A12-SVUBR2-D16      | Steel    | 1.000 | 0.750  | 0.594 | 10.000 | 1.425 | 0.725 | 0.218 | -0°  | -6°  | 0.016 | VB** 22...  | 0.89    |
| Metric              | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque* |
| A16Q-SVUBR/L11-D200 | Steel    | 20    | 16     | 15.5  | 180    | 35    | 15    | 8     | 0°   | -8°  | 0.4   | VB**1103... | 1.2     |
| A20R-SVUBR/L11-D250 | Steel    | 25    | 20     | 17.5  | 200    | 40    | 19    | 8     | 0°   | -7°  | 0.4   | VB**1103... | 1.2     |
| A25S-SVUBR/L16-D320 | Steel    | 32    | 25     | 20.5  | 250    | 50    | 23    | 8.5   | 0°   | -6°  | 0.8   | VB**1604... | 3       |
| E16R-SVUBR/L11-D245 | Carbide  | 24.5  | 16     | 16    | 200    | -     | 15    | 8     | 0°   | -8°  | 0.4   | VB**1103... | 1.2     |
| E20S-SVUBR/L11-D285 | Carbide  | 28.5  | 20     | 18    | 250    | -     | 19    | 8     | 0°   | -7°  | 0.4   | VB**1103... | 1.2     |
| E25T-SVUBR/L16-D340 | Carbide  | 34    | 25     | 21    | 300    | -     | 23    | 8.5   | 0°   | -6°  | 0.8   | VB**1604... | 3       |

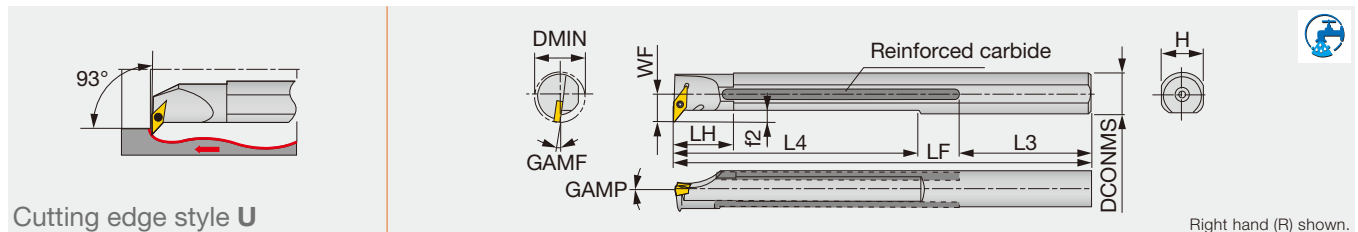
Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVUBR\*\*) with left-hand inserts (L); and left-hand toolholders (SVUBL\*\*) with right-hand inserts (R).

## T-SVUBR

Screw-on boring bar, for positive 35° rhombic inserts (Tsuppari-Ichiban)



| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3 | L4  | H  | f2 | GAMP | GAMF | RE** | Insert      | Torque |
|---------------|------------|------|-------|--------|----|-----|----|----|-----|----|----|------|------|------|-------------|--------|
| T20R-SVUBR11C | Reinforced | 25   | Rc1/4 | 20     | 14 | 200 | 30 | 59 | 121 | 18 | 4  | 0°   | -8°  | 0.4  | VB**1103... | 1.2    |

Torque: Recommended clamping torque: N-m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVUBR\*\*) with left-hand inserts (L).

### SPARE PARTS

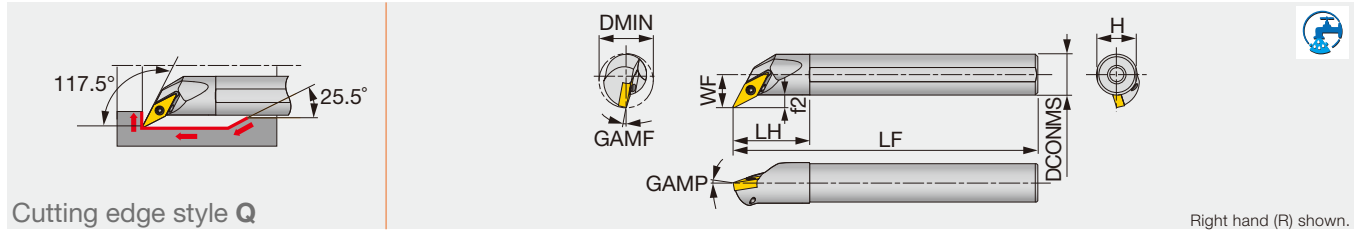
| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A12-SVUBR2-D16      | CSTB-2.5       | T-8F   |
| A**-SVUBR/L11-D2*0  | CSTB-2.5       | T-8F   |
| A25S-SVUBR/L16-D320 | CSTB-3.5       | T-15F  |
| E**-SVUBR/L11-D2*5  | CSTB-2.5       | T-8F   |
| E25T-SVUBR/L16-D340 | CSTB-3.5       | T-15F  |
| T20R-SVUBR11C       | CSTB-2.5       | T-8F   |

Reference pages: A/E-SVUBR/L, T-SVUBR: Insert → **B150 -**, CBN → **B207 -**

# STREAMJETBAR

## A/E-SVQBR/L

Screw-on boring bar, for positive 35° rhombic inserts



| Inch           | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert     | Torque |
|----------------|----------|-------|--------|-------|-------|-------|-------|-------|------|------|-------|------------|--------|
| A10-SVQBR2-D16 | Steel    | 1.000 | 0.625  | 0.500 | 7.000 | 1.250 | 0.600 | 0.188 | -5°  | -6°  | 0.016 | VB** 22... | 0.89   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|-----|------|------|------|-------------|---------|
| A12M-SVQBR/L11-D170 | Steel    | 17   | 12     | 10.5 | 150 | 24 | 11 | 4.5 | -5°  | -10° | 0.4  | VB**1103... | 1.2     |
| A16Q-SVQBR/L11-D215 | Steel    | 21.5 | 16     | 13   | 180 | 30 | 15 | 5   | -5°  | -8°  | 0.4  | VB**1103... | 1.2     |
| A20R-SVQBR/L11-D255 | Steel    | 25.5 | 20     | 15   | 200 | 36 | 18 | 5   | -5°  | -6°  | 0.4  | VB**1103... | 1.2     |
| A25S-SVQBR/L16-D305 | Steel    | 30.5 | 25     | 17.5 | 250 | 45 | 23 | 5   | -5°  | -8°  | 0.8  | VB**1604... | 3       |
| E12Q-SVQBR/L11-D170 | Carbide  | 17   | 12     | 10.5 | 180 | 27 | 11 | 4.5 | -5°  | -10° | 0.4  | VB**1103... | 1.2     |
| E16R-SVQBR/L11-D215 | Carbide  | 21.5 | 16     | 13   | 200 | 32 | 15 | 5   | -5°  | -8°  | 0.4  | VB**1103... | 1.2     |
| E20S-SVQBR/L11-D255 | Carbide  | 25.5 | 20     | 15   | 250 | 36 | 18 | 5   | -5°  | -6°  | 0.4  | VB**1103... | 1.2     |
| E25T-SVQBR/L16-D305 | Carbide  | 30.5 | 25     | 17.5 | 300 | 45 | 23 | 5   | -5°  | -8°  | 0.8  | VB**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVQBR\*\*) with left-hand inserts (L); and left-hand toolholders (SVQBL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A10-SVQBR2-D16      | CSTB-2.5       | T-8F   |
| A*-SVQBR/L11-D...   | CSTB-2.5       | T-8F   |
| A25S-SVQBR/L16-D305 | CSTB-3.5       | T-15F  |
| E**-SVQBR/L11-D...  | CSTB-2.5       | T-8F   |
| E25T-SVQBR/L16-D305 | CSTB-3.5       | T-15F  |

### INSERT SELECTION

**P** Application: Precision finishing, Finishing, Finishing to medium cutting  
 Grade: SH725, SH725, NS9530, T9215  
 Breaker Shape: JP, JS, PSS, PS  
 Cutting conditions: B014

**M** Application: Precision finishing, Finishing, Finishing to medium cutting  
 Grade: SH725, SH725, AH6225, AH6225  
 Chipbreaker shape: JP, JS, PSS, PS  
 Cutting conditions: B016

**P** Application: Medium cutting  
 Grade: T9215  
 Breaker Shape: PS  
 Cutting conditions: B014

**M** Application: Medium cutting  
 Grade: AH6225  
 Chipbreaker shape: PS  
 Cutting conditions: B016

**K** Application: Finishing to medium cutting, Finishing, Finishing to medium cutting  
 Grade: T515, AH8005, AH8015  
 Breaker Shape: CM, PS, PS  
 Cutting conditions: B020, B024

**H** Application: Precision finishing, Finishing  
 Grade: BXA10, BXA20  
 Breaker Shape: HP, HS  
 Cutting conditions: B026

Reference pages: A/E-SVQBR/L: Insert → B150 -, CBN → B207 -



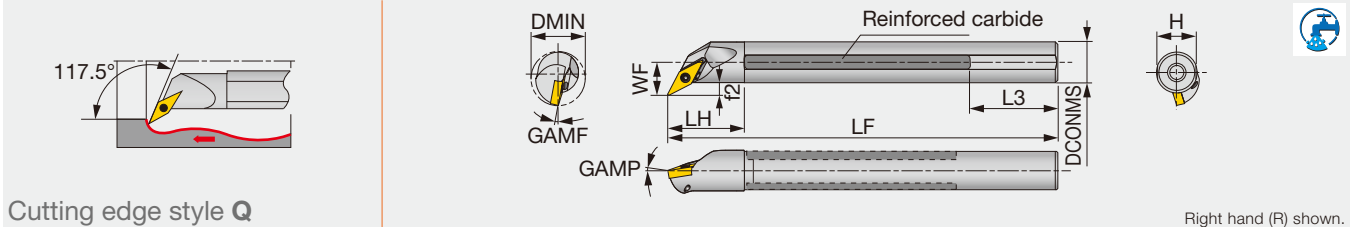
# VB



**Rhombic, 35° with hole**  
**Positive 5°**

## T-SVQBR

Screw-on boring bar, for positive 35° rhombic inserts (Tsuppari-Ichiban)



| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3 | H  | f2 | GAMP | GAMF | RE** | Insert      | Torque |
|---------------|------------|------|-------|--------|----|-----|----|----|----|----|------|------|------|-------------|--------|
| T20R-SVQBR11C | Reinforced | 25   | Rc1/4 | 20     | 14 | 200 | 30 | 59 | 18 | 4  | -5°  | -7°  | 0.4  | VB**1103... | 1.2    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

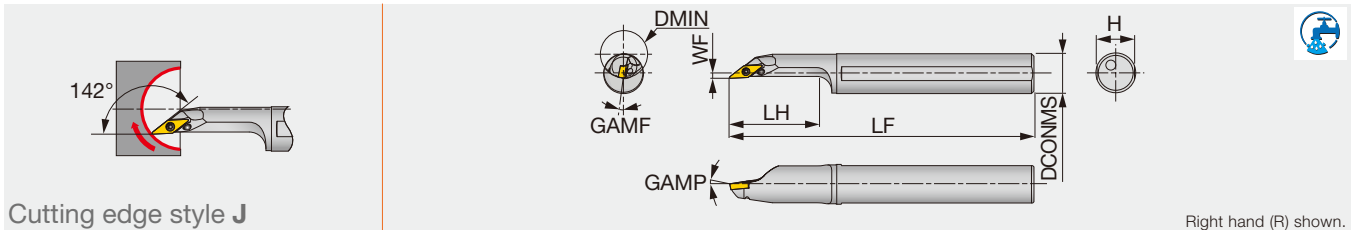
C

D

# STREAMJET BAR

## A-SVJBR/L

Screw-on boring bar, for positive 35° rhombic inserts



| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | GAMP | GAMF | RE**  | Insert     | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|------|------|-------|------------|--------|
| A10-SVJBR/L2-D16 | Steel    | 1.000 | 0.625  | 0.156 | 7.000 | 1.250 | 0.600 | -5°  | -6°  | 0.016 | VB** 22... | 0.89   |

| Metric              | Material | DMIN | DCONMS | WF  | LF  | LH | H  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|-----|-----|----|----|------|------|------|-------------|---------|
| A20R-SVJBR/L11-D250 | Steel    | 25   | 20     | 2   | 200 | 40 | 18 | -5°  | -5°  | 0.4  | VB**1103... | 1.2     |
| A25S-SVJBR/L11-D300 | Steel    | 30   | 25     | 3.5 | 250 | 50 | 23 | -5°  | -5°  | 0.4  | VB**1103... | 1.2     |

Torque: Recommended clamping torque: lbs·ft (\*N·m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVJBR\*\*) with left-hand inserts (L); and left-hand toolholders (SVJBL\*\*) with right-hand inserts (R).

T

V

W

Y

OTHERS

### SPARE PARTS

| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| T20R-SVQBR11C  | CSTB-2.5       | T-8F   |
| A**-SVJBR/L... | CSTB-2.5       | T-8F   |

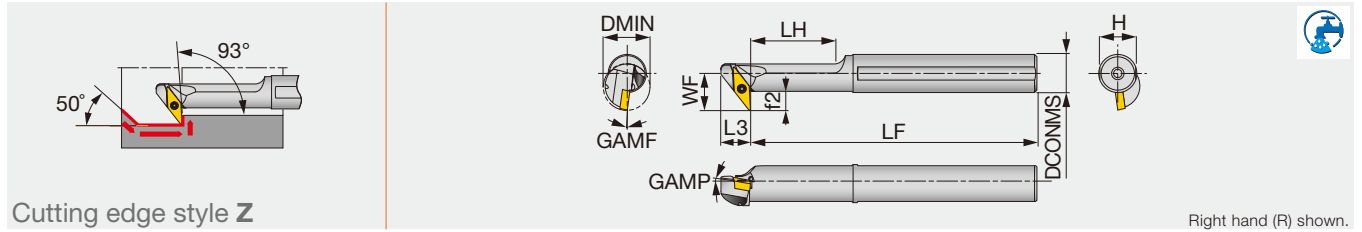
Reference pages: T-SVQBR, A-SVJBR/L: Insert → **B150 -**, CBN → **B207 -**



# STREAMJETBAR

## A-SVZBR/L

Screw-on boring bar, for positive 35° rhombic inserts



Cutting edge style Z

Right hand (R) shown.

| Inch                | Material | DMIN  | DCONMS | WF    | LF     | LH    | L3    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque  |
|---------------------|----------|-------|--------|-------|--------|-------|-------|-------|-------|------|------|-------|-------------|---------|
| A12-SVZBR2-D16      | Steel    | 1.000 | 0.750  | 0.594 | 10.000 | 1.425 | 0.500 | 0.725 | 0.219 | 0°   | -5°  | 0.016 | VB** 22...  | 0.89    |
| Metric              | Material | DMIN  | DCONMS | WF    | LF     | LH    | L3    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque* |
| A16Q-SVZBR/L11-D200 | Steel    | 20    | 16     | 15.5  | 180    | 35    | 12.5  | 15    | 8     | 0°   | -8°  | 0.4   | VB**1103... | 1.2     |
| A20R-SVZBR/L11-D250 | Steel    | 25    | 20     | 17.5  | 200    | 40    | 12.5  | 18    | 8     | 0°   | -7°  | 0.4   | VB**1103... | 1.2     |
| A25S-SVZBR/L16-D320 | Steel    | 32    | 25     | 24    | 250    | 50    | 17.5  | 23    | 12    | 0°   | -6°  | 0.8   | VB**1604... | 3       |
| A32T-SVZBR/L16-D400 | Steel    | 40    | 32     | 27.5  | 300    | 72    | 17.5  | 30    | 12    | 0°   | -5°  | 0.8   | VB**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVZBR\*\*) with right-hand inserts (R); and left-hand toolholders (SVZBL\*\*) with left-hand inserts (L).

### SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A12-SVZBR2-D16      | CSTB-2.5       | T-8F   |
| A**-SVZBR/L11-D2*0  | CSTB-2.5       | T-8F   |
| A25S-SVZBR/L16-D320 | CSTB-3.5       | T-15F  |
| A32T-SVZBR/L16-D400 | CSTB-3.5L      | T-15F  |

### INSERT SELECTION

|                         |                   |                             |           |               |                             |                             |
|-------------------------|-------------------|-----------------------------|-----------|---------------|-----------------------------|-----------------------------|
| <b>P</b>                | Application       | Precision finishing         | Finishing |               | Finishing to medium cutting |                             |
|                         | Grade             | SH725                       | SH725     | NS9530        | T9215                       |                             |
|                         | Breaker Shape     | JP                          | JS        | PSS           | PS                          |                             |
|                         | Chipbreaker shape |                             |           |               |                             |                             |
| Cutting conditions B014 |                   |                             |           |               |                             |                             |
| <b>P</b>                | Application       | Medium cutting              |           |               |                             |                             |
|                         | Grade             | T9215                       |           |               |                             |                             |
|                         | Breaker Shape     | PS                          |           |               |                             |                             |
|                         | Chipbreaker shape |                             |           |               |                             |                             |
| Cutting conditions B014 |                   |                             |           |               |                             |                             |
| <b>M</b>                | Application       | Precision finishing         | Finishing |               | Finishing to medium cutting |                             |
|                         | Grade             | SH725                       | SH725     | AH6225        | AH6225                      |                             |
|                         | Breaker Shape     | JP                          | JS        | PSS           | PS                          |                             |
|                         | Chipbreaker shape |                             |           |               |                             |                             |
| Cutting conditions B016 |                   |                             |           |               |                             |                             |
| <b>M</b>                | Application       | Medium cutting              |           |               |                             |                             |
|                         | Grade             | AH6225                      |           |               |                             |                             |
|                         | Breaker Shape     | PS                          |           |               |                             |                             |
|                         | Chipbreaker shape |                             |           |               |                             |                             |
| Cutting conditions B016 |                   |                             |           |               |                             |                             |
| <b>K</b>                | Application       | Finishing to medium cutting | <b>S</b>  | Application   | Finishing                   | Finishing to medium cutting |
|                         | Grade             | T515                        |           | Grade         | AH8005                      | AH8015                      |
|                         | Breaker Shape     | CM                          |           | Breaker Shape | PS                          | PS                          |
|                         | Chipbreaker shape |                             |           |               |                             |                             |
| Cutting conditions B020 |                   | Cutting conditions B024     |           |               |                             |                             |
| <b>H</b>                | Application       | Precision finishing         | Finishing |               |                             |                             |
|                         | Grade             | BXA10                       | BXA20     |               |                             |                             |
|                         | Breaker Shape     | HP                          | HS        |               |                             |                             |
|                         | Chipbreaker shape |                             |           |               |                             |                             |
| Cutting conditions B026 |                   |                             |           |               |                             |                             |

Reference pages: A-SVZBR/L: Insert → B150 -, CBN → B207 -



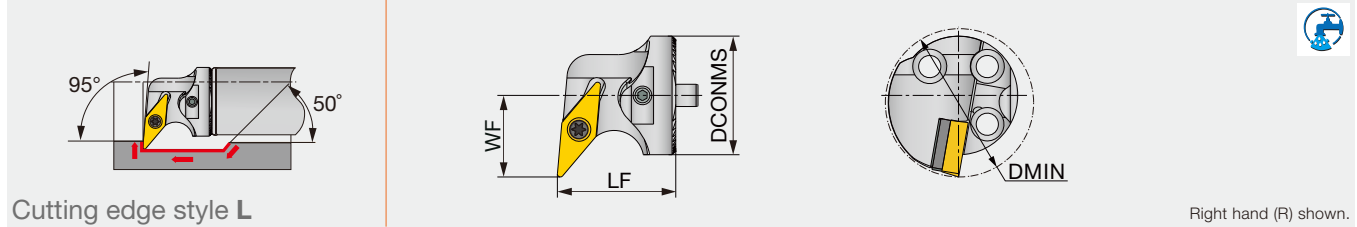
# VC

 Rhombic, 35° with hole  
Positive 7°

## BOREMEISTER

### S-SVLCR/L-H

Screw-on clamp exchangeable boring head, for positive 35° rhombic inserts



Cutting edge style L

Right hand (R) shown.

| Inch             | DMIN  | DCONMS | WF    | LF    | Shank               | Insert     |
|------------------|-------|--------|-------|-------|---------------------|------------|
| S32-SVLCR/L16T-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | VC** 33... |
| S40-SVLCR/L16T-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | VC** 33... |

Note: Use right-hand toolholders (SVLCR\*\*) with left-hand inserts (L); and left-hand toolholders (SVLCL\*\*) with right-hand inserts (R).

| SPARE PARTS      |                |        |          |            |
|------------------|----------------|--------|----------|------------|
| Designation      | Clamping screw | Wrench | Shim     | Shim screw |
| S32-SVLCR/L16T-H | SR16-236P      | T-15/5 | TVC 3-1P | SRTC-3P    |
| S40-SVLCR/L16T-H | SR16-236P      | T-15/5 | TVC 3-1P | SRTC-3P    |

C

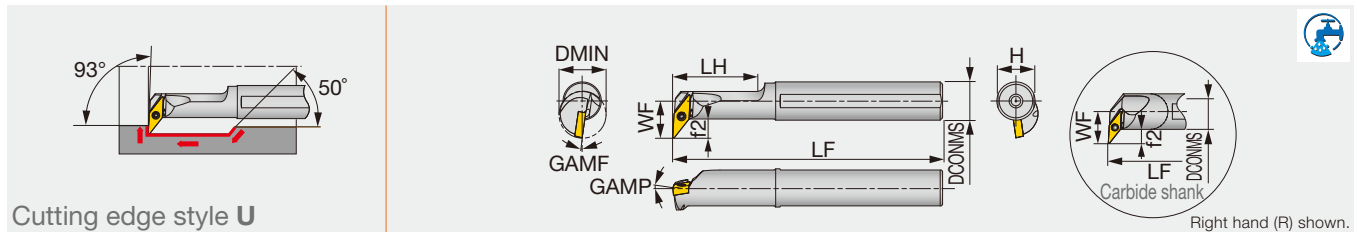
D

E

## STREAMJETBAR

### A/E-SVUCR/L

Screw-on boring bar, for positive 35° rhombic inserts



Cutting edge style U

Right hand (R) shown.

| Inch                | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque  |
|---------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|-------------|---------|
| A10-SVUCR6-D14      | Steel    | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | 0.218 | 0°   | -5°  | 0.016 | VC** 63...  | 0.44    |
| A12-SVUCR2-D16      | Steel    | 1.000 | 0.750  | 0.594 | 10.000 | 1.420 | 0.725 | 0.218 | 0°   | -5°  | 0.016 | VC** 22...  | 1.0     |
| Metric              | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque* |
| A12M-SVUCR/L08-D160 | Steel    | 16    | 12     | 11    | 150    | 30    | 11    | 5.5   | 0°   | -8°  | 0.4   | VC**0802... | 0.6     |
| A25S-SVUCR/L16-D320 | Steel    | 32    | 25     | 19    | 250    | 45    | 23    | 6.5   | 0°   | -5°  | 0.8   | VC**1604... | 3       |
| E12Q-SVUCR/L08-D180 | Carbide  | 18    | 12     | 11.5  | 180    | -     | 11    | 5.5   | 0°   | -8°  | 0.4   | VC**0802... | 0.6     |
| E25T-SVUCR/L16-D320 | Carbide  | 32    | 25     | 19    | 300    | -     | 23    | 6.5   | 0°   | -5°  | 0.8   | VC**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVUCR\*\*) with left-hand inserts (L); and left-hand toolholders (SVUCL\*\*) with right-hand inserts (R).

| SPARE PARTS         |                |        |
|---------------------|----------------|--------|
| Designation         | Clamping screw | Wrench |
| A10-SVUCR6-D14      | CSTB-2L        | T-6F   |
| A12-SVUCR2-D16      | CSTB-2.5       | T-8F   |
| A12M-SVUCR/L08-D160 | CSTB-2L        | T-6F   |
| A25S-SVUCR/L16-D320 | CSTB-3.5       | T-15F  |
| E12Q-SVUCR/L08-D180 | CSTB-2L        | T-6F   |
| E25T-SVUCR/L16-D320 | CSTB-3.5       | T-15F  |

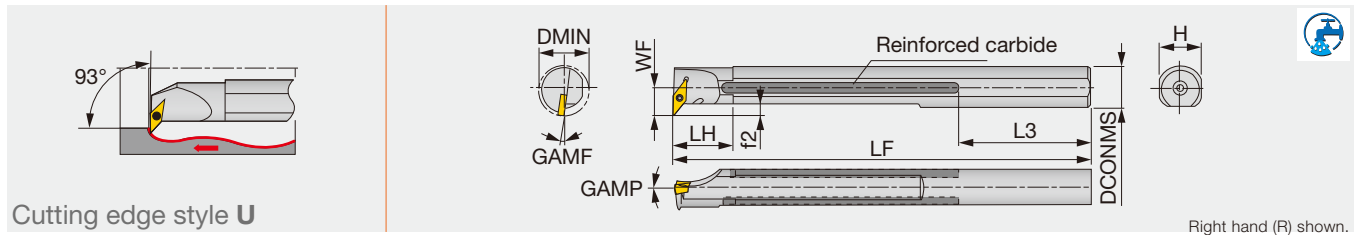
Reference pages: S-SVLCR/L-H: Insert → **B152 -**, CBN → **B209**, PCD → **B220**

Shank → **D090 - D092**

A/E-SVUCR/L: Insert → **B152 -**, CBN → **B209**, PCD → **B220**

## T-SVUCR

Screw-on boring bar, for positive 35° rhombic inserts (Tsuppari-Ichiban)



Cutting edge style U

Right hand (R) shown.

| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3 | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|---------------|------------|------|-------|--------|----|-----|----|----|----|-----|------|------|------|-------------|--------|
| T25S-SVUCR16C | Reinforced | 32   | Rc1/4 | 25     | 19 | 250 | 40 | 64 | 23 | 6.5 | 0°   | -5°  | 0.8  | VC**1604... | 3      |

Torque: Recommended clamping torque: N·m \*\*RE : Standard corner radius

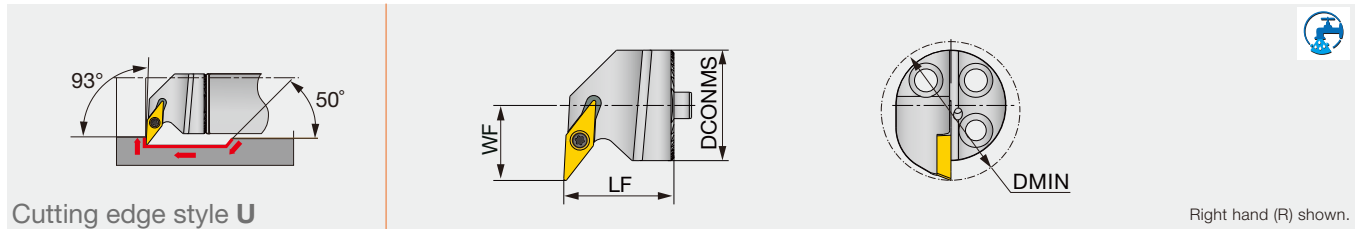
\*The hole specification of applicable inserts conforms to ISO standard.

Note: Use right-hand toolholders (SVUCR\*\*) with left-hand inserts (L).

## BOREMEISTER

### S-SVUCR/L-H

Screw-on clamp exchangeable boring head, for positive 35° rhombic inserts



Cutting edge style U

Right hand (R) shown.

| Inch            | DMIN  | DCONMS | WF    | LF    | Shank   | Insert     |
|-----------------|-------|--------|-------|-------|---------|------------|
| S20-SVUCR/L11-H | 1.063 | 0.787  | 0.630 | 0.787 | D/G.750 | VC** 22... |
| S25-SVUCR/L11-H | 1.220 | 0.984  | 0.669 | 0.984 | D1.00   | VC** 22... |

Note: Use right-hand toolholders (SVUCR\*\*) with left-hand inserts (L); and left-hand toolholders (SVUCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| T25S-SVUCR16C   | CSTB-3.5L      | T-15F  |
| S**-SVUCR/L11-H | SR14-560       | T-8/5  |

### INSERT SELECTION

|          |                    |                             |                             |          |                    |                     |                             |                |
|----------|--------------------|-----------------------------|-----------------------------|----------|--------------------|---------------------|-----------------------------|----------------|
| <b>P</b> | Application        | Finishing                   | Finishing to medium cutting | <b>M</b> | Application        | Finishing           | Finishing to medium cutting |                |
|          | Grade              | NS9530                      | T9215                       |          | Grade              | AH6225              | AH6225                      |                |
|          | Breaker Shape      | PSS                         | PS                          |          | Chipbreaker shape  | PSS                 | PS                          |                |
|          | Cutting conditions | B016                        |                             |          | Cutting conditions | B018                |                             |                |
| <b>K</b> | Application        | Finishing to medium cutting |                             | <b>N</b> | Application        | Precision finishing | Finishing                   | Medium cutting |
|          | Grade              | T515                        |                             |          | Grade              | DX120               | DX140                       | KS05F          |
|          | Breaker Shape      | CM                          |                             |          | Breaker Shape      | DIA with rake DIA   | AL                          |                |
|          | Cutting conditions | B020                        |                             |          | Cutting conditions | B022                |                             |                |
| <b>S</b> | Application        | Finishing                   | Finishing to medium cutting | <b>H</b> | Application        | Precision finishing | Finishing                   |                |
|          | Grade              | AH8005                      | AH8015                      |          | Grade              | BXA10               | BXA20                       |                |
|          | Breaker Shape      | PS                          | PS                          |          | Breaker Shape      | CBN                 | CBN                         |                |
|          | Cutting conditions | B024                        |                             |          | Cutting conditions | B026                |                             |                |

Reference pages: T-SVUCR: Insert → B152 -, CBN → B209, PCD → B220

S-SVUCR/L-H: Insert → B152 -, CBN → B209, PCD → B220

Shank → D090 - D092



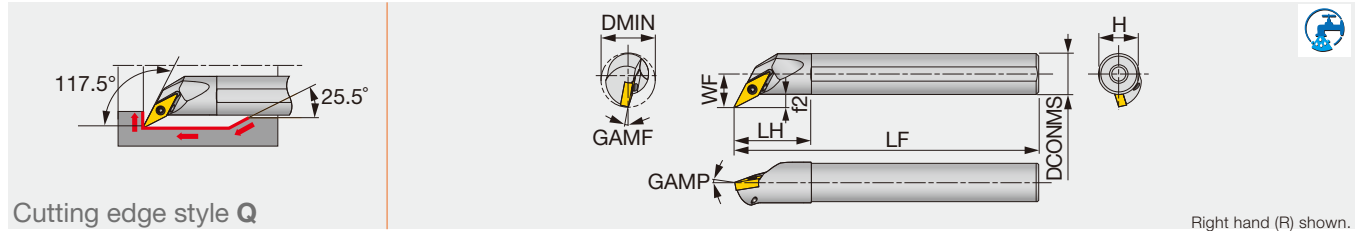
# VC



Rhombic, 35° with hole  
Positive 7°

## STREAMJETBAR A/E-SVQCR/L

Screw-on boring bar, for positive 35° rhombic inserts



| Inch           | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert     | Torque |
|----------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|------------|--------|
| A08-SVQCR6-D11 | Steel    | 0.688 | 0.500  | 0.375 | 5.000  | 1.000 | 0.475 | 0.125 | -5°  | -8°  | 0.016 | VC** 63... | 0.44   |
| A10-SVQCR2-D16 | Steel    | 1.000 | 0.625  | 0.500 | 10.000 | 1.250 | 0.600 | 0.188 | -5°  | -8°  | 0.016 | VC** 22... | 0.89   |

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|-------------|---------|
| A10K-SVQCR/L08-D135 | Steel    | 13.5 | 10     | 8  | 125 | 20 | 9  | 3   | -5°  | -8°  | 0.4  | VC**0802... | 0.6     |
| A16Q-SVQCR/L11-D215 | Steel    | 21.5 | 16     | 13 | 180 | 30 | 15 | 4.9 | -5°  | -8°  | 0.4  | VC**1103... | 1.2     |
| E10M-SVQCR/L08-D135 | Carbide  | 13.5 | 10     | 8  | 150 | 25 | 9  | 3   | -5°  | -8°  | 0.4  | VC**0802... | 0.6     |
| E16R-SVQCR/L11-D215 | Carbide  | 21.5 | 16     | 13 | 200 | 32 | 15 | 4.9 | -5°  | -8°  | 0.4  | VC**1103... | 1.2     |

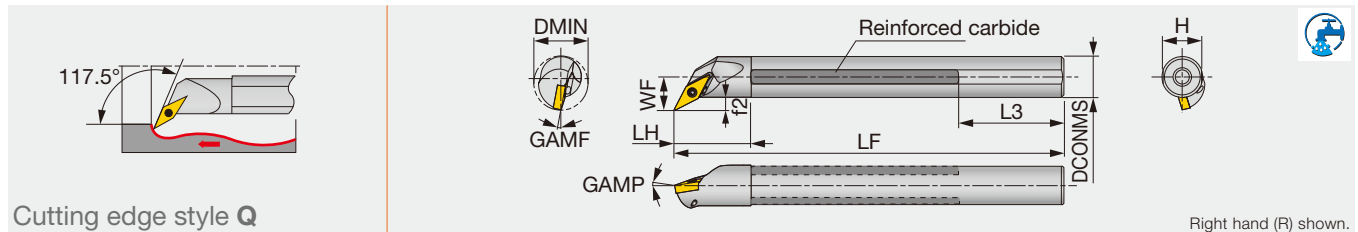
Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVQCR\*\*) with left-hand inserts (L); and left-hand toolholders (SVQCL\*\*) with right-hand inserts (R).

## T-SVQCR

Screw-on boring bar, for positive 35° rhombic inserts (Tsuppari-Ichiban)



| Metric        | Material   | DMIN | CNT   | DCONMS | WF | LF  | LH | L3 | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|---------------|------------|------|-------|--------|----|-----|----|----|----|-----|------|------|------|-------------|--------|
| T25S-SVQCR16C | Reinforced | 32   | Rc1/4 | 25     | 17 | 250 | 40 | 64 | 23 | 4.5 | 0°   | -5°  | 0.8  | VC**1604... | 3      |

Torque: Recommended clamping torque: N-m

\*\*RE : Standard corner radius

\*The hole specification of applicable inserts conforms to ISO standard.

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

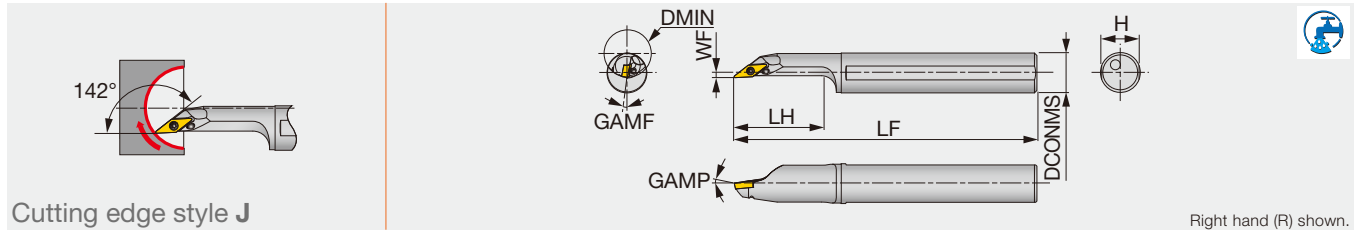
| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A08-SVQCR6-D11      | CSTB-2L        | T-6F   |
| A10-SVQCR2-D16      | CSTB-2.5       | T-8F   |
| A10K-SVQCR/L08-D135 | CSTB-2L        | T-6F   |
| A16Q-SVQCR/L11-D215 | CSTB-2.5       | T-8F   |
| E10M-SVQCR/L08-D135 | CSTB-2L        | T-6F   |
| E16R-SVQCR/L11-D215 | CSTB-2.5       | T-8F   |
| T25S-SVQCR16C       | CSTB-3.5L      | T-15F  |

Reference pages: A/E-SVQCR/L, T-SVQCR: Insert → **B152 -**, CBN → **B209**, PCD → **B220**

# STREAMJETBAR

## A-SVJCR/L

Screw-on boring bar, for positive 35° rhombic inserts



| Inch                | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | GAMP | GAMF | RE**  | Insert      | Torque  |
|---------------------|----------|-------|--------|-------|-------|-------|-------|------|------|-------|-------------|---------|
| A10-SVJCR2-D16      | Steel    | 1.000 | 0.625  | 0.156 | 7.000 | 1.750 | 0.600 | -5°  | -6°  | 0.016 | VC** 22..   | 0.89    |
| Metric              | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | GAMP | GAMF | RE**  | Insert      | Torque* |
| A12M-SVJCR/L08-D160 | Steel    | 16    | 12     | 2     | 150   | 28    | 11    | -5°  | -5°  | 0.4   | VC**0802... | 0.6     |
| A16Q-SVJCR/L08-D200 | Steel    | 20    | 16     | 2     | 180   | 35    | 15    | -5°  | -5°  | 0.4   | VC**0802... | 0.6     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVJCR\*\*) with left-hand inserts (L); and left-hand toolholders (SVJCL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| A**-SVJCR/L... | CSTB-2L        | T-6F   |

## INSERT SELECTION

|                    |               |                             |                             |          |                   |                     |                             |                    |  |  |  |      |  |  |  |
|--------------------|---------------|-----------------------------|-----------------------------|----------|-------------------|---------------------|-----------------------------|--------------------|--|--|--|------|--|--|--|
| <b>P</b>           | Application   | Finishing                   | Finishing to medium cutting | <b>M</b> | Application       | Finishing           | Finishing to medium cutting |                    |  |  |  |      |  |  |  |
|                    | Grade         | NS9530                      | T9215                       |          | Grade             | AH6225              | AH6225                      |                    |  |  |  |      |  |  |  |
|                    | Breaker Shape | PSS                         | PS                          |          | Chipbreaker shape | PSS                 | PS                          |                    |  |  |  |      |  |  |  |
| Cutting conditions |               |                             |                             | B014     |                   |                     |                             | Cutting conditions |  |  |  | B016 |  |  |  |
| <b>K</b>           | Application   | Finishing to medium cutting |                             | <b>N</b> | Application       | Precision finishing | Finishing                   | Medium cutting     |  |  |  |      |  |  |  |
|                    | Grade         | T515                        |                             |          | Grade             | DX120               | DX140                       | KS05F              |  |  |  |      |  |  |  |
|                    | Breaker Shape | CM                          |                             |          | Breaker Shape     | DIA                 | with rake DIA               | AL                 |  |  |  |      |  |  |  |
| Cutting conditions |               |                             |                             | B020     |                   |                     |                             | Cutting conditions |  |  |  | B022 |  |  |  |
| <b>S</b>           | Application   | Finishing                   | Finishing to medium cutting | <b>H</b> | Application       | Precision finishing | Finishing                   |                    |  |  |  |      |  |  |  |
|                    | Grade         | AH8005                      | AH8015                      |          | Grade             | BXA10               | BXA20                       |                    |  |  |  |      |  |  |  |
|                    | Breaker Shape | PS                          | PS                          |          | Breaker Shape     | CBN                 | CBN                         |                    |  |  |  |      |  |  |  |
| Cutting conditions |               |                             |                             | B024     |                   |                     |                             | Cutting conditions |  |  |  | B026 |  |  |  |

Reference pages: A-SVJCR/L: Insert → **B152** -

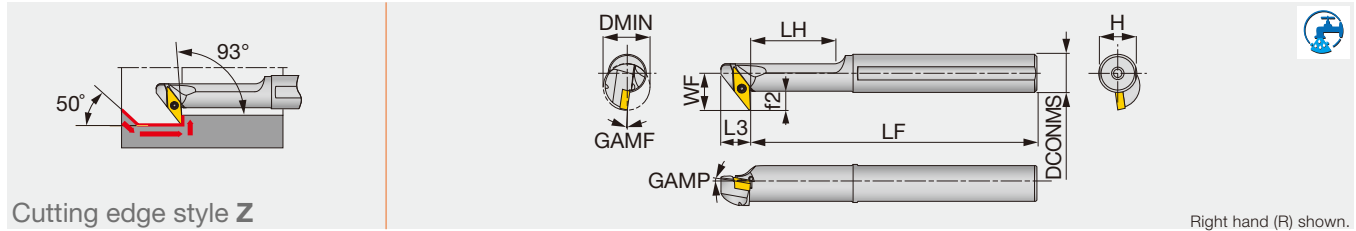


# VC

 Rhombic, 35° with hole  
Positive 7°

## STREAMJETBAR A-SVZCR/L

Screw-on boring bar, for positive 35° rhombic inserts



| Inch           | Material | DMIN  | DCONMS | WF    | LF     | LH    | L3    | H     | f2    | GAMP | GAMF | RE**  | Insert     | Torque |
|----------------|----------|-------|--------|-------|--------|-------|-------|-------|-------|------|------|-------|------------|--------|
| A08-SVZCR6-D12 | Steel    | 0.750 | 0.500  | 0.438 | 5.000  | 1.000 | 0.395 | 0.475 | 0.188 | 0°   | -6°  | 0.016 | VC** 63... | 0.44   |
| A12-SVZCR2-D16 | Steel    | 1.000 | 0.750  | 0.593 | 10.000 | 1.425 | 0.500 | 0.725 | 0.218 | 0°   | -7°  | 0.016 | VC** 22... | 0.44   |

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | L3 | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|----|-----|----|----|----|-----|------|------|------|-------------|---------|
| A12M-SVZCR/L08-D160 | Steel    | 16   | 12     | 11 | 150 | 30 | 10 | 11 | 5.5 | 0°   | -8°  | 0.4  | VC**0802... | 0.6     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVZCR\*\*) with right-hand inserts (R); and left-hand toolholders (SVZCL\*\*) with left-hand inserts (L).

### SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A08-SVZCR6-D12      | CSTB-2L        | T-6F   |
| A12-SVZCR2-D16      | CSTB-2.5       | T-8F   |
| A12M-SVZCR/L08-D160 | CSTB-2L        | T-6F   |

### INSERT SELECTION

**P**

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | NS9530    | T9215                       |
| Breaker Shape      | PSS       | PS                          |
| Images             |           |                             |
| Cutting conditions | B016      |                             |

**M**

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | AH6225    | AH6225                      |
| Breaker Shape      | PSS       | PS                          |
| Images             |           |                             |
| Cutting conditions | B018      |                             |

**K**

| Application        | Finishing to medium cutting |
|--------------------|-----------------------------|
| Grade              | T515                        |
| Breaker Shape      | CM                          |
| Image              |                             |
| Cutting conditions | B020                        |

**N**

| Application        | Precision finishing | Finishing     | Medium cutting |
|--------------------|---------------------|---------------|----------------|
| Grade              | DX120               | DX140         | KS05F          |
| Breaker Shape      | DIA                 | with rake DIA | AL             |
| Images             |                     |               |                |
| Cutting conditions | B022                |               |                |

**S**

| Application        | Finishing | Finishing to medium cutting |
|--------------------|-----------|-----------------------------|
| Grade              | AH8005    | AH8015                      |
| Breaker Shape      | PS        | PS                          |
| Images             |           |                             |
| Cutting conditions | B024      |                             |

**H**

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
| Grade              | BXA10               | BXA20     |
| Breaker Shape      | CBN                 | CBN       |
| Images             |                     |           |
| Cutting conditions | B026                |           |

Reference pages: A-SVZCR/L: Insert → **B152** -, CBN → **B209**, PCD → **B220**

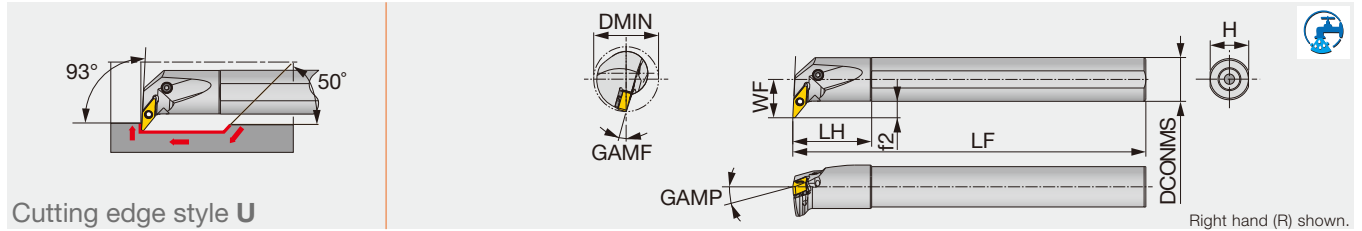
# VN

# YN



## STREAMJETBAR A-PVUNR/L

Lever-lock boring bar, for negative 35°/25° rhombic inserts



| Inch                | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert       | Torque |
|---------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|--------------|--------|
| A16-PVUNR/L2.33-D20 | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.750 | 0.906 | 0.197 | -6°  | -13° | 0.031 | VN** 2.33... | 2.2    |
| A16-PVUNR/L2.33-D24 | Steel    | 1.500 | 1.000  | 0.859 | 12.000 | 1.750 | 0.906 | 0.315 | -6°  | -10° | 0.031 | VN** 2.33... | 2.2    |
| A20-PVUNR/L2.33-D26 | Steel    | 1.650 | 1.250  | 0.859 | 14.000 | 2.000 | 1.188 | 0.217 | -6°  | -10° | 0.031 | VN** 2.33... | 2.2    |

| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert           | Torque* |
|-----------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|------------------|---------|
| A25R-PVUNR/L1204-D320 | Steel    | 32   | 25     | 18 | 200 | 45 | 23 | 5.0 | -5°  | -15° | 0.8  | VN**1204...      | 3       |
| A25R-PVUNR/L1204-D370 | Steel    | 37   | 25     | 22 | 200 | 45 | 23 | 8.0 | -4°  | -15° | 0.8  | VN**1204...      | 3       |
| A32S-PVUNR/L1204-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 5.5 | -6°  | -12° | 0.8  | VN**1204...      | 3       |
| A25R-PVUNR/L16-D370   | Steel    | 37   | 25     | 22 | 200 | 45 | 23 | 9.5 | -5°  | -14° | 0.8  | VN**/YN**1604... | 2.7     |
| A32S-PVUNR/L16-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -5°  | -12° | 0.8  | VN**/YN**1604... | 2.7     |
| A40T-PVUNR/L16-D500   | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7   | -5°  | -10° | 0.8  | VN**/YN**1604... | 2.7     |

Torque: Recommended clamping torque: lbs-ft (\*N·m) \*\*RE: Standard corner radius

### SPARE PARTS

| Designation                                   | Shim       | Clamping screw | Wrench | Spring pin | Lever | Oil supply attachment* | Screw for oil hole* |
|---|------------|----------------|--------|------------|-------|------------------------|---------------------|
| A16-PVUNR/L2.33-D...<br>A25R-PVUNR/L1204-D... | LSV212     | LCS3V          | P-2.5  | LSP3       | LCL3V | EA-25                  | SSH4-5              |
| A20-PVUNR/L2.33-D26,<br>A32S-PVUNR/L1204-D400 | LSV212     | LCS3V          | P-2.5  | LSP3       | LCL3V | EA-32                  | SSH4-5              |
| A25R-PVUNR/L16-D370                           | LSV317BR/L | LCS3V          | P-2.5  | LSP3       | LCL3V | EA-25                  | SSH4-5              |
| A32S-PVUNR/L16-D400                           | LSV317BR/L | LCS3V          | P-2.5  | LSP3       | LCL3V | EA-32                  | SSH4-5              |
| A40T-PVUNR/L16-D500                           | LSV317BR/L | LCS3V          | P-2.5  | LSP3       | LCL3V | -                      | SSH5-6              |

\*Optional

### INSERT SELECTION

| P | Application        | Precision finishing | Finishing | Medium cutting |
|---|--------------------|---------------------|-----------|----------------|
|   | Grade              | NS9530              | GT9530    | T9215          |
|   | Breaker Shape      | TF                  | TSF       | TM             |
|   | Cutting conditions | B004                |           |                |

| M | Application        | Finishing | Medium cutting |
|---|--------------------|-----------|----------------|
|   | Grade              | T6215     | AH6225         |
|   | Chipbreaker shape  | SF        | SM             |
|   | Cutting conditions | B006      |                |

| K | Application        | Finishing | Medium cutting | Medium to heavy cutting |
|---|--------------------|-----------|----------------|-------------------------|
|   | Grade              | T515      | T515           | T515                    |
|   | Breaker Shape      | All-round | All-round      | All-round               |
|   | Cutting conditions | B008      |                |                         |

| N | Application        | Precision finishing |
|---|--------------------|---------------------|
|   | Grade              | DX120               |
|   | Breaker Shape      | DIA with rake       |
|   | Cutting conditions | B010                |

| S | Application        | Precision finishing | Finishing | Medium cutting |
|---|--------------------|---------------------|-----------|----------------|
|   | Grade              | BX470               | AH8005    | AH8005         |
|   | Breaker Shape      | CBN                 | HRF       | HRM            |
|   | Cutting conditions | B012                |           |                |

| H | Application        | Precision finishing | Finishing |
|---|--------------------|---------------------|-----------|
|   | Grade              | BXA10               | BXA20     |
|   | Breaker Shape      | HP                  | HS        |
|   | Cutting conditions | B014                |           |

Reference pages: A-PVUNR/L: Insert → B098 -, B110, CBN → B186 -, PCD → B212





# VN

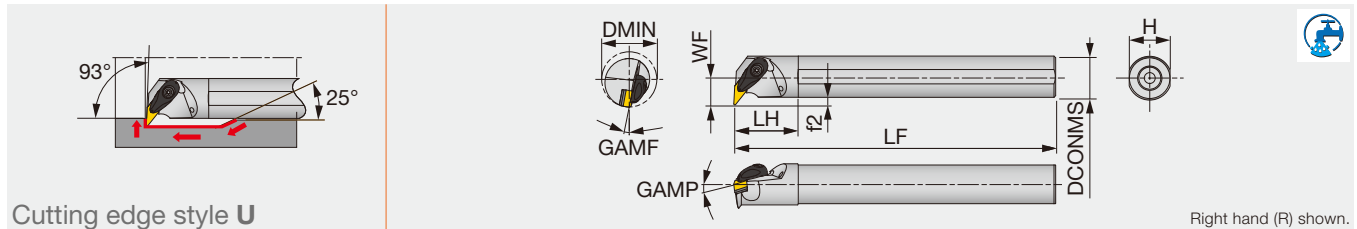
# YN



## TURNING

### A-AVUNR/L

Double-clamp boring bar, for negative 35°/25° rhombic inserts



| Inch             | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert          | Torque |
|------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|-----------------|--------|
| A20-AVUNR/L3-D25 | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.960 | 1.180 | 0.236 | -6   | -10  | 0.031 | VN**/YN** 33... | 2.21   |
| A24-AVUNR/L3-D32 | Steel    | 2.000 | 1.500  | 1.060 | 14.000 | 2.160 | 1.440 | 0.275 | -6   | -8   | 0.031 | VN**/YN** 33... | 2.21   |

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2 | GAMP | GAMF | RE** | Insert           | Torque* |
|---------------------|----------|------|--------|----|-----|----|----|----|------|------|------|------------------|---------|
| A32S-AVUNR/L16-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6  | -6°  | -10° | 0.8  | VN**/YN**1604... | 3       |
| A40T-AVUNR/L16-D500 | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 7  | -6°  | -8°  | 0.8  | VN**/YN**1604... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 \*\*RE : Standard corner radius

| SPARE PARTS    |       |             |        |            |        |            |        |
|----------------|-------|-------------|--------|------------|--------|------------|--------|
| Designation    | Clamp | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
| A**-AVUNR/L... | ACP3L | ACS-5W      | BP-7   | SP-2.5     | ASV322 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | NS9530    | GT9530         |
| Breaker Shape      | TF                  | TSF       | TM             |
| Cutting conditions | B004                |           |                |

| Application        | Finishing | Medium cutting |
|--------------------|-----------|----------------|
|                    | Grade     | T6215          |
| Chipbreaker shape  | SF        | SM             |
| Cutting conditions | B006      |                |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

| Application        | Precision finishing |
|--------------------|---------------------|
| Grade              | DX120               |
| Breaker Shape      | DIA with rake       |
| Cutting conditions | B010                |

| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX470     | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

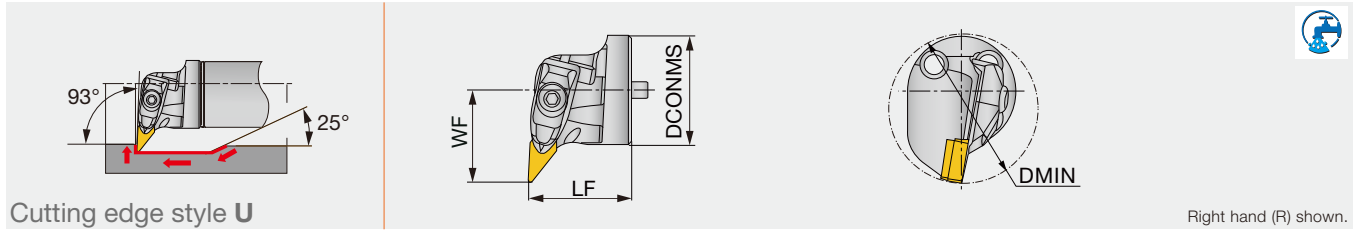
| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXA10     |
| Breaker Shape      | HP                  | HS        |
| Cutting conditions | B014                |           |

Reference pages: A-AVUNR/L: Insert → B098 -, B110, CBN → B186 -, PCD → B212

# BOREMEISTER

## S-DVUNR/L-H

Double-clamp exchangeable boring head, for negative 35° rhombic inserts



Right hand (R) shown.

| Inch             | DMIN  | DCONMS | WF    | LF    | Shank               | Insert     |
|------------------|-------|--------|-------|-------|---------------------|------------|
| S40-DVUNR/L16T-H | 2.205 | 1.575  | 1.339 | 1.496 | D1.50, D2.00, D2.50 | VN** 33... |

| SPARE PARTS      |        |            |       |             |        |        |
|------------------|--------|------------|-------|-------------|--------|--------|
| Designation      | Shim   | Shim screw | Clamp | Clamp screw | Spring | Wrench |
| S40-DVUNR/L16T-H | ASV322 | SR35080I   | DLM3V | SR10402267  | KSP5   | HW4.0  |

### INSERT SELECTION

| P                  | Application | Precision finishing | Finishing | Medium cutting |
|--------------------|-------------|---------------------|-----------|----------------|
|                    | Grade       | NS9530              | GT9530    | T9215          |
| Breaker Shape      | TF          | TSF                 | TM        |                |
| Cutting conditions | B004        |                     |           |                |

| M                  | Application | Finishing | Medium cutting |
|--------------------|-------------|-----------|----------------|
|                    | Grade       | T6215     | AH6225         |
| Chipbreaker shape  | SF          | SM        |                |
| Cutting conditions | B006        |           |                |

| K                  | Application | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-------------|-----------|----------------|-------------------------|
|                    | Grade       | T515      | T515           | T515                    |
| Breaker Shape      | All-round   | All-round | All-round      |                         |
| Cutting conditions | B008        |           |                |                         |

| N                  | Application   | Precision finishing |
|--------------------|---------------|---------------------|
|                    | Grade         | DX120               |
| Breaker Shape      | DIA with rake |                     |
| Cutting conditions | B010          |                     |

| S                  | Application | Precision finishing | Finishing | Medium cutting |
|--------------------|-------------|---------------------|-----------|----------------|
|                    | Grade       | BX470               | AH8005    | AH8005         |
| Breaker Shape      | CBN         | HRF                 | HRM       |                |
| Cutting conditions | B012        |                     |           |                |

| H                  | Application | Precision finishing | Finishing |
|--------------------|-------------|---------------------|-----------|
|                    | Grade       | BXA10               | BXA20     |
| Breaker Shape      | HP          | HS                  |           |
| Cutting conditions | B014        |                     |           |

Reference pages: S-DVUNR/L-H: Insert → **B098 - B110**, CBN → **B186 -**, PCD → **B212**  
Shank → **D090 - D092**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

# WB

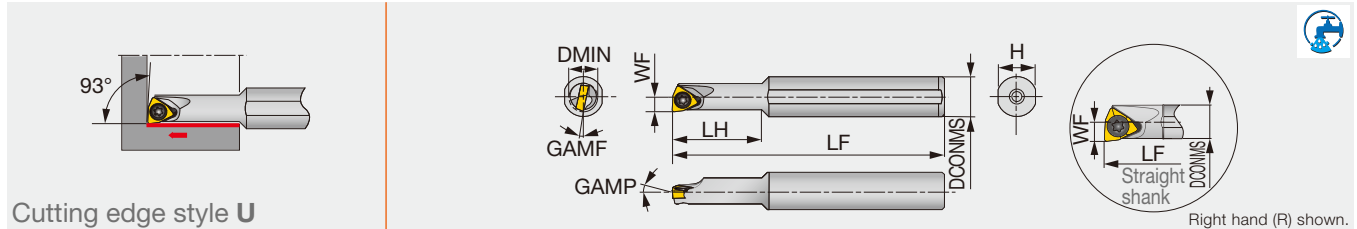


Trigon, 80°  
with hole  
Positive 5°

## STREAMJETBAR

### A/E-SWUBR/L

Screw-on boring bar, for positive 80° trigon inserts



| Metric              | Material | DMIN | DCONMS | WF  | LF  | LH | H    | GAMP | GAMF | RE** | Insert      | Torque |
|---------------------|----------|------|--------|-----|-----|----|------|------|------|------|-------------|--------|
| A05F-SWUBR/L03-D060 | Steel    | 6    | 5      | 3   | 80  | 9  | 4.8  | 0°   | -13° | 0.4  | WB**0301... | 0.6    |
| A06G-SWUBR/L03-D070 | Steel    | 7    | 6      | 3.5 | 90  | 11 | 5.75 | 0°   | -12° | 0.4  | WB**0301... | 0.6    |
| A07G-SWUBR/L03-D080 | Steel    | 8    | 7      | 4   | 90  | 12 | 6.75 | 0°   | -11° | 0.4  | WB**0301... | 0.6    |
| A08H-SWUBR03-D060   | Steel    | 6    | 8      | 3.1 | 100 | 18 | 7.5  | 0°   | -12° | 0.4  | WB**0301... | 0.6    |
| A08H-SWUBR03-D070   | Steel    | 7    | 8      | 3.6 | 100 | 20 | 7.5  | 0°   | -12° | 0.4  | WB**0301... | 0.6    |
| E05G-SWUBR/L03-D060 | Carbide  | 6    | 5      | 3   | 90  | 10 | 4.8  | 0°   | -13° | 0.4  | WB**0301... | 0.6    |
| E06H-SWUBR/L03-D070 | Carbide  | 7    | 6      | 3.5 | 100 | 12 | 5.75 | 0°   | -12° | 0.4  | WB**0301... | 0.6    |
| E07H-SWUBR/L03-D080 | Carbide  | 8    | 7      | 4   | 100 | 14 | 6.75 | 0°   | -11° | 0.4  | WB**0301... | 0.6    |
| E08K-SWUBR03-D060   | Carbide  | 6    | 8      | 3.1 | 125 | 30 | 7.5  | 0°   | -12° | 0.4  | WB**0301... | 0.6    |
| E08K-SWUBR03-D070   | Carbide  | 7    | 8      | 3.6 | 125 | 40 | 7.5  | 0°   | -12° | 0.4  | WB**0301... | 0.6    |

Torque: Recommended clamping torque: N·m

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (SVUCR\*) with left-hand inserts (L); and left-hand toolholders (SWUBL\*\*) with right-hand inserts (R).

#### SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| A/E**-SWUBR/L... | CSTB-2         | T-6F   |

#### INSERT SELECTION

| Application        | Finishing | Application        | Finishing | Application        | Finishing | Application        | Finishing |
|--------------------|-----------|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| Grade              | SH725     | Grade              | SH725     | Grade              | SH725     | Grade              | SH725     |
| Breaker Shape      | JS        | Breaker Shape      | JS        | Breaker Shape      | JS        | Breaker Shape      | JS        |
| Cutting conditions | B016      | Cutting conditions | B018      | Cutting conditions | B020      | Cutting conditions | B022      |

Reference pages: A/E-SWUBR/L: Insert → **B156**

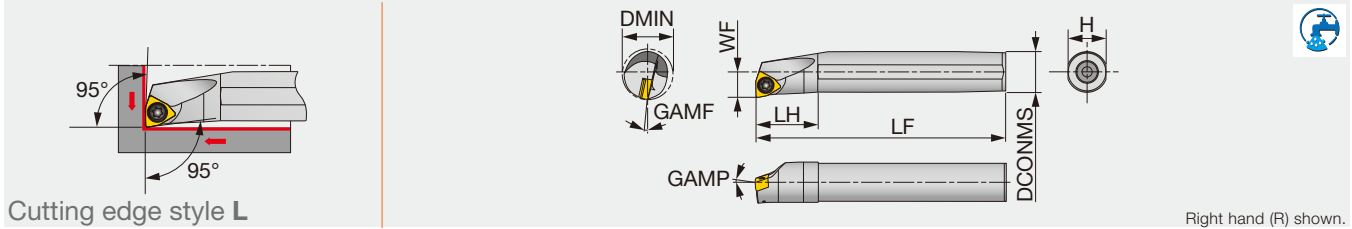
# WX



Trigon, 80°  
with hole

## MINIFORCE A/E-SWLXR/L

Screw-on boring bar, for WXGU inserts



| Inch             | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | GAMP | GAMF | RE**  | Insert           | Torque |
|------------------|----------|-------|--------|-------|--------|-------|-------|------|------|-------|------------------|--------|
| A06-SWLXR/L2-D08 | Steel    | 0.500 | 0.375  | 0.281 | 5.000  | 0.750 | 0.350 | -10° | -14° | 0.016 | WXGU 22**/L/R... | 0.66   |
| A08-SWLXR/L2-D11 | Steel    | 0.688 | 0.500  | 0.406 | 5.000  | 1.000 | 0.475 | -10° | -10° | 0.016 | WXGU 22**/L/R... | 0.66   |
| A10-SWLXR/L2-D14 | Steel    | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | -10° | -8°  | 0.016 | WXGU 22**/L/R... | 0.66   |
| A12-SWLXR/L2-D16 | Steel    | 1.000 | 0.750  | 0.593 | 7.000  | 1.438 | 0.725 | -10° | -7°  | 0.016 | WXGU 22**/L/R... | 0.66   |
| A16-SWLXR/L2-D20 | Steel    | 1.250 | 1.000  | 0.625 | 7.000  | 1.438 | 0.938 | -10° | -7°  | 0.016 | WXGU 22**/L/R... | 0.66   |
| E06-SWLXR/L2-D08 | Carbide  | 0.500 | 0.375  | 0.281 | 5.000  | 1.000 | 0.350 | -10° | -14° | 0.016 | WXGU 22**/L/R... | 0.66   |
| E08-SWLXR/L2-D11 | Carbide  | 0.688 | 0.500  | 0.406 | 5.000  | 1.063 | 0.475 | -10° | -10° | 0.016 | WXGU 22**/L/R... | 0.66   |
| E10-SWLXR/L2-D14 | Carbide  | 0.875 | 0.625  | 0.531 | 7.000  | 1.250 | 0.600 | -10° | -8°  | 0.016 | WXGU 22**/L/R... | 0.66   |
| E12-SWLXR/L2-D16 | Carbide  | 1.000 | 0.750  | 0.593 | 7.000  | 1.438 | 0.725 | -10° | -7°  | 0.016 | WXGU 22**/L/R... | 0.66   |
| E16-SWLXR/L2-D20 | Carbide  | 1.250 | 1.000  | 0.625 | 10.000 | 1.812 | 0.938 | -10° | -7°  | 0.016 | WXGU 22**/L/R... | 0.66   |

| Metric              | Material | DMIN | DCONMS | WF | LF  | LH | H  | GAMP | GAMF | RE** | Insert            | Torque* |
|---------------------|----------|------|--------|----|-----|----|----|------|------|------|-------------------|---------|
| A10K-SWLXR/L04-D120 | Steel    | 12   | 10     | 6  | 125 | 20 | 9  | -10° | -16° | 0.4  | WXGU0403**/L/R... | 0.9     |
| A12M-SWLXR/L04-D140 | Steel    | 14   | 12     | 7  | 150 | 24 | 11 | -10° | -14° | 0.4  | WXGU0403**/L/R... | 0.9     |
| A16Q-SWLXR/L04-D180 | Steel    | 18   | 16     | 9  | 180 | 32 | 15 | -10° | -11° | 0.4  | WXGU0403**/L/R... | 0.9     |
| A20R-SWLXR/L04-D220 | Steel    | 22   | 20     | 11 | 200 | 36 | 18 | -10° | -10° | 0.4  | WXGU0403**/L/R... | 0.9     |
| E10M-SWLXR/L04-D120 | Carbide  | 12   | 10     | 6  | 150 | 25 | 9  | -10° | -16° | 0.4  | WXGU0403**/L/R... | 0.9     |
| E12Q-SWLXR/L04-D140 | Carbide  | 14   | 12     | 7  | 180 | 27 | 11 | -10° | -14° | 0.4  | WXGU0403**/L/R... | 0.9     |
| E16R-SWLXR/L04-D180 | Carbide  | 18   | 16     | 9  | 200 | 32 | 15 | -10° | -11° | 0.4  | WXGU0403**/L/R... | 0.9     |
| E20S-SWLXR/L04-D220 | Carbide  | 22   | 20     | 11 | 250 | 36 | 18 | -10° | -10° | 0.4  | WXGU0403**/L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) \*\*RE: Standard corner radius  
 Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R)

### SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| A/E**-SWLXR/L... | SR34-514       | T-7F   |

Reference pages: A/E-SWLXR/L: Insert → **B157 -**, CBN → **B210**  
 Standard cutting conditions → **D096**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



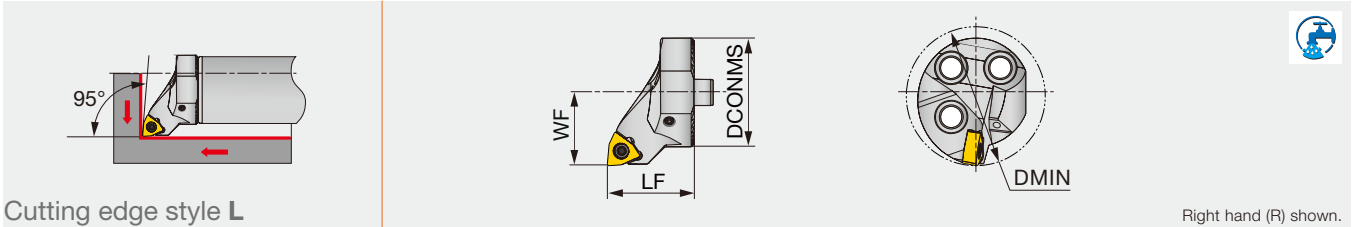
# WX



Trigon, 80°  
with hole

## MINIFORCE S-SWLXR/L-H

Screw-on clamp exchangeable boring head, for WXGU inserts



| Inch            | DMIN  | DCONMS | WF    | LF    | Shank               | Insert  |
|-----------------|-------|--------|-------|-------|---------------------|---------|
| S25-SWLXR/L04-H | 1.260 | 0.984  | 0.669 | 0.787 | D1.00               | WXGU... |
| S32-SWLXR/L04-H | 1.575 | 1.260  | 0.866 | 1.260 | D1.25               | WXGU... |
| S40-SWLXR/L04-H | 1.969 | 1.575  | 1.063 | 1.260 | D1.50, D2.00, D2.50 | WXGU... |

Note: Use right-hand toolholders (SWLXR\*\*) with left-hand inserts (L); and left-hand toolholders (SWLXL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| S**-SWLXR/L04-H | SR34-514       | T-7F   |

### INSERT SELECTION

| Application        | Precision finishing |       | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-------|-----------|--------|-----------------------------|
|                    | SH725               | SH725 | NS9530    | NS9530 | AH8015                      |
| Grade              | JS                  | JTS   | SS        | SS     | TS                          |
| Breaker Shape      |                     |       |           |        |                             |
| Cutting conditions | D096                |       |           |        |                             |

| Application        | Precision finishing |       | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-------|-----------|--------|-----------------------------|
|                    | SH725               | SH725 | AH8015    | AH8015 | AH8015                      |
| Grade              | JS                  | JTS   | SS        | SS     | TS                          |
| Chipbreaker shape  |                     |       |           |        |                             |
| Cutting conditions | D096                |       |           |        |                             |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Breaker Shape      |                |
| Cutting conditions | D096           |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Chipbreaker shape  |                |
| Cutting conditions | D096           |

| Application        | Precision finishing |       | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-------|-----------|--------|-----------------------------|
|                    | SH725               | SH725 | NS9530    | NS9530 | AH8015                      |
| Grade              | JS                  | JTS   | SS        | SS     | TS                          |
| Breaker Shape      |                     |       |           |        |                             |
| Cutting conditions | D096                |       |           |        |                             |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | KS05F     | KS05F                       | KS05F          |
| Grade              | SS        | TS                          | TS             |
| Breaker Shape      |           |                             |                |
| Cutting conditions | D096      |                             |                |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Breaker Shape      |                |
| Cutting conditions | D096           |

| Application        | Precision finishing | Finishing |        | Finishing to medium cutting |
|--------------------|---------------------|-----------|--------|-----------------------------|
|                    | SH725               | SH725     | AH8015 | AH8015                      |
| Grade              | JS                  | JTS       | SS     | TS                          |
| Breaker Shape      |                     |           |        |                             |
| Cutting conditions | D096                |           |        |                             |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | BXA10     | BXA20                       | BXA20          |
| Grade              | HP        | CBN                         | CBN            |
| Breaker Shape      |           |                             |                |
| Cutting conditions | D096      |                             |                |

| Application        | Medium cutting |
|--------------------|----------------|
| Grade              | AH8015         |
| Breaker Shape      |                |
| Cutting conditions | D096           |

Reference pages: S-SWLXR/L-H: Insert → **B157 -**, CBN → **B210**, Shank → **D090 - D092**  
Standard cutting conditions → **D096**

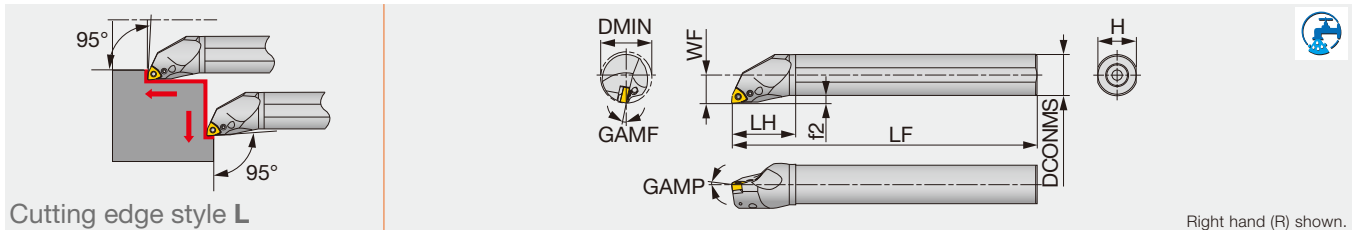
# WN



## STREAMJETBAR

### A-PWLN/L

Lever-lock boring bar, for negative 80° trigon inserts



| Metric               | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque |
|----------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|-------------|--------|
| A16M-PWLN/L0604-D200 | Steel    | 20   | 16     | 11 | 150 | 32 | 15 | 3   | -8°  | -17° | 0.8  | WN**0604... | 1.7    |
| A20Q-PWLN/L0604-D250 | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -14° | 0.8  | WN**0604... | 1.7    |
| A16M-PWLN/L06-D200   | Steel    | 20   | 16     | 11 | 150 | 32 | 15 | 3   | -8°  | -17° | 0.8  | WN**0604... | 1.7    |
| A20Q-PWLN/L06-D250   | Steel    | 25   | 20     | 13 | 180 | 36 | 18 | 3   | -6°  | -14° | 0.8  | WN**0604... | 1.7    |
| A25R-PWLN/L06-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -12° | 0.8  | WN**0604... | 2.7    |
| A32S-PWLN/L06-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 0.8  | WN**0604... | 2.7    |
| A25R-PWLN/L08-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | WN**0804... | 2.7    |
| A32S-PWLN/L08-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -11° | 0.8  | WN**0804... | 4.8    |
| A40T-PWLN/L08-D500   | Steel    | 50   | 40     | 27 | 300 | 60 | 37 | 7   | -6°  | -10° | 0.8  | WN**0804... | 4.8    |

Torque: Recommended clamping torque: N-m \*\*RE: Standard corner radius

Note: Use right-hand toolholders (PWLNR\*\*) with left-hand inserts (L); and left-hand toolholders (PWLNL\*\*) with right-hand inserts (R).

### SPARE PARTS

| Designation          | Shim       | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Spring pin | Lever  | Oil supply attachment* | Screw for oil hole* |
|----------------------|------------|------------------|------------------|----------|----------|------------|--------|------------------------|---------------------|
| A16M-PWLN/L0604-D200 | -          | -                | LCS33            | P-2F     | -        | -          | LCL33N | -                      | SSHM3-4             |
| A20Q-PWLN/L0604-D250 | -          | -                | LCS33            | P-2F     | -        | -          | LCL33N | EA-20                  | SSHM3-4             |
| A16M-PWLN/L06-D200   | -          | LCS33            | -                | P-2F     | -        | -          | LCL33N | -                      | SSHM3-4             |
| A20Q-PWLN/L06-D250   | -          | LCS33            | -                | P-2F     | -        | -          | LCL33N | EA-20                  | SSHM3-4             |
| A25R-PWLN/L06-D320   | LSW312BR/L | -                | LCS3B            | -        | P-2.5    | LSP3       | LCL3   | EA-25                  | SSHM4-5             |
| A32S-PWLN/L06-D400   | LSW312BR/L | -                | LCS3             | -        | P-2.5    | LSP3       | LCL3   | EA-32                  | SSHM4-5             |
| A25R-PWLN/L08-D320   | -          | LCS43            | -                | -        | P-2.5    | -          | LCL43N | EA-25                  | SSHM4-5             |
| A32S-PWLN/L08-D400   | LSW42BR/L  | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | EA-32                  | SSHM4-5             |
| A40T-PWLN/L08-D500   | LSW42BR/L  | -                | LCS4             | -        | P-3      | LSP4       | LCL4   | -                      | SSHM4-5             |

\*Optional

### INSERT SELECTION

|          |                    |                     |                |                         |                         |
|----------|--------------------|---------------------|----------------|-------------------------|-------------------------|
| <b>P</b> | Application        | Precision finishing | Finishing      | Medium cutting          | Medium to heavy cutting |
|          | Grade              | NS9530              | GT9530         | T9215                   | T9215                   |
|          | Breaker Shape      | TF                  | TSF            | TM                      | TH                      |
|          | Cutting conditions | B004                |                |                         |                         |
| <b>M</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T6215               | AH6225         | AH6225                  |                         |
|          | Breaker Shape      | SF                  | SM             | SH                      |                         |
|          | Cutting conditions | B006                |                |                         |                         |
| <b>K</b> | Application        | Finishing           | Medium cutting | Medium to heavy cutting |                         |
|          | Grade              | T515                | T515           | T515                    |                         |
|          | Breaker Shape      | All-round           | All-round      | All-round               |                         |
|          | Cutting conditions | B008                |                |                         |                         |
| <b>S</b> | Application        | Precision finishing | Finishing      | Medium cutting          |                         |
|          | Grade              | BX480               | AH8005         | AH8005                  |                         |
|          | Breaker Shape      | CBN                 | HRF            | HRM                     |                         |
|          | Cutting conditions | B012                |                |                         |                         |
| <b>H</b> | Application        | Precision finishing | Finishing      |                         |                         |
|          | Grade              | BXM10               | BXM20          |                         |                         |
|          | Breaker Shape      | CBN                 | CBN            |                         |                         |
|          | Cutting conditions | B014                |                |                         |                         |

Reference pages: A-PWLN/L: Insert → **B102** -, CBN → **B187**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



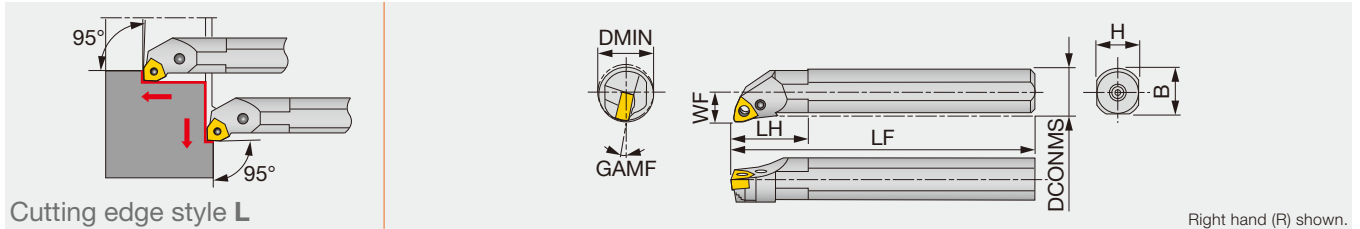
# WN



Trigon, 80°  
with hole

## S-PWLNR/L

Lever-lock boring bar, for negative 80° trigon inserts



| Metric         | Material | DMIN | DCONMS | WF | LF  | LH | H  | B    | GAMF | RE** | Insert      |
|----------------|----------|------|--------|----|-----|----|----|------|------|------|-------------|
| S16M-PWLNR/L06 | Steel    | 20   | 16     | 11 | 150 | 30 | 15 | 15.5 | -17° | 0.8  | WN**0604... |
| S20Q-PWLNR/L06 | Steel    | 25   | 20     | 13 | 180 | 35 | 18 | 19   | -14° | 0.8  | WN**0604... |
| S25R-PWLNR/L06 | Steel    | 32   | 25     | 17 | 200 | 40 | 23 | 24   | -12° | 0.8  | WN**0604... |

\*\*RE : Standard corner radius

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

| SPARE PARTS   |          |                  |                  |          |        |            |        |  |
|---------------|----------|------------------|------------------|----------|--------|------------|--------|--|
| Designation   | Shim     | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench | Spring pin | Lever  |  |
| S**-PWLNR/L06 | -        | LCS33            | -                | P-2F     | -      | -          | LCL33N |  |
| S25R-PWLNR06  | LSW312BR | -                | LCS3B            | -        | P-2.5  | LSP3       | LCL3   |  |
| S25R-PWLNL06  | LSW312BL | -                | LCS3B            | -        | P-2.5  | LSP3       | LCL3   |  |

## INSERT SELECTION

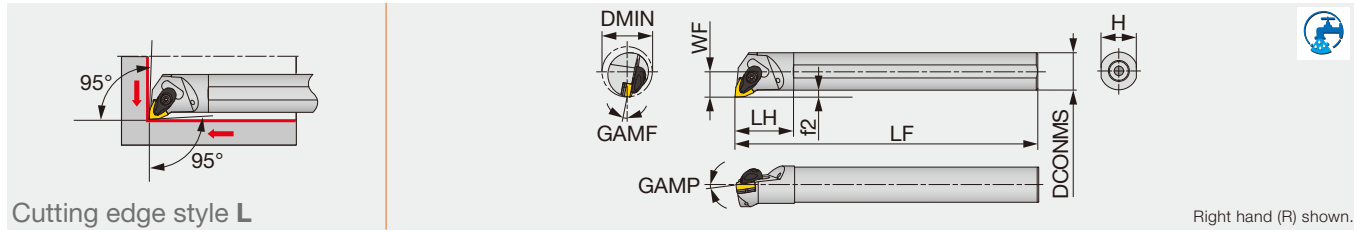
| P                  | Application | Finishing | Medium cutting |
|--------------------|-------------|-----------|----------------|
|                    | Grade       | T9215     | T9215          |
| Breaker Shape      | TSF         | TM        |                |
| Cutting conditions |             | B004      |                |

| M                  | Application | Finishing | Medium cutting |
|--------------------|-------------|-----------|----------------|
|                    | Grade       | AH6225    | AH6225         |
| Chipbreaker shape  | SS          | SM        |                |
| Cutting conditions |             | B006      |                |

| K                  | Application | Medium cutting |
|--------------------|-------------|----------------|
|                    | Grade       | T515           |
| Breaker Shape      | TM          |                |
| Cutting conditions |             | B008           |

Reference pages: A-PWLNR/L: Insert → **B102** -, CBN → **B187**





| Inch              | Material | DMIN  | DCONMS | WF    | LF     | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert     | Torque |
|-------------------|----------|-------|--------|-------|--------|-------|-------|-------|------|------|-------|------------|--------|
| A16-AWLNR/L33-D20 | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.750 | 0.906 | 0.172 | -6°  | -13° | 0.031 | WN** 33... | 2.21   |
| A20-AWLNR/L33-D25 | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.938 | 1.188 | 0.234 | -6°  | -10° | 0.031 | WN** 33... | 2.21   |
| A16-AWLNR/L3-D20  | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.770 | 0.906 | 0.177 | -6°  | -13° | 0.031 | WN** 33... | 2.21   |
| A20-AWLNR/L3-D25  | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.960 | 1.180 | 0.236 | -6°  | -10° | 0.031 | WN** 33... | 2.21   |
| A16-AWLNR/L4-D20  | Steel    | 1.250 | 1.000  | 0.672 | 12.000 | 1.770 | 0.906 | 0.177 | -6°  | -13° | 0.031 | WN** 43... | 2.21   |
| A20-AWLNR/L4-D25  | Steel    | 1.560 | 1.250  | 0.859 | 14.000 | 1.960 | 1.180 | 0.236 | -6°  | -10° | 0.031 | WN** 43... | 2.21   |
| A24-AWLNR/L4-D32  | Steel    | 2.000 | 1.500  | 1.060 | 14.000 | 2.160 | 1.460 | 0.275 | -6°  | -8°  | 0.031 | WN** 43... | 2.21   |
| A32-AWLNR/L4-D40  | Steel    | 2.500 | 2.000  | 1.370 | 16.000 | 2.550 | 1.850 | 0.393 | -6°  | -7°  | 0.031 | WN** 43... | 2.21   |

| Metric                | Material | DMIN | DCONMS | WF | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|-----------------------|----------|------|--------|----|-----|----|----|-----|------|------|------|-------------|---------|
| A25R-AWLNR/L0604-D320 | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | WN**0604... | 3       |
| A32S-AWLNR/L0604-D400 | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | WN**0604... | 3       |
| A25R-AWLNR/L06-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | WN**0604... | 3       |
| A32S-AWLNR/L06-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | WN**0604... | 3       |
| A25R-AWLNR/L08-D320   | Steel    | 32   | 25     | 17 | 200 | 45 | 23 | 4.5 | -6°  | -13° | 0.8  | WN**0804... | 3       |
| A32S-AWLNR/L08-D400   | Steel    | 40   | 32     | 22 | 250 | 50 | 30 | 6   | -6°  | -10° | 0.8  | WN**0804... | 3       |
| A40T-AWLNR/L08-D500   | Steel    | 50   | 40     | 27 | 300 | 55 | 37 | 7   | -6°  | -8°  | 0.8  | WN**0804... | 3       |
| A50U-AWLNR/L08-D630   | Steel    | 63   | 50     | 35 | 350 | 65 | 47 | 10  | -6°  | -7°  | 0.8  | WN**0804... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*RE: Standard corner radius

### SPARE PARTS

| Designation          | Clamp   | Clamp screw | Spring | Spring pin | Shim   | Shim screw | Wrench |
|----------------------|---------|-------------|--------|------------|--------|------------|--------|
| A**-AWLNR/L33-D...   | ACP3S-E | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  |
| A**-AWLNR/L0604-D... | ACP3S   | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  |
| A**-AWLNR/L3-D...    | ACP3S   | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  |
| A**-AWLNR/L06-D...   | ACP3S   | ACS-5W      | BP-7   | SP-2.5     | ASW322 | CSTB-3.5   | T-15F  |
| A**-AWLNR/L4-D...    | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASW422 | CSTB-3.5   | T-15F  |
| A**-AWLNR/L08-D...   | ACP4S   | ACS-5W      | BP-7   | SP-2.5     | ASW422 | CSTB-3.5   | T-15F  |

### INSERT SELECTION

| Application        | Precision finishing | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|-----------|----------------|-------------------------|
|                    | Grade               | NS9530    | GT9530         | T9215                   |
| Breaker Shape      | TF                  | TSF       | TM             | TH                      |
| Cutting conditions | B004                |           |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T6215          | AH6225                  |
| Breaker Shape      | SF        | SM             | SH                      |
| Cutting conditions | B006      |                |                         |

| Application        | Finishing | Medium cutting | Medium to heavy cutting |
|--------------------|-----------|----------------|-------------------------|
|                    | Grade     | T515           | T515                    |
| Breaker Shape      | All-round | All-round      | All-round               |
| Cutting conditions | B008      |                |                         |

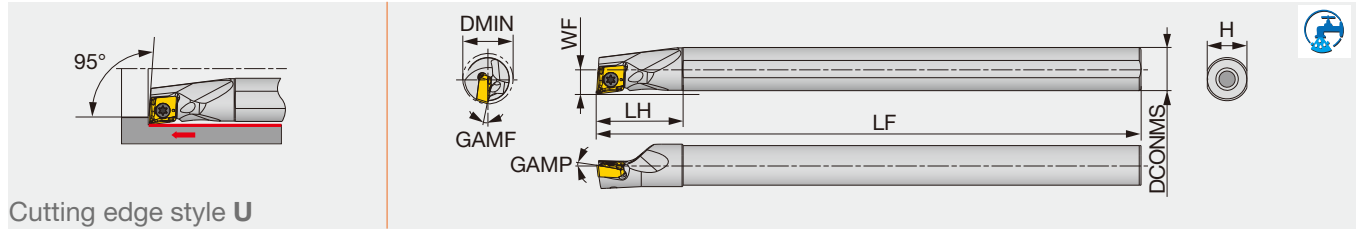
| Application        | Precision finishing | Finishing | Medium cutting |
|--------------------|---------------------|-----------|----------------|
|                    | Grade               | BX480     | AH8005         |
| Breaker Shape      | CBN                 | HRF       | HRM            |
| Cutting conditions | B012                |           |                |

| Application        | Precision finishing | Finishing |
|--------------------|---------------------|-----------|
|                    | Grade               | BXM10     |
| Breaker Shape      | CBN                 | CBN       |
| Cutting conditions | B014                |           |

Reference pages: A-AWLNR/L: Insert → **B102** -, CBN → **B187**



Screw-on boring bar, for XOMU rhombic inserts



Cutting edge style **U**

| Metric              | DMIN | DCONMS | WF | LF  | LH | H   | GAMP  | GAMF  | Insert        |
|---------------------|------|--------|----|-----|----|-----|-------|-------|---------------|
| A08H-SXUOR/L05-D100 | 10   | 8      | 5  | 100 | 16 | 7.5 | -7°   | -0.8° | XOMU05X204-PS |
| A12M-SXUOR/L07-D140 | 14   | 12     | 7  | 150 | 24 | 11  | -7.2° | 3.2°  | XOMU07H304-PS |
| E08K-SXUOR/L05-D100 | 10   | 8      | 5  | 125 | 22 | 7.5 | -7°   | -0.8° | XOMU05X204-PS |
| E12Q-SXUOR/L07-D140 | 14   | 12     | 7  | 180 | 27 | 11  | -7.2° | 3.2°  | XOMU07H304-PS |

**SPARE PARTS**



| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| A08H-SXUOR/L05-D100 | CSTB-2L040     | T-6F   |
| A12M-SXUOR/L07-D140 | CSPB-2.5       | IP-8D  |
| E08K-SXUOR/L05-D100 | CSTB-2L040     | T-6F   |
| E12Q-SXUOR/L07-D140 | CSPB-2.5       | IP-8D  |

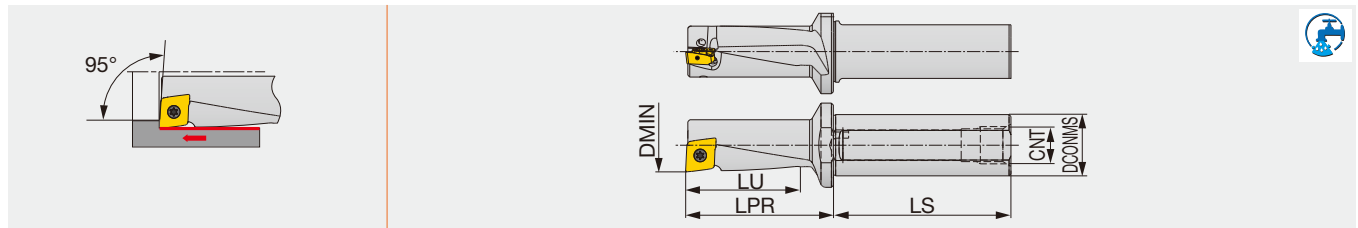
C

**TBM**

D

Maximum hole depth for LH/DC = 2.25

E



F

G

S

| Metric           | DMIN | DCONMS | LU   | LS   | LPR   | CNT         | Insert        |
|------------------|------|--------|------|------|-------|-------------|---------------|
| TBM10R/LF12-2.25 | 10   | 12     | 22.5 | 41.5 | 28.45 | UNF 5/16-24 | XOMU05X204-PS |
| TBM12R/LF16-2.25 | 12   | 16     | 27   | 43.9 | 33.53 | G1/8        | XOMU06H204-PS |
| TBM14R/LF16-2.25 | 14   | 16     | 31.5 | 46.4 | 38.57 | G1/8        | XOMU07H304-PS |
| TBM16R/LF20-2.25 | 16   | 20     | 36   | 57.1 | 42.9  | G1/8        | XOMU08T304-PS |

T

V

W

**SPARE PARTS**



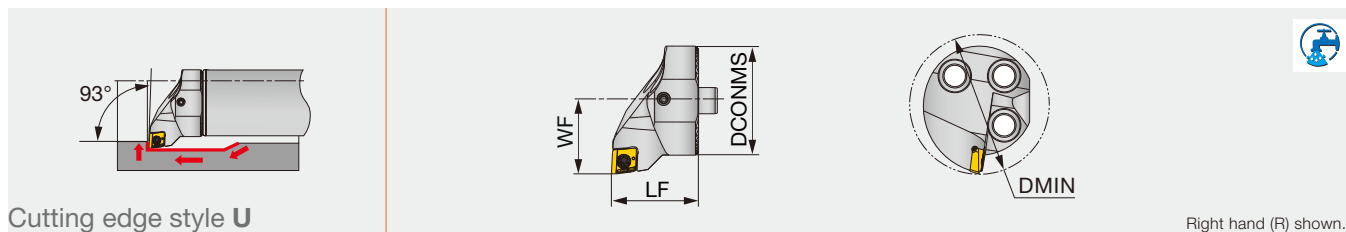
| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| TBM10R/LF12-2.25 | CSTB-2L040     | T-6D   |
| TBM12R/LF16-2.25 | CSPB-2.2       | IP-7D  |
| TBM14R/LF16-2.25 | CSPB-2.5       | IP-8D  |
| TBM16R/LF20-2.25 | CSTB-3         | T-9D   |

Y

OTHERS

Reference pages: Insert → **D087**  
Standard cutting conditions → **D098**

Screw-on clamp exchangeable boring head, for XOMU inserts



Cutting edge style U

Right hand (R) shown.

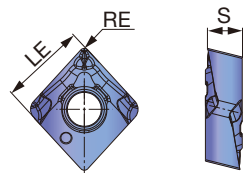
| Inch          | DMIN  | DCONMS | WF    | LF    | Shank   | Insert        |
|---------------|-------|--------|-------|-------|---------|---------------|
| S20-SXUOR05-H | 0.984 | 0.787  | 0.512 | 0.787 | D/G.750 | XOMU05X204-PS |
| S25-SXUOR05-H | 1.260 | 0.984  | 0.669 | 0.787 | D1.00   | XOMU05X204-PS |

### SPARE PARTS

| Designation   | Clamping screw | Wrench |
|---------------|----------------|--------|
| S**-SXUOR05-H | CSTB-2L040     | T-6F   |

## INSERT

### XOMU-PS



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   |   |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      | ★ |   |   |   |   |   |
| Non-ferrous    | ★ |   |   |   |   |   |
| Superalloys    |   |   |   |   |   |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice  
☆ : Second choice

| Designation   | RE (in) | Coated |  |  |  |  |  |  |  | S (in) | LE (in) |
|---------------|---------|--------|--|--|--|--|--|--|--|--------|---------|
|               |         | AH725  |  |  |  |  |  |  |  |        |         |
| XOMU05X204-PS | 0.016   | ●      |  |  |  |  |  |  |  | 0.091  | 0.219   |
| XOMU06H204-PS | 0.016   | ●      |  |  |  |  |  |  |  | 0.106  | 0.248   |
| XOMU07H304-PS | 0.016   | ●      |  |  |  |  |  |  |  | 0.130  | 0.287   |
| XOMU08T304-PS | 0.016   | ●      |  |  |  |  |  |  |  | 0.156  | 0.327   |

● : Line up

Reference pages: Shank → [D090 - D092](#)  
Standard cutting conditions → [D098](#)



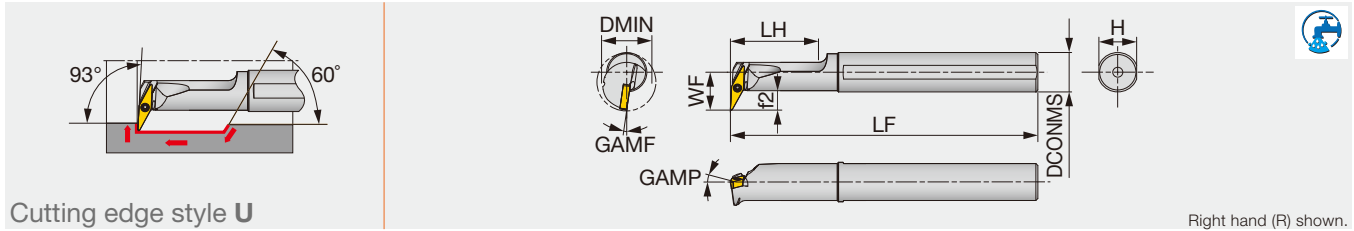
# YW

Rhombic, 25°  
with hole  
Positive 7°

## Y-PRO SERIES

A/E-SYUBR/L

Screw-on boring bar, for positive 25° rhombic inserts



| Inch             | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque |
|------------------|----------|-------|--------|-------|-------|-------|-------|-------|------|------|-------|-------------|--------|
| A10-SYUBR/L2-D16 | Steel    | 1.000 | 0.625  | 0.625 | 7.000 | 1.250 | 0.600 | 0.312 | 0°   | -8°  | 0.016 | YW**11T2... | 0.44   |
| E08-SYUBR/L2-D14 | Carbide  | 0.875 | 0.500  | 0.563 | 5.000 | 1.060 | 0.475 | 0.307 | 0°   | -8°  | 0.016 | YW**11T2... | 0.44   |
| E10-SYUBR/L2-D16 | Carbide  | 1.000 | 0.625  | 0.625 | 7.000 | 1.250 | 0.600 | 0.307 | 0°   | -8°  | 0.016 | YW**11T2... | 0.44   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|-----|------|------|------|-------------|---------|
| A16Q-SYUBR/L11-D200 | Steel    | 20   | 16     | 15.5 | 180 | 35 | 15 | 8   | 0°   | -8°  | 0.4  | YW**11T2... | 0.6     |
| E12Q-SYUBR/L11-D200 | Carbide  | 20   | 12     | 13.5 | 180 | 27 | 11 | 7.5 | 0°   | -8°  | 0.4  | YW**11T2... | 0.6     |
| E16R-SYUBR/L11-D245 | Carbide  | 24.5 | 16     | 16   | 200 | 32 | 15 | 8   | 0°   | -8°  | 0.4  | YW**11T2... | 0.6     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
\*\*RE : Standard corner radius

### SPARE PARTS

| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| A**-SYUBR/L... | CSTB-2L        | T-6F   |
| E**-SYUBR/L... | CSTB-2L        | T-6F   |

### INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | GT9215                      | T9215          |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH8015                      | AH8015         |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | GT9530                      | T9215          |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B020      |                             |                |

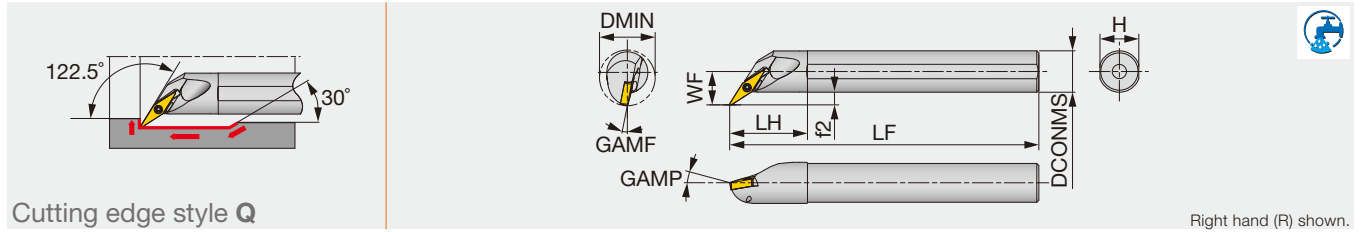
| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH8015                      | AH8015         |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B024      |                             |                |

Reference pages: A/E-SYUBR/L: Insert → **B159**

# Y-PRO SERIES

A/E-SYQBR/L

Screw-on boring bar, for positive 25° rhombic inserts



Cutting edge style Q

Right hand (R) shown.

| Inch           | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | f2    | GAMP | GAMF | RE**  | Insert      | Torque |
|----------------|----------|-------|--------|-------|-------|-------|-------|-------|------|------|-------|-------------|--------|
| A08-SYQBR2-D12 | Steel    | 0.750 | 0.500  | 0.438 | 5.000 | 1.000 | 0.475 | 0.188 | -5°  | -10° | 0.016 | YW**11T2... | 0.44   |
| A10-SYQBR2-D14 | Steel    | 0.875 | 0.625  | 0.500 | 7.000 | 1.250 | 0.600 | 0.188 | -5°  | -8°  | 0.016 | YW**11T2... | 0.44   |
| E08-SYQBR2-D12 | Carbide  | 0.750 | 0.500  | 0.438 | 5.000 | 1.000 | 0.475 | 0.188 | -5°  | -10° | 0.016 | YW**11T2... | 0.44   |
| E10-SYQBR2-D14 | Carbide  | 0.875 | 0.625  | 0.500 | 7.000 | 1.250 | 0.600 | 0.188 | -5°  | -8°  | 0.016 | YW**11T2... | 0.44   |

| Metric              | Material | DMIN | DCONMS | WF   | LF  | LH | H  | f2  | GAMP | GAMF | RE** | Insert      | Torque* |
|---------------------|----------|------|--------|------|-----|----|----|-----|------|------|------|-------------|---------|
| A12M-SYQBR/L11-D170 | Steel    | 17   | 12     | 10.5 | 150 | 24 | 11 | 4.5 | -5°  | -10° | 0.4  | YW**11T2... | 0.6     |
| A16Q-SYQBR/L11-D215 | Steel    | 21.5 | 16     | 13   | 180 | 30 | 15 | 5   | -5°  | -8°  | 0.4  | YW**11T2... | 0.6     |
| E12Q-SYQBR/L11-D170 | Carbide  | 17   | 12     | 10.5 | 180 | 27 | 11 | 4.5 | -5°  | -10° | 0.4  | YW**11T2... | 0.6     |
| E16R-SYQBR/L11-D215 | Carbide  | 21.5 | 16     | 13   | 200 | 32 | 15 | 5   | -5°  | -8°  | 0.4  | YW**11T2... | 0.6     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*RE : Standard corner radius

## SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| A/E**-SYQBR/L... | CSTB-2L        | T-6F   |

## INSERT SELECTION

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | GT9215                      | T9215          |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B016      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH8015                      | AH8015         |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B018      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | GT9530                      | T9215          |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B020      |                             |                |

| Application        | Finishing | Finishing to medium cutting | Medium cutting |
|--------------------|-----------|-----------------------------|----------------|
|                    | Grade     | AH8015                      | AH8015         |
| Breaker Shape      | ZF        | ZF                          | ZM             |
| Cutting conditions | B024      |                             |                |

Reference pages: A/E-SYQBR/L: Insert → **B159**

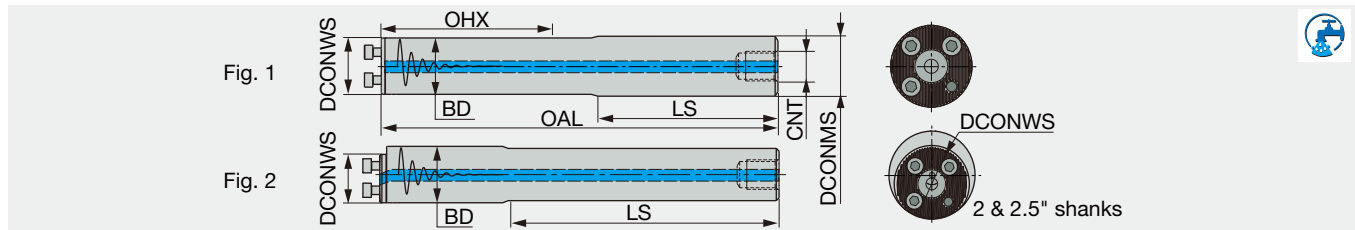


# Technical Guide

## BOREMEISTER

### Anti-vibration bar

Anti-vibration bar for exchangeable turning heads, with through coolant



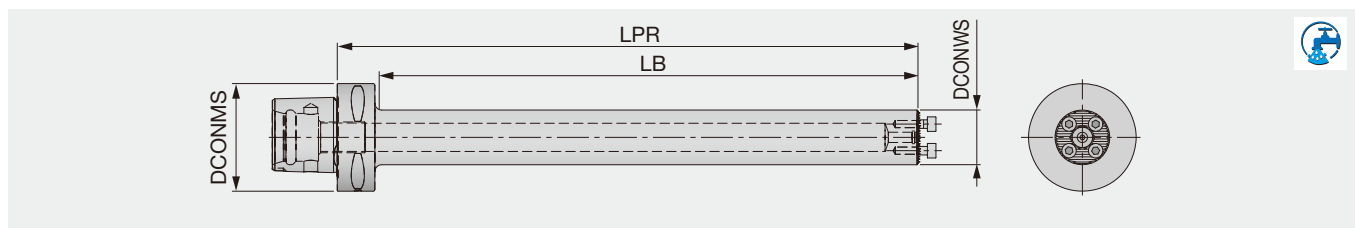
| Inch               | Material | DCONWS | DCONMS | BD    | OAL    | LS     | OHX    | CNT  | Fig. |
|--------------------|----------|--------|--------|-------|--------|--------|--------|------|------|
| D.625-L6.14-7D-C   | Steel    | 0.630  | 0.625  | 0.630 | 6.140  | 3.600  | 3.500  | G1/8 | 1    |
| G.625-L8.03-10D-E  | Carbide  | 0.630  | 0.625  | 0.630 | 8.030  | 5.220  | 5.500  | -    | 1    |
| D.750-L7.87-7D-C   | Steel    | 0.787  | 0.750  | 0.787 | 7.870  | 4.940  | 4.400  | G1/4 | 1    |
| G.750-L10.24-10D-E | Carbide  | 0.787  | 0.750  | 0.787 | 10.240 | 6.770  | 7.000  | -    | 1    |
| D1.00-L10.2-7D-C   | Steel    | 0.984  | 1.000  | 0.984 | 10.200 | 6.830  | 6.200  | G1/4 | 1    |
| D1.00-L13.21-10D-C | Steel    | 0.984  | 1.000  | 0.984 | 13.210 | 8.650  | 9.200  | G1/4 | 1    |
| D1.25-L12.48-7D-C  | Steel    | 1.260  | 1.250  | 1.260 | 12.480 | 7.370  | 7.500  | G3/8 | 1    |
| D1.25-L16.24-10D-C | Steel    | 1.260  | 1.250  | 1.260 | 16.240 | 9.670  | 11.200 | G3/8 | 1    |
| D1.50-L15.26-7D-C  | Steel    | 1.575  | 1.500  | 1.575 | 15.260 | 9.130  | 9.200  | G1/2 | 1    |
| D1.50-L19.8-10D-C  | Steel    | 1.575  | 1.500  | 1.575 | 19.800 | 13.350 | 13.700 | G1/2 | 1    |
| D2.00-L20.74-7D-C  | Steel    | 1.575  | 2.000  | 2.000 | 20.740 | -      | 12.700 | G1/2 | 2    |
| D2.00-L26.73-10D-C | Steel    | 1.575  | 2.000  | 2.000 | 26.730 | -      | 18.700 | G1/2 | 2    |
| D2.50-L26.2-7D-C   | Steel    | 1.575  | 2.500  | 2.500 | 26.200 | -      | 16.200 | G3/4 | 2    |
| D2.50-L33.72-10D-C | Steel    | 1.575  | 2.500  | 2.500 | 33.720 | -      | 23.700 | G3/4 | 2    |

#### SPARE PARTS

| Designation                    | Clamping screw     | Wrench |
|--------------------------------|--------------------|--------|
| D.625..., G.625...             | SRM3X10DIN912      | HW2.5  |
| D.750..., G.750...             | SR55-2M3.5X10      | HW2.5  |
| D1.00...                       | SRM4X12DIN912      | HW3.0  |
| D1.25...                       | SRM5X12DIN912      | HW4.0  |
| D1.50..., D2.00...<br>D2.50... | SRM6X16DIN912-12.9 | HW5.0  |

#### C6-9D-C

PSC adapter with anti vibration, L/D = 9



| Metric           | Material | DCONWS | DCONMS | LPR   | LB    | WT (kg) |
|------------------|----------|--------|--------|-------|-------|---------|
| C6-D25-L230-9D-C | Steel    | 25     | 63     | 230.5 | 200.1 | 1.65    |
| C6-D32-L288-9D-C | Steel    | 32     | 63     | 288.5 | 259.5 | 2.73    |
| C6-D40-L368-9D-C | Steel    | 40     | 63     | 368.5 | 339   | 4.45    |

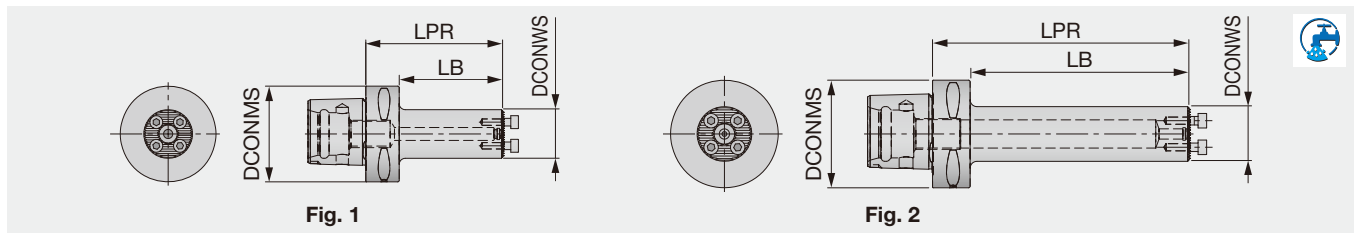
#### SPARE PARTS

| Designation | Clamping screw     | Wrench |
|-------------|--------------------|--------|
| C6-D25...   | SRM4X12DIN912      | HW3.0  |
| C6-D32...   | SRM5X12DIN912      | HW4.0  |
| C6-D40...   | SRM6X16DIN912-12.9 | HW5.0  |

# BOREMEISTER

## C#-SH-CHP / C#-SH-E-CHP

PSC compatible adapter with steel or carbide core



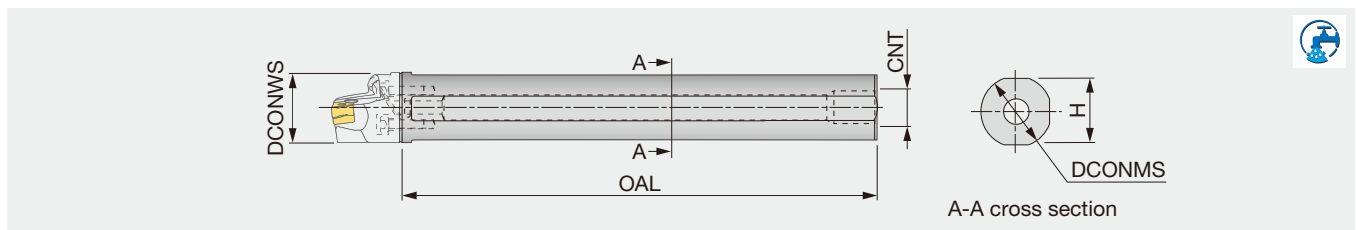
| Metric             | Material | DCONWS | DCONMS | LPR | LB  | Fig. |
|--------------------|----------|--------|--------|-----|-----|------|
| C4-SH-D16-2.5D-CHP | Steel    | 16     | 40     | 40  | 20  | 1    |
| C4-SH-D20-2.5D-CHP | Steel    | 20     | 40     | 50  | 30  | 1    |
| C4-SH-D25-2.5D-CHP | Steel    | 25     | 40     | 55  | 35  | 1    |
| C4-SH-D32-2.5D-CHP | Steel    | 32     | 40     | 75  | 55  | 1    |
| C4-SH-D40-3D-CHP   | Steel    | 40     | 40     | 80  | 80  | 1    |
| C6-SH-D20-5D-E-CHP | Carbide  | 20     | 63     | 100 | 78  | 2    |
| C6-SH-D25-5D-E-CHP | Carbide  | 25     | 63     | 115 | 93  | 2    |
| C6-SH-D32-5D-E-CHP | Carbide  | 32     | 63     | 150 | 128 | 2    |
| C6-SH-D40-5D-E-CHP | Carbide  | 40     | 63     | 185 | 163 | 2    |

**SPARE PARTS**

| Designation   | Clamping screw     | Wrench |
|---------------|--------------------|--------|
| C4**D16...    | SRM3X10DIN912      | HW2.5  |
| C4/C6**D20... | SR55-2M3.5X10      | HW2.5  |
| C4/C6**D25... | SRM4X12DIN912      | HW3.0  |
| C4/C6**D32... | SRM5X12DIN912      | HW4.0  |
| C4/C6**D40... | SRM6X16DIN912-12.9 | HW5.0  |

## D#4D-SH

Steel shank for internal turning, with through coolant



| Inch               | Material | DCONWS | DCONMS | OAL   | CNT            | H     |
|--------------------|----------|--------|--------|-------|----------------|-------|
| D1.00-L7.2-4D-SH   | Steel    | 1.000  | 1.000  | 7.200 | UNF-2B 1/2"-20 | 0.921 |
| D1.25-L8.74-4D-SH  | Steel    | 1.250  | 1.250  | 8.740 | UNF-2B 1/2"-20 | 1.142 |
| D1.50-L10.75-4D-SH | Steel    | 1.575  | 1.500  | 10.75 | UNF-2B 1/2"-20 | 1.339 |
| D2.00-L14.72-4D-SH | Steel    | 1.575  | 2.000  | 14.72 | UNF-2B 1/2"-20 | 1.811 |
| D2.50-L18.74-4D-SH | Steel    | 1.575  | 2.500  | 18.74 | UNF-2B 1/2"-20 | 2.283 |

**SPARE PARTS**

| Designation        | Clamping screw     | Wrench |
|--------------------|--------------------|--------|
| D1.00-L7.2-4D-SH   | SR M4X12DIN912     | HW 3.0 |
| D1.25-L8.74-4D-SH  | SR M5X12 DIN912    | HW 4.0 |
| D1.50-L10.75-4D-SH | SRM6X16DIN912-12.9 | HW 5.0 |
| D2.00-L14.72-4D-SH | SRM6X16DIN912-12.9 | HW 5.0 |
| D2.50-L18.74-4D-SH | SRM6X16DIN912-12.9 | HW 5.0 |

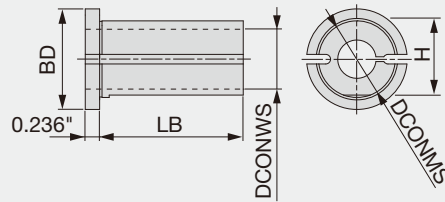


# Technical Guide

## BOREMEISTER

### RSL sleeve

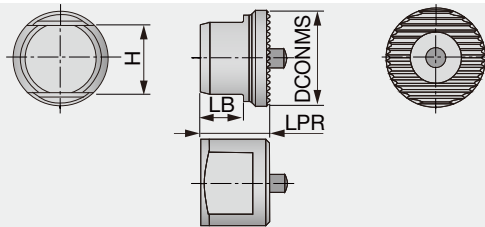
Split sleeve for anti-vibration bar



| Inch               | DCONWS | DCONMS | BD    | LB    | H     |
|--------------------|--------|--------|-------|-------|-------|
| RSL-31.8-15.9-L66  | 0.625  | 1.250  | 1.654 | 2.362 | 1.210 |
| RSL-31.8-19-L66    | 0.750  | 1.250  | 1.654 | 2.362 | 1.210 |
| RSL-31.8-25.4-L66  | 1.000  | 1.250  | 1.654 | 2.362 | 1.210 |
| RSL-38.1-15.9-L106 | 0.625  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-38.1-19-L106   | 0.750  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-38.1-25.4-L106 | 1.000  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-38.1-31.8-L106 | 1.250  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-50.8-19-L126   | 0.750  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-50.8-25.4-L126 | 1.000  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-50.8-31.8-L126 | 1.250  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-50.8-38.1-L126 | 1.500  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-63.5-31.8-L156 | 1.250  | 2.500  | 2.756 | 5.906 | 2.441 |
| RSL-63.5-38.1-L156 | 1.500  | 2.500  | 2.756 | 5.906 | 2.441 |
| RSL-63.5-50.8-L156 | 2.000  | 2.500  | 2.756 | 5.906 | 2.441 |

### AVC-SET

Center height set up device

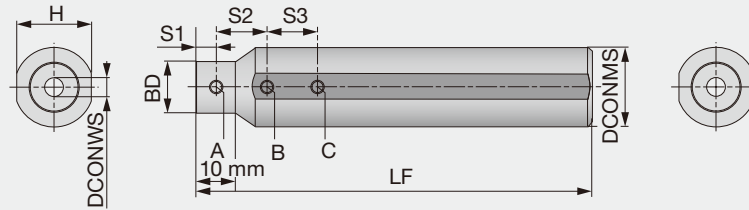


| Inch         | DCONMS | H     | LPR   | LB    | Applicable shank           |
|--------------|--------|-------|-------|-------|----------------------------|
| AVC-SET16-25 | 0.787  | 0.591 | 0.571 | 0.350 | D/G.625, D/G.750, D1.00    |
| AVC-SET32-60 | 1.142  | 0.630 | 0.689 | 0.450 | D1.25, D1.50, D2.00, D2.50 |

# STREAMJETBAR

## BLM sleeve

Round shank sleeve for StreamJetBar-Mini series



| Metric    | DCONMS          | DCONWS | BD | LF  | H  | S1 | S2 | S3 |
|-----------|-----------------|--------|----|-----|----|----|----|----|
| BLM159-04 | 15.875 (0.625") | 4      | 15 | 100 | 15 | 5  | 15 | 15 |
| BLM159-05 | 15.875 (0.625") | 5      | 15 | 100 | 15 | 5  | 15 | 15 |
| BLM159-06 | 15.875 (0.625") | 6      | 15 | 100 | 15 | 5  | 20 | 20 |
| BLM159-07 | 15.875 (0.625") | 7      | 15 | 100 | 15 | 5  | 20 | 20 |
| BLM16-04  | 16              | 4      | 15 | 100 | 15 | 5  | 15 | 15 |
| BLM16-05  | 16              | 5      | 15 | 100 | 15 | 5  | 15 | 15 |
| BLM16-06  | 16              | 6      | 15 | 100 | 15 | 5  | 20 | 20 |
| BLM16-07  | 16              | 7      | 15 | 100 | 15 | 5  | 20 | 20 |
| BLM19-04  | 19.05 (0.750")  | 4      | 18 | 100 | 18 | 5  | 15 | 15 |
| BLM19-05  | 19.05 (0.750")  | 5      | 18 | 100 | 18 | 5  | 15 | 15 |
| BLM19-06  | 19.05 (0.750")  | 6      | 18 | 100 | 18 | 5  | 20 | 20 |
| BLM19-07  | 19.05 (0.750")  | 7      | 18 | 100 | 18 | 5  | 20 | 20 |
| BLM20-04  | 20              | 4      | 13 | 100 | 19 | 5  | 15 | 15 |
| BLM20-05  | 20              | 5      | 14 | 100 | 19 | 5  | 15 | 15 |
| BLM20-06  | 20              | 6      | 15 | 100 | 19 | 5  | 20 | 20 |
| BLM20-07  | 20              | 7      | 16 | 100 | 19 | 5  | 20 | 20 |
| BLM22-04  | 22              | 4      | 13 | 125 | 21 | 5  | 15 | 15 |
| BLM22-05  | 22              | 5      | 14 | 125 | 21 | 5  | 15 | 15 |
| BLM22-06  | 22              | 6      | 15 | 125 | 21 | 5  | 20 | 20 |
| BLM22-07  | 22              | 7      | 16 | 125 | 21 | 5  | 20 | 20 |
| BLM25-04  | 25              | 4      | 13 | 125 | 24 | 5  | 15 | 15 |
| BLM25-05  | 25              | 5      | 14 | 125 | 24 | 5  | 15 | 15 |
| BLM25-06  | 25              | 6      | 15 | 125 | 24 | 5  | 20 | 20 |
| BLM25-07  | 25              | 7      | 16 | 125 | 24 | 5  | 20 | 20 |
| BLM254-04 | 25.4 (1.000")   | 4      | 13 | 125 | 24 | 5  | 15 | 15 |
| BLM254-05 | 25.4 (1.000")   | 5      | 14 | 125 | 24 | 5  | 15 | 15 |
| BLM254-06 | 25.4 (1.000")   | 6      | 15 | 125 | 24 | 5  | 20 | 20 |
| BLM254-07 | 25.4 (1.000")   | 7      | 16 | 125 | 24 | 5  | 20 | 20 |

### SPARE PARTS

| Designation       | Clamping screw A | Clamping screw B, C | Wrench | Seal cap* (inner screw) |
|-------------------|------------------|---------------------|--------|-------------------------|
| BLM159, 16...     | SSH4-4           | SSH4-4              | P-2    | CA-16(M6)               |
| BLM19-04          | SSH4-4           | SSH4-6              | P-2    | CA-16(M6)               |
| BLM19-05, 06, 07  | SSH4-4           | SSH4-4              | P-2    | CA-16(M6)               |
| BLM20-04, 05      | SSH4-4           | SSH4-6              | P-2    | CA-16(M6)               |
| BLM20-06, 07      | SSH4-4           | SSH4-4              | P-2    | CA-16(M6)               |
| BLM22-...         | SSH4-4           | SSH4-6              | P-2    | CA-16(M6)               |
| BLM25-04, 05      | SSH4-4           | SSH4-8              | P-2    | CA-16(M6)               |
| BLM25-06          | SSH4-4           | SSH4-8              | P-2    | CA-16(M6)               |
| BLM25-07          | SSH4-4           | SSH4-6              | P-2    | CA-16(M6)               |
| BLM254-04, 05, 06 | SSH4-4           | SSH4-8              | P-2    | CA-16(M6)               |
| BLM254-07         | SSH4-4           | SSH4-6              | P-2    | CA-16(M6)               |

\*Optional

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

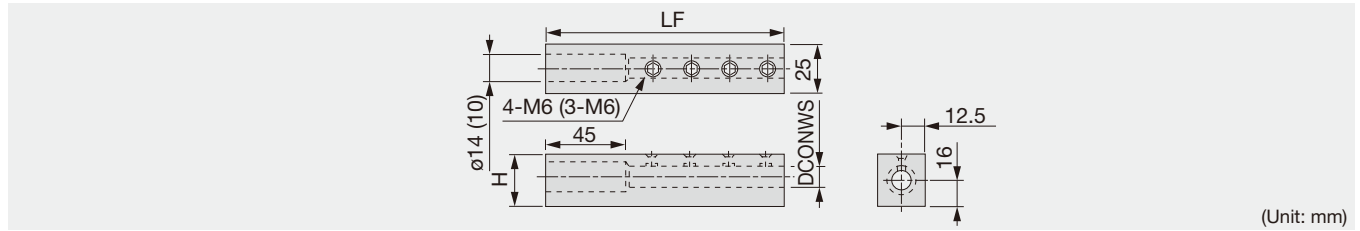
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M

# Technical Guide

## STREAMJETBAR

### BLS sleeve

Square shank sleeve for boring bars (regular length)



(Unit: mm)

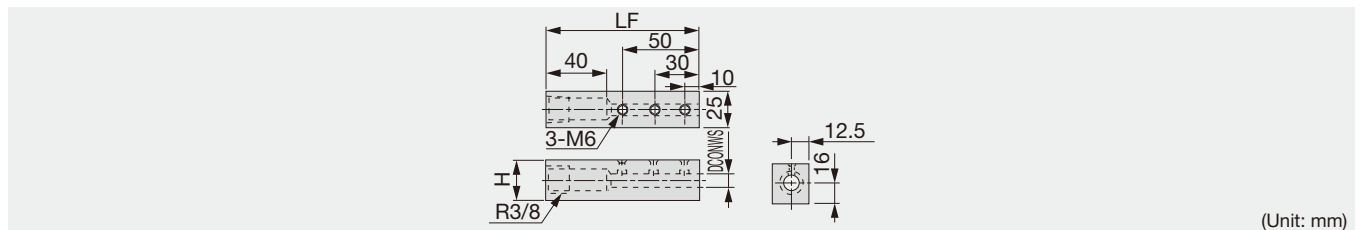
| Metric   | DCONWS | LF  | H  |
|----------|--------|-----|----|
| BLS16-08 | 8      | 125 | 28 |
| BLS16-10 | 10     | 125 | 28 |
| BLS16-12 | 12     | 125 | 28 |

#### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| BLS16-...   | P-3    |

### BLS-C sleeve

Square shank sleeve for boring bars (short type)



(Unit: mm)

| Metric    | DCONWS | LF  | H  |
|-----------|--------|-----|----|
| BLS16-08C | 8      | 100 | 28 |
| BLS16-10C | 10     | 100 | 28 |
| BLS16-12C | 12     | 100 | 28 |

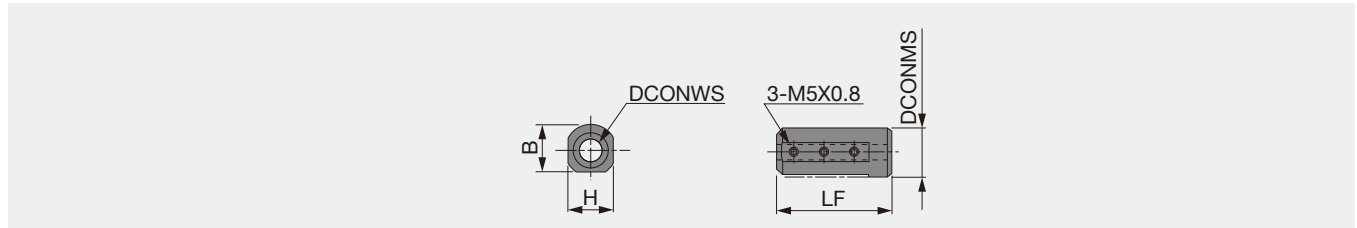
#### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| BLS16-**C   | P-3    |

# STREAMJETBAR

## BLM sleeve

Round shank sleeve for boring bars



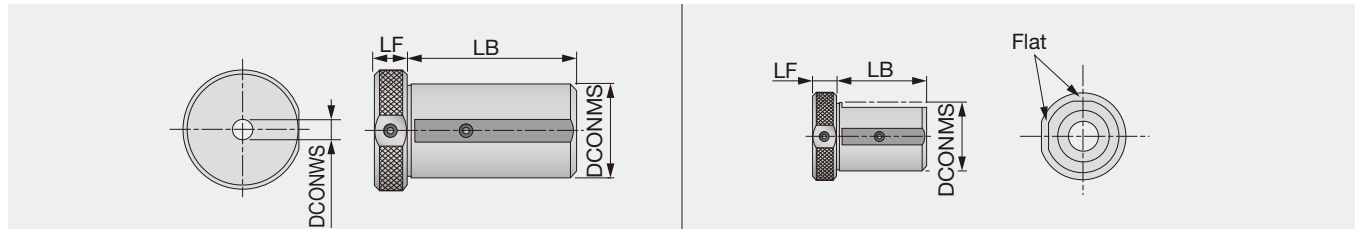
| Metric    | DCONWS | DCONMS | LF  | H  | B  |
|-----------|--------|--------|-----|----|----|
| BLM19-08  | 8      | 19.05  | 100 | 18 | 18 |
| BLM20-08  | 8      | 20     | 100 | 18 | 19 |
| BLM22-08  | 8      | 22     | 125 | 21 | 21 |
| BLM254-08 | 8      | 25.4   | 125 | 24 | 24 |
| BLM25-08C | 8      | 25     | 55  | 23 | 24 |
| BLM25-10C | 10     | 25     | 55  | 23 | 24 |
| BLM25-12C | 12     | 25     | 55  | 23 | 24 |

### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| BLM...      | P-2.5  |

## BLC sleeve

Round shank sleeve for boring bars



| Metric    | DCONWS | LB | LF | DCONMS |
|-----------|--------|----|----|--------|
| BLC40-8   | 8      | 73 | 13 | 40     |
| BLC40-10  | 10     | 73 | 13 | 40     |
| BLC40-12  | 12     | 73 | 13 | 40     |
| BLC40-16  | 16     | 73 | 13 | 40     |
| BLC32-8C  | 8      | 45 | 20 | 32     |
| BLC32-10C | 10     | 45 | 20 | 32     |
| BLC32-12C | 12     | 45 | 20 | 32     |
| BLC40-8C  | 8      | 55 | 13 | 40     |
| BLC40-10C | 10     | 55 | 13 | 40     |
| BLC40-12C | 12     | 55 | 13 | 40     |
| BLC40-16C | 16     | 55 | 13 | 40     |

### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| BLC40-8     | P-3    |
| BLC40-1...  | P-4    |
| BLC32-8C    | P-3    |
| BLC32-1°C   | P-4    |
| BLC40-8C    | P-3    |
| BLC40-1°C   | P-4    |

# Technical Guide

## MINIFORCE TURN

### STANDARD CUTTING CONDITIONS

#### FOR INTERNAL TURNING

| ISO                                       | Workpiece material                         | Grade        |               | Cutting speed<br>Vc (sfm) | Depth of cut<br>ap (in) | Feed<br>f (ipr) |
|---|--|--------------|---------------|---------------------------|-------------------------|-----------------|
|   |  | First choice | Second choice |                           |                         |                 |
| P   | Low carbon steel / Low alloy steel         | T9215        | -             | 394 - 1148                | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | T9225        | -             | 328 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | AH8015       | -             | 164 - 656                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH725         | 164 - 591                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | NS9530        | 262 - 820                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | GT9530        | 262 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   | Carbon steel / Alloy steel                 | T9215        | -             | 262 - 1148                | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | T9225        | -             | 262 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | AH8015       | -             | 164 - 656                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH725         | 164 - 591                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | NS9530        | 262 - 820                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | GT9530        | 262 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
| M   | Stainless steel (Austenitic)               | AH8015       | -             | 164 - 492                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH725         | 164 - 492                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | T9215         | 164 - 656                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   | Stainless steel (Martensitic and ferritic) | AH8015       | -             | 164 - 492                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH725         | 164 - 492                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | T9215         | 164 - 656                 | 0.012 - 0.079           | 0.003 - 0.012   |
| Stainless steel (Precipitation hardening) | AH8015                                     | -            | 164 - 492     | 0.012 - 0.079             | 0.003 - 0.012           |                 |
|   | -  | AH725        | 164 - 492     | 0.012 - 0.079             | 0.003 - 0.012           |                 |
|   | -  | T9215        | 164 - 656     | 0.012 - 0.079             | 0.003 - 0.012           |                 |
| K   | Gray cast iron                             | T9215        | -             | 328 - 1148                | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | T9225        | -             | 328 - 1148                | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH8015        | 164 - 656                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH725         | 164 - 591                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | NS9530        | 262 - 820                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | GT9530        | 262 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   | Ductile cast iron                          | T9215        | -             | 328 - 1148                | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | T9225        | -             | 328 - 1148                | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH8015        | 164 - 656                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | AH725         | 164 - 591                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | NS9530        | 262 - 820                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   |  | -            | GT9530        | 262 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
| N   | Aluminum alloys                            | KS05F        | -             | 328 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
|   | Copper alloys                              | KS05F        | -             | 328 - 984                 | 0.012 - 0.079           | 0.003 - 0.012   |
| S   | Titanium alloys                            | AH8015       | -             | 66 - 262                  | 0.012 - 0.079           | 0.003 - 0.012   |
|   | Nickel-based alloys                        | AH8015       | -             | 66 - 262                  | 0.012 - 0.079           | 0.003 - 0.012   |
| H   | Hardened steel                             | BXA20        | -             | 164 - 722                 | 0.005 - 0.031           | 0.004 - 0.012   |
|   |  | -            | BXA10         | 164 - 722                 | 0.005 - 0.031           | 0.004 - 0.012   |

Reference pages: A/E-SCLXR/L → **D025**, S-SCLXR/L-H → **D026**  
A/E-SWLXR/L → **D081**, S-SWLXR/L-H → **D082**  
A/E-SDXXR/L → **D040**, A/E-SDZXR/L → **D041**

### LNMX1204

\*Values in red are for facing.

| ISO      | Workpiece material                 | Chip breaker | Grade | Cutting speed Vc (sfm) | Depth of cut: ap (in)                 |                                       | Feed: f (ipr) |               |
|----------|------------------------------------|--------------|-------|------------------------|---------------------------------------|---------------------------------------|---------------|---------------|
|          |                                    |              |       |                        | RE : 0.031                            | RE : 0.047                            | RE : 0.031    | RE : 0.047    |
| <b>P</b> | Steels<br>1045, 4130, etc.         | TDR          | T9115 | 390 - 820              | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |
|          |                                    | TDR          | T9125 | 260 - 590              | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |
| <b>M</b> | Stainless steels<br>304, 316, etc. | TDR          | T9115 | 330 - 590              | 0.020 - 0.195<br><b>0.020 - .086</b>  | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |
|          |                                    | TDR          | T9125 | 260 - 590              | 0.020 - 0.195<br><b>0.020 - 0.086</b> | 0.031 - 0.195<br><b>0.031 - 0.086</b> | 0.006 - 0.024 | 0.010 - 0.031 |

### LNMX1606

| ISO      | Workpiece material                 | Chip breaker | Grade | Cutting speed Vc (sfm) | Depth of cut: ap (in)                 |                                       |                                       | Feed: f (ipr) |               |               |
|----------|------------------------------------|--------------|-------|------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------|---------------|---------------|
|          |                                    |              |       |                        | RE : 0.031                            | RE : 0.047                            | RE : 0.063                            | RE : 0.031    | RE : 0.047    | RE : 0.063    |
| <b>P</b> | Steels<br>1045, 4130, etc.         | TDR          | T9115 | 390 - 820              | 0.020 - 0.197<br><b>0.020 - .126</b>  | 0.031 - 0.236<br><b>.031 - .126</b>   | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | TDR          | T9125 | 260 - 590              | 0.020 - 0.197<br><b>0.020 - .126</b>  | 0.031 - 0.236<br><b>.031 - .126</b>   | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | TWR          | T9115 | 390 - 820              | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |
|          |                                    | TWR          | T9125 | 260 - 590              | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |
| <b>M</b> | Stainless steels<br>304, 316, etc. | TDR          | T9115 | 330 - 590              | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | TDR          | T9125 | 260 - 590              | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | 0.039 - 0.315<br><b>0.039 - 0.126</b> | 0.006 - 0.024 | 0.010 - 0.031 | 0.012 - 0.039 |
|          |                                    | MDR          | T9115 | 330 - 490              | 0.059 - 0.236<br><b>0.020 - 0.126</b> | 0.059 - 0.276<br><b>0.031 - 0.126</b> | -                                     | 0.004 - 0.020 | 0.006 - 0.028 | -             |
|          |                                    | MDR          | AH725 | 160 - 490              | 0.059 - 0.236<br><b>0.020 - 0.126</b> | 0.059 - 0.276<br><b>0.031 - 0.126</b> | -                                     | 0.004 - 0.020 | 0.006 - 0.028 | -             |
|          |                                    | TWR          | T9115 | 330 - 590              | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |
|          |                                    | TWR          | T9125 | 260 - 590              | 0.020 - 0.197<br><b>0.020 - 0.126</b> | 0.031 - 0.236<br><b>0.031 - 0.126</b> | -                                     | 0.006 - 0.024 | 0.010 - 0.031 | -             |

### LNMX2410

| ISO      | Workpiece material                 | Chip breaker | Grade | Cutting speed Vc (sfm) | Depth of cut: ap (in)                 |                                       | Feed: f (ipr) |               |
|----------|------------------------------------|--------------|-------|------------------------|---------------------------------------|---------------------------------------|---------------|---------------|
|          |                                    |              |       |                        | RE : 0.063                            | RE : 0.094                            | RE : 0.063    | RE : 0.094    |
| <b>P</b> | Steels<br>1045, 4130, etc.         | TDR          | T9115 | 390 - 820              | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |
|          |                                    | TDR          | T9125 | 260 - 490              | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |
| <b>M</b> | Stainless steels<br>304, 316, etc. | TDR          | T9115 | 330 - 590              | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |
|          |                                    | TDR          | T9125 | 260 - 490              | 0.156 - 0.585<br><b>0.039 - 0.176</b> | 0.195 - 0.585<br><b>0.039 - 0.176</b> | 0.012 - 0.039 | 0.012 - 0.043 |

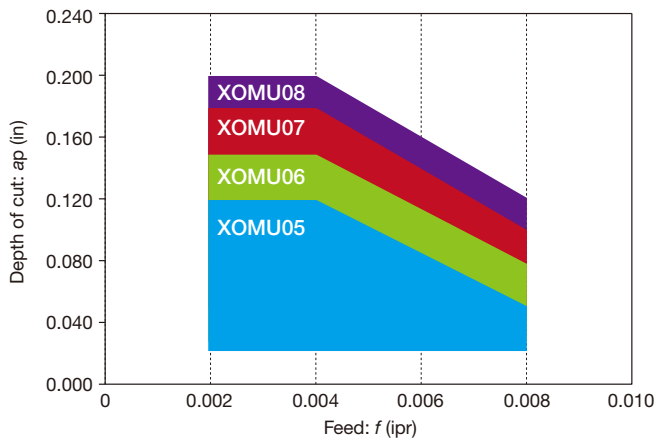


# Technical Guide



## STANDARD CUTTING CONDITIONS

| DMIN                | Description<br>Insert | Depth of cut<br>ap (in) | Feed<br>f (ipr) | Cutting speed: Vc (sfm)   |                 |
|---------------------|-----------------------|-------------------------|-----------------|---------------------------|-----------------|
|                     |                       |                         |                 | Carbon steel, Alloy steel | Stainless steel |
| ø10 mm<br>(ø0.394") | XOMU05X204-PS         | 0.020 - 0.118           | 0.002 - 0.008   | 164 - 591                 | 164 - 525       |
| ø12 mm<br>(ø0.472") | XOMU06H204-PS         | 0.020 - 0.138           |                 |                           |                 |
| ø14 mm<br>(ø0.551") | XOMU07H304-PS         | 0.020 - 0.177           |                 |                           |                 |
| ø16 mm<br>(ø0.630") | XOMU08T304-PS         | 0.020 - 0.197           |                 |                           |                 |



Reference pages: A/E-SXUOR/L → **D086, D087**



# Threading Tool

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# Threading Tool - Content structure

- Products are listed by product series and thread to be consistent with wording throughout.
- Inserts and toolholders in the catalog are our standard items.

## Select the Thread form

**Method ①** Select the screw shape described at the left end of each page, jump to the page on the left index, and choose a designation you need **⑤** in the dimension table **⑥**. Applicable toolholders are shown in **⑦**.

**Method ②** Select the series name on **E003** and check the details on the product page.

**Method ③** Select an item from Quick Guide on **E004 - E007**.

**② TUNGTHREAD INSERT**  
 60° thread angle (General purpose)

**③**

**④**

**⑦** **Applicable toolholder**  

| Insert size | External                | Internal        |
|-------------|-------------------------|-----------------|
| 06          | SNR300P/0600...         | SNR300P/0600... |
| 08          | SNR300P/0800...         | SNR300P/0800... |
| 11          | SER**11                 | SNR**11         |
| 16          | CER/L**16; C**CER/L**16 | SNR**16         |
|             | JSER**16...             | SNR**16...      |
|             | JSER**16-CHP            | TORNL**16...    |
|             | B-SER/L**16             | CNR/L**16...    |
|             | BC-SER/L**16            |                 |
| 22          | CER/L**22...            | TENR/L**22      |
|             | SER**22-CHP             | SNR**22...      |
|             |                         | TORNL**22...    |
| 27          | CER/L**27               | CNR/L**27       |

**⑤** **Partial-profile insert**

| Pitch (mm) | TPI     | Designation | External insert (H) |       |       |       | Internal insert (H) |     |       |       |       |       |
|------------|---------|-------------|---------------------|-------|-------|-------|---------------------|-----|-------|-------|-------|-------|
|            |         |             | IC                  | PDX   | PDY   | RE    | IC                  | PDX | PDY   | RE    |       |       |
| 0.5 - 1.5  | 48 - 16 | 16ERAG0     | ●                   | 0.250 | 0.035 | 0.031 | 0.003               | ●   | 0.197 | 0.024 | 0.024 | 0.003 |
| 0.5 - 1.5  | 48 - 20 | 06IRAG0     | ●                   | 0.250 | 0.035 | 0.028 | 0.002               | ●   | 0.197 | 0.028 | 0.024 | 0.002 |
| 0.5 - 1.5  | 48 - 16 | 11IRAG0     | ●                   | 0.250 | 0.035 | 0.028 | 0.001               | ●   | 0.250 | 0.035 | 0.028 | 0.001 |
| 0.5 - 1.5  | 48 - 16 | 16IRAG0     | ●                   | 0.375 | 0.035 | 0.028 | 0.000               | ●   | 0.375 | 0.035 | 0.028 | 0.001 |
| 0.5 - 1.5  | 48 - 16 | 16ELAG0     | ●                   | 0.375 | 0.035 | 0.028 | 0.000               | ●   | 0.375 | 0.035 | 0.028 | 0.001 |
| 0.5 - 9    | 48 - 8  | 16ERAG60    | ●                   | 0.375 | 0.063 | 0.047 | 0.000               | ●   | 0.375 | 0.063 | 0.047 | 0.001 |
| 0.5 - 9    | 48 - 8  | 16ERAG60    | ●                   | 0.375 | 0.063 | 0.047 | 0.000               | ●   | 0.375 | 0.063 | 0.047 | 0.000 |
| 0.5 - 9    | 14 - 8  | 16ERAG60    | ●                   | 0.375 | 0.063 | 0.047 | 0.000               | ●   | 0.375 | 0.063 | 0.047 | 0.000 |
| 0.5 - 9    | 14 - 8  | 16ELAG60    | ●                   | 0.375 | 0.063 | 0.047 | 0.000               | ●   | 0.375 | 0.063 | 0.047 | 0.000 |
| 3.5 - 5    | 7 - 5   | 22ERN60     | ●                   | 0.500 | 0.098 | 0.067 | 0.011               | ●   | 0.500 | 0.098 | 0.067 | 0.011 |
| 3.5 - 5    | 7 - 5   | 22ELN60     | ●                   | 0.500 | 0.098 | 0.067 | 0.011               | ●   | 0.500 | 0.098 | 0.067 | 0.011 |
| 4 - 6      | 6 - 4   | 27ERZ60     | ●                   | 0.625 | 0.126 | 0.087 | 0.020               | ●   | 0.625 | 0.126 | 0.087 | 0.011 |

**⑥** **Partial-profile insert**

| Pitch (mm) | TPI     | Designation      | External insert (H) |       |       |       |       |
|------------|---------|------------------|---------------------|-------|-------|-------|-------|
|            |         |                  | IC                  | PDX   | PDY   | RE    |       |
| 1 - 2      | 20 - 13 | HQP-HE800-014-SP | ●                   | 0.375 | 0.037 | 0.028 | 0.006 |
| 1.5 - 2    | 16 - 8  | HQP-HE800-020-SP | ●                   | 0.375 | 0.091 | 0.047 | 0.008 |

Reference pages: External toolholders → E036 - E040  
 Internal toolholders → E054 - E056

- ① : Screw shape
- ② : Series name
- ③ : Drawing of thread, threading insert, threading toolholder
- ④ : Applicable pitch and the number of threads

**③** **B-S/CER/L**  
 External threading toolholder for Swiss lathes

**⑤**

**⑥**

| Metric       | H  | B  | LF  | LH | HF | WF | Insert  |
|--------------|----|----|-----|----|----|----|---------|
| B-SER08H16   | 20 | 10 | 100 | 15 | 10 | 16 | 16ER... |
| B-SER12K16   | 24 | 12 | 125 | 18 | 12 | 18 | 16ER... |
| B-CER/L16M16 | 32 | 16 | 150 | 24 | 16 | 22 | 16ER... |

**⑦**

**⑤** **JS-SEL16**  
 External threading toolholder for Swiss lathes

**⑥**

| Metric      | DCONMS | H  | LF  | LH | WF   | Insert  |
|-------------|--------|----|-----|----|------|---------|
| JS16P-SEL16 | 16     | 15 | 95  | 25 | 11   | 16ER... |
| JS19G-SEL16 | 19.05  | 18 | 90  | 30 | 12.5 | 16ER... |
| JS19K-SEL16 | 19.05  | 18 | 100 | 30 | 12.5 | 16ER... |
| JS20K-SEL16 | 20     | 19 | 90  | 30 | 13   | 16ER... |
| JS20K-SEL16 | 20     | 19 | 100 | 30 | 13   | 16ER... |
| JS20H-SEL16 | 25     | 24 | 100 | 30 | 15.5 | 16ER... |
| JS25K-SEL16 | 25.4   | 24 | 100 | 30 | 15.7 | 16ER... |

**⑧** **SPARE PARTS**  

| Part No.     | Quantity | Part No. | Quantity |
|--------------|----------|----------|----------|
| B-SER**16    | -        | CSTB-3.5 | T-15F    |
| B-CER/L16M16 | CSP16    | A16-1    | T-15F    |
| JS**SEL16    | -        | CSTB-3.5 | T-15F    |

Note: Use the right-hand insert (HER...) for a left-hand holder (JS\*\*SEL...).

**⑨** Reference pages: Inserts → E010 - E011, E015, E017 - E030

- ⑤ : Designation (for external, for internal)
- ⑥ : Dimension table (conforming to ISO13399)
- ⑦ : Applicable toolholder
- ⑧ : Spare parts
- ⑨ : Reference page

## When ordering

- Please specify the designation and quantity for threading toolholders.  
e.g. **TSNR0020R22 ... 1** (one threading toolholder per package)
- Please specify the designation, grade, and quantity for threading inserts.  
e.g. **16IR175ISO AH725 ... 5** (five threading inserts per package)

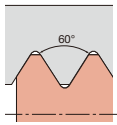
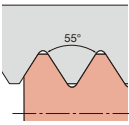
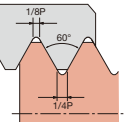
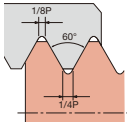
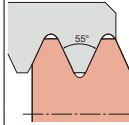
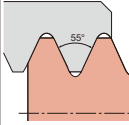
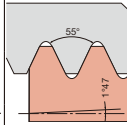





E002 tungalay.com/us

# Main products

| Thread form                     |      |
|---------------------------------|------|
| 60°                             | E010 |
| 55°                             | E015 |
| M<br>(Metric)                   | E017 |
| UN<br>(Unified)                 | E021 |
| W<br>(Whitworth)                | E023 |
| BSPT<br>(R, PT)                 | E024 |
| NPT                             | E025 |
| NPTF                            | E026 |
| TR<br>(Metric, 30° Trapezoidal) | E027 |
| Round<br>(DIN405)               | E027 |
| UNJ                             | E028 |
| MJ                              | E028 |
| ACME<br>(29° Trapezoidal)       | E029 |
| STUB ACME<br>(29° Trapezoidal)  | E030 |
| API Round                       | E030 |
| API Buttness                    | E032 |
| API Rotary Shoulder Connection  | E035 |

|   |   | Inch | Metric |
|---|---|------|--------|
|    | <h2>TUNGTHREAD</h2> <h3>Lay down insert, toolholder</h3> <p>Standard items cover a wide variety of threading inserts. Standard tool series with double-clamp system for excellent insert stability in machining API-standard threads.</p> <p>E004 -, E010 - E065</p>                              | ✓    | ✓      |
|    | <h2>TETRAMCUT</h2> <p>Standard tool with 4 corners for threading on Swiss lathes. In small diameter threading it is less likely that interference will occur with the center on general NC lathes.</p> <p>E004 -, E008</p>  | ✓    | ✓      |
|    | <h2>DUOJUST</h2> <p>Standard tool suitable for all types of threading on Swiss lathes. The incomplete thread part from the workpiece face to the thread groove can be the shortest thanks to the excellent accessibility to the workpiece face.</p> <p>E004 -, E009</p>                           | ✓    |        |
|   | <h2>J-SERIES</h2> <p>Tool series with 3-cornered inserts. Subselection for threading on Swiss lathes. Standard tool also suitable for radial Swiss lathes.</p> <p>E004, E013 E016, E048</p>   | ✓    | ✓      |
|  | <h2>TUNG-CLAMP</h2> <p>Tool with high clamp rigidity that firmly holds the insert. Grooving insert and threading insert can be used with the same toolholder.</p> <p>E004 -, E014 E064 -, E069</p>  | ✓    |        |
|  | <h3>On edge insert, toolholder</h3> <p>ACME and STUB ACME inserts can be used for the range of 16 to 3TPI with 2 types of toolholders. The special full-profile insert realizes both the fine adjustment of thread height and the minimum burr on the crest.</p> <p>E004 -, E029 - E052, E066</p> | ✓    | ✓      |
|  | <h3>Chaser</h3> <p>Threading tool with multiple cutting edges for highly efficient machining of API-standard round, buttness, and NPT.</p> <p>E005 -, E026 E031 -, E053 E067</p>  | ✓    | ✓      |
|  | <h2>BOREMEISTER</h2> <p>Boring heads for deep hole threading. All 16-size inserts of TungThread Internal series are applicable, allowing for a large variety of threads type.</p> <p>E056 -</p>   | ✓    | ✓      |
|  | <h2>TINYM<sup>INI</sup>TURN</h2> <p>Internal threading tool suitable for a minimum machining diameter <math>\varnothing 4</math>. All tools have oil holes that can supply coolant to the cutting edge.</p> <p>E060 -, E069</p>   |      | ✓      |
|  | <h3>Other tool</h3> <p>TT type</p> <p>E004 -, E014 E016, E053, E067</p>   | ✓    | ✓      |

# Applicable tool for each external thread type

| Applicable tool for each external thread type   |              | General purpose,<br>Machine parts for machine and automotive parts                |   |   |  | For valve and pump parts;<br>pneumatic, hydraulic, oil and gas pipes                |   |   |
|---|--------------|---|---|---|--|---|---|---|
| Thread types  |              | 60°   | 55°   | ISO metric threads, coarse and fine   | Unified national threads series, 60° inch threads                                  | - British standard whitworth<br>- British standard fine                             | - British standard parallel pipe<br>- British standard pipe<br>- Parallel pipe thread (JIS B 9912)<br>- 55° inch thread | - JIS tapered pipe thread<br>- British standard pipe taper                          |
| Thread symbols  |              | M, UN, UNC, UNF, UNEF, UNS  | G, BSP, PF, BSPP  | M   | UN, UNR, UNC, UNRC, UNF, UNRF, UNEF, UNREF, UNS, UNRS                              | BSW, BSF, W   | G, BSP, PF, BSPP  | R, PT, BSPT   |
| Thread form   |              |  |  |  |  |  |                                      |  |
| Tool type   | Full profile |   |   |   |  |   |   |   |
|   | With Without |   |   |   |  |   |   |   |
| ST type<br>      | ○            | —   | —   | 0.5 ~ 6 mm<br><b>E017</b>   | 32 ~ 5TPI<br><b>E021</b>   | 28 ~ 5TPI<br><b>E023</b>  | 28 ~ 5TPI<br><b>E023</b>  | 28 ~ 11TPI<br><b>E024</b>   |
|   | ○            | 0.5 ~ 6 mm<br><b>E010</b><br>48 ~ 4TPI  | 0.5 ~ 5 mm<br><b>E015</b><br>48 ~ 5TPI  | —   | —  | —   | —   | —   |
| TETRAMCUT<br>  | ○            | —   | —   | 0.5 ~ 1.5 mm<br><b>E020</b>   | —  | —   | —   | —   |
|   | ○            | 0.4 ~ 3 mm<br><b>E012</b><br>64 ~ 8TPI  | —   | —   | —  | —   | —   | —   |
| DUOJ CUT<br>   | ○            | 0.2 ~ 1.5 mm<br><b>E012</b><br>127 ~ 16TPI  | —   | —   | —  | —   | —   | —   |
|   | ○            | 0.5 ~ 1 mm<br><b>E013</b><br>48 ~ 25TPI   | 0.5 ~ 1 mm<br><b>E016</b><br>48 ~ 25TPI   | —   | —  | —   | —   | —   |
| TUNG-CLAMP<br> | ○            | 1.27 ~ 4.23 mm<br><b>E014</b><br>20 ~ 6TPI  | —   | —   | —  | —   | —   | —   |
|   | ○            | ~ 3 mm<br><b>E014</b><br>~ 8TPI   | ~ 3 mm<br><b>E016</b><br>~ 8TPI   | —   | —  | —   | —   | —   |
| TT type<br>    | ○            | ~ 3 mm<br><b>E014</b><br>~ 8TPI   | ~ 3 mm<br><b>E016</b><br>~ 8TPI   | —   | —  | —   | —   | —   |

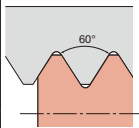
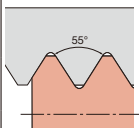
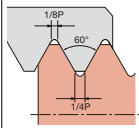
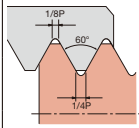
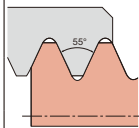
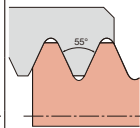
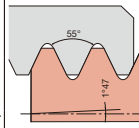
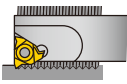
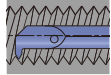
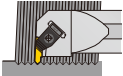

Please see page E\*\*\* for the product details.

| Applicable tool for each external thread type |                       | For valve and pump parts; pneumatic, hydraulic, oil and gas pipes |                                 | Machine parts                                  |                    | Aerospace threads            |
|---|-----------------------|---|---------------------------------|--|--------------------|------------------------------|
| Thread types                                  |                       | National pipe taper thread  | National pipe taper fuel thread | - TR<br>- 30° trapezoidal<br>- ISO trapezoidal | Knuckle thread     | Unified inch screw threads   |
| Thread symbols                                |                       | NPT   | NPTF                            | TR   | Rd                 | UNJ, UNJC, UNJF, UNUEF, UNJS |
| Thread form                                   |                       |   |                                 |  |                    |                              |
| Tool type                                     | Full profile          |   |                                 |  |                    |                              |
|   | With                  |   |                                 |  |                    |                              |
|   | Without               |   |                                 |  |                    |                              |
| ST type<br><br>E036                           | <input type="radio"/> | 27 ~ 8TPI<br>E025   | 27 ~ 8TPI<br>E026               | 1.5 ~ 6 mm<br>(0.059" - 0.236")<br>E027        | 8TPI, 6TPI<br>E027 | 32 ~ 8TPI<br>E028            |
| Chaser<br><br>E053                            | <input type="radio"/> | 11.5TPI, 8TPI<br>E026   | —                               | —  | —                  | —                            |

| Applicable tool for each external thread type |                       | Oil and gas fields and OCTG drill pipes                       |                                       |  |    |     | Machine parts, Pipe                |   |
|---|-----------------------|---|---------------------------------------|--|----|-----|------------------------------------|---|
| Thread types                                  |                       | - API round<br>- API casing<br>- Short casing<br>- API tubing | API buttress casing                   | - API rotary shoulder connection for drill pipe and collar connections |    |     | - ACME<br>- 29° trapezoidal thread | - STUB ACME<br>- 29° trapezoidal thread |
| Thread symbols                                |                       | CSG, LCSG, TBG, UPTBG   | BCSG                                  | NC   | NC | REG | REG, FH                            | REG                                     |
| Thread form                                   |                       |   |                                       |  |    |     |                                    |   |
| Tool type                                     | Full profile          |   |                                       |  |    |     |                                    |   |
|   | With                  |   |                                       |  |    |     |                                    |   |
|   | Without               |   |                                       |  |    |     |                                    |   |
| ST type<br><br>E036                           | <input type="radio"/> | 10TPI, 8TPI<br>E030   | 5TPI<br>(0.75TPF)<br>E032             | —  | —  | —   | —                                  | 12 ~ 5TPI<br>E029                       |
| Chaser<br><br>E053                            | <input type="radio"/> | 10TPI, 8TPI<br>E031   | 5TPI (0.75TPF)<br>E033                | —  | —  | —   | —                                  | —                                       |
| Other<br><br>E051                             | <input type="radio"/> | 10TPI, 8TPI<br>E031   | 5TPI (0.75TPF)<br>5TPI (1TPF)<br>E032 | 4TPI (2TPF)<br>4TPI (3TPF)<br>5TPI (3TPF)<br>E035                      |    |     | 16 ~ 3TPI<br>E029                  | 16 ~ 3TPI<br>E030                       |

Please see page E\*\*\* for the product details.

# Applicable tool for each internal thread type

| Applicable tool for each external thread type  |              | General purpose,<br>Machine parts for machine and automotive parts                |   |   |  | For valve and pump parts;<br>pneumatic, hydraulic, oil and gas pipes                |   |   |
|--|--------------|---|---|---|--|---|---|---|
| Thread types   |              | 60°   | 55°   | ISO metric threads, coarse and fine   | Unified national threads series, 60° inch threads                                  | - British standard whitworth<br>- British standard fine                             | - British standard parallel pipe<br>- British standard pipe<br>- Parallel pipe thread (JIS B 9912)<br>- 55° inch thread | - JIS tapered pipe thread<br>- British standard pipe taper                          |
| Thread symbols   |              | M, UN, UNC, UNF, UNEF, UNS  | G, BSP, PF, BSPP  | M   | UN, UNR, UNC, UNRC, UNF, UNRF, UNEF, UNREF, UNS, UNRS                              | BSW, BSF, W   | G, BSP, PF, BSPP  | R, PT, BSPT   |
| Thread form  |              |  |  |  |  |  |                                      |  |
| Tool type  | Full profile |   |   |   |  |   |   |   |
|  | With Without |   |   |   |  |   |   |   |
| ST type<br>             | ○            | —   | —   | 0.5 ~ 6 mm<br><b>E017</b>   | 32 ~ 5TPI<br><b>E021</b>   | 28 ~ 5TPI<br><b>E023</b>  | 28 ~ 5TPI<br><b>E023</b>  | 19 ~ 11TPI<br><b>E024</b>   |
|  | ○            | 0.5 ~ 6 mm (0.020" - 0.250")<br>48 ~ 4TPI<br><b>E010</b>                          | 0.020" - 0.200"<br>48 ~ 5TPI<br><b>E015</b>                                       | —   | —  | —   | —   | —   |
| <b>TINYTURN</b><br>   | ○            | 0.5 ~ 1.5 mm (0.021" - 0.0625")<br>48 ~ 16TPI<br><b>E060</b>                      | —   | —   | —  | —   | —   | —   |
| <b>TUNG-CLAMP</b><br> | ○            | 1.27 ~ 4.23 mm<br>12 ~ 5TPI<br><b>E014</b>  | —   | —   | —  | —   | —   | —   |
| TT type<br>           | ○            | ~ 3 mm (~ 0.125")<br>~ 8TPI<br><b>E014</b>  | ~ 0.125"<br>~ 8TPI<br><b>E016</b>   | —   | —  | —   | —   | —   |

Please see page E\*\*\* for the product details.

| Applicable tool for each external thread type |              | For valve and pump parts; pneumatic, hydraulic, oil and gas pipes |                                 | Machine parts                                  |                | Aerospace threads             |                              |
|---|--------------|---|---------------------------------|--|----------------|-------------------------------|------------------------------|
| Thread types                                  |              | National pipe taper thread  | National pipe taper fuel thread | - TR<br>- 30° trapezoidal<br>- ISO trapezoidal | Knuckle thread | Aerospace standard MJ threads | Unified inch screw threads   |
| Thread symbols                                |              | NPT   | NPTF                            | TR   | Rd             | MJ                            | UNJ, UNJC, UNJF, UNUEF, UNJS |
| Thread form                                   |              |   |                                 |  |                |                               |                              |
| Tool type                                     | Full profile |   |                                 |  |                |                               |                              |
|   | With         |   |                                 |  |                |                               |                              |
| ST type                                       | Without      |   |                                 |  |                |                               |                              |
|   | With         |   |                                 |  |                |                               |                              |
| <br>E054                                      | ○            | 27 ~ 8TPI<br>E025   | 14 ~ 8TPI<br>E026               | 1.5 ~ 5 mm<br>(0.059" - 0.197")<br>E027        | 6TPI<br>E027   | 0.039"<br>E028                | —                            |
| <br>E066                                      | ○            | 11.5TPI, 8TPI<br>E026   | —                               | —  | —              | —                             | —                            |

| Applicable tool for each external thread type |              | Oil and gas fields and OCTG drill pipes                       |                                       |  |               |               | Machine parts, Pipe |               |                             |                                  |
|---|--------------|---|---------------------------------------|--|---------------|---------------|---------------------|---------------|-----------------------------|----------------------------------|
| Thread types                                  |              | - API round<br>- API casing<br>- API tubing<br>- Short casing | API buttress casing                   | - API rotary shoulder connection for drill pipe and collar connections |               |               |                     |               | ACME 29° trapezoidal thread | STUB ACME 29° trapezoidal thread |
| Thread symbols                                |              | CSG, LCSG, TBG, UPTBG   | BCSG                                  | V-0.038R 2TPF  | V-0.038R 3TPF | V-0.040R 3TPF | V-0.050R 2TPF       | V-0.050R 3TPF | —                           | —                                |
| Thread form                                   |              |   |                                       |  |               |               |                     |               |                             |                                  |
| Tool type                                     | Full profile |   |                                       |  |               |               |                     |               |                             |                                  |
|   | With         |   |                                       |  |               |               |                     |               |                             |                                  |
| ST type                                       | Without      |   |                                       |  |               |               |                     |               |                             |                                  |
|   | With         |   |                                       |  |               |               |                     |               |                             |                                  |
| <br>E054                                      | ○            | 10TPI, 8TPI<br>E030   | 5TPI (0.75TPF)<br>E032                | —  | —             | —             | —                   | —             | 12 ~ 5TPI<br>E029           | —                                |
| <br>E066                                      | ○            | 10TPI, 8TPI<br>E031   | 5TPI (0.75TPF)<br>E033                | —  | —             | —             | —                   | —             | —                           | —                                |
| <br>E065                                      | ○            | 10TPI, 8TPI<br>E031   | 5TPI (0.75TPF)<br>5TPI (1TPF)<br>E032 | 4TPI (2TPF)<br>4TPI (3TPF)<br>5TPI (3TPF)<br>E035                      |               |               |                     |               | —                           | —                                |

Please see page E\*\*\* for the product details.

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



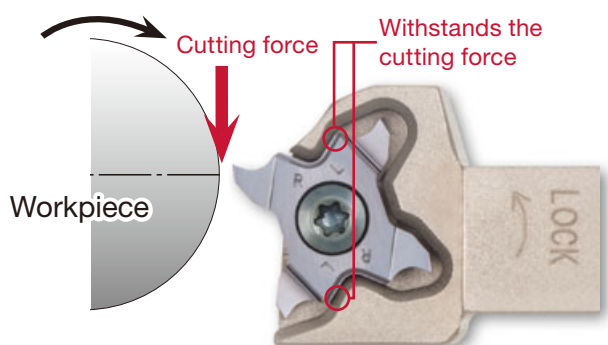


# TETRAMCUT



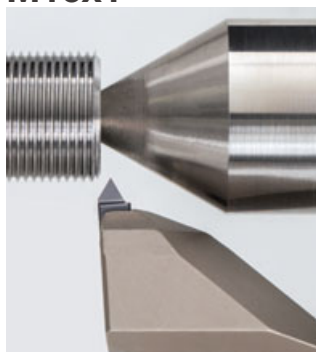
## Unique clamping system

The unique pocket design provides accurate indexing repeatability of the cutting edge height.



## No tool interference with the lathe center when machining small parts

### TETRAMCUT M16x1



Insert: TCT18R-60N-020

### Conventional M24x1



Insert: 16ER10ISO

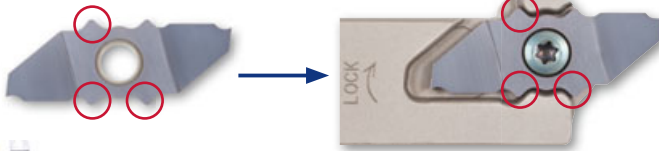
Reference pages: Inserts → [E012](#), External toolholders → [E041](#) - [E044](#), Standard cutting conditions → [E068](#)



## Unique highly rigid clamping system

The unused cutting edge is always protected due to the innovative clamping system. Even if the first cutting edge is chipped, the other unused cutting edge can be used because the insert is clamped in the center.

### Insert is secured at 3 points



## Excellent accessibility to the workpiece face

Utilizing various tools minimizes the incomplete thread part.



|            | Type A  | Type B  | Type N  |
|------------|---------|---------|---------|
| Right hand | $a > b$ | $a < b$ | $a = b$ |
| Left hand  | $a > b$ | $a < b$ | $a = b$ |



| Insert designation | Cutting edge geometry (mm) | PDX mm (in)  | Pitch: mm (in)  |              |              |             |                 |             |             |           |                 |             |  |
|--------------------|----------------------------|--------------|-----------------|--------------|--------------|-------------|-----------------|-------------|-------------|-----------|-----------------|-------------|--|
|                    |                            |              | 0.2 (0.008)     | 0.25 (0.010) | 0.35 (0.014) | 0.4 (0.016) | 0.5 (0.020)     | 0.6 (0.024) | 0.8 (0.031) | 1 (0.039) | 1.25 (0.049)    | 1.5 (0.059) |  |
| JXTG12FR-60A-000   | 0.05 (flat)                | 0.25 (0.010) | Applicable area |              |              |             |                 |             |             |           |                 |             |  |
| JXTG12FL-60A-000   |                            |              |                 |              |              |             |                 |             |             |           |                 |             |  |
| JXTG12FR-60B-000   | 0.05 (flat)                | 2.25 (0.089) | Applicable area |              |              |             |                 |             |             |           |                 |             |  |
| JXTG12FL-60B-000   |                            |              |                 |              |              |             |                 |             |             |           |                 |             |  |
| JXTG12FR-60A-005   | R0.05                      | 0.6 (0.024)  |                 |              |              |             | Applicable area |             |             |           |                 |             |  |
| JXTG12FL-60A-005   |                            |              |                 |              |              |             |                 |             |             |           |                 |             |  |
| JXTG12FR-60B-005   | R0.05                      | 1.9 (0.075)  |                 |              |              |             | Applicable area |             |             |           |                 |             |  |
| JXTG12FL-60B-005   |                            |              |                 |              |              |             |                 |             |             |           |                 |             |  |
| JXTG12FR-60N-010   | R0.1                       | 1.25 (0.049) |                 |              |              |             |                 |             |             |           | Applicable area |             |  |
| JXTG12FL-60N-010   |                            |              |                 |              |              |             |                 |             |             |           |                 |             |  |

127                      72                      52                      32                      16

Threads per inch (TPI)

Reference pages: Inserts → **E012**, External toolholders → **E047 - E048**,  
Standard cutting conditions → **E068**



### Partial-profile insert with chipbreaker

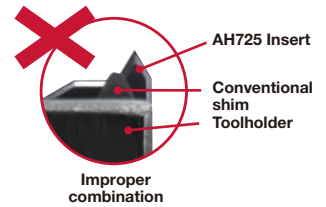
| Insert size | Pitch<br>(Reference)<br>(mm) | TPI     | Hand of cut | External insert (in) |        |        |        |       |       |       |           | Internal insert (in) |        |       |        |       |       |        |    |
|-------------|------------------------------|---------|-------------|----------------------|--------|--------|--------|-------|-------|-------|-----------|----------------------|--------|-------|--------|-------|-------|--------|----|
|             |                              |         |             | Designation          | Grade  |        |        | IC    | PDX   | PDY   | RE        | Designation          | Grade  |       |        | IC    | PDX   | PDY    | RE |
|             |                              |         |             |                      | Coated | AH725  | Cermet |       |       |       |           |                      | Coated | AH725 | Cermet |       |       |        |    |
|             |                              |         |             | AH8015               | AH725  | NS9530 |        |       |       |       | AH8015    | AH725                | NS9530 |       |        |       |       |        |    |
| 11          | 0.5 - 1.5                    | 48 - 16 | R           |                      |        |        |        |       |       |       | 11IRA60-B | ●                    |        |       | 0.250  | 0.035 | 0.028 | 0.0016 |    |
| 11          | 0.5 - 1.5                    | 48 - 16 | R           |                      |        |        |        |       |       |       | 11IRA60-M | ●                    | ●      |       | 0.250  | 0.035 | 0.028 | 0.0016 |    |
| 16          | 0.5 - 1.5                    | 48 - 16 | R           | 16ERA60-B            |        | ●*     |        | 0.375 | 0.035 | 0.031 | 0.0020    | 16IRA60-B            | ●*     |       | 0.375  | 0.035 | 0.031 | 0.0020 |    |
| 16          | 0.5 - 1.5                    | 48 - 16 | R           | 16ERA60-M            | ●      |        | ●      | 0.375 | 0.035 | 0.028 | 0.0024    | 16IRA60-M            | ●      | ●     | 0.375  | 0.035 | 0.028 | 0.0016 |    |
| 16          | 0.5 - 3                      | 48 - 8  | R           | 16ERAG60-B           |        | ●*     |        | 0.375 | 0.067 | 0.047 | 0.0031    | 16IRAG60-B           | ●*     |       | 0.375  | 0.067 | 0.047 | 0.0020 |    |
| 16          | 0.5 - 3                      | 48 - 8  | R           | 16ERAG60-M           | ●      | ●      | ●      | 0.375 | 0.063 | 0.047 | 0.0024    | 16IRAG60-M           | ●      | ●     | 0.375  | 0.063 | 0.047 | 0.0016 |    |
| 16          | 1.75 - 3                     | 14 - 8  | R           | 16ERG60-B            |        | ●*     |        | 0.375 | 0.067 | 0.047 | 0.010     | 16IRG60-B            | ●*     |       | 0.375  | 0.067 | 0.047 | 0.004  |    |
| 16          | 1.75 - 3                     | 14 - 8  | R           | 16ERG60-M            | ●      |        | ●      | 0.375 | 0.063 | 0.047 | 0.009     | 16IRG60-M            | ●      | ●     | 0.375  | 0.063 | 0.047 | 0.006  |    |
| 22          | 3.5 - 5                      | 7 - 5   | R           | 22ERN60-B            |        | ●      |        | 0.500 | 0.098 | 0.067 | 0.013     | 22IRN60-B            | ●      |       | 0.500  | 0.098 | 0.067 | 0.007  |    |

- ●\* : The cutting edge position needs adjusting for these inserts have different PDY and PDX dimensions (Note: for size 16 inserts only).

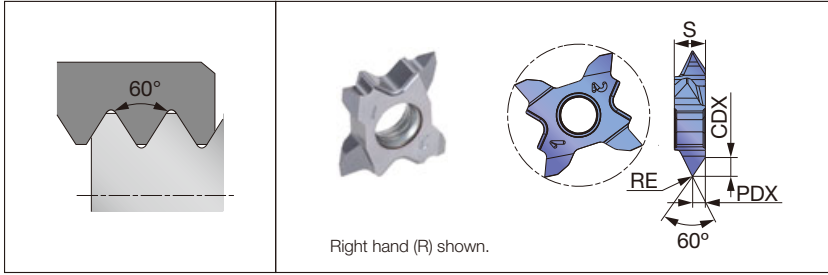
-   requires the use of dedicated shim.

When using a new AH725 with chipbreaker, the conventional shim may need to be replaced with a new standard shim. Please refer to the page [E070](#).

● : Line up / 5 pieces per package



### 60° thread angle (General purpose)



#### Applicable toolholder

| External              |
|-----------------------|
| STCR/L**18            |
| STCR/L**18-CHP        |
| JS**-STCL18           |
| C*STCFL**18-CHP       |
| C*STCR/L**18-CHP      |
| QC**STCR/L18 (-Y)     |
| QC**STCR/L18 (-Y)-CHP |

Thread form  
60°

55°

M (Metric)

UN (Unified)

W (Whitworth)

BSPT (R, PT)

NPT

NPTF

TR (Metric, 30° Trapezoidal)

Round (DIN405)

UNJ

MJ

ACME (29° Trapezoidal)

STUB ACME (29° Trapezoidal)

API Round

API Buttrass

API Rotary Shoulder Connection

#### Partial-profile insert

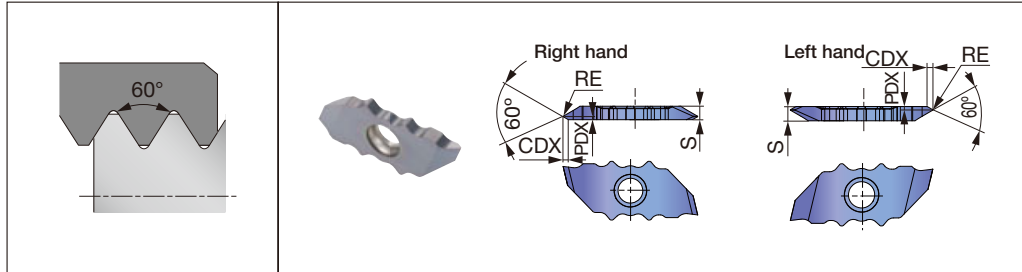
| Pitch (mm) | TPI     | Hand of cut | Designation      | External insert (in) |   |       |       |        |       |
|------------|---------|-------------|------------------|----------------------|---|-------|-------|--------|-------|
|            |         |             |                  | Grade                |   | PDX   | CDX   | RE     | S     |
|            |         |             |                  | Coated               |   |       |       |        |       |
| SH725      | AH725   |             |                  |                      |   |       |       |        |       |
| 0.4 - 1    | 25 - 64 | R           | TCT18FR-60A-005  | ●                    |   | 0.024 | 0.039 | 0.0020 | 0.157 |
| 1 - 2      | 25 - 12 | R           | TCT18FR-60A-010  | ●                    |   | 0.039 | 0.064 | 0.004  | 0.157 |
| 0.8 - 3    | 8 - 32  | R/L         | TCT18R/L-60N-010 |                      | ● | 0.063 | 0.105 | 0.004  | 0.157 |
| 1.5 - 3    | 8 - 16  | R/L         | TCT18R/L-60N-020 |                      | ● | 0.063 | 0.101 | 0.008  | 0.157 |

● : Line up / 5 pieces per package

# DUOJUST

## INSERT

### 60° thread angle (General purpose)



#### Applicable toolholder

| External        |
|-----------------|
| JSXXR/L**09     |
| JSXXR/L**09-CHP |
| JS**-SXXL09     |

#### Partial-profile insert

| Insert size | Pitch (mm) | TPI      | Hand of cut | Designation        | External insert (in) |   |       |       |                 |       |
|-------------|------------|----------|-------------|--------------------|----------------------|---|-------|-------|-----------------|-------|
|             |            |          |             |                    | Grade                |   | PDX   | CDX   | RE              | S     |
|             |            |          |             |                    | Coated               |   |       |       |                 |       |
| R           | L          |          |             |                    |                      |   |       |       |                 |       |
| 12          | 0.2 - 0.4  | 64 - 127 | R/L         | JXTG12FR/L-60A-000 | ●                    | ● | 0.010 | 0.016 | 0.0020 max flat | 0.098 |
| 12          | 0.2 - 0.4  | 64 - 127 | R/L         | JXTG12FR/L-60B-000 | ●                    | ● | 0.089 | 0.016 | 0.0020 max flat | 0.098 |
| 12          | 0.4 - 1    | 25 - 64  | R/L         | JXTG12FR/L-60A-005 | ●                    | ● | 0.024 | 0.039 | 0.0020          | 0.098 |
| 12          | 0.4 - 1    | 25 - 64  | R/L         | JXTG12FR/L-60B-005 | ●                    | ● | 0.075 | 0.039 | 0.0020          | 0.098 |
| 12          | 1 - 1.5    | 16 - 25  | R/L         | JXTG12FR/L-60N-010 | ●                    | ● | 0.049 | 0.081 | 0.004           | 0.098 |

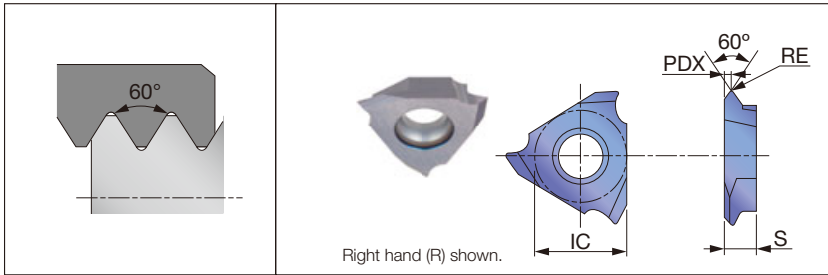
● : Line up / 5 pieces per package

|            | Type A | Type B | Type N |
|------------|--------|--------|--------|
| Right hand |        |        |        |
| Left hand  |        |        |        |

Reference pages: TetraMini-Cut : External toolholders → **E041 - E044**

DuoJust-cut : External toolholders → **E047 - E048**

60° thread angle (General purpose)



**Applicable toolholder**

|            |
|------------|
| External   |
| JSTTR/L**3 |
| JS**-TTL3  |

**Partial-profile insert**

| Pitch (mm) | TPI     | Hand of cut | External insert (in) |        |   |      |   |        |   |          |   |   |       |       |       |        |    |
|------------|---------|-------------|----------------------|--------|---|------|---|--------|---|----------|---|---|-------|-------|-------|--------|----|
|            |         |             | Designation          | Grade  |   |      |   |        |   |          |   |   |       | IC    | PDX   | S      | RE |
|            |         |             |                      | Coated |   |      |   | Cermet |   | Uncoated |   |   |       |       |       |        |    |
|            |         |             |                      | SH725  |   | J740 |   | NS9530 |   | TH10     |   |   |       |       |       |        |    |
| R          | L       | R           | L                    | R      | L | R    | L | R      | L |          |   |   |       |       |       |        |    |
| 0.5 - 1    | 25 - 48 | R/L         | JTTR3005F            | ●      | ● | ●    | ● | ●      | ● | ●        | ● | ● | 0.375 | 0.024 | 0.125 | 0.0020 |    |
| 0.5 - 1    | 25 - 48 | R/L         | JTTL3010F            | ●      | ● | ●    | ● | ●      | ● | ●        | ● | ● | 0.375 | 0.043 | 0.125 | 0.004  |    |

● : Line up / 10 pieces per package

60° thread angle (General purpose)



**Applicable toolholder**

|             |
|-------------|
| External    |
| JSXBR**K8   |
| JSXBR**K8-C |

**Partial-profile insert**

| Pitch (mm) | TPI     | Hand of cut | External insert (in) |        |          |       |       |        |
|------------|---------|-------------|----------------------|--------|----------|-------|-------|--------|
|            |         |             | Designation          | Grade  |          | IC    | S     | RE     |
|            |         |             |                      | Coated | Uncoated |       |       |        |
| J740       | TH10    |             |                      |        |          |       |       |        |
| 0.5 - 1    | 25 - 48 | R           | JXT1R6000F           | ●      | ●        | 0.315 | 0.156 | 0.0012 |
| 0.5 - 1    | 25 - 48 | R           | JXT2R6000F           | ●      | ●        | 0.315 | 0.156 | 0.0012 |

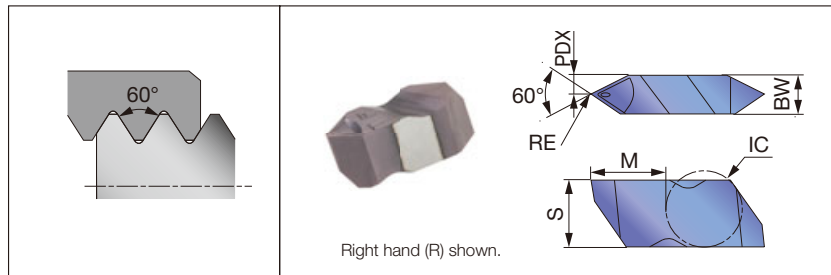
● : Line up / 10 pieces per package



# TUNGT-CLAMP

## INSERT

### 60° thread angle (General purpose)



#### Applicable toolholder

| External       | Internal     |
|----------------|--------------|
| FLASR/L-1616M3 | A**M-FLER/L3 |
| FLSR/L-**M3    | HS**-FLER3W  |

Thread form

60°

55°

M

(Metric)

UN

(Unified)

W

(Whitworth)

BSPT

(R, PT)

NPT

NPTF

TR

(Metric, 30° Trapezoidal)

Round

(DIN405)

UNJ

MJ

ACME

(29° Trapezoidal)

STUB

ACME

(29° Trapezoidal)

API

Round

API

Buttress

API

Rotary Shoulder Connection

#### Partial-profile insert for external and internal threads

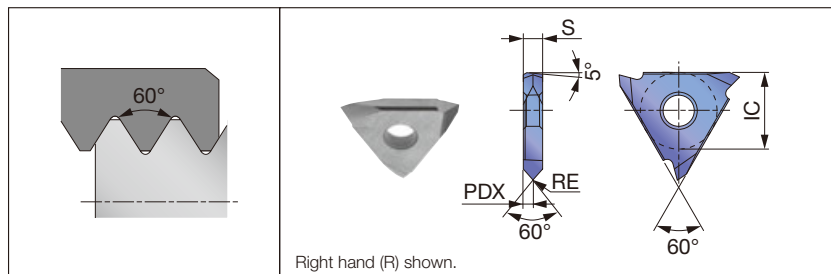
| TPI     | Hand of cut | External Pitch (mm) | Internal Pitch (mm) | Designation   | Grade  |       | IC (in) | PDX (in) | BW (in) | RE (in) | S (in) | M (in) |
|---------|-------------|---------------------|---------------------|---------------|--------|-------|---------|----------|---------|---------|--------|--------|
|         |             |                     |                     |               | Coated | AH725 |         |          |         |         |        |        |
| 6 - 20  | R/L         | 1.27 - 4.23         | 2.11 - 5.08         | FLT-3R/L-HCB  | ●      |       | 0.375   | 0.098    | 0.195   | 0.007   | 0.344  | 0.400  |
| 11 - 20 | R/L         | 2.31 - 4.23         | 3.175 - 5.08        | FLT-3R/LC-HCB | ●      |       | 0.375   | 0.098    | 0.195   | 0.014   | 0.344  | 0.400  |
| 6 - 20  | R/L         | 1.27 - 4.23         | 2.11 - 5.08         | FLT-3R/L-CB   | ●      |       | 0.375   | 0.098    | 0.195   | 0.007   | 0.344  | 0.400  |

● : Line up / 10 pieces per package

# TUNGTHREAD

## INSERT

### TT type / 60° thread angle (General purpose)



#### Applicable toolholder

| External     | Internal  |
|--------------|-----------|
| TT-****RE/LI | TT-2525RI |

#### Partial-profile insert for external and internal threads

| Pitch (mm) | TPI | Hand of cut | Designation | Grade  |          | IC (in) | PDX (in) | S (in) | RE (in) |
|------------|-----|-------------|-------------|--------|----------|---------|----------|--------|---------|
|            |     |             |             | Cermet | Uncoated |         |          |        |         |
| ≤ 3        | ≥ 8 | R           | TTR42M-005  | ●      | ●        | 0.500   | 0.063    | 0.126  | 0.0020  |
| ≤ 3        | ≥ 8 | L           | TTL42M-005  | ●      | ●        | 0.500   | 0.063    | 0.126  | 0.0020  |

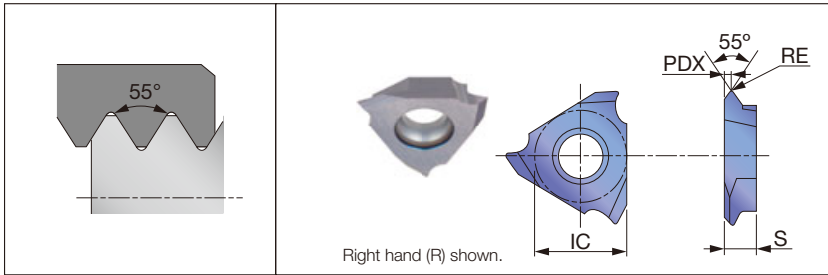
● : Line up / 5 pieces per package

Reference pages: TungT-Clamp : External toolholders → [E050](#),  
 Internal toolholders → [E064 - E065](#)  
 TT type : External toolholders → [E053](#)  
 Internal toolholders → [E067](#)





## 55° thread angle (General purpose)



### Applicable toolholder

| External   |
|------------|
| JSTTR/L**3 |
| JS**-TTL3  |

Thread form

60°

55°

M (Metric)

UN (Unified)

W (Whitworth)

BSPT (R, PT)

NPT

NPTF

TR (Metric, 30° Trapezoidal)

Round (DIN405)

UNJ

MJ

ACME (29° Trapezoidal)

STUB ACME (29° Trapezoidal)

API Round

API Buttress

API Rotary Shoulder Connection

### Partial-profile insert

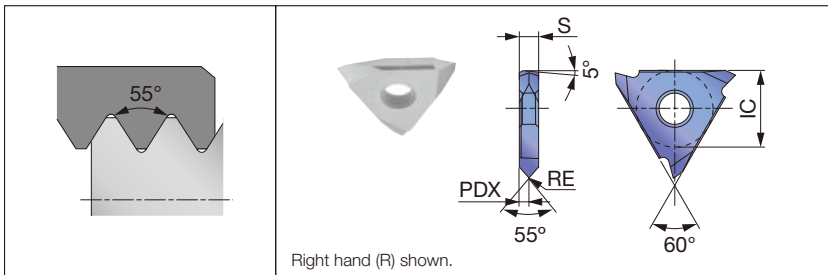
| Pitch (in)    | TPI     | Hand of cut | Designation    | External insert (in) |   |      |   | IC    | PDX   | S     | RE     |
|---------------|---------|-------------|----------------|----------------------|---|------|---|-------|-------|-------|--------|
|               |         |             |                | Grade                |   |      |   |       |       |       |        |
|               |         |             |                | Coated               |   |      |   |       |       |       |        |
|               |         |             |                | SH725                |   | J740 |   |       |       |       |        |
|               |         |             |                | R                    | L | R    | L |       |       |       |        |
| 0.020 - 0.039 | 25 - 48 | R/L         | JTTR/L3005F-55 | ●                    |   | ●    |   | 0.375 | 0.024 | 0.125 | 0.0020 |

● : Line up / 5 pieces per package

# TUNGTHREAD

INSERT

## TT type / 55° thread angle (General purpose)



### Applicable toolholder

| External     | Internal  |
|--------------|-----------|
| TT-****RE/LI | TT-2525RI |

### Partial-profile insert for external and internal threads

| Pitch (mm) | TPI | Hand of cut | Designation | Grade  |          | IC (in) | PDX (in) | S (in) | RE (in) |
|------------|-----|-------------|-------------|--------|----------|---------|----------|--------|---------|
|            |     |             |             | Cermet | Uncoated |         |          |        |         |
|            |     |             |             | NS9530 | TH10     |         |          |        |         |
| ≤ 3        | ≥ 8 | R           | TTR42W-005  | ●      | ●        | 0.500   | 0.063    | 0.126  | 0.0020  |
| ≤ 3        | ≥ 8 | L           | TTL42W-005  | ●      | ●        | 0.500   | 0.063    | 0.126  | 0.0020  |

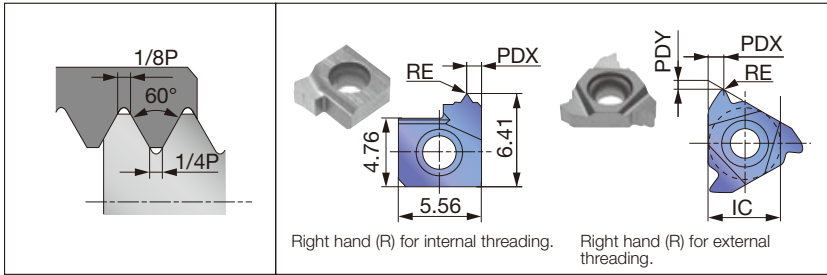
● : Line up / 5 pieces per package

Reference pages: J-Series: External toolholders → [E048 - E049](#)

TT type: External toolholders → [E053](#)

Internal toolholders → [E067](#)

## ISO metric (General purpose)



### Applicable toolholder

| Insert size | External   | Internal   |
|-------------|--|--|
| 6           |  | SNR/L000*K06SC...<br>SNR/L000*H06...                           |
| 06          |  | SIR0005...   |
| 08          |  | SIR0007...   |
| 11          | SER**11  | SNR/L**11...   |
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16...<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |
| 22          | CER/L**22...<br>SER**22-CHP  | TSNR/L**22...<br>SNR/L**22...<br>TCNR/L**22...<br>CNR/L**22... |
| 27          | CER/L**27...   | CNR/L**27...   |

### Full-profile insert

| Insert size | Pitch (Reference) (mm) | Hand of cut | External insert (in) |        |       |          |      |       |       |            | Internal insert (in) |             |        |       |          |       |        |        |     |    |
|-------------|------------------------|-------------|----------------------|--------|-------|----------|------|-------|-------|------------|----------------------|-------------|--------|-------|----------|-------|--------|--------|-----|----|
|             |                        |             | Designation          | Grade  |       |          |      | IC    | PDX   | PDY        | RE                   | Designation | Grade  |       |          |       | IC     | PDX    | PDY | RE |
|             |                        |             |                      | Coated |       | Uncoated |      |       |       |            |                      |             | Coated |       | Uncoated |       |        |        |     |    |
|             |                        |             |                      | AH8015 | AH725 | T313V    | TH10 |       |       |            |                      |             | AH8015 | AH725 | T313V    | TH10  |        |        |     |    |
| 6           | 0.75                   | R           |                      |        |       |          |      |       |       | 6IR075ISO  | ●                    |             | ●      | -     | 0.020    | -     | 0.0020 |        |     |    |
| 6           | 1                      | R           |                      |        |       |          |      |       |       | 6IR10ISO   | ●                    | ●           | ●      | -     | 0.035    | -     | 0.0028 |        |     |    |
| 6           | 1.25                   | R           |                      |        |       |          |      |       |       | 6IR125ISO  | ●                    | ●           | ●      | -     | 0.035    | -     | 0.0035 |        |     |    |
| 6           | 1.5                    | R           |                      |        |       |          |      |       |       | 6IR15ISO   | ●                    | ●           | ●      | -     | 0.035    | -     | 0.004  |        |     |    |
| 6           | 1.75                   | R           |                      |        |       |          |      |       |       | 6IR175ISO  | ●                    | ●           | ●      | -     | 0.035    | -     | 0.005  |        |     |    |
| 6           | 2                      | R           |                      |        |       |          |      |       |       | 6IR20ISO   | ●                    | ●           | ●      | -     | 0.035    | -     | 0.006  |        |     |    |
| 06          | 0.5                    | R           |                      |        |       |          |      |       |       | 06IR05ISO  | ●**                  |             |        | 0.157 | 0.016    | 0.024 | 0.0016 |        |     |    |
| 06          | 0.75                   | R           |                      |        |       |          |      |       |       | 06IR075ISO | ●**                  |             |        | 0.157 | 0.020    | 0.024 | 0.0024 |        |     |    |
| 06          | 1                      | R           |                      |        |       |          |      |       |       | 06IR10ISO  | ●**                  |             |        | 0.157 | 0.024    | 0.024 | 0.0020 |        |     |    |
| 06          | 1.25                   | R           |                      |        |       |          |      |       |       | 06IR125ISO | ●**                  |             |        | 0.157 | 0.024    | 0.024 | 0.0028 |        |     |    |
| 08          | 1                      | R           |                      |        |       |          |      |       |       | 08IR10ISO  | ●**                  |             |        | 0.197 | 0.024    | 0.024 | 0.0028 |        |     |    |
| 08          | 1.25                   | R           |                      |        |       |          |      |       |       | 08IR125ISO | ●**                  |             |        | 0.197 | 0.028    | 0.028 | 0.0035 |        |     |    |
| 08          | 1.5                    | R           |                      |        |       |          |      |       |       | 08IR15ISO  | ●**                  |             |        | 0.197 | 0.028    | 0.028 | 0.004  |        |     |    |
| 08          | 1.75                   | R           |                      |        |       |          |      |       |       | 08IR175ISO | ●**                  |             |        | 0.197 | 0.031    | 0.024 | 0.006  |        |     |    |
| 11          | 0.35                   | R           | 11ER035ISO           | ●      |       |          |      | 0.250 | 0.016 | 0.024      | 0.0016               |             |        |       |          |       |        |        |     |    |
| 11          | 0.5                    | R           | 11ER05ISO            | ●      |       |          |      | 0.250 | 0.024 | 0.024      | 0.0024               | 11IR05ISO   | ●      | ●     | 0.250    | 0.020 | 0.047  | 0.0016 |     |    |
| 11          | 0.7                    | R           | 11ER07ISO            | ●      |       |          |      | 0.250 | 0.024 | 0.024      | 0.004                |             |        |       |          |       |        |        |     |    |
| 11          | 0.75                   | R           | 11ER075ISO           | ●      |       |          |      | 0.250 | 0.024 | 0.024      | 0.004                | 11IR075ISO  | ●      | ●     | 0.250    | 0.020 | 0.047  | 0.0020 |     |    |
| 11          | 0.8                    | R           | 11ER080ISO           | ●      |       |          |      | 0.250 | 0.024 | 0.024      | 0.005                |             |        |       |          |       |        |        |     |    |
| 11          | 1                      | R           | 11ER10ISO            | ●      |       |          |      | 0.250 | 0.028 | 0.028      | 0.006                | 11IR10ISO   | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.0028 |     |    |
| 11          | 1                      | L           |                      |        |       |          |      |       |       |            |                      | 11IL10ISO   | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.0028 |     |    |
| 11          | 1.25                   | R           | 11ER125ISO           | ●      |       |          |      | 0.250 | 0.035 | 0.031      | 0.006                | 11IR125ISO  | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.0035 |     |    |
| 11          | 1.25                   | L           |                      |        |       |          |      |       |       |            |                      | 11IL125ISO  | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.0035 |     |    |
| 11          | 1.5                    | R           | 11ER15ISO            | ●      |       |          |      | 0.250 | 0.031 | 0.039      | 0.007                | 11IR15ISO   | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.004  |     |    |
| 11          | 1.5                    | L           |                      |        |       |          |      |       |       |            |                      | 11IL15ISO   | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.004  |     |    |
| 11          | 1.75                   | R           |                      |        |       |          |      |       |       |            |                      | 11IR175ISO  | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.005  |     |    |
| 11          | 1.75                   | L           |                      |        |       |          |      |       |       |            |                      | 11IL175ISO  | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.005  |     |    |
| 11          | 2                      | R           |                      |        |       |          |      |       |       |            |                      | 11IR20ISO   | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.006  |     |    |
| 11          | 2                      | L           |                      |        |       |          |      |       |       |            |                      | 11IL20ISO   | ●      | ●     | 0.250    | 0.035 | 0.028  | 0.006  |     |    |

●\*\* : Both ..06IR... and ..08IR... inserts have 3 cutting edges.

● : Line up / 5 pieces per package

Reference pages: External toolholders → [E036 - E040](#)  
Internal toolholders → [E054 - E056](#)

# TUNGTHREAD

## INSERT

| Insert size | Pitch<br>(Reference)<br>(mm) | Hand of cut | External insert (in) |        |       |       |          |       |       |       |        |             | Internal insert (in) |       |       |          |       |       |       |        |  |  |
|-------------|------------------------------|-------------|----------------------|--------|-------|-------|----------|-------|-------|-------|--------|-------------|----------------------|-------|-------|----------|-------|-------|-------|--------|--|--|
|             |                              |             | Designation          | Grade  |       |       |          | IC    | PDX   | PDY   | RE     | Designation | Grade                |       |       |          | IC    | PDX   | PDY   | RE     |  |  |
|             |                              |             |                      | Coated |       |       | Uncoated |       |       |       |        |             | Coated               |       |       | Uncoated |       |       |       |        |  |  |
|             |                              |             |                      | AH8015 | AH725 | T313V | TH10     |       |       |       |        |             | AH8015               | AH725 | T313V | TH10     |       |       |       |        |  |  |
| 16          | 0.5                          | R           | 16ER05ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.020 | 0.047 | 0.0024 | 16IR05ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.020 | 0.047 | 0.0016 |  |  |
| 16          | 0.75                         | R           | 16ER075ISO           | ●      | ●     | ●     | ●        | 0.375 | 0.020 | 0.047 | 0.0035 | 16IR075ISO  | ●                    | ●     | ●     | ●        | 0.375 | 0.020 | 0.047 | 0.0020 |  |  |
| 16          | 1                            | R           | 16ER10ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.005  | 16IR10ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.0028 |  |  |
| 16          | 1                            | L           |                      |        |       |       |          | 0.000 | 0.000 | 0.000 | 0.000  | 16IL10ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.0028 |  |  |
| 16          | 1.25                         | R           | 16ER125ISO           | ●      | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.006  | 16IR125ISO  | ●                    | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.0035 |  |  |
| 16          | 1.25                         | L           |                      |        |       |       |          | 0.000 | 0.000 | 0.000 | 0.000  | 16IL125ISO  | ●                    | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.0035 |  |  |
| 16          | 1.5                          | R           | 16ER15ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.007  | 16IR15ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.004  |  |  |
| 16          | 1.5                          | L           | 16EL15ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.007  | 16IL15ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.035 | 0.028 | 0.004  |  |  |
| 16          | 1.75                         | R           | 16ER175ISO           | ●      | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.009  | 16IR175ISO  | ●                    | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.005  |  |  |
| 16          | 2                            | R           | 16ER20ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.010  | 16IR20ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.006  |  |  |
| 16          | 2                            | L           | 16EL20ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.010  | 16IL20ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.006  |  |  |
| 16          | 2.5                          | R           | 16ER25ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.012  | 16IR25ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.007  |  |  |
| 16          | 3                            | R           | 16ER30ISO            | ●      | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.015  | 16IR30ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.008  |  |  |
| 16          | 3                            | L           |                      |        |       |       |          | 0.000 | 0.000 | 0.000 | 0.000  | 16IL30ISO   | ●                    | ●     | ●     | ●        | 0.375 | 0.063 | 0.047 | 0.008  |  |  |
| 22          | 3.5                          | R           | 22ER35ISO            | ●      | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.017  | 22IR35ISO   | ●                    | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.010  |  |  |
| 22          | 4                            | R           | 22ER40ISO            | ●      | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.020  | 22IR40ISO   | ●                    | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.011  |  |  |
| 22          | 4.5                          | R           | 22ER45ISO            | ●      | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.022  | 22IR45ISO   | ●                    | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.013  |  |  |
| 22          | 5                            | R           | 22ER50ISO            | ●      | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.025  | 22IR50ISO   | ●                    | ●     | ●     | ●        | 0.500 | 0.098 | 0.067 | 0.014  |  |  |
| 27          | 6                            | R           | 27ER60ISO            | ●      | ●     | ●     | ●        | 0.625 | 0.126 | 0.087 | 0.030  | 27IR60ISO   | ●                    | ●     | ●     | ●        | 0.625 | 0.126 | 0.087 | 0.017  |  |  |

● : Line up / 5 pieces per package

Reference pages: External toolholders → [E036 - E040](#), Internal toolholders → [E054 - E056](#)

### Full-profile insert with chipbreaker

| Insert size | Pitch<br>(Reference)<br>(mm) | Hand of cut | External insert (in) |        |       |        |       |       |       |              | Internal insert (in) |        |       |        |       |       |        |        |
|-------------|------------------------------|-------------|----------------------|--------|-------|--------|-------|-------|-------|--------------|----------------------|--------|-------|--------|-------|-------|--------|--------|
|             |                              |             | Designation          | Grade  |       |        | IC    | PDX   | PDY   | RE           | Designation          | Grade  |       |        | IC    | PDX   | PDY    | RE     |
|             |                              |             |                      | Coated |       | Cermet |       |       |       |              |                      | Coated |       | Cermet |       |       |        |        |
|             |                              |             |                      | AH8015 | AH725 | NS9530 |       |       |       |              |                      | AH8015 | AH725 | NS9530 |       |       |        |        |
| 11          | 0.5                          | R           |                      |        |       |        |       |       |       | 11IR05ISO-B  | ●                    |        |       | 0.250  | 0.020 | 0.047 | 0.0016 |        |
| 11          | 0.5                          | R           |                      |        |       |        |       |       |       | 11IR05ISO-M  |                      | ●      |       | 0.250  | 0.020 | 0.047 | 0.0016 |        |
| 11          | 0.75                         | R           |                      |        |       |        |       |       |       | 11IR075ISO-B | ●                    |        |       | 0.250  | 0.020 | 0.047 | 0.0020 |        |
| 11          | 0.75                         | R           |                      |        |       |        |       |       |       | 11IR075ISO-M |                      | ●      |       | 0.250  | 0.020 | 0.047 | 0.0020 |        |
| 11          | 1                            | R           |                      |        |       |        |       |       |       | 11IR10ISO-B  | ●                    |        |       | 0.250  | 0.035 | 0.028 | 0.0031 |        |
| 11          | 1                            | R           |                      |        |       |        |       |       |       | 11IR10ISO-M  | ●                    |        | ●     | 0.250  | 0.035 | 0.028 | 0.0031 |        |
| 11          | 1.25                         | R           |                      |        |       |        |       |       |       | 11IR125ISO-B | ●                    |        |       | 0.250  | 0.035 | 0.028 | 0.004  |        |
| 11          | 1.25                         | R           |                      |        |       |        |       |       |       | 11IR125ISO-M | ●                    |        | ●     | 0.250  | 0.035 | 0.028 | 0.004  |        |
| 11          | 1.5                          | R           |                      |        |       |        |       |       |       | 11IR15ISO-B  | ●                    |        |       | 0.250  | 0.035 | 0.028 | 0.005  |        |
| 11          | 1.5                          | R           |                      |        |       |        |       |       |       | 11IR15ISO-M  | ●                    |        | ●     | 0.250  | 0.035 | 0.028 | 0.005  |        |
| 11          | 1.75                         | R           |                      |        |       |        |       |       |       | 11IR175ISO-B | ●                    |        |       | 0.250  | 0.035 | 0.028 | 0.005  |        |
| 11          | 1.75                         | R           |                      |        |       |        |       |       |       | 11IR175ISO-M |                      |        | ●     | 0.250  | 0.035 | 0.028 | 0.005  |        |
| 11          | 2                            | R           |                      |        |       |        |       |       |       | 11IR20ISO-B  | ●                    |        |       | 0.250  | 0.035 | 0.028 | 0.006  |        |
| 11          | 2                            | R           |                      |        |       |        |       |       |       | 11IR20ISO-M  | ●                    |        | ●     | 0.250  | 0.035 | 0.028 | 0.006  |        |
| 16          | 0.5                          | R           | 16ER05ISO-M          |        |       | ●      | 0.375 | 0.020 | 0.047 | 0.0024       |                      |        |       |        |       |       |        |        |
| 16          | 0.75                         | R           | 16ER075ISO-B         |        | ●*    |        | 0.375 | 0.024 | 0.024 | 0.0031       |                      |        |       |        |       |       |        |        |
| 16          | 0.75                         | R           | 16ER075ISO-M         | ●      |       | ●      | 0.375 | 0.020 | 0.047 | 0.0035       |                      |        |       |        |       |       |        |        |
| 16          | 1                            | R           | 16ER10ISO-B          |        | ●*    |        | 0.375 | 0.028 | 0.028 | 0.004        | 16IR10ISO-B          |        | ●*    | 0.375  | 0.028 | 0.024 | 0.0020 |        |
| 16          | 1                            | R           | 16ER10ISO-M          | ●      | ●     | ●      | 0.375 | 0.035 | 0.028 | 0.005        | 16IR10ISO-M          | ●      |       | ●      | 0.375 | 0.035 | 0.028  | 0.0031 |
| 16          | 1.25                         | R           | 16ER125ISO-B         |        | ●*    |        | 0.375 | 0.035 | 0.031 | 0.006        | 16IR125ISO-B         |        | ●*    | 0.375  | 0.035 | 0.031 | 0.0024 |        |
| 16          | 1.25                         | R           | 16ER125ISO-M         | ●      |       | ●      | 0.375 | 0.035 | 0.028 | 0.006        | 16IR125ISO-M         |        | ●     | ●      | 0.375 | 0.035 | 0.028  | 0.004  |
| 16          | 1.5                          | R           | 16ER15ISO-B          |        | ●*    |        | 0.375 | 0.039 | 0.031 | 0.007        | 16IR15ISO-B          |        | ●*    | 0.375  | 0.039 | 0.031 | 0.0031 |        |
| 16          | 1.5                          | R           | 16ER15ISO-M          | ●      | ●     | ●      | 0.375 | 0.035 | 0.028 | 0.007        | 16IR15ISO-M          | ●      | ●     | ●      | 0.375 | 0.035 | 0.028  | 0.005  |
| 16          | 1.75                         | R           | 16ER175ISO-B         |        | ●*    |        | 0.375 | 0.047 | 0.035 | 0.010        | 16IR175ISO-B         |        | ●*    | 0.375  | 0.047 | 0.035 | 0.004  |        |
| 16          | 1.75                         | R           | 16ER175ISO-M         | ●      |       | ●      | 0.375 | 0.063 | 0.047 | 0.009        | 16IR175ISO-M         |        | ●     | ●      | 0.375 | 0.063 | 0.047  | 0.006  |
| 16          | 2                            | R           | 16ER20ISO-B          |        | ●*    |        | 0.375 | 0.051 | 0.039 | 0.011        | 16IR20ISO-B          |        | ●*    | 0.375  | 0.051 | 0.039 | 0.004  |        |
| 16          | 2                            | R           | 16ER20ISO-M          | ●      | ●     | ●      | 0.375 | 0.063 | 0.047 | 0.010        | 16IR20ISO-M          | ●      |       | ●      | 0.375 | 0.063 | 0.047  | 0.006  |
| 16          | 2.5                          | R           | 16ER25ISO-B          |        | ●*    |        | 0.375 | 0.059 | 0.043 | 0.012        | 16IR25ISO-B          |        | ●*    | 0.375  | 0.059 | 0.043 | 0.006  |        |
| 16          | 2.5                          | R           | 16ER25ISO-M          | ●      |       | ●      | 0.375 | 0.063 | 0.047 | 0.012        | 16IR25ISO-M          |        | ●     | ●      | 0.375 | 0.063 | 0.047  | 0.007  |
| 16          | 3                            | R           | 16ER30ISO-B          |        | ●*    |        | 0.375 | 0.063 | 0.047 | 0.015        | 16IR30ISO-B          |        | ●*    | 0.375  | 0.059 | 0.043 | 0.009  |        |
| 16          | 3                            | R           | 16ER30ISO-M          | ●      |       | ●      | 0.375 | 0.063 | 0.047 | 0.015        | 16IR30ISO-M          | ●      |       | ●      | 0.375 | 0.063 | 0.047  | 0.008  |
| 22          | 3.5                          | R           | 22ER35ISO-B          |        | ●     |        | 0.500 | 0.091 | 0.063 | 0.019        |                      |        |       |        |       |       |        |        |
| 22          | 4                            | R           | 22ER40ISO-B          |        | ●     |        | 0.500 | 0.091 | 0.063 | 0.020        |                      |        |       |        |       |       |        |        |

- ●\* : The cutting edge position needs re-adjusting for these inserts have different PDY and PDX dimensions (Note: for size 16 inserts only).

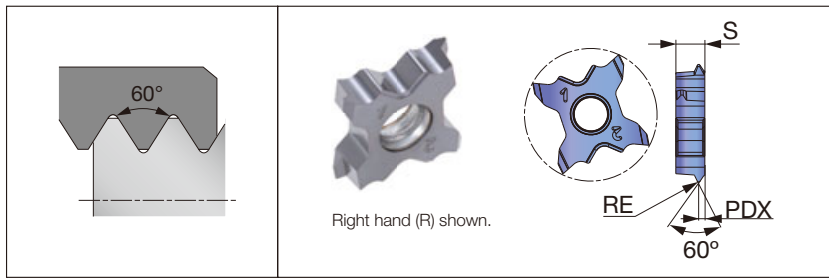
-   requires the use of dedicated shim.

When using a new AH725 with chipbreaker, the conventional shim may need to be replaced with a new standard shim. Please refer to the page [E070](#).

● : Line up / 5 pieces per package



### ISO metric (General purpose)



#### Applicable toolholder

##### External

STCR/L\*\*-18  
 STCR/L\*\*18-CHP  
 JS\*\*-STCL18  
 C\*STCFL\*\*18-CHP  
 C\*STCR/L\*\*18-CHP  
 QC\*\*STCR/L18 (-Y)  
 QC\*\*STCR/L18 (-Y)-CHP

Thread form

60°

55°

M  
(Metric)

UN  
(Unified)

W  
(Whitworth)

BSPT  
(R, PT)

NPT

NPTF

TR  
(Metric, 30° Trapezoidal)

Round  
(DIN405)

UNJ

MJ

ACME  
(29° Trapezoidal)

STUB  
ACME  
(29° Trapezoidal)

API  
Round

API  
Buttress

API  
Rotary  
Shoulder  
Connection

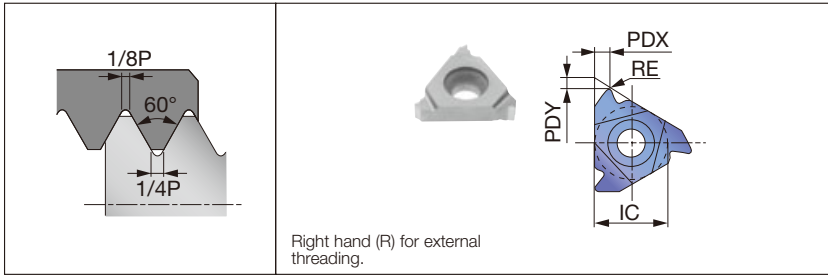
#### Partial-profile insert

| Pitch<br>(mm) | Hand of cut | Designation    | External insert (in) |       |       |        |       |
|---------------|-------------|----------------|----------------------|-------|-------|--------|-------|
|               |             |                | Grade                |       | PDX   | RE     | S     |
|               |             |                | Coated               |       |       |        |       |
|               |             |                | SH725                | AH725 |       |        |       |
| 0.5           | R           | TCT18FR-05ISO  | ●                    |       | 0.014 | 0.0024 | 0.157 |
| 0.7           | R           | TCT18FR-07ISO  | ●                    |       | 0.018 | 0.0035 | 0.157 |
| 0.75          | R           | TCT18FR-075ISO | ●                    |       | 0.020 | 0.0035 | 0.157 |
| 0.8           | R           | TCT18FR-08ISO  | ●                    |       | 0.020 | 0.004  | 0.157 |
| 1             | R           | TCT18R-10ISO   |                      | ●     | 0.024 | 0.005  | 0.157 |
| 1.25          | R           | TCT18R-125ISO  |                      | ●     | 0.028 | 0.007  | 0.157 |
| 1.5           | R           | TCT18R-15ISO   |                      | ●     | 0.031 | 0.008  | 0.157 |

● : Line up / 5 pieces per package

Reference pages: External toolholders → [E041 - E044](#)

### Unified (General purpose)



### Applicable toolholder

| Insert size | External   | Internal  |
|-------------|--|---|
| 11          | SER**11  | SNR/L**11...  |
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |
| 22          | CER/L**22...<br>SER**22-CHP  | TSNR/L**22<br>SNR/L**22...<br>TCNR/L**22...<br>CNR/L**22... |

### Full-profile insert

| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       |       |       |       |       |       | Internal insert (in) |        |       |       |    |     |          |          |   |       |       |       |        |        |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|-------|-------|-------|-------|-------|----------------------|--------|-------|-------|----|-----|----------|----------|---|-------|-------|-------|--------|--------|
|             |                              |     |             | Designation          | Grade  |       |       | IC    | PDX   | PDY   | RE    | Designation          | Grade  |       |       | IC | PDX | PDY      | RE       |   |       |       |       |        |        |
|             |                              |     |             |                      | Coated |       |       |       |       |       |       |                      | Coated |       |       |    |     |          |          |   |       |       |       |        |        |
|             |                              |     |             |                      | AH8015 | AH725 | T313V |       |       |       |       |                      | AH8015 | AH725 | T313V |    |     |          |          |   |       |       |       |        |        |
| 11          | (0.031)                      | 32  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     | 11IR32UN | ●        |   | 0.250 | 0.020 | 0.047 | 0.0024 |        |
| 11          | (0.036)                      | 28  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     |          | 11IR28UN | ● |       | 0.250 | 0.020 | 0.047  | 0.0024 |
| 11          | (0.042)                      | 24  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     |          | 11IR24UN | ● |       | 0.250 | 0.035 | 0.028  | 0.0028 |
| 11          | (0.050)                      | 20  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     |          | 11IR20UN | ● |       | 0.250 | 0.035 | 0.028  | 0.0035 |
| 11          | (0.056)                      | 18  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     |          | 11IR18UN | ● |       | 0.250 | 0.035 | 0.028  | 0.004  |
| 11          | (0.063)                      | 16  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     |          | 11IR16UN | ● | ●     | 0.250 | 0.035 | 0.028  | 0.004  |
| 11          | (0.071)                      | 14  | R           |                      |        |       |       |       |       |       |       |                      |        |       |       |    |     |          | 11IR14UN | ● | ●     | 0.250 | 0.035 | 0.028  | 0.005  |
| 16          | (0.031)                      | 32  | R           | 16ER32UN             | ●      | ●     |       | 0.375 | 0.020 | 0.047 | 0.004 |                      |        |       |       |    |     |          | 16IR32UN | ● | ●     | 0.375 | 0.020 | 0.047  | 0.0024 |
| 16          | (0.036)                      | 28  | R           | 16ER28UN             | ●      | ●     |       | 0.375 | 0.020 | 0.047 | 0.004 |                      |        |       |       |    |     |          | 16IR28UN | ● | ●     | 0.375 | 0.020 | 0.047  | 0.0024 |
| 16          | (0.042)                      | 24  | R           | 16ER24UN             | ●      | ●     |       | 0.375 | 0.035 | 0.028 | 0.005 |                      |        |       |       |    |     |          | 16IR24UN | ● | ●     | 0.375 | 0.035 | 0.028  | 0.0028 |
| 16          | (0.050)                      | 20  | R           | 16ER20UN             | ●      | ●     |       | 0.375 | 0.035 | 0.028 | 0.006 |                      |        |       |       |    |     |          | 16IR20UN | ● | ●     | 0.375 | 0.035 | 0.028  | 0.0035 |
| 16          | (0.056)                      | 18  | R           | 16ER18UN             | ●      | ●     |       | 0.375 | 0.035 | 0.028 | 0.007 |                      |        |       |       |    |     |          | 16IR18UN | ● | ●     | 0.375 | 0.035 | 0.028  | 0.004  |
| 16          | (0.063)                      | 16  | R           | 16ER16UN             | ●      | ●     | ●     | 0.375 | 0.035 | 0.028 | 0.008 |                      |        |       |       |    |     |          | 16IR16UN | ● | ●     | 0.375 | 0.035 | 0.028  | 0.004  |
| 16          | (0.071)                      | 14  | R           | 16ER14UN             | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.009 |                      |        |       |       |    |     |          | 16IR14UN | ● | ●     | 0.375 | 0.063 | 0.047  | 0.005  |
| 16          | (0.077)                      | 13  | R           | 16ER13UN             | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.009 |                      |        |       |       |    |     |          | 16IR13UN | ● | ●     | 0.375 | 0.063 | 0.047  | 0.006  |
| 16          | (0.083)                      | 12  | R           | 16ER12UN             | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.011 |                      |        |       |       |    |     |          | 16IR12UN | ● | ●     | 0.375 | 0.063 | 0.047  | 0.006  |
| 16          | (0.091)                      | 11  | R           | 16ER11UN             | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.011 |                      |        |       |       |    |     |          | 16IR11UN | ● | ●     | 0.375 | 0.063 | 0.047  | 0.006  |
| 16          | (0.100)                      | 10  | R           | 16ER10UN             | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.013 |                      |        |       |       |    |     |          | 16IR10UN | ● | ●     | 0.375 | 0.063 | 0.047  | 0.007  |
| 16          | (0.111)                      | 9   | R           | 16ER9UN              | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.014 |                      |        |       |       |    |     |          | 16IR9UN  | ● | ●     | 0.375 | 0.063 | 0.047  | 0.008  |
| 16          | (0.125)                      | 8   | R           | 16ER8UN              | ●      | ●     | ●     | 0.375 | 0.063 | 0.047 | 0.016 |                      |        |       |       |    |     |          | 16IR8UN  | ● | ●     | 0.375 | 0.063 | 0.047  | 0.009  |
| 22          | (0.143)                      | 7   | R           | 22ER7UN              | ●      | ●     | ●     | 0.500 | 0.098 | 0.067 | 0.018 |                      |        |       |       |    |     |          | 22IR7UN  | ● | ●     | 0.500 | 0.098 | 0.067  | 0.010  |
| 22          | (0.167)                      | 6   | R           | 22ER6UN              | ●      | ●     | ●     | 0.500 | 0.098 | 0.067 | 0.021 |                      |        |       |       |    |     |          | 22IR6UN  | ● | ●     | 0.500 | 0.098 | 0.067  | 0.012  |
| 22          | (0.200)                      | 5   | R           | 22ER5UN              | ●      | ●     | ●     | 0.500 | 0.098 | 0.067 | 0.025 |                      |        |       |       |    |     |          | 22IR5UN  | ● | ●     | 0.500 | 0.098 | 0.067  | 0.014  |

● : Line up / 5 pieces per package



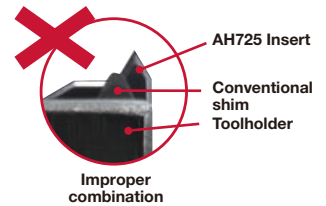


### Full-profile insert with chipbreaker

| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       |        |    |       |       |       | Internal insert (in) |            |       |        |    |     |       |       |       |        |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|--------|----|-------|-------|-------|----------------------|------------|-------|--------|----|-----|-------|-------|-------|--------|
|             |                              |     |             | Designation          | Grade  |       |        | IC | PDX   | PDY   | RE    | Designation          | Grade      |       |        | IC | PDX | PDY   | RE    |       |        |
|             |                              |     |             |                      | Coated |       | Cermet |    |       |       |       |                      | Coated     |       | Cermet |    |     |       |       |       |        |
|             |                              |     |             |                      | AH8015 | AH725 | NS9530 |    |       |       |       |                      | AH8015     | AH725 | NS9530 |    |     |       |       |       |        |
| 16          | (0.042)                      | 24  | R           | 16ER24UN-B           |        | ●*    |        |    | 0.375 | 0.031 | 0.028 | 0.004                |            |       |        |    |     |       |       |       |        |
| 16          | (0.042)                      | 24  | R           | 16ER24UN-M           |        |       |        | ●  | 0.375 | 0.035 | 0.028 | 0.005                |            |       |        |    |     |       |       |       |        |
| 16          | (0.050)                      | 20  | R           | 16ER20UN-B           |        | ●*    |        |    | 0.375 | 0.035 | 0.031 | 0.006                | 16IR20UN-B |       | ●*     |    |     | 0.375 | 0.035 | 0.031 | 0.0024 |
| 16          | (0.050)                      | 20  | R           | 16ER20UN-M           | ●      |       | ●      |    | 0.375 | 0.035 | 0.028 | 0.006                | 16IR20UN-M |       |        | ●  |     | 0.375 | 0.035 | 0.028 | 0.0035 |
| 16          | (0.056)                      | 18  | R           | 16ER18UN-B           |        | ●*    |        |    | 0.375 | 0.039 | 0.031 | 0.006                | 16IR18UN-B |       | ●*     |    |     | 0.375 | 0.039 | 0.031 | 0.0031 |
| 16          | (0.056)                      | 18  | R           | 16ER18UN-M           | ●      |       | ●      |    | 0.375 | 0.035 | 0.028 | 0.007                | 16IR18UN-M | ●     |        | ●  |     | 0.375 | 0.035 | 0.028 | 0.004  |
| 16          | (0.063)                      | 16  | R           | 16ER16UN-B           |        | ●*    |        |    | 0.375 | 0.043 | 0.035 | 0.007                | 16IR16UN-B |       | ●*     |    |     | 0.375 | 0.043 | 0.035 | 0.0035 |
| 16          | (0.063)                      | 16  | R           | 16ER16UN-M           | ●      |       | ●      |    | 0.375 | 0.035 | 0.028 | 0.008                | 16IR16UN-M |       |        | ●  |     | 0.375 | 0.035 | 0.028 | 0.004  |
| 16          | (0.071)                      | 14  | R           | 16ER14UN-B           |        | ●*    |        |    | 0.375 | 0.047 | 0.039 | 0.009                | 16IR14UN-B |       | ●*     |    |     | 0.375 | 0.047 | 0.035 | 0.004  |
| 16          | (0.071)                      | 14  | R           | 16ER14UN-M           | ●      |       | ●      |    | 0.375 | 0.063 | 0.047 | 0.009                | 16IR14UN-M |       |        | ●  |     | 0.375 | 0.063 | 0.047 | 0.005  |
| 16          | (0.077)                      | 13  | R           | 16ER13UN-B           |        | ●*    |        |    | 0.375 | 0.051 | 0.039 | 0.009                |            |       |        |    |     |       |       |       |        |
| 16          | (0.083)                      | 12  | R           | 16ER12UN-B           |        | ●*    |        |    | 0.375 | 0.055 | 0.043 | 0.010                | 16IR12UN-B |       | ●*     |    |     | 0.375 | 0.055 | 0.043 | 0.005  |
| 16          | (0.083)                      | 12  | R           | 16ER12UN-M           | ●      |       | ●      |    | 0.375 | 0.063 | 0.047 | 0.011                | 16IR12UN-M | ●     |        | ●  |     | 0.375 | 0.063 | 0.047 | 0.006  |
| 16          | (0.125)                      | 8   | R           | 16ER8UN-B            |        | ●*    |        |    | 0.375 | 0.063 | 0.047 | 0.016                | 16IR8UN-B  |       | ●*     |    |     | 0.375 | 0.059 | 0.043 | 0.008  |
| 16          | (0.125)                      | 8   | R           | 16ER8UN-M            |        |       | ●      |    | 0.375 | 0.063 | 0.047 | 0.016                | 16IR8UN-M  |       |        | ●  |     | 0.375 | 0.063 | 0.047 | 0.009  |

● : Line up / 5 pieces per package

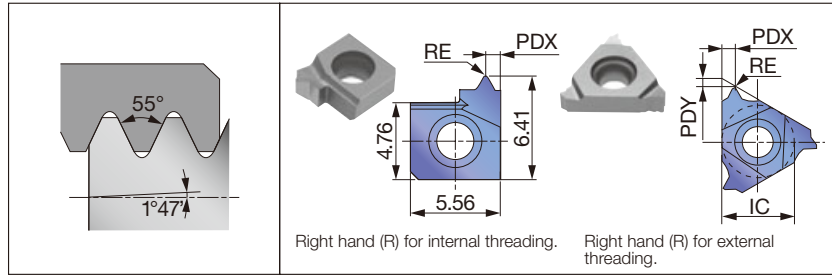
- ●\* : The cutting edge position needs re-adjusting for these inserts have different PDY and PDX dimensions (Note: for size 16 inserts only).
- requires the use of dedicated shim.  
When using a new AH725 with chipbreaker, the conventional shim may need to be replaced with a new standard shim. Please refer to the page [E070](#).



Reference pages: External toolholders → [E036 - E040](#), Internal toolholders → [E054 - E056](#)



### BSPT (for Pipe)



### Applicable toolholder

| Insert size | External   | Internal   |
|-------------|--|--|
| 6           |  | SNR/L000*K06SC...<br>SNR/L000*H06...                           |
| 11          | SER**11  | SNR/L**11...   |
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16...<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |

### Full-profile insert

| Insert size | Pitch (Reference) (in) | TPI | Hand of cut | External insert (in) |        |          |       |      |       |       |       | Internal insert (in) |             |          |          |   |   |       |       |       |       |       |
|-------------|------------------------|-----|-------------|----------------------|--------|----------|-------|------|-------|-------|-------|----------------------|-------------|----------|----------|---|---|-------|-------|-------|-------|-------|
|             |                        |     |             | Designation          | Grade  |          |       |      | IC    | PDX   | PDY   | RE                   | Designation | Grade    |          |   |   | IC    | PDX   | PDY   | RE    |       |
|             |                        |     |             |                      | Coated | Uncoated |       |      |       |       |       |                      |             | Coated   | Uncoated |   |   |       |       |       |       |       |
| 6           | (0.053)                | 19  | R           |                      | AH8015 | AH725    | T313V | TH10 |       |       |       |                      |             | 6IR19PT  | ●        | ● | ● | ●     | -     | 0.035 | -     | 0.006 |
| 11          | (0.053)                | 19  | R           |                      |        |          |       |      |       |       |       |                      |             | 11IR19PT | ●        | ● | ● | ●     | 0.250 | 0.035 | 0.028 | 0.006 |
| 11          | (0.071)                | 14  | R           |                      |        |          |       |      |       |       |       |                      |             | 11IR14PT | ●        | ● | ● | ●     | 0.250 | 0.035 | 0.028 | 0.006 |
| 16          | (0.036)                | 28  | R           | 16ER28PT             | ●      | ●        |       |      | 0.375 | 0.035 | 0.028 | 0.0035               |             |          |          |   |   |       |       |       |       |       |
| 16          | (0.053)                | 19  | R           | 16ER19PT             | ●      | ●        | ●     |      | 0.375 | 0.035 | 0.028 | 0.006                | 16IR19PT    | ●        |          |   |   | 0.375 | 0.035 | 0.028 | 0.006 |       |
| 16          | (0.071)                | 14  | R           | 16ER14PT             | ●      | ●        | ●     |      | 0.375 | 0.063 | 0.047 | 0.006                | 16IR14PT    | ●        | ●        | ● | ● | 0.375 | 0.063 | 0.047 | 0.006 |       |
| 16          | (0.091)                | 11  | R           | 16ER11PT             | ●      | ●        | ●     |      | 0.375 | 0.063 | 0.047 | 0.010                | 16IR11PT    | ●        | ●        | ● | ● | 0.375 | 0.063 | 0.047 | 0.010 |       |

● : Line up / 5 pieces per package

### Full-profile insert with chipbreaker

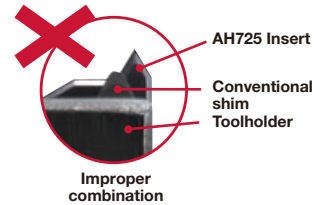
| Insert size | Pitch (Reference) (in) | TPI | Hand of cut | External insert (in) |        |        |  |    |       |       |       | Internal insert (in) |            |        |   |    |     |       |       |       |       |
|-------------|------------------------|-----|-------------|----------------------|--------|--------|--|----|-------|-------|-------|----------------------|------------|--------|---|----|-----|-------|-------|-------|-------|
|             |                        |     |             | Designation          | Grade  |        |  | IC | PDX   | PDY   | RE    | Designation          | Grade      |        |   | IC | PDX | PDY   | RE    |       |       |
|             |                        |     |             |                      | Coated | Cermet |  |    |       |       |       |                      | Coated     | Cermet |   |    |     |       |       |       |       |
| 16          | (0.053)                | 19  | R           | 16ER19PT-M           | ●      |        |  |    | 0.375 | 0.035 | 0.028 | 0.007                | 16IR19PT-M | ●      |   |    |     | 0.375 | 0.035 | 0.028 | 0.007 |
| 16          | (0.071)                | 14  | R           | 16ER14PT-B           | ●*     |        |  |    | 0.375 | 0.047 | 0.039 | 0.009                | 16IR14PT-B | ●*     |   |    |     | 0.375 | 0.047 | 0.039 | 0.008 |
| 16          | (0.071)                | 14  | R           | 16ER14PT-M           | ●      | ●      |  |    | 0.375 | 0.063 | 0.047 | 0.010                | 16IR14PT-M | ●      | ● |    |     | 0.375 | 0.063 | 0.047 | 0.010 |
| 16          | (0.091)                | 11  | R           | 16ER11PT-B           | ●*     |        |  |    | 0.375 | 0.059 | 0.043 | 0.011                | 16IR11PT-B | ●*     |   |    |     | 0.375 | 0.059 | 0.043 | 0.012 |
| 16          | (0.091)                | 11  | R           | 16ER11PT-M           | ●      | ●      |  |    | 0.375 | 0.063 | 0.047 | 0.013                | 16IR11PT-M | ●      | ● |    |     | 0.375 | 0.063 | 0.047 | 0.013 |

●\* : The cutting edge position needs re-adjusting for these inserts have different PDY and PDX dimensions (Note: for size 16 inserts only).

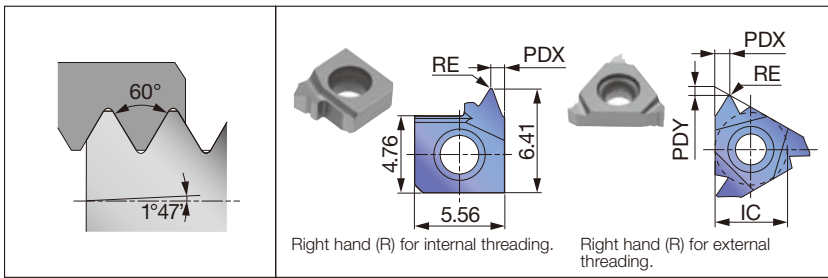
● requires the use of dedicated shim.

When using a new AH725 with chipbreaker, the conventional shim may need to be replaced with a new standard shim. Please refer to the page E070.

● : Line up / 5 pieces per package



# NPT (for Pipe)



## Applicable toolholder

| Insert size | External   | Internal  |
|-------------|--|---|
| 6           |  | SNR/L000*K06SC...<br>SNR/L000*H06...                        |
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |

## Full-profile insert

| Insert size | Pitch<br>(Reference)<br>(in) | TPI  | Hand of cut | External insert (in) |        |       |          |      |       |       |       | Internal insert (in) |                   |        |       |          |      |       |                 |       |        |   |       |   |        |  |  |  |  |
|-------------|------------------------------|------|-------------|----------------------|--------|-------|----------|------|-------|-------|-------|----------------------|-------------------|--------|-------|----------|------|-------|-----------------|-------|--------|---|-------|---|--------|--|--|--|--|
|             |                              |      |             | Designation          | Grade  |       |          |      | IC    | PDX   | PDY   | RE                   | Designation       | Grade  |       |          |      | IC    | PDX             | PDY   | RE     |   |       |   |        |  |  |  |  |
|             |                              |      |             |                      | Coated |       | Uncoated |      |       |       |       |                      |                   | Coated |       | Uncoated |      |       |                 |       |        |   |       |   |        |  |  |  |  |
|             |                              |      |             |                      | AH8015 | AH725 | T313V    | TH10 |       |       |       |                      |                   | AH8015 | AH725 | T313V    | TH10 |       |                 |       |        |   |       |   |        |  |  |  |  |
| 6           | (0.056)                      | 18   | R           |                      |        |       |          |      |       |       |       |                      |                   |        |       |          |      |       | <b>6IR18NPT</b> | ●     | ●      | - | 0.035 | - | 0.0012 |  |  |  |  |
| 16          | (0.037)                      | 27   | R           | <b>16ER27NPT</b>     |        |       |          |      | 0.375 | 0.020 | 0.047 | 0.0008               | <b>16IR27NPT</b>  | ●      |       |          |      | 0.375 | 0.020           | 0.047 | 0.0008 |   |       |   |        |  |  |  |  |
| 16          | (0.056)                      | 18   | R           | <b>16ER18NPT</b>     | ●      | ●     |          |      | 0.375 | 0.035 | 0.028 | 0.0012               | <b>16IR18NPT</b>  | ●      |       |          |      | 0.375 | 0.035           | 0.028 | 0.0012 |   |       |   |        |  |  |  |  |
| 16          | (0.071)                      | 14   | R           | <b>16ER14NPT</b>     | ●      |       |          |      | 0.375 | 0.063 | 0.047 | 0.0016               | <b>16IR14NPT</b>  | ●      | ●     | ●        |      | 0.375 | 0.063           | 0.047 | 0.0016 |   |       |   |        |  |  |  |  |
| 16          | (0.087)                      | 11.5 | R           | <b>16ER115NPT</b>    | ●      |       |          |      | 0.375 | 0.063 | 0.047 | 0.0020               | <b>16IR115NPT</b> | ●      | ●     | ●        |      | 0.375 | 0.063           | 0.047 | 0.0020 |   |       |   |        |  |  |  |  |
| 16          | (0.125)                      | 8    | R           | <b>16ER8NPT</b>      | ●      |       |          |      | 0.375 | 0.063 | 0.047 | 0.0028               | <b>16IR8NPT</b>   | ●      | ●     | ●        |      | 0.375 | 0.063           | 0.047 | 0.0028 |   |       |   |        |  |  |  |  |

● : Line up / 5 pieces per package

## Full-profile insert with chipbreaker

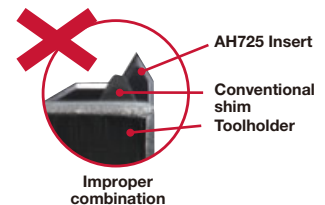
| Insert size | Pitch<br>(Reference)<br>(in) | TPI  | Hand of cut | External insert (in) |        |        |        |       |       |       |        | Internal insert (in) |        |        |        |    |       |       |       |        |  |  |  |  |  |  |  |  |  |  |
|-------------|------------------------------|------|-------------|----------------------|--------|--------|--------|-------|-------|-------|--------|----------------------|--------|--------|--------|----|-------|-------|-------|--------|--|--|--|--|--|--|--|--|--|--|
|             |                              |      |             | Designation          | Grade  |        |        | IC    | PDX   | PDY   | RE     | Designation          | Grade  |        |        | IC | PDX   | PDY   | RE    |        |  |  |  |  |  |  |  |  |  |  |
|             |                              |      |             |                      | Coated | Cermet |        |       |       |       |        |                      | Coated | Cermet |        |    |       |       |       |        |  |  |  |  |  |  |  |  |  |  |
|             |                              |      |             |                      | AH8015 | AH725  | NS9530 |       |       |       |        |                      | AH8015 | AH725  | NS9530 |    |       |       |       |        |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.056)                      | 18   | R           | <b>16ER18NPT-B</b>   | ●*     |        |        | 0.375 | 0.039 | 0.031 | 0.0020 |                      |        |        |        |    |       |       |       |        |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.056)                      | 18   | R           | <b>16ER18NPT-M</b>   | ●      |        | ●      | 0.375 | 0.035 | 0.028 | 0.0028 | <b>16IR18NPT-M</b>   |        |        |        | ●  | 0.375 | 0.035 | 0.028 | 0.0028 |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.071)                      | 14   | R           | <b>16ER14NPT-B</b>   | ●*     |        |        | 0.375 | 0.047 | 0.035 | 0.0020 | <b>16IR14NPT-B</b>   |        |        |        | ●* | 0.375 | 0.047 | 0.035 | 0.0020 |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.071)                      | 14   | R           | <b>16ER14NPT-M</b>   | ●      |        | ●      | 0.375 | 0.063 | 0.047 | 0.0031 | <b>16IR14NPT-M</b>   | ●      |        | ●      |    | 0.375 | 0.063 | 0.047 | 0.0031 |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.087)                      | 11.5 | R           | <b>16ER115NPT-B</b>  | ●*     |        |        | 0.375 | 0.059 | 0.043 | 0.0035 | <b>16IR115NPT-B</b>  |        |        |        | ●* | 0.375 | 0.059 | 0.043 | 0.0035 |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.087)                      | 11.5 | R           | <b>16ER115NPT-M</b>  |        |        | ●      | 0.375 | 0.063 | 0.047 | 0.0035 | <b>16IR115NPT-M</b>  | ●      |        | ●      |    | 0.375 | 0.063 | 0.047 | 0.0035 |  |  |  |  |  |  |  |  |  |  |
| 16          | (0.125)                      | 8    | R           | <b>16ER8NPT-B</b>    | ●*     |        |        | 0.375 | 0.071 | 0.051 | 0.005  | <b>16IR8NPT-B</b>    |        |        |        | ●* | 0.375 | 0.071 | 0.051 | 0.005  |  |  |  |  |  |  |  |  |  |  |

- ●\* : The cutting edge position needs re-adjusting for these inserts have different PDY and PDX dimensions (Note: for size 16 inserts only).

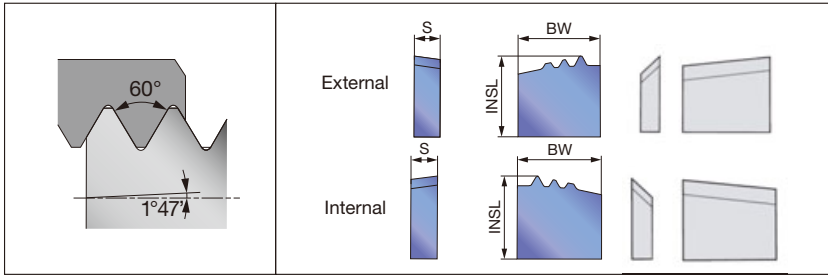
- ● requires the use of dedicated shim.

When using a new AH725 with chipbreaker, the conventional shim may need to be replaced with a new standard shim. Please refer to the page **E070**.

● : Line up / 5 pieces per package



## NPT (for Pipe)



### Applicable toolholder

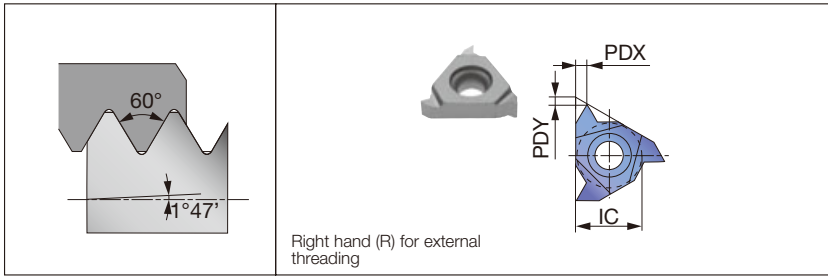
| External     | Internal    |
|--------------|-------------|
| CLVOR-**M... | SI-CLHOR... |

### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI  | Taper     |      | External insert (in) |        |       |       |       |                                | Internal insert (in) |        |       |       |       |                                |
|------------------------------|------|-----------|------|----------------------|--------|-------|-------|-------|--------------------------------|----------------------|--------|-------|-------|-------|--------------------------------|
|                              |      | mm/<br>mm | TPF  | Designation          | Grade  | BW    | INSL  | S     | Chip<br>breaking<br>attachment | Designation          | Grade  | BW    | INSL  | S     | Chip<br>breaking<br>attachment |
|                              |      |           |      |                      | Coated |       |       |       |                                |                      | Coated |       |       |       |                                |
| (2.209)                      | 11.5 | 1/16      | 0.75 | <b>CR-11.5NPT-4E</b> | ●      | 0.630 | 0.618 | 0.205 | CR-8R /<br>10R-3E /<br>4E-CB   | <b>CR-11.5NPT-4I</b> | ●      | 0.630 | 0.618 | 0.205 | CR-8R /<br>10R-3I /<br>4I-CB   |
| (3.175)                      | 8    | 1/16      | 0.75 | <b>CR-8NPT-4E</b>    | ●      | 0.630 | 0.618 | 0.205 | CR-8R /<br>10R-3E /<br>4E-CB   | <b>CR-8NPT-4I</b>    | ●      | 0.630 | 0.618 | 0.205 | CR-8R /<br>10R-3I /<br>4I-CB   |

● : Line up / 5 pieces per package

## NPTF (for Pipe)



Right hand (R) for external threading

### Applicable toolholder

| Insert size | External   | Internal  |
|-------------|--|---|
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |

### Full-profile insert

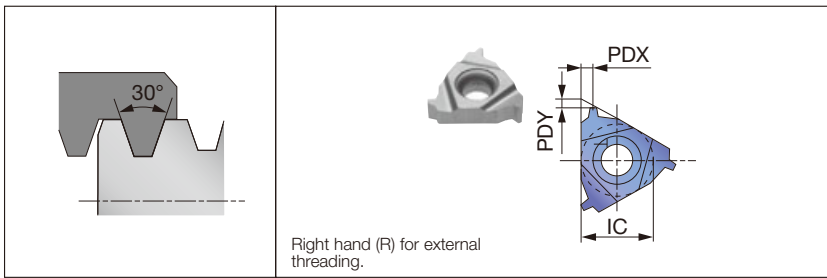
| Insert size | Pitch<br>(Reference)<br>(in) | TPI  | Hand of cut | External insert (in) |        |       |       |       |    | Internal insert (in) |        |       |       |       |    |
|-------------|------------------------------|------|-------------|----------------------|--------|-------|-------|-------|----|----------------------|--------|-------|-------|-------|----|
|             |                              |      |             | Designation          | Grade  | IC    | PDX   | PDY   | RE | Designation          | Grade  | IC    | PDX   | PDY   | RE |
|             |                              |      |             |                      | Coated |       |       |       |    |                      | Coated |       |       |       |    |
| 16          | (0.037)                      | 27   | R           | <b>16ER27NPTF</b>    | ●      | 0.375 | 0.020 | 0.047 | -  |                      |        |       |       |       |    |
| 16          | (0.056)                      | 18   | R           | <b>16ER18NPTF</b>    | ●      | 0.375 | 0.035 | 0.028 | -  |                      |        |       |       |       |    |
| 16          | (0.071)                      | 14   | R           | <b>16ER14NPTF</b>    | ●      | 0.375 | 0.063 | 0.047 | -  | <b>16IR14NPTF</b>    | ●      | 0.375 | 0.063 | 0.047 | -  |
| 16          | (0.087)                      | 11.5 | R           | <b>16ER115NPTF</b>   | ●      | 0.375 | 0.063 | 0.047 | -  | <b>16IR115NPTF</b>   | ●      | 0.375 | 0.063 | 0.047 | -  |
| 16          | (0.125)                      | 8    | R           | <b>16ER8NPTF</b>     | ●      | 0.375 | 0.063 | 0.047 | -  | <b>16IR8NPTF</b>     | ●      | 0.375 | 0.063 | 0.047 | -  |

● : Line up / 5 pieces per package

Reference pages: NPT: External toolholders → **E053**, Internal toolholders → **E067**

NPTF: External toolholders → **E036 - E040**, Internal toolholders → **E055 - E056**

## 30° Trapezoidal / DIN103 (for Machine parts)



### Applicable toolholder

| Insert size | External   | Internal  |
|-------------|--|---|
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |
| 22          | CER/L**22...<br>SER**22-CHP  | TSNR/L**22<br>SNR/L**22...<br>TCNR/L**22...<br>CNR/L**22... |
| 27          | CER/L**27...   | CNR/L**27...  |

### With the special full-profile insert

| Insert size | Pitch<br>(Reference)<br>(mm) | Hand of cut | External insert (in) |        |       |       |       | Internal insert (in) |             |       |        |       |       |       |
|-------------|------------------------------|-------------|----------------------|--------|-------|-------|-------|----------------------|-------------|-------|--------|-------|-------|-------|
|             |                              |             | Designation          | Grade  |       | IC    | PDX   | PDY                  | Designation | Grade |        | IC    | PDX   | PDY   |
|             |                              |             |                      | Coated | AH725 |       |       |                      |             | T313V | Coated |       |       |       |
| 16          | 1.5                          | R           | 16ER15TR             | ●      |       | 0.375 | 0.035 | 0.028                | 16IR15TR    | ●     |        | 0.375 | 0.035 | 0.028 |
| 16          | 2                            | R           | 16ER20TR             | ●      | ●     | 0.375 | 0.063 | 0.051                | 16IR20TR    | ●     | ●      | 0.375 | 0.063 | 0.051 |
| 16          | 3                            | R           | 16ER30TR             | ●      | ●     | 0.375 | 0.063 | 0.051                | 16IR30TR    | ●     | ●      | 0.375 | 0.063 | 0.051 |
| 22          | 4                            | R           | 22ER40TR             | ●      | ●     | 0.500 | 0.098 | 0.079                | 22IR40TR    | ●     | ●      | 0.500 | 0.098 | 0.079 |
| 22          | 5                            | R           | 22ER50TR             | ●      | ●     | 0.500 | 0.098 | 0.079                | 22IR50TR    | ●     | ●      | 0.500 | 0.098 | 0.079 |
| 27          | 6                            | R           | 27ER60TR             | ●      | ●     | 0.625 | 0.126 | 0.098                |             |       |        |       |       |       |

● : Line up / 5 pieces per package

## Round / DIN405 (for Machine parts)



### Applicable toolholder

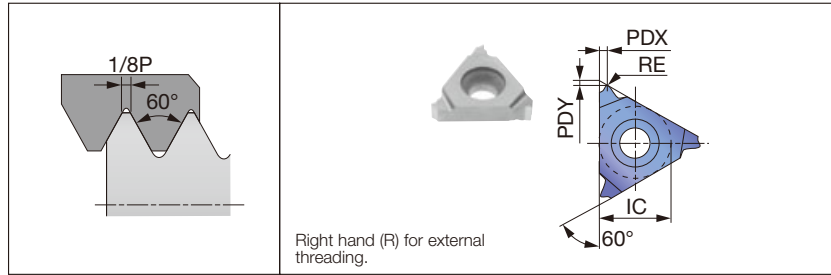
| Insert size | External   | Internal  |
|-------------|--|---|
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |

### Full-profile insert

| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       |       |       | Internal insert (in) |       |             |        |       |       |       |       |       |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|-------|-------|----------------------|-------|-------------|--------|-------|-------|-------|-------|-------|
|             |                              |     |             | Designation          | Grade  |       | IC    | PDX   | PDY                  | RE    | Designation | Grade  |       | IC    | PDX   | PDY   | RE    |
|             |                              |     |             |                      | Coated | AH725 |       |       |                      |       |             | Coated | AH725 |       |       |       |       |
| 16          | (0.125)                      | 8   | R           | 16ER8RD-B            | ●      |       | 0.375 | 0.051 | 0.055                | 0.030 | 16IR8RD-B   | ●      |       | 0.375 | 0.059 | 0.055 | 0.037 |
| 16          | (0.167)                      | 6   | R           | 16ER6RD-B            | ●      |       | 0.375 | 0.067 | 0.059                | 0.040 | 16IR6RD-B   | ●      |       | 0.375 | 0.059 | 0.055 | 0.037 |

● : Line up / 5 pieces per package

### UNJ (for Aerospace industry)



#### Applicable toolholder

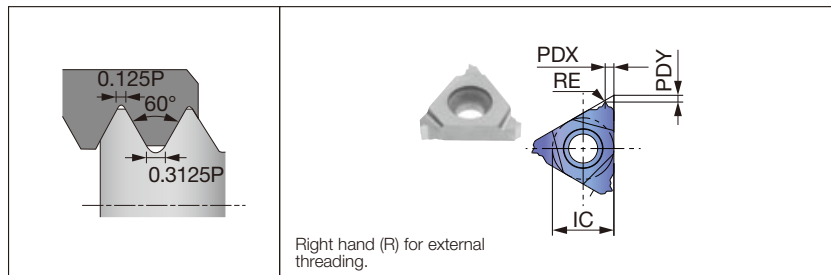
| Insert size | External   |
|-------------|--|
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 |

#### Full-profile insert

| Insert size | Pitch (Reference) (in) | TPI | Hand of cut | External insert (in) |        |   |       |       |       |       |
|-------------|------------------------|-----|-------------|----------------------|--------|---|-------|-------|-------|-------|
|             |                        |     |             | Designation          | Grade  |   | IC    | PDX   | PDY   | RE    |
|             |                        |     |             |                      | Coated |   |       |       |       |       |
| AH8015      | AH725                  |     |             |                      |        |   |       |       |       |       |
| 16          | (0.031)                | 32  | R           | <b>16ER32UNJ</b>     | ●      | ● | 0.375 | 0.020 | 0.047 | 0.005 |
| 16          | (0.036)                | 28  | R           | <b>16ER28UNJ</b>     | ●      | ● | 0.375 | 0.020 | 0.047 | 0.006 |
| 16          | (0.042)                | 24  | R           | <b>16ER24UNJ</b>     | ●      | ● | 0.375 | 0.035 | 0.028 | 0.007 |
| 16          | (0.050)                | 20  | R           | <b>16ER20UNJ</b>     | ●      | ● | 0.375 | 0.035 | 0.028 | 0.008 |
| 16          | (0.056)                | 18  | R           | <b>16ER18UNJ</b>     | ●      | ● | 0.375 | 0.035 | 0.028 | 0.009 |
| 16          | (0.063)                | 16  | R           | <b>16ER16UNJ</b>     | ●      | ● | 0.375 | 0.035 | 0.028 | 0.010 |
| 16          | (0.071)                | 14  | R           | <b>16ER14UNJ</b>     | ●      | ● | 0.375 | 0.063 | 0.047 | 0.012 |
| 16          | (0.083)                | 12  | R           | <b>16ER12UNJ</b>     | ●      | ● | 0.375 | 0.063 | 0.047 | 0.014 |
| 16          | (0.100)                | 10  | R           | <b>16ER10UNJ</b>     | ●      | ● | 0.375 | 0.063 | 0.047 | 0.017 |
| 16          | (0.125)                | 8   | R           | <b>16ER8UNJ</b>      | ●      | ● | 0.375 | 0.063 | 0.047 | 0.021 |

● : Line up / 5 pieces per package

### MJ (for Aerospace industry)



#### Applicable toolholder

| Insert size | Internal     |
|-------------|--------------|
| 11          | SNR/L**11... |

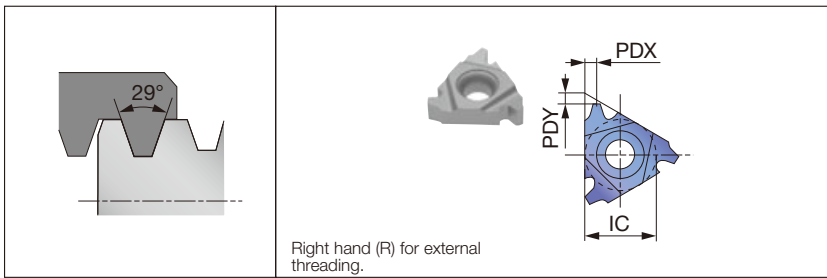
| Insert size | Pitch (Reference) (in) | Hand of cut | Internal insert (in) |        |  |       |       |       |        |
|-------------|------------------------|-------------|----------------------|--------|--|-------|-------|-------|--------|
|             |                        |             | Designation          | Grade  |  | IC    | PDX   | PDY   | RE     |
|             |                        |             |                      | Coated |  |       |       |       |        |
| AH8015      |                        |             |                      |        |  |       |       |       |        |
| 11          | 0.039                  | R           | <b>11IR10MJ</b>      | ●      |  | 0.250 | 0.035 | 0.028 | 0.0020 |

● : Line up / 5 pieces per package

Reference pages: UNJ : External toolholders → **E036 - E040**  
 MJ : Internal toolholders → **E055**



## 29° Trapezoidal / ACME (for Machine parts, Pipe)



### Applicable toolholder

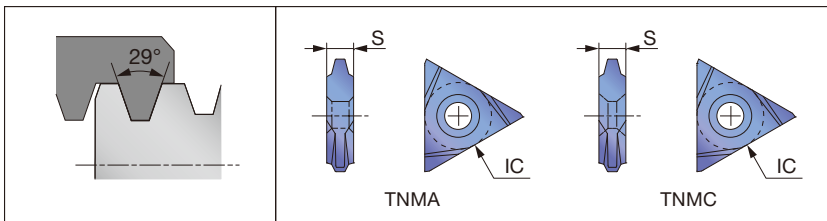
| Insert size | External   | Internal  |
|-------------|--|---|
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |
| 22          | CER/L**22...<br>SER**22-CHP  | TSNR/L**22<br>SNR/L**22...<br>TCNR/L**22...<br>CNR/L**22... |

### With the special full-profile insert

| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       |       |       | Internal insert (in) |                   |        |       |       |       |       |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|-------|-------|----------------------|-------------------|--------|-------|-------|-------|-------|
|             |                              |     |             | Designation          | Grade  |       | IC    | PDX   | PDY                  | Designation       | Grade  |       | IC    | PDX   | PDY   |
|             |                              |     |             |                      | Coated |       |       |       |                      |                   | Coated |       |       |       |       |
|             |                              |     |             |                      | AH725  | T313V |       |       |                      |                   | AH725  | T313V |       |       |       |
| 16          | (0.083)                      | 12  | R           | <b>16ER12ACME</b>    | ●      |       | 0.375 | 0.063 | 0.051                | <b>16IR12ACME</b> | ●      |       | 0.375 | 0.063 | 0.051 |
| 16          | (0.100)                      | 10  | R           | <b>16ER10ACME</b>    | ●      |       | 0.375 | 0.063 | 0.051                | <b>16IR10ACME</b> | ●      |       | 0.375 | 0.063 | 0.051 |
| 16          | (0.125)                      | 8   | R           | <b>16ER8ACME</b>     | ●      | ●     | 0.375 | 0.063 | 0.051                | <b>16IR8ACME</b>  | ●      | ●     | 0.375 | 0.063 | 0.051 |
| 22          | (0.167)                      | 6   | R           | <b>22ER6ACME</b>     | ●      | ●     | 0.500 | 0.098 | 0.079                | <b>22IR6ACME</b>  | ●      | ●     | 0.500 | 0.098 | 0.079 |
| 22          | (0.200)                      | 5   | R           | <b>22ER5ACME</b>     | ●      | ●     | 0.500 | 0.098 | 0.079                | <b>22IR5ACME</b>  | ●      | ●     | 0.500 | 0.098 | 0.079 |

● : Line up / 5 pieces per package

## 29° Trapezoidal / ACME (for Machine parts, Pipe)



### Applicable toolholder

| External     |
|--------------|
| MTVOR-**M..  |
| STVOR-**M... |

### On edge

| Pitch   | TPI | Taper |     | External insert (in)     |        |       |       |
|---------|-----|-------|-----|--------------------------|--------|-------|-------|
|         |     | mm/mm | TPF | Designation              | Grade  | IC    | S     |
|         |     |       |     |                          | Coated |       |       |
| AH725   |     |       |     |                          |        |       |       |
| (1.588) | 16  | -     | -   | <b>TNMA43NT16PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (1.814) | 14  | -     | -   | <b>TNMA43NT14PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (2.117) | 12  | -     | -   | <b>TNMA43NT12PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (2.54)  | 10  | -     | -   | <b>TNMA43NT10PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (3.175) | 8   | -     | -   | <b>TNMA43NT8PEXT-PT</b>  | ●      | 0.500 | 0.189 |
| (4.233) | 6   | -     | -   | <b>TNMA43NT6PEXT-PT</b>  | ●      | 0.500 | 0.189 |
| (5.08)  | 5   | -     | -   | <b>TNMA54NT5PEXT-PT</b>  | ●      | 0.625 | 0.252 |
| (6.35)  | 4   | -     | -   | <b>TNMA54NT4PEXT-PT</b>  | ●      | 0.625 | 0.252 |
| (8.47)  | 3   | -     | -   | <b>TNMA54NT3PEXT-PT</b>  | ●      | 0.625 | 0.252 |
| (1.588) | 16  | -     | -   | <b>TNMC43NT16PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (1.814) | 14  | -     | -   | <b>TNMC43NT14PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (2.117) | 12  | -     | -   | <b>TNMC43NT12PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (2.54)  | 10  | -     | -   | <b>TNMC43NT10PEXT-PT</b> | ●      | 0.500 | 0.189 |
| (3.175) | 8   | -     | -   | <b>TNMC43NT8PEXT-PT</b>  | ●      | 0.500 | 0.189 |
| (4.233) | 6   | -     | -   | <b>TNMC43NT6PEXT-PT</b>  | ●      | 0.500 | 0.189 |
| (5.08)  | 5   | -     | -   | <b>TNMC54NT5PEXT-PT</b>  | ●      | 0.625 | 0.252 |
| (6.35)  | 4   | -     | -   | <b>TNMC54NT4PEXT-PT</b>  | ●      | 0.625 | 0.252 |
| (8.47)  | 3   | -     | -   | <b>TNMC54NT3PEXT-PT</b>  | ●      | 0.625 | 0.252 |

● : Line up / 10 pieces per package

Reference pages: 29° Trapezoidal With the special full-profile insert : External toolholders → **E036 - E040**, Internal toolholders → **E055 - E056**  
 29° Trapezoidal On edge : External toolholders → **E052**

### 29° Trapezoidal/ STUB ACME (for Machine parts, Pipe)

#### On edge

| Pitch<br>(Reference)<br>(in) | TPI | Taper |     | External insert (in) |        |       |       |   |
|------------------------------|-----|-------|-----|----------------------|--------|-------|-------|---|
|                              |     | mm/mm | TPF | Designation          | Grade  |       | IC    | S |
|                              |     |       |     |                      | Coated | AH725 |       |   |
| (0.063)                      | 16  | -     | -   | TNMA43NT16PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.071)                      | 14  | -     | -   | TNMA43NT14PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.083)                      | 12  | -     | -   | TNMA43NT12PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.100)                      | 10  | -     | -   | TNMA43NT10PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.125)                      | 8   | -     | -   | TNMA43NT8PSTUBE-PT   | ●      | 0.500 | 0.189 |   |
| (0.167)                      | 6   | -     | -   | TNMA43NT6PSTUBE-PT   | ●      | 0.500 | 0.189 |   |
| (0.200)                      | 5   | -     | -   | TNMA54NT5PSTUBE-PT   | ●      | 0.625 | 0.252 |   |
| (0.250)                      | 4   | -     | -   | TNMA54NT4PSTUBE-PT   | ●      | 0.625 | 0.252 |   |
| (0.333)                      | 3   | -     | -   | TNMA54NT3PSTUBE-PT   | ●      | 0.625 | 0.252 |   |
| (0.063)                      | 16  | -     | -   | TNMC43NT16PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.071)                      | 14  | -     | -   | TNMC43NT14PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.083)                      | 12  | -     | -   | TNMC43NT12PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.100)                      | 10  | -     | -   | TNMC43NT10PSTUBE-PT  | ●      | 0.500 | 0.189 |   |
| (0.125)                      | 8   | -     | -   | TNMC43NT8PSTUBE-PT   | ●      | 0.500 | 0.189 |   |
| (0.167)                      | 6   | -     | -   | TNMC43NT6PSTUBE-PT   | ●      | 0.500 | 0.189 |   |
| (0.200)                      | 5   | -     | -   | TNMC54NT5PSTUBE-PT   | ●      | 0.625 | 0.252 |   |
| (0.250)                      | 4   | -     | -   | TNMC54NT4PSTUBE-PT   | ●      | 0.625 | 0.252 |   |
| (0.333)                      | 3   | -     | -   | TNMC54NT3PSTUBE-PT   | ●      | 0.625 | 0.252 |   |

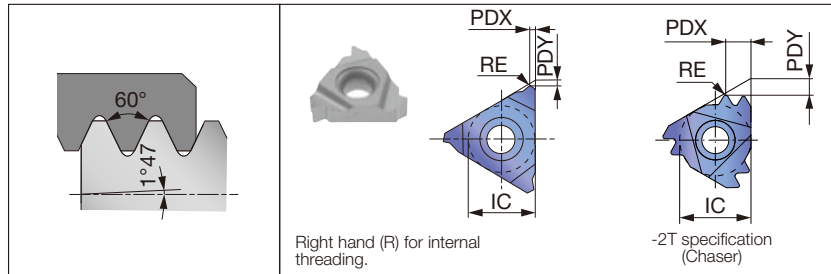
#### Applicable toolholder

| External     |
|--------------|
| MTVOR-**M..  |
| STVOR-**M... |

Note: ACME and STUB ACME can cut crest radius. Crest flat of ACME and STUB ACME need to be cut by another tool.

● : Line up / 10 pieces per package

### API Round (for Energy industry)



#### Applicable toolholder

| Insert size | External   | Internal  |
|-------------|--|---|
| 16          | CER/L**16... (C*CER/L...)<br>JSER**16...<br>JS**SEL16<br>SER**16-CHP<br>B-SER/L**16<br>B-CER/L**16<br>BC-SER/L**16 | TSNR/L**16<br>SNR/L**16...<br>TCNR/L**16...<br>CNR/L**16... |
| 22          | CER/L**22...<br>SER**22-CHP  | TSNR/L**22<br>SNR/L**22...<br>TCNR/L**22...<br>CNR/L**22... |

#### Full-profile insert

| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       |       |       |       | Internal insert (in) |              |       |        |        |       |       |       |    |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|-------|-------|-------|----------------------|--------------|-------|--------|--------|-------|-------|-------|----|
|             |                              |     |             | Designation          | Grade  |       | IC    | PDX   | PDY   | RE                   | Designation  | Grade |        |        | IC    | PDX   | PDY   | RE |
|             |                              |     |             |                      | Coated | AH725 |       |       |       |                      |              | T313V | Coated | AH8015 |       |       |       |    |
| 16          | (0.100)                      | 10  | R           | 16ER10RAPI           | ●      |       | 0.375 | 0.063 | 0.047 | 0.014                | 16IR10RAPI   | ●     | ●      | 0.375  | 0.063 | 0.047 | 0.014 |    |
| 16          | (0.125)                      | 8   | R           | 16ER8RAPI            | ●      |       | 0.375 | 0.063 | 0.047 | 0.017                | 16IR8RAPI    | ●     | ●      | 0.375  | 0.063 | 0.047 | 0.017 |    |
| 22          | (0.125)                      | 8   | R           |                      |        |       |       |       |       |                      | 22IR8RAPI-2T | ●     |        | 0.500  | 0.177 | 0.118 | 0.017 |    |

● : Line up / 5 pieces per package

#### Full-profile insert with chipbreaker

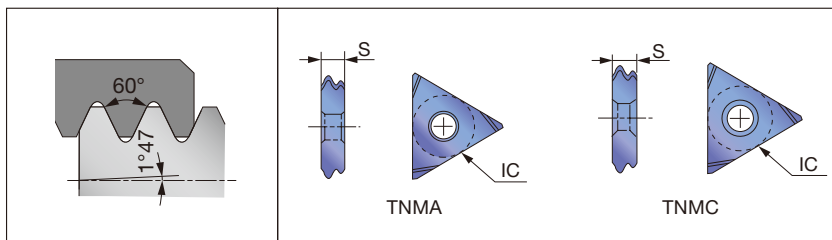
| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       |       |       |       | Internal insert (in) |             |       |        |       |       |       |       |    |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|-------|-------|-------|----------------------|-------------|-------|--------|-------|-------|-------|-------|----|
|             |                              |     |             | Designation          | Grade  |       | IC    | PDX   | PDY   | RE                   | Designation | Grade |        |       | IC    | PDX   | PDY   | RE |
|             |                              |     |             |                      | Coated | AH725 |       |       |       |                      |             |       | Coated | AH725 |       |       |       |    |
| 16          | (0.100)                      | 10  | R           | 16ER10RD-CB          | ●      |       | 0.375 | 0.047 | 0.059 | 0.014                | 16IR10RD-CB | ●     |        | 0.375 | 0.047 | 0.059 | 0.014 |    |
| 16          | (0.125)                      | 8   | R           | 16ER8RD-CB           | ●      |       | 0.375 | 0.051 | 0.059 | 0.017                | 16IR8RD-CB  | ●     |        | 0.375 | 0.051 | 0.059 | 0.017 |    |

● : Line up / 10 pieces per package

Reference pages: 29° Trapezoidal : External toolholders → **E052**

API Round : External toolholders → **E036 - E040**, Internal toolholders → **E055 - E056**

# API Round (for Energy)



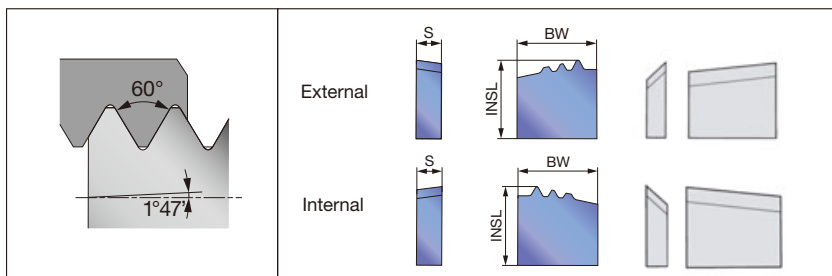
### Applicable toolholder

| External     | Internal      |
|--------------|---------------|
| MTVOR-**M... | HS**-MTHOR... |
| STVOR-**M... |               |

### On edge

| Pitch<br>(Reference)<br>(in) | TPI | Taper |      | External insert (in) |        |       | Internal insert (in) |                      |       |       |       |
|------------------------------|-----|-------|------|----------------------|--------|-------|----------------------|----------------------|-------|-------|-------|
|                              |     | mm/mm | TPF  | Designation          | Grade  | IC    | S                    | Designation          | Grade | IC    | S     |
|                              |     |       |      |                      | Coated |       |                      |                      | AH725 |       |       |
| (0.100)                      | 10  | 1/16  | 0.75 | <b>TNMA4310RDEXT</b> | ●      | 0.500 | 0.189                | <b>TNMA4310RDINT</b> | ●     | 0.500 | 0.189 |
| (0.125)                      | 8   | 1/16  | 0.75 | <b>TNMA438RDEXT</b>  | ●      | 0.500 | 0.189                | <b>TNMA438RDINT</b>  | ●     | 0.500 | 0.189 |
| (0.100)                      | 10  | 1/16  | 0.75 | <b>TNMC4310RDEXT</b> | ●      | 0.500 | 0.189                | <b>TNMC4310RDINT</b> | ●     | 0.500 | 0.189 |
| (0.125)                      | 8   | 1/16  | 0.75 | <b>TNMC438RDEXT</b>  | ●      | 0.500 | 0.189                | <b>TNMC438RDINT</b>  | ●     | 0.500 | 0.189 |

● : Line up / 10 pieces per package



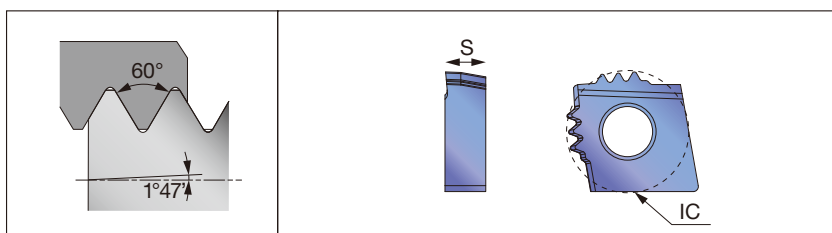
### Applicable toolholder

| External     | Internal    |
|--------------|-------------|
| CLVOR-**M... | SI-CLHOR... |

### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | External insert (mm) |        |    |      |     | Internal insert (mm)     |                  |       |    |      |     |                          |
|------------------------------|-----|-------|------|----------------------|--------|----|------|-----|--------------------------|------------------|-------|----|------|-----|--------------------------|
|                              |     | mm/mm | TPF  | Designation          | Grade  | BW | INSL | S   | Chip breaking attachment | Designation      | Grade | BW | INSL | S   | Chip breaking attachment |
|                              |     |       |      |                      | Coated |    |      |     |                          |                  | AH725 |    |      |     |                          |
| (3.175)                      | 8   | 1/16  | 0.75 | <b>CR-8R-3E</b>      | ●      | 16 | 15   | 5.2 | CR-8R / 10R-3E / 4E-CB   | <b>CR-8R-3I</b>  | ●     | 16 | 15   | 5.2 | CR-8R / 10R-3I / 4I-CB   |
| (2.54)                       | 10  | 1/16  | 0.75 | <b>CR-10R-3E</b>     | ●      | 16 | 15.9 | 5.2 | CR-8R / 10R-3E / 4E-CB   | <b>CR-10R-3I</b> | ●     | 16 | 15.9 | 5.2 | CR-8R / 10R-3I / 4I-CB   |

● : Line up / 10 pieces per package



### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | External insert (mm) |        |       |     |
|------------------------------|-----|-------|------|----------------------|--------|-------|-----|
|                              |     | mm/mm | TPF  | Designation          | Grade  | IC    | S   |
|                              |     |       |      |                      | Coated |       |     |
| (2.54)                       | 10  | 1/16  | 0.75 | <b>CNGA-10R-3E</b>   | ●      | 19.05 | 6.4 |
| (3.175)                      | 8   | 1/16  | 0.75 | <b>CNGA-8R-3E</b>    | ●      | 19.05 | 6.4 |

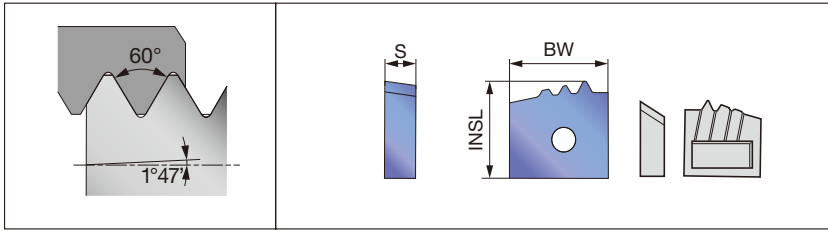
Note: Toolholders need to be customized for these types of inserts.

● : Line up / 10 pieces per package

Reference pages: API Round On edge : External toolholders → **E052**, Internal toolholders → **E066**

API Round Full-profile insert : External toolholders → **E053**, Internal toolholders → **E067**

### API Round (for Energy industry) For tool-rotating machines



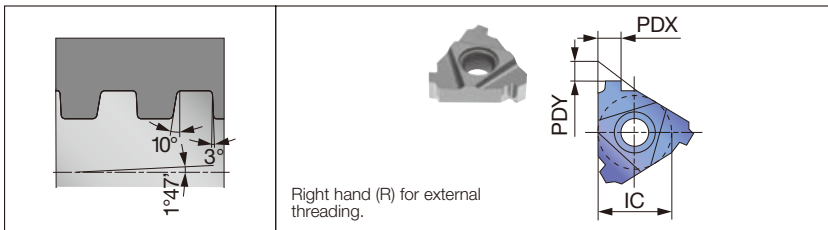
#### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | Designation       | External insert (mm) |      |      | Chip breaking attachment |                       |
|------------------------------|-----|-------|------|-------------------|----------------------|------|------|--------------------------|-----------------------|
|                              |     | mm/mm | TPF  |                   | Grade                |      |      |                          |                       |
|                              |     |       |      |                   | BW                   | INSL | S    |                          |                       |
| (3.175)                      | 8   | 1/16  | 0.75 | <b>CR-8R-3E#1</b> | AH725                | 16   | 14.7 | 5.2                      | TD39318R-1-CBW/CAVITY |
| (3.175)                      | 8   | 1/16  | 0.75 | <b>CR-8R-3E#2</b> | AH725                | 16   | 14.9 | 5.2                      | TD39328R-2-CBW/CAVITY |
| (3.175)                      | 8   | 1/16  | 0.75 | <b>CR-8R-3E#3</b> | AH725                | 16   | 15   | 5.2                      | TD39338R-3-CBW/CAVITY |

Note: Toolholders need to be customized for these types of inserts.

● : Line up / 10 pieces per package

### API Buttress (for Energy industry)



Right hand (R) for external threading.

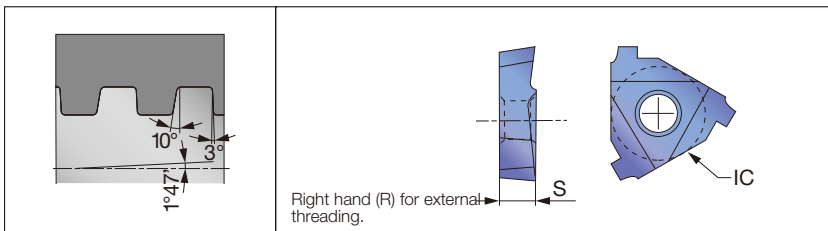
#### Applicable toolholder

| Insert size | External                    | Internal   |
|-------------|-----------------------------|--|
| 22          | CER/L**22...<br>SER**22-CHP | TSNR/L**22...<br>SNR/L**22...<br>TCNR/L**22...<br>CNR/L**22... |

#### Full-profile insert

| Insert size | Pitch<br>(Reference)<br>(in) | TPI | Hand of cut | External insert (in) |        |       | Internal insert (in) |       |                  |        |       |       |       |
|-------------|------------------------------|-----|-------------|----------------------|--------|-------|----------------------|-------|------------------|--------|-------|-------|-------|
|             |                              |     |             | Designation          | Grade  |       | Designation          | Grade |                  |        |       |       |       |
|             |                              |     |             |                      | Coated | IC    |                      | PDX   | PDY              | Coated | IC    | PDX   | PDY   |
| 22          | (0.200)                      | 5   | R           | <b>22ER5BAPI</b>     | AH725  | 0.500 | 0.146                | 0.087 | <b>22IR5BAPI</b> | AH725  | 0.500 | 0.136 | 0.087 |

● : Line up / 5 pieces per package



Right hand (R) for external threading.

#### Applicable toolholder

| External  | Internal     |
|-----------|--------------|
| MTVNR**M5 | HS**-LNFR... |

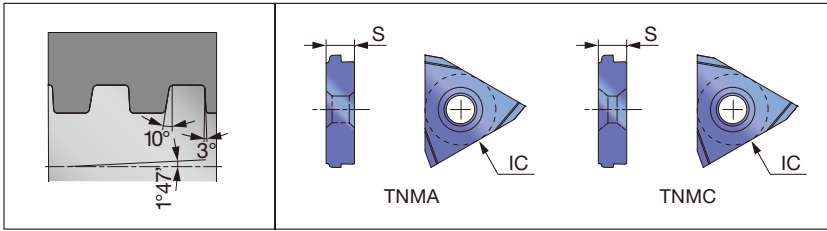
#### Full-profile insert (single side)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | Designation          | External insert (mm) |        |             | Internal insert (mm) |        |        |     |
|------------------------------|-----|-------|------|----------------------|----------------------|--------|-------------|----------------------|--------|--------|-----|
|                              |     | mm/mm | TPF  |                      | Grade                |        | Designation | Grade                |        |        |     |
|                              |     |       |      |                      | Coated               | IC     |             | S                    | Coated | IC     | S   |
| (5.08)                       | 5   | 1/16  | 0.75 | <b>L535B75EXT-FC</b> | AH725                | 15.875 | 4.8         | <b>L535B75INT-FC</b> | AH725  | 15.875 | 4.8 |
| (5.08)                       | 5   | 1/12  | 1    | <b>L535B1EXT-FC</b>  | AH725                | 15.875 | 4.8         | <b>L535B1INT-FC</b>  | AH725  | 15.875 | 4.8 |

● : Line up / 10 pieces per package

Reference pages: API Buttress Full-profile insert : External toolholders → **E036, E039**, Internal toolholders → **E055 - E056**  
API Buttress Full-profile insert (single side) : External toolholders → **E051**, Internal toolholders → **E065**

# API Buttress (for Energy industry)



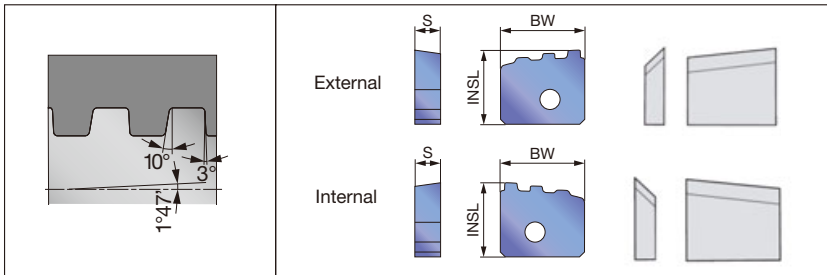
### Applicable toolholder

| External     | Internal      |
|--------------|---------------|
| MTVOR-**M... | HS**-MTHOR... |
| STVOR-**M... |               |

### On edge

| Pitch<br>(Reference)<br>(in) | TPI | Taper |      | External insert (in) |        |       |       | Internal insert (in) |                  |        |       |       |       |
|------------------------------|-----|-------|------|----------------------|--------|-------|-------|----------------------|------------------|--------|-------|-------|-------|
|                              |     | mm/mm | TPF  | Designation          | Grade  |       | IC    | S                    | Designation      | Grade  |       | IC    | S     |
|                              |     |       |      |                      | Coated | AH725 |       |                      |                  | Coated | AH725 |       |       |
| (0.200)                      | 5   | 1/12  | 1    | TNMA545B1EXT-FC      | ●      |       | 0.625 | 0.252                | TNMA545B1INT-FC  | ●      |       | 0.625 | 0.252 |
| (0.200)                      | 5   | 1/16  | 0.75 | TNMA545B75EXT-FC     | ●      |       | 0.625 | 0.252                | TNMA545B75INT-FC | ●      |       | 0.625 | 0.252 |
| (0.200)                      | 5   | 1/12  | 1    | TNMC545B1EXT-FC      | ●      |       | 0.625 | 0.252                | TNMC545B1INT-FC  | ●      |       | 0.625 | 0.252 |
| (0.200)                      | 5   | 1/16  | 0.75 | TNMC545B75EXT-FC     | ●      |       | 0.625 | 0.252                | TNMC545B75INT-FC | ●      |       | 0.625 | 0.252 |

● : Line up / 10 pieces per package



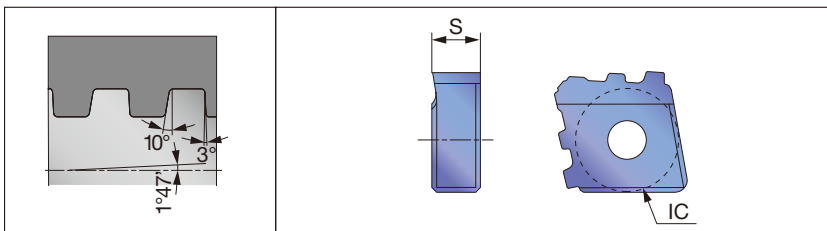
### Applicable toolholder

| External     | Internal    |
|--------------|-------------|
| CLVOR-**M... | SI-CLHOR... |

### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | External insert (mm) |        |       |      |      | Internal insert (mm) |                          |             |        |       |    |      |     |                          |
|------------------------------|-----|-------|------|----------------------|--------|-------|------|------|----------------------|--------------------------|-------------|--------|-------|----|------|-----|--------------------------|
|                              |     | mm/mm | TPF  | Designation          | Grade  |       | BW   | INSL | S                    | Chip breaking attachment | Designation | Grade  |       | BW | INSL | S   | Chip breaking attachment |
|                              |     |       |      |                      | Coated | AH725 |      |      |                      |                          |             | Coated | AH725 |    |      |     |                          |
| (5.08)                       | 5   | 1/16  | 0.75 | CR-5B75-4E           | ●      |       | 20.4 | 15.9 | 5.1                  | CR-5B75 / 5B1-4E-CB      | CR-5B75-3I  | ●      |       | 16 | 15.8 | 5.2 | CR-8R / 10R-3I / 4I-CB   |

● : Line up / 10 pieces per package



### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | External insert (mm) |        |       |       |     |
|------------------------------|-----|-------|------|----------------------|--------|-------|-------|-----|
|                              |     | mm/mm | TPF  | Designation          | Grade  |       | IC    | S   |
|                              |     |       |      |                      | Coated | AH725 |       |     |
| (5.08)                       | 5   | 1/16  | 0.75 | CNGA-5B75-3E         | ●      |       | 19.05 | 6.4 |

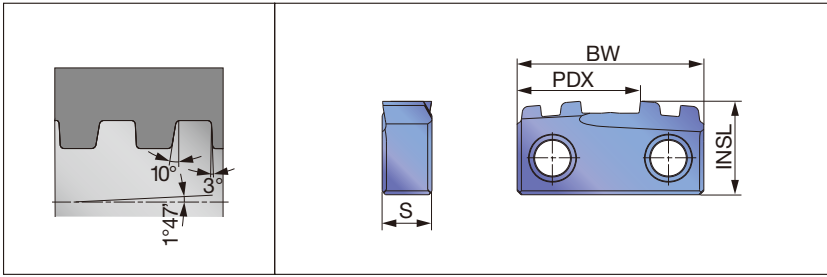
Note: Toolholders need to be customized for these types of inserts.

● : Line up / 10 pieces per package

Reference pages: API Buttress On edge : External toolholders → E052, Internal toolholders → E066

API Buttress Full-profile insert : External toolholders → E053, Internal toolholders → E067

### API Buttress (for Energy industry)



#### Full-profile insert

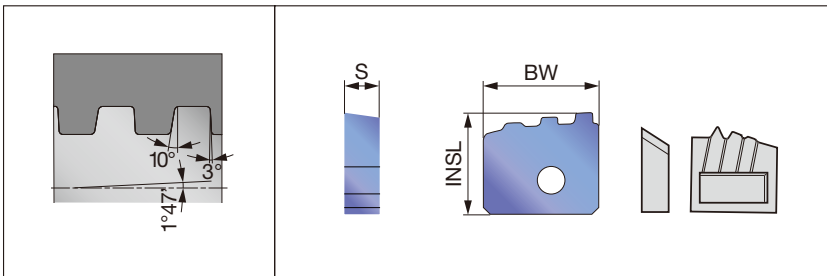
| Insert size | Pitch<br>(Reference)<br>(mm) | TPI | Hand of cut | Internal insert (mm) |        |    |      |     |       |     |
|-------------|------------------------------|-----|-------------|----------------------|--------|----|------|-----|-------|-----|
|             |                              |     |             | Designation          | Grade  | BW | INSL | PDX | S     |     |
|             |                              |     |             |                      | Coated |    |      |     |       |     |
| 22          | (5.08)                       | 5   | R           | CR-5B75-2I-W24       | T05HP  | ●  | 24   | 12  | 15.85 | 6.4 |

Note: Toolholders need to be customized for these types of inserts.

● : Line up / 10 pieces per package

### API Buttress (for Energy industry)

#### For tool-rotating machines



#### Full-profile insert (chaser)

| Pitch<br>(Reference)<br>(mm) | TPI | Taper |      | Designation  | Grade  | BW | INSL | S   | RE | Chip breaking attachment |
|------------------------------|-----|-------|------|--------------|--------|----|------|-----|----|--------------------------|
|                              |     | mm/mm | TPF  |              | Coated |    |      |     |    |                          |
|                              |     |       |      |              | AH725  |    |      |     |    |                          |
| (5.08)                       | 5   | 1/16  | 0.75 | CR-5B75-3E#1 | ●      | 17 | 14.6 | 5.2 |    | TD46015B75-1-CBW/CAVITY  |
| (5.08)                       | 5   | 1/16  | 0.75 | CR-5B75-3E#2 | ●      | 17 | 14.8 | 5.2 |    | TD46025B75-2-CBW/CAVITY  |
| (5.08)                       | 5   | 1/16  | 0.75 | CR-5B75-3E#3 | ●      | 17 | 15   | 5.2 |    | TD46035B75-3-CBW/CAVITY  |

Note: Toolholders need to be customized for these types of inserts.

● : Line up / 10 pieces per package

Thread form

60°

55°

M

(Metric)

UN

(Unified)

W

(Whitworth)

BSPT

(R, PT)

NPT

NPTF

TR

(Metric, 30° Trapezoidal)

Round

(DIN405)

UNJ

MJ

ACME

(29° Trapezoidal)

STUB

ACME

(29° Trapezoidal)

API

Round

API

Buttress

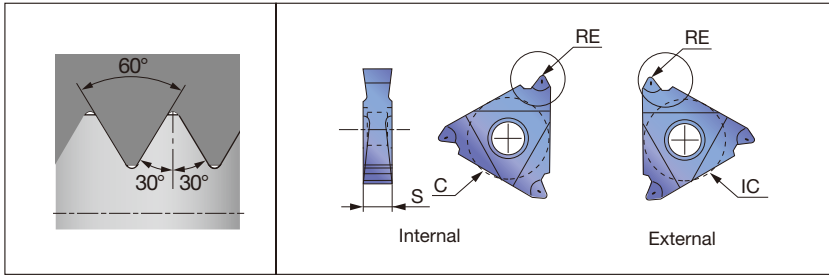
API

Rotary

Shoulder

Connection

# API Rotary shoulder connection (for Energy industry)



### Applicable toolholder

| External      | Internal        |
|---------------|-----------------|
| MTVNR-3232M54 | HS**-LNFR-54API |

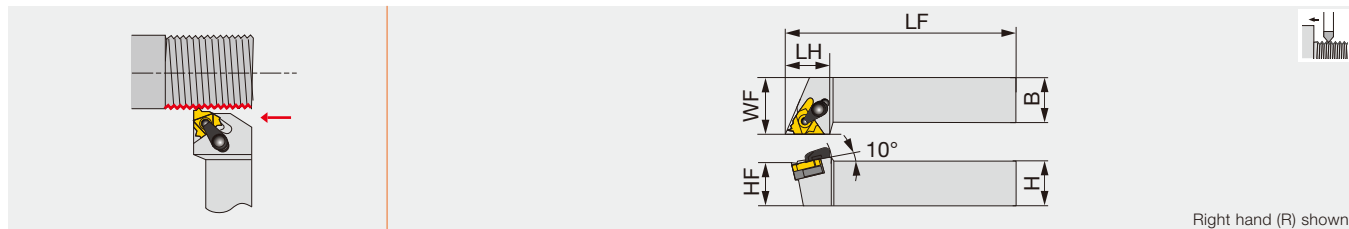
### Full-profile insert (Double side)

| Pitch<br>(Reference)<br>(in) | TPI | Connection | Taper |     | Designation     | Grade  | IC<br>(in) | S<br>(in) | RE<br>(in) |
|------------------------------|-----|------------|-------|-----|-----------------|--------|------------|-----------|------------|
|                              |     |            | mm/mm | TPF |                 | Coated |            |           |            |
|                              |     |            |       |     |                 | AH725  |            |           |            |
| (0.250)                      | 4   | V-0.038R   | 1/6   | 2   | LDS54428FT-CB#1 | ●      | 0.625      | 0.252     | 0.038      |
| (0.250)                      | 4   | V-0.038R   | 1/4   | 3   | LDS54438FT-CB#2 | ●      | 0.625      | 0.252     | 0.038      |
| (0.250)                      | 4   | V-0.050    | 1/6   | 2   | LDS54425FT-CB#3 | ●      | 0.625      | 0.252     | 0.025      |
| (0.250)                      | 4   | V-0.050    | 1/4   | 3   | LDS54435FT-CB#4 | ●      | 0.625      | 0.252     | 0.025      |
| (0.200)                      | 5   | V-0.040    | 1/4   | 3   | LDS54530FT-CB#5 | ●      | 0.625      | 0.252     | 0.020      |

● : Line up / 10 pieces per package



External threading toolholder, alternative clamping of screw-on or clamp-on only for DT type



Right hand (R) shown.

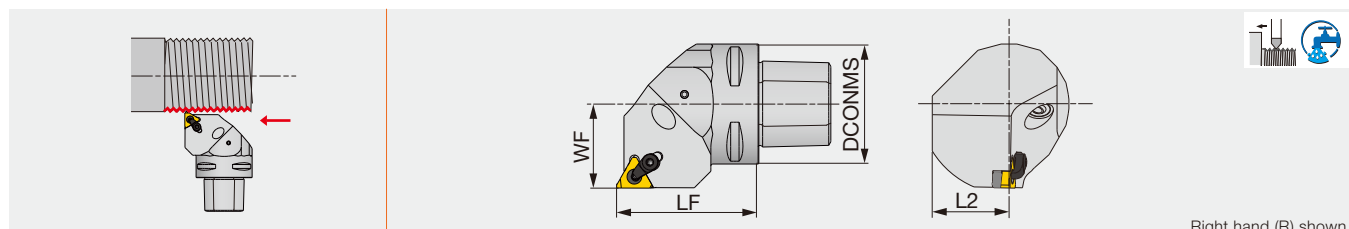
| Inch       | H     | B     | LF    | LH    | HF    | WF    | Insert    |
|------------|-------|-------|-------|-------|-------|-------|-----------|
| CER/L123DT | 0.750 | 0.750 | 5.000 | 0.870 | 0.750 | 1.000 | 16ER/L... |
| CER/L163DT | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.250 | 16ER/L... |
| CER203DT   | 1.250 | 1.250 | 6.000 | 1.250 | 1.250 | 1.500 | 16ER...   |
| CER164DT   | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.250 | 22ER...   |
| CER204DT   | 1.250 | 1.250 | 6.000 | 1.250 | 1.250 | 1.500 | 22ER...   |

| Metric         | H  | B  | LF  | LH   | HF | WF | Insert    |
|----------------|----|----|-----|------|----|----|-----------|
| CER/L1212H16DT | 12 | 12 | 100 | 24   | 12 | 16 | 16ER/L... |
| CER/L1616H16DT | 16 | 16 | 100 | 24   | 16 | 20 | 16ER/L... |
| CER/L2020K16DT | 20 | 20 | 125 | 24   | 20 | 25 | 16ER/L... |
| CER/L2525M16DT | 25 | 25 | 150 | 28   | 25 | 32 | 16ER/L... |
| CER/L2525M22DT | 25 | 25 | 150 | 31.3 | 25 | 32 | 22ER/L... |
| CER3232P16T    | 32 | 32 | 170 | 32   | 32 | 40 | 16ER...   |
| CER3232P22T    | 32 | 32 | 170 | 32   | 32 | 40 | 22ER...   |
| CER2525M27T    | 25 | 25 | 150 | 34   | 25 | 32 | 27ER...   |
| CER3232P27T    | 32 | 32 | 170 | 34   | 32 | 40 | 27ER...   |

Note: A clamp set consists of a clamp and a clamping screw. A shim set consists of a shim and a shim screw to secure the shim to the shank. Standard shims can be used on both right- and left-hand toolholders. Please use either of the sides depending on the tool hand. When using DT type, please remove either the clamp set or the insert clamping screw.

## C-CER/L










External threading toolholder, alternative clamping of screw-on or clamp-on



Right hand (R) shown.

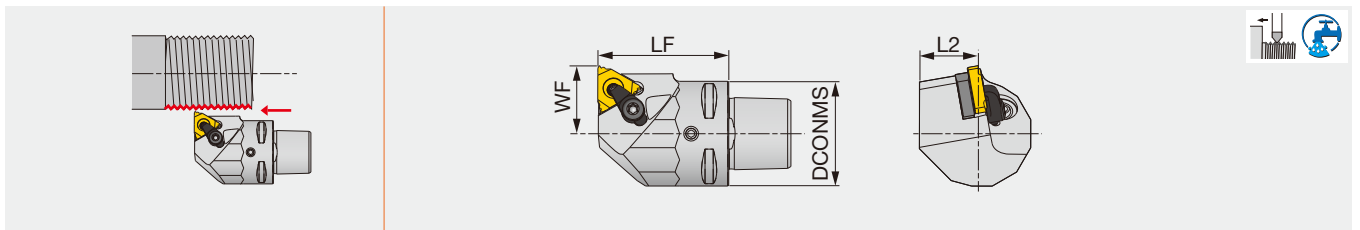
| Metric                            | DCONMS | LF | L2 | WF | Insert    |
|-----------------------------------|--------|----|----|----|-----------|
| C3CER/L22040-16ERN <sup>(2)</sup> | 32     | 40 | 20 | 22 | 16ER/L... |
| C4CER/L27050-16ERN <sup>(2)</sup> | 40     | 50 | 25 | 27 | 16ER/L... |
| C5CER/L35060-16ER <sup>(1)</sup>  | 50     | 60 | 32 | 35 | 16ER/L... |
| C5CER/L35060-16ERN <sup>(2)</sup> | 50     | 60 | 32 | 35 | 16ER/L... |
| C6CER/L45065-16ER <sup>(1)</sup>  | 63     | 65 | 41 | 45 | 16ER/L... |
| C6CER/L45065-16ERN <sup>(2)</sup> | 63     | 65 | 41 | 45 | 16ER/L... |

(1) Applicable for 3 MPa coolant (2) Applicable for 7 MPa coolant

| SPARE PARTS                           |  |  |  |  |  |  |  |  |  |
|---------------------------------------|--|--|--|--|--|--|--|--|--|
| Designation                           | Clamp set  | Clamping screw   | Coolant parts  | Shim screw   | Shim   | Shim set   | Wrench 1   | Wrench 2   | Wrench 3   |
| CER/L123-DT,<br>CER/L163-DT           | CSP16  | CSTB-3.5ST   | DTS5 - 3.5   | A16 - 1DT  | -  | P-3.5  | T-15F  | -  | -  |
| CER203-DT                             | CSP22  | CSTB-4ST   | DTS6-4   | GX22-1DT   | -  | P-3.5  | T-15F  | -  | -  |
| CER164-DT,<br>CER204-DT               | CSP22  | CSTB-4ST   | DTS6-4   | GX22-1DT   | -  | P-4  | T-20F  | -  | -  |
| CER/L**16DT                           | CSP16  | CSTB-3.5ST   | -  | DTS5-3.5   | A16-1DT  | -  | P-3.5  | T-15F  | -  |
| CER/L2525M22DT                        | CSP22  | CSTB-4ST   | -  | DTS6-4   | GX22-1DT   | -  | P-4  | T-15F  | T-20F  |
| CER3232P16T                           | CSP16  | -  | -  | -  | -  | A16-1  | -  | T-15F  | -  |
| CER3232P22T                           | CSP22  | -  | -  | -  | -  | NXE22-1  | -  | T-20F  | -  |
| CER**27T                              | CSP27  | -  | -  | -  | -  | NXE27-1  | P-4  | -  | -  |
| C3CE*22040-16ERN,<br>C4CE*27050-16ERN | CSP16  | CSTB-3.5ST   | SATZ-M8X1-M3   | DTS5-3.5   | A16-1DT  | -  | P-3.5  | T-15F  | -  |
| C5CE*35060-16ER,<br>C6CE*45065-16ER   | CSP16  | CSTB-3.5ST   | EZ104  | DTS5-3.5   | A16-1DT  | -  | P-3.5  | T-15F  | -  |
| C5CE*35060-16ERN,<br>C6CE*45065-16ERN | CSP16  | CSTB-3.5ST   | SATZ-M10X1-M5  | DTS5-3.5   | A16-1DT  | -  | P-3.5  | T-15F  | -  |

## TUNGCAP C-CEL-ERN-B

External threading toolholder, alternative clamping of screw-on or clamp-on



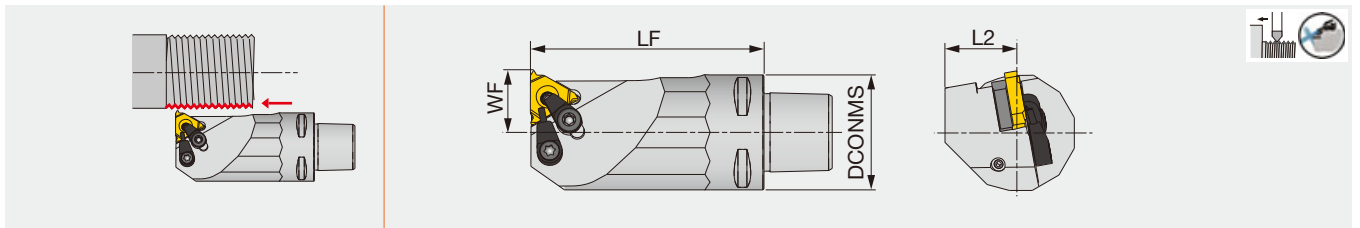
| Metric             | DCONMS | LF | L2 | WF | Insert  |
|--------------------|--------|----|----|----|---------|
| C3CEL22040-16ERN-B | 32     | 40 | 18 | 22 | 16ER... |

Applicable for 7 MPa coolant  
Cannot be used for boring

## C-CEL-ERB-CHP









Tube connection

External threading toolholder, alternative clamping of screw-on or clamp-on, with high pressure coolant capability



| Metric               | DCONMS | LF | L2 | WF | Insert  |
|----------------------|--------|----|----|----|---------|
| C3CEL18065-16ERB-CHP | 32     | 65 | 20 | 18 | 16ER... |

Applicable for 14 MPa coolant  
Cannot be used for boring

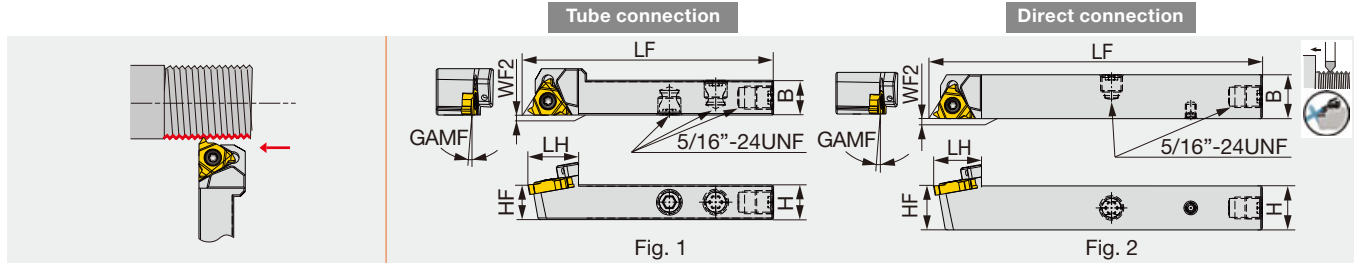
| SPARE PARTS          |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|
| Designation          | Shim  | Shim screw  | Clamping screw  | Clamping screw  | Wrench 1  | Wrench 2  | Coolant parts   | Coolant unit  |
| C3CEL22040-16ERN-B   | A16-1DT   | DTS5-3.5  | CSTB-3.5ST  | CSP16   | T-15F   | P-3.5   | SATZ-M8X1-M3  | -   |
| C3CEL18065-16ERB-CHP | A16-1DT   | DTS5-3.5  | CSTB-3.5ST  | CSP16   | T-15F   | P-3.5   | -   | S-CU-CHP  |

Reference pages: Inserts → **E010 - E011, E015, E017 - E030**

# TUNGTHREAD

## JSE2R16-CHP

Screw-on external threading toolholders-High-pressure coolant capability with tube and direct connection



| Inch           | H     | B     | LF    | LH    | HF    | WF    | GAMF | Type | Insert  |
|----------------|-------|-------|-------|-------|-------|-------|------|------|---------|
| JSE2R08F16-CHP | 0.500 | 0.500 | 3.344 | 0.748 | 0.500 | 0.000 | 1°   | 1    | 16ER... |
| JSE2R08X16-CHP | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.000 | 1°   | 2    | 16ER... |
| JSE2R10X16-CHP | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0.000 | 1°   | 2    | 16ER... |

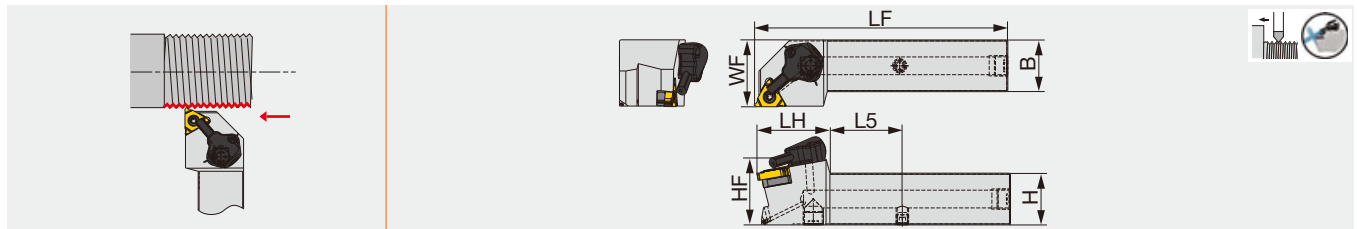
  

| Metric           | H  | B  | LF  | LH | HF | WF2 | GAMF | Fig. | Insert  |
|------------------|----|----|-----|----|----|-----|------|------|---------|
| JSE2R1212F16-CHP | 12 | 12 | 85  | 19 | 12 | 0   | 1°   | 1    | 16ER... |
| JSE2R1212X16-CHP | 12 | 12 | 120 | 19 | 12 | 0   | 1°   | 2    | 16ER... |
| JSE2R1616X16-CHP | 16 | 16 | 120 | 19 | 16 | 0   | 1°   | 2    | 16ER... |

## SER-X-CHP-MC

Direct connection

Screw-on external threading toolholders-High-pressure coolant capability with tube and direct connection



| Metric            | H  | B  | LF  | LH | HF | WF | L5    | Insert  |
|-------------------|----|----|-----|----|----|----|-------|---------|
| SER2020X16-CHP-MC | 20 | 20 | 107 | 36 | 20 | 25 | 27.9  | 16ER... |
| SER2525X16-CHP-MC | 25 | 25 | 122 | 36 | 25 | 32 | 33.75 | 16ER... |
| SER2525X22-CHP-MC | 25 | 25 | 122 | 36 | 25 | 32 | 33.75 | 22ER... |

### SPARE PARTS

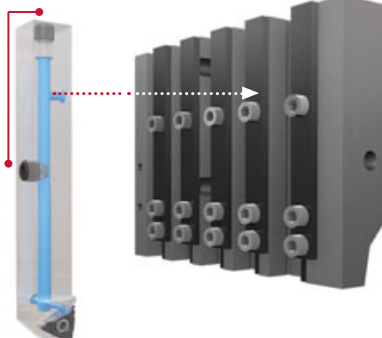
| Designation     | Clamping screw | Wrench | Shim screw | Shim     | Coolant unit | Coolant plug      | Wrench |
|-----------------|----------------|--------|------------|----------|--------------|-------------------|--------|
| JSE2R**16-CHP   | CSTB-3.5       | T-15F  | -          | -        | -            | SR5/16UNFTL360    | P-4    |
| SER**X16-CHP-MC | CSTB-3.5ST     | T-15F  | DTS5-3.5   | A16-1DT  | CU-V-CHP     | PLUGG1/8-6.5TL360 | P-3.5  |
| SER**X22-CHP-MC | CSTB-4ST       | T-15F  | DTS6-4     | GX22-1DT | CU-CW-CHP    | PLUGG1/8-6.5TL360 | P-4    |

No need for coolant tube setup.

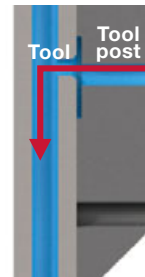
Eliminates chip entanglement on tubes and streamlines tool replacement.

Coolant is supplied from the tool post directly to the tools

Internal thread  
Optional connection with  
external coolant line



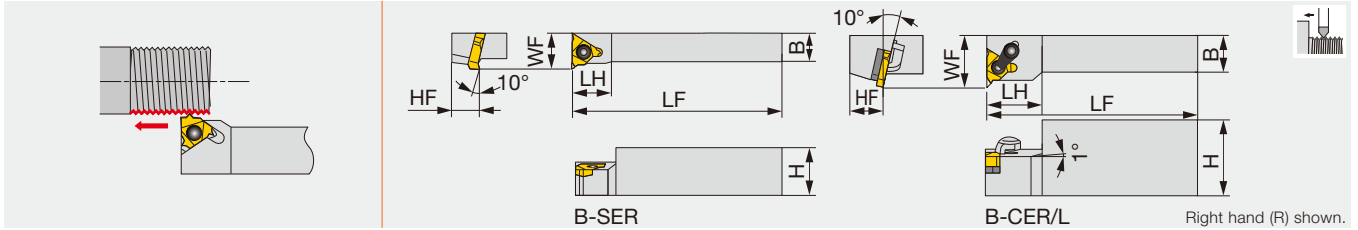
Detailed view of the coolant  
flow after connection



Reference pages: Inserts → [E010](#) - [E011](#), [E015](#), [E017](#) - [E030](#), [E032](#)

## B-S/CER/L

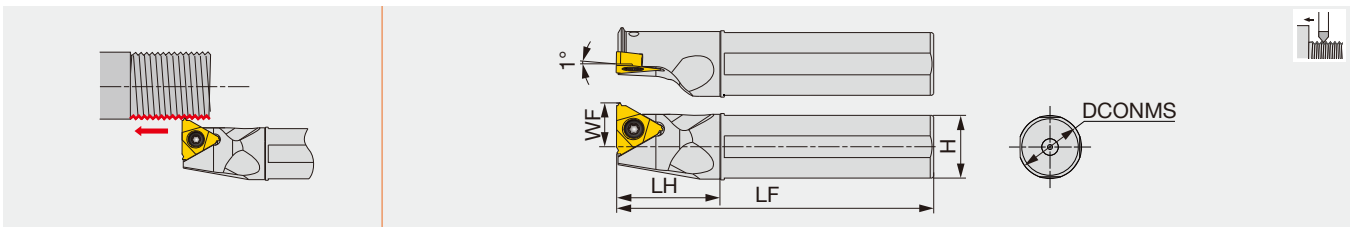
External threading toolholder for Swiss lathes



| Metric       | H  | B  | LF  | LH | HF | WF | Insert    |
|--------------|----|----|-----|----|----|----|-----------|
| B-SER10H16   | 20 | 10 | 100 | 15 | 10 | 16 | 16ER...   |
| B-SER12K16   | 24 | 12 | 125 | 18 | 12 | 18 | 16ER...   |
| B-CER/L16M16 | 32 | 16 | 150 | 24 | 16 | 22 | 16ER/L... |

## JS-SEL16





External threading toolholder for Swiss lathes



| Metric       | DCONMS | H  | LF  | LH | WF   | Insert  |
|--------------|--------|----|-----|----|------|---------|
| JS16F-SEL16  | 16     | 15 | 85  | 25 | 11   | 16ER... |
| JS19G-SEL16  | 19.05  | 18 | 90  | 30 | 12.5 | 16ER... |
| JS19X-SEL16  | 19.05  | 18 | 120 | 30 | 12.5 | 16ER... |
| JS20G-SEL16  | 20     | 19 | 90  | 30 | 13   | 16ER... |
| JS20X-SEL16  | 20     | 19 | 120 | 30 | 13   | 16ER... |
| JS25H-SEL16  | 25     | 24 | 100 | 30 | 15.5 | 16ER... |
| JS254X-SEL16 | 25.4   | 24 | 120 | 30 | 15.7 | 16ER... |

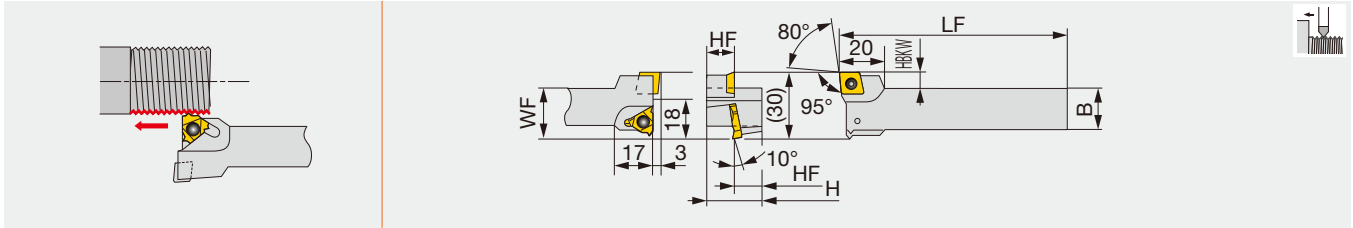
Note: Use the right-hand insert (16ER...) for a left-hand holder (JS\*\*\*-SEL...).

### SPARE PARTS

| Designation  |  Clamp set |  Shim set |  Clamping screw |  Wrench |
|--------------|---|--|--|--|
| B-SER**16    | -   | -  | CSTB-3.5   | T-15F  |
| B-CER/L16M16 | CSP16   | A16-1  | -  | T-15F  |
| JS***-SEL16  | -   | -  | CSTB-3.5   | T-15F  |

Reference pages: Inserts → [E010](#) - [E011](#), [E015](#), [E017](#) - [E030](#)

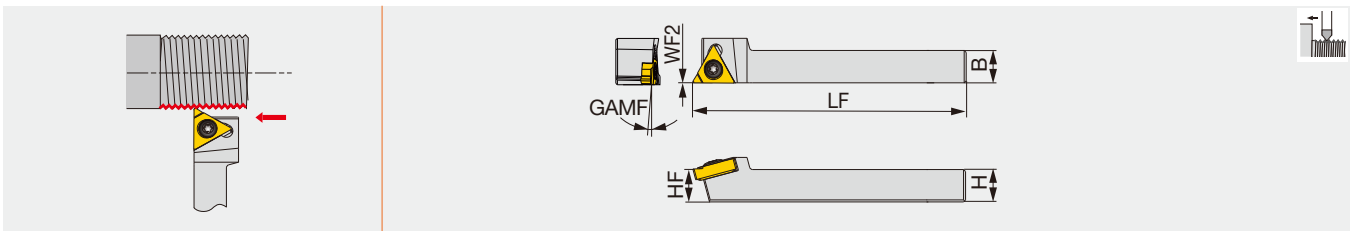
External threading toolholder for multi-functional Swiss lathes



| Metric      | H  | B  | LF  | HF | WF | HBKW | Insert               |
|-------------|----|----|-----|----|----|------|----------------------|
| BC-SER12K16 | 24 | 16 | 125 | 12 | 23 | 7    | 16ER..., CC*T09T3... |

## SER

Screw-on external threading toolholders



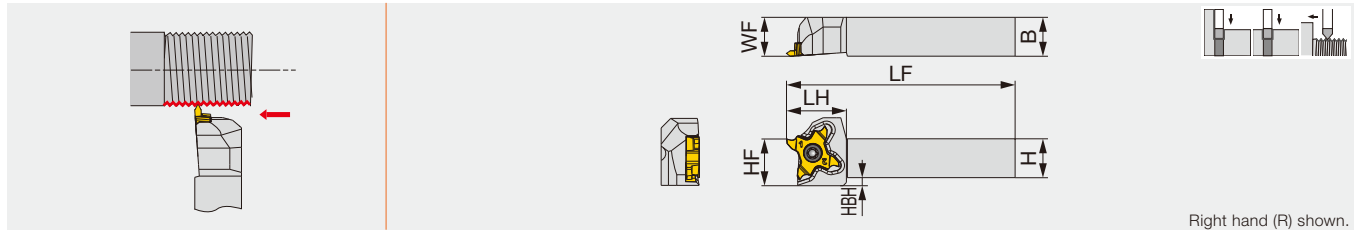
| Metric     | H  | B  | LF  | HF | WF2 | GAMF | Insert  |
|------------|----|----|-----|----|-----|------|---------|
| SER0808H11 | 8  | 8  | 100 | 8  | 0   | 1.5° | 11ER... |
| SER1010H11 | 10 | 10 | 100 | 10 | 0   | 1.5° | 11ER... |

## SPARE PARTS



| Designation | Clamping screw   | Wrench |
|-------------|------------------|--------|
| BC-SER12K16 | CSTB-3.5         | T-15F  |
| SER**H11    | SR M2.6-L6.7-S11 | T-8/5  |

### External grooving and threading toolholder



| Inch        | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert   | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|----------|--------|
| STCR/L06-18 | 0.375 | 0.375 | 4.750 | 0.730 | 0.375 | 0.375 | 0.177 | TC*18... | 0.89   |
| STCR/L08-18 | 0.500 | 0.500 | 4.750 | 0.730 | 0.500 | 0.500 | 0.098 | TC*18... | 0.89   |
| STCR/L10-18 | 0.625 | 0.625 | 4.750 | 0.730 | 0.625 | 0.625 | -     | TC*18... | 0.89   |
| STCR/L12-18 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC*18... | 0.89   |
| STCR/L16-18 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC*18... | 0.89   |

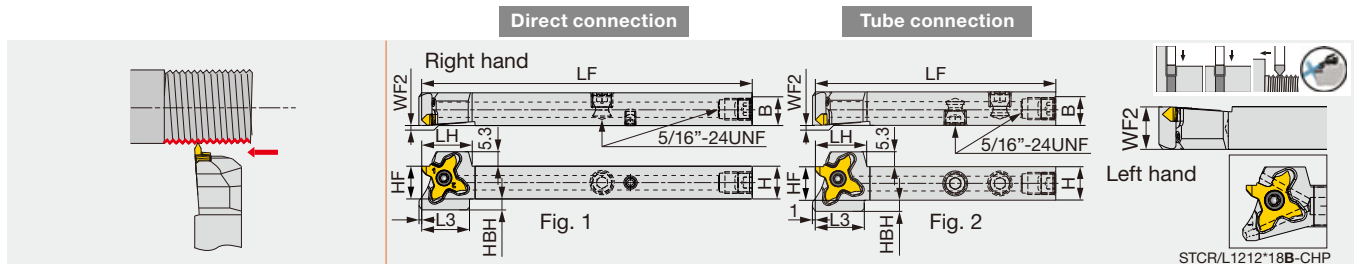
| Metric        | H  | B  | LF  | LH   | HF | WF | HBH | Insert   | Torque* |
|---------------|----|----|-----|------|----|----|-----|----------|---------|
| STCR/L1010X18 | 10 | 10 | 120 | 18.5 | 10 | 10 | 4.5 | TCT18... | 1.2     |
| STCR/L1212F18 | 12 | 12 | 85  | 18.5 | 12 | 12 | 2.5 | TCT18... | 1.2     |
| STCR/L1212X18 | 12 | 12 | 120 | 18.5 | 12 | 12 | 2.5 | TCT18... | 1.2     |
| STCR/L1616X18 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | TCT18... | 1.2     |
| STCR/L2020H18 | 20 | 20 | 100 | 18.5 | 20 | 20 | -   | TCT18... | 1.2     |
| STCR/L2020X18 | 20 | 20 | 120 | 23   | 20 | 25 | -   | TCT18... | 1.2     |
| STCR/L2525Z18 | 25 | 25 | 135 | 23   | 25 | 30 | -   | TCT18... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (STCL...).

### STCR/L-18-CHP

#### External grooving and threading toolholder, with high pressure coolant capability



| Inch                           | H     | B     | LF    | LH    | L3    | HF    | WF2**   | HBH   | Fig. | Insert   | Torque |
|--------------------------------|-------|-------|-------|-------|-------|-------|---------|-------|------|----------|--------|
| STCR/L08F18-CHP                | 0.500 | 0.500 | 3.344 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | 2    | TC*18... | 0.89   |
| STCR/L08X18-CHP <sup>(1)</sup> | 0.500 | 0.500 | 4.750 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | 1    | TC*18... | 0.89   |
| STCR/L10X18-CHP <sup>(1)</sup> | 0.625 | 0.625 | 4.750 | 0.728 | -     | 0.625 | 0/0.625 | -     | 1    | TC*18... | 0.89   |
| STCR/L12-18-CHP                | 0.750 | 0.750 | 4.750 | 0.900 | -     | 0.750 | -       | -     | 2    | TC*18... | 0.89   |
| STCR/L16-18-CHP                | 1.000 | 1.000 | 5.500 | 0.900 | -     | 1.000 | -       | -     | 2    | TC*18... | 0.89   |

| Metric                            | H  | B  | LF  | LH   | HBL  | HF   | WF2** | HBH | Fig. | Insert   | Torque* |
|-----------------------------------|----|----|-----|------|------|------|-------|-----|------|----------|---------|
| STCR/L1012H18-CHP <sup>(1)</sup>  | 10 | 12 | 100 | 17.1 | 10   | 17.1 | 0/12  | 4   | 1    | TCT18... | 1.2     |
| STCR/L1212F18B-CHP                | 12 | 12 | 120 | 18.5 | 17.5 | 12   | 0/12  | 4   | 2    | TCT18... | 1.2     |
| STCR/L1212X18B-CHP <sup>(1)</sup> | 12 | 12 | 120 | 18.5 | 17.5 | 12   | 0/12  | 4   | 1    | TCT18... | 1.2     |
| STCR/L1616X18-CHP <sup>(1)</sup>  | 16 | 16 | 120 | 18.5 | -    | 16   | 0/16  | -   | 1    | TCT18... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

WF2\*\* : The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

(1) Compatible to the direct internal coolant supply system without the use of external coolant hose.

Note: This toolholder can be used with threading and grooving inserts.

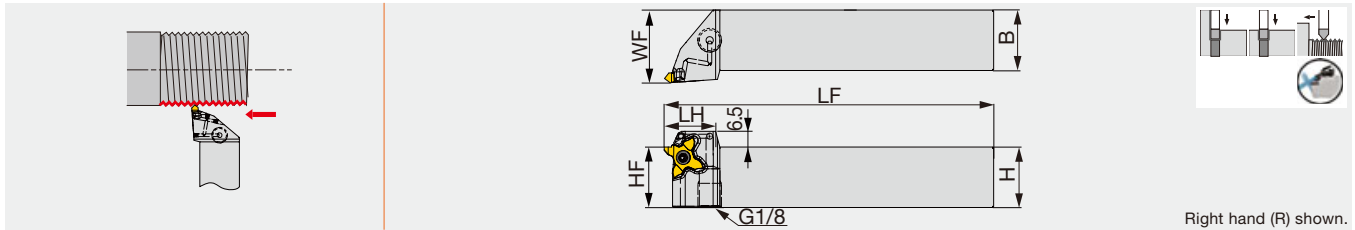
Use the right-hand insert (TC\*18R...) for a right-hand holder (STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (STCL...).

#### SPARE PARTS

| Designation           | Clamping screw | Wrench   |
|-----------------------|----------------|----------|
| STCL..., STCL**18-CHP | CSTC-4L100DR   | T-1008/5 |
| STCR..., STCR**18-CHP | CSTC-4L100DL   | T-1008/5 |

Reference pages: Inserts → **E012**

External threading with high pressure coolant capability



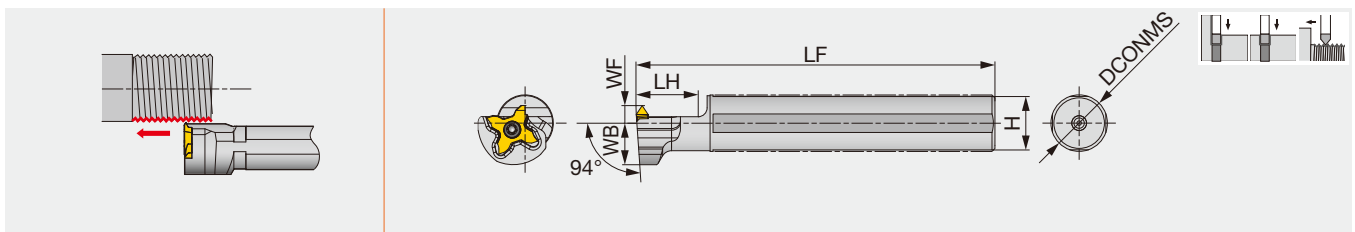
| Inch              | H     | B     | LF    | LH    | HBL | HF    | WF    | HBH | Insert   | Torque  |
|-------------------|-------|-------|-------|-------|-----|-------|-------|-----|----------|---------|
| STCR/L12-18-CHP   | 0.750 | 0.750 | 4.750 | 0.900 | -   | 0.750 | 1.000 | -   | TC*18... | 0.89    |
| STCR/L16-18-CHP   | 1.000 | 1.000 | 5.500 | 0.900 | -   | 1.000 | 1.250 | -   | TC*18... | 0.89    |
| Metric            | H     | B     | LF    | LH    | HBL | HF    | WF    | HBH | Insert   | Torque* |
| STCR/L2020X18-CHP | 20    | 20    | 120   | 23    | -   | 20    | 25    | -   | TC*18... | 1.2     |
| STCR/L2525Z18-CHP | 25    | 25    | 135   | 23    | -   | 25    | 30    | -   | TC*18... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

Note: Use the right-hand insert (TC\*18R...) for a right-hand toolholders (STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (STCL...).

## JS-STCL18

External grooving and threading toolholder with round shank



| Metric        | DCONMS | LF  | LH | H  | WB    | WF | Insert    | Torque* |
|---------------|--------|-----|----|----|-------|----|-----------|---------|
| JS14H-STCL18  | 14     | 100 | 20 | 13 | 14    | 6  | TCT18R... | 1.2     |
| JS159F-STCL18 | 15.875 | 85  | 20 | 15 | 14    | 6  | TCT18R... | 1.2     |
| JS16F-STCL18  | 16     | 85  | 20 | 15 | 14    | 6  | TCT18R... | 1.2     |
| JS19G-STCL18  | 19.05  | 90  | 20 | 18 | 14    | 6  | TCT18R... | 1.2     |
| JS19X-STCL18  | 19.05  | 120 | 20 | 18 | 14    | 6  | TCT18R... | 1.2     |
| JS20G-STCL18  | 20     | 90  | 20 | 19 | 14    | 6  | TCT18R... | 1.2     |
| JS20X-STCL18  | 20     | 120 | 20 | 19 | 14    | 6  | TCT18R... | 1.2     |
| JS22X-STCL18  | 22     | 120 | 20 | 21 | 12.25 | 10 | TCT18R... | 1.2     |
| JS25H-STCL18  | 25     | 100 | 20 | 24 | 12.25 | 10 | TCT18R... | 1.2     |
| JS254X-STCL18 | 25.4   | 120 | 20 | 24 | 12.25 | 10 | TCT18R... | 1.2     |

Torque\* : Recommended clamping torque (N-m)

Note: Use the right-hand insert (TCT18R...) for a left-hand holder (STCL...).

## SPARE PARTS



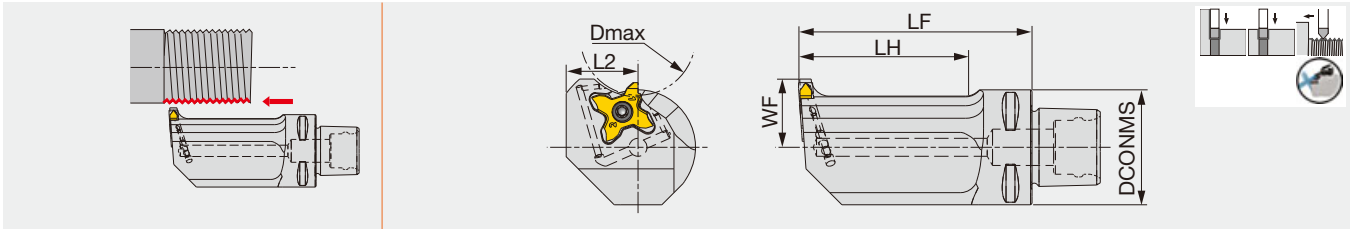
| Designation              | Clamping screw | Wrench   |
|--------------------------|----------------|----------|
| STCL**18-CHP             | CSTC-4L100DR   | T-1008/5 |
| STCR**18-CHP, JS**STCL18 | CSTC-4L100DL   | T-1008/5 |

Reference pages: Inserts → **E012**



## C-STCFL-18-CHP

External grooving and threading toolholder, with high pressure coolant capability



| Metric              | DCONMS | LF | LH   | L2 | WF | Dmax | Insert    | Torque* |
|---------------------|--------|----|------|----|----|------|-----------|---------|
| C3STCFL18040-18-CHP | 32     | 40 | 21.5 | 20 | 18 | 32   | TC*18R... | 1.2     |
| C3STCFL18065-18-CHP | 32     | 65 | 46.5 | 20 | 18 | 32   | TC*18R... | 1.2     |

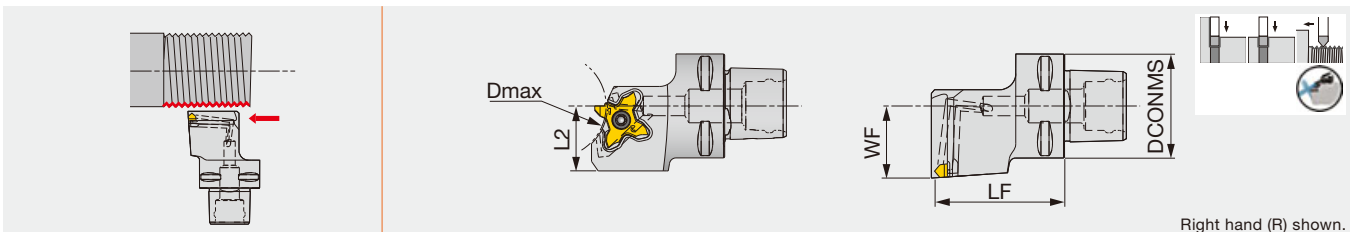
Torque\* : Recommended clamping torque (N·m)

Applicable for 14 MPa coolant

Note: Use the right-hand insert (TC\*18R...) for a left-hand holder (STCFL...).

## C-STCR/L-18-CHP

External grooving and threading toolholder, with high pressure coolant capability



| Metric               | DCONMS | LF | L2 | WF | Dmax              | Insert   | Torque* |
|----------------------|--------|----|----|----|-------------------|----------|---------|
| C3STCR/L22040-18-CHP | 32     | 40 | 20 | 22 | 32                | TC*18... | 1.2     |
| C4STCR/L27050-18-CHP | 40     | 50 | 25 | 27 | 75 <sup>(1)</sup> | TC*18... | 1.2     |

Torque\* : Recommended clamping torque (N·m)

Applicable for 14 MPa coolant

(1) The value for 3.5 mm groove depth. Dmax varies according to the grooving depth required. For further information, see Tungaloy Report #416 TetraMini-Cut/TetraForce-Cut.

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (STCL...).

### SPARE PARTS



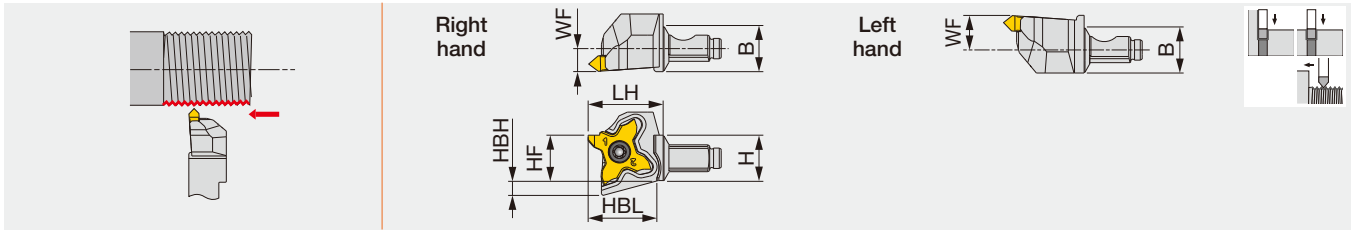
| Designation                          | Clamping screw | Wrench   |
|--------------------------------------|----------------|----------|
| C*STCL**-18-CHP                      | CSTC-4L100DR   | T-1008/5 |
| C3STCFL**-18-CHP,<br>C*STCR**-18-CHP | CSTC-4L100DL   | T-1008/5 |

Reference pages: Inserts → **E012**

# TETRAMCUT

## QC12-STCR/L

### External grooving and threading head



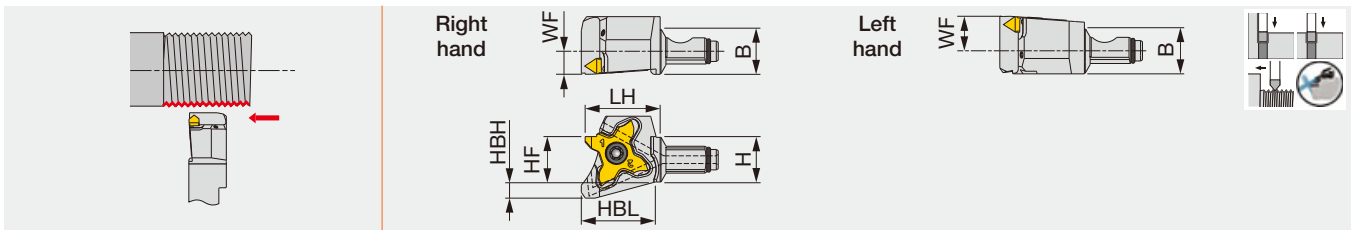
| Metric      | H              | B              | LH               | HF             | HBH             | HBL              | WF            | Insert    | Torque*       |
|-------------|----------------|----------------|------------------|----------------|-----------------|------------------|---------------|-----------|---------------|
| QC12-STCR18 | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 12<br>(0.472") | 3.9<br>(0.154") | 17.9<br>(0.705") | 6<br>(0.236") | TC*18R... | 1.2<br>(0.89) |
| QC12-STCL18 | 12<br>(0.472") | 12<br>(0.472") | 21<br>(0.827")   | 12<br>(0.472") | 3.9<br>(0.154") | 18.3<br>(0.720") | 9<br>(0.354") | TC*18L... | 1.2<br>(0.89) |

Torque\* : Recommended clamping torque: N-m (lbs-ft)

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

### QC12-STCR/L-CHP

#### External grooving and threading head, with high pressure coolant capability



| Metric          | H              | B              | LH               | HF             | HBH             | HBL              | WF            | Insert    | Torque*       |
|-----------------|----------------|----------------|------------------|----------------|-----------------|------------------|---------------|-----------|---------------|
| QC12-STCR18-CHP | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 12<br>(0.472") | 4.2<br>(0.165") | 19.3<br>(0.760") | 6<br>(0.236") | TC*18R... | 1.2<br>(0.89) |
| QC12-STCL18-CHP | 12<br>(0.472") | 12<br>(0.472") | 21<br>(0.827")   | 12<br>(0.472") | 4.2<br>(0.165") | 19.3<br>(0.760") | 9<br>(0.354") | TC*18L... | 1.2<br>(0.89) |

Torque\* : Recommended clamping torque: N-m (lbs-ft)

Through-coolant head

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

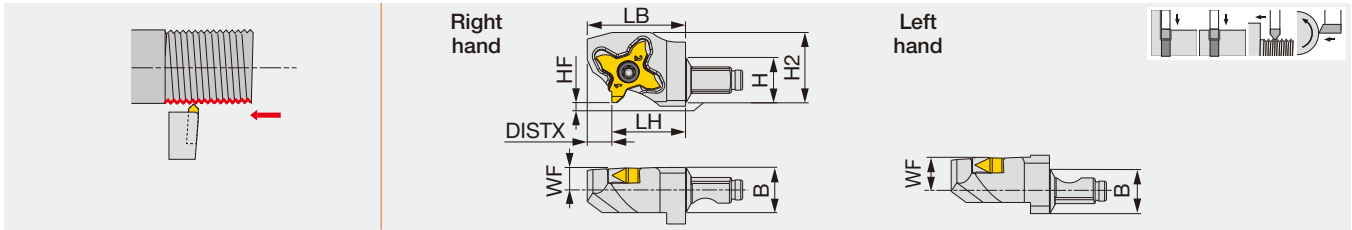
#### SPARE PARTS

| Designation     | Clamping screw | Wrench   | O-ring               |
|-----------------|----------------|----------|----------------------|
| QC12-STCR18     | CSTC-4L100DL   | T-1008/5 | -                    |
| QC12-STCL18     | CSTC-4L100DR   | T-1008/5 | -                    |
| QC12-STCR18-CHP | CSTC-4L100DL   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCL18-CHP | CSTC-4L100DR   | T-1008/5 | ORSS-0454.5X1.0NBR70 |

Reference pages: Inserts → **E012**

## QC12-STCR/L-Y

Y-axis turning modular head for external grooving and threading



| Metric          | H              | B              | LH               | HF        | WF**                     | LB             | H2               | DISTX           | Insert   | Torque*       |
|-----------------|----------------|----------------|------------------|-----------|--------------------------|----------------|------------------|-----------------|----------|---------------|
| QC12-STCR/L18-Y | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 0<br>(0") | 6/9<br>(0.236" / 0.354") | 26<br>(1.024") | 18.6<br>(0.732") | 6.5<br>(0.256") | TC*18... | 1.2<br>(0.89) |

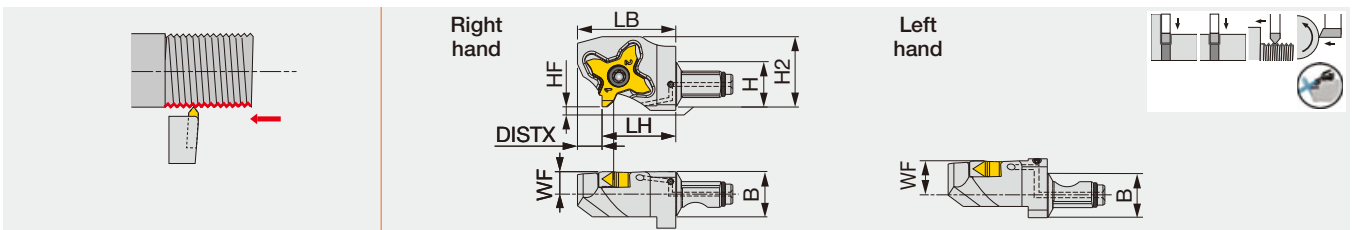
Torque\* : Recommended clamping torque: N·m (lbs·ft)

WF\*\* : The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

## QC12-STCR/L-Y-CHP

Y-axis turning modular head for external grooving and threading, with high pressure coolant capability



| Metric              | H              | B              | LH               | HF        | WF**          | LB             | H2               | DISTX           | Insert   | Torque*       |
|---------------------|----------------|----------------|------------------|-----------|---------------|----------------|------------------|-----------------|----------|---------------|
| QC12-STCR/L18-Y-CHP | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 26<br>(1.024") | 18.6<br>(0.732") | 6.5<br>(0.256") | TC*18... | 1.2<br>(0.89) |

Torque\* : Recommended clamping torque: N·m (lbs·ft)

WF\*\* : The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

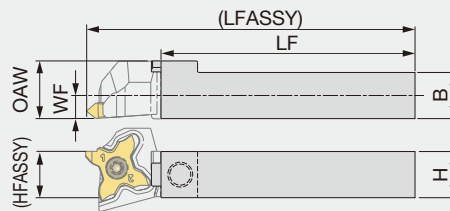
Through-coolant head

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

### SPARE PARTS

| Designation       | Clamping screw | Wrench   | O-ring               |
|-------------------|----------------|----------|----------------------|
| QC12-STCR18-Y     | CSTC-4L100DL   | T-1008/5 | -                    |
| QC12-STCL18-Y     | CSTC-4L100DR   | T-1008/5 | -                    |
| QC12-STCR18-Y-CHP | CSTC-4L100DL   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCL18-Y-CHP | CSTC-4L100DR   | T-1008/5 | ORSS-0454.5X1.0NBR70 |

### Shank for modular heads



| Inch     | H     | B     | WF    | LF    | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque  |
|----------|-------|-------|-------|-------|-------|--------|-----------------------|---------|
| QC-08F   | 0.500 | 0.500 | 0.236 | 2.559 | 0.591 | 0.500  | 3.346                 | 2.21    |
| QC-08X   | 0.500 | 0.500 | 0.236 | 3.937 | 0.591 | 0.500  | 4.724                 | 2.21    |
| Metric   | H     | B     | WF    | LF    | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque* |
| QC-1212F | 12    | 12    | 6     | 65    | 15    | 12     | 85                    | 3       |
| QC-1212X | 12    | 12    | 6     | 100   | 15    | 12     | 120                   | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 (1) The size is true when the modular head with LH = 19.5 mm is mounted.

### QC-1212-CHP

#### Shank for modular heads, with high pressure coolant capability

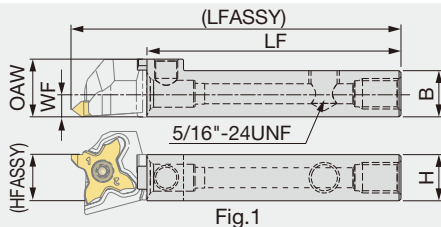


Fig.1

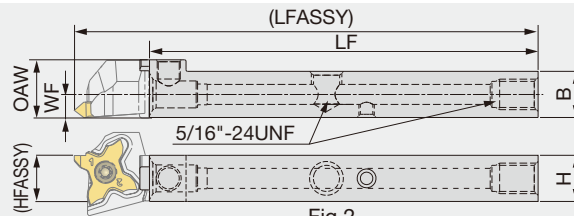


Fig.2

| Inch                        | H     | B     | LF    | WF    | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque  | Fig. |
|-----------------------------|-------|-------|-------|-------|-------|--------|-----------------------|---------|------|
| QC-08F-CHP                  | 0.500 | 0.500 | 2.559 | 0.236 | 0.591 | 0.500  | 3.346                 | 2.21    | 1    |
| QC-06H-CHP <sup>(*)</sup>   | 0.375 | 0.500 | 3.268 | 0.197 | 0.512 | 0.375  | 3.937                 | 1.84    | 2    |
| QC-08X-CHP <sup>(*)</sup>   | 0.500 | 0.500 | 3.937 | 0.236 | 0.591 | 0.500  | 4.724                 | 2.21    | 2    |
| QC-10X-CHP <sup>(*)</sup>   | 0.625 | 0.625 | 3.897 | 0.315 | 0.787 | 0.625  | 4.724                 | 6.27    | 2    |
| Metric                      | H     | B     | LF    | WF    | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque* | Fig. |
| QC-1212F-CHP                | 12    | 12    | 65    | 6     | 15    | 12     | 85                    | 3       | 1    |
| QC-1212X-CHP <sup>(*)</sup> | 12    | 12    | 100   | 6     | 15    | 12     | 120                   | 3       | 2    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Through-coolant shank  
 (\*): Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (1) The size is true when the modular head with LH = 19.5 mm is mounted.

#### SPARE PARTS

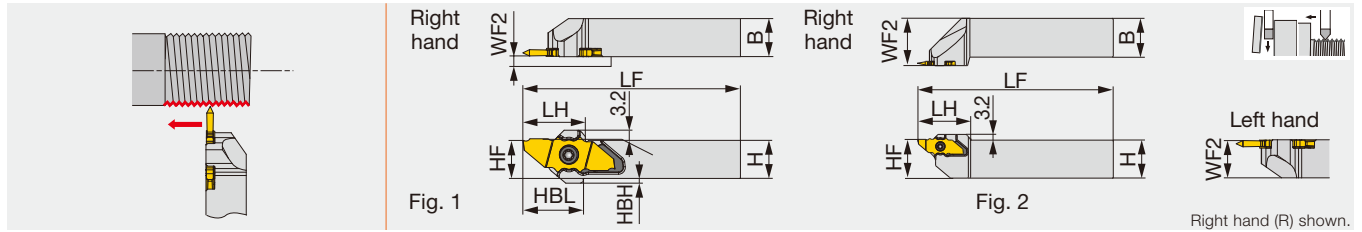
| Designation              | Clamping screw | Wrench 1 | Coolant plug     | Wrench 2 | DirectJet plug | Wrench 3 |
|--------------------------|----------------|----------|------------------|----------|----------------|----------|
| QC-08F/X, QC-1212*       | SRM6X0.5-26977 | P-3      | -                | -        | -              | -        |
| QC-06H-CHP               | SRM5X0.5       | P-2.5    | SR 5/16UNF TL360 | P-4      | SSHM4-4-TB     | P-2      |
| QC-08F-CHP, QC-1212F-CHP | SRM6X0.5-26977 | P-3      | SR5/16UNFTL360   | P-4      | -              | -        |
| QC-08X-CHP, QC-1212X-CHP | SRM6X0.5-26977 | P-3      | SR5/16UNFTL360   | P-4      | SSHM4-6-TB     | P-2      |
| QC-10X-CHP               | SRM8X0.5       | P-5      | SR 5/16UNF TL360 | P-4      | SSHM4-6-TB     | P-2      |

### Unique coupling design

Simply loosen the clamping screw for easy tool exchanges.  
 Unique coupling design allows extremely high repeatability.



Threading and parting toolholder, for Swiss lathes



| Inch       | H     | B     | LF*   | LH    | HF    | WF2 <sup>(1)</sup> | HBL   | HBH  | Insert | Torque | Fig. |
|------------|-------|-------|-------|-------|-------|--------------------|-------|------|--------|--------|------|
| JSXXR/L063 | 0.375 | 0.375 | 4.646 | 0.774 | 0.375 | 0.008 / 0.386      | 0.748 | 0.12 | JX...  | 0.89   | 1    |
| JSXXR/L083 | 0.500 | 0.500 | 3.268 | 0.774 | 0.500 | 0.008 / 0.386      | 0.748 | 0.06 | JX...  | 0.89   | 1    |
| JSXXR/L103 | 0.625 | 0.625 | 4.646 | 0.774 | 0.625 | 0.008 / 0.386      | -     | 0.06 | JX...  | 0.89   | 1    |
| JSXXR/L123 | 0.750 | 0.750 | 3.950 | 0.886 | 0.750 | 0.008 / 0.742      | -     | -    | JX...  | 0.89   | 1    |
| JSXXR/L163 | 1.000 | 1.000 | 5.350 | 1.339 | 1.000 | 1.250 / 1.250      | -     | -    | JX...  | 0.89   | 2    |

| Metric         | H  | B  | LF  | LH    | HF | WF2 <sup>(1)</sup> | HBL | HBH | Insert    | Torque* | Fig. |
|----------------|----|----|-----|-------|----|--------------------|-----|-----|-----------|---------|------|
| JSXXR/L1010X09 | 10 | 10 | 118 | 17.65 | 10 | 0.2/9.8            | 17  | 3   | JX**12... | 1.2     | 1    |
| JSXXR/L1212F09 | 12 | 12 | 83  | 17.65 | 12 | 0.2/11.8           | 17  | 1.5 | JX**12... | 1.2     | 1    |
| JSXXR/L1212X09 | 12 | 12 | 118 | 17.65 | 12 | 0.2/11.8           | 17  | 1.5 | JX**12... | 1.2     | 1    |
| JSXXR/L1616X09 | 16 | 16 | 118 | 17.65 | 16 | 0.2/15.8           | -   | -   | JX**12... | 1.2     | 1    |
| JSXXR/L2020H09 | 20 | 20 | 98  | 20.5  | 20 | 0.2/19.8           | -   | -   | JX**12... | 1.2     | 1    |
| JSXXR/L2525Z09 | 25 | 25 | 133 | 32    | 25 | 30                 | -   | -   | JX**12... | 1.2     | 2    |

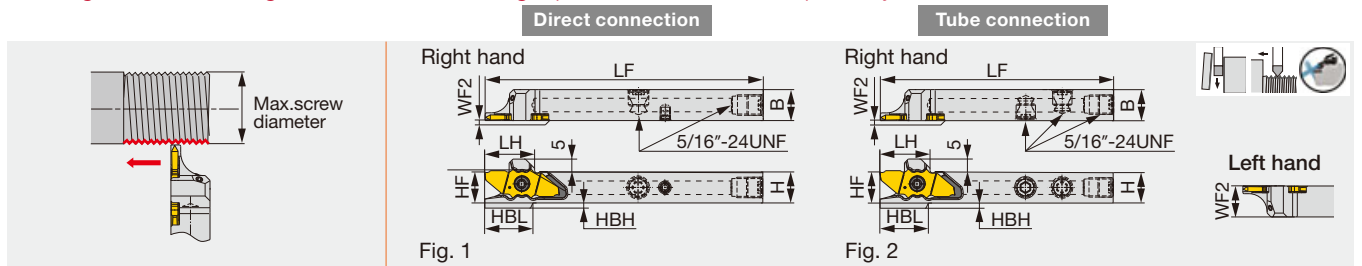
Torque: Recommended clamping torque: lbs-ft (\*N·m)

(1) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

JSXXR/L-F/H/X-CHP

Parting and threading toolholder, with high pressure coolant capability



| Inch            | H     | B     | LF    | LH      | HF    | WF2 <sup>(1)</sup> | HBL   | HBH   | Insert                       | Torque | Fig. |
|-----------------|-------|-------|-------|---------|-------|--------------------|-------|-------|------------------------------|--------|------|
| JSXXR/L083X-CHP | 0.500 | 0.500 | 4.750 | ≤ 0.764 | 0.500 | 0.008/0.492        | 0.736 | 0.051 | JX**06...,12...,16...        | 0.89   | 1    |
| JSXXR/L103X-CHP | 0.625 | 0.625 | 4.750 | ≤ 0.764 | 0.625 | 0.008/0.617        | 0.736 | 0     | JX**06...,12...,16...        | 0.89   | 1    |
| JSXXR/L083F-CHP | 0.500 | 0.500 | 3.344 | ≤ 0.764 | 0.5   | 0.008/0.492        | 0.736 | 0.051 | JX*G06...,12...,16..., 20... | 0.89   | 1    |

| Metric                              | H  | B  | LF  | LH   | HF | WF2 <sup>(1)</sup> | HBL  | HBH | Insert    | Torque* Fig. |
|-------------------------------------|----|----|-----|------|----|--------------------|------|-----|-----------|--------------|
| JSXXR/L1012H09-CHP <sup>(2)</sup>   | 10 | 12 | 100 | 17.2 | 10 | 0.2/11.8           | 16.7 | 3   | JX**12... | 1.2 1        |
| JSXXR/L1212F09-CHP                  | 12 | 12 | 83  | 17.4 | 12 | 0.2/11.8           | 16.8 | 2   | JX**12... | 1.2 2        |
| JSXXR/L1212X09-CHP <sup>(2)</sup>   | 12 | 12 | 118 | 17.4 | 12 | 0.2/11.8           | 16.8 | 2   | JX**12... | 1.2 1        |
| JSXXR1616X09-CHP <sup>(2),(3)</sup> | 16 | 16 | 118 | 17.4 | 16 | 0.2                | 16.7 | 2.5 | JX**12... | 1.2 1        |
| JSXXR/L1616X09B-CHP <sup>(2)</sup>  | 16 | 16 | 118 | 17.4 | 16 | 0.2/15.8           | 16.7 | -   | JX**12... | 1.2 1        |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

(1) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

(2) Compatible to the direct internal coolant supply system without the use of external coolant hose.

(3) To be replaced with the new design

Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

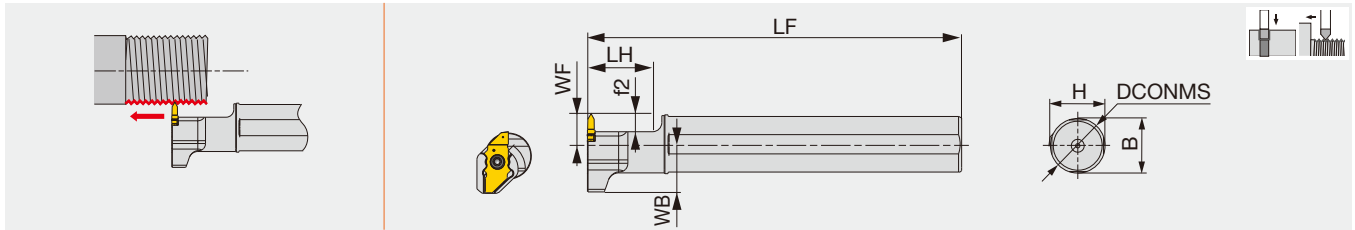
SPARE PARTS

| Designation   | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|---------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR...      | CSTC-4L100DL   | T-1008/5 | -              | -        | -              | -        |
| JSXXL...      | CSTC-4L100DR   | T-1008/5 | -              | -        | -              | -        |
| JSXXR**F...   | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F...   | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**H/X... | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**H/X... | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: Inserts → E012



External threading toolholder, for 2 corner inserts



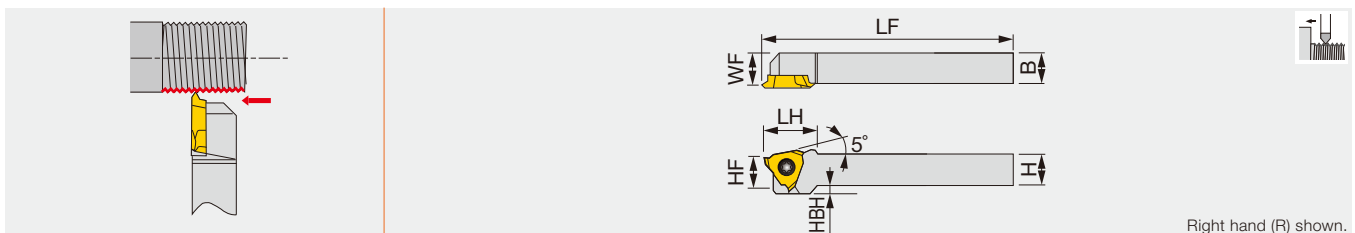
| Metric        | DCONMS | H  | B  | LF  | LH | WB    | WF | f2 | Insert    | Torque* |
|---------------|--------|----|----|-----|----|-------|----|----|-----------|---------|
| JS19G-SXXL09  | 19.05  | 18 | 18 | 90  | 21 | 15.43 | 8  | 4  | JX**12... | 1.2     |
| JS19X-SXXL09  | 19.05  | 18 | 18 | 120 | 21 | 15.43 | 8  | 4  | JX**12... | 1.2     |
| JS20G-SXXL09  | 20     | 19 | 19 | 90  | 21 | 15.4  | 8  | 4  | JX**12... | 1.2     |
| JS20X-SXXL09  | 20     | 19 | 19 | 120 | 21 | 15.4  | 8  | 4  | JX**12... | 1.2     |
| JS22X-SXXL09  | 22     | 21 | 21 | 120 | 21 | 15.4  | 8  | 4  | JX**12... | 1.2     |
| JS25H-SXXL09  | 25     | 24 | 24 | 100 | 21 | 15.4  | 8  | 4  | JX**12... | 1.2     |
| JS254X-SXXL09 | 25.4   | 24 | 24 | 120 | 21 | 15.4  | 8  | 4  | JX**12... | 1.2     |

Torque\* : Recommended clamping torque (N·m)

## J-SERIES

### JSTTR/L

External toolholder for Swiss lathes



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH     | HF    | WF    | HBH   | Insert      |
|------------|-------|-------|-------|--------|-------|-------|-------|-------------|
| JSTTR/L063 | 0.375 | 0.375 | 5.000 | 0.6875 | 0.375 | 0.375 | 0.100 | JTTR/L30... |
| JSTTR/L083 | 0.500 | 0.500 | 5.000 | 0.6875 | 0.500 | 0.500 | -     | JTTR/L30... |
| JSTTR/L103 | 0.625 | 0.625 | 5.000 | 0.6875 | 0.625 | 0.625 | -     | JTTR/L30... |

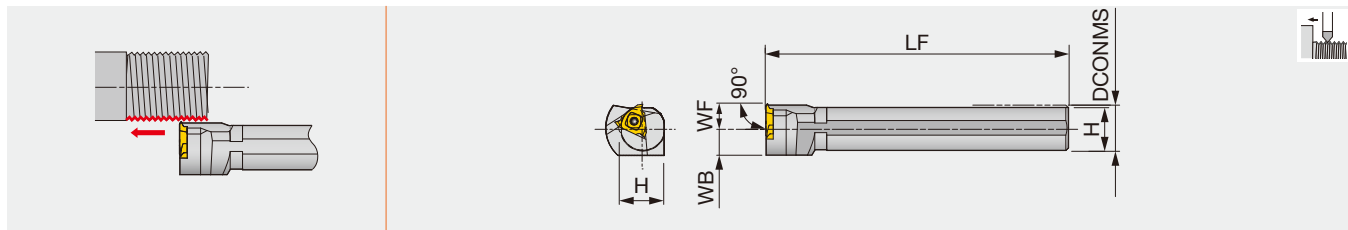
| Metric        | H  | B  | LF  | LH   | HF | WF   | HBH | Insert      |
|---------------|----|----|-----|------|----|------|-----|-------------|
| JSTTR/L1010X3 | 10 | 10 | 120 | 18.5 | 10 | 9.5  | 2   | JTTR/L30... |
| JSTTR/L1212F3 | 12 | 12 | 85  | 18.5 | 12 | 11.5 | -   | JTTR/L30... |
| JSTTR/L1212X3 | 12 | 12 | 120 | 18.5 | 12 | 11.5 | -   | JTTR/L30... |
| JSTTR/L1616X3 | 16 | 16 | 120 | 16.5 | 16 | 15.5 | -   | JTTR/L30... |

Recommended clamping torque: 0.89 lbs·ft (1.2 N·m)

### SPARE PARTS

| Designation  | Clamping screw 1 | Clamping screw 2 | Wrench 1 | Wrench 2 | Wrench 2 (Optional) |
|--------------|------------------|------------------|----------|----------|---------------------|
| JSTTR/L...   | -                | CSTB-4SD         | -        | T-8F     | (T-8L)              |
| JS***-SXXL09 | CSTC-4L055L      | -                | T-1008/5 | -        | -                   |

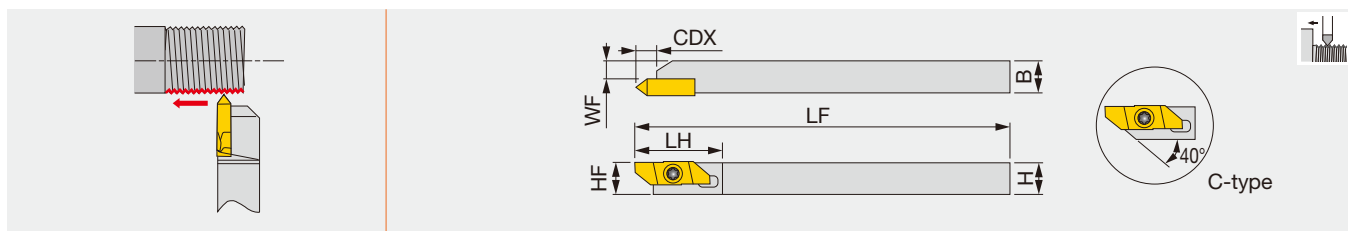
Reference pages: DuoJust-Cut : Inserts → **E012**  
J-Series : Inserts → **E013**



| Metric     | DCONMS | WF | LF  | H  | WB   | Insert    |
|------------|--------|----|-----|----|------|-----------|
| JS19K-TTL3 | 19.05  | 10 | 125 | 18 | 11.5 | JTTR30... |
| JS20K-TTL3 | 20     | 10 | 125 | 19 | 11.5 | JTTR30... |
| JS22K-TTL3 | 22     | 10 | 125 | 21 | 11.5 | JTTR30... |
| JS25K-TTL3 | 25.4   | 10 | 125 | 24 | 12.7 | JTTR30... |

Recommended clamping torque: 3.5 N·m

## JSXBR



| Metric        | H  | B  | LF  | LH | CDX | HF | WF   | Insert   |
|---------------|----|----|-----|----|-----|----|------|----------|
| JSXBR1010K8-C | 10 | 10 | 125 | 29 | 6.4 | 10 | 5.7  | JXT*R... |
| JSXBR1212K8-C | 12 | 12 | 125 | 29 | 6.4 | 12 | 7.7  | JXT*R... |
| JSXBR1616K8   | 16 | 16 | 125 | 29 | 6.4 | 16 | 11.7 | JXT*R... |
| JSXBR2020K8   | 20 | 20 | 125 | 29 | 6.4 | 20 | 15.7 | JXT*R... |
| JSXBR2525K8   | 25 | 25 | 125 | 29 | 6.4 | 25 | 20.7 | JXT*R... |

Note: Can be wrenched also from the back with a double-head screw.  
This toolholder can be used for JXB back-turning insert and JXT threading insert.

### SPARE PARTS

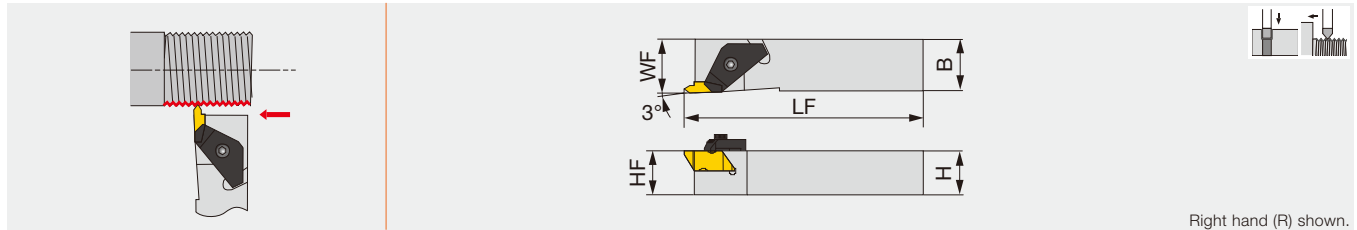
| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JS**-TTL3   | CSTB-4S        | T-15F    | -                   |
| JSXBR...    | CSTB-4SD       | T-8F     | (T-8L)              |



# TUNGST-CLAMP

## FLASR/L

External grooving and threading toolholder, for Swiss lathes



Right hand (R) shown.

| Inch         | HF    | H     | B     | LF    | WF    | Insert        | Torque |
|--------------|-------|-------|-------|-------|-------|---------------|--------|
| FLASR/L-082B | 0.500 | 0.500 | 0.500 | 6.000 | 0.500 | FL*-3**R/L... | 2.21   |
| FLASR-102B   | 0.625 | 0.625 | 0.625 | 4.500 | 0.625 | FL*-3**R...   | 2.21   |
| FLASR/L-103B | 0.625 | 0.625 | 0.625 | 4.500 | 0.625 | FL*-3**R/L... | 2.21   |

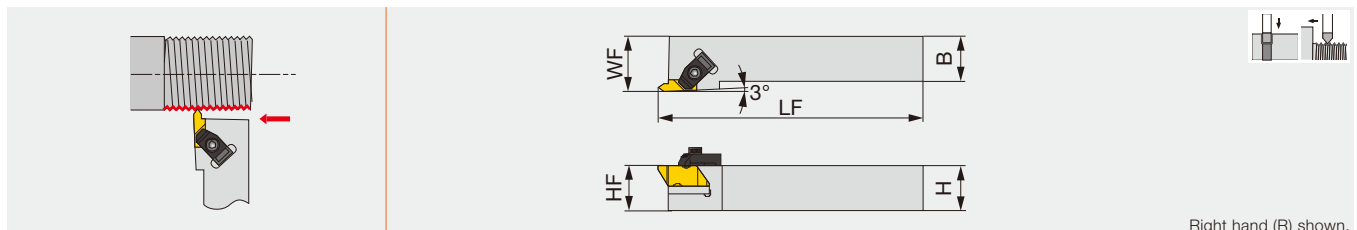
| Metric         | H  | B  | LF  | HF | WF | Insert   | Torque* |
|----------------|----|----|-----|----|----|----------|---------|
| FLASR/L-1616M3 | 16 | 16 | 125 | 16 | 16 | FLT-3... | 3       |

Torque\* : Recommended clamping torque: lbs-ft (N-m)

Note: Use the right-hand insert (FLT-3R...) for a right-hand holder (FLASR...); the left-hand insert (FLT-3L...) for a left-hand holder (FLASL...).

## FLSR/L

External grooving and threading toolholder



Right hand (R) shown.

| Inch        | H     | B     | LF    | HF    | WF    | Insert        | Torque |
|-------------|-------|-------|-------|-------|-------|---------------|--------|
| FLSR/L-122B | 0.750 | 0.750 | 4.500 | 0.750 | 1.000 | FL*-3**R/L... | 2.21   |
| FLSR/L-162C | 1.000 | 1.000 | 5.000 | 1.000 | 1.250 | FL*-3**R/L... | 2.21   |
| FLSR/L-123B | 0.750 | 0.750 | 4.500 | 0.750 | 1.000 | FL*-3**R/L... | 2.21   |
| FLSR/L-163C | 1.000 | 1.000 | 5.000 | 1.000 | 1.250 | FL*-3**R/L... | 2.21   |
| FLSR/L-164D | 1.000 | 1.000 | 6.000 | 1.000 | 1.250 | FL*-3**R/L... | 2.21   |
| FLSR/L-203D | 1.250 | 1.250 | 6.000 | 1.250 | 1.500 | FL*-4**R/L... | 2.21   |
| FLSR/L-204D | 1.250 | 1.250 | 6.000 | 1.250 | 1.500 | FL*-4**R/L... | 2.21   |
| FLSR/L-206D | 1.250 | 1.250 | 6.000 | 1.250 | 1.500 | FL*-4**R/L... | 2.21   |
| FLSR/L-82V  | 0.500 | 0.500 | 3.500 | 0.750 | 0.750 | FL*-4**R/L... | 2.21   |

| Metric        | H  | B  | LF  | HF | WF | Insert   | Torque* |
|---------------|----|----|-----|----|----|----------|---------|
| FLSR/L-2020M3 | 20 | 20 | 125 | 20 | 32 | FLT-3... | 3       |
| FLSR/L-2525M3 | 25 | 25 | 150 | 25 | 32 | FLT-3... | 3       |

Torque\* : Recommended clamping torque: lbs-ft (N-m)

Note: Use the right-hand insert (FLT-3R...) for a right-hand holder (FLSR...); the left-hand insert (FLT-3L...) for a left-hand holder (FLSL...).

### Inch SPARE PARTS

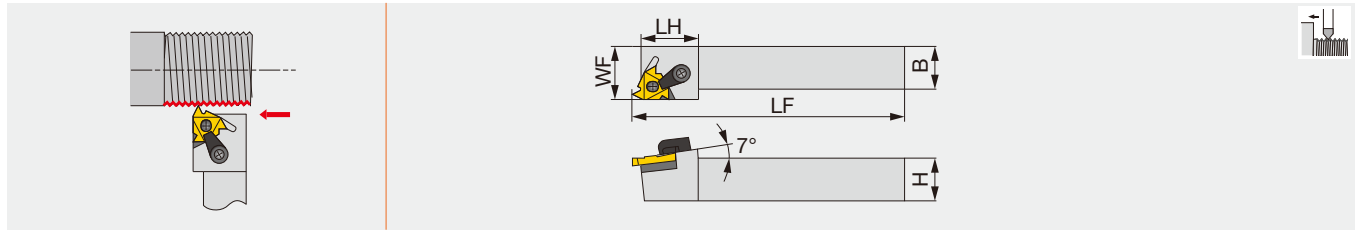
| Designation                                | Clamp  | Clamping screw | Wrench  |
|--|--------|----------------|---------|
| FLASR-102B, FLASR-103B                     | TF-184 | S-412          | 5/32HEX |
| FLASL-103B                                 | TF-185 | S-412          | 5/32HEX |
| FLSR-122B, FLSR-162C, FLSR-82V             | TF-74  | S-310          | 7/64HEX |
| FLSL-122B, FLSL-162C, FLSL-82V             | TF-75  | S-310          | 7/64HEX |
| FLSR-123B, FLSR-163C, FLSR-164D, FLSR-204D | TF-72  | S-412          | 5/32HEX |
| FLSL-123B, FLSL-163C, FLSR-203D            | TF-73  | S-412          | 5/32HEX |

### Metric SPARE PARTS

| Designation  | Clamp  | Clamping screw | Wrench  |
|--------------|--------|----------------|---------|
| FLASR-1616M3 | TF-184 | S-412          | 5/32HEX |
| FLASL-1616M3 | TF-185 | S-412          | 5/32HEX |
| FLSR-****M3  | TF-72  | S-412          | 5/32HEX |
| FLSL-****M3  | TF-73  | S-412          | 5/32HEX |

Reference pages: Inserts → **E014**

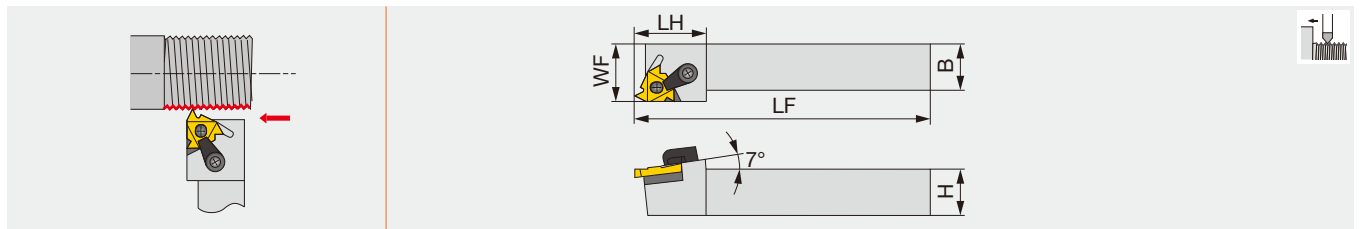
External threading toolholder, for single-sided lay down inserts



| Inch         | B     | H     | LF    | LH    | WF    | Insert        |
|--------------|-------|-------|-------|-------|-------|---------------|
| MTVNR-2054   | 1.250 | 1.250 | 7.000 | 1.530 | 1.500 | L535B**EXT-FC |
| MTVNR-2454   | 1.500 | 1.500 | 7.084 | 1.429 | 1.750 | L535B**EXT-FC |
| Metric       | H     | B     | LF    | LH    | WF    | Insert        |
| MTVNR-2525M5 | 25    | 25    | 152   | 39    | 31.8  | L535B**EXT-FC |
| MTVNR-3232M5 | 32    | 32    | 178   | 39    | 38.1  | L535B**EXT-FC |

## MTVNR-54

External threading toolholder, for double-sided lay down inserts



| Metric        | H  | B  | LF  | LH | WF   | Insert           |
|---------------|----|----|-----|----|------|------------------|
| MTVNR-3232M54 | 32 | 32 | 178 | 39 | 38.1 | LDS54**FT-CB#... |

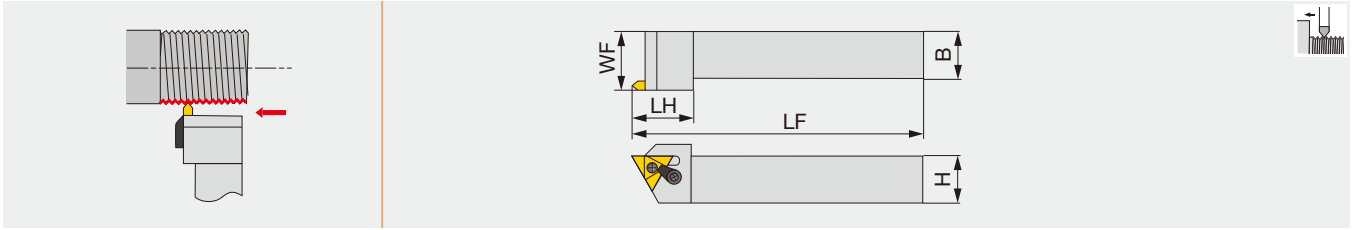
### SPARE PARTS

| Designation               | Shim          | Lock pin | Clamp  | Clamping screw | Wrench |
|---------------------------|---------------|----------|--------|----------------|--------|
| MTVNR...<br>MTVNR-3232M54 | LS53NOFORMEXT | NL-58    | TC-250 | STC-11         | 1/8HEX |



Reference pages: MTVNR-5 : Inserts → **E032**  
 MTVNR-54 : Inserts → **E035**

Multi-clamp external threading toolholder, for on edge inserts

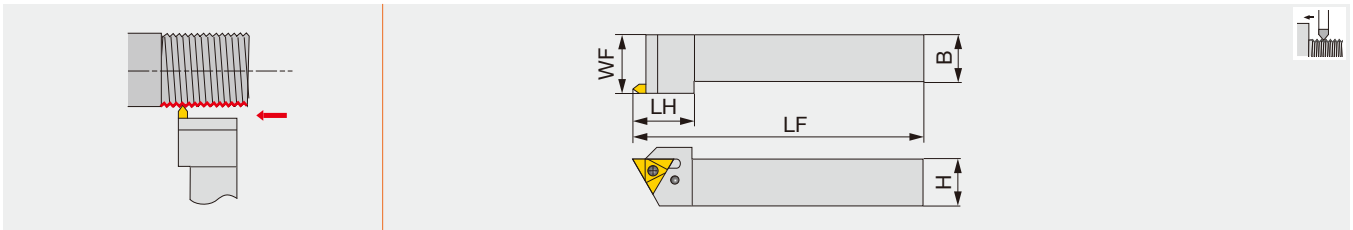


| Inch         | H     | B     | LF    | LH    | WF    | Insert    |
|--------------|-------|-------|-------|-------|-------|-----------|
| MTVOR-164    | 1.000 | 1.000 | 6.000 | 1.230 | 1.250 | TNM*43... |
| MTVOR-204    | 1.250 | 1.250 | 7.000 | 1.230 | 1.500 | TNM*43... |
| MTVOR-205    | 1.250 | 1.250 | 7.000 | 1.430 | 1.500 | TNM*54... |
| MTVOR-206    | 1.250 | 1.250 | 7.000 | 1.620 | 1.500 | TNM*66... |
| MTVOR-2069   | 1.250 | 1.250 | 7.000 | 1.620 | 1.500 | TNM*69... |
| Metric       | H     | B     | LF    | LH    | WF    | Insert    |
| MTVOR-2525M4 | 25    | 25    | 150   | 31    | 31.7  | TNM*43... |
| MTVOR-3232M4 | 32    | 32    | 170   | 32    | 38.1  | TNM*43... |
| MTVOR-2525M5 | 25    | 25    | 150   | 36    | 31.7  | TNM*54... |
| MTVOR-3232M5 | 32    | 32    | 178   | 36    | 38.1  | TNM*54... |

Note: STVOR is recommended for TNMC insert although the insert can be used on multi-clamp (M type) toolholder.

## STVOR

Screw-on external threading toolholder, for on edge inserts



| Inch         | H     | B     | LF    | LH    | WF    | Insert    |
|--------------|-------|-------|-------|-------|-------|-----------|
| STVOR-165    | 1.000 | 1.000 | 6.000 | 1.430 | 1.250 | TNMC54... |
| STVOR-206    | 1.250 | 1.250 | 7.000 | 1.620 | 1.500 | TNMC66... |
| Metric       | H     | B     | LF    | LH    | WF    | Insert    |
| STVOR-2525M4 | 25    | 25    | 150   | 31    | 31.7  | TNMC43... |
| STVOR-3232M4 | 32    | 32    | 178   | 31    | 38.1  | TNMC43... |
| STVOR-2525M5 | 25    | 25    | 150   | 36    | 31.7  | TNMC54... |
| STVOR-3232M5 | 32    | 32    | 178   | 36    | 38.1  | TNMC54... |

## SPARE PARTS

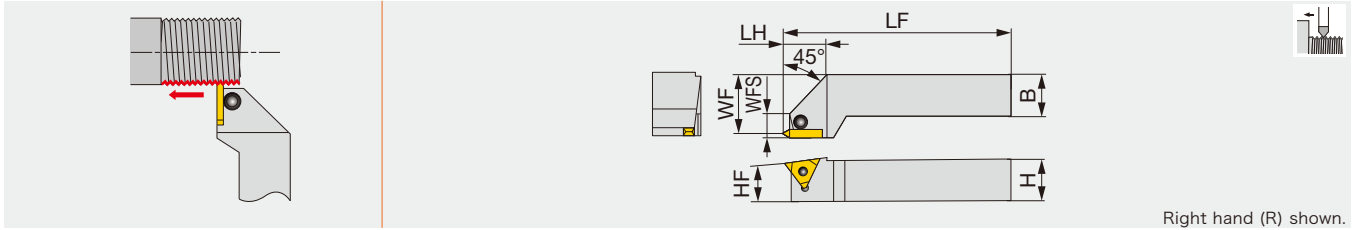


| Designation               | Clamping screw | Lock pin | Wrench 1 | Wrench 2        | Clamp (Optional) | Clamping screw (Optional) |
|---------------------------|----------------|----------|----------|-----------------|------------------|---------------------------|
| MTVOR-164/204, MTVOR-**M4 | -              | NL-44    | -        | 3/32HEX         | TC-190           | STC-5                     |
| MTVOR-205, MTVOR-**M5     | -              | NL-56    | -        | 1/8HEX          | TC-250           | STC-11                    |
| STVOR-**M4                | SD2            | -        | T-20TORX | 3/32HEX         | TC-190           | STC-9                     |
| STVOR-165                 | SD3            | -        | T-20TORX | 1/8HEX          | TC-250           | STC-11                    |
| STVOR-206                 | SD4            | -        | -        | 1/8HEX, 5/32HEX | TC-310           | STC-8                     |

Reference pages: Inserts → [E029](#) - [E031](#), [E033](#)

## TT-R/LE

TT-type pin-lock external threading toolholder

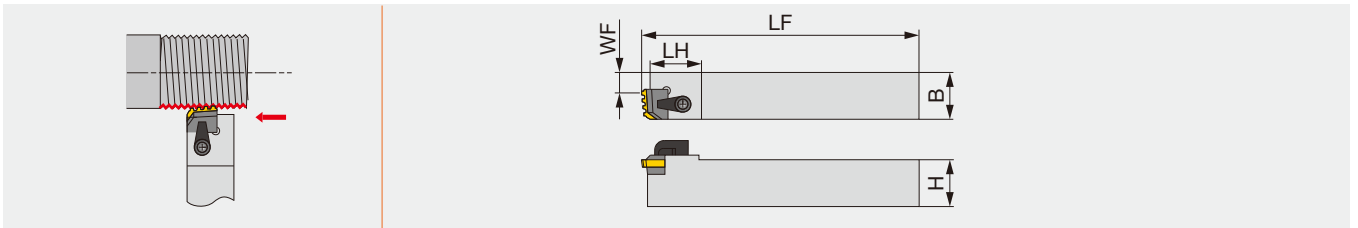


Right hand (R) shown.

| Metric      | H  | B  | LF  | LH | HF | WF | WFS | Insert     |
|-------------|----|----|-----|----|----|----|-----|------------|
| TT-2525R/LE | 25 | 25 | 150 | 25 | 25 | 32 | 15  | TTR/L42... |

## CLVOR

External threading toolholder, for chaser inserts



| Inch      | WF    | LF    | LH    | H     | B     | Insert |
|-----------|-------|-------|-------|-------|-------|--------|
| CLVOR-208 | 0.800 | 7.000 | 1.250 | 1.250 | 1.250 | CR***  |

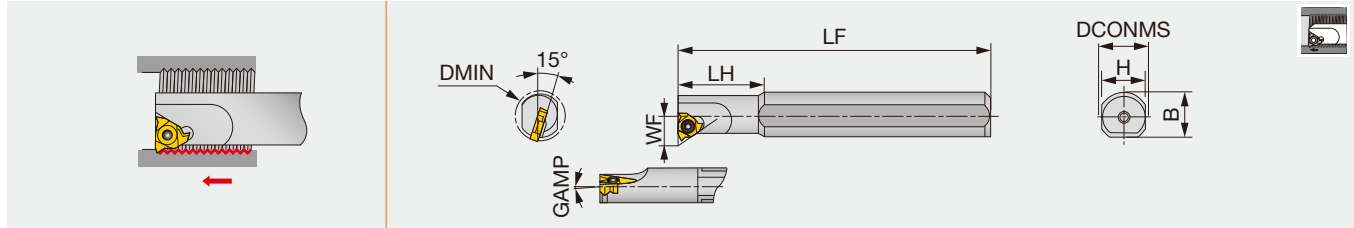
| Metric     | WF   | LF  | LH   | H  | B  | Insert     |
|------------|------|-----|------|----|----|------------|
| CLVOR-25M6 | 16.1 | 177 | 32   | 25 | 25 | CR...      |
| CLVOR-32M6 | 16.1 | 177 | 32   | 32 | 32 | CR...      |
| CLVOR-40M8 | 21   | 170 | 38.1 | 40 | 40 | CR-5B75-4E |

### SPARE PARTS

| Designation              | Shim     | Shim screw | Clamp 1 | Clamp 2 | Clamping screw | Wrench 1 | Wrench 2 |
|--------------------------|----------|------------|---------|---------|----------------|----------|----------|
| TT-2525R/LE              | -        | -          | CP91    | -       | DS-6           | -        | P-3      |
| CLVOR-25M6               | TF1207   | SF80       | -       | TC-311  | STC-4          | T-25TORX | 5/32HEX  |
| CLVOR-32M6               | TF1207   | SF85       | -       | TC-311  | STC-4          | T-25TORX | 5/32HEX  |
| CLVOR-208,<br>CLVOR-40M8 | TF8132-E | SF60       | -       | TC-311  | STC-4          | T-20TORX | 5/32HEX  |

Reference pages: TT-R/LE : Inserts → **E014, E016**  
 CLVOR : Inserts → **E026, E031 - E034**

### Internal threading bars, Screw-on clamp



| Inch         | Material | DMIN  | DCONMS | WF    | LF    | LH    | H     | B | GAMP | Coolant hole | Insert  |
|--------------|----------|-------|--------|-------|-------|-------|-------|---|------|--------------|---------|
| SIR0375K11   | Steel    | 0.470 | 0.620  | 0.260 | 5.000 | 1.000 | 0.574 | - | 1.5° | Without      | 11IR... |
| SIR0375K11B  | Steel    | 0.470 | 0.625  | 0.280 | 5.000 | 0.980 | 0.574 | - | 1.5° | With         | 11IR... |
| SIR0500M16B  | Steel    | 0.640 | 0.625  | 0.390 | 6.000 | 1.260 | 0.472 | - | 1.5° | With         | 16IR... |
| SIR0625P16B  | Steel    | 0.750 | 0.750  | 0.450 | 7.000 | 1.570 | 0.709 | - | 1.5° | With         | 16IR... |
| SIR0750P16   | Steel    | 1.000 | 0.750  | 0.510 | 7.000 | -     | 0.984 | - | 1.5° | Without      | 16IR... |
| SIR0750P16B  | Steel    | 0.900 | 0.750  | 0.900 | 7.000 | -     | 1.181 | - | 1.5° | With         | 16IR... |
| SIR0750P22   | Steel    | 0.950 | 0.750  | 0.510 | 7.000 | -     | 1.260 | - | 1.5° | Without      | 22IR... |
| SIR1000R16B  | Steel    | 1.160 | 1.000  | 0.650 | 8.000 | -     | 1.570 | - | 1.5° | With         | 16IR... |
| SIR1000R22   | Steel    | 1.200 | 1.000  | 0.710 | 8.000 | -     | -     | - | 1.5° | Without      | 22IR... |
| SIR1250S16   | Steel    | 1.420 | 1.250  | 0.770 | 10.00 | -     | -     | - | 1.5° | Without      | 16IR... |
| SIR1250S22   | Steel    | 1.500 | 1.250  | 0.850 | 10.00 | -     | -     | - | 1.5° | Without      | 22IR... |
| SIR 1500 T27 | Steel    | 1.800 | 1.500  | 1.000 | 12.00 | -     | -     | - | 1.5° | Without      | 27IR... |

| Metric       | Material | DMIN | DCONMS | WF  | LF  | LH | H  | B | GAMP | Coolant hole | Insert  |
|--------------|----------|------|--------|-----|-----|----|----|---|------|--------------|---------|
| SIR0005H06   | STEEL    | 6.4  | 12     | 4.3 | 100 | 12 | 11 | - | 1.5° | Without      | 06IR... |
| SIR0007K08   | STEEL    | 8    | 16     | 5.3 | 125 | 18 | 15 | - | 1.5° | Without      | 08IR... |
| SIR0005H06CB | CARBIDE  | 6.4  | 6      | 4.3 | 100 | 25 | 5  | - | 1.5° | With         | 06IR... |
| SIR0007K08CB | CARBIDE  | 7.8  | 8      | 5.3 | 125 | 30 | 7  | - | 1.5° | With         | 08IR... |

Note: Use the right-hand insert (\*\*IR..) for a right-hand holder (SIR...).  
Recommend over 1 mm clearance between internal diameter of thread and each tools DMIN.

#### Applicable thread size

| Description   | ISO metric | Unified IRA60 Insert | Parallel pipe IRA55 Insert |
|---------------|------------|----------------------|----------------------------|
| SIR0005H06... | ≥ M9       | ≥ 3/8-24 UNF         | ≥ G1/8                     |
| SIR0007K08... | ≥ M11      | ≥ 7/16-20 UNF        | ≥ G1/4                     |

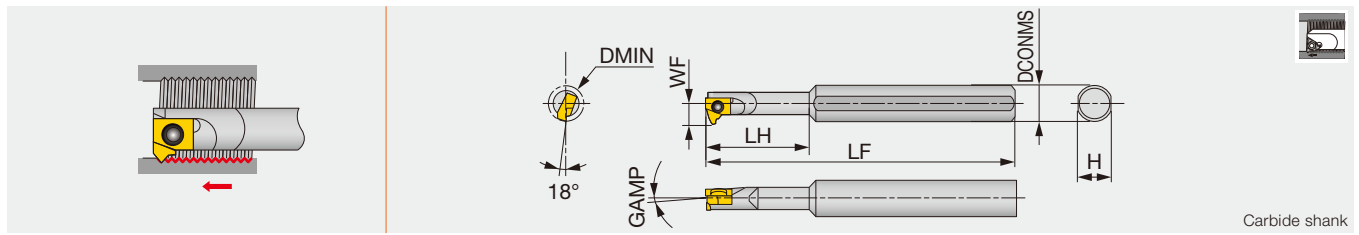
#### SPARE PARTS

| Designation   | Clamping screw    | Shim | Shim screw                         | Wrench | Seal cap |
|---------------|-------------------|------|------------------------------------|--------|----------|
| SIR0500M16B   | SR5-40-L9.7-S16S  | -    | -                                  | T-10/5 | PL062    |
| SIR0625P16B   | SR 5-40-L9.7-S16S | -    | -                                  | T-10/5 | PL 075   |
| SIR0750P16    | SR5-40-L12.2S16   | AI16 | SR5-40-L6.8-A16                    | T-10/5 | -        |
| SIR0750P16B   | SR 5-40-L12.2-S16 | AI16 | SR 5-40-L6.8-A16                   | T-10/5 | PL 075   |
| SIR0750P22    | SR8-32-L12-S22S   | -    | -                                  | T-20/5 | -        |
| SIR1000R16B   | SR 5-40-L12.2-S16 | AI16 | SR 5-40-L6.8-A16                   | T-10/5 | PL 100   |
| SIR1000R22    | SR8-32-L15-S22    | AI22 | SR8-32-L5.8-A22                    | T-20/5 | -        |
| SIR1250S16    | SR 5-40-L12.2-S16 | AI16 | SR 5-40-L6.8-A16, SR 8-32-L5.8-A22 | T-10/5 | -        |
| SIR1250S22    | SR8-32-L15-S22    | AI22 | SR8-32-L5.8-A22                    | T-20/5 | -        |
| SIR 1500 T27  | SRM5-L22-S40      | AI27 | SRM5-L5.8-A27                      | T-25/3 | -        |
| SIR0005H06... | SR 14-552         | -    | -                                  | T-6F-S | -        |
| SIR0007K08... | SR 14-558         | -    | -                                  | T-6F-S | -        |

Reference pages: SIR : Inserts → **E010, E015, E017**

## SNR-2/3

### Screw-on internal threading toolholder



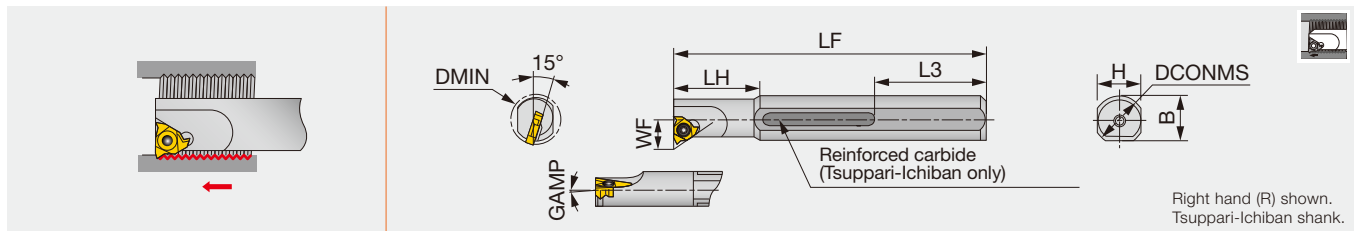
Carbide shank

| Metric         | Material | DMIN | DCONMS | WF  | LF  | LH | H | GAMP | Insert |
|----------------|----------|------|--------|-----|-----|----|---|------|--------|
| SNR0006H06-2   | Steel    | 8    | 8      | 4.7 | 100 | 18 | 7 | 2°   | 6IR... |
| SNR0006H06-3   | Steel    | 8    | 8      | 4.7 | 100 | 18 | 7 | 3°   | 6IR... |
| SNR0008H06-2   | Steel    | 10   | 8      | 5.7 | 100 | 18 | 7 | 2°   | 6IR... |
| SNR0008H06-3   | Steel    | 10   | 8      | 5.7 | 100 | 18 | 7 | 3°   | 6IR... |
| SNR0006K06SC-2 | Carbide  | 8    | 8      | 4.7 | 125 | 30 | 7 | 2°   | 6IR... |
| SNR0006K06SC-3 | Carbide  | 8    | 8      | 4.7 | 125 | 30 | 7 | 3°   | 6IR... |
| SNR0008K06SC-2 | Carbide  | 10   | 8      | 5.7 | 125 | 18 | 7 | 2°   | 6IR... |
| SNR0008K06SC-3 | Carbide  | 10   | 8      | 5.7 | 125 | 18 | 7 | 3°   | 6IR... |

Note: Use the right-hand insert (6IR...) for a right-hand holder (SNR...).

## SNR/L

### Screw-on internal threading toolholder



Right hand (R) shown.  
Tsuppari-Ichiban shank.

| Metric         | Material   | DMIN | DCONMS | WF   | LF  | LH   | L3 | H  | B    | GAMP | Insert    |
|----------------|------------|------|--------|------|-----|------|----|----|------|------|-----------|
| TSNR0016Q16    | Reinforced | 19   | 16     | 10.6 | 180 | 40   | 59 | 15 | -    | 1°   | 16IR...   |
| TSNR0020R22    | Reinforced | 24   | 20     | 13.9 | 200 | 50   | 49 | 18 | -    | 1°   | 22IR...   |
| SNR/L0010K11   | Steel      | 12   | 16     | 6.6  | 125 | 25   | -  | 15 | 15.5 | 1°   | 11IR/L... |
| SNR0010K11-2   | Steel      | 12   | 16     | 6.6  | 125 | 25   | -  | 15 | 15.5 | 2°   | 11IR...   |
| SNR0010K11-3   | Steel      | 12   | 16     | 6.6  | 125 | 25   | -  | 15 | 15.5 | 3°   | 11IR...   |
| SNR/L0013L11   | Steel      | 15   | 16     | 8.2  | 140 | 32.5 | -  | 15 | 15.5 | 1°   | 11IR/L... |
| SNR0013L11-2   | Steel      | 15   | 16     | 8.2  | 140 | 32.5 | -  | 15 | 15.5 | 2°   | 11IR...   |
| SNR0013L11-3   | Steel      | 15   | 16     | 8.2  | 140 | 32.5 | -  | 15 | 15.5 | 3°   | 11IR...   |
| SNR/L0016M16   | Steel      | 19   | 16     | 10.6 | 150 | 40   | -  | 15 | 15.5 | 1°   | 16IR/L... |
| SNR0016M16-2   | Steel      | 19   | 16     | 10.6 | 150 | 40   | -  | 15 | 15.5 | 2°   | 16IR...   |
| SNR0016M16-3   | Steel      | 19   | 16     | 10.6 | 150 | 40   | -  | 15 | 15.5 | 3°   | 16IR...   |
| SNR/L0020Q22   | Steel      | 24   | 20     | 13.9 | 180 | 50   | -  | 18 | 19   | 1°   | 22IR/L... |
| SNR0020Q22-2   | Steel      | 24   | 20     | 13.9 | 180 | 50   | -  | 18 | 19   | 2°   | 22IR...   |
| SNR0020Q22-3   | Steel      | 24   | 20     | 13.9 | 180 | 50   | -  | 18 | 19   | 3°   | 22IR...   |
| SNR0010M11SC   | Carbide    | 13   | 10     | 7.4  | 150 | 24   | -  | 9  | -    | 1°   | 11IR...   |
| SNR0010M11SC-2 | Carbide    | 13   | 10     | 7.4  | 150 | 24   | -  | 9  | -    | 2°   | 11IR...   |
| SNR0010M11SC-3 | Carbide    | 13   | 10     | 7.4  | 150 | 24   | -  | 9  | -    | 3°   | 11IR...   |
| SNR0012P11SC   | Carbide    | 15   | 12     | 8.5  | 170 | 28   | -  | 11 | -    | 1°   | 11IR...   |
| SNR0012P11SC-2 | Carbide    | 15   | 12     | 8.5  | 170 | 28   | -  | 11 | -    | 2°   | 11IR...   |
| SNR0012P11SC-3 | Carbide    | 15   | 12     | 8.5  | 170 | 28   | -  | 11 | -    | 3°   | 11IR...   |
| SNR/L0016R16SC | Carbide    | 20   | 16     | 11.9 | 200 | 35   | -  | 15 | -    | 1°   | 16IR/L... |
| SNR0016R16SC-2 | Carbide    | 20   | 16     | 11.9 | 200 | 35   | -  | 15 | -    | 2°   | 16IR...   |

Note: Use the right-hand insert (\*\*IR...) for a right-hand holder (SNR...); the left-hand insert (\*\*IL...) for a left-hand holder (SNL...).

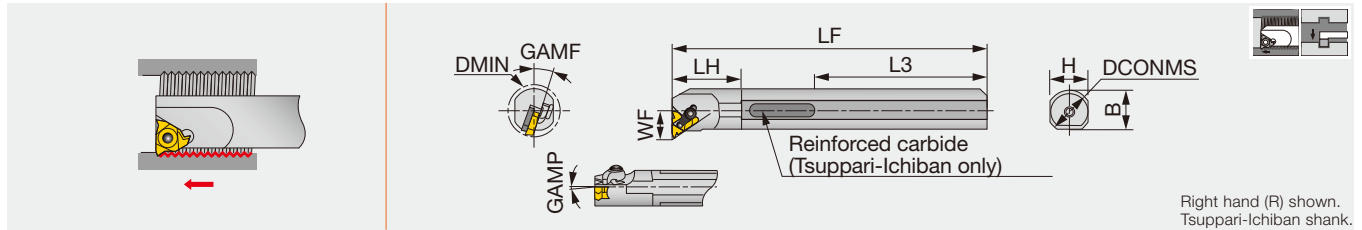
### SPARE PARTS

| Designation                                     | Clamping screw | Wrench |
|---|----------------|--------|
| SNR0006H06..., SNR0006K06SC...                  | CSTB-2L040     | T-6F   |
| SNR0008H06..., SNR0008K06SC...                  | CSTB-2L        | T-6F   |
| TSNR0016Q16, SNR/L0016M16..., SNR/L0016R16SC... | CSTB-3.5       | T-15F  |
| TSNR0020R22, SNR/L0020Q22...                    | CSTB-4         | T-15F  |
| SNR/L00**11..., SNR00**11SC...                  | CSTB-2.5       | T-8F   |

Reference pages: SNR-2/3 : Inserts → **E010, E015, E017, E023 - E025**

SNR/L : Inserts → **E010 - E011, E015, E017 - E019, E021 - E032**

Clamp-on internal threading toolholder (alternative clamping of screw-on or clamp-on only for DT type)



Right hand (R) shown.  
Tsuppari-Ichiban shank.

| Metric        | Material   | DMIN | DCONMS | WF   | LF  | LH | L3 | H  | B    | GAMF | GAMP | Insert    |
|---------------|------------|------|--------|------|-----|----|----|----|------|------|------|-----------|
| TCNR0020R16DT | Reinforced | 24   | 20     | 14   | 200 | 30 | 49 | 18 | -    | 15°  | 1°   | 16IR...   |
| TCNR0025S16DT | Reinforced | 29   | 25     | 16.5 | 250 | 38 | 64 | 23 | -    | 15°  | 1°   | 16IR...   |
| TCNR0025S22DT | Reinforced | 30   | 25     | 18.2 | 250 | 38 | 64 | 23 | -    | 15°  | 1°   | 22IR...   |
| CNR/L0020P16  | Steel      | 24   | 20     | 14   | 170 | 30 | -  | 18 | 19   | 15°  | 1°   | 16IR/L... |
| CNR/L0025R16  | Steel      | 29   | 25     | 16.5 | 200 | 38 | -  | 23 | 24   | 15°  | 1°   | 16IR/L... |
| CNR/L0032S16  | Steel      | 37   | 32     | 20.1 | 250 | 48 | -  | 30 | 31   | 15°  | 1°   | 16IR/L... |
| CNR/L0025R22  | Steel      | 30   | 25     | 18.2 | 200 | 38 | -  | 23 | 24   | 15°  | 1°   | 16IR/L... |
| CNR/L0032S22  | Steel      | 38   | 32     | 21.9 | 250 | 48 | -  | 30 | 31   | 15°  | 1°   | 22IR/L... |
| CNR0040T27    | Steel      | 46   | 40     | 26.9 | 300 | 60 | -  | 37 | 38.5 | 10°  | 1°   | 27IR...   |

Note: A clamp set consists of a clamp and a clamping screw.

A shim set consists of a shim and a shim screw to secure the shim to the shank.

Standard shims can be used on both right- and left-hand toolholders. Please use either of the sides depending on the tool hand.

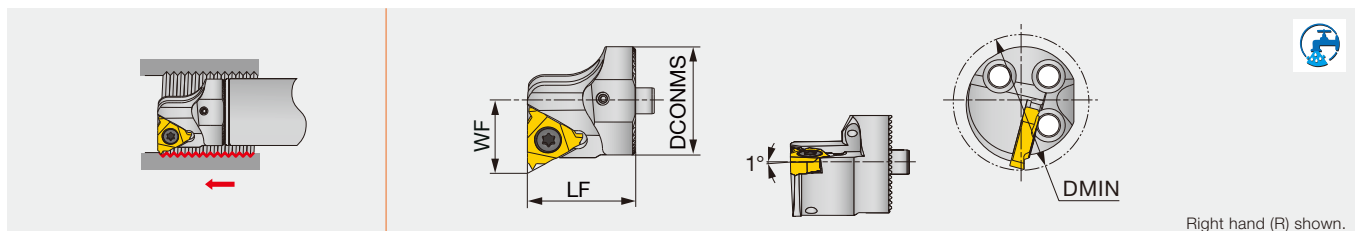
Use the right-hand insert (\*\*IR...) for a right-hand holder (CNR...); the left-hand insert (\*\*IL...) for a left-hand holder (CNL...).

When using DT type, please remove either the clamp set or the insert clamping screw.

# BOREMEISTER

## S-SNR-H

Screw-on clamp exchangeable boring head, for threading inserts



Right hand (R) shown.

| Metric      | DMIN | DCONMS | WF | LF | Shank         | Insert  |
|-------------|------|--------|----|----|---------------|---------|
| S20-SNR16-H | 25   | 20     | 14 | 25 | D20           | 16IR... |
| S25-SNR16-H | 32   | 25     | 17 | 25 | D25           | 16IR... |
| S32-SNR16-H | 40   | 32     | 22 | 32 | D32           | 16IR... |
| S40-SNR16-H | 50   | 40     | 27 | 32 | D40, D50, D60 | 16IR... |

### SPARE PARTS

| Designation   | Clamp set | Clamping screw | Shim screw | Shim     | Shim set R | Shim set L | Wrench 1 | Wrench 2 | Wrench 3 |
|---------------|-----------|----------------|------------|----------|------------|------------|----------|----------|----------|
| TCNR002**16DT | CSP16     | CSTB-3.5ST     | DTS5-3.5   | A16-1DT  | -          | -          | P-3.5    | T-15F    | -        |
| TCNR0025S22DT | CSP22     | CSTB-4ST       | DTS6-4     | GX22-1DT | -          | -          | P-4      | T-15F    | T-20F    |
| CNR/L**16     | CSP16     | -              | -          | -        | A16-1      | A16-1      | -        | T-15F    | -        |
| CNR/L**22     | CSP22     | -              | -          | -        | NXN22-1    | NXE22-1    | -        | T-20F    | -        |
| CNR0040T27    | CSP27     | -              | -          | -        | NXN27-1    | NXE27-1    | P-4      | -        | -        |
| S**-SNR16-H   | -         | CSTB-3.5       | -          | -        | -          | -          | -        | T-15F    | -        |

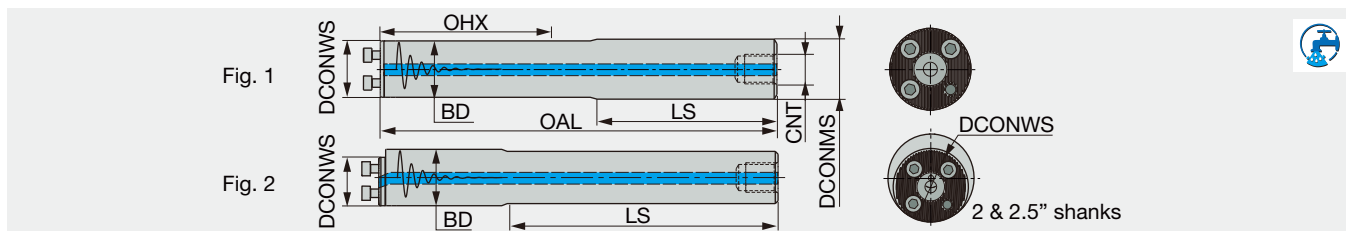
Reference pages: CNR/L : Inserts → **E010 - E011, E015, E017 - E019, E021 - E030**

S-SNR-H : Inserts → **E010 - E011, E015, E018 - E019, E021 - E030**



## Straight Shank

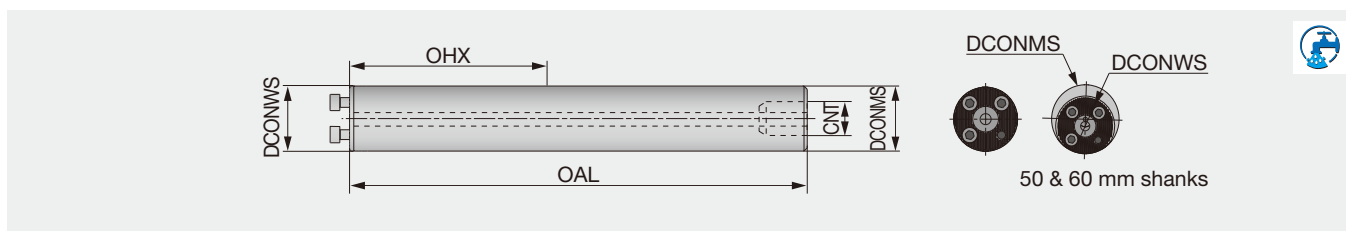
Anti-vibration bars with through coolant for interchangeable turning heads



| Inch               | Material | DCONWS | DCONMS | BD    | OAL    | LS     | OHX    | CNT  | Fig. |
|--------------------|----------|--------|--------|-------|--------|--------|--------|------|------|
| D.625-L6.14-7D-C   | Steel    | 0.630  | 0.625  | 0.630 | 6.140  | 3.600  | 3.500  | G1/8 | 1    |
| G.625-L8.03-10D-E  | Carbide  | 0.630  | 0.625  | 0.630 | 8.030  | 5.220  | 5.500  | -    | 1    |
| D.750-L7.87-7D-C   | Steel    | 0.787  | 0.750  | 0.787 | 7.870  | 4.940  | 4.400  | G1/4 | 1    |
| G.750-L10.24-10D-E | Carbide  | 0.787  | 0.750  | 0.787 | 10.240 | 6.770  | 7.000  | -    | 1    |
| D1.00-L10.2-7D-C   | Steel    | 0.984  | 1.000  | 0.984 | 10.200 | 6.830  | 6.200  | G1/4 | 1    |
| D1.00-L13.21-10D-C | Steel    | 0.984  | 1.000  | 0.984 | 13.210 | 8.650  | 9.200  | G1/4 | 1    |
| D1.25-L12.48-7D-C  | Steel    | 1.260  | 1.250  | 1.260 | 12.480 | 7.370  | 7.500  | G3/8 | 1    |
| D1.25-L16.24-10D-C | Steel    | 1.260  | 1.250  | 1.260 | 16.240 | 9.670  | 11.200 | G3/8 | 1    |
| D1.50-L15.26-7D-C  | Steel    | 1.575  | 1.500  | 1.575 | 15.260 | 9.130  | 9.200  | G1/2 | 1    |
| D1.50-L19.8-10D-C  | Steel    | 1.575  | 1.500  | 1.575 | 19.800 | 13.350 | 13.700 | G1/2 | 1    |
| D2.00-L20.74-7D-C  | Steel    | 1.575  | 2.000  | 2.000 | 20.740 | -      | 12.700 | G1/2 | 2    |
| D2.00-L26.73-10D-C | Steel    | 1.575  | 2.000  | 2.000 | 26.730 | -      | 18.700 | G1/2 | 2    |
| D2.50-L26.2-7D-C   | Steel    | 1.575  | 2.500  | 2.500 | 26.200 | -      | 16.200 | G3/4 | 2    |
| D2.50-L33.72-10D-C | Steel    | 1.575  | 2.500  | 2.500 | 33.720 | -      | 23.700 | G3/4 | 2    |

## Straight Shank

Anti-vibration bars with through coolant for interchangeable turning heads



| Metric         | Material | DCONWS | DCONMS | OAL   | OHX | CNT  |
|----------------|----------|--------|--------|-------|-----|------|
| D16-L156-7D-C  | Steel    | 16     | 16     | 156.3 | 92  | G1/8 |
| G16-L204-10D-E | Carbide  | 16     | 16     | 204.3 | 140 | -    |
| D20-L200-7D-C  | Steel    | 20     | 20     | 200.3 | 120 | G1/4 |
| G20-L260-10D-E | Carbide  | 20     | 20     | 260.3 | 180 | -    |
| D25-L255-7D-C  | Steel    | 25     | 25     | 257.5 | 155 | G1/4 |
| D25-L330-10D-C | Steel    | 25     | 25     | 332.5 | 230 | G1/4 |
| D32-L320-7D-C  | Steel    | 32     | 32     | 323   | 192 | G3/8 |
| D32-L416-10D-C | Steel    | 32     | 32     | 419   | 288 | G3/8 |
| D40-L408-7D-C  | Steel    | 40     | 40     | 411   | 248 | G1/2 |
| D40-L528-10D-C | Steel    | 40     | 40     | 531   | 368 | G1/2 |
| D50-L518-7D-C  | Steel    | 40     | 50     | 523   | 318 | G1/2 |
| D50-L668-10D-C | Steel    | 40     | 50     | 673   | 468 | G1/2 |
| D60-L628-7D-C  | Steel    | 40     | 60     | 633   | 388 | G3/4 |
| D60-L808-10D-C | Steel    | 40     | 60     | 813   | 568 | G3/4 |

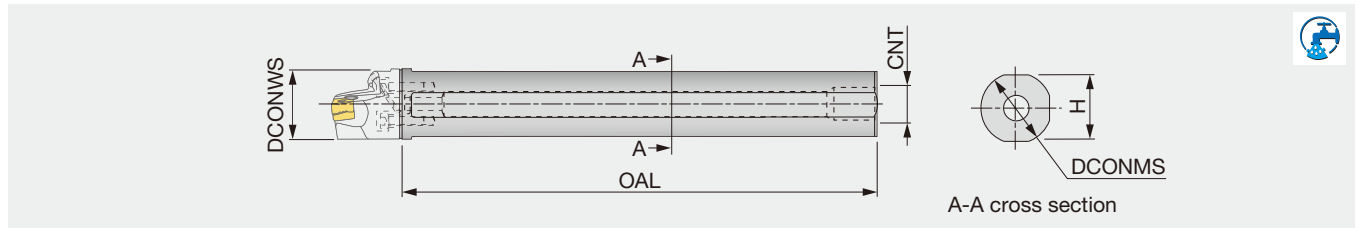
### SPARE PARTS

| Designation  | Clamping screw     | Wrench |
|--|--------------------|--------|
| D16-L..., G16-L..., D.625..., G.625...                     | SRM3X10DIN912      | HW2.5  |
| D20-L..., G20-L..., D.750..., G.750...                     | SR55-2M3.5X10      | HW2.5  |
| D25-L..., D1.00...   | SRM4X12DIN912      | HW3.0  |
| D32-L..., D1.25...   | SRM5X12DIN912      | HW4.0  |
| D40-L..., D50-L..., D60-L..., D1.50..., D2.00..., D2.50... | SRM6X16DIN912-12.9 | HW5.0  |

# BOREMEISTER

## D#4D-SH

Steel shank for internal turning, with through coolant



| Inch               | Material | DCONWS | DCONMS | OAL   | CNT            | H     |
|--------------------|----------|--------|--------|-------|----------------|-------|
| D1.00-L7.2-4D-SH   | Steel    | 1.000  | 1.000  | 7.200 | UNF-2B 1/2"-20 | 0.921 |
| D1.25-L8.74-4D-SH  | Steel    | 1.250  | 1.250  | 8.740 | UNF-2B 1/2"-20 | 1.142 |
| D1.50-L10.75-4D-SH | Steel    | 1.575  | 1.500  | 10.75 | UNF-2B 1/2"-20 | 1.339 |
| D2.00-L14.72-4D-SH | Steel    | 1.575  | 2.000  | 14.72 | UNF-2B 1/2"-20 | 1.811 |
| D2.50-L18.74-4D-SH | Steel    | 1.575  | 2.500  | 18.74 | UNF-2B 1/2"-20 | 2.283 |

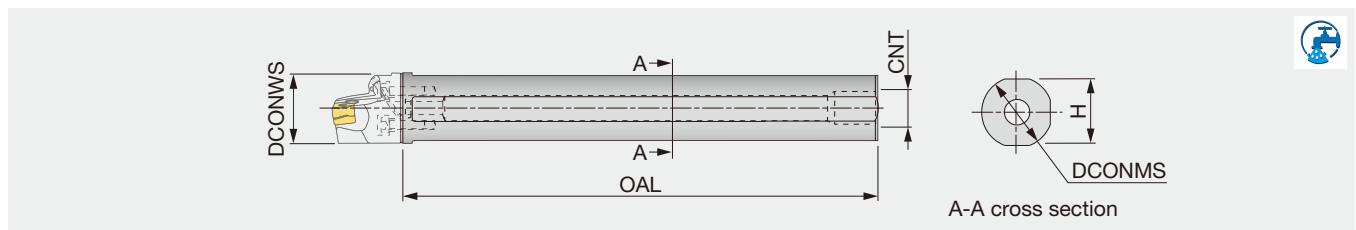
### SPARE PARTS



| Designation        | Clamping screw     | Wrench |
|--------------------|--------------------|--------|
| D1.00-L7.2-4D-SH   | SR M4X12DIN912     | HW 3.0 |
| D1.25-L8.74-4D-SH  | SR M5X12 DIN912    | HW 4.0 |
| D1.50-L10.75-4D-SH | SRM6X16DIN912-12.9 | HW 5.0 |
| D2.00-L14.72-4D-SH | SRM6X16DIN912-12.9 | HW 5.0 |
| D2.50-L18.74-4D-SH | SRM6X16DIN912-12.9 | HW 5.0 |

## D#4D-SH

Steel shank for internal turning, with through coolant



| Metric         | Material | DCONWS | DCONMS | OAL | CNT             | H  |
|----------------|----------|--------|--------|-----|-----------------|----|
| D16-L105-4D-SH | Steel    | 16     | 16     | 105 | UNC-2B 3/8"-16  | 15 |
| D20-L140-4D-SH | Steel    | 20     | 20     | 140 | UNFC-2B 3/8"-24 | 18 |
| D25-L200-4D-SH | Steel    | 25     | 25     | 200 | UNF-2B 1/2"-20  | 23 |
| D32-L218-4D-SH | Steel    | 32     | 32     | 218 | UNF-2B 1/2"-20  | 29 |
| D40-L283-4D-SH | Steel    | 40     | 40     | 283 | UNF-2B 1/2"-20  | 36 |

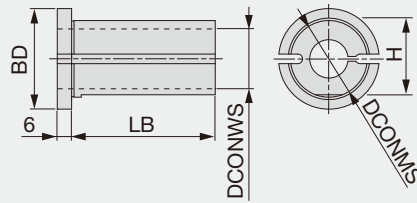
### SPARE PARTS



| Designation | Clamping screw     | Wrench |
|-------------|--------------------|--------|
| D16**4D-SH  | SRM3X10DIN912      | HW2.5  |
| D20**4D-SH  | SR55-2M3.5X10      | HW2.5  |
| D25**4D-SH  | SRM4X12DIN912      | HW3.0  |
| D32**4D-SH  | SRM5X12DIN912      | HW4.0  |
| D40**4D-SH  | SRM6X16DIN912-12.9 | HW5.0  |

## RSL sleeve

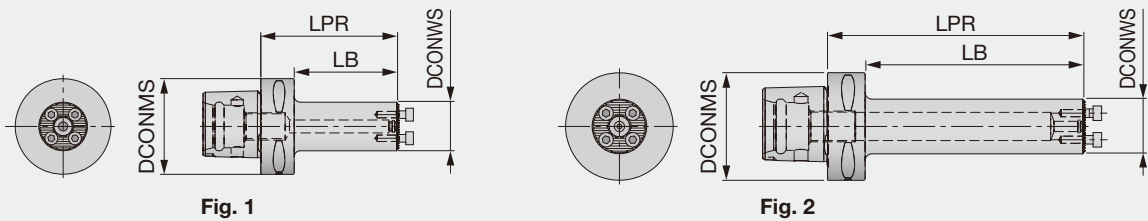
Split sleeve for anti-vibration bar



| Inch               | DCONWS | DCONMS | BD    | LB    | H     |
|--------------------|--------|--------|-------|-------|-------|
| RSL-31.8-15.9-L66  | 0.625  | 1.250  | 1.654 | 2.362 | 1.210 |
| RSL-31.8-19-L66    | 0.750  | 1.250  | 1.654 | 2.362 | 1.210 |
| RSL-31.8-25.4-L66  | 1.000  | 1.250  | 1.654 | 2.362 | 1.210 |
| RSL-38.1-15.9-L106 | 0.625  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-38.1-19-L106   | 0.750  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-38.1-25.4-L106 | 1.000  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-38.1-31.8-L106 | 1.250  | 1.500  | 1.969 | 3.937 | 1.461 |
| RSL-50.8-19-L126   | 0.750  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-50.8-25.4-L126 | 1.000  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-50.8-31.8-L126 | 1.250  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-50.8-38.1-L126 | 1.500  | 2.000  | 2.362 | 4.724 | 1.941 |
| RSL-63.5-31.8-L156 | 1.250  | 2.500  | 2.756 | 5.906 | 2.441 |
| RSL-63.5-38.1-L156 | 1.500  | 2.500  | 2.756 | 5.906 | 2.441 |
| RSL-63.5-50.8-L156 | 2.000  | 2.500  | 2.756 | 5.906 | 2.441 |
| Metric             | DCONWS | DCONMS | BD    | LB    | H     |
| RSL-32-16-L66      | 16     | 32     | 42    | 60    | 31    |
| RSL-32-20-L66      | 20     | 32     | 42    | 60    | 31    |
| RSL-32-25-L66      | 25     | 32     | 42    | 60    | 31    |
| RSL-40-16-L76      | 16     | 40     | 50    | 70    | 38.5  |
| RSL-40-20-L76      | 20     | 40     | 50    | 70    | 38.5  |
| RSL-40-25-L76      | 25     | 40     | 50    | 70    | 38.5  |

## C#-SH-CHP / C#-SH-E-CHP

PSC compatible adapter with steel or carbide core



| Metric             | Material | DCONWS | DCONMS | LPR | LB  | Fig |
|--------------------|----------|--------|--------|-----|-----|-----|
| C4-SH-D16-2.5D-CHP | Steel    | 16     | 40     | 40  | 20  | 1   |
| C4-SH-D20-2.5D-CHP | Steel    | 20     | 40     | 50  | 30  | 1   |
| C4-SH-D25-2.5D-CHP | Steel    | 25     | 40     | 55  | 35  | 1   |
| C4-SH-D32-2.5D-CHP | Steel    | 32     | 40     | 75  | 55  | 1   |
| C4-SH-D40-3D-CHP   | Steel    | 40     | 40     | 80  | 80  | 1   |
| C6-SH-D20-5D-E-CHP | Carbide  | 20     | 63     | 100 | 78  | 2   |
| C6-SH-D25-5D-E-CHP | Carbide  | 25     | 63     | 115 | 93  | 2   |
| C6-SH-D32-5D-E-CHP | Carbide  | 32     | 63     | 150 | 128 | 2   |
| C6-SH-D40-5D-E-CHP | Carbide  | 40     | 63     | 185 | 163 | 2   |

### SPARE PARTS



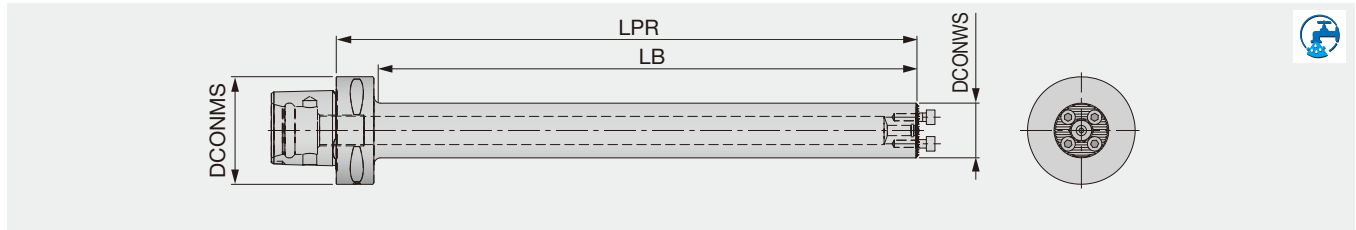
| Designation   | Clamping screw     | Wrench |
|---------------|--------------------|--------|
| C4**D16...    | SRM3X10DIN912      | HW2.5  |
| C4/C6**D20... | SR55-2M3.5X10      | HW2.5  |
| C4/C6**D25... | SRM4X12DIN912      | HW3.0  |
| C4/C6**D32... | SRM5X12DIN912      | HW4.0  |
| C4/C6**D40... | SRM6X16DIN912-12.9 | HW5.0  |



# BOREMEISTER

C6-9D-C

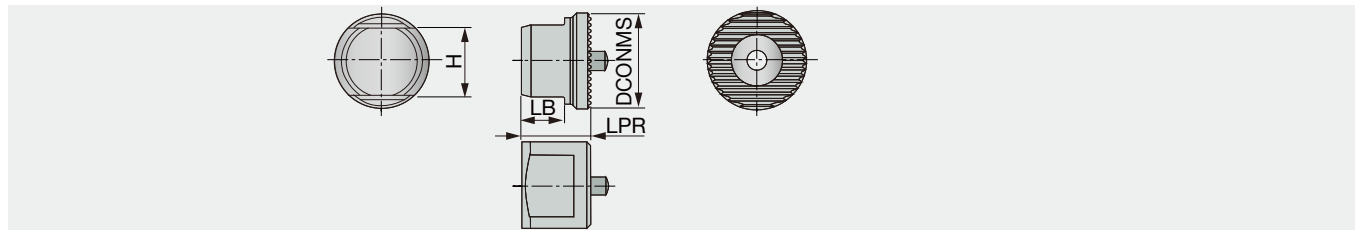
PSC adapter with anti vibration, L/D = 9



| Metric           | Material | DCONWS | DCONMS | LPR   | LB    | WT (kg) |
|------------------|----------|--------|--------|-------|-------|---------|
| C6-D25-L230-9D-C | Steel    | 25     | 63     | 230.5 | 200.1 | 1.65    |
| C6-D32-L288-9D-C | Steel    | 32     | 63     | 288.5 | 259.5 | 2.73    |
| C6-D40-L368-9D-C | Steel    | 40     | 63     | 368.5 | 339   | 4.45    |

## AVC-SET

Center height set up device



| Metric        | DCONMS | H  | LPR  | LB    | Applicable shank |
|---------------|--------|----|------|-------|------------------|
| AVC-SET 16-25 | 20     | 15 | 14.5 | 8.9   | 16, 20, 25       |
| AVC-SET 32-60 | 29     | 16 | 17.5 | 11.43 | 32, 40, 50, 60   |

## SPARE PARTS

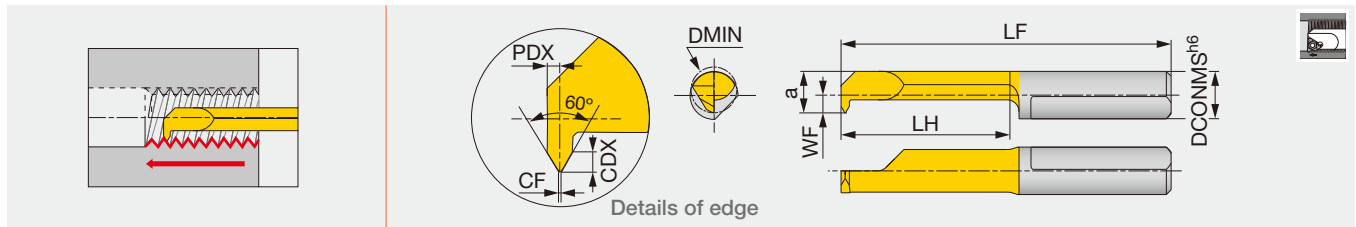


| Designation | Clamping screw     | Wrench |
|-------------|--------------------|--------|
| C6-D25...   | SRM4X12DIN912      | HW3.0  |
| C6-D32...   | SRM5X12DIN912      | HW4.0  |
| C6-D40...   | SRM6X16DIN912-12.9 | HW5.0  |

## TINYM<sup>INI</sup>TURN

TBIR

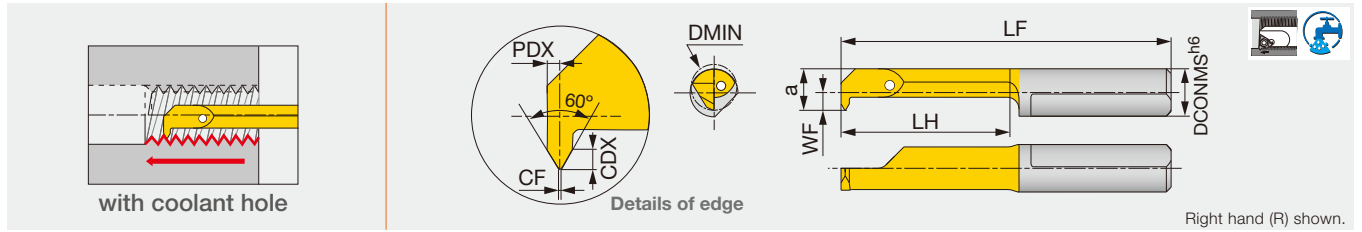
Solid boring bar for internal threading



| Metric            | SH725 | Pitch | DMIN | CF- <sup>0</sup> <sub>0.02</sub> | DCONMS | WF  | a   | LF | LH | CDX | PDX  |
|-------------------|-------|-------|------|----------------------------------|--------|-----|-----|----|----|-----|------|
| TBIR04140050-D040 | ●     | 0.5   | 4    | 0.06                             | 4      | 1.5 | 3.5 | 30 | 14 | 0.3 | 0.35 |
| TBIR07140050-D050 | ●     | 0.5   | 5    | 0.06                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.3 | 0.35 |
| TBIR07140075-D050 | ●     | 0.75  | 5    | 0.09                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.4 | 0.45 |
| TBIR07140100-D048 | ●     | 1     | 4.8  | 0.12                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.6 | 0.55 |
| TBIR07140100-D060 | ●     | 1     | 6    | 0.12                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.6 | 0.55 |
| TBIR07140150-D060 | ●     | 1.5   | 6    | 0.18                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.8 | 0.75 |

● : Line up

### Solid boring bars for threading (metric)

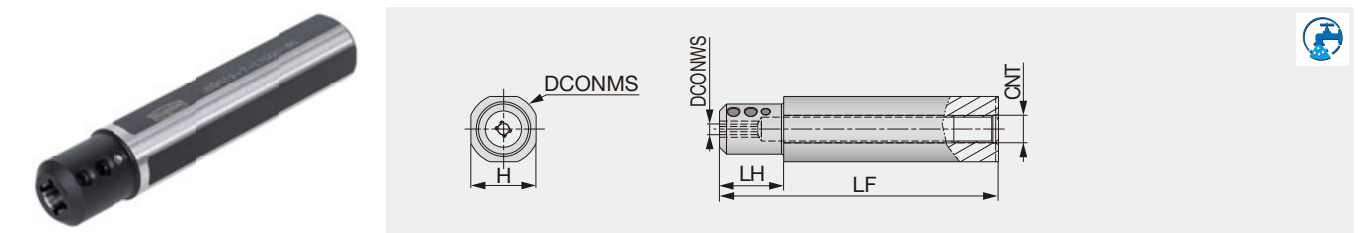


| Metric            | SH725 | Pitch | DMIN | CF <sup>0</sup> <sub>-0.02</sub> | DCONMS | WF  | a   | LF | LH | CDX | PDX  |
|-------------------|-------|-------|------|----------------------------------|--------|-----|-----|----|----|-----|------|
| JBIR04140050-D040 | ●     | 0.5   | 4    | 0.06                             | 4      | 1.5 | 3.5 | 30 | 14 | 0.3 | 0.35 |
| JBIR07140050-D050 | ●     | 0.5   | 5    | 0.06                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.3 | 0.35 |
| JBIR07140075-D050 | ●     | 0.75  | 5    | 0.09                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.4 | 0.45 |
| JBIR07140100-D048 | ●     | 1     | 4.8  | 0.12                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.6 | 0.55 |
| JBIR07140100-D060 | ●     | 1     | 6    | 0.12                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.6 | 0.55 |
| JBIR07140125-D060 | ●     | 1.25  | 6    | 0.15                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.7 | 0.65 |
| JBIR07140150-D060 | ●     | 1.5   | 6    | 0.18                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.8 | 0.75 |
| JBIR07140150-D070 | ●     | 1.5   | 7    | 0.18                             | 7      | 2.8 | 6.3 | 30 | 14 | 0.8 | 0.75 |

● : Line up

### JBBS-4N

#### Sleeve for internal coolant supply with 4 coolant holes



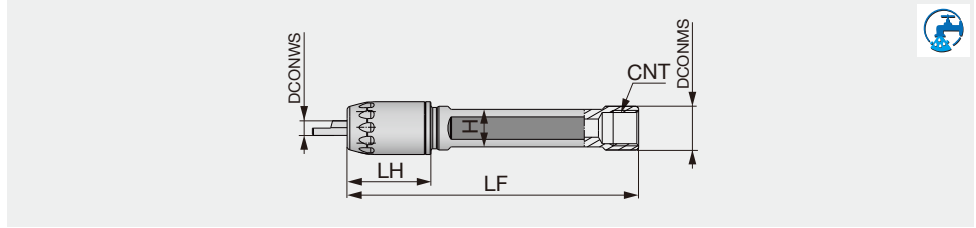
| Metric             | DCONMS | DCONWS | LF  | LH | H     | CNT    |
|--------------------|--------|--------|-----|----|-------|--------|
| JBBS12-4-L80C-4N   | 12     | 4      | 80  | 10 | 10.3  | Rc1/16 |
| JBBS127-4-L80C-4N  | 12.7   | 4      | 80  | 10 | 11.6  | Rc1/16 |
| JBBS14-4-L80C-4N   | 14     | 4      | 80  | 10 | 12    | Rc1/8  |
| JBBS159-4-L100C-4N | 15.875 | 4      | 100 | 10 | 14.58 | Rc1/8  |
| JBBS159-7-L100C-4N | 15.875 | 7      | 100 | 10 | 14.58 | Rc1/8  |
| JBBS16-4-L100C-4N  | 16     | 4      | 100 | 10 | 15    | Rc1/8  |
| JBBS16-7-L100C-4N  | 16     | 7      | 100 | 10 | 15    | Rc1/8  |
| JBBS19-4-L100C-4N  | 19.05  | 4      | 100 | 20 | 17.2  | Rc1/8  |
| JBBS19-7-L100C-4N  | 19.05  | 7      | 100 | 20 | 17.2  | Rc1/8  |
| JBBS20-4-L100C-4N  | 20     | 4      | 100 | 20 | 18    | Rc1/8  |
| JBBS20-7-L100C-4N  | 20     | 7      | 100 | 20 | 18    | Rc1/8  |
| JBBS22-4-L100C-4N  | 22     | 4      | 100 | 20 | 20    | Rc1/8  |
| JBBS22-7-L100C-4N  | 22     | 7      | 100 | 20 | 20    | Rc1/8  |
| JBBS25-4-L100C-4N  | 25     | 4      | 100 | 23 | 23    | Rc1/8  |
| JBBS25-7-L100C-4N  | 25     | 7      | 100 | 23 | 23    | Rc1/8  |
| JBBS254-4-L100C-4N | 25.4   | 4      | 100 | 23 | 23.4  | Rc1/8  |
| JBBS254-7-L100C-4N | 25.4   | 7      | 100 | 23 | 23.4  | Rc1/8  |

### SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| JBBS*-4-L***C-4N | SSHM5-6PF-S    | P-2.5  |
| JBBS*-7-L***C-4N | SSHM5-4PF-S    | P-2.5  |

# JBBSA-C

## Collet chuck sleeve with internal coolant supply



| Metric           | DCONMS | DCONWS | LF  | LH | H    | CNT   |
|------------------|--------|--------|-----|----|------|-------|
| JBBSA12-4-L80C   | 12     | 4      | 80  | 23 | 10.3 | Rc1/8 |
| JBBSA127-4-L80C  | 12.7   | 4      | 80  | 23 | 11.6 | Rc1/8 |
| JBBSA14-4-L80C   | 14     | 4      | 80  | 23 | 12   | Rc1/8 |
| JBBSA159-4-L100C | 15.875 | 4      | 100 | 23 | 14   | Rc1/8 |
| JBBSA159-7-L100C | 15.875 | 7      | 100 | 23 | 14   | Rc1/8 |
| JBBSA16-4-L100C  | 16     | 4      | 100 | 23 | 14   | Rc1/8 |
| JBBSA16-7-L100C  | 16     | 7      | 100 | 23 | 14   | Rc1/8 |
| JBBSA19-4-L120C  | 19.05  | 4      | 120 | 23 | 17.2 | Rc1/8 |
| JBBSA19-7-L120C  | 19.05  | 7      | 120 | 23 | 17.2 | Rc1/8 |
| JBBSA20-4-L120C  | 20     | 4      | 120 | 23 | 18   | Rc1/8 |
| JBBSA20-7-L120C  | 20     | 7      | 120 | 23 | 18   | Rc1/8 |
| JBBSA22-4-L135C  | 22     | 4      | 135 | 23 | 20   | Rc1/8 |
| JBBSA22-7-L135C  | 22     | 7      | 135 | 23 | 20   | Rc1/8 |
| JBBSA25-4-L135C  | 25     | 4      | 120 | 23 | 23   | Rc1/8 |
| JBBSA25-7-L135C  | 25     | 7      | 120 | 23 | 23   | Rc1/8 |
| JBBSA254-4-L120C | 25.4   | 4      | 120 | 23 | 23.4 | Rc1/8 |
| JBBSA254-7-L120C | 25.4   | 7      | 120 | 23 | 23.4 | Rc1/8 |

### SPARE PARTS

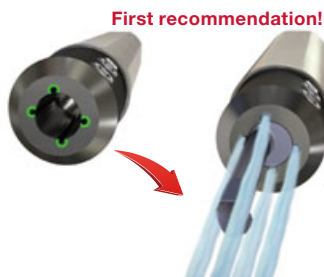


| Designation    | Cap     | Wrench     |
|----------------|---------|------------|
| JBBSA**-4-L... | CAP-A-4 | WRENCH-A-4 |
| JBBSA**-7-L... | CAP-A-7 | WRENCH-A-7 |

## ■ New sleeve with four coolant holes for optimal performance

- Optimum sleeve option for all boring operations. Sleeves with four coolant holes can be used with all TinyMini-Turn tools
- 4 streams of coolant jets are directed to the cutting point, improving chip evacuation
- Sufficient coolant supply eliminates chip bird-nesting on the tools or workpiece, enabling trouble-free, unattended operation over an extended time
- Significantly prolongs tool life

### Internal coolant sleeve



Excellent chip evacuation



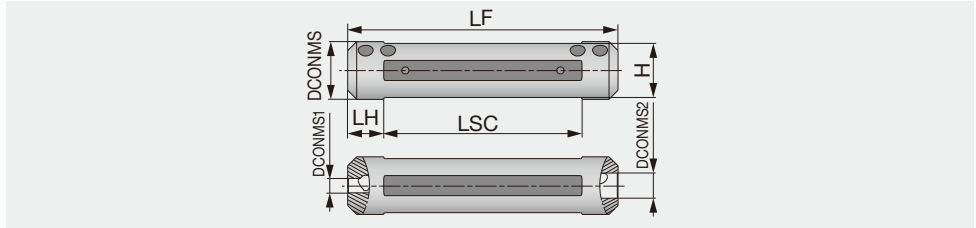
- No chip jamming
- No machine stoppage
- No downtime

### Conventional (External coolant)



- Chip jamming
- Increased machine downtime

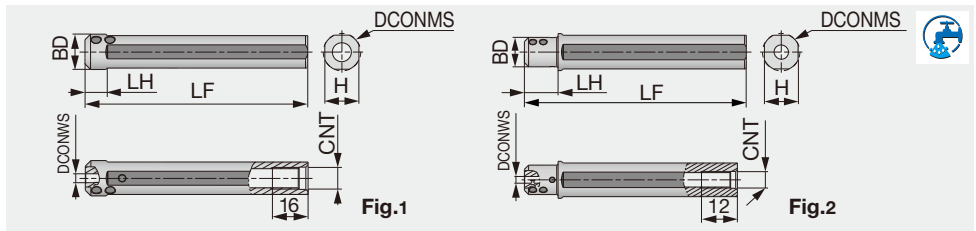
### Sleeve for external coolant supply



| Metric      | DCONMS | DCONWS1 | DCONWS2 | LF   | LH | LSC  | H    |
|-------------|--------|---------|---------|------|----|------|------|
| JBBS12-4-4  | 12     | 4       | 4       | 75   | 10 | 55   | 10.3 |
| JBBS127-4-4 | 12.7   | 4       | 4       | 76.2 | 10 | 56.2 | 11.6 |
| JBBS14-4-4  | 14     | 4       | 4       | 75   | 10 | 55   | 12   |
| JBBS159-4-7 | 15.875 | 4       | 7       | 76.2 | 10 | 56.2 | 14   |
| JBBS16-4-7  | 16     | 4       | 7       | 75   | 10 | 55   | 15   |
| JBBS19-4-7  | 19.05  | 4       | 7       | 89   | 10 | 69   | 17.2 |
| JBBS20-4-7  | 20     | 4       | 7       | 90   | 10 | 70   | 18   |
| JBBS22-4-7  | 22     | 4       | 7       | 90   | 10 | 70   | 20   |
| JBBS25-4-7  | 25     | 4       | 7       | 100  | 10 | 80   | 23   |
| JBBS254-4-7 | 25.4   | 4       | 7       | 90   | 10 | 70   | 23.4 |

### JBBS-C

### Sleeve for internal coolant supply



| Metric          | DCONMS | BD     | DCONWS | LF  | LH | H     | CNT   | Fig |
|-----------------|--------|--------|--------|-----|----|-------|-------|-----|
| JBBS159-4-L100C | 15.875 | 15.875 | 4      | 100 | 10 | 14.58 | Rc1/8 | 1   |
| JBBS159-7-L100C | 15.875 | 15.875 | 7      | 100 | 10 | 14.58 | Rc1/8 | 1   |
| JBBS16-4-L100C  | 16     | 16     | 4      | 100 | 10 | 15    | Rc1/8 | 1   |
| JBBS16-7-L100C  | 16     | 16     | 7      | 100 | 10 | 15    | Rc1/8 | 1   |
| JBBS19-4-L100C  | 19.05  | 17.5   | 4      | 100 | 20 | 17.2  | Rc1/8 | 2   |
| JBBS19-7-L100C  | 19.05  | 17.5   | 7      | 100 | 20 | 17.2  | Rc1/8 | 2   |
| JBBS20-4-L100C  | 20     | 17.5   | 4      | 100 | 20 | 18    | Rc1/8 | 2   |
| JBBS20-7-L100C  | 20     | 17.5   | 7      | 100 | 20 | 18    | Rc1/8 | 2   |
| JBBS22-4-L100C  | 22     | 17.5   | 4      | 100 | 20 | 20    | Rc1/8 | 2   |
| JBBS22-7-L100C  | 22     | 17.5   | 7      | 100 | 20 | 20    | Rc1/8 | 2   |
| JBBS25-4-L100C  | 25     | 18     | 4      | 100 | 23 | 23    | Rc1/8 | 2   |
| JBBS25-7-L100C  | 25     | 18     | 7      | 100 | 23 | 23    | Rc1/8 | 2   |
| JBBS254-4-L100C | 25.4   | 18     | 4      | 100 | 23 | 23.4  | Rc1/8 | 2   |
| JBBS254-7-L100C | 25.4   | 18     | 7      | 100 | 23 | 23.4  | Rc1/8 | 2   |

### SPARE PARTS

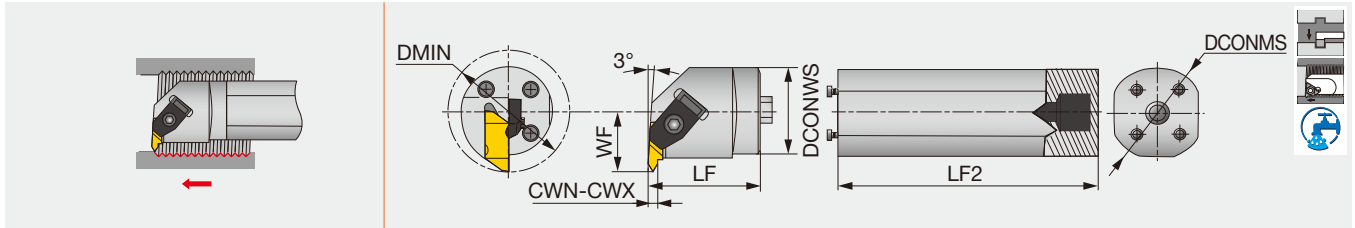
| Designation                             | Clamping screw | Wrench |
|---|----------------|--------|
| JBBS12-4-4, JBBS14-4-4<br>JBBS*-7-L100C | SSHM5-4PF-S    | P-2.5  |
| JBBS127-4-4, JBBS*-4-7<br>JBBS*-4-L100C | SSHM5-6PF-S    | P-2.5  |



# TUNGST-CLAMP

## HS-FLER

Head exchangeable internal grooving and threading toolholder



| Metric        | DMIN | DCONWS | LF   | WF   | Insert    | Torque* |
|---------------|------|--------|------|------|-----------|---------|
| HS40-FLER3W** | 56.1 | 40     | 41.3 | 25.4 | FLT-3L... | 3       |
| HS50-FLER3W   | 70.1 | 50     | 41.9 | 35   | FLT-3L... | 3       |

\*\* Compatible with the BoreMeister system.

Torque\* : Recommended clamping torque (N-m)

Note: Use the left-hand insert (FLT-3L...) for a right-hand holder (HS\*\*-FLER...).

### SPARE PARTS



| Designation | Clamp | Clamping screw 2 | Wrench  |
|-------------|-------|------------------|---------|
| HS40-FLER3W | TF-73 | S-412            | 5/32HEX |
| HS50-FLER3W | TF-73 | S-412            | 5/32HEX |

### Shank

| Designation  | DCONMS | LF2 |
|--------------|--------|-----|
| S-570-40M-40 | 40     | 273 |
| S-570-50M-50 | 50     | 366 |

### Spare parts



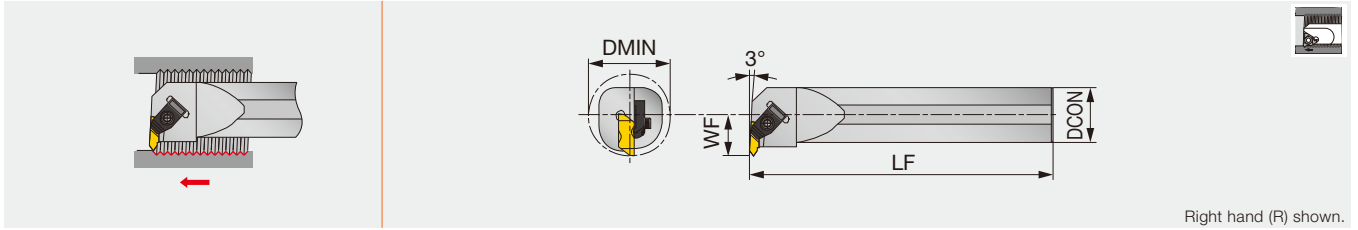
| Designation  | Clamping screw | Wrench  |
|--------------|----------------|---------|
| S-570-40M-40 | SS100          | 5/32HEX |
| S-570-50M-50 | SS94           | 1/4EX   |

Reference pages: HS-FLER : Inserts → [E014](#)

# TUNGST-CLAMP

## A\_M-FLER/L

Internal grooving and threading toolholder



Right hand (R) shown.

| Inch        | Pitch         | DMIN  | DCON  | LF     | WF    | Insert        |
|-------------|---------------|-------|-------|--------|-------|---------------|
| A08-FLER/L2 | 0.031 - 0.125 | 0.730 | 0.500 | 8.000  | 0.437 | FL*-2**L/R... |
| A10-FLER2   | 0.031 - 0.125 | 1.000 | 0.625 | 10.000 | 0.500 | FL*-2**L...   |
| A12-FLER/L2 | 0.031 - 0.128 | 1.125 | 0.750 | 10.000 | 0.562 | FL*-2**L/R... |
| A16-FLER/L2 | 0.031 - 0.128 | 1.375 | 1.000 | 12.000 | 0.688 | FL*-2**L/R... |
| A16-FLER/L3 | 0.031 - 0.250 | 1.375 | 1.000 | 12.000 | 0.688 | FL*-3**L/R... |

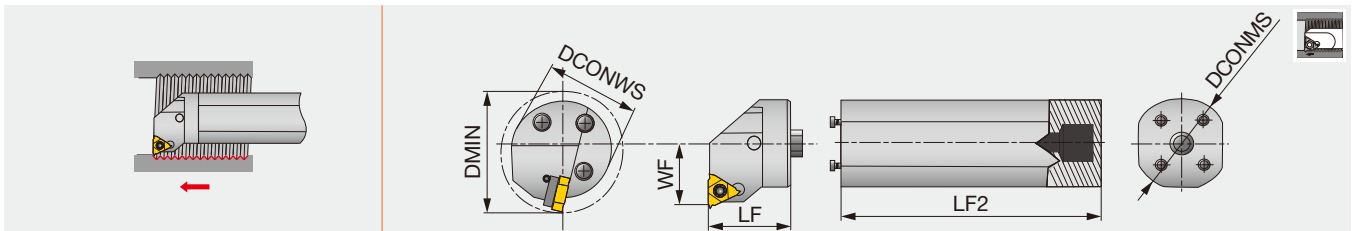
  

| Metric       | Pitch       | DMIN | DCON | LF  | WF   | Insert    |
|--------------|-------------|------|------|-----|------|-----------|
| A25M-FLER/L3 | 2.11 - 5.08 | 34.9 | 25   | 300 | 17.7 | FLT-3...  |
| A32M-FLER/L3 | 2.11 - 5.08 | 44.5 | 32   | 350 | 22.1 | FLT-3...  |
| A40M-FLER3   | 2.11 - 5.08 | 50.8 | 40   | 350 | 24.5 | FLT-3L... |

# TUNGTHREAD

## HS-LNFR-53

Head exchangeable internal threading, for single-sided lay down inserts



| Metric        | DMIN | DCONWS | WF   | LF   | Insert        |
|---------------|------|--------|------|------|---------------|
| HS40-LNFR-53* | 50   | 40     | 28.7 | 41.3 | L535B**INT-FC |
| HS50-LNFR-53  | 63   | 50     | 32.7 | 41.3 | L535B**INT-FC |

\* Compatible with the BoreMeister system.

### Inch SPARE PARTS

| Designation                     | Clamp  | Clamping screw | Wrench  |
|---------------------------------|--------|----------------|---------|
| A08-FLER2                       | TF-146 | S-310          | 7/64HEX |
| A08-FLEL2                       | TF-147 | S-310          | 7/64HEX |
| A10-FLER2, A12-FLER2, A16-FLER2 | TF-75  | S-310          | 7/64HEX |
| A12-FLEL2, A16-FLEL2            | TF-74  | S-310          | 7/64HEX |
| A16-FLER3                       | TF-73  | S-412          | 5/32HEX |
| A16-FLEL3                       | TF-72  | S-412          | 5/32HEX |

### Metric SPARE PARTS

| Designation  | Lock pin | Clamp 1 | Clamp 2 | Clamping screw 1 | Clamping screw 2 | Wrench  |
|--------------|----------|---------|---------|------------------|------------------|---------|
| A**M-FLER3   | -        | TF-73   | -       | S-412            | -                | 5/32HEX |
| A**M-FLEL3   | -        | TF-72   | -       | S-412            | -                | 5/32HEX |
| HS**-LNFR-53 | NL-56    | -       | TC-250  | -                | STC-11           | 1/8HEX  |

### Shank

| Inch        | DCONMS | LF2    |
|-------------|--------|--------|
| S-570-32-50 | 2.000  | 14.410 |

| Metric       | DCONMS | LF2 |
|--------------|--------|-----|
| S-570-40M-40 | 40     | 273 |
| S-570-50M-50 | 50     | 366 |

### SPARE PARTS

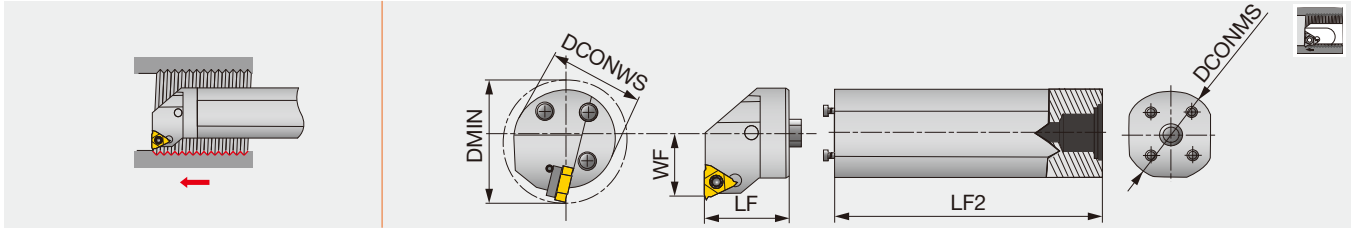
| Designation  | Clamping screw | Wrench  |
|--------------|----------------|---------|
| S-570-40M-40 | SS100          | 5/32HEX |
| S-570-50M-50 | SS94           | 1/4EX   |

Reference pages: A\_M-FLER/L : Inserts → E014  
HS-LNFR-53 : Inserts → E032

# TUNGTHREAD

## HS-LNFR-54API

Head exchangeable internal threading toolholder, for double-sided lay down inserts



| Metric           | DMIN | DCONWS | WF | LF | Insert           |
|------------------|------|--------|----|----|------------------|
| HS40-LNFR-54API* | 50   | 40     | 27 | 32 | LDS54**FT-CB#... |
| HS50-LNFR-54API  | 63   | 50     | 35 | 40 | LDS54**FT-CB#... |

\* Compatible with the BoreMeister system.

### Shank

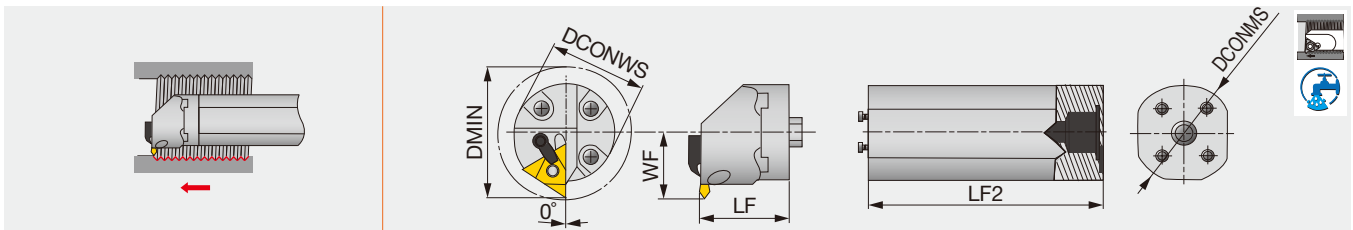
| Designation  | DCONMS | LF2 |
|--------------|--------|-----|
| S-570-40M-40 | 40     | 273 |
| S-570-50M-50 | 50     | 366 |

### SPARE PARTS

| Designation  | Clamping screw | Wrench  |
|--------------|----------------|---------|
| S-570-40M-40 | SS100          | 5/32HEX |
| S-570-50M-50 | SS94           | 1/4EX   |

## HS-MTHOR

Multi-clamp internal threading toolholder, for on edge inserts



| Metric        | DMIN | DCONWS | WF   | LF | Insert    |
|---------------|------|--------|------|----|-----------|
| HS40-MTHOR-4* | 66.7 | 40     | 25.9 | 32 | TNM*43... |
| HS50-MTHOR-4  | 73   | 50     | 35.9 | 40 | TNM*43... |
| HS40-MTHOR-5* | 81.3 | 40     | 30.6 | 32 | TNM*54... |
| HS50-MTHOR-5  | 82.6 | 50     | 35.9 | 40 | TNM*54... |

\* Compatible with the BoreMeister system.

### Shank

| Designation  | DCONMS | LF2 |
|--------------|--------|-----|
| S-570-40M-40 | 40     | 273 |
| S-570-50M-50 | 50     | 366 |

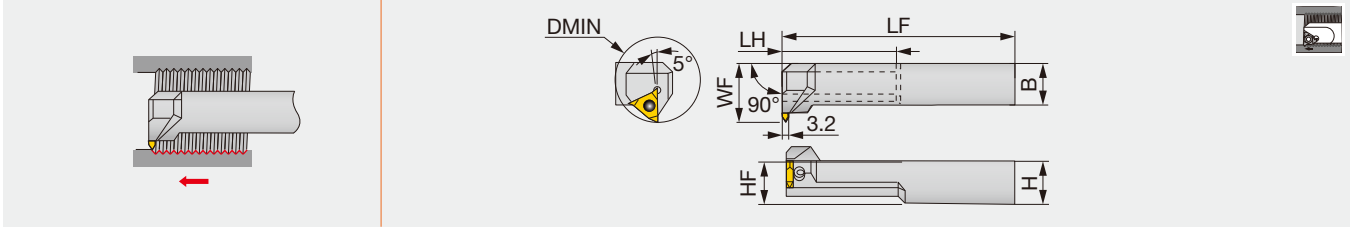
### SPARE PARTS

| Designation  | Clamping screw | Wrench  |
|--------------|----------------|---------|
| S-570-40M-40 | SS100          | 5/32HEX |
| S-570-50M-50 | SS94           | 1/4EX   |

### SPARE PARTS

| Designation     | Lock pin | Clamp  | Clamping screw | Wrench  |
|-----------------|----------|--------|----------------|---------|
| HS40-LNFR-54API | H410-1   | TC-250 | STC-11         | 1/8HEX  |
| HS50-LNFR-54API | NL-56    | TC-250 | STC-11         | 1/8HEX  |
| HS**-MTHOR-4    | NL-44    | TC-190 | STC-5          | 3/32HEX |
| HS**-MTHOR-5    | NL-56    | TC-250 | STC-11         | 1/8HEX  |

Reference pages: HS-LNFR-54API : Inserts → **E035**  
 HS-MTHOR : Inserts → **E029 - E031, E033**

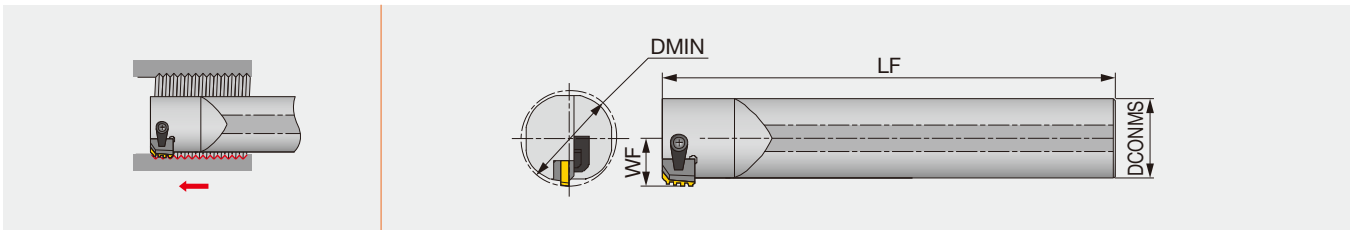


| Metric    | DMIN | H  | B  | LF  | LH | HF | WF | Insert   |
|-----------|------|----|----|-----|----|----|----|----------|
| TT-2525RI | 50   | 25 | 25 | 200 | 70 | 25 | 35 | TTL42... |

Note: Use the left-hand insert (TTL42...) for a right-hand holder (TT-2525RI).

## SI-CLHOR

### Internal threading toolholder, for chaser inserts



| Metric        | DMIN | DCONMS | WF    | LF  | Insert |
|---------------|------|--------|-------|-----|--------|
| SI-CLHOR-40M6 | 50.8 | 40     | 23.16 | 400 | CR...  |

### SPARE PARTS

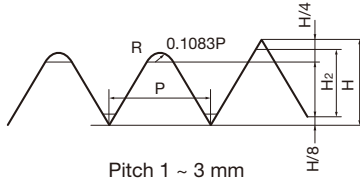
| Designation   | Clamp | Clamp  | Right-left screw | Wrench  |
|---------------|-------|--------|------------------|---------|
| TT-2525RI     | CP91  | -      | DS-6             | P-3     |
| SI-CLHOR-40M6 | -     | TC-311 | STC-8            | 5/32HEX |

Reference pages: TT-RI : Inserts → [E014](#), [E016](#)

SI-CLHOR : Inserts → [E026](#), [E031](#)

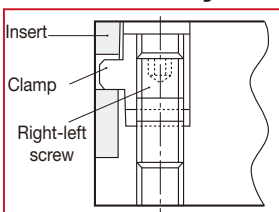
## Technical Guide

- Relationship between pitch, depth of cut and number of passes for external metric threading



Note: Maximum machinable pitch is 3 mm.

### Part assembly



| Number of passes | P              | 1     | 1.25  | 1.5   | 1.75  | 2     | 2.5   | 3     |
|------------------|----------------|-------|-------|-------|-------|-------|-------|-------|
|                  | H <sub>2</sub> | 0.6   | 0.76  | 0.92  | 1.09  | 1.25  | 1.57  | 1.9   |
|                  | H              | 0.866 | 1.083 | 1.299 | 1.516 | 1.732 | 2.165 | 2.598 |
| 1                | 0.25           | 0.3   | 0.3   | 0.3   | 0.35  | 0.4   | 0.4   |       |
| 2                | 0.15           | 0.2   | 0.25  | 0.25  | 0.25  | 0.3   | 0.35  |       |
| 3                | 0.1            | 0.1   | 0.15  | 0.2   | 0.2   | 0.25  | 0.28  |       |
| 4                | 0.05           | 0.06  | 0.1   | 0.1   | 0.16  | 0.2   | 0.2   |       |
| 5                | 0.05           | 0.06  | 0.05  | 0.1   | 0.1   | 0.15  | 0.2   |       |
| 6                |                | 0.06  | 0.05  | 0.07  | 0.07  | 0.1   | 0.13  |       |
| 7                |                |       | 0.02  | 0.05  | 0.05  | 0.07  | 0.1   |       |
| 8                |                |       |       | 0.02  | 0.02  | 0.05  | 0.1   |       |
| 9                |                |       |       |       | 0.02  | 0.03  | 0.05  |       |
| 10               |                |       |       |       |       | 0.02  | 0.05  |       |
| 11               |                |       |       |       |       |       | 0.02  |       |
| 12               |                |       |       |       |       |       | 0.02  |       |



# Technical Guide

## STANDARD CUTTING CONDITIONS

### TUNGTHREAD

| ISO      | Workpiece material                         | Hardness   | Cutting speed: Vc (sfm) |           |           |           |            |           |           |
|----------|--|------------|-------------------------|-----------|-----------|-----------|------------|-----------|-----------|
|          |  |            | AH8015                  | T05HP     | AH725     | T313V     | NS9530     | TH10      | BX330     |
| <b>P</b> | Steel / Alloy steel<br>1045, 4140, etc.    | < 200HB    | 262 - 591               | 328 - 656 | 262 - 591 | 328 - 656 | 492 - 656  | -         | -         |
|          |  | > 200HB    | 197 - 525               | 328 - 492 | 197 - 525 | 328 - 492 | 328 - 558  | -         | -         |
| <b>M</b> | Stainless steel<br>304SS, etc.             | -          | 164 - 427               | 230 - 427 | 164 - 427 | 230 - 427 | -          | -         | -         |
| <b>K</b> | Cast iron<br>Class 25, Class 30, etc.      | -          | 197 - 492               | 230 - 492 | 164 - 328 | 230 - 492 | -          | 230 - 295 | -         |
| <b>N</b> | Non-ferrous metal                          | -          | -                       | -         | -         | -         | 328 - 1640 | -         | -         |
| <b>S</b> | Superalloys<br>Ti-6Al-4V, Inconel718, etc. | -          | 66 - 262                | -         | -         | -         | -          | 33 - 131  | -         |
| <b>H</b> | Hardened steel                             | 50 - 60HRC | -                       | -         | -         | -         | -          | 33 - 98   | 164 - 656 |

### TETRAMCUT

#### TCT18R/L / TCT18FR

| ISO      | Workpiece material                         | Hardness | Priority            | Grade | Cutting speed<br>Vc (sfm) | Pitch<br>(in) | Threads per inch<br>(TPI) |
|----------|--|----------|---------------------|-------|---------------------------|---------------|---------------------------|
| <b>P</b> | Steel / Alloy steel<br>1045, 4140, etc.    | < 200HB  | First choice        | SH725 | 197 - 492                 | 0.016 - 0.079 | 64 - 12                   |
|          |  |          | Fracture resistance | AH725 | 197 - 492                 | 0.031 - 0.118 | 32 - 8                    |
|          |  | > 200HB  | First choice        | SH725 | 197 - 492                 | 0.016 - 0.079 | 64 - 12                   |
|          |  |          | Fracture resistance | AH725 | 197 - 492                 | 0.031 - 0.118 | 32 - 8                    |
| <b>M</b> | Stainless steel<br>304SS, etc.             | -        | First choice        | SH725 | 164 - 262                 | 0.016 - 0.079 | 64 - 12                   |
|          |  | -        | Fracture resistance | AH725 | 164 - 262                 | 0.031 - 0.118 | 32 - 8                    |
| <b>K</b> | Cast iron<br>Class 25, Class 30, etc.      | -        | First choice        | AH725 | 164 - 328                 | 0.031 - 0.118 | 32 - 8                    |
|          |  | -        | Sharpness           | SH725 | 164 - 328                 | 0.016 - 0.079 | 64 - 12                   |
| <b>S</b> | Superalloys<br>Ti-6Al-4V, Inconel718, etc. | -        | First choice        | SH725 | 98 - 328                  | 0.016 - 0.079 | 64 - 12                   |
|          |  | -        | Fracture resistance | AH725 | 98 - 328                  | 0.031 - 0.118 | 32 - 8                    |

### DUOJUST CUT

| ISO      | Workpiece material                         | Hardness | Grade | Cutting speed<br>Vc (sfm) | Pitch<br>(in) | Threads per inch<br>(TPI) |
|----------|--|----------|-------|---------------------------|---------------|---------------------------|
| <b>P</b> | Steel / Alloy steel<br>1045, 4140, etc.    | < 200HB  | SH725 | 164 - 656                 | 0.008 - 0.059 | 127 - 16                  |
|          |  | > 200HB  | SH725 | 164 - 656                 | 0.008 - 0.059 | 127 - 16                  |
| <b>M</b> | Stainless steel<br>304SS, etc.             | -        | SH725 | 164 - 656                 | 0.008 - 0.059 | 127 - 16                  |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.        | -        | SH725 | 492 - 656                 | 0.008 - 0.059 | 127 - 16                  |
|          | Copper alloy<br>C2600, C280C, etc.         | -        | SH725 | 328 - 656                 | 0.008 - 0.059 | 127 - 16                  |
| <b>S</b> | Superalloys<br>Ti-6Al-4V, Inconel718, etc. | -        | SH725 | 98 - 262                  | 0.008 - 0.059 | 127 - 16                  |

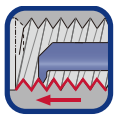
Reference pages: TungThread : Inserts → **E010 - E011, E014 - E019, E021 - E035**  
 External toolholders → **E036 - E040, E051 - E053**  
 Internal toolholders → **E054 - E056, E065 - E067**  
 TetraMini-Cut: Inserts → **E012**, External toolholders → **E041 - E044**  
 DuoJust-Cut : Inserts → **E012**, External toolholders → **E047 - E048**

## STANDARD CUTTING CONDITIONS

### TUNGT-CLAMP

| ISO      | Workpiece material                      | Hardness | Grade | Application | Cutting speed<br>Vc (sfm) | Pitch<br>(in)                                    | Threads per inch<br>(TPI)          |
|----------|---|----------|-------|-------------|---------------------------|--|------------------------------------|
| <b>P</b> | Steel / Alloy steel<br>1045, 4140, etc. | < 200HB  | AH725 | Threading   | 262 - 591                 | Internal 0.083 - 0.200<br>External 0.050 - 0.167 | Internal 5 - 12<br>External 6 - 20 |
|          |   | > 200HB  | AH725 | Threading   | 197 - 525                 | Internal 0.083 - 0.200<br>External 0.050 - 0.167 | Internal 5 - 12<br>External 6 - 20 |
| <b>M</b> | Stainless steel<br>304SS, etc.          | -        | AH725 | Threading   | 164 - 427                 | Internal 0.083 - 0.200<br>External 0.050 - 0.167 | Internal 5 - 12<br>External 6 - 20 |

### TINYM<sup>INI</sup>TURN



Internal threading

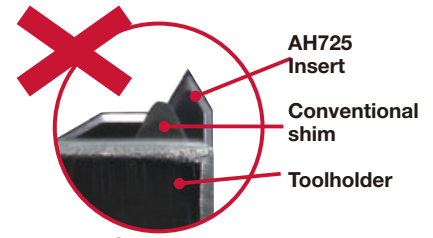
| ISO      | Workpiece material                        | Hardness | Grade        | Cutting speed<br>Vc (m/min) | Cutting speed<br>Vc (sfm) | Number of passes  |              |           |              |             |
|----------|---|----------|--------------|-----------------------------|---------------------------|-------------------|--------------|-----------|--------------|-------------|
|          |   |          |              |                             |                           | Pitch (mm) / (in) |              |           |              |             |
|          |   |          |              |                             |                           | 0.5 (0.020)       | 0.75 (0.029) | 1 (0.039) | 1.25 (0.049) | 1.5 (0.059) |
| <b>P</b> | Steel / Alloy steel<br>1045, 4140, etc.   | < 200HB  | SH730, SH725 | 40 - 140                    | 131 - 459                 | 6 - 8             | 8 - 10       | 10 - 12   | 12 - 15      | 15 - 18     |
|          |   | > 200HB  | SH730, SH725 | 40 - 140                    | 131 - 459                 | 6 - 8             | 8 - 10       | 10 - 12   | 12 - 15      | 15 - 18     |
| <b>M</b> | Stainless steel<br>304SS, etc.            | -        | SH730, SH725 | 40 - 140                    | 131 - 459                 | 8                 | 10           | 12        | 15           | 18          |
| <b>K</b> | Cast iron<br>Class 25, Class 30, etc.     | -        | SH730, SH725 | 30 - 100                    | 98 - 328                  | 7                 | 9            | 12        | 14           | 17          |
| <b>N</b> | Aluminum alloys, Copper alloy<br>Si < 12% | -        | SH730, SH725 | 90 - 200                    | 295 - 656                 | 6                 | 8            | 10        | 12           | 15          |

Reference pages: TungT-Clamp : Inserts → **E014**, External toolholders → **E050**  
 Internal toolholders → **E064 - E065**  
 TinyMini-Turn: Solid carbide boring bars → **E060**



## IMPORTANT - Replacement of shim

AH725 insert has 2 types of shims according to the chipbreaker geometry. Please find an appropriate shim in the table below. When using a wrong shim, the insert seating may become unstable or the tool life may be shortened.



Improper combination

### Interchangeable shim (Insert size: 16)

| Toolholder screw type                          | Lead angle    | External            |                  | Internal            |                  |
|--|---------------|---------------------|------------------|---------------------|------------------|
|  |               | ① Conventional shim | ① Standard (New) | ② Conventional shim | ② Standard (New) |
| Dual clamping methods of screw-on and clamp-on | 4°            | GXE16-4DT           | AE16-4DT         | GXN16-4DT           | AN16-4DT         |
|  | 3°            | GXE16-3DT           | AE16-3DT         | GXN16-3DT           | AN16-3DT         |
|  | 2°            | GXE16-2DT           | AE16-2DT         | GXN16-2DT           | AN16-2DT         |
|  | 1° (Standard) | GX16-1DT            | A16-1DT          | GX16-1DT            | A16-1DT          |
|  | 0°            | GXE16-0DT           | AE16-0DT         | GXN16-0DT           | AN16-0DT         |
|  | -1°           | GXE16-99DT          | AE16-99DT        | GXN16-99DT          | AN16-99DT        |
|  | -2°           | GXE16-98DT          | AE16-98DT        | GXN16-98DT          | AN16-98DT        |
| Clamp-on                                       | 4°            | GXE16-4             | AE16-4           | GXN16-4             | AN16-4           |
|  | 3°            | GXE16-3             | AE16-3           | GXN16-3             | AN16-3           |
|  | 2°            | GXE16-2             | AE16-2           | GXN16-2             | AN16-2           |
|  | 1° (Standard) | GXE16-1             | A16-1            | GXN16-1             | A16-1            |
|  | 0°            | GXE16-0             | AE16-0           | GXN16-0             | AN16-0           |
|  | -1°           | GXE16-99            | AE16-99          | GXN16-99            | AN16-99          |
|  | -2°           | GXE16-98            | AE16-98          | GXN16-98            | AN16-98          |

### Shim to be replaced (Insert size: 16)

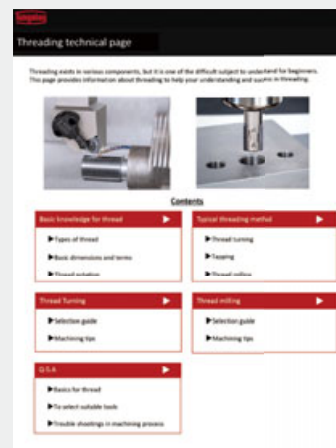
| Thread | External    |       |  | Internal     |       |  |
|--------|-------------|-------|--|--------------|-------|--|
|        | Designation | Grade | Replacement                                  | Designation  | Grade | Replacement                                  |
| ISO    |             |       | ① Conventional shim<br>↓<br>① Standard (New) | 16IR15ISO-B  | AH725 | ② Conventional shim<br>↓<br>② Standard (New) |
|        |             |       |  | 16IR175ISO-B | AH725 |  |
|        |             |       |  | 16IR20ISO-B  | AH725 |  |
| 55°    | 16ERAG55-B  | AH725 |  | 16IRAG55-B   | AH725 |  |
| 60°    |             |       |  | 16IRG55-B    | AH725 |  |
|        |             |       |  | 16IRAG60-B   | AH725 |  |
|        |             |       |  | 16IRA60-B    | AH725 |  |
| UN     |             |       |  | 16IRG60-B    | AH725 |  |
|        |             |       |  | 16IR18UN-B   | AH725 |  |
|        |             |       |  | 16IR16UN-B   | AH725 |  |
| W      |             |       |  | 16IR14UN-B   | AH725 |  |
|        |             |       |  | 16IR16W-B    | AH725 |  |
|        |             |       |  | 16IR14W-B    | AH725 |  |
| PT     |             |       |  | 16IR14PT-B   | AH725 |  |
| NPT    |             |       |  | 16IR14NPT-B  | AH725 |  |
|        | 16ER8NPT-B  | AH725 |  | 16IR115NPT-B | AH725 |  |

## Want to learn more about threads and thread machining?

Visit this special website for the latest information on thread machining.

The website provides information on:

- Basic knowledge on threads and thread machining
- Threading tool selection guide and the latest machining techniques
- F.A.Q. and troubleshooting guide



Scan this QR code to access the website



# Parting, Grooving

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# Parting, Grooving - Content structure

- Products are listed by application.
- Each item is listed by product series.
- Internal grooving tools are listed according to the order of the minimum machining diameter (from small to larger).

## How to use the page

### Method ①

Select the application (①) at the left end of each page and choose a designation you need (④) in the dimension table (③). Applicable inserts are shown in (⑥).

**TETRAMCUT**  
STCR/L-18  
Precision grooving tools with uniquely shaped insert for swiss type machine and general lathes

Fig. 1 Fig. 2 Right-hand (R) shown.

| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert  | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|--------|------|
| STCR/L06-18 | 0.013 | 0.125 | 0.375 | 0.375 | 4.750 | 0.740 | 0.375 | 0.375 | 0.177 | TC18... | 0.89   | 1    |
| STCR/L08-18 | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.740 | 0.500 | 0.500 | 0.098 | TC18... | 0.89   | 1    |
| STCR/L10-18 | 0.013 | 0.125 | 0.625 | 0.625 | 4.750 | 0.740 | 0.625 | 0.625 | -     | TC18... | 0.89   | 1    |
| STCR/L12-18 | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC18... | 0.89   | 2    |
| STCR/L16-18 | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC18... | 0.89   | 2    |

| Metric        | CWN  | CWX  | H  | B  | LF  | LH   | HF | WF | HBH | Insert  | Torque* | Fig. |
|---------------|------|------|----|----|-----|------|----|----|-----|---------|---------|------|
| STCR/L1010X18 | 0.33 | 3.18 | 10 | 10 | 120 | 18.5 | 10 | 10 | 4.5 | TC18... | 1.2     | 1    |
| STCR/L1212X18 | 0.33 | 3.18 | 12 | 12 | 85  | 18.5 | 12 | 12 | 2.5 | TC18... | 1.2     | 1    |
| STCR/L1212X18 | 0.33 | 3.18 | 12 | 12 | 120 | 18.5 | 12 | 12 | 2.5 | TC18... | 1.2     | 1    |
| STCR/L1616X18 | 0.33 | 3.18 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | TC18... | 1.2     | 1    |
| STCR/L2020X18 | 0.33 | 3.18 | 20 | 20 | 100 | 18.5 | 20 | 20 | -   | TC18... | 1.2     | 1    |
| STCR/L2020X18 | 0.33 | 3.18 | 20 | 20 | 120 | 23   | 20 | 25 | -   | TC18... | 1.2     | 2    |
| STCR/L2525X18 | 0.33 | 3.18 | 25 | 25 | 135 | 23   | 25 | 30 | -   | TC18... | 1.2     | 2    |

① Application selection  
④ Designation selection  
③ Dimension table  
⑥ Applicable inserts

STCR/L-18-CHP  
External grooving and threading toolholder, high pressure coolant compatible

### Method ②

Select the tool series name on F004 - F005 and check the details on the product page.

### Machining Overview

**External grooving** F014 page

Max. groove depth: 0.252" (6.4 mm)

Max. groove depth: 1.969" (50 mm)

**TETRAMCUT** F046 page

**TUNGFCUT** F016 page

**TETRAFCUT** F061 page

**ADDFCUT** F014 page

**DUOFCUT** F073 page

**MYT SERIES** F079 page

**GBR/L** F112 page

**Internal grooving** F134 page

General internal grooving and turning

**ADDFCUT** F134 page

**TUNGFCUT** F140 page

**ADDFCUT** F136 page

**MYT SERIES** F161 page

**GBR/L** F179 page

**ENE / CNE** F182 page

F004 tungaloy.com/us

### Method ③

Select the tool series or the tool specification from Quick Guide on F006 - F009 and see the details on each page.

### Quick Guide (Inch)

| Series            | Insert shape | External grooving       |          |               | Parting       |             |               |
|-------------------|--------------|-------------------------|----------|---------------|---------------|-------------|---------------|
|                   |              | CW (in)                 | CDX (in) | Priority Page | CW (in)       | CUTDIA (in) | Priority Page |
| <b>ADDFCUT</b>    |              | 0.079 - 0.197           | 1.417    | ○ F014        | 0.079 - 0.197 | 4.724       | ○ F048        |
| <b>TUNGFCUT</b>   |              | 0.047 - 0.335           | 1.417    | ○ F016        | 0.047 - 0.315 | 4.724       | ○ F254        |
| <b>TETRAFCUT</b>  |              | 0.020 - 0.197           | 0.394    | ○ F061        | 0.020 - 0.157 | 0.787       | ○ F061        |
| <b>TETRAMCUT</b>  |              | 0.013 - 0.118           | 0.138    | ○ F046        | 0.013 - 0.155 | 0.276       | ○ F046        |
| <b>DUOFCUT</b>    |              | 0.024 - 0.098           | 0.413    | ○ F073        | 0.024 - 0.079 | 0.787       | ○ F272        |
| <b>GBR/L</b>      |              | 0.013 - 0.177           | 0.197    | ○ F112        | -             | -           | -             |
| <b>MYT SERIES</b> |              | 0.079 - 0.197           | 0.846    | ○ F079        | 0.079 - 0.197 | 4.724       | ○ F276        |
| <b>EASYMCUT</b>   |              | -                       | -        | -             | -             | -           | -             |
| <b>TUNGFCUT</b>   |              | 0.34 - 0.894            | 1.968    | ○ F107        | -             | -           | -             |
| <b>XG/XX</b>      |              | 0.039 - 0.177 (DGR/L)   | 0.236    | ○ F119        | -             | -           | -             |
| Other             |              | 0.039 - 0.118 (P1.0 CR) | 0.160    | ○ F095        | -             | -           | -             |
|                   |              | 0.039 - 0.093 (STR)     | 0.071    | ○ F105        | -             | -           | -             |

F006 tungaloy.com/us

## 2 TETRAMCUT

Precision grooving tools with uniquely shaped insert for swiss type machine and general lathes

5

| inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|------|
| STCR/L06-18 | 0.013 | 0.125 | 0.375 | 0.375 | 4.750 | 0.740 | 0.375 | 0.375 | 0.177 | TC18.. | 0.89   | 1    |
| STCR/L08-18 | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.740 | 0.500 | 0.500 | 0.098 | TC18.. | 0.89   | 1    |
| STCR/L10-18 | 0.013 | 0.125 | 0.625 | 0.625 | 4.750 | 0.740 | 0.625 | 0.625 | 0.098 | TC18.. | 0.89   | 1    |
| STCR/L12-18 | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC18.. | 0.89   | 2    |
| STCR/L16-18 | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC18.. | 0.89   | 2    |

4 STCR/L-18-CHP

External grooving and threading toolholder, high pressure coolant compatible

3

| inch         | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2   | HBH   | Insert | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| STCR1018-CHP | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.740 | 0.500 | 0.375 | 0.025 | 0.120 | TC18.. | 0.89   |
| STCR1018-CHP | 0.013 | 0.125 | 0.625 | 0.625 | 4.75  | 0.738 | -     | 0.625 | 0.025 | 0.025 | TC18.. | 0.89   |

6

7 SPARE PARTS

| Designation | Clamping screw | Wrench   | Coilnut plug   | Wrench | Direct nut plug | Wrench |
|-------------|----------------|----------|----------------|--------|-----------------|--------|
| STCR18      | CS1C-AL1000L   | T-1008.5 | -              | -      | -               | -      |
| STCR18      | CS1C-AL1000R   | T-1008.5 | -              | -      | -               | -      |
| STCR18-CHP  | CS1C-AL1000L   | T-1008.5 | SR5/16UNFTL360 | P-4    | SRHM-6-T8       | P-2    |
| STCR18-CHP  | CS1C-AL1000R   | T-1008.5 | SR5/16UNFTL360 | P-4    | SRHM-6-T8       | P-2    |

10 Reference pages: Inserts → F053 - F059, Standard cutting conditions → F060  
Parts for coolant hose → F290

F046 tungalay.com/us

## 8 INSERTS

### TCS18R/L (3D chipbreaker, honed edge)

10

| Designation   | HAND | CDX (mm) | CDX (in) | RE (in) | ANZ/MS | Coated | CDX (in) |
|---------------|------|----------|----------|---------|--------|--------|----------|
| TCS18R100-010 | R    | 1        | 0.039    | 0.004   | 1      | ●      | 0.070    |
| TCS18L100-010 | L    | 1        | 0.039    | 0.004   | 1      | ●      | 0.070    |
| TCS18R120-010 | R    | 1.2      | 0.047    | 0.004   | 1      | ●      | 0.070    |
| TCS18L120-010 | L    | 1.2      | 0.047    | 0.004   | 1      | ●      | 0.070    |
| TCS18R125-010 | R    | 1.25     | 0.049    | 0.004   | 1      | ●      | 0.070    |
| TCS18L125-010 | L    | 1.25     | 0.049    | 0.004   | 1      | ●      | 0.070    |
| TCS18R125-020 | R    | 1.25     | 0.049    | 0.008   | 1      | ●      | 0.070    |
| TCS18L125-020 | L    | 1.25     | 0.049    | 0.008   | 1      | ●      | 0.070    |
| TCS18R130-020 | R    | 1.3      | 0.051    | 0.008   | 1      | ●      | 0.138    |
| TCS18L130-020 | L    | 1.3      | 0.051    | 0.008   | 1      | ●      | 0.138    |
| TCS18R140-010 | R    | 1.4      | 0.055    | 0.004   | 1      | ●      | 0.138    |
| TCS18L140-010 | L    | 1.4      | 0.055    | 0.004   | 1      | ●      | 0.138    |
| TCS18R140-020 | R    | 1.4      | 0.055    | 0.008   | 1      | ●      | 0.138    |
| TCS18L140-020 | L    | 1.4      | 0.055    | 0.008   | 1      | ●      | 0.138    |
| TCS18R145-010 | R    | 1.45     | 0.057    | 0.004   | 1      | ●      | 0.138    |
| TCS18L145-010 | L    | 1.45     | 0.057    | 0.004   | 1      | ●      | 0.138    |
| TCS18R150-010 | R    | 1.5      | 0.059    | 0.004   | 1      | ●      | 0.138    |
| TCS18L150-010 | L    | 1.5      | 0.059    | 0.004   | 1      | ●      | 0.138    |
| TCS18R150-020 | R    | 1.5      | 0.059    | 0.008   | 1      | ●      | 0.138    |
| TCS18L150-020 | L    | 1.5      | 0.059    | 0.008   | 1      | ●      | 0.138    |
| TCS18R160-020 | R    | 1.6      | 0.063    | 0.008   | 1      | ●      | 0.138    |
| TCS18L160-020 | L    | 1.6      | 0.063    | 0.008   | 1      | ●      | 0.138    |
| TCS18R170-020 | R    | 1.7      | 0.067    | 0.008   | 1      | ●      | 0.138    |
| TCS18L170-020 | L    | 1.7      | 0.067    | 0.008   | 1      | ●      | 0.138    |
| TCS18R175-010 | R    | 1.75     | 0.069    | 0.004   | 1      | ●      | 0.138    |
| TCS18L175-010 | L    | 1.75     | 0.069    | 0.004   | 1      | ●      | 0.138    |
| TCS18R175-020 | R    | 1.75     | 0.069    | 0.008   | 1      | ●      | 0.138    |
| TCS18L175-020 | L    | 1.75     | 0.069    | 0.008   | 1      | ●      | 0.138    |
| TCS18R185-020 | R    | 1.85     | 0.073    | 0.008   | 1      | ●      | 0.138    |
| TCS18L185-020 | L    | 1.85     | 0.073    | 0.008   | 1      | ●      | 0.138    |
| TCS18R195-020 | R    | 1.95     | 0.077    | 0.008   | 1      | ●      | 0.138    |
| TCS18L195-020 | L    | 1.95     | 0.077    | 0.008   | 1      | ●      | 0.138    |
| TCS18R200-010 | R    | 2        | 0.079    | 0.004   | 1      | ●      | 0.138    |
| TCS18L200-010 | L    | 2        | 0.079    | 0.004   | 1      | ●      | 0.138    |
| TCS18R200-020 | R    | 2        | 0.079    | 0.008   | 1      | ●      | 0.138    |
| TCS18L200-020 | L    | 2        | 0.079    | 0.008   | 1      | ●      | 0.138    |
| TCS18R225-020 | R    | 2.25     | 0.089    | 0.008   | 1      | ●      | 0.138    |
| TCS18L225-020 | L    | 2.25     | 0.089    | 0.008   | 1      | ●      | 0.138    |
| TCS18R230-020 | R    | 2.3      | 0.091    | 0.008   | 1      | ●      | 0.138    |
| TCS18L230-020 | L    | 2.3      | 0.091    | 0.008   | 1      | ●      | 0.138    |
| TCS18R250-010 | R    | 2.5      | 0.098    | 0.004   | 1      | ●      | 0.138    |
| TCS18L250-010 | L    | 2.5      | 0.098    | 0.004   | 1      | ●      | 0.138    |

Reference pages: Toolholders → F046 - F052, Standard cutting conditions → F060

F054 tungalay.com/us

## 9 STANDARD CUTTING CONDITIONS

### TCS18R/L, TCL18R/L (3D chipbreaker), TCG18R/L (honed edge), TCG18R/L (Full R)

| ISO | Workpiece materials                        | Grade | Cutting speed Vc (sfm) | TC18          | TC18          | TC18          | Feed f (fpr)  |
|-----|--|-------|------------------------|---------------|---------------|---------------|---------------|
|     | Low carbon steel 1015, etc.                | AH725 | 262 - 591              | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
| P   | Carbon steel, Alloy steel 1045, 4140, etc. | AH725 | 262 - 591              | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
| M   | Prefinished steel NAK80, PXS, etc.         | AH725 | 262 - 591              | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
| K   | Stainless steel 304, 316, etc.             | AH725 | 164 - 394              | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
| S   | Gray cast iron No.2508, No.3008, etc.      | AH725 | 164 - 591              | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Ductile cast iron 60-40-18, etc.           | AH725 | 164 - 591              | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Titanium alloys Ti-6Al-4V, etc.            | AH725 | 98 - 197               | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Superalloys Inconel718, etc.               | AH725 | 66 - 131               | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 | 0.002 - 0.006 |

### TCP18R/L (lightly honed edge), TCP18R/L-F (sharp edge)

| ISO | Workpiece materials                        | Priority     | Grades | Cutting speed Vc (sfm) | Feed f (fpr)  |
|-----|--|--------------|--------|------------------------|---------------|
|     | Low carbon steel 1015, etc.                | First choice | SH725  | 262 - 591              | 0.001 - 0.004 |
|     | Carbon steel, Alloy steel 1045, 4140, etc. | Toughness    | AH725  | 262 - 591              | 0.001 - 0.004 |
| P   | Prefinished steel NAK80, PXS, etc.         | First choice | SH725  | 262 - 591              | 0.001 - 0.004 |
| M   | Stainless steel 304, 316, etc.             | First choice | SH725  | 164 - 394              | 0.001 - 0.004 |
| K   | Gray cast iron No.2508, No.3008, etc.      | First choice | AH725  | 164 - 591              | 0.001 - 0.004 |
| S   | Ductile cast iron 60-40-18, etc.           | Sharpness    | SH725  | 164 - 591              | 0.001 - 0.004 |
|     | Titanium alloys Ti-6Al-4V, etc.            | First choice | SH725  | 98 - 262               | 0.001 - 0.004 |
|     | Superalloys Inconel718, etc.               | Toughness    | AH725  | 66 - 131               | 0.001 - 0.004 |

- 1 : Application
  - 2 : Tool series name
  - 3 : Dimension table
  - 4 : Toolholder designation
- e.g. right-hand, 08 square shank
- **STCR 08 -18**
- R/L in the designation means the stock either right or left hand respectively.
- 5 : Dimension (conforming to ISO13399)
  - 6 : Applicable insert
  - 7 : Spare parts
  - 8 : Insert
  - 9 : Standard cutting conditions
  - 10 : Reference pages

When ordering

- Please specify the designation and quantity for toolholders. e.g. **CTER10-2T08 ... 1**
- Please specify the designation and quantity for shank and adapter set when ordering both. e.g. **CHSR12-CHP ... 1, CAER-2T20-CHP... 1** (one shank per package, one adapter per package) \* Clamp screw for adapter is included.
- Please specify the designation, grade, and quantity for inserts. e.g. **DGS3-020 AH7025 ... 10** (10 inserts per package) \* You will find a note if the number per package is not 10.

# Machining Overview

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## External grooving

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F014 page

Max. groove depth: 0.252" (6.4 mm)

**Economy** **TETRAMCUT** F046 page

**Economy** **TETRAFCUT** F061 page

GBR/L F112 page



Max. groove depth: 1.969" (50 mm)

**First choice** **TUNG CUT** F016 page

**ADD FCUT** F014 page

**DUO JCUT** F073 page

**TUNG H<sup>MAX</sup> GROOVE** F107 page

**MY-T SERIES** F079 page



## Internal grooving

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F134 page

General internal grooving and turning

**First choice** **ADD<sup>INTERNAL</sup> CUT** F134 page

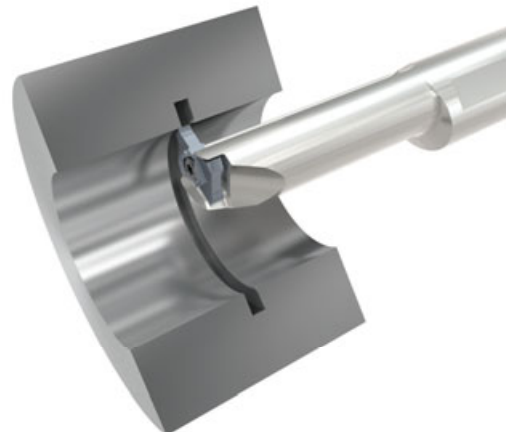
**TUNG CUT** F140 page

**ADD FCUT** F136 page

**MY-T SERIES** F161 page

GBR/L F179 page

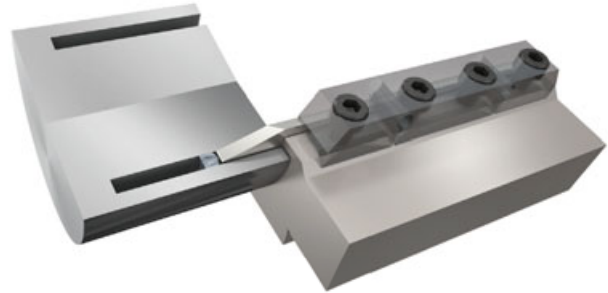
**SNG / CNG** F182 page



## Face grooving

F190 page

|                     |                                  |           |
|---------------------|----------------------------------|-----------|
| <b>First choice</b> | <b>TUNGCUT</b>                   | F196 page |
|                     | <b>EASYM<sup>ULTRA</sup>CUT</b>  | F190 page |
| <b>Economy</b>      | <b>TETRAM<sup>ULTRA</sup>CUT</b> | F223 page |
|                     | <b>MY-T SERIES</b>               | F238 page |



## Parting


F248 page

### General parting

|                     |                                 |           |
|---------------------|---------------------------------|-----------|
| <b>First choice</b> | <b>ADDF<sup>FACE</sup>CUT</b>   | F248 page |
|                     | <b>TUNGCUT</b>                  | F254 page |
| <b>Economy</b>      | <b>TETRA<sup>FACE</sup>CUT</b>  | F061 page |
| <b>Economy</b>      | <b>TETRAM<sup>FACE</sup>CUT</b> | F046 page |
|                     | <b>DUO<sup>ULTRA</sup>CUT</b>   | F272 page |
|                     | <b>MY-T SERIES</b>              | F276 page |



# Quick Guide (Inch)

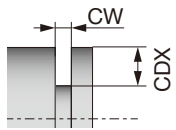
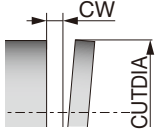












| Series                              | Insert shape  | External grooving      |          |                          |      | Parting       |             |                          |      |
|-------------------------------------|---|------------------------|----------|--------------------------|------|---------------|-------------|--------------------------|------|
|                                     |   | CW (in)                | CDX (in) | Priority                 | Page | CW (in)       | CUTDIA (in) | Priority                 | Page |
| <b>ADDF<sup>ORCE</sup>CUT</b>       |    | 0.079 - 0.197          | 1.417    | ◎                        | F014 | 0.079 - 0.197 | 4.724       | ◎<br><b>First choice</b> | F248 |
| <b>ADD<sup>INTERNAL</sup>CUT</b>    |    |                        |          |                          |      |               |             |                          |      |
| <b>TUNGCUT</b>                      |    | 0.047 - 0.315          | 1.417    | ◎<br><b>First choice</b> | F016 | 0.047 - 0.315 | 4.724       | ◎                        | F254 |
| <b>TETRA<sup>ORCE</sup>CUT</b>      |   | 0.020 - 0.157          | 0.394    | ◎<br><b>Economy</b>      | F061 | 0.020 - 0.157 | 0.787       | ◎<br><b>Economy</b>      | F061 |
| <b>TETRA<sup>M</sup>CUT</b>         |    | 0.013 - 0.118          | 0.138    | ◎<br><b>Economy</b>      | F046 | 0.013 - 0.125 | 0.276       | ◎<br><b>Economy</b>      | F046 |
| <b>DUO<sup>UST</sup>CUT</b>         |    | 0.024 - 0.098          | 0.413    | ◎                        | F073 | 0.024 - 0.079 | 0.787       | ◎                        | F272 |
| <b>GBR/L</b>                        |    | 0.013 - 0.177          | 0.197    | ○                        | F112 |               |             |                          |      |
| <b>MY-T SERIES</b>                  |    | 0.079 - 0.197          | 0.846    | ○                        | F079 | 0.079 - 0.197 | 4.724       | ○                        | F276 |
| <b>EASY<sup>ULTI</sup>MULTI CUT</b> |   |                        |          |                          |      |               |             |                          |      |
| <b>TUNG<sup>MAX</sup>GROOVE</b>     |  | 0.394 - 0.984          | 1.968    | ◎                        | F107 |               |             |                          |      |
| <b>XG/XN</b>                        |  | 0.039 - 0.177 (XGR/L)  | 0.236    | ○                        | F119 |               |             |                          |      |
| Other                               |  | 0.039 - 0.118 (FLG-CB) | 0.160    | ○                        | F095 |               |             |                          |      |
|                                     |  | 0.039 - 0.089 (GTGN)   | 0.071    | ○                        | F105 |               |             |                          |      |

⊙ : First choice  
○ : Usable

| Face grooving |          |           |                   |      |  | Internal grooving       |          |           |                   |      | Profiling (Full-R) |          |                   |              | Turning              |          |                   |      |
|---------------|----------|-----------|-------------------|------|--|-------------------------|----------|-----------|-------------------|------|--------------------|----------|-------------------|--------------|----------------------|----------|-------------------|------|
|               |          |           |                   |      |  |                         |          |           |                   |      |                    |          |                   |              |                      |          |                   |      |
| CW (in)       | CDX (in) | DAXN (in) | Priority          | Page |  | CW (in)                 | CDX (in) | DMIN (in) | Priority          | Page | CW (in)            | CDX (in) | Priority          | Page         | CW (in)              | CDX (in) | Priority          | Page |
|               |          |           |                   |      |  | 0.079 - 0.157           | 1.260    | 2.165     | ⊙                 | F136 |                    |          |                   |              |                      |          |                   |      |
|               |          |           |                   |      |  | 0.020 - 0.118           | 0.118    | 0.438     | First choice<br>⊙ | F134 |                    |          |                   |              |                      |          |                   |      |
| 0.079 - 0.250 | 0.984    | 1.023     | First choice<br>⊙ | F196 |  | 0.079 - 0.315           | 0.394    | 1.000     | ⊙                 | F140 | 0.079 - 0.315      | 1.417    | First choice<br>⊙ | F016<br>F286 | 0.079 - 0.315        | 1.417    | First choice<br>⊙ | F016 |
|               |          |           |                   |      |  |                         |          |           |                   |      | 0.062 - 0.118      | 0.252    | Economy<br>⊙      | F061         |                      |          |                   |      |
| 0.020 - 0.098 | 0.118    | 0.236     | Economy<br>⊙      | F223 |  |                         |          |           |                   |      | 0.039 - 0.125      | 0.138    | Economy<br>⊙      | F046         |                      |          |                   |      |
|               |          |           |                   |      |  |                         |          |           |                   |      |                    |          |                   |              | 0.079 - 0.098 (JXDX) | 0.276    | ⊙                 | F073 |
|               |          |           |                   |      |  | 0.013 - 0.098 (GBR/L32) | 0.098    | 1.38      | ○                 | F179 | 0.039 - 0.157      | 0.197    | ○                 | F112         |                      |          |                   |      |
| 0.118 - 0.197 | 0.866    | 1.181     | ○                 | F238 |  | 0.118 - 0.197           | 0.197    | 1.000     | ○                 | F161 | 0.118 - 0.197      | 0.846    | ○                 | F079         | 0.118 - 0.197        | 0.846    | ○                 | F079 |
| 0.157 - 0.236 | 2.559    | 1.181     | ⊙                 | F190 |  |                         |          |           |                   |      |                    |          |                   |              |                      |          |                   |      |
|               |          |           |                   |      |  | 0.039 - 0.177 (XGR/L)   | 0.236    | 2.165     | ○                 | F188 |                    |          |                   |              |                      |          |                   |      |
|               |          |           |                   |      |  | 0.039 - 0.118 (FLG-CB)  | 0.160    | 0.730     | ○                 | F167 |                    |          |                   |              |                      |          |                   |      |
|               |          |           |                   |      |  | 0.039 - 0.089 (GTGN)    | 0.071    | 0.950     | ○                 | F177 |                    |          |                   |              |                      |          |                   |      |



# Quick Guide (Metric)

| Series                           | Insert shape  | External grooving  |          |   |      | Parting  |             |                          |      |
|----------------------------------|---|--|----------|---|------|----------|-------------|--------------------------|------|
|                                  |   |  |          |  |      |          |             |                          |      |
|                                  |   | CW (mm)  | CDX (mm) | Priority  | Page | CW (mm)  | CUTDIA (mm) | Priority                 | Page |
| <b>ADDF<sup>ORCE</sup>CUT</b>    |    | 2 - 5  | 33       | ◎   | F014 | 2 - 5    | 120         | ◎<br><b>First choice</b> | F248 |
| <b>ADD<sup>INTERNAL</sup>CUT</b> |    |  |          |   |      |          |             |                          |      |
| <b>TUNGCUT</b>                   |    | 1.2 - 8  | 35       | ◎<br><b>First choice</b>  | F016 | 1.2 - 8  | 120         | ◎                        | F254 |
| <b>TETRA<sup>ORCE</sup>CUT</b>   |    | 0.5 - 4  | 10       | ◎<br><b>Economy</b>   | F061 | 0.5 - 4  | 20          | ◎<br><b>Economy</b>      | F061 |
| <b>TETRA<sup>M</sup>CUT</b>      |   | 0.33 - 3   | 3.5      | ◎<br><b>Economy</b>   | F046 | 0.33 - 3 | 7           | ◎<br><b>Economy</b>      | F046 |
| <b>DUO<sup>UST</sup>CUT</b>      |  | 0.6 - 2.5  | 10.5     | ◎   | F073 | 0.6 - 2  | 20          | ◎                        | F272 |
| <b>GBR/L</b>                     |  | 0.33 - 4.5   | 5        | ○   | F112 |          |             |                          |      |
| <b>MY-T SERIES</b>               |  | 2 - 5  | 25       | ○   | F079 | 2 - 5    | 120         | ○                        | F276 |
| <b>EASY<sup>ULTI</sup>MULTI</b>  |  |  |          |   |      |          |             |                          |      |
| <b>TUNG<sup>H</sup>HOOROVE</b>   |  | 10 - 25  | 50       | ◎   | F107 |          |             |                          |      |
| <b>SNG / CNG</b>                 |  |  |          |   |      |          |             |                          |      |
| <b>XG/XN</b>                     |  | 1 - 4.5<br>(XGR/L)   | 6        | ○   | F119 |          |             |                          |      |
| Other                            |  | 1 - 3<br>(FLG-CB)  | 4.07     | ○   | F095 |          |             |                          |      |
|                                  |  | 1 - 2.25<br>(GTGN)   | 1.8      | ○   | F105 |          |             |                          |      |
|                                  |  | 1.15 - 4.2<br>(GLR/L)  | 4        | ○   | F117 |          |             |                          |      |

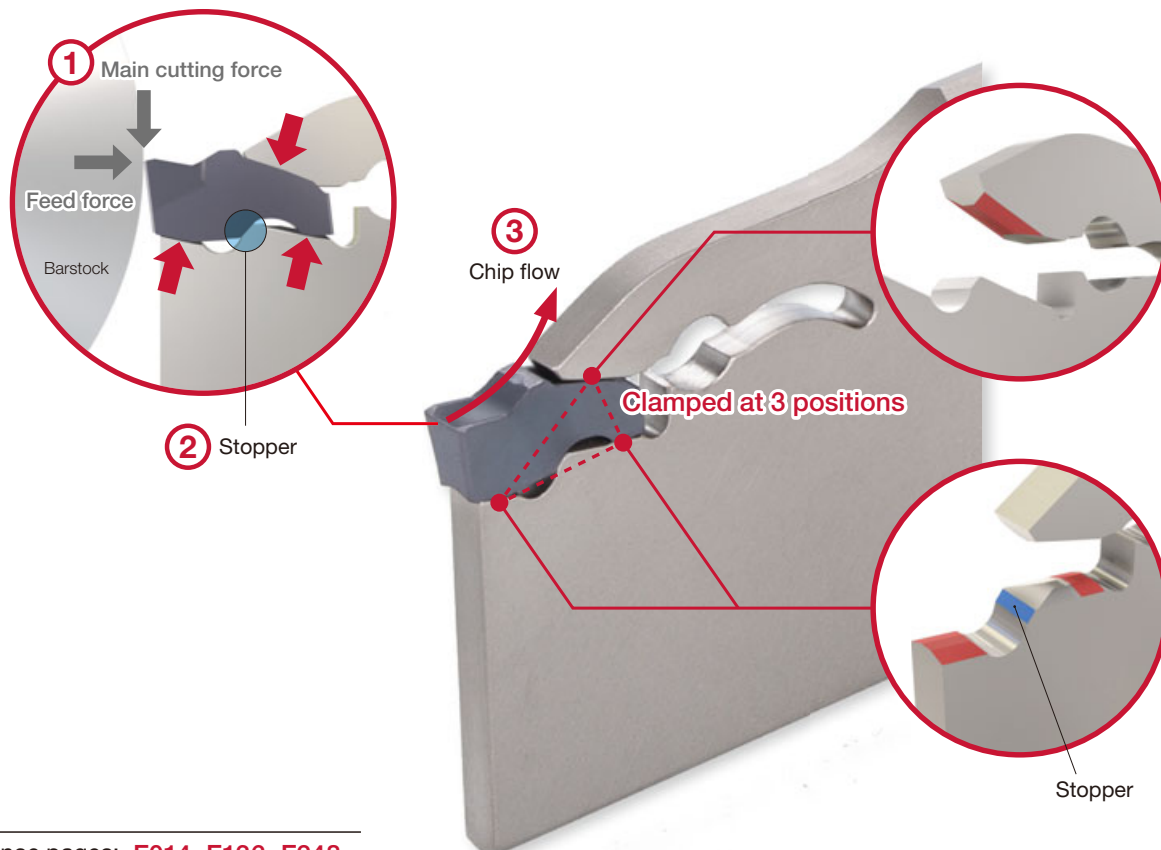
⊙ : First choice  
○ : Usable

| Face grooving    |          |           |                   |      |  | Internal grooving |          |           |                   |      | Profiling (Full-R) |          |                   |              | Turning        |          |                   |      |  |
|------------------|----------|-----------|-------------------|------|--|-------------------|----------|-----------|-------------------|------|--------------------|----------|-------------------|--------------|----------------|----------|-------------------|------|--|
|                  |          |           |                   |      |  |                   |          |           |                   |      |                    |          |                   |              |                |          |                   |      |  |
| CW (mm)          | CDX (mm) | DAXN (mm) | Priority          | Page |  | CW (mm)           | CDX (mm) | DMIN (mm) | Priority          | Page | CW (mm)            | CDX (mm) | Priority          | Page         | CW (mm)        | CDX (mm) | Priority          | Page |  |
|                  |          |           |                   |      |  |                   |          |           |                   |      |                    |          |                   |              |                |          |                   |      |  |
|                  |          |           |                   |      |  | 0.5-3             | 3        | 10.5      | First choice<br>⊙ | F134 |                    |          |                   |              |                |          |                   |      |  |
| 2-6              | 25       | 25        | First choice<br>⊙ | F196 |  | 2-8               | 10       | 25        | ⊙                 | F140 | 2-8                | 35       | First choice<br>⊙ | F016<br>F286 | 2-8            | 35       | First choice<br>⊙ | F016 |  |
|                  |          |           |                   |      |  |                   |          |           |                   |      | 1.57-3             | 6.4      | Economy<br>⊙      | F061         |                |          |                   |      |  |
| 0.33-3           | 3        | 6         | Economy<br>⊙      | F223 |  |                   |          |           |                   |      | 1-3.18             | 3.5      | Economy<br>⊙      | F046         |                |          |                   |      |  |
|                  |          |           |                   |      |  |                   |          |           |                   |      |                    |          |                   |              | 2-2.5<br>(JDX) | 6        | ⊙                 | F073 |  |
|                  |          |           |                   |      |  | 0.33-4.5          | 2.5      | 35        | ○                 | F179 | 1-4                | 5        | ○                 | F112         |                |          |                   |      |  |
| 3-5              | 22       | 30        | ○                 | F238 |  | 3-5               | 6        | 25        | ○                 | F161 | 3-5                | 25       | ○                 | F079         | 3-5            | 25       | ○                 | F079 |  |
| 4-6              | 65       | 30        | ⊙                 | F190 |  |                   |          |           |                   |      |                    |          |                   |              |                |          |                   |      |  |
|                  |          |           |                   |      |  |                   |          |           |                   |      |                    |          |                   |              |                |          |                   |      |  |
|                  |          |           |                   |      |  | 1-3.5             | 3        | 8         | ○                 | F182 |                    |          |                   |              |                |          |                   |      |  |
| 1-4.5<br>(XNR/L) | 6        | 55        | ○                 | F246 |  | 1-4.5<br>(XGR/L)  | 6        | 55        | ○                 | F188 |                    |          |                   |              |                |          |                   |      |  |
|                  |          |           |                   |      |  | 1-3<br>(FLG-CB)   | 4.07     | 34.9      | ○                 | F167 |                    |          |                   |              |                |          |                   |      |  |
|                  |          |           |                   |      |  | 1-2.25<br>(GTGN)  | 1.8      | 24        | ○                 | F177 |                    |          |                   |              |                |          |                   |      |  |

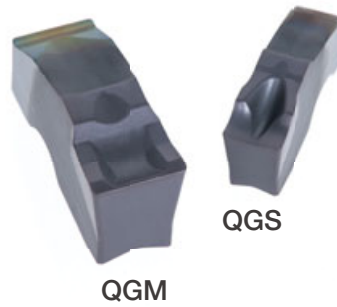
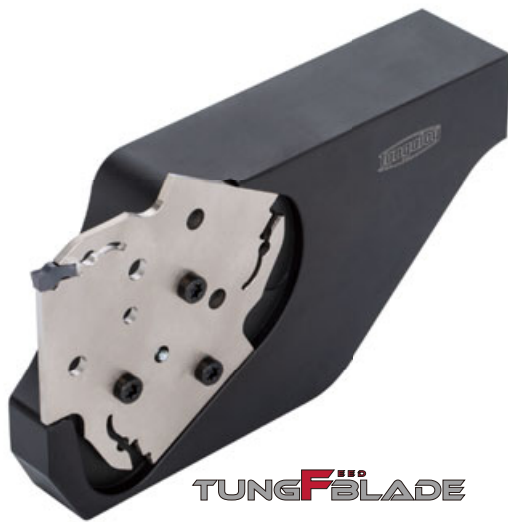


## Highly rigid self-clamping system improves productivity for deep grooving and parting-off operations

- ① The stopper supporting the insert bottom ensures secure edge position for excellent repeatability
- ② The pocket is designed to securely spring-clip the insert with three contact faces for stability
- ③ Smooth uninterrupted chip flow is possible thanks to two variations of effective 3D chipbreakers



Reference pages: [F014](#), [F136](#), [F248](#)



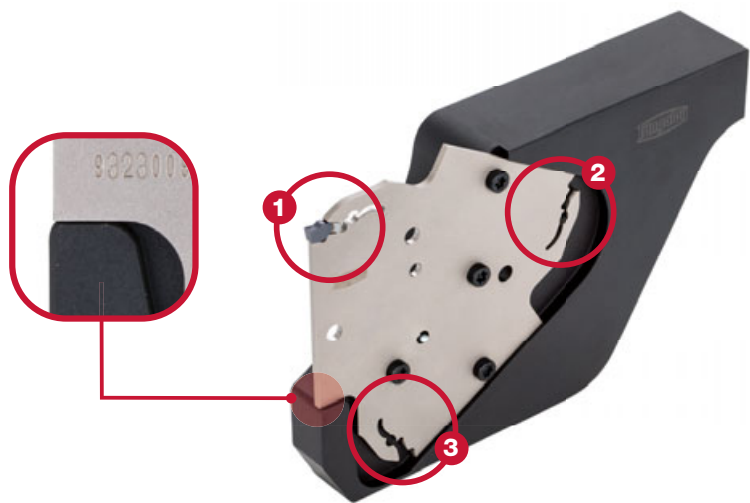
**TUNGFBLADE**

## Strong holder design ensures tool stability and productivity gains during demanding cutting conditions

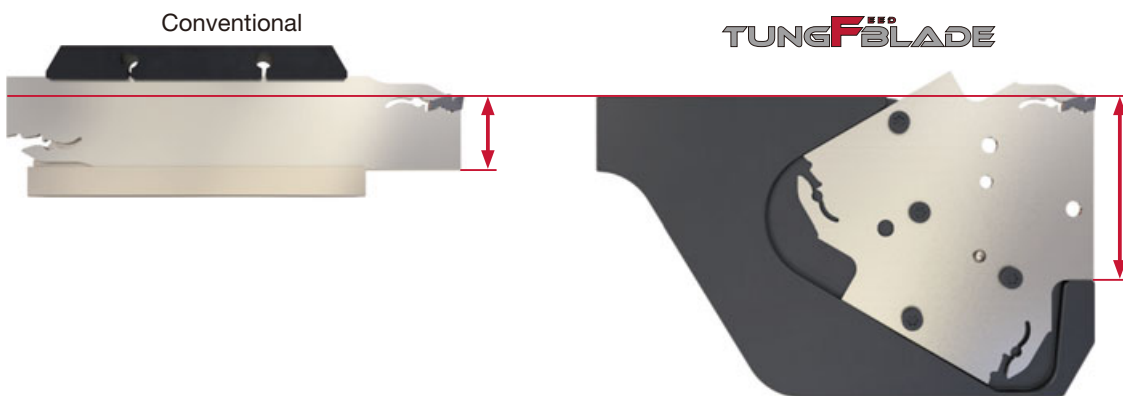
The blade provides reduced tooling cost with three insert pockets, while its strong backing beneath the insert withstands heavy cutting loads during machining.

Economical blade with three insert pockets.

Specially designed tool block has two contact faces to provide enhanced tool rigidity.



With much thicker support than existing grooving blades, tool deflection and chatter are minimized even at higher feed rates.



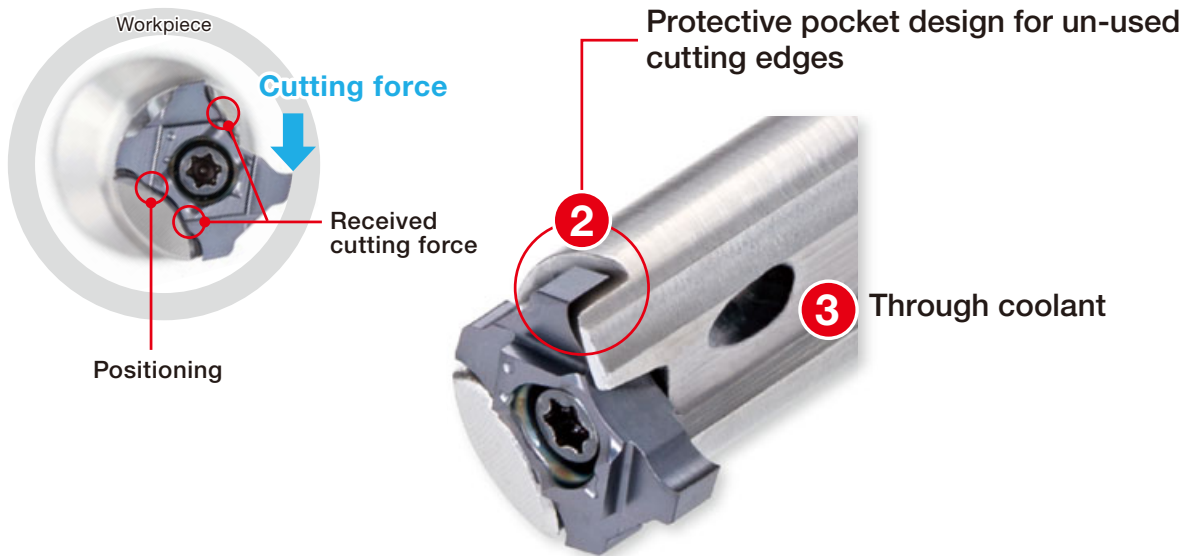
QSG blade + CHTBR/L tool block

Reference pages: **F250 - F251, F259 - F260**

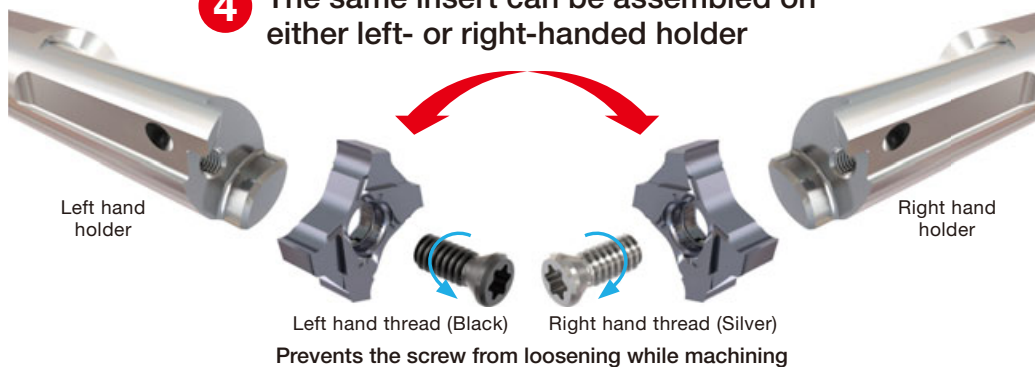


## Unique insert clamping system ensures high indexing repeatability and clamping rigidity

- 1** The insert is supported at three optimized positions for rigid clamping and superior repeatability



- 4** The same insert can be assembled on either left- or right-handed holder



## Multi-functional grooving tool series with excellent versatility

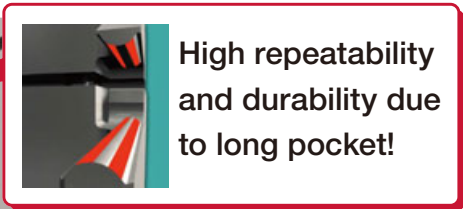
New modular holder system enhances versatility of existing monoblock holder and TungCap (PSC) lines. High-pressure coolant system improves chip flow and tool life.

### High clamping rigidity For stable tool life and accuracy

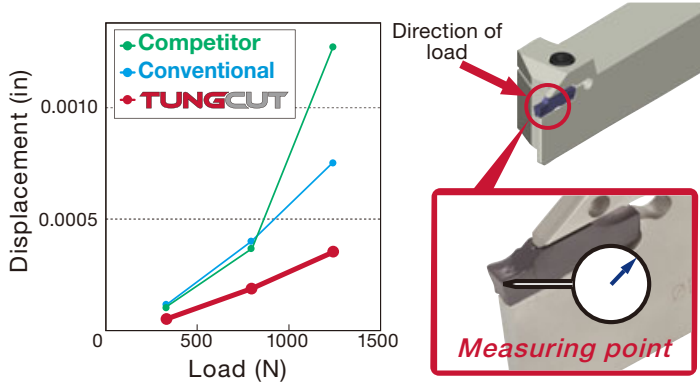
#### Clamping system



Stable and safe contact areas



#### Minimizes cutting edge displacement



### Excellent chip control at low feed rates

#### P Bearing steel (52100)

First choice chipbreaker for bearing steel. Excellent chip control at low feed rates.



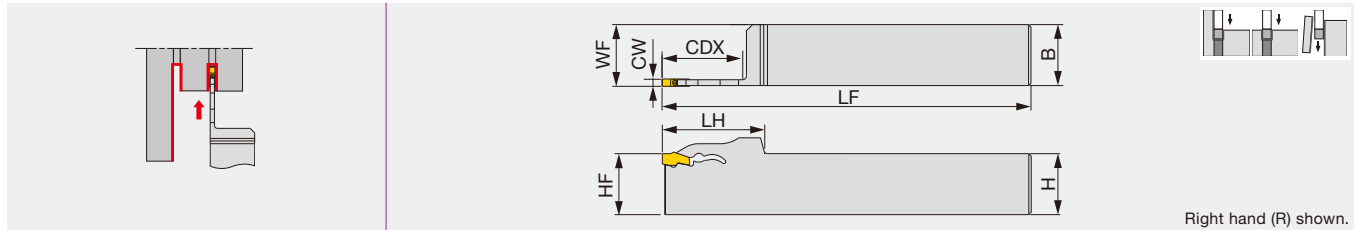
Workpiece material : SUJ2  
Toolholder : CTER2525-3T09  
Insert : DGL3-025  
Cutting speed :  $V_c = 164, 328$  sfm  
Groove width :  $0.118''$

| Cutting speed: $V_c$ (sfm) | Feed: $f$ (ipr) |       |       |       |
|----------------------------|-----------------|-------|-------|-------|
|                            | 0.001           | 0.002 | 0.003 | 0.004 |
| 328                        |                 |       |       |       |
| 164                        |                 |       |       |       |





### External toolholders for grooving and parting



| Inch          | CW    | CDX   | Seat size | H     | B     | LF    | LH    | HF    | WF    |
|---------------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|
| QSER/L12-2T26 | 0.079 | 1.024 | 2         | 0.750 | 0.750 | 5.000 | 1.417 | 0.750 | 0.756 |
| QSER/L12-2T33 | 0.079 | 1.299 | 2         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.756 |
| QSER/L16-2T26 | 0.079 | 1.024 | 2         | 1.000 | 1.000 | 6.000 | 1.417 | 1.000 | 1.004 |
| QSER/L16-2T33 | 0.079 | 1.299 | 2         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.004 |
| QSER/L12-3T26 | 0.118 | 1.024 | 3         | 0.750 | 0.750 | 5.000 | 1.417 | 0.750 | 0.764 |
| QSER/L12-3T33 | 0.118 | 1.299 | 3         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.764 |
| QSER/L16-3T26 | 0.118 | 1.024 | 3         | 1.000 | 1.000 | 6.000 | 1.417 | 1.000 | 1.012 |
| QSER/L16-3T33 | 0.118 | 1.299 | 3         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.012 |
| QSER/L12-4T33 | 0.157 | 1.299 | 4         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.768 |
| QSER/L16-4T33 | 0.157 | 1.299 | 4         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.016 |
| QSER/L16-5T33 | 0.197 | 1.299 | 5         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.020 |
| QSER/L16-6T36 | 0.236 | 1.417 | 6         | 1.000 | 1.000 | 6.000 | 1.890 | 1.000 | 1.016 |


| Metric          | CW | CDX | Seat size | H  | B  | LF  | LH | HF | WF   |
|-----------------|----|-----|-----------|----|----|-----|----|----|------|
| QSER/L2020-2T26 | 2  | 26  | 2         | 20 | 20 | 125 | 36 | 20 | 20.1 |
| QSER/L2020-2T33 | 2  | 33  | 2         | 20 | 20 | 125 | 42 | 20 | 20.1 |
| QSER/L2525-2T26 | 2  | 26  | 2         | 25 | 25 | 150 | 36 | 25 | 25.1 |
| QSER/L2525-2T33 | 2  | 33  | 2         | 25 | 25 | 150 | 42 | 25 | 25.1 |
| QSER/L2020-3T26 | 3  | 26  | 3         | 20 | 20 | 125 | 36 | 20 | 20.3 |
| QSER/L2020-3T33 | 3  | 33  | 3         | 20 | 20 | 125 | 42 | 20 | 20.3 |
| QSER/L2525-3T26 | 3  | 26  | 3         | 25 | 25 | 150 | 36 | 25 | 25.3 |
| QSER/L2525-3T33 | 3  | 33  | 3         | 25 | 25 | 150 | 42 | 25 | 25.3 |
| QSER/L2020-4T33 | 4  | 33  | 4         | 20 | 20 | 125 | 42 | 20 | 20.4 |
| QSER/L2525-4T33 | 4  | 33  | 4         | 25 | 25 | 150 | 42 | 25 | 25.4 |
| QSER/L2525-5T33 | 5  | 33  | 5         | 25 | 25 | 150 | 42 | 25 | 25.5 |

### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| QSER/L...   | QL-39  |

## CHIPBREAKER GUIDE

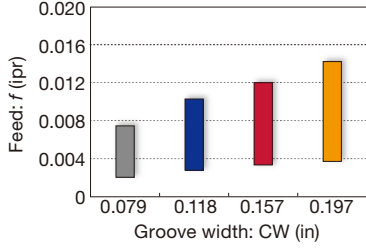
**QGM**

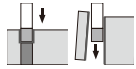


**First choice for grooving and parting**


Smooth chip evacuation  
Well-designed edge with high strength  
CW = 0.079" - 0.197"

Standard feed





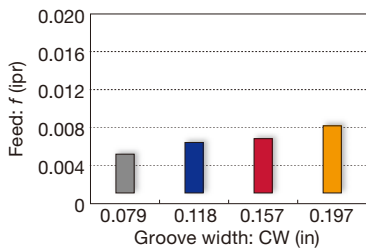
**QGS**

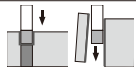


**Lower cutting force and superior sharpness**

Uniquely designed edge and chipbreaker  
CW = 0.079" - 0.197"

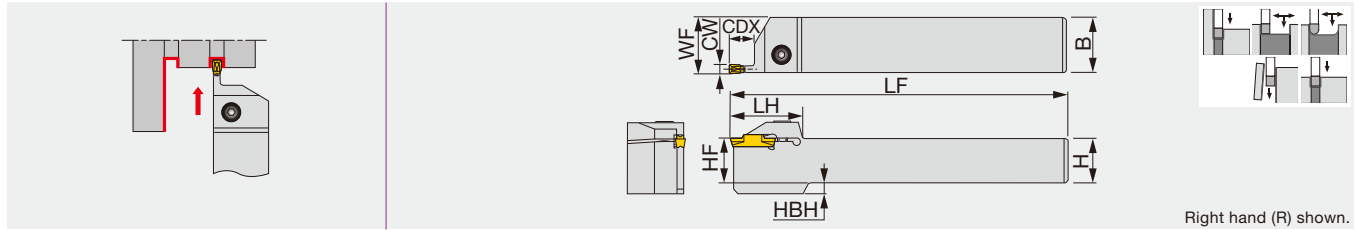
Standard feed











| Inch          | CW    | Seat size | CDX   | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | HBH   | Torque |
|---------------|-------|-----------|-------|-------|-------|-------|-------|-------|-------------------|-------|--------|
| CTER/L10-2T08 | 0.079 | 2         | 0.315 | 0.625 | 0.625 | 4.500 | 1.299 | 0.625 | 0.629             | 0.157 | 3.69   |
| CTER/L12-2T08 | 0.079 | 2         | 0.315 | 0.750 | 0.750 | 5.000 | 1.299 | 0.750 | 0.754             | -     | 3.69   |
| CTER/L16-2T08 | 0.079 | 2         | 0.315 | 1.000 | 1.000 | 6.000 | 1.299 | 1.000 | 1.004             | -     | 3.69   |
| CTER/L10-2T12 | 0.079 | 2         | 0.472 | 0.625 | 0.625 | 4.500 | 1.260 | 0.625 | 0.629             | 0.157 | 3.69   |
| CTER/L12-2T12 | 0.079 | 2         | 0.472 | 0.750 | 0.750 | 5.000 | 1.260 | 0.750 | 0.754             | -     | 3.69   |
| CTER/L16-2T12 | 0.079 | 2         | 0.472 | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.004             | -     | 3.69   |
| CTER/L10-2T17 | 0.079 | 2         | 0.669 | 0.625 | 0.625 | 4.500 | 1.457 | 0.625 | 0.629             | 0.157 | 3.69   |
| CTER/L12-2T17 | 0.079 | 2         | 0.669 | 0.750 | 0.750 | 5.000 | 1.457 | 0.750 | 0.754             | -     | 3.69   |
| CTER/L16-2T17 | 0.079 | 2         | 0.669 | 1.000 | 1.000 | 6.000 | 1.457 | 1.000 | 1.004             | -     | 3.69   |
| CTER/L10-3T09 | 0.118 | 3         | 0.354 | 0.625 | 0.625 | 4.500 | 1.260 | 0.625 | 0.637             | 0.157 | 3.69   |
| CTER/L12-3T09 | 0.118 | 3         | 0.354 | 0.750 | 0.750 | 5.000 | 1.260 | 0.750 | 0.762             | -     | 3.69   |
| CTER/L16-3T09 | 0.118 | 3         | 0.354 | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.012             | -     | 3.69   |
| CTER/L12-3T12 | 0.118 | 3         | 0.472 | 0.750 | 0.750 | 5.000 | 1.260 | 0.750 | 0.763             | -     | 3.69   |
| CTER/L16-3T12 | 0.118 | 3         | 0.472 | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.011             | -     | 3.69   |
| CTER/L10-3T20 | 0.118 | 3         | 0.787 | 0.625 | 0.625 | 4.500 | 1.516 | 0.625 | 0.637             | 0.157 | 3.69   |
| CTER/L12-3T20 | 0.118 | 3         | 0.787 | 0.750 | 0.750 | 5.000 | 1.516 | 0.750 | 0.762             | -     | 3.69   |
| CTER/L16-3T20 | 0.118 | 3         | 0.787 | 1.000 | 1.000 | 6.000 | 1.516 | 1.000 | 1.012             | -     | 3.69   |
| CTER/L16-3T25 | 0.118 | 3         | 0.984 | 1.000 | 1.000 | 6.000 | 1.752 | 1.000 | 1.012             | -     | 3.69   |
| CTER/L10-4T10 | 0.157 | 4         | 0.394 | 0.625 | 0.625 | 4.500 | 1.260 | 0.625 | 0.645             | 0.157 | 6.27   |
| CTER/L12-4T10 | 0.157 | 4         | 0.394 | 0.750 | 0.750 | 5.000 | 1.260 | 0.750 | 0.770             | -     | 6.27   |
| CTER/L16-4T10 | 0.157 | 4         | 0.394 | 1.000 | 1.000 | 6.000 | 1.260 | 1.000 | 1.020             | -     | 6.27   |
| CTER/L12-4T15 | 0.157 | 4         | 0.590 | 0.750 | 0.750 | 5.000 | 1.299 | 0.750 | 0.771             | -     | 6.27   |
| CTER/L16-4T15 | 0.157 | 4         | 0.590 | 1.000 | 1.000 | 6.000 | 1.299 | 1.000 | 1.019             | -     | 6.27   |
| CTER/L10-4T25 | 0.157 | 4         | 0.984 | 0.625 | 0.625 | 4.500 | 1.772 | 0.625 | 0.645             | 0.157 | 6.27   |
| CTER/L12-4T25 | 0.157 | 4         | 0.984 | 0.750 | 0.750 | 5.000 | 1.772 | 0.750 | 0.770             | -     | 6.27   |
| CTER/L16-4T25 | 0.157 | 4         | 0.984 | 1.000 | 1.000 | 6.000 | 1.772 | 1.000 | 1.020             | -     | 6.27   |
| CTER/L20-4T25 | 0.157 | 4         | 0.984 | 1.250 | 1.250 | 7.000 | 1.772 | 1.250 | 1.270             | -     | 6.27   |
| CTER/L12-5T12 | 0.197 | 5         | 0.472 | 0.750 | 0.750 | 5.000 | 1.457 | 0.750 | 0.769             | -     | 6.27   |
| CTER/L16-5T12 | 0.197 | 5         | 0.472 | 1.000 | 1.000 | 6.000 | 1.457 | 1.000 | 1.019             | -     | 6.27   |
| CTER/L16-5T20 | 0.197 | 5         | 0.787 | 1.000 | 1.000 | 6.000 | 1.457 | 1.000 | 1.023             | -     | 6.27   |
| CTER/L16-5T32 | 0.197 | 5         | 1.260 | 1.000 | 1.000 | 6.000 | 2.205 | 1.000 | 1.019             | -     | 6.27   |
| CTER/L20-5T32 | 0.197 | 5         | 1.260 | 1.250 | 1.250 | 7.000 | 2.205 | 1.250 | 1.269             | -     | 6.27   |
| CTER/L12-6T12 | 0.236 | 6         | 0.472 | 0.750 | 0.750 | 5.000 | 1.457 | 0.750 | 0.770             | -     | 8.85   |
| CTER/L16-6T12 | 0.236 | 6         | 0.472 | 1.000 | 1.000 | 6.000 | 1.457 | 1.000 | 1.020             | 0.276 | 8.85   |
| CTER/L16-6T20 | 0.236 | 6         | 0.787 | 1.000 | 1.000 | 6.000 | 1.614 | 1.000 | 1.023             | 0.276 | 8.85   |
| CTER/L16-6T32 | 0.236 | 6         | 1.260 | 1.000 | 1.000 | 6.000 | 2.205 | 1.000 | 1.020             | 0.276 | 8.85   |
| CTER/L20-6T32 | 0.236 | 6         | 1.260 | 1.250 | 1.250 | 7.000 | 2.205 | 1.250 | 1.270             | -     | 8.85   |
| CTER/L16-8T16 | 0.315 | 8         | 0.630 | 1.000 | 1.000 | 6.000 | 1.850 | 1.000 | 1.039             | 0.276 | 8.85   |
| CTER/L16-8T25 | 0.315 | 8         | 0.984 | 1.000 | 1.000 | 6.000 | 1.850 | 1.000 | 1.039             | 0.276 | 8.85   |
| CTER/L20-8T25 | 0.315 | 8         | 0.984 | 1.250 | 1.250 | 7.000 | 1.850 | 1.250 | 1.289             | -     | 8.85   |
| CTER/L16-8T36 | 0.315 | 8         | 1.417 | 1.000 | 1.000 | 6.000 | 2.362 | 1.000 | 1.039             | 0.276 | 8.85   |
| CTER/L20-8T36 | 0.315 | 8         | 1.417 | 1.250 | 1.250 | 7.000 | 2.362 | 1.250 | 1.289             | -     | 8.85   |

| Metric          | CW | Seat size | CDX | H  | B  | LF  | LH   | HF | WF <sup>(1)</sup> | HBH | Torque* |
|-----------------|----|-----------|-----|----|----|-----|------|----|-------------------|-----|---------|
| CTER/L1616-2T08 | 2  | 2         | 8   | 16 | 16 | 110 | 33   | 16 | 16.1              | 4   | 5       |
| CTER/L2020-2T08 | 2  | 2         | 8   | 20 | 20 | 125 | 33   | 20 | 20.1              | -   | 5       |
| CTER/L2525-2T08 | 2  | 2         | 8   | 25 | 25 | 150 | 33   | 25 | 25.1              | -   | 5       |
| CTER/L1616-2T12 | 2  | 2         | 12  | 16 | 16 | 110 | 32   | 16 | 16.1              | 4   | 5       |
| CTER/L2020-2T12 | 2  | 2         | 12  | 20 | 20 | 125 | 32   | 20 | 20.1              | -   | 5       |
| CTER/L2525-2T12 | 2  | 2         | 12  | 25 | 25 | 150 | 32   | 25 | 25.1              | -   | 5       |
| CTER/L1616-2T17 | 2  | 2         | 17  | 16 | 16 | 110 | 37   | 16 | 16.1              | 4   | 5       |
| CTER/L2020-2T17 | 2  | 2         | 17  | 20 | 20 | 125 | 37   | 20 | 20.1              | -   | 5       |
| CTER/L2525-2T17 | 2  | 2         | 17  | 25 | 25 | 150 | 37   | 25 | 25.1              | -   | 5       |
| CTER/L2525-2T20 | 2  | 2         | 20  | 25 | 25 | 150 | 38.5 | 25 | 25.1              | -   | 5       |
| CTER/L1616-3T09 | 3  | 3         | 9   | 16 | 16 | 110 | 32   | 16 | 16.3              | 4   | 5       |
| CTER/L2020-3T09 | 3  | 3         | 9   | 20 | 20 | 125 | 32   | 20 | 20.3              | -   | 5       |
| CTER/L2525-3T09 | 3  | 3         | 9   | 25 | 25 | 150 | 32   | 25 | 25.3              | -   | 5       |
| CTER/L1616-3T12 | 3  | 3         | 12  | 16 | 16 | 110 | 32   | 16 | 16.3              | 4   | 5       |
| CTER/L2020-3T12 | 3  | 3         | 12  | 20 | 20 | 125 | 32   | 20 | 20.3              | -   | 5       |
| CTER/L2525-3T12 | 3  | 3         | 12  | 25 | 25 | 150 | 32   | 25 | 25.3              | -   | 5       |
| CTER/L1616-3T20 | 3  | 3         | 20  | 16 | 16 | 110 | 38.5 | 16 | 16.3              | 4   | 5       |

| Metric          | CW | Seat size | CDX | H  | B  | LF  | LH   | HF | WF <sup>(1)</sup> | HBH | Torque* |
|-----------------|----|-----------|-----|----|----|-----|------|----|-------------------|-----|---------|
| CTER/L2020-3T20 | 3  | 3         | 20  | 20 | 20 | 125 | 38.5 | 20 | 20.3              | -   | 5       |
| CTER/L2525-3T20 | 3  | 3         | 20  | 25 | 25 | 150 | 38.5 | 25 | 25.3              | -   | 5       |
| CTER/L2525-3T25 | 3  | 3         | 25  | 25 | 25 | 150 | 44.5 | 25 | 25.3              | -   | 5       |
| CTER/L1616-4T10 | 4  | 4         | 10  | 16 | 16 | 110 | 32   | 16 | 16.5              | 4   | 8.5     |
| CTER/L2020-4T10 | 4  | 4         | 10  | 20 | 20 | 125 | 32   | 20 | 20.5              | -   | 8.5     |
| CTER/L2525-4T10 | 4  | 4         | 10  | 25 | 25 | 150 | 32   | 25 | 25.5              | -   | 8.5     |
| CTER/L2020-4T15 | 4  | 4         | 15  | 20 | 20 | 125 | 33   | 20 | 20.5              | -   | 8.5     |
| CTER/L2525-4T15 | 4  | 4         | 15  | 25 | 25 | 150 | 33   | 25 | 25.5              | -   | 8.5     |
| CTER/L1616-4T25 | 4  | 4         | 25  | 16 | 16 | 110 | 45   | 16 | 16.5              | 4   | 8.5     |
| CTER/L2020-4T25 | 4  | 4         | 25  | 20 | 20 | 125 | 45   | 20 | 20.5              | -   | 8.5     |
| CTER/L2525-4T25 | 4  | 4         | 25  | 25 | 25 | 150 | 45   | 25 | 25.5              | -   | 8.5     |
| CTER/L3232-4T25 | 4  | 4         | 25  | 32 | 32 | 170 | 45   | 32 | 32.5              | -   | 8.5     |
| CTER/L2020-5T12 | 5  | 5         | 12  | 20 | 20 | 125 | 37   | 20 | 20.6              | -   | 8.5     |
| CTER/L2525-5T12 | 5  | 5         | 12  | 25 | 25 | 150 | 37   | 25 | 25.6              | -   | 8.5     |
| CTER/L2525-5T17 | 5  | 5         | 17  | 25 | 25 | 150 | 37   | 25 | 25.6              | -   | 8.5     |
| CTER/L2525-5T20 | 5  | 5         | 20  | 25 | 25 | 150 | 37   | 25 | 25.6              | -   | 8.5     |
| CTER/L2525-5T32 | 5  | 5         | 32  | 25 | 25 | 150 | 56   | 25 | 25.6              | -   | 8.5     |
| CTER/L3232-5T32 | 5  | 5         | 32  | 32 | 32 | 170 | 56   | 32 | 32.6              | -   | 8.5     |
| CTER/L2020-6T12 | 6  | 6         | 12  | 20 | 20 | 125 | 37   | 20 | 20.6              | -   | 12      |
| CTER/L2525-6T12 | 6  | 6         | 12  | 25 | 25 | 150 | 37   | 25 | 25.6              | 7   | 12      |
| CTER/L2525-6T16 | 6  | 6         | 16  | 25 | 25 | 150 | 39   | 25 | 25.6              | 7   | 12      |
| CTER/L2525-6T20 | 6  | 6         | 20  | 25 | 25 | 150 | 41   | 25 | 25.6              | 7   | 12      |
| CTER/L2525-6T25 | 6  | 6         | 25  | 25 | 25 | 150 | 47   | 25 | 25.6              | 7   | 12      |
| CTER/L2525-6T32 | 6  | 6         | 32  | 25 | 25 | 150 | 56   | 25 | 25.6              | 7   | 12      |
| CTER/L3232-6T32 | 6  | 6         | 32  | 32 | 32 | 170 | 56   | 32 | 32.6              | -   | 12      |
| CTER/L2525-8T16 | 8  | 8         | 16  | 25 | 25 | 150 | 47   | 25 | 26.1              | 7   | 12      |
| CTER/L2525-8T25 | 8  | 8         | 25  | 25 | 25 | 150 | 47   | 25 | 26.1              | 7   | 12      |
| CTER/L3232-8T25 | 8  | 8         | 25  | 32 | 32 | 170 | 47   | 32 | 33.1              | -   | 12      |
| CTER/L3232-8T32 | 8  | 8         | 32  | 32 | 32 | 170 | 56   | 32 | 33.1              | -   | 12      |
| CTER/L2525-8T36 | 8  | 8         | 36  | 25 | 25 | 150 | 60   | 25 | 26.1              | 7   | 12      |
| CTER/L3232-8T36 | 8  | 8         | 36  | 32 | 32 | 170 | 60   | 32 | 33.1              | -   | 12      |

When groove depth is larger than (insert length - 0.059" [1.5 mm]), please use 1-cornered insert.  
(1) "WF" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

#### SPARE PARTS

| Designation                    | Clamping screw | Wrench |
|--------------------------------|----------------|--------|
| CTER/L10-2T08, CTER/L1616-2T08 | CM5X0.8X16-A   | P-4    |
| CTER/L12-2T08, CTER/L2020-2T08 | CM5X0.8X20-A   | P-4    |
| CTER/L16-2T08, CTER/L2525-2T08 | CM5X0.8X25-A   | P-4    |
| CTER/L10-2T12, CTER/L1616-2T12 | CM5X0.8X16-A   | P-4    |
| CTER/L12-2T12, CTER/L2020-2T12 | CM5X0.8X20-A   | P-4    |
| CTER/L16-2T12, CTER/L2525-2T12 | CM5X0.8X25-A   | P-4    |
| CTER/L10-2T17, CTER/L1616-2T17 | CM5X0.8X16-A   | P-4    |
| CTER/L12-2T17, CTER/L2020-2T17 | CM5X0.8X20-A   | P-4    |
| CTER/L16-2T17, CTER/L2525-2T17 | CM5X0.8X25-A   | P-4    |
| CTER/L2525-2T20                | CM5X0.8X25-A   | P-4    |
| CTER/L10-3T09, CTER/L1616-3T09 | CM5X0.8X16-A   | P-4    |
| CTER/L12-3T09, CTER/L2020-3T09 | CM5X0.8X20-A   | P-4    |
| CTER/L16-3T09, CTER/L2525-3T09 | CM5X0.8X25-A   | P-4    |
| CTER/L1616-3T12                | CM5X0.8X16-A   | P-4    |
| CTER/L12-3T12, CTER/L2020-3T12 | CM5X0.8X20-A   | P-4    |
| CTER/L16-3T12, CTER/L2525-3T12 | CM5X0.8X25-A   | P-4    |
| CTER/L10-3T20, CTER/L1616-3T20 | CM5X0.8X16-A   | P-4    |
| CTER/L12-3T20, CTER/L2020-3T20 | CM5X0.8X20-A   | P-4    |
| CTER/L16-3T20, CTER/L2525-3T20 | CM5X0.8X25-A   | P-4    |
| CTER/L16-3T25, CTER/L2525-3T25 | CM5X0.8X25-A   | P-4    |
| CTER/L10-4T10, CTER/L1616-4T10 | CM6X1X16-A     | P-5    |
| CTER/L12-4T10, CTER/L2020-4T10 | CM6X1X20-A     | P-5    |
| CTER/L16-4T10, CTER/L2525-4T10 | CM6X1X25-A     | P-5    |
| CTER/L12-4T15, CTER/L2020-4T15 | CM6X1X20-A     | P-5    |

#### SPARE PARTS

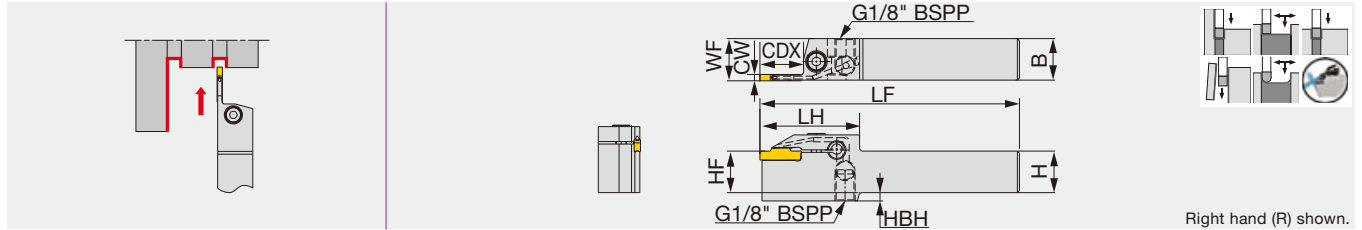
| Designation                    | Clamping screw | Wrench |
|--------------------------------|----------------|--------|
| CTER/L16-4T15, CTER/L2525-4T15 | CM6X1X25-A     | P-5    |
| CTER/L10-4T25, CTER/L1616-4T25 | CM6X1X16-A     | P-5    |
| CTER/L12-4T25, CTER/L2020-4T25 | CM6X1X20-A     | P-5    |
| CTER/L16-4T25, CTER/L2525-4T25 | CM6X1X25-A     | P-5    |
| CTER/L20-4T25, CTER/L3232-4T25 | CM6X1X25-A     | P-5    |
| CTER/L12-5T12, CTER/L2020-5T12 | CM6X1X20-A     | P-5    |
| CTER/L16-5T12, CTER/L2525-5T12 | CM6X1X25-A     | P-5    |
| CTER/L2525-5T17                | CM6X1X25-A     | P-5    |
| CTER/L16-5T20, CTER/L2525-5T20 | CM6X1X25-A     | P-5    |
| CTER/L16-5T32, CTER/L2525-5T32 | CM6X1X25-A     | P-5    |
| CTER/L20-5T32, CTER/L3232-5T32 | CM6X1X25-A     | P-5    |
| CTER/L12-6T12, CTER/L2020-6T12 | CM8X1.25X20-A  | P-6    |
| CTER/L16-6T12, CTER/L2525-6T12 | CM8X1.25X25-A  | P-6    |
| CTER/L2525-6T16                | CM8X1.25X25-A  | P-6    |
| CTER/L16-6T20, CTER/L2525-6T20 | CM8X1.25X25-A  | P-6    |
| CTER/L2525-6T25                | CM8X1.25X25-A  | P-6    |
| CTER/L16-6T32, CTER/L2525-6T32 | CM8X1.25X25-A  | P-6    |
| CTER/L20-6T32, CTER/L3232-6T32 | CM8X1.25X25-A  | P-6    |
| CTER/L16-8T16, CTER/L2525-8T16 | CM8X1.25X25-A  | P-6    |
| CTER/L16-8T25, CTER/L2525-8T25 | CM8X1.25X25-A  | P-6    |
| CTER/L20-8T25, CTER/L3232-8T25 | CM8X1.25X25-A  | P-6    |
| CTER/L3232-8T32                | CM8X1.25X25-A  | P-6    |
| CTER/L16-8T36, CTER/L2525-8T36 | CM8X1.25X25-A  | P-6    |
| CTER/L20-8T36, CTER/L3232-8T36 | CM8X1.25X25-A  | P-6    |

Reference pages: Inserts → **F030 - F044**, Standard cutting conditions → **F045**

Grade  
Insert  
Toolholder  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



External grooving and parting toolholder, with high pressure coolant capability



Right hand (R) shown.

| Inch              | CW    | Seat size | CDX   | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | HBH   | Torque |
|-------------------|-------|-----------|-------|-------|-------|-------|-------|-------|-------------------|-------|--------|
| CTER/L12-2T17-CHP | 0.079 | 2         | 0.669 | 0.750 | 0.750 | 5.000 | 1.772 | 0.750 | 0.754             | 0.157 | 4.06   |
| CTER/L16-2T17-CHP | 0.079 | 2         | 0.669 | 1.000 | 1.000 | 6.000 | 1.772 | 1.000 | 1.004             | -     | 4.06   |
| CTER/L12-3T25-CHP | 0.118 | 3         | 0.984 | 0.750 | 0.750 | 5.000 | 2.008 | 0.750 | 0.762             | 0.157 | 4.06   |
| CTER/L16-3T25-CHP | 0.118 | 3         | 0.984 | 1.000 | 1.000 | 6.000 | 2.008 | 1.000 | 1.012             | -     | 4.06   |
| CTER/L16-4T25-CHP | 0.157 | 4         | 0.984 | 1.000 | 1.000 | 6.000 | 2.170 | 1.000 | 1.020             | -     | 5.9    |
| CTER/L16-5T32-CHP | 0.197 | 5         | 1.260 | 1.000 | 1.000 | 6.000 | 2.323 | 1.000 | 1.022             | -     | 5.9    |
| CTER/L16-6T32-CHP | 0.236 | 6         | 1.260 | 1.000 | 1.000 | 6.000 | 2.441 | 1.000 | 1.023             | 0.276 | 8.85   |

| Metric              | CW | Seat size | CDX | H  | B  | LF  | LH | HF | WF <sup>(1)</sup> | HBH | Torque* |
|---------------------|----|-----------|-----|----|----|-----|----|----|-------------------|-----|---------|
| CTER/L2020-2T17-CHP | 2  | 2         | 17  | 20 | 20 | 125 | 45 | 20 | 20.1              | 4   | 5.5     |
| CTER/L2525-2T17-CHP | 2  | 2         | 17  | 25 | 25 | 150 | 45 | 25 | 25.1              | -   | 5.5     |
| CTER/L2020-3T20-CHP | 3  | 3         | 20  | 20 | 20 | 125 | 48 | 20 | 20.3              | 4   | 5.5     |
| CTER/L2525-3T20-CHP | 3  | 3         | 20  | 25 | 25 | 150 | 48 | 25 | 25.3              | -   | 5.5     |
| CTER/L2525-3T25-CHP | 3  | 3         | 25  | 25 | 25 | 150 | 51 | 25 | 25.3              | -   | 5.5     |
| CTER/L2525-4T25-CHP | 4  | 4         | 25  | 25 | 25 | 150 | 55 | 25 | 25.5              | -   | 8       |
| CTER/L2525-5T20-CHP | 5  | 5         | 20  | 25 | 25 | 150 | 49 | 25 | 25.58             | -   | 8       |
| CTER/L2525-6T20-CHP | 6  | 6         | 20  | 25 | 25 | 150 | 52 | 25 | 25.58             | 7   | 12      |

When groove depth is larger than (insert length - 0.059" [1.5 mm]), please use 1-cornered insert.

(1) "WF" value is calculated with groove width "CW" shown in the table.

Torque: Recommended clamping torque: lbs-ft (\*N·m)

### INCH SPARE PARTS



| Designation       | Clamping screw | Wrench |
|-------------------|----------------|--------|
| CTER/L12-2T17-CHP | CM5X0.8X20-A   | P-4    |
| CTER/L16-2T17-CHP | CM5X0.8X20-A   | P-4    |
| CTER/L12-3T25-CHP | CM5X0.8X25-A   | P-4    |
| CTER/L16-3T25-CHP | CM5X0.8X25-A   | P-4    |
| CTER/L16-4T25-CHP | CM6X1X16-A     | P-5    |
| CTER/L16-5T32-CHP | CM6X1X16-A     | P-5    |
| CTER/L16-6T32-CHP | CM8X1.25X20-A  | P-6    |

### METRIC SPARE PARTS

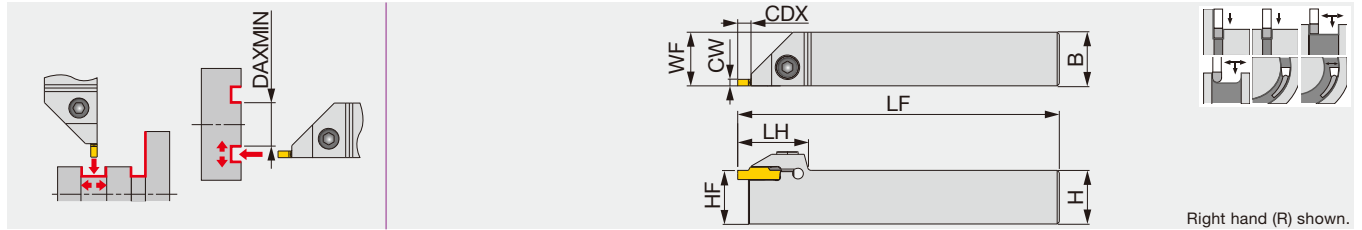


| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| CTER/L2020-2T17-CHP | CM5x0.8x20-A   | P-4    |
| CTER/L2525-2T17-CHP | CM5x0.8x25-A   | P-4    |
| CTER/L2020-3T20-CHP | CM5x0.8x20-A   | P-4    |
| CTER/L2525-3T20-CHP | CM5x0.8x25-A   | P-4    |
| CTER/L2525-3T25-CHP | CM5x0.8x25-A   | P-4    |
| CTER/L2525-4T25-CHP | CM6x1x16-A     | P-5    |
| CTER/L2525-5T20-CHP | CM6x1x16-A     | P-5    |
| CTER/L2525-6T20-CHP | CM8x1.25x20-A  | P-6    |

Reference pages: Inserts → **F030 - F044**, Standard cutting conditions → **F045**  
Parts for coolant hose → **F290**

# CTEFR/L

## External face grooving and turning toolholder



| Inch           | CW    | Seat size | CDX   | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | Torque |
|----------------|-------|-----------|-------|-------|-------|-------|-------|-------|-------------------|--------|
| CTEFR/L12-4T04 | 0.157 | 2, 3, 4   | 0.189 | 0.750 | 0.750 | 5.000 | 1.300 | 0.750 | 0.770             | 6.27   |
| CTEFR/L16-4T04 | 0.157 | 2, 3, 4   | 0.189 | 1.000 | 1.000 | 6.000 | 1.300 | 1.000 | 1.020             | 6.27   |
| CTEFR/L12-6T04 | 0.236 | 5, 6      | 0.189 | 0.750 | 0.750 | 5.000 | 1.460 | 0.750 | 0.770             | 6.27   |
| CTEFR/L16-6T04 | 0.236 | 5, 6      | 0.189 | 1.000 | 1.000 | 6.000 | 1.460 | 1.000 | 1.020             | 6.27   |

| Metric           | CW | Seat size | CDX | H  | B  | LF  | LH | HF | WF <sup>(1)</sup> | Torque* |
|------------------|----|-----------|-----|----|----|-----|----|----|-------------------|---------|
| CTEFR/L2020-4T04 | 4  | 2, 3, 4   | 4.8 | 20 | 20 | 125 | 33 | 20 | 20.5              | 8.5     |
| CTEFR/L2525-4T04 | 4  | 2, 3, 4   | 4.8 | 25 | 25 | 150 | 33 | 25 | 25.5              | 8.5     |
| CTEFR/L2020-6T04 | 6  | 5, 6      | 4.8 | 20 | 20 | 125 | 37 | 20 | 20.6              | 8.5     |
| CTEFR/L2525-6T04 | 6  | 5, 6      | 4.8 | 25 | 25 | 150 | 37 | 25 | 25.6              | 8.5     |

Use the right-hand insert for the right-hand holder with DTF insert.  
 (1) "WF" value is calculated with groove width "CW" shown in the table.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

### INCH SPARE PARTS

| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| CTEFR/L12-4T04 | CM6X1X20-A     | P-5    |
| CTEFR/L16-4T04 | CM6X1X25-A     | P-5    |
| CTEFR/L12-6T04 | CM6X1X20-A     | P-5    |
| CTEFR/L16-6T04 | CM6X1X25-A     | P-5    |

### METRIC SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| CTEFR/L2020-4T04 | CM6X1X20-A     | P-5    |
| CTEFR/L2525-4T04 | CM6X1X25-A     | P-5    |
| CTEFR/L2020-6T04 | CM6X1X20-A     | P-5    |
| CTEFR/L2525-6T04 | CM6X1X25-A     | P-5    |

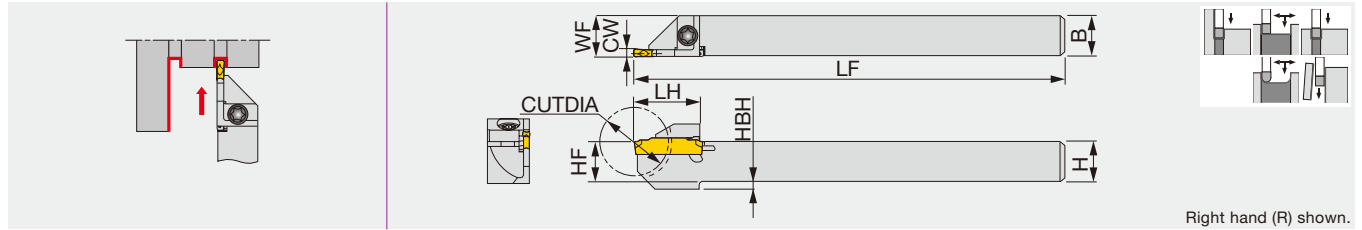
| Insert                | Groove width CW (in) | Face grooving Min. machining dia. DAXMIN (in) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 0.079                | 11.614  |
| DGM / DGS / SGN / DGL | 0.118                | 3.622   |
| DGM / DGS / SGN / DGL | 0.157                | 1.457   |
| DGM / DGS / SGN / DGL | 0.197                | 2.362   |
| DGM / DGS / DGL       | 0.236                | 2.244   |
| DTX / DTM / DTR       | 0.079                | 11.614  |
| DTE / DGG / DTM       | 0.118                | 2.441   |
| DTE / DGG / DTM       | 0.157                | 1.654   |
| DTE / DGG / DTM       | 0.197                | 2.520   |
| DTE / DGG / DTM       | 0.236                | 2.402   |
| DTR                   | 0.118                | 1.732   |
| DTR                   | 0.157                | 1.260   |
| DTR                   | 0.197                | 1.890   |
| DTR                   | 0.236                | 1.890   |
| DTX                   | 0.118                | 0.866   |
| DTX                   | 0.157                | 0.787   |
| DTX                   | 0.197                | 0.787   |
| DTX                   | 0.236                | 0.906   |
| DTF                   | 0.118                | 0.787   |
| DTF                   | 0.157                | 0.787   |

| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 2                    | 295   |
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTX / DTM / DTR       | 2                    | 295   |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |
| DTR                   | 3                    | 44  |
| DTR                   | 4                    | 32  |
| DTR                   | 5                    | 48  |
| DTR                   | 6                    | 48  |
| DTX                   | 3                    | 22  |
| DTX                   | 4                    | 20  |
| DTX                   | 5                    | 20  |
| DTX                   | 6                    | 23  |
| DTF                   | 3                    | 20  |
| DTF                   | 4                    | 20  |

Reference pages: Inserts → **F030 - F044**, Standard cutting conditions → **F045**



External grooving and parting toolholder, for Swiss lathes



| Inch           | CW    | Seat size | CUTDIA | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | HBH   | Torque |
|----------------|-------|-----------|--------|-------|-------|-------|-------|-------|-------------------|-------|--------|
| JCTER/L08-2T12 | 0.079 | 2         | 0.945  | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.504             | 0.051 | 2.21   |
| JCTER/L08-3T12 | 0.118 | 3         | 0.945  | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.512             | 0.051 | 2.21   |
| JCTER/L10-2T16 | 0.079 | 2         | 1.260  | 0.625 | 0.625 | 4.750 | 0.945 | 0.625 | 0.629             | -     | 2.21   |
| JCTER/L10-3T16 | 0.118 | 3         | 1.260  | 0.625 | 0.625 | 4.750 | 0.945 | 0.625 | 0.637             | -     | 2.21   |

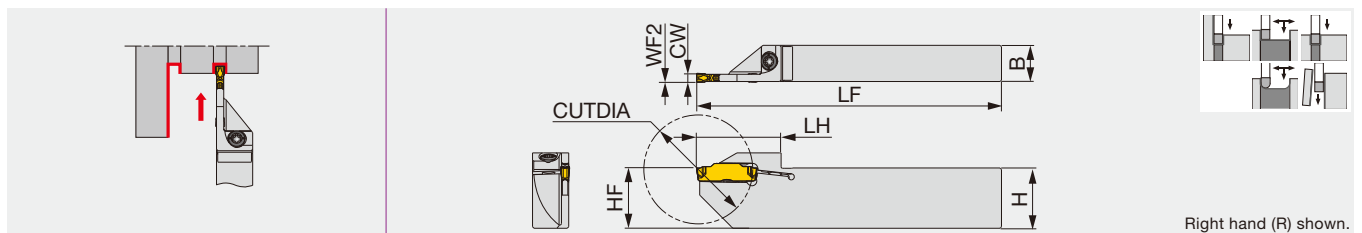
  

| Metric             | CW  | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF <sup>(1)</sup> | HBH | Torque* |
|--------------------|-----|-----------|--------|----|----|-----|------|----|-------------------|-----|---------|
| JCTER/L1010X1.4T10 | 1.4 | 1         | 20     | 10 | 10 | 120 | 18   | 10 | 10.2              | -   | 3       |
| JCTER/L1212F1.4T12 | 1.4 | 1         | 24     | 12 | 12 | 85  | 19.5 | 12 | 12.2              | -   | 3       |
| JCTER/L1212X1.4T12 | 1.4 | 1         | 24     | 12 | 12 | 120 | 19.5 | 12 | 12.2              | -   | 3       |
| JCTER/L1414-1.4T12 | 1.4 | 1         | 24     | 14 | 14 | 125 | 19.5 | 14 | 14.2              | -   | 3       |
| JCTER/L1616X1.4T16 | 1.4 | 1         | 32     | 16 | 16 | 120 | 24   | 16 | 16.2              | -   | 3       |
| JCTER/L1010X2T10   | 2   | 2         | 20     | 10 | 10 | 120 | 19   | 10 | 10.1              | 2   | 3       |
| JCTER/L1212F2T12   | 2   | 2         | 24     | 12 | 12 | 85  | 19   | 12 | 12.1              | 2   | 3       |
| JCTER/L1212X2T12   | 2   | 2         | 24     | 12 | 12 | 120 | 19   | 12 | 12.1              | 2   | 3       |
| JCTER/L1414-2T12   | 2   | 2         | 24     | 14 | 14 | 125 | 19   | 14 | 14.1              | -   | 3       |
| JCTER/L1616X2T16   | 2   | 2         | 32     | 16 | 16 | 120 | 24   | 16 | 16.1              | -   | 3       |
| JCTER/L1212F3T12   | 3   | 3         | 24     | 12 | 12 | 85  | 19   | 12 | 12.3              | 2   | 3       |
| JCTER/L1212X3T12   | 3   | 3         | 24     | 12 | 12 | 120 | 19   | 12 | 12.3              | 2   | 3       |
| JCTER/L1616X3T16   | 3   | 3         | 32     | 16 | 16 | 120 | 24   | 16 | 16.3              | -   | 3       |
| JCTER/L2020H3T16   | 3   | 3         | 32     | 20 | 20 | 100 | 24   | 20 | 20.3              | -   | 3       |

(1) "WF" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### JCTER/L2012

External grooving and parting toolholder, for Swiss lathes, with 20 mm shank height



| Metric           | CW | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | Torque |
|------------------|----|-----------|--------|----|----|-----|----|----|--------------------|--------|
| JCTER/L2012H2T18 | 2  | 2         | 36     | 20 | 12 | 100 | 25 | 20 | 0.1                | 3      |
| JCTER/L2012H3T21 | 3  | 3         | 42     | 20 | 12 | 100 | 28 | 20 | 0.3                | 3      |

(1) "WF2" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: N·m

#### SPARE PARTS

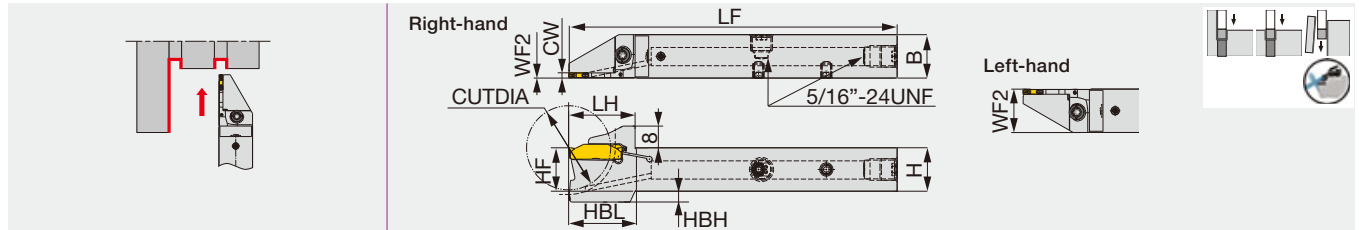
| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| JCTER/L...  | CSHB-4-A       | T-15F  |

Reference pages: Inserts → **F030 - F044**, Standard cutting conditions → **F045**

# JCTER/L-CHP

Direct connection

External grooving and parting toolholder, with high pressure coolant capability



| Inch               | CW    | Seat size | CUTDIA | H     | B     | LF    | LH    | HF    | WF2 <sup>(1)</sup> | HBH   | HBL   | Torque |
|--------------------|-------|-----------|--------|-------|-------|-------|-------|-------|--------------------|-------|-------|--------|
| JCTER/L08X2T12-CHP | 0.079 | 2         | 0.980  | 0.500 | 0.500 | 4.750 | 0.972 | 0.500 | 0 / 0.500          | 0.169 | 0.965 | 2.21   |
| JCTER/L10X2T12-CHP | 0.079 | 2         | 0.980  | 0.625 | 0.625 | 4.750 | 0.972 | 0.625 | 0 / 0.625          | 0.039 | 0.965 | 2.21   |
| JCTER/L10X2T16-CHP | 0.079 | 2         | 1.260  | 0.625 | 0.625 | 4.750 | 0.972 | 0.625 | 0 / 0.625          | 0.157 | 0.965 | 2.21   |
| JCTER/L12X2T16-CHP | 0.079 | 2         | 1.260  | 0.750 | 0.750 | 4.750 | 0.972 | 0.750 | 0 / 0.750          | 0.037 | 0.965 | 2.21   |

| Metric               | CW | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF2 <sup>(1)</sup> | HBH | HBL  | Torque* |
|----------------------|----|-----------|--------|----|----|-----|------|----|--------------------|-----|------|---------|
| JCTER/L1212X2T12-CHP | 2  | 2         | 25     | 12 | 12 | 120 | 24.7 | 12 | 0/12               | 5   | 24.7 | 3       |
| JCTER/L1616X2T12-CHP | 2  | 2         | 25     | 16 | 16 | 120 | 24.7 | 16 | 0/16               | 1   | 24.5 | 3       |
| JCTER/L1616X2T16-CHP | 2  | 2         | 32     | 16 | 16 | 120 | 24.7 | 16 | 0/16               | 4   | 24.7 | 3       |
| JCTER/L2020X2T16-CHP | 2  | 2         | 32     | 20 | 20 | 120 | 24.7 | 20 | 0/20               | -   | -    | 3       |

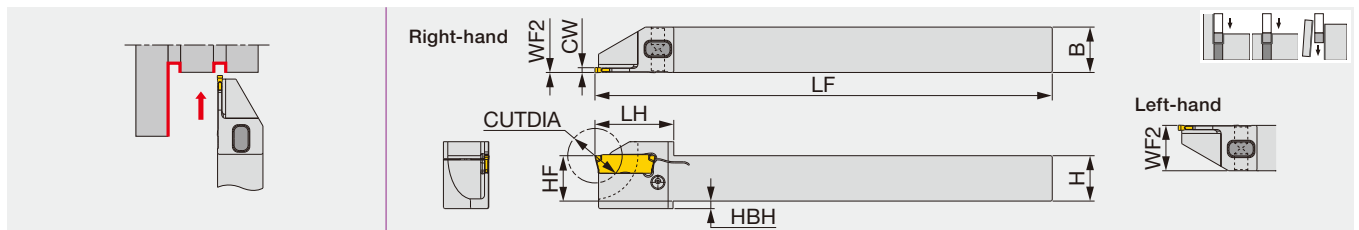
(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

## SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|-------------|----------------|----------|----------------|----------|----------------|----------|
| JCTER/L...  | CSHB-4-A       | T-15F    | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

# JTTER/L

External grooving and parting toolholder, for Swiss lathes



| Metric             | CW  | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | HBH | Torque |
|--------------------|-----|-----------|--------|----|----|-----|----|----|--------------------|-----|--------|
| JTTER/L1010H1.2D12 | 1.2 | 0.9       | 12     | 10 | 10 | 100 | 17 | 10 | 0/10               | -   | 1.5    |
| JTTER/L1212F1.2D16 | 1.2 | 0.9       | 16     | 12 | 12 | 85  | 19 | 12 | 0/12               | -   | 1.5    |
| JTTER/L1212X1.2D16 | 1.2 | 0.9       | 16     | 12 | 12 | 120 | 19 | 12 | 0/12               | -   | 1.5    |
| JTTER/L1212X1.2D20 | 1.2 | 0.9       | 20     | 12 | 12 | 120 | 21 | 12 | 0/12               | 2   | 1.5    |
| JTTER/L1616X1.2D20 | 1.2 | 0.9       | 20     | 16 | 16 | 120 | 21 | 16 | 0/16               | -   | 2      |

(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
Torque: Recommended clamping torque: N·m

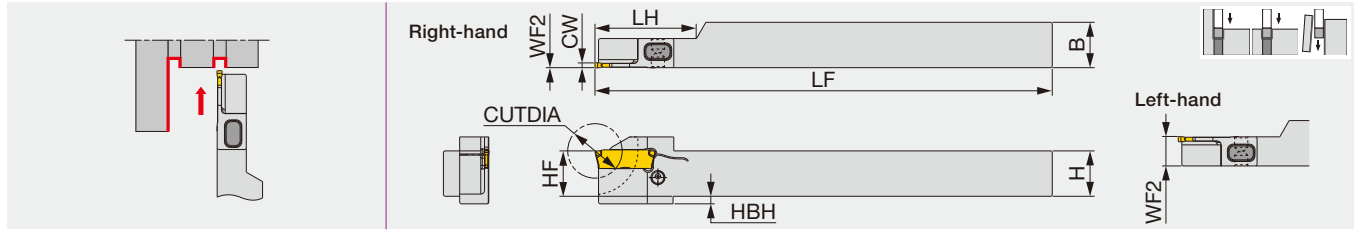
## SPARE PARTS

| Designation    | Clamping screw | Clamping pin | Wrench |
|----------------|----------------|--------------|--------|
| JTTER/L1010... | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |
| JTTER/L1212... | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |
| JTTER/L1616... | SRM5-24145-RL  | PIN-32121    | P-2.5F |

Reference pages: Inserts → **F030 - F044**, Standard cutting conditions → **F045**  
Parts for coolant hose → **F290**



External grooving and parting toolholder, for Swiss lathes (for sub spindle)



| Metric                            | CW  | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF2 <sup>(1)</sup> | HBH | Torque |
|-----------------------------------|-----|-----------|--------|----|----|-----|------|----|--------------------|-----|--------|
| JTTER/L1010H1.2D12-S              | 1.2 | 0.9       | 12     | 10 | 10 | 100 | 22.8 | 10 | 0/7.7              | -   | 1.5    |
| JTTER1212F1.2D16-S <sup>(2)</sup> | 1.2 | 0.9       | 16     | 12 | 12 | 85  | 22.8 | 12 | 0                  | -   | 1.5    |
| JTTER/L1212X1.2D16-S              | 1.2 | 0.9       | 16     | 12 | 12 | 120 | 26.8 | 12 | 0/7.7              | -   | 1.5    |
| JTTER/L1212X1.2D20-S              | 1.2 | 0.9       | 20     | 12 | 12 | 120 | 26.8 | 12 | 0/7.7              | 2   | 1.5    |
| JTTER/L1616X1.2D20-S              | 1.2 | 0.9       | 20     | 16 | 16 | 120 | 26.8 | 16 | 0/7.7              | -   | 1.5    |

(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

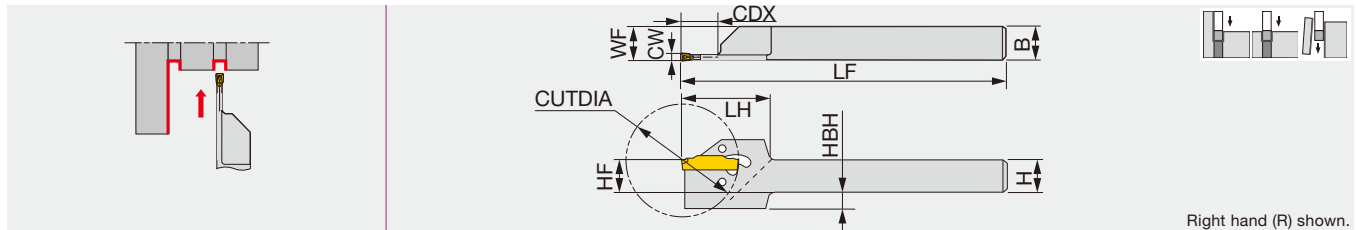
(2) No clamping screw from the insert side.  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation | Clamping screw | Clamping pin | Wrench |
|-------------|----------------|--------------|--------|
| JTTER/L*-S  | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |

## CGER/L

External deep grooving and parting toolholder, for Swiss lathes



| Metric            | CW  | Seat size | CUTDIA <sup>(1)</sup> | CDX  | H  | B  | LF  | LH | HF | WF <sup>(2)</sup> | HBH |
|-------------------|-----|-----------|-----------------------|------|----|----|-----|----|----|-------------------|-----|
| CGER/L2020-1.4T14 | 1.4 | 1         | 29/29                 | 9.7  | 20 | 20 | 125 | 31 | 20 | 20.2              | -   |
| CGER/L1212-2T17   | 2   | 2         | 35/35                 | 11.8 | 12 | 12 | 150 | 31 | 12 | 12.1              | 6   |
| CGER/L1616-2T17   | 2   | 2         | 35/35                 | 11.8 | 16 | 16 | 150 | 31 | 16 | 16.1              | 2   |
| CGER/L2020-2T17   | 2   | 2         | 35/35                 | 9.8  | 20 | 20 | 125 | 31 | 20 | 20.1              | -   |
| CGER/L1212-3T19   | 3   | 3         | 38/40                 | 12   | 12 | 12 | 150 | 31 | 12 | 12.3              | 6   |
| CGER/L1616-3T19   | 3   | 3         | 38/45                 | 14.9 | 16 | 16 | 150 | 31 | 16 | 16.3              | 2   |
| CGER/L2020-3T19   | 3   | 3         | 38/45                 | 13.2 | 20 | 20 | 125 | 31 | 20 | 20.3              | -   |
| CGER/L2020-4T19   | 4   | 4         | 38/55                 | 20.3 | 20 | 20 | 125 | 33 | 20 | 20.4              | -   |

Wrench (CRW\*\*) is not included. Please order it separately. Insert is clamped by the elastic deformation of the upper jaw.

(1) DG\*/SG\* maximum parting diameter will depend on the insert.

(2) "WF" value is calculated with groove width "CW" shown in the table.

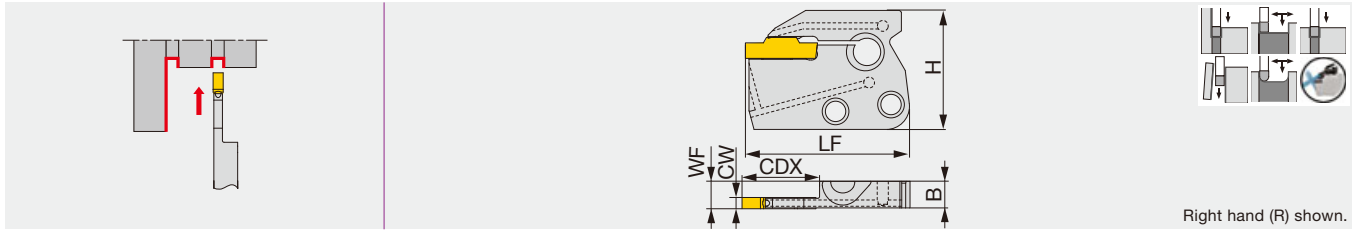
### SPARE PARTS

| Designation            | Wrench (Option) |
|------------------------|-----------------|
| CGER/L2020-1.4T14      | CRW23           |
| CGER/L****-2T17 - 4T19 | CRW33           |

Reference pages: Inserts → **F030 - F044**, Standard cutting conditions → **F045**

## CAER/L-CHP

External grooving and parting adapter, with high pressure coolant capability

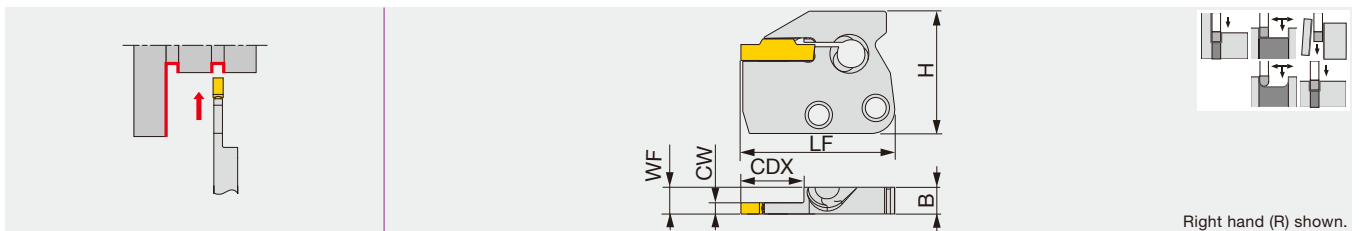


| Metric          | CW | Seat size | CDX | H  | B   | LF   | WF <sup>(1)</sup> |
|-----------------|----|-----------|-----|----|-----|------|-------------------|
| CAER/L-2T16-CHP | 2  | 2         | 16  | 33 | 7.2 | 41.5 | 7.3               |
| CAER/L-2T20-CHP | 2  | 2         | 20  | 33 | 7.2 | 45.5 | 7.3               |
| CAER/L-3T16-CHP | 3  | 3         | 16  | 33 | 7.2 | 41.5 | 7.4               |
| CAER/L-3T20-CHP | 3  | 3         | 20  | 33 | 7.2 | 45.5 | 7.5               |
| CAER/L-4T16-CHP | 4  | 4         | 16  | 33 | 7.2 | 41.5 | 7.7               |
| CAER/L-4T20-CHP | 4  | 4         | 20  | 33 | 7.2 | 45.5 | 7.7               |
| CAER/L-5T20-CHP | 5  | 5         | 20  | 33 | 7.2 | 46.3 | 7.8               |
| CAER/L-6T20-CHP | 6  | 6         | 20  | 33 | 7.2 | 46.3 | 7.8               |
| CAER/L-8T25-CHP | 8  | 8         | 25  | 33 | 7.2 | 51.1 | 8.3               |

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.  
 (1) WF is calculated with the groove width (CW) in the above table.

## CAER/L-MD

External grooving and parting adapter

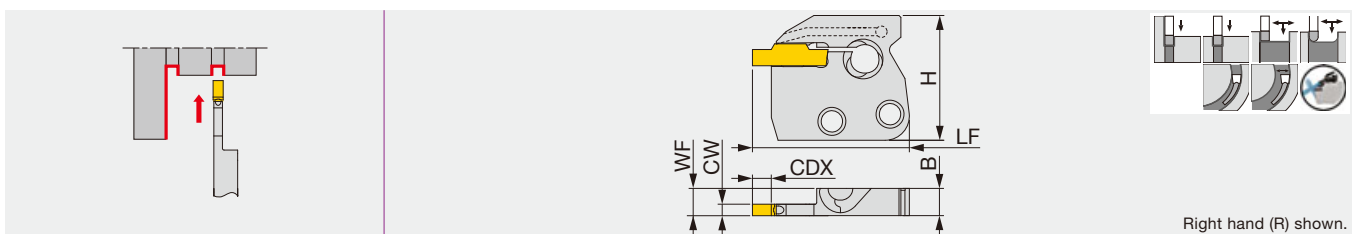


| Metric         | CW | Seat size | CDX | H  | B   | LF   | WF <sup>(1)</sup> |
|----------------|----|-----------|-----|----|-----|------|-------------------|
| CAER/L-2T16-MD | 2  | 2         | 16  | 33 | 7.2 | 41.5 | 7.3               |
| CAER/L-3T16-MD | 3  | 3         | 16  | 33 | 7.2 | 41.5 | 7.4               |
| CAER/L-4T16-MD | 4  | 4         | 16  | 33 | 7.2 | 41.5 | 7.7               |
| CAER/L-5T20-MD | 5  | 5         | 20  | 33 | 7.2 | 46.3 | 7.8               |
| CAER/L-6T20-MD | 6  | 6         | 20  | 33 | 7.2 | 46.3 | 7.8               |
| CAER/L-8T25-MD | 8  | 8         | 25  | 33 | 7.2 | 51.1 | 8.3               |

(1) WF is calculated with the groove width (CW) in the above table.

## CAEFR/L-CHP

Face and external grooving adapter, with high pressure coolant capability

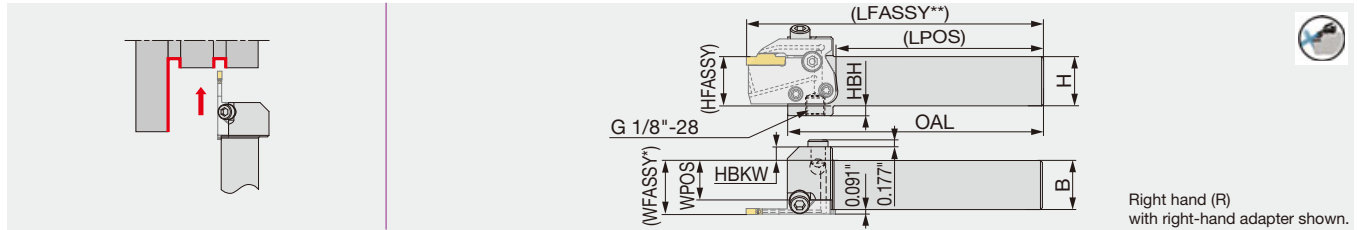


| Metric           | CW | Seat size | CDX | H  | B   | LF   | WF <sup>(1)</sup> |
|------------------|----|-----------|-----|----|-----|------|-------------------|
| CAEFR/L-4T04-CHP | 4  | 2,3,4     | 4.8 | 33 | 7.2 | 41.5 | 7.7               |
| CAEFR/L-6T04-CHP | 6  | 5,6       | 4.8 | 33 | 7.2 | 46.3 | 7.8               |

Use the right-hand insert for the right-hand holder with DTF insert.  
 (1) "WF" value is calculated with groove width "CW" shown in the table.

Reference pages: Inserts → **F030 - F044**, Shanks and toolholders → **F024 - F026**  
 Standard cutting conditions → **F045**, Technical Reference → **L059**

Shank for adapter, with high pressure coolant capability



Right hand (R)  
with right-hand adapter shown.

| Inch         | H     | B     | OAL   | LPOS  | WPOSS | HBKW  | HFASSY | HBH   | Adapter (Option)   | Torque |
|--------------|-------|-------|-------|-------|-------|-------|--------|-------|--------------------|--------|
| CHSR/L12-CHP | 0.750 | 0.750 | 5.000 | 4.035 | 0.560 | 0.510 | 0.750  | 0.190 | CAE*R/L**-CHP, -MD | 3.69   |
| CHSR/L16-CHP | 1.000 | 1.000 | 5.000 | 4.035 | 0.810 | 0.260 | 1.000  | 0.200 | CAE*R/L**-CHP, -MD | 3.69   |

| Metric         | H  | B  | OAL | LPOS  | WPOSS | HBKW | HFASSY | HBH | Adapter (Option)   | Torque* |
|----------------|----|----|-----|-------|-------|------|--------|-----|--------------------|---------|
| CHSR/L2020-CHP | 20 | 20 | 130 | 105.5 | 15.1  | 12   | 20     | 10  | CAE*R/L**-CHP, -MD | 6.5     |
| CHSR/L2525-CHP | 25 | 25 | 130 | 105.5 | 20.1  | 7    | 25     | 5   | CAE*R/L**-CHP, -MD | 6.5     |

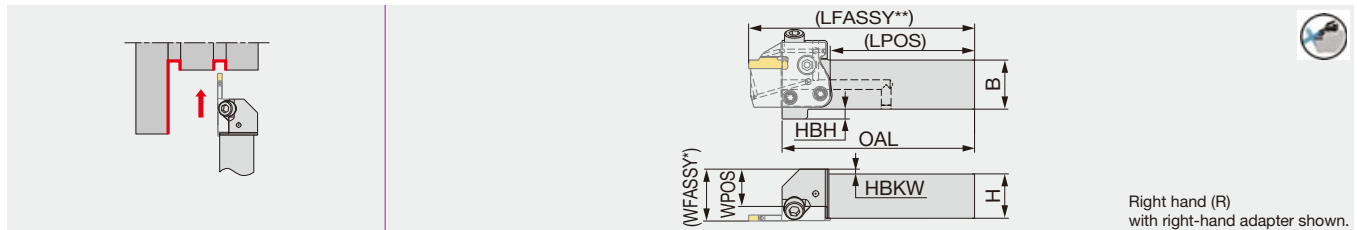
WFASSY\* : Shank (WPOSS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.



## CHSR/L-CHP-MC

Direct connection

Shank for adapter, with high pressure coolant capability



Right hand (R)  
with right-hand adapter shown.

| Metric            | H  | B  | OAL | LPOS | WPOSS | HBKW | HBH | Adapter (Option)   | Torque |
|-------------------|----|----|-----|------|-------|------|-----|--------------------|--------|
| CHSR/L2020-CHP-MC | 20 | 20 | 98  | 73.5 | 14    | 6    | 10  | CAE*R/L**-CHP, -MD | 6.5    |
| CHSR/L2525-CHP-MC | 25 | 25 | 98  | 73.5 | 19    | -    | 5   | CAE*R/L**-CHP, -MD | 6.5    |

WFASSY\* : Shank (WPOSS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N-m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation     | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-----------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHSR/L**-CHP    | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |
| CHSR/L**-CHP-MC | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | -               |

### Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

### Combination of adapter and shank

| Shank             | External grooving adapter |                  | Face grooving adapter |             | External and face grooving adapter |              |
|-------------------|---------------------------|------------------|-----------------------|-------------|------------------------------------|--------------|
|                   | CAE**R-CHP, -MD           | CAEL**R-CHP, -MD | CAFR**R-CHP           | CAFL**R-CHP | CAEFR**R-CHP                       | CAEFL**R-CHP |
| CHSR**R-CHP (-MC) | ●                         |                  |                       | ●           | ●                                  |              |
| CHSL**R-CHP (-MC) |                           | ●                | ●                     |             |                                    | ●            |

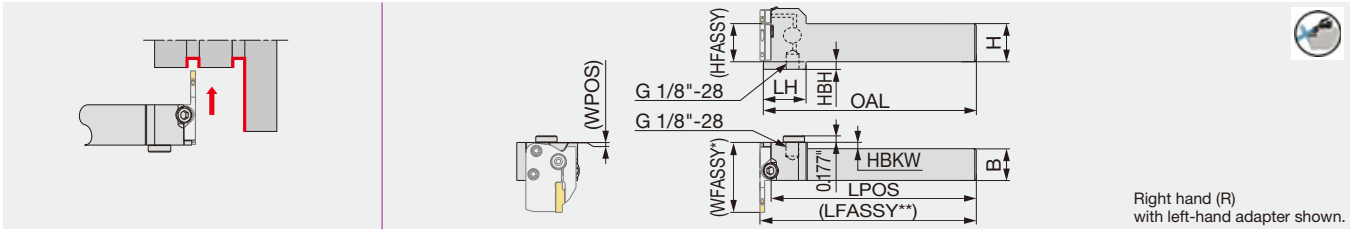
● : Corresponding

Reference pages: Inserts → F030 - F044, Adapters → F023, Standard cutting conditions → F045  
 Parts for coolant hose → F290, Technical Reference → L059

# CHFVR/L-CHP

Tube connection

Shank for perpendicularly-mounted adapter, with high pressure coolant capability



Right hand (R)  
with left-hand adapter shown.

| Inch            | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option)   | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------------|---------|
| CHFVR/L12-CHP   | 0.750 | 0.750 | 5.500 | 1.100 | 5.307 | 0.020 | 0.234 | 0.750  | 0.431 | CAE*L/R**-CHP, -MD | 3.69    |
| CHFVR/L16-CHP   | 1.000 | 1.000 | 5.500 | 1.100 | 5.307 | 0.020 | -     | 1.000  | 0.200 | CAE*L/R**-CHP, -MD | 3.69    |
| Metric          | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option)   | Torque* |
| CHFVR/L2020-CHP | 20    | 20    | 140   | 28    | 135.1 | 0.5   | 5     | 20     | 10    | CAE*L/R**-CHP, -MD | 6.5     |
| CHFVR/L2525-CHP | 25    | 25    | 140   | 28    | 135.1 | 0.5   | 0     | 25     | 5     | CAE*L/R**-CHP, -MD | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

## SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHFVR/L...  | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |

## Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

## Combination of adapter and shank

| Shank       | External grooving adapter |                 | Face grooving adapter |            | External and face grooving adapter |             |
|-------------|---------------------------|-----------------|-----------------------|------------|------------------------------------|-------------|
|             | CAER**-CHP, -MD           | CAEL**-CHP, -MD | CAFR**-CHP            | CAFL**-CHP | CAEFR**-CHP                        | CAEFL**-CHP |
| CHFVR**-CHP | ●                         | ●               | ●                     |            | ●                                  | ●           |
| CHFVL**-CHP | ●                         |                 |                       | ●          | ●                                  |             |

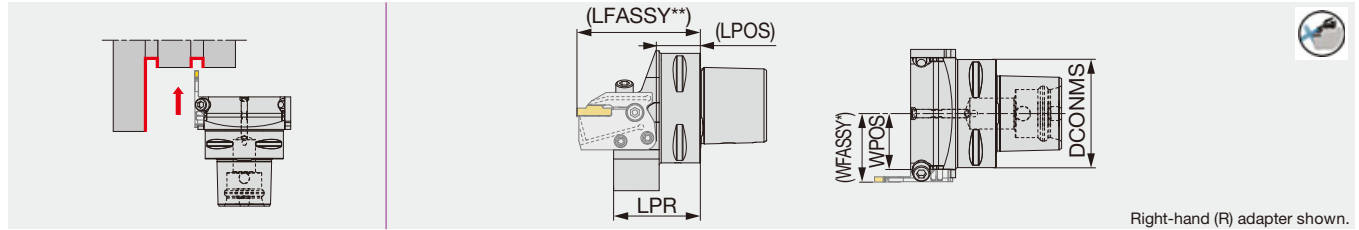
● : Corresponding

Reference pages: Inserts → F030 - F044, Adapters → F023, Standard cutting conditions → F045  
 Parts for coolant hose → F290, Technical Reference → L059

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



Toolholder with TungCap connection, for adapter, with high pressure coolant capability



Right-hand (R) adapter shown.

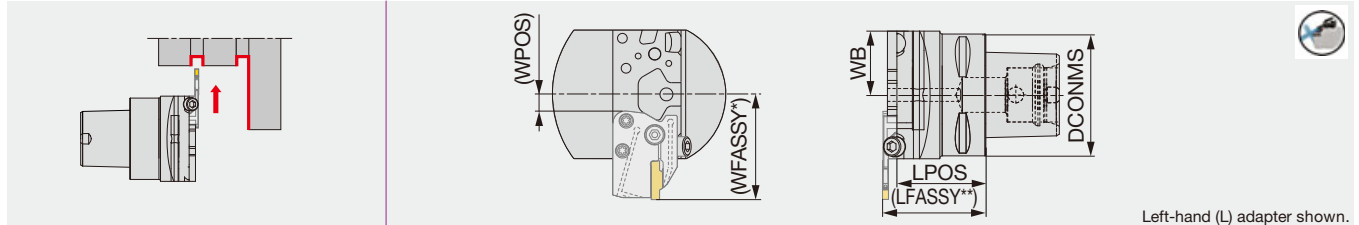
| Metric          | DCONMS | LPR  | LPOS | WPOS | Adapter (Option)   | Torque |
|-----------------|--------|------|------|------|--------------------|--------|
| C3CHSN19045-CHP | 32     | 45   | 17.5 | 18.5 | CAE*R/L**-CHP, -MD | 6.5    |
| C4CHSN21047-CHP | 40     | 46.5 | 21.5 | 21   | CAE*R/L**-CHP, -MD | 6.5    |
| C5CHSN26047-CHP | 50     | 47   | 22.5 | 26   | CAE*R/L**-CHP, -MD | 6.5    |
| C6CHSN33050-CHP | 63     | 50   | 24.5 | 32.5 | CAE*R/L**-CHP, -MD | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (WF)  
 LFASSY\*\* : Toolholder (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

- External
- Internal
- Face
- Parting
- Others

## C\*CHFVN-CHP

Toolholder with TungCap connection, for perpendicularly-mounted adapter, with high pressure coolant capability



Left-hand (L) adapter shown.

| Metric           | DCONMS | LPOS | WB | WPOS | Adapter (Option)   | Torque |
|------------------|--------|------|----|------|--------------------|--------|
| C3CHFVN26040-CHP | 32     | 40   | 26 | 1.5  | CAE*R/L**-CHP, -MD | 6.5    |
| C4CHFVN26046-CHP | 40     | 46   | 26 | 1.5  | CAE*R/L**-CHP, -MD | 6.5    |
| C5CHFVN26046-CHP | 50     | 46   | 26 | 1.5  | CAE*R/L**-CHP, -MD | 6.5    |
| C6CHFVN33046-CHP | 63     | 46   | 33 | 8.5  | CAE*R/L**-CHP, -MD | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (LF)  
 LFASSY\*\* : Toolholder (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

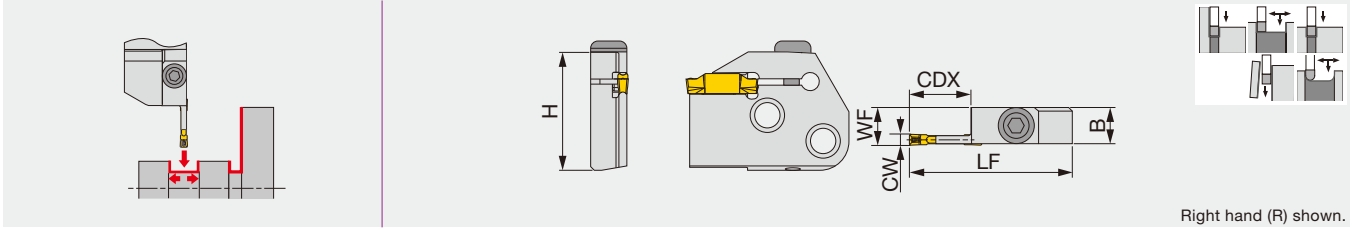
| Designation   | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  |
|---------------|------------------|----------|------------------|------------------|----------|---------|
| C*CH**N**-CHP | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N |

### Recommended clamping torque (N·m)

| Clamping screw  | Torque (N·m) |
|-----------------|--------------|
| SR M5-04451     | 2.5          |
| SR M6X12DIN6912 | 6.5          |
| SR M6X20-XT     | 6.5          |

# CAER/L

## External grooving, parting and turning adapter



| Metric      | CW | Seat size | CDX | H    | B  | LF | WF   | Torque |
|-------------|----|-----------|-----|------|----|----|------|--------|
| CAER/L-3T16 | 3  | 3         | 16  | 32.7 | 10 | 45 | 10.4 | 5      |
| CAER/L-4T16 | 4  | 4         | 16  | 32.7 | 10 | 45 | 10.5 | 5      |
| CAER/L-5T20 | 5  | 5         | 20  | 32.7 | 10 | 49 | 10.5 | 5      |
| CAER/L-6T20 | 6  | 6         | 20  | 32.7 | 10 | 49 | 10.5 | 5      |

Torque: Recommended clamping torque: N·m  
 Not compatible with TungModularSystem  
 When groove depth is larger than insert length - 1.5 mm, please use 1-cornered insert.

### SPARE PARTS

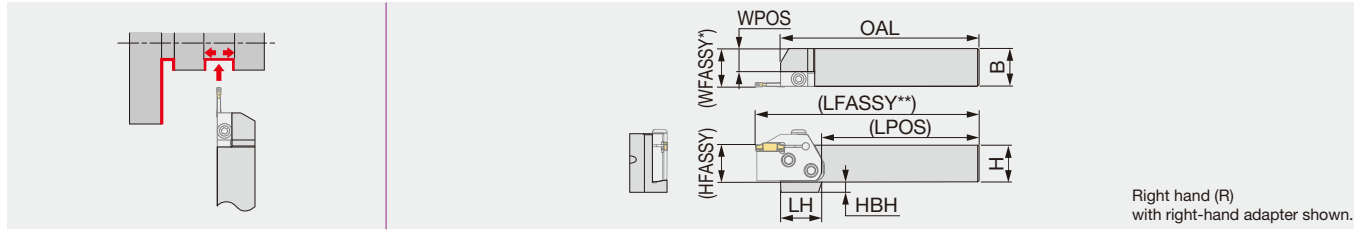
| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CAER/L...   | BHM6-20-A      | P-4    |

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index



Reference pages: Inserts → **F030 - F044**, Shanks and toolholders → **F028, F029**  
 Standard cutting conditions → **F045**

### Shank for adapter



| Inch       | H     | B     | OAL   | LPOS  | LH    | WPOS  | HFASSY | HBH   | Adapter (Option) |
|------------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|
| CHSR/L12-U | 0.750 | 0.750 | 5.330 | 4.227 | 1.380 | 0.356 | 0.750  | 0.502 | CAER/L...        |
| CHSR/L16-U | 1.000 | 1.000 | 5.330 | 4.227 | 1.100 | 0.606 | 1.000  | 0.280 | CAER/L...        |
| CHSR/L20-U | 1.250 | 1.250 | 6.330 | 5.227 | -     | 0.856 | 1.250  | -     | CAER/L...        |

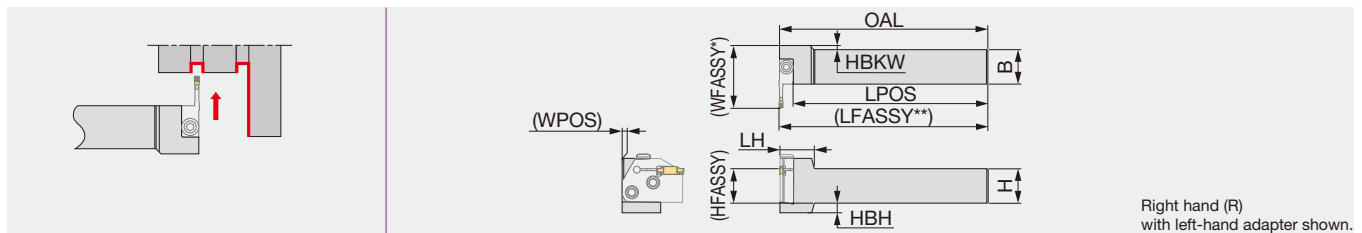
| Metric     | H  | B  | OAL | LPOS | LH | WPOS | HFASSY | HBH | Adapter (Option) |
|------------|----|----|-----|------|----|------|--------|-----|------------------|
| CHSR/L2020 | 20 | 20 | 133 | 105  | 35 | 10   | 20     | 12  | CAER/L...        |
| CHSR/L2525 | 25 | 25 | 133 | 105  | 28 | 15   | 25     | 7   | CAER/L...        |
| CHSR/L3232 | 32 | 32 | 153 | 125  | -  | 22   | 32     | -   | CAER/L...        |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Not compatible with TungModularSystem



### CHFVR/L

#### Shank for adapter, perpendicularly mounted



| Inch        | H     | B     | OAL   | LPOS  | LH    | WPOS   | HBKW  | HFASSY | HBH   | Adapter (Option) |
|-------------|-------|-------|-------|-------|-------|--------|-------|--------|-------|------------------|
| CHFVR/L12-U | 0.750 | 0.750 | 6.000 | 5.606 | 0.984 | -0.001 | 0.352 | 0.750  | 0.502 | CAEL/R...        |
| CHFVR/L16-U | 1.000 | 1.000 | 6.000 | 5.606 | 0.984 | -0.001 | 0.102 | 1.000  | 0.276 | CAEL/R...        |
| CHFVR/L20-U | 1.250 | 1.250 | 7.000 | 6.606 | 0.984 | 0.147  | -     | 1.250  | -     | CAEL/R...        |

| Metric      | H  | B  | OAL | LPOS | LH | WPOS | HBKW | HFASSY | HBH | Adapter (Option) |
|-------------|----|----|-----|------|----|------|------|--------|-----|------------------|
| CHFVR/L2020 | 20 | 20 | 150 | 140  | 25 | 0    | 8    | 20     | 12  | CAEL/R...        |
| CHFVR/L2525 | 25 | 25 | 150 | 140  | 25 | 0    | 3    | 25     | 7   | CAEL/R...        |
| CHFVR/L3232 | 32 | 32 | 170 | 160  | 25 | 4    | -    | 32     | -   | CAEL/R...        |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Not compatible with TungModularSystem

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CH**R/L...  | CSHB-6-A       | P-4    |

### Combination of adapter and shank

| Shank    | External grooving adapter |         | Face grooving adapter |         |
|----------|---------------------------|---------|-----------------------|---------|
|          | CAER...                   | CAEL... | CAFR...               | CAFL... |
| CHSR...  | ●                         |         |                       | ●       |
| CHSL...  |                           | ●       | ●                     |         |
| CHFVR... |                           | ●       | ●                     |         |
| CHFVL... | ●                         |         |                       | ●       |

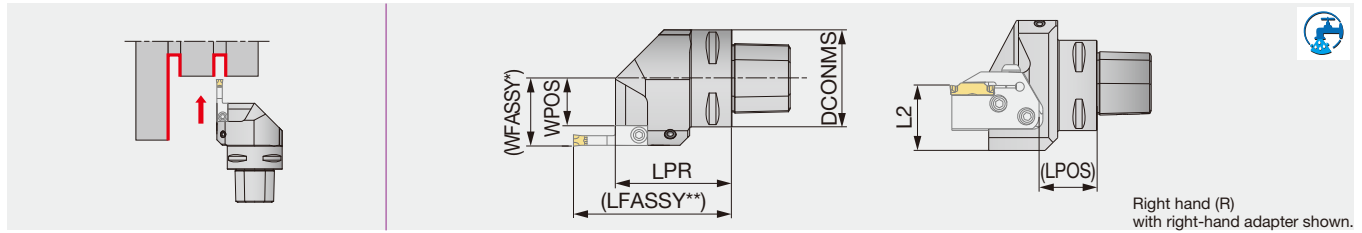
● : Corresponding

Reference pages: Inserts → **F030 - F044**, Adapters → **F027**, Standard cutting conditions → **F045**



## C-CHSR/L

Toolholder with TungCap connection for adapter



Right hand (R)  
with right-hand adapter shown.

| Metric         | DCONMS | LPR | LPOS | L2 | WPOS | Adapter (Option) |
|----------------|--------|-----|------|----|------|------------------|
| C3CHSR/L22050N | 32     | 50  | 22.1 | 35 | 11.5 | CAER/L...        |
| C4CHSR/L27050N | 40     | 50  | 22.1 | 36 | 16.5 | CAER/L...        |
| C5CHSR/L35060N | 50     | 60  | 32.1 | 36 | 24.5 | CAER/L...        |
| C6CHSR/L45065N | 63     | 65  | 32.1 | 41 | 34.5 | CAER/L...        |

WFASSY\* : Toolholder (WPOS) + adapter (WF)

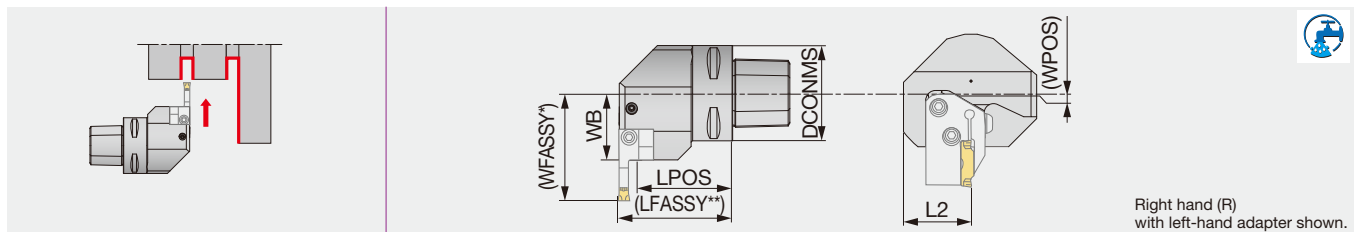
LFASSY\*\* : Toolholder (LPOS) + adapter (LF)

The LFASSY or WFASSY value may change depending on the adapter type. If needed, the coolant direction can be adjusted by the nozzle.

Applicable for 7 MPa coolant. Not compatible with TungModularSystem.

## C-CHFVR/L

Toolholder with TungCap connection for adapter, perpendicularly mounted



Right hand (R)  
with left-hand adapter shown.

| Metric          | DCONMS | LPOS | L2 | WB | WPOS | Adapter (Option) |
|-----------------|--------|------|----|----|------|------------------|
| C3CHFVR/L22040N | 32     | 32.5 | 35 | 22 | -5.9 | CAEL/R...        |
| C4CHFVR/L27050N | 40     | 42.5 | 36 | 27 | -0.9 | CAEL/R...        |
| C5CHFVR/L35060N | 50     | 49.5 | 36 | 35 | 7.1  | CAEL/R...        |
| C6CHFVR/L45065N | 63     | 54.5 | 41 | 45 | 17.1 | CAEL/R...        |

WFASSY\* : Toolholder (WPOS) + adapter (LF)

LFASSY\*\* : Toolholder (LPOS) + adapter (WF)

The LFASSY or WFASSY value may change depending on the adapter type. If needed, the coolant direction can be adjusted by the nozzle.

Applicable for 7 MPa coolant. Not compatible with TungModularSystem.

### SPARE PARTS

| Designation  | Coolant parts | Clamping screw | Wrench |
|--------------|---------------|----------------|--------|
| C3CH**R/L... | SATZ-M8X1-M3  | CSHB-6-A       | P-4    |
| C4CH**R/L... | SATZ-M8X1-M3  | CSHB-6-A       | P-4    |
| C5CH**R/L... | SATZ-M10X1-M5 | CSHB-6-A       | P-4    |
| C6CH**R/L... | SATZ-M10X1-M5 | CSHB-6-A       | P-4    |

### Combination of adapter and toolholder

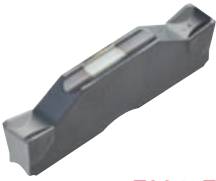
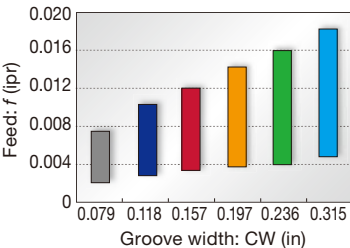


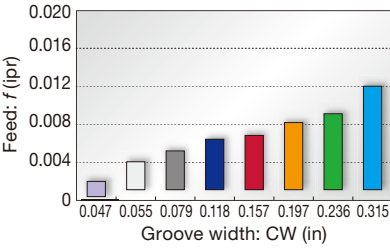
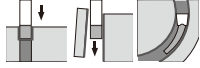

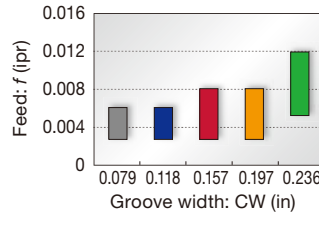
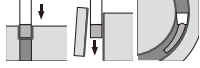

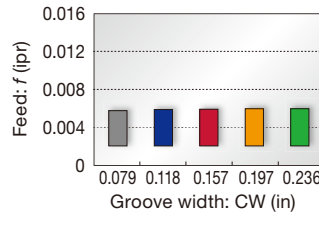
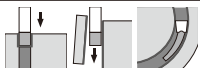

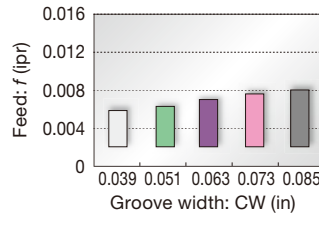

| Toolholder | External grooving adapter |         | Face grooving adapter |         |
|------------|---------------------------|---------|-----------------------|---------|
|            | CAER...                   | CAEL... | CAFR...               | CAFL... |
| C*CHSR...  | ●                         |         |                       | ●       |
| C*CHSL...  |                           | ●       | ●                     |         |
| C*CHFVR... |                           | ●       | ●                     |         |
| C*CHFVL... | ●                         |         |                       | ●       |

● : Corresponding

# CHIPBREAKER GUIDE

## External grooving and parting




|   |   |   |
|---|---|---|
| <p><b>DGM type (2 corners)<br/>SGM type (1 corner)</b></p>  <p><b>F034, F035</b></p> | <p><b>1st choice for grooving and parting</b></p> <p>Smooth chip evacuation<br/>Well-designed edge with high strength<br/>Handed insert available<br/>CW = 0.079" - 0.315"</p>                          | <p>Standard feed</p>       |
| <p><b>DGS type (2 corners)<br/>SGS type (1 corner)</b></p>  <p><b>F036, F037</b></p> | <p><b>Lower cutting force and superior sharpness</b></p> <p>Unique-designed edge and chipbreaker<br/>Handed insert available<br/>CW = 0.047" - 0.315"</p>   | <p>Standard feed</p>       |
| <p><b>DGL type (2 corners)</b></p>  <p><b>F037</b></p>                              | <p><b>1st choice for mild steel</b></p> <p>Chipbreaker with excellent chip control at low feed<br/>Suitable for mild steel which often presents challenges in chip control<br/>CW = 0.079" - 0.236"</p> | <p>Standard feed</p>      |
| <p><b>DGG type (2 corners)</b></p>  <p><b>F038</b></p>                             | <p><b>For non-ferrous materials and titanium</b></p> <p>Chipbreaker with low cutting force<br/>Sharp cutting edge that prevents vibration and delivers fine surface finish<br/>CW = 0.079" - 0.236"</p> | <p>Standard feed</p>   |
| <p><b>DGE type (2 corners)</b></p>  <p><b>F038</b></p>                             | <p><b>For high accurate and shallow groove</b></p> <p>Excellent chip control<br/>CW = 0.039" - 0.085"</p>   | <p>Standard feed</p>   |

Please see page F\*\*\* for the product details.

## External and face grooving, and turning

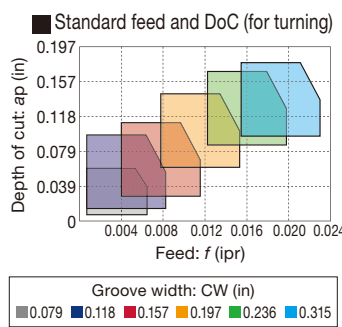
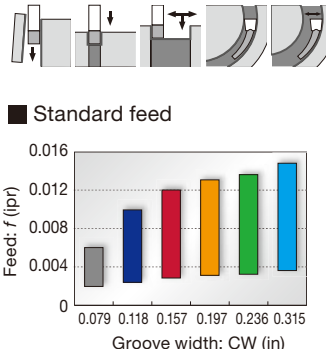
**DTM type  
(2 corners)**




**F039**

**General purpose**

1st choice for grooving and turning  
Suitable for light to medium cutting  
Excellent chip control in machining steel, alloy steel, stainless steel, and heat-resistant alloy  
CW = 0.079" - 0.315"

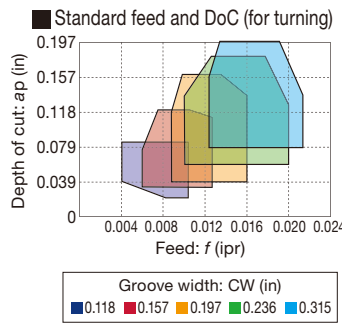
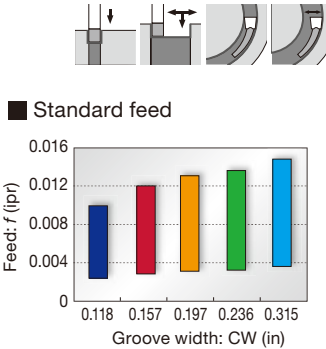
**DTE type  
(2 corners)**



**F039, F040**


**General purpose**

Unique chipbreaker makes chips shorter  
Molded and ground insert available  
CW = 0.104" - 0.315"

## External, internal and face grooving, and turning

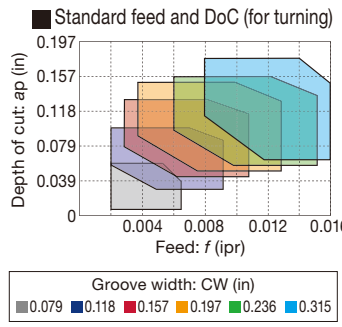
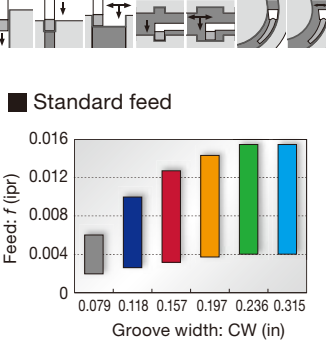
**DTX type  
(2 corners)**



**F040**

**Multi-functional type**

Well balanced sharpness and strength  
Multi-functional insert  
CW = 0.079" - 0.315"

Please see page F\*\*\* for the product details.



## Profiling and undercutting

**DTR type (2 corners)  
STR type (1 corner)**

**Molded**  
DTR, STR

**Ground**  
DTR

**F041, F042**

**Full radius type**

Excellent chip control  
Molded and ground inserts available  
CW = 0.079" - 0.315"

Standard feed and DoC (for turning)

Depth of cut: ap (in)

Feed: f (ipr)

Groove width: CW (in)

0.079 0.118 0.157 0.197 0.236 0.315

**DTIU type (2 corners)**

**F042**

**Full radius type**

Excellent chip control for undercutting  
CW = 0.118" - 0.236"

Standard feed and DoC

Feed: f (ipr)

Groove width: CW (in)

0.118 0.157 0.197 0.236

## Aluminum wheel machining

**DTA type (2 corners)**

**F043**

**Full radius type**

Excellent chip control  
For aluminum wheel profiling  
Ground insert  
CW = 0.236" - 0.315"

Standard feed and DoC (for turning)

Depth of cut: ap (in)

Feed: f (ipr)

Groove width: CW (in)

0.236 0.315

## For high feed external and face turning of hardened steel parts

**STH type (1 corner)**

**F043**

**External and face turning of hardened steel parts**

High efficiency machining using light D.O.C. and increased feeds  
CW = 0.118", 0.197"

Standard feed and DoC (for turning)

Depth of cut: ap (in)

Feed: f (ipr)

Groove width: CW (in)

0.118 0.197

## External grooving of hardened steel

**SGN-CBN type (1 corner)**

**F044**

**For hardened steel cutting**

Optimum cutting edge shape for grooving of hardened steels  
High tolerance width for finishing  
CW = 0.079" - 0.197"  
(Tol. ±0.001")

Standard feed

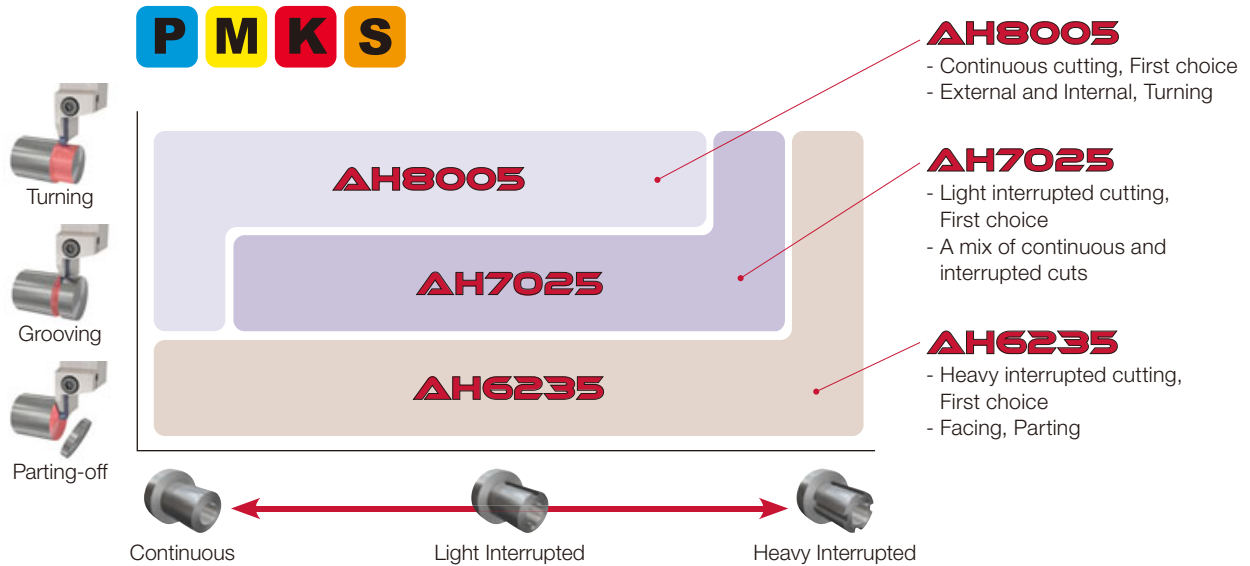
Feed: f (ipr)

Groove width: CW (in)

0.079 0.118 0.157 0.197

Please see page F\*\*\* for the product details.

## GRADE SELECTION



## GRADES

### AH8005 **P M K S**

- First choice for external, internal, and side-turning, continuous cuts

### AH7025 **P M K S**

- First choice for light interrupted cuts or a mix of continuous and interrupted cuts
- New PVD coating with high Al content provides excellent adhesion strength
- Improved wear and chipping resistance

### AH6235 **P M K**

- First choice for heavy interrupted cuts, as well as parting and facing applications

### AH725 **P M S**

- General purpose PVD grade for high fracture resistance

### T515 **K**

- First recommended grade for cast iron
- Excellent wear resistance in high speed machining

### T9225 **P**

- Suitable for steel machining at high speeds
- New CVD coating and substrate deliver an outstanding balance of wear and chipping resistance

### NS9530 **P**

- Advanced cermet for finish cutting of steel
- Innovative grade with incredible fracture and high wear resistance

### GH130 **P M K**

- Recommended for interrupted machining
- TiCNO PVD coating layer with high wear resistance
- High hardness wear resistance

### AH905 **S**

- Remarkable for machining of heat resistant alloys
- Exclusive coating layer improves adhesion strength and wear resistance

### KS05F **N S**

- Recommended for non-ferrous materials and titanium

### TH10 **N**

- Recommended for non-ferrous materials

### BXA10 **H**

- Coated CBN grade designed for turning hardened steel parts

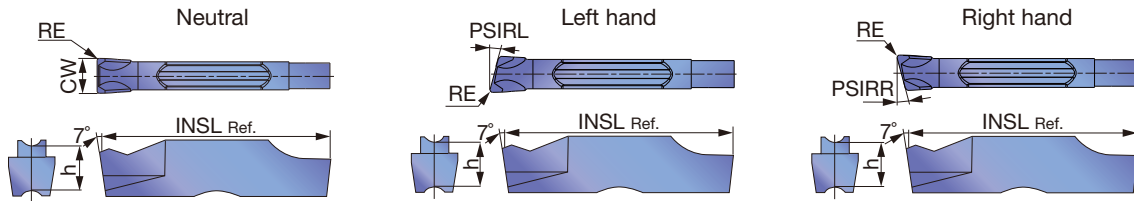
### BX360 **H**

- Developed for grooving applications of hardened steel parts



# SGM

## External deep grooving and parting



|   |                |   |   |   |   |   |  |   |  |  |  |  |  |
|---|----------------|---|---|---|---|---|--|---|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ★ | ☆ | ★ |  |   |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |  |
| K | Cast iron      | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |  | ☆ |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ | ★ |   |   |  | ★ |  |  |  |  |  |
| H | Hard materials |   |   |   |   |   |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  |  | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|--|-----------|--------|-------|-------|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |  |           |        |       |       |
| SGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 4°    |
| SGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 4°    | 0°    |
| SGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGM8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      |       | ●      |       | ●      | ●        |  |  | 1.181     | 0.264  | 0°    | 0°    |

● : Line up

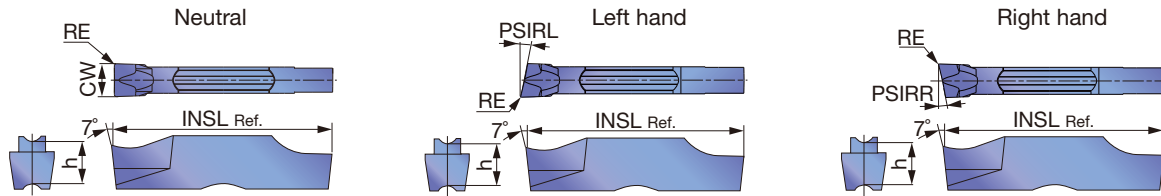






# SGS

## External deep grooving and parting



|                         |   |   |   |   |   |  |  |   |  |  |  |  |  |
|-------------------------|---|---|---|---|---|--|--|---|--|--|--|--|--|
| <b>P</b> Steel          | ★ | ☆ | ★ | ☆ | ★ |  |  |   |  |  |  |  |  |
| <b>M</b> Stainless      | ★ | ☆ | ★ | ★ | ★ |  |  |   |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ |   | ★ | ☆ | ★ |  |  | ☆ |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |  |  | ☆ |  |  |  |  |  |
| <b>S</b> Superalloys    | ★ | ☆ | ★ |   |   |  |  | ★ |  |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |   |   |  |  |   |  |  |  |  |  |

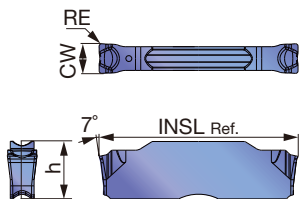
★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  |  | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|--|-----------|--------|-------|-------|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |  |           |        |       |       |
| SGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |  | 0.780     | 0.197  | 0°    | 6°    |
| SGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |  | 0.780     | 0.197  | 6°    | 0°    |
| SGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGS3-002-15R | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |  | 0.780     | 0.197  | 0°    | 15°   |
| SGS3-002-15L | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |  | 0.780     | 0.197  | 15°   | 0°    |
| SGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGS8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      |       | ●      |       |        |          |  |  | 1.181     | 0.264  | 0°    | 0°    |

● : Line up

# DGL

## External grooving and parting



|                         |   |   |   |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> Steel          | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> Stainless      | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> Superalloys    | ★ | ★ |   |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |        | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|--------|-----------|--------|
|             |           |              |               |         | AH7025 | AH8005 | AH6235 |           |        |
| DGL2-020    | 2         | 2            | 0.079         | 0.008   | ●      | ●      | ●      | 0.787     | 0.197  |
| DGL3-025    | 3         | 3            | 0.118         | 0.010   | ●      | ●      | ●      | 0.787     | 0.197  |
| DGL4-030    | 4         | 4            | 0.157         | 0.012   | ●      | ●      | ●      | 0.787     | 0.197  |
| DGL5-030    | 5         | 5            | 0.197         | 0.012   | ●      | ●      | ●      | 0.984     | 0.217  |
| DGL6-080    | 6         | 6            | 0.236         | 0.031   | ●      | ●      | ●      | 0.984     | 0.217  |

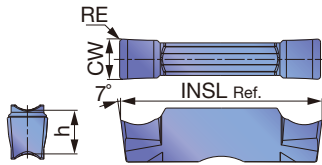
● : Line up

Reference pages: Toolholders → **F016 - F029**, Standard cutting conditions → **F045**



## DGG

External grooving (for high precision)



|   |                |   |  |   |  |   |  |   |  |  |  |  |  |
|---|----------------|---|--|---|--|---|--|---|--|--|--|--|--|
| P | Steel          | ★ |  | ★ |  |   |  |   |  |  |  |  |  |
| M | Stainless      | ★ |  |   |  |   |  |   |  |  |  |  |  |
| K | Cast iron      | ★ |  | ☆ |  | ☆ |  |   |  |  |  |  |  |
| N | Non-ferrous    |   |  |   |  |   |  | ★ |  |  |  |  |  |
| S | Superalloys    | ★ |  |   |  |   |  | ☆ |  |  |  |  |  |
| H | Hard materials |   |  |   |  |   |  |   |  |  |  |  |  |

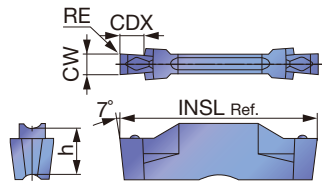
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |  |  | Cermet |  |  | Uncoated |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--|--|--------|--|--|----------|--|--|-----------|--------|
|             |           |              |                |         | AH7025 |  |  | NS9530 |  |  | KS05F    |  |  |           |        |
| DGG200-020  | 2         | 2            | 0.079          | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.787     | 0.197  |
| DGG300-020  | 3         | 3            | 0.118          | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.787     | 0.197  |
| DGG400-040  | 4         | 4            | 0.157          | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.787     | 0.197  |
| DGG500-040  | 5         | 5            | 0.197          | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.984     | 0.217  |
| DGG600-040  | 6         | 6            | 0.236          | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.984     | 0.217  |

●: Line up

## DGE

External grooving (for high precision)



|   |                |   |   |   |  |  |   |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|---|--|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ☆ |  |  | ★ |  |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ |  |  |   |  |  |  |  |  |  |
| K | Cast iron      | ★ |   | ☆ |  |  | ☆ |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |   |  |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ |   |  |  |   |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |   |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |       |       | Cermet |   |  | CDX (in) | INSL (in) | h (in) |       |
|-------------|-----------|--------------|----------------|---------|--------|-------|-------|--------|---|--|----------|-----------|--------|-------|
|             |           |              |                |         | AH7025 | AH725 | GH130 | NS9530 |   |  |          |           |        |       |
| DGE100-000  | 2         | 1            | 0.039          | 0       |        | ●     | ●     |        | ● |  |          | 0.098     | 0.787  | 0.197 |
| DGE130-000  | 2         | 1.3          | 0.051          | 0       |        | ●     | ●     |        | ● |  |          | 0.098     | 0.787  | 0.197 |
| DGE160-010  | 2         | 1.6          | 0.063          | 0.004   | ●      | ●     | ●     |        | ● |  |          | 0.098     | 0.787  | 0.197 |
| DGE185-010  | 2         | 1.85         | 0.073          | 0.004   | ●      | ●     | ●     |        | ● |  |          | 0.138     | 0.787  | 0.197 |
| DGE215-015  | 2         | 2.15         | 0.085          | 0.006   | ●      | ●     | ●     |        | ● |  |          | 0.138     | 0.787  | 0.197 |

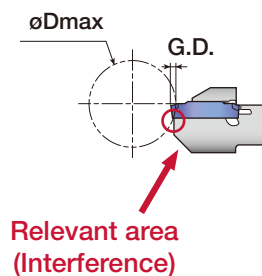
●: Line up

### Caution

øDmax is limited as shown in the picture to the right according to the groove depth, G.D. Please refer to the following table.

G.D. = Groove depth

| Designation | Max. groove depth (in) | øDmax (in)   |              |              |              |              |
|-------------|------------------------|--------------|--------------|--------------|--------------|--------------|
|             |                        | G.D. = 0.039 | G.D. = 0.059 | G.D. = 0.079 | G.D. = 0.098 | G.D. = 0.118 |
| DGE100-000  | 0.079                  | ∞            | 0.732        | 0.453        | -            | -            |
| DGE130-000  |                        |              |              |              |              |              |
| DGE160-010  |                        |              |              |              |              |              |
| DGE185-010  | 0.118                  | ∞            | 0.732        | 0.453        | 0.346        | 0.276        |
| DGE215-015  |                        |              |              |              |              |              |

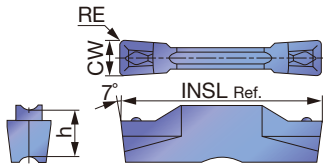


Reference pages: Toolholders → **F016 - F029**, Standard cutting conditions → **F045**



## DTE

External face grooving and turning



|   |                |   |   |   |   |   |   |   |  |   |  |  |  |  |
|---|----------------|---|---|---|---|---|---|---|--|---|--|--|--|--|
| P | Steel          | ★ |   | ★ | ☆ | ★ | ☆ | ★ |  | ★ |  |  |  |  |
| M | Stainless      |   |   | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |
| K | Cast iron      |   | ★ | ★ |   | ★ | ☆ | ★ |  |   |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |  |   |  |  |  |  |
| S | Superalloys    |   |   | ★ | ☆ | ★ |   |   |  |   |  |  |  |  |
| H | Hard materials |   |   |   |   |   |   |   |  |   |  |  |  |  |

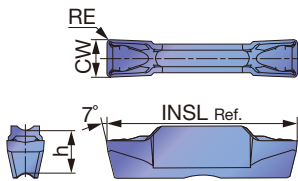
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |      |        |       |        |       | Cermet |        | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|------|--------|-------|--------|-------|--------|--------|-----------|--------|-------|
|             |           |              |               |         | T9225  | T515 | AH7025 | AH725 | AH8005 | GH130 | AH6235 | NS9530 |           |        |       |
| DTE3-020    | 3         | 3            | 0.118         | 0.008   |        |      | ●      |       | ●      |       | ●      |        |           | 0.787  | 0.197 |
| DTE3-040    | 3         | 3            | 0.118         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●      |        |           | 0.787  | 0.197 |
| DTE4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●      |        |           | 0.787  | 0.197 |
| DTE4-080    | 4         | 4            | 0.157         | 0.031   |        |      | ●      |       | ●      |       |        |        |           | 0.787  | 0.197 |
| DTE5-040    | 5         | 5            | 0.197         | 0.016   |        | ●    |        | ●     |        |       |        |        |           | 0.984  | 0.217 |
| DTE5-080    | 5         | 5            | 0.197         | 0.031   |        |      | ●      |       | ●      |       |        |        |           | 0.984  | 0.217 |
| DTE6-080    | 6         | 6            | 0.236         | 0.031   |        | ●    | ●      |       | ●      |       |        |        |           | 0.984  | 0.217 |

● : Line up

## DTX

External, internal and face grooving, and turning



|   |                |   |   |   |   |   |   |  |   |  |  |   |  |  |
|---|----------------|---|---|---|---|---|---|--|---|--|--|---|--|--|
| P | Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ |  | ★ |  |  |   |  |  |
| M | Stainless      |   | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |   |  |  |
| K | Cast iron      |   | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  | ☆ |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |  |   |  |  | ☆ |  |  |
| S | Superalloys    |   | ★ | ☆ | ★ |   |   |  |   |  |  | ★ |  |  |
| H | Hard materials |   |   |   |   |   |   |  |   |  |  |   |  |  |

★ : First choice  
☆ : Second choice

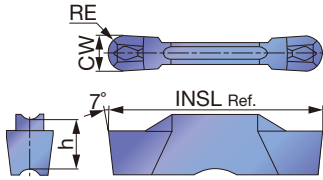
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |        | Cermet |  | Uncoated |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|--------|-------|--------|--------|--|----------|--|-----------|--------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | AH8005 | GH130 | AH6235 | NS9530 |  | KS05F    |  |           |        |
| DTX2-020    | 2         | 2            | 0.079         | 0.008   |        | ●      |       | ●      |       | ●      |        |  | ●        |  | 0.787     | 0.197  |
| DTX3-030    | 3         | 3            | 0.118         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      |        |  | ●        |  | 0.787     | 0.197  |
| DTX4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●      | ●     | ●      | ●     | ●      |        |  | ●        |  | 0.787     | 0.197  |
| DTX5-040    | 5         | 5            | 0.197         | 0.016   | ●      | ●      | ●     | ●      | ●     | ●      |        |  | ●        |  | 0.984     | 0.217  |
| DTX6-080    | 6         | 6            | 0.236         | 0.031   |        | ●      | ●     | ●      | ●     |        |        |  | ●        |  | 0.984     | 0.217  |
| DTX8-080    | 8         | 8            | 0.315         | 0.031   |        | ●      |       | ●      |       |        |        |  | ●        |  | 1.181     | 0.264  |

● : Line up

Reference pages: Toolholders → **F016 - F029**, Standard cutting conditions → **F045**

## DTR

Profiling and undercutting (for high precision)

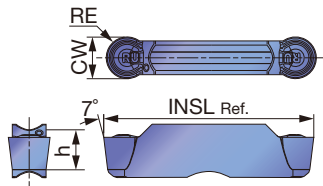


| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |        |       |       | Cermet |  | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--------|-------|-------|--------|--|-----------|--------|
|             |           |              |                |         | T9225  | AH7025 | AH725 | GH130 | NS9530 |  |           |        |
| DTR300-150  | 3         | 3            | 0.118          | 0.059   | ●      | ●      | ☆     | ☆     | ●      |  | 0.787     | 0.197  |
| DTR400-200  | 4         | 4            | 0.157          | 0.079   | ●      | ●      | ●     | ●     | ●      |  | 0.787     | 0.197  |
| DTR478-239  | 5         | 4.78         | 0.188          | 0.094   | ●      | ●      | ●     | ●     | ●      |  | 0.984     | 0.217  |
| DTR500-250  | 5         | 5            | 0.197          | 0.098   | ●      | ●      | ●     | ●     | ●      |  | 0.984     | 0.217  |
| DTR600-300  | 6         | 6            | 0.236          | 0.118   | ●      | ●      | ●     | ●     |        |  | 0.984     | 0.217  |

● : Line up

## DTR

Profiling and undercutting



| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |       | Cermet | Uncoated |       | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|--------|-------|-------|--------|----------|-------|-----------|--------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | AH8005 | AH905 | GH130 | AH6235 | NS9530   | KS05F |           |        |
| DTR2-100    | 2         | 2            | 0.079         | 0.039   | ●      | ●      | ☆     | ●      | ☆     | ●     | ●      | ●        | ●     | 0.787     | 0.197  |
| DTR3-150    | 3         | 3            | 0.118         | 0.059   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●     | 0.787     | 0.197  |
| DTR4-200    | 4         | 4            | 0.157         | 0.079   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●     | 0.787     | 0.197  |
| DTR5-250    | 5         | 5            | 0.197         | 0.098   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●     | 0.984     | 0.217  |
| DTR6-300    | 6         | 6            | 0.236         | 0.118   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●     | 0.984     | 0.217  |
| DTR8-400    | 8         | 8            | 0.315         | 0.157   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●     | 1.181     | 0.264  |

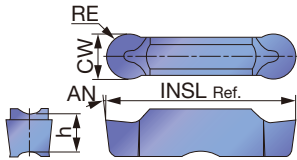
● : Line up





## DTA

Aluminum wheel machining (for high precision)



|   |                |   |  |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|--|
| P | Steel          |   |  |  |  |  |  |  |  |  |
| M | Stainless      |   |  |  |  |  |  |  |  |  |
| K | Cast iron      |   |  |  |  |  |  |  |  |  |
| N | Non-ferrous    | ★ |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |  |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |  |

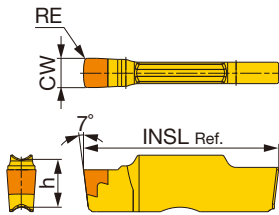
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Uncoated |  |  |  |  |  |  | INSL (in) | h (in) | AN    |     |
|-------------|-----------|--------------|----------------|---------|----------|--|--|--|--|--|--|-----------|--------|-------|-----|
|             |           |              |                |         | TH10     |  |  |  |  |  |  |           |        |       |     |
| DTA600-300  | 6         | 6            | 0.236          | 0.118   | ●        |  |  |  |  |  |  |           | 0.984  | 0.217 | 7°  |
| DTA800-400  | 8         | 8            | 0.315          | 0.157   | ●        |  |  |  |  |  |  |           | 1.181  | 0.264 | 10° |

●: Line up

## STH

External and face turning



|   |                |   |  |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|--|
| P | Steel          |   |  |  |  |  |  |  |  |  |
| M | Stainless      |   |  |  |  |  |  |  |  |  |
| K | Cast iron      |   |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |  |  |  |  |  |  |  |  |
| H | Hard materials | ★ |  |  |  |  |  |  |  |  |

★ : First choice

| Designation | Seat size | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | CBN   |  |  |  |  |  |  | INSL (in) | h (in) |       |
|-------------|-----------|---------------|---------------|---------|-------|--|--|--|--|--|--|-----------|--------|-------|
|             |           |               |               |         | BXA10 |  |  |  |  |  |  |           |        |       |
| STH300-SR   | 3         | 3             | 0.118         | 0.012   | ●     |  |  |  |  |  |  |           | 0.787  | 0.197 |
| STH500-SR   | 5         | 5             | 0.197         | 0.012   | ●     |  |  |  |  |  |  |           | 0.984  | 0.217 |

●: Line up



# STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness | Priority          | Grade                         | Cutting speed Vc (sfm) |
|----------|-------------------------------------|----------|-------------------|-------------------------------|------------------------|
| <b>P</b> | Steel<br>1045, 4135, etc.           | < 300 HB | First choice      | AH7025, AH725                 | 164 - 591              |
|          |                                     | < 300 HB | Wear resistance   | T9225, AH8005                 | 262 - 984              |
|          |                                     | < 300 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
|          |                                     | < 300 HB | Surface quality   | NS9530                        | 262 - 722              |
| <b>M</b> | Stainless steel<br>303, 304, etc.   | < 200 HB | First choice      | AH7025, AH725                 | 164 - 394              |
|          |                                     | < 200 HB | Wear resistance   | AH8005                        | 164 - 394              |
|          |                                     | < 200 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -        | First choice      | T515                          | 492 - 2297             |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -        | First choice      | T515                          | 492 - 984              |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 394              |
| <b>N</b> | Aluminum alloys<br>Si < 12%         | -        | First choice      | TH10                          | 328 - 1640             |
|          |                                     | -        | First choice      | KS05F                         | 328 - 1969             |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40 | First choice      | AH8005                        | 66 - 197               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725, AH6235         | 66 - 131               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40 | First choice      | KS05F                         | 66 - 328               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725                 | 66 - 262               |

Please see page F030 - F032 for feed: *f* (ipr).

## STH

| ISO      | Grade | CW     | Application      | Cutting speed Vc (sfm) | Depth of cut ap (in) | Feed f (ipr)  |
|----------|-------|--------|------------------|------------------------|----------------------|---------------|
| <b>H</b> | BXA10 | 0.118" | External turning | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.039 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.031 |
|          |       | 0.197" | External turning | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.059 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.031 |

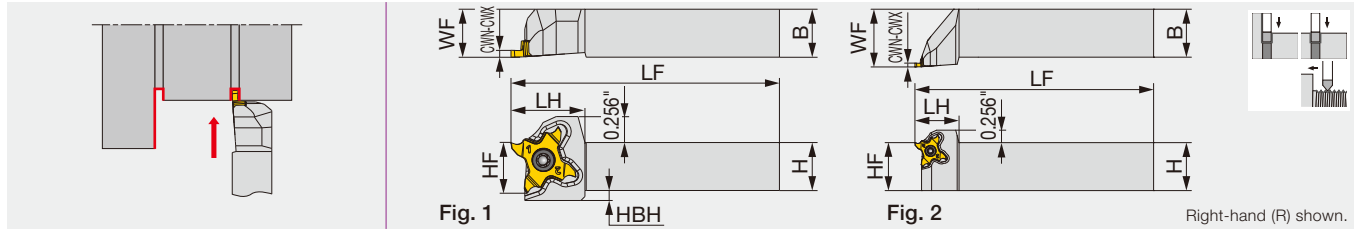
## SGN

| ISO      | Grade | Edge preparation | Workpiece condition | Cutting speed Vc (sfm) | Feed f (ipr)    |
|----------|-------|------------------|---------------------|------------------------|-----------------|
| <b>H</b> | BX360 | No symbol        | Continuous          | 262 - 492              | 0.0012 - 0.0031 |
|          |       | -S               | Light interrupted   | 164 - 394              | 0.0012 - 0.0031 |
|          |       | -H               | Heavy interrupted   | 131 - 328              | 0.0012 - 0.0024 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



Precision grooving tools with uniquely shaped insert for swiss type machine and general lathes



| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert   | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|------|
| STCR/L06-18 | 0.013 | 0.125 | 0.375 | 0.375 | 4.750 | 0.740 | 0.375 | 0.375 | 0.177 | TC*18... | 0.89   | 1    |
| STCR/L08-18 | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.740 | 0.500 | 0.500 | 0.098 | TC*18... | 0.89   | 1    |
| STCR/L10-18 | 0.013 | 0.125 | 0.625 | 0.625 | 4.750 | 0.740 | 0.625 | 0.625 | -     | TC*18... | 0.89   | 1    |
| STCR/L12-18 | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC*18... | 0.89   | 2    |
| STCR/L16-18 | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC*18... | 0.89   | 2    |

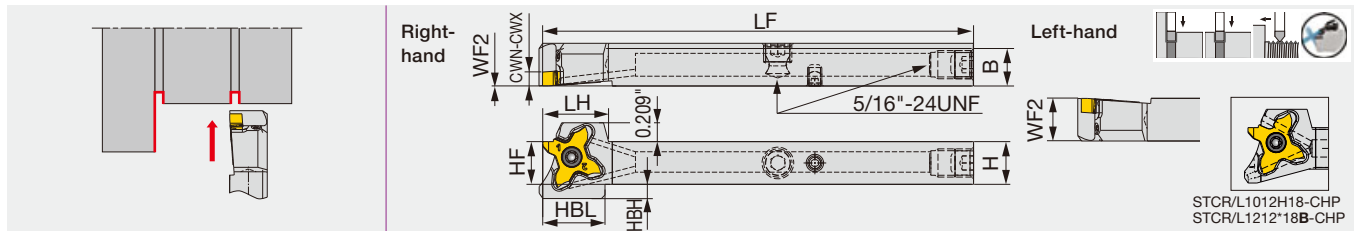
| Metric        | CWN  | CWX  | H  | B  | LF  | LH   | HF | WF | HBH | Insert   | Torque* | Fig. |
|---------------|------|------|----|----|-----|------|----|----|-----|----------|---------|------|
| STCR/L1010X18 | 0.33 | 3.18 | 10 | 10 | 120 | 18.5 | 10 | 10 | 4.5 | TC*18... | 1.2     | 1    |
| STCR/L1212F18 | 0.33 | 3.18 | 12 | 12 | 85  | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1212X18 | 0.33 | 3.18 | 12 | 12 | 120 | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1616X18 | 0.33 | 3.18 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020H18 | 0.33 | 3.18 | 20 | 20 | 100 | 18.5 | 20 | 20 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020X18 | 0.33 | 3.18 | 20 | 20 | 120 | 23   | 20 | 25 | -   | TC*18... | 1.2     | 2    |
| STCR/L2525Z18 | 0.33 | 3.18 | 25 | 25 | 135 | 23   | 25 | 30 | -   | TC*18... | 1.2     | 2    |

The right hand insert (TC\*18R...) is used for the right hand toolholders (STCR...), and the left hand insert is used for the left hand toolholders  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### STCR/L-18-CHP

Direct connection

External grooving and threading toolholder, high pressure coolant compatible



| Inch          | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2     | HBH   | Insert   | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|----------|--------|
| STCR08X18-CHP | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | TC*18... | 0.89   |
| STCR10X18-CHP | 0.013 | 0.125 | 0.625 | 0.625 | 4.75  | 0.728 | -     | 0.625 | 0/0.625 | -     | TC*18... | 0.89   |

| Metric             | CWN  | CWX  | H  | B  | LF  | LH   | HBL  | HF | WF2  | HBH | Insert   | Torque* |
|--------------------|------|------|----|----|-----|------|------|----|------|-----|----------|---------|
| STCR/L1012H18-CHP  | 0.33 | 3.18 | 10 | 12 | 100 | 17.1 | 17.1 | 10 | 0/12 | 4   | TC*18... | 1.2     |
| STCR/L1212X18B-CHP | 0.33 | 3.18 | 12 | 12 | 120 | 18.5 | 17.5 | 12 | 0/12 | 4   | TC*18... | 1.2     |
| STCR/L1616X18-CHP  | 0.33 | 3.18 | 16 | 16 | 120 | 18.5 | -    | 16 | 0/16 | 0   | TC*18... | 1.2     |

The right hand insert (TC\*18R...) is used for the right hand toolholders (STCR...), and the left hand insert (TC\*18L...) is used for the left hand toolholders (STCL...)  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

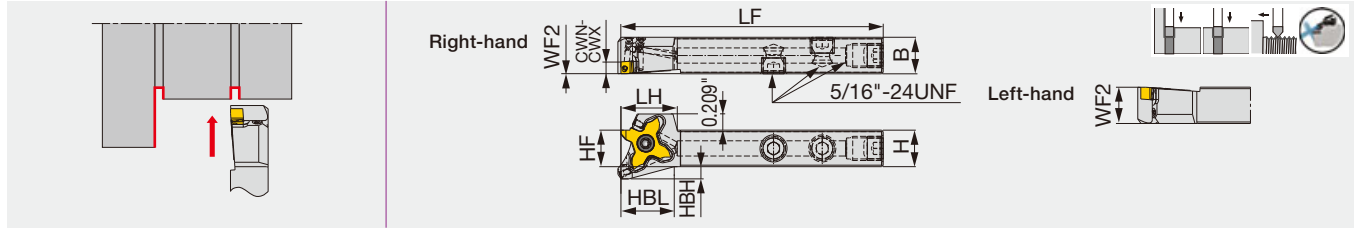
| Designation  | Clamping screw | Wrench   | Coolant plug   | Wrench | DirectJet plug | Wrench |
|--------------|----------------|----------|----------------|--------|----------------|--------|
| STCR**18     | CSTC-4L100DL   | T-1008/5 | -              | -      | -              | -      |
| STCL**18     | CSTC-4L100DR   | T-1008/5 | -              | -      | -              | -      |
| STCL**18-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| STCR**18-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |

Reference pages: Inserts → **F053 - F059**, Standard cutting conditions → **F060**  
Parts for coolant hose → **F290**

## STCR/L-18-CHP

Tube connection

External grooving and threading toolholder. High pressure coolant capability.



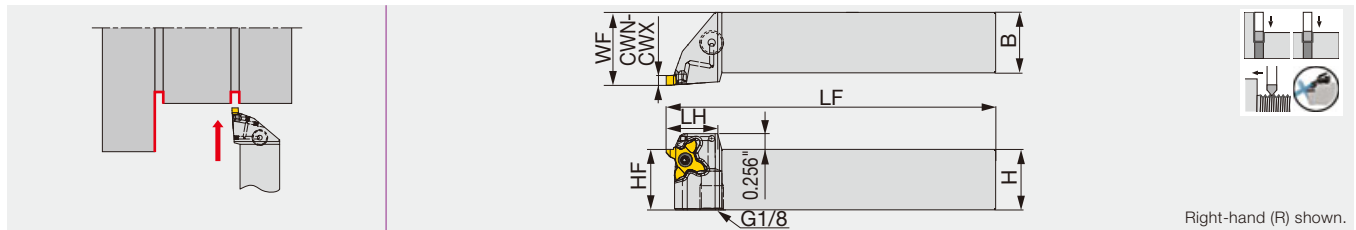
| Inch               | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2 <sup>(1)</sup> | HBH   | Insert   | Torque  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|----------|---------|
| STCR/L08F18-CHP    | 0.013 | 0.125 | 0.500 | 0.500 | 3.344 | 0.728 | 0.689 | 0.500 | 0/0.500            | 0.130 | TC*18... | 0.89    |
| Metric             | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2 <sup>(1)</sup> | HBH   | Insert   | Torque* |
| STCR/L1212F18B-CHP | 0.33  | 3.18  | 12    | 12    | 85    | 18.5  | 17.5  | 12    | 0/12               | 4     | TC*18... | 1.2     |

The right hand insert (TC\*18R\*\*) is used for the right hand toolholders (STCR\*\*), and the left hand insert (TC\*18L\*\*) is used for the left hand toolholders (STCL\*\*).  
 (1) "0/0.500" for the WF2 dimension indicates WF2 = 0 for the right handed tool, WF2 = 0.500 for the left handed tool.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)

## STCR/L-18-CHP

Tube connection

Threading tool - for external threading with high pressure coolant capability



| Inch              | CWN   | CWX   | H     | B     | LF    | LH    | HBL | HF    | WF    | HBH | Insert   | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-----|----------|---------|
| STCR/L12-18-CHP   | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | -   | 0.750 | 1.000 | -   | TC*18... | 0.89    |
| STCR/L16-18-CHP   | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | -   | 1.000 | 1.250 | -   | TC*18... | 0.89    |
| Metric            | CWN   | CWX   | H     | B     | LF    | LH    | HBL | HF    | WF    | HBH | Insert   | Torque* |
| STCR/L2020X18-CHP | 0.33  | 3.18  | 20    | 20    | 120   | 23    | -   | 20    | 25    | -   | TC*18... | 1.2     |
| STCR/L2525Z18-CHP | 0.33  | 3.18  | 25    | 25    | 135   | 23    | -   | 25    | 30    | -   | TC*18... | 1.2     |

Use the right hand insert (TC\*18R...) with the right hand toolholders (STCR...). Use the left hand insert (TC\*18L...) with the left hand holder (STCL...).  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)

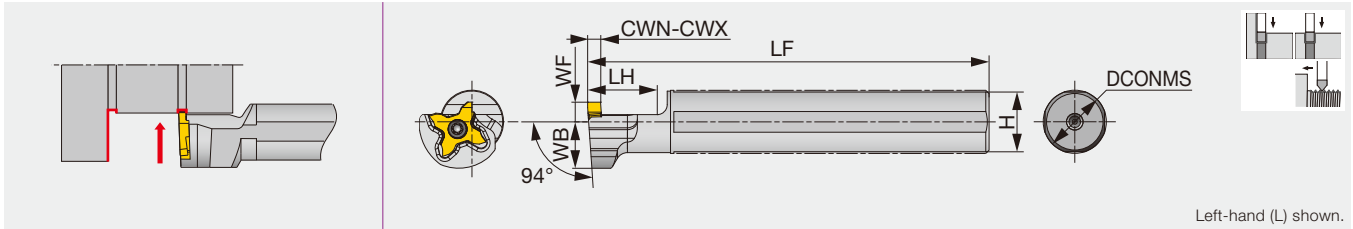
### SPARE PARTS

| Designation      | Clamping screw | Wrench   | Coolant plug   | Wrench |
|------------------|----------------|----------|----------------|--------|
| STCL08F18-CHP    | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | -      |
| STCR08F18-CHP    | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | -      |
| STCL1212F18B-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    |
| STCR1212F18B-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    |
| STCL**18-CHP     | CSTC-4L100DR   | T-1008/5 | -              | -      |
| STCR**18-CHP     | CSTC-4L100DL   | T-1008/5 | -              | -      |

Reference pages: Inserts → **F053 - F059**, Standard cutting conditions → **F060**  
 Parts for coolant hose → **F290**



External grooving and threading toolholder with round shank, for Swiss lathes

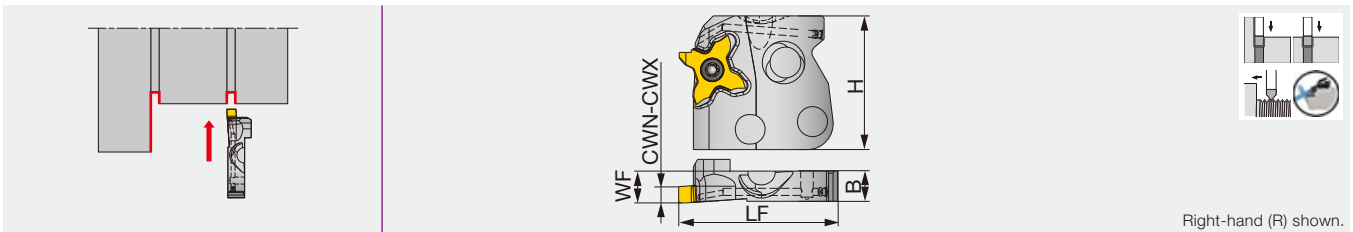


| Metric        | CWN  | CWX  | DCONMS | LF  | LH | H  | WB    | WF | Insert    | Torque |
|---------------|------|------|--------|-----|----|----|-------|----|-----------|--------|
| JS14H-STCL18  | 0.33 | 3.18 | 14     | 100 | 20 | 13 | 14    | 6  | TC*18R... | 1.2    |
| JS159F-STCL18 | 0.33 | 3.18 | 15.875 | 85  | 20 | 15 | 14    | 6  | TC*18R... | 1.2    |
| JS16F-STCL18  | 0.33 | 3.18 | 16     | 85  | 20 | 15 | 14    | 6  | TC*18R... | 1.2    |
| JS19G-STCL18  | 0.33 | 3.18 | 19.05  | 90  | 20 | 18 | 14    | 6  | TC*18R... | 1.2    |
| JS19X-STCL18  | 0.33 | 3.18 | 19.05  | 120 | 20 | 18 | 14    | 6  | TC*18R... | 1.2    |
| JS20G-STCL18  | 0.33 | 3.18 | 20     | 90  | 20 | 19 | 14    | 6  | TC*18R... | 1.2    |
| JS20X-STCL18  | 0.33 | 3.18 | 20     | 120 | 20 | 19 | 14    | 6  | TC*18R... | 1.2    |
| JS22X-STCL18  | 0.33 | 3.18 | 22     | 120 | 20 | 21 | 12.25 | 10 | TC*18R... | 1.2    |
| JS25H-STCL18  | 0.33 | 3.18 | 25     | 100 | 20 | 24 | 12.25 | 10 | TC*18R... | 1.2    |
| JS254X-STCL18 | 0.33 | 3.18 | 25.4   | 120 | 20 | 24 | 12.25 | 10 | TC*18R... | 1.2    |

The left hand toolholder (STCL...) is used with the right hand inserts (TC\*18R...)  
Torque: Recommended clamping torque: N·m

### STCAR/L18-CHP

External grooving and threading adapter, with high pressure coolant capability



| Metric        | CWN  | CWX  | WF  | H  | LF | B   | Insert   | Torque |
|---------------|------|------|-----|----|----|-----|----------|--------|
| STCAR/L18-CHP | 0.33 | 3.18 | 7.5 | 33 | 38 | 7.2 | TC*18... | 1.2    |

Use the right hand insert (TC\*18R...) with the right hand adapter (STCAR...). Use the left hand insert (TC\*18L...) with the left hand adapter (STCAL...).  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

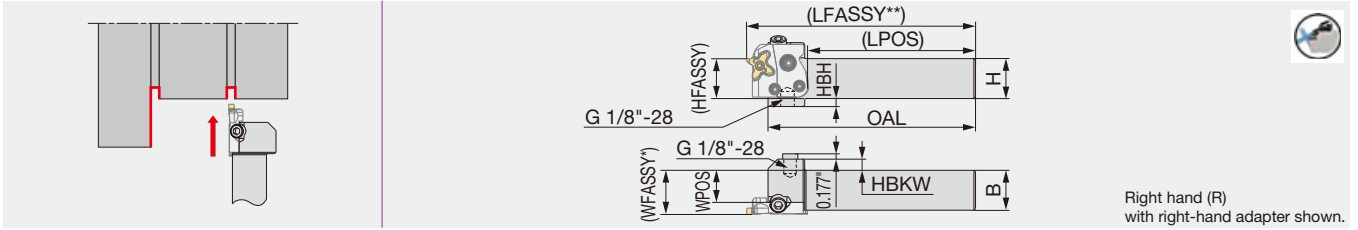
| Designation | Clamping screw | Wrench   |
|-------------|----------------|----------|
| JS**STCL18  | CSTC-4L100DL   | T-1008/5 |
| STCAL18-CHP | CSTC-4L100DR   | T-1008/5 |
| STCAR18-CHP | CSTC-4L100DL   | T-1008/5 |

Reference pages: JS-STCL18: Inserts → **F053 - F059**, Standard cutting conditions → **F060**  
STCAR/L18-CHP: Inserts → **F053 - F059**, Shanks and toolholders → **F049 - F051**  
Standard cutting conditions → **F060**, Technical Reference → **L059**

## CHSR/L-CHP

Tube connection

Shank for adapter, with high pressure coolant capability



| Inch         | H     | B     | OAL   | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque |
|--------------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|--------|
| CHSR/L12-CHP | 0.750 | 0.750 | 5.000 | 4.035 | 0.560 | 0.510 | 0.750  | 0.190 | STCAR/L18-CHP    | 3.69   |
| CHSR/L16-CHP | 1.000 | 1.000 | 5.000 | 4.035 | 0.810 | 0.260 | 1.000  | 0.200 | STCAR/L18-CHP    | 3.69   |

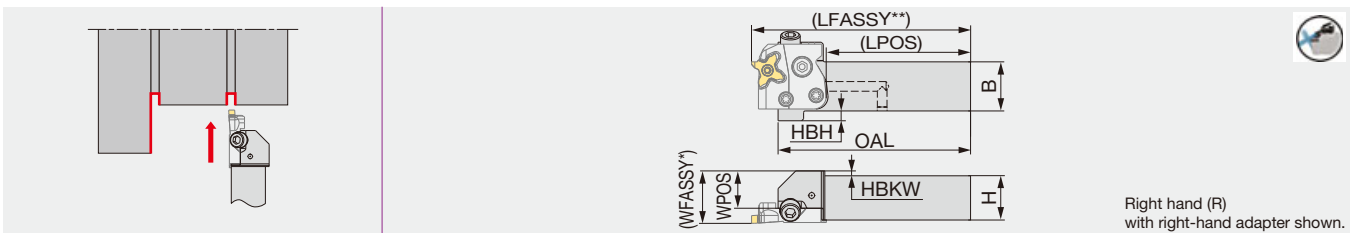
| Metric         | H  | B  | OAL | LPOS  | WPOS | HBKW | HFASSY | HBH | Adapter (Option) | Torque* |
|----------------|----|----|-----|-------|------|------|--------|-----|------------------|---------|
| CHSR/L2020-CHP | 20 | 20 | 130 | 105.5 | 15.1 | 12   | 20     | 10  | STCAR/L18-CHP    | 6.5     |
| CHSR/L2525-CHP | 25 | 25 | 130 | 105.5 | 20.1 | 7    | 25     | 5   | STCAR/L18-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

## CHSR/L-CHP-MC

Direct connection

Shank for adapter, with high pressure coolant capability



| Metric            | H  | B  | OAL | LPOS | WPOS | HBKW | HBH | Adapter (Option) | Torque |
|-------------------|----|----|-----|------|------|------|-----|------------------|--------|
| CHSR/L2020-CHP-MC | 20 | 20 | 98  | 73.5 | 14   | 6    | 10  | STCAR/L18-CHP    | 6.5    |
| CHSR/L2525-CHP-MC | 25 | 25 | 98  | 73.5 | 19   | -    | 5   | STCAR/L18-CHP    | 6.5    |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N-m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation    | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|----------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHSR/L*-CHP    | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |
| CHSR/L*-CHP-MC | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | -               |

### Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

### Combination of adapter and shank

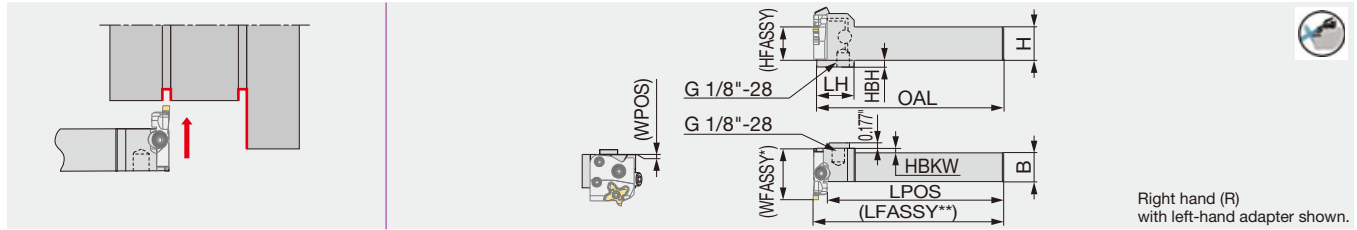
| Shank            | Adapter     |             |
|------------------|-------------|-------------|
|                  | STCAR18-CHP | STCAL18-CHP |
| CHSR**-CHP (-MC) | ●           |             |
| CHSL**-CHP (-MC) |             | ●           |
| CHFVR**-CHP      |             | ●           |
| CHFVL**-CHP      | ●           |             |

● : Corresponding

Reference pages: Inserts → F053 - F059, Adapters → F048, Standard cutting conditions → F060  
 Parts for coolant hose → F290, Technical Reference → L059



Shank for perpendicularly-mounted adapter, with high pressure coolant capability



Right hand (R)  
with left-hand adapter shown.

| Inch          | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|--------|
| CHFVR/L12-CHP | 0.750 | 0.750 | 5.500 | 1.100 | 5.307 | 0.020 | 0.234 | 0.750  | 0.431 | STCAL/R18-CHP    | 3.69   |
| CHFVR/L16-CHP | 1.000 | 1.000 | 5.500 | 1.100 | 5.307 | 0.020 | -     | 1.000  | 0.200 | STCAL/R18-CHP    | 3.69   |

| Metric          | H  | B  | OAL | LH | LPOS  | WPOS | HBKW | HFASSY | HBH | Adapter (Option) | Torque* |
|-----------------|----|----|-----|----|-------|------|------|--------|-----|------------------|---------|
| CHFVR/L2020-CHP | 20 | 20 | 140 | 28 | 135.1 | 0.5  | 5    | 20     | 10  | STCAL/R18-CHP    | 6.5     |
| CHFVR/L2525-CHP | 25 | 25 | 140 | 28 | 135.1 | 0.5  | 0    | 25     | 5   | STCAL/R18-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHFVR/L...  | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |

### Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

### Combination of adapter and shank

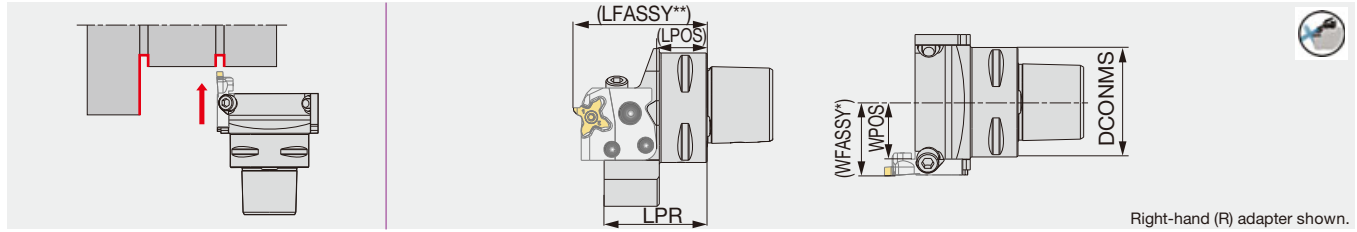
| Shank            | Adapter     |             |
|------------------|-------------|-------------|
|                  | STCAR18-CHP | STCAL18-CHP |
| CHSR**-CHP (-MC) | ●           |             |
| CHSL**-CHP (-MC) |             | ●           |
| CHFVR**-CHP      |             | ●           |
| CHFVL**-CHP      | ●           |             |

● : Corresponding

## C\*CHSN-CHP

Direct connection

Toolholder with TungCap connection, for adapter, with high pressure coolant capability



Right-hand (R) adapter shown.

| Metric          | DCONMS | LPR  | LPOS | WPOS | Adapter (Option) | Torque |
|-----------------|--------|------|------|------|------------------|--------|
| C3CHSN19045-CHP | 32     | 45   | 17.5 | 18.5 | STCAR/L18-CHP    | 6.5    |
| C4CHSN21047-CHP | 40     | 46.5 | 21.5 | 21   | STCAR/L18-CHP    | 6.5    |
| C5CHSN26047-CHP | 50     | 47   | 22.5 | 26   | STCAR/L18-CHP    | 6.5    |
| C6CHSN33050-CHP | 63     | 50   | 24.5 | 32.5 | STCAR/L18-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (WF)

LFASSY\*\* : Toolholder (LPOS) + adapter (LF)

The LFASSY or WFASSY value may change depending on the adapter type.

Torque: Recommended clamping torque: N·m

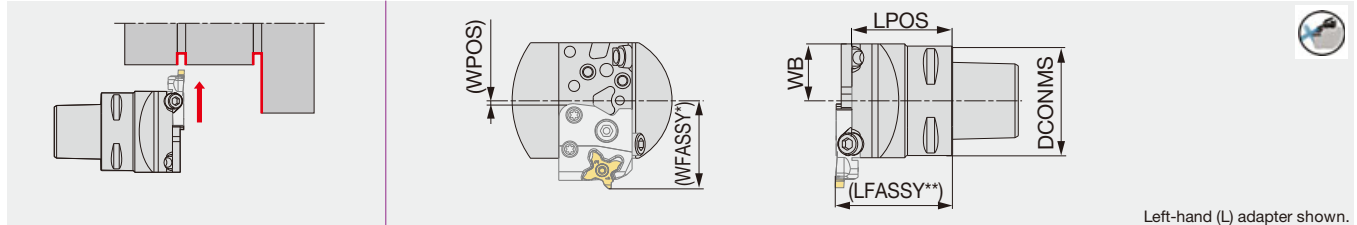
Applicable for 30 MPa coolant

Please see page L059 for instructions on installing and removing the adapter or the insert.

## C\*CHFVN-CHP

Direct connection

Toolholder with TungCap connection, for perpendicularly-mounted adapter, with high pressure coolant capability



Left-hand (L) adapter shown.

| Metric           | DCONMS | LPOS | WB | WPOS | Adapter (Option) | Torque |
|------------------|--------|------|----|------|------------------|--------|
| C3CHFVN26040-CHP | 32     | 40   | 26 | 1.5  | STCAR/L18-CHP    | 6.5    |
| C4CHFVN26046-CHP | 40     | 46   | 26 | 1.5  | STCAR/L18-CHP    | 6.5    |
| C5CHFVN26046-CHP | 50     | 46   | 26 | 1.5  | STCAR/L18-CHP    | 6.5    |
| C6CHFVN33046-CHP | 63     | 46   | 33 | 8.5  | STCAR/L18-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (LF)

LFASSY\*\* : Toolholder (LPOS) + adapter (WF)

The LFASSY or WFASSY value may change depending on the adapter type.

Torque: Recommended clamping torque: N·m

Applicable for 30 MPa coolant

Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation   | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  |
|---------------|------------------|----------|------------------|------------------|----------|---------|
| C*CH**N**-CHP | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N |

### Recommended clamping torque (N·m)

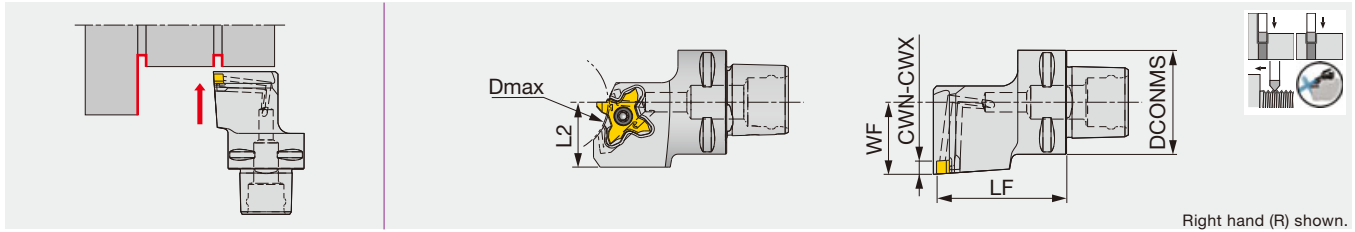
| Clamping screw  | Torque (N·m) |
|-----------------|--------------|
| SR M5-04451     | 2.5          |
| SR M6X12DIN6912 | 6.5          |
| SR M6X20-XT     | 6.5          |

Reference pages: Inserts → F053 - F059, Adapters → F048, Standard cutting conditions → F060  
 Technical Reference → L059

# TETRAMCUT

## C-STCR/L-18-CHP

External grooving and threading toolholder, with high pressure coolant capability



Right hand (R) shown.

| Metric               | CWN  | CWX  | DCONMS | LF | L2 | WF | Dmax              | Insert   | Torque |
|----------------------|------|------|--------|----|----|----|-------------------|----------|--------|
| C3STCR/L22040-18-CHP | 0.33 | 3.18 | 32     | 40 | 20 | 22 | 32                | TC*18... | 1.2    |
| C4STCR/L27050-18-CHP | 0.33 | 3.18 | 40     | 50 | 25 | 27 | 75 <sup>(1)</sup> | TC*18... | 1.2    |

Applicable for 14 MPa coolant

Use the right hand insert (TC\*18R...) with the right hand holder (STCR...). Use the left hand insert (TC\*18L...) with the left hand holder (STCL...).

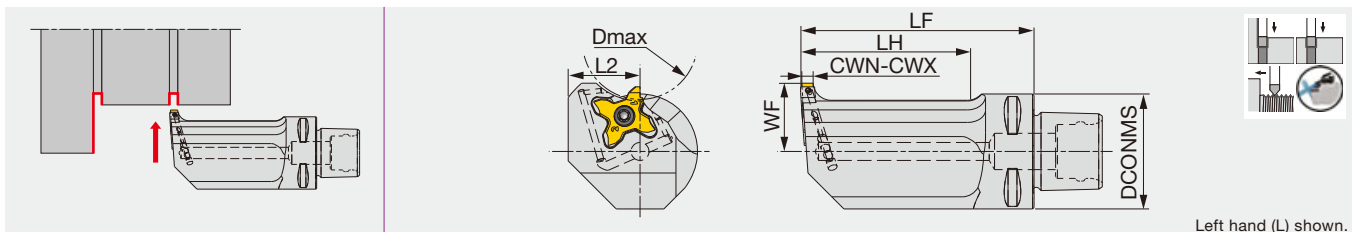
(1) The value for 3.5 mm groove depth. Dmax varies according to the grooving depth required.

Torque: Recommended clamping torque: N·m



## C-STCFL-18-CHP

External grooving and threading toolholder, with high pressure coolant capability



Left hand (L) shown.

| Metric              | CWN  | CWX  | DCONMS | LF | LH   | L2 | WF | Dmax | Insert    | Torque |
|---------------------|------|------|--------|----|------|----|----|------|-----------|--------|
| C3STCFL18040-18-CHP | 0.33 | 3.18 | 32     | 40 | 21.5 | 20 | 18 | 32   | TC*18R... | 1.2    |
| C3STCFL18065-18-CHP | 0.33 | 3.18 | 32     | 65 | 46.5 | 20 | 18 | 32   | TC*18R... | 1.2    |

Applicable for 14 MPa coolant

Use the right hand insert (TC\*18R...) with the left hand holder (STCFL...).

Torque: Recommended clamping torque: N·m









### SPARE PARTS



| Designation     | Clamping screw | Wrench   |
|-----------------|----------------|----------|
| C*STCL*-18-CHP  | CSTC-4L100DR   | T-1008/5 |
| C*STCR*-18-CHP  | CSTC-4L100DL   | T-1008/5 |
| C3STCFL*-18-CHP | CSTC-4L100DL   | T-1008/5 |

Reference pages: Inserts → **F053 - F059**, Standard cutting conditions → **F060**

**External grooving**

|   |  |  |   |
|---|--|--|---|
| <p><b>TCS18 (4 corners)</b></p>  <p>F054, F055</p> | <p><b>First choice for O.D. grooving</b></p> <p>General-purpose pressed-in 3D chipbreaker for smooth chip control</p> <p>CW = 0.039" - 0.118"<br/>CDX = 0.138"</p>    | <p><b>TCL18 (4 corners)</b></p>  <p>F055</p>       | <p><b>For lighter cutting action</b></p> <p>Features pressed-in 3D chipbreaker with sharp cutting edge for light cutting action. Provides excellent chip control at low feed rates.</p> <p>CW = 0.059" - 0.118"<br/>CDX = 0.138"</p>               |
| <p><b>TCG18 (4 corners)</b></p>  <p>F056, F057</p> | <p><b>For better chipping resistance</b></p> <p>Features an optimum rake angle and edge preparation for a good balance of light cutting action and fracture resistance.</p> <p>CW = 0.039" - 0.125"<br/>CDX = 0.138"</p>  | <p><b>TCP18 (4 corners)</b></p>  <p>F058, F059</p> | <p><b>For higher surface quality</b></p> <p>Featuring a large rake angle, providing light cutting action and better surface finish. TCP-F style insert is also available for sharp cutting edge.</p> <p>CW = 0.013" - 0.118"<br/>CDX = 0.138"</p>  |

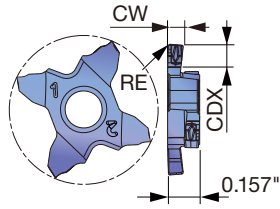
Grade  
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M

Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

Please see page F\*\*\* for the product details.

# INSERTS

## TCS18R/L (3D chipbreaker, honed edge)



Right-hand (R) shown.

|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice



| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  |  |  |  |  |  | CDX<br>(in) |  |  |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|--|--|--|--|--|-------------|--|--|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |  |  |  |  |  |             |  |  |       |
| TCS18R100-010 | R    | 1               | 0.039            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18L100-010 | L    | 1               | 0.039            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18R120-010 | R    | 1.2             | 0.047            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18L120-010 | L    | 1.2             | 0.047            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18R125-010 | R    | 1.25            | 0.049            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18L125-010 | L    | 1.25            | 0.049            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18R125-020 | R    | 1.25            | 0.049            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18L125-020 | L    | 1.25            | 0.049            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.079 |
| TCS18R130-020 | R    | 1.3             | 0.051            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L130-020 | L    | 1.3             | 0.051            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R140-010 | R    | 1.4             | 0.055            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L140-010 | L    | 1.4             | 0.055            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R140-020 | R    | 1.4             | 0.055            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L140-020 | L    | 1.4             | 0.055            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R145-010 | R    | 1.45            | 0.057            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L145-010 | L    | 1.45            | 0.057            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R150-010 | R    | 1.5             | 0.059            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L150-010 | L    | 1.5             | 0.059            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R150-020 | R    | 1.5             | 0.059            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L150-020 | L    | 1.5             | 0.059            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R160-020 | R    | 1.6             | 0.063            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L160-020 | L    | 1.6             | 0.063            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R170-020 | R    | 1.7             | 0.067            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L170-020 | L    | 1.7             | 0.067            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R175-010 | R    | 1.75            | 0.069            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L175-010 | L    | 1.75            | 0.069            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R175-020 | R    | 1.75            | 0.069            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L175-020 | L    | 1.75            | 0.069            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R185-020 | R    | 1.85            | 0.073            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L185-020 | L    | 1.85            | 0.073            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R195-020 | R    | 1.95            | 0.077            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L195-020 | L    | 1.95            | 0.077            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R200-010 | R    | 2               | 0.079            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L200-010 | L    | 2               | 0.079            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R200-020 | R    | 2               | 0.079            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L200-020 | L    | 2               | 0.079            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R225-020 | R    | 2.25            | 0.089            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L225-020 | L    | 2.25            | 0.089            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R230-020 | R    | 2.3             | 0.091            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L230-020 | L    | 2.3             | 0.091            | 0.008      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18R250-010 | R    | 2.5             | 0.098            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |
| TCS18L250-010 | L    | 2.5             | 0.098            | 0.004      | ●      |  |  |  |  |  |  |  |  |  |             |  |  | 0.138 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F046 - F052**, Standard cutting conditions → **F060**

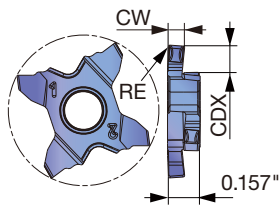
|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CDX (in) |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|----------|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |          |       |
| TCS18R250-020 | R    | 2.5          | 0.098         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCS18L250-020 | L    | 2.5          | 0.098         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCS18R250-030 | R    | 2.5          | 0.098         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18L250-030 | L    | 2.5          | 0.098         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18R265-030 | R    | 2.65         | 0.104         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18L265-030 | L    | 2.65         | 0.104         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18R280-030 | R    | 2.8          | 0.110         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18L280-030 | L    | 2.8          | 0.110         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18R300-010 | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCS18L300-010 | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCS18R300-020 | R    | 3            | 0.118         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCS18L300-020 | L    | 3            | 0.118         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCS18R300-030 | R    | 3            | 0.118         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCS18L300-030 | L    | 3            | 0.118         | 0.012   | ●      |  |  |  |  |          | 0.138 |

5 pieces per package  
● : Line up

### TCL18R/L (3D chipbreaker, honed edge)



Right-hand (R) shown.

|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

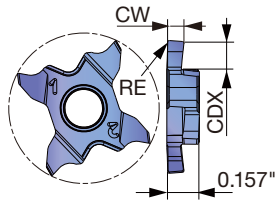
★ : First choice

| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CDX (in) |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|----------|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |          |       |
| TCL18R150-010 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCL18L150-010 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCL18R150-020 | R    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18L150-020 | L    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18R175-020 | R    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18L175-020 | L    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18R200-010 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCL18L200-010 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCL18R200-020 | R    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18L200-020 | L    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18R250-030 | R    | 2.5          | 0.098         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCL18L250-030 | L    | 2.5          | 0.098         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCL18R300-010 | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCL18L300-010 | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |          | 0.138 |
| TCL18R300-020 | R    | 3            | 0.118         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18L300-020 | L    | 3            | 0.118         | 0.008   | ●      |  |  |  |  |          | 0.138 |
| TCL18R300-030 | R    | 3            | 0.118         | 0.012   | ●      |  |  |  |  |          | 0.138 |
| TCL18L300-030 | L    | 3            | 0.118         | 0.012   | ●      |  |  |  |  |          | 0.138 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F046 - F052**, Standard cutting conditions → **F060**

# TCG18R/L (honed edge)



Right-hand (R) shown.

|          |                |   |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |

★ : First choice



| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  | CDX (in) |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|--|--|----------|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |  |  |          |       |
| TCG18R100-010 | R    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18L100-010 | L    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18R120-010 | R    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18L120-010 | L    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18R125-010 | R    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18L125-010 | L    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18R125-020 | R    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18L125-020 | L    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18R130-020 | R    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18L130-020 | L    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |  |  |          | 0.079 |
| TCG18R140-010 | R    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L140-010 | L    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R140-020 | R    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L140-020 | L    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R145-010 | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L145-010 | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R145-020 | R    | 1.45         | 0.057         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L145-020 | L    | 1.45         | 0.057         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R150-010 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L150-010 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R150-020 | R    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L150-020 | L    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R160-020 | R    | 1.6          | 0.063         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L160-020 | L    | 1.6          | 0.063         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R170-020 | R    | 1.7          | 0.067         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L170-020 | L    | 1.7          | 0.067         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R175-010 | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L175-010 | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R175-020 | R    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L175-020 | L    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R185-020 | R    | 1.85         | 0.073         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L185-020 | L    | 1.85         | 0.073         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R195-020 | R    | 1.95         | 0.077         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L195-020 | L    | 1.95         | 0.077         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R200-010 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L200-010 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R200-020 | R    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L200-020 | L    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R225-020 | R    | 2.25         | 0.089         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L225-020 | L    | 2.25         | 0.089         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R230-020 | R    | 2.3          | 0.091         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L230-020 | L    | 2.3          | 0.091         | 0.008   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18R250-010 | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |
| TCG18L250-010 | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |          | 0.138 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F046 - F052**, Standard cutting conditions → **F060**



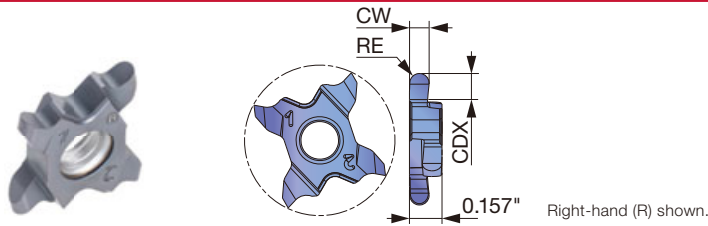
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|-------------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |             |
| TCG18R250-020 | R    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  | 0.138       |
| TCG18L250-020 | L    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  | 0.138       |
| TCG18R250-030 | R    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18L250-030 | L    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18R265-030 | R    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18L265-030 | L    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18R280-030 | R    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18L280-030 | L    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18R300-010 | R    | 3               | 0.118            | 0.004      | ●      |  |  |  |  | 0.138       |
| TCG18L300-010 | L    | 3               | 0.118            | 0.004      | ●      |  |  |  |  | 0.138       |
| TCG18R300-020 | R    | 3               | 0.118            | 0.008      | ●      |  |  |  |  | 0.138       |
| TCG18L300-020 | L    | 3               | 0.118            | 0.008      | ●      |  |  |  |  | 0.138       |
| TCG18R300-030 | R    | 3               | 0.118            | 0.012      | ●      |  |  |  |  | 0.138       |
| TCG18L300-030 | L    | 3               | 0.118            | 0.012      | ●      |  |  |  |  | 0.138       |

5 pieces per package  
● : Line up

### TCG18R/L (Full R, honed edge)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

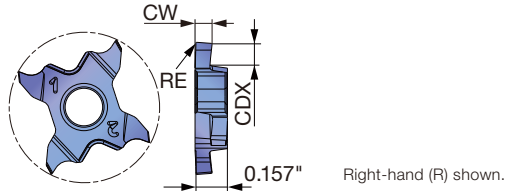
★ : First choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|-------------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |             |
| TCG18R100-050 | R    | 1               | 0.039            | 0.020      | ●      |  |  |  |  | 0.079       |
| TCG18L100-050 | L    | 1               | 0.039            | 0.020      | ●      |  |  |  |  | 0.079       |
| TCG18R158-079 | R    | 1.58            | 0.062            | 0.031      | ●      |  |  |  |  | 0.138       |
| TCG18L158-079 | L    | 1.58            | 0.062            | 0.031      | ●      |  |  |  |  | 0.138       |
| TCG18R200-100 | R    | 2               | 0.079            | 0.039      | ●      |  |  |  |  | 0.138       |
| TCG18L200-100 | L    | 2               | 0.079            | 0.039      | ●      |  |  |  |  | 0.138       |
| TCG18R239-120 | R    | 2.39            | 0.094            | 0.047      | ●      |  |  |  |  | 0.138       |
| TCG18L239-120 | L    | 2.39            | 0.094            | 0.047      | ●      |  |  |  |  | 0.138       |
| TCG18R300-150 | R    | 3               | 0.118            | 0.059      | ●      |  |  |  |  | 0.138       |
| TCG18L300-150 | L    | 3               | 0.118            | 0.059      | ●      |  |  |  |  | 0.138       |
| TCG18R318-159 | R    | 3.18            | 0.125            | 0.063      | ●      |  |  |  |  | 0.138       |
| TCG18L318-159 | L    | 3.18            | 0.125            | 0.063      | ●      |  |  |  |  | 0.138       |

5 pieces per package  
● : Line up



# TCP18R/L (lightly honed edge)



|   |                |   |
|---|----------------|---|
| P | Steel          | ★ |
| M | Stainless      | ★ |
| K | Cast iron      | ★ |
| N | Non-ferrous    |   |
| S | Superalloys    | ★ |
| H | Hard materials |   |

★ : First choice

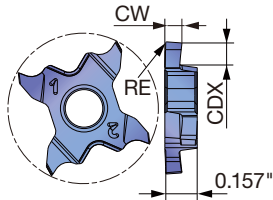


| Designation      | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) |
|------------------|------|--------------|---------------|---------|--------|--|----------|
|                  |      |              |               |         | AH725  |  |          |
| TCP18R033-005    | R    | 0.33         | 0.013         | 0.002   | ●      |  | 0.031    |
| TCP18L033-005    | L    | 0.33         | 0.013         | 0.002   | ●      |  | 0.031    |
| TCP18R043-005    | R    | 0.43         | 0.017         | 0.002   | ●      |  | 0.047    |
| TCP18L043-005    | L    | 0.43         | 0.017         | 0.002   | ●      |  | 0.047    |
| TCP18R050-005    | R    | 0.5          | 0.020         | 0.002   | ●      |  | 0.047    |
| TCP18L050-005    | L    | 0.5          | 0.020         | 0.002   | ●      |  | 0.047    |
| TCP18R075-005    | R    | 0.75         | 0.030         | 0.002   | ●      |  | 0.079    |
| TCP18L075-005    | L    | 0.75         | 0.030         | 0.002   | ●      |  | 0.079    |
| TCP18R095-005    | R    | 0.95         | 0.037         | 0.002   | ●      |  | 0.079    |
| TCP18L095-005    | L    | 0.95         | 0.037         | 0.002   | ●      |  | 0.079    |
| TCP18R100-010    | R    | 1            | 0.039         | 0.004   | ●      |  | 0.079    |
| TCP18L100-010    | L    | 1            | 0.039         | 0.004   | ●      |  | 0.079    |
| TCP18R120-010    | R    | 1.2          | 0.047         | 0.004   | ●      |  | 0.079    |
| TCP18L120-010    | L    | 1.2          | 0.047         | 0.004   | ●      |  | 0.079    |
| TCP18R125-010    | R    | 1.25         | 0.049         | 0.004   | ●      |  | 0.079    |
| TCP18L125-010    | L    | 1.25         | 0.049         | 0.004   | ●      |  | 0.079    |
| TCP18R140-010-35 | R    | 1.4          | 0.055         | 0.004   | ●      |  | 0.138    |
| TCP18L140-010-35 | L    | 1.4          | 0.055         | 0.004   | ●      |  | 0.138    |
| TCP18R145-010    | R    | 1.45         | 0.057         | 0.004   | ●      |  | 0.079    |
| TCP18L145-010    | L    | 1.45         | 0.057         | 0.004   | ●      |  | 0.079    |
| TCP18R145-010-35 | R    | 1.45         | 0.057         | 0.004   | ●      |  | 0.138    |
| TCP18L145-010-35 | L    | 1.45         | 0.057         | 0.004   | ●      |  | 0.138    |
| TCP18R150-010    | R    | 1.5          | 0.059         | 0.004   | ●      |  | 0.079    |
| TCP18L150-010    | L    | 1.5          | 0.059         | 0.004   | ●      |  | 0.079    |
| TCP18R150-010-35 | R    | 1.5          | 0.059         | 0.004   | ●      |  | 0.138    |
| TCP18L150-010-35 | L    | 1.5          | 0.059         | 0.004   | ●      |  | 0.138    |
| TCP18R175-010    | R    | 1.75         | 0.069         | 0.004   | ●      |  | 0.079    |
| TCP18L175-010    | L    | 1.75         | 0.069         | 0.004   | ●      |  | 0.079    |
| TCP18R175-010-35 | R    | 1.75         | 0.069         | 0.004   | ●      |  | 0.138    |
| TCP18L175-010-35 | L    | 1.75         | 0.069         | 0.004   | ●      |  | 0.138    |
| TCP18R200-010    | R    | 2            | 0.079         | 0.004   | ●      |  | 0.098    |
| TCP18L200-010    | L    | 2            | 0.079         | 0.004   | ●      |  | 0.098    |
| TCP18R200-010-35 | R    | 2            | 0.079         | 0.004   | ●      |  | 0.138    |
| TCP18L200-010-35 | L    | 2            | 0.079         | 0.004   | ●      |  | 0.138    |
| TCP18R250-010    | R    | 2.5          | 0.098         | 0.004   | ●      |  | 0.098    |
| TCP18L250-010    | L    | 2.5          | 0.098         | 0.004   | ●      |  | 0.098    |
| TCP18R250-010-35 | R    | 2.5          | 0.098         | 0.004   | ●      |  | 0.138    |
| TCP18L250-010-35 | L    | 2.5          | 0.098         | 0.004   | ●      |  | 0.138    |
| TCP18R300-010    | R    | 3            | 0.118         | 0.004   | ●      |  | 0.098    |
| TCP18L300-010    | L    | 3            | 0.118         | 0.004   | ●      |  | 0.098    |
| TCP18R300-010-35 | R    | 3            | 0.118         | 0.004   | ●      |  | 0.138    |
| TCP18L300-010-35 | L    | 3            | 0.118         | 0.004   | ●      |  | 0.138    |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F046 - F052**, Standard cutting conditions → **F060**

# TCP18R/L-F (sharp edge)



Right-hand (R) shown.

|   |                |   |
|---|----------------|---|
| P | Steel          | ★ |
| M | Stainless      | ★ |
| K | Cast iron      | ★ |
| N | Non-ferrous    |   |
| S | Superalloys    | ★ |
| H | Hard materials |   |

★ : First choice

| Designation       | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) |
|-------------------|------|--------------|---------------|---------|--------|--|----------|
|                   |      |              |               |         | SH725  |  |          |
| TCP18R033F-005    | R    | 0.33         | 0.013         | 0.002   | ●      |  | 0.031    |
| TCP18L033F-005    | L    | 0.33         | 0.013         | 0.002   | ●      |  | 0.031    |
| TCP18R043F-005    | R    | 0.43         | 0.017         | 0.002   | ●      |  | 0.047    |
| TCP18L043F-005    | L    | 0.43         | 0.017         | 0.002   | ●      |  | 0.047    |
| TCP18R050F-005    | R    | 0.5          | 0.020         | 0.002   | ●      |  | 0.047    |
| TCP18L050F-005    | L    | 0.5          | 0.020         | 0.002   | ●      |  | 0.047    |
| TCP18R075F-005    | R    | 0.75         | 0.030         | 0.002   | ●      |  | 0.079    |
| TCP18L075F-005    | L    | 0.75         | 0.030         | 0.002   | ●      |  | 0.079    |
| TCP18R095F-005    | R    | 0.95         | 0.037         | 0.002   | ●      |  | 0.079    |
| TCP18L095F-005    | L    | 0.95         | 0.037         | 0.002   | ●      |  | 0.079    |
| TCP18R100F-005    | R    | 1            | 0.039         | 0.002   | ●      |  | 0.079    |
| TCP18R100F-010    | R    | 1            | 0.039         | 0.004   | ●      |  | 0.079    |
| TCP18L100F-010    | L    | 1            | 0.039         | 0.004   | ●      |  | 0.079    |
| TCP18R120F-005    | R    | 1.2          | 0.047         | 0.002   | ●      |  | 0.079    |
| TCP18R120F-010    | R    | 1.2          | 0.047         | 0.004   | ●      |  | 0.079    |
| TCP18L120F-010    | L    | 1.2          | 0.047         | 0.004   | ●      |  | 0.079    |
| TCP18R125F-005    | R    | 1.25         | 0.049         | 0.002   | ●      |  | 0.079    |
| TCP18R125F-010    | R    | 1.25         | 0.049         | 0.004   | ●      |  | 0.079    |
| TCP18L125F-010    | L    | 1.25         | 0.049         | 0.004   | ●      |  | 0.079    |
| TCP18R140F-010-35 | R    | 1.4          | 0.055         | 0.004   | ●      |  | 0.138    |
| TCP18R145F-005-35 | R    | 1.45         | 0.057         | 0.002   | ●      |  | 0.138    |
| TCP18R145F-010    | R    | 1.45         | 0.057         | 0.004   | ●      |  | 0.079    |
| TCP18L145F-010    | L    | 1.45         | 0.057         | 0.004   | ●      |  | 0.079    |
| TCP18R145F-010-35 | R    | 1.45         | 0.057         | 0.004   | ●      |  | 0.138    |
| TCP18L145F-010-35 | L    | 1.45         | 0.057         | 0.004   | ●      |  | 0.138    |
| TCP18R150F-005-35 | R    | 1.5          | 0.059         | 0.002   | ●      |  | 0.138    |
| TCP18R150F-010    | R    | 1.5          | 0.059         | 0.004   | ●      |  | 0.079    |
| TCP18L150F-010    | L    | 1.5          | 0.059         | 0.004   | ●      |  | 0.079    |
| TCP18R150F-010-35 | R    | 1.5          | 0.059         | 0.004   | ●      |  | 0.138    |
| TCP18L150F-010-35 | L    | 1.5          | 0.059         | 0.004   | ●      |  | 0.138    |
| TCP18R175F-005-35 | R    | 1.75         | 0.069         | 0.002   | ●      |  | 0.138    |
| TCP18R175F-010    | R    | 1.75         | 0.069         | 0.004   | ●      |  | 0.079    |
| TCP18L175F-010    | L    | 1.75         | 0.069         | 0.004   | ●      |  | 0.079    |
| TCP18R175F-010-35 | R    | 1.75         | 0.069         | 0.004   | ●      |  | 0.138    |
| TCP18L175F-010-35 | L    | 1.75         | 0.069         | 0.004   | ●      |  | 0.138    |
| TCP18R200F-005-35 | R    | 2            | 0.079         | 0.002   | ●      |  | 0.138    |
| TCP18R200F-010    | R    | 2            | 0.079         | 0.004   | ●      |  | 0.098    |
| TCP18L200F-010    | L    | 2            | 0.079         | 0.004   | ●      |  | 0.098    |
| TCP18R200F-010-35 | R    | 2            | 0.079         | 0.004   | ●      |  | 0.138    |
| TCP18L200F-010-35 | L    | 2            | 0.079         | 0.004   | ●      |  | 0.138    |
| TCP18R250F-010    | R    | 2.5          | 0.098         | 0.004   | ●      |  | 0.098    |
| TCP18L250F-010    | L    | 2.5          | 0.098         | 0.004   | ●      |  | 0.098    |
| TCP18R250F-010-35 | R    | 2.5          | 0.098         | 0.004   | ●      |  | 0.138    |
| TCP18L250F-010-35 | L    | 2.5          | 0.098         | 0.004   | ●      |  | 0.138    |
| TCP18R300F-010    | R    | 3            | 0.118         | 0.004   | ●      |  | 0.098    |
| TCP18L300F-010    | L    | 3            | 0.118         | 0.004   | ●      |  | 0.098    |
| TCP18R300F-010-35 | R    | 3            | 0.118         | 0.004   | ●      |  | 0.138    |
| TCP18L300F-010-35 | L    | 3            | 0.118         | 0.004   | ●      |  | 0.138    |

5 pieces per package  
● : Line up

Reference pages: Toolholders → F046 - F052, Standard cutting conditions → F060

# STANDARD CUTTING CONDITIONS

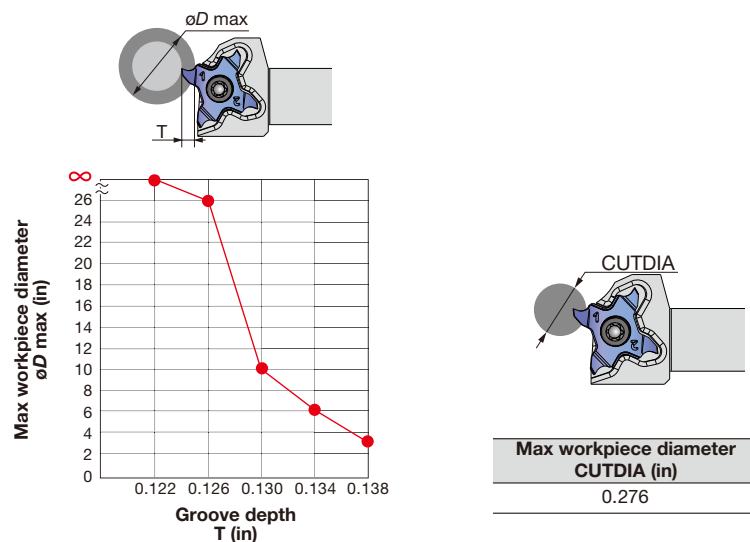
TCS18R/L, TCL18R/L (3D chipbreaker), TCG18R/L (honed edge), TCG18R/L (Full R)

| ISO | Workpiece materials                           | Grade  | Cutting speed<br>Vc (sfm) | Feed: f (ipr) |               |               |
|-----|---|--------|---------------------------|---------------|---------------|---------------|
|     |   |        |                           | TCL18         | TCS18         | TCG18         |
| P   | Low carbon steel<br>1015, etc.                | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Carbon steel, Alloy steel<br>1055, 4140, etc. | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Prehardened steel<br>NAK80, PX5, etc.         | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
| M   | Stainless steel<br>304, 316, etc.             | AH7025 | 164 - 394                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
| K   | Gray cast iron<br>No.250B, No.300B, etc.      | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Ductile cast iron<br>60-40-18, etc.           | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.            | AH7025 | 98 - 197                  | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Superalloys<br>Inconel718, etc.               | AH7025 | 66 - 131                  | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |

TCP18R/L (lightly honed edge), TCP18R/L-F (sharp edge)

| ISO       | Workpiece materials                           | Priority                            | Grades       | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|-----------|---|-------------------------------------|--------------|---------------------------|-----------------|
| P         | Low carbon steel<br>1015, etc.                | First choice                        | SH725        | 262 - 591                 | 0.001 - 0.004   |
|           |   | Toughness                           | AH725        | 262 - 591                 | 0.001 - 0.004   |
|           | Carbon steel, Alloy steel<br>1055, 4140, etc. | First choice                        | SH725        | 262 - 591                 | 0.001 - 0.004   |
|           |   | Toughness                           | AH725        | 262 - 591                 | 0.001 - 0.004   |
| M         | Stainless steel<br>304, 316, etc.             | First choice                        | SH725        | 164 - 394                 | 0.001 - 0.004   |
|           |   | Toughness                           | AH725        | 164 - 394                 | 0.001 - 0.004   |
| K         | Gray cast iron<br>No.250B, No.300B, etc.      | First choice                        | AH725        | 164 - 591                 | 0.001 - 0.004   |
|           |   | Sharpness                           | SH725        | 164 - 591                 | 0.001 - 0.004   |
|           | S   | Ductile cast iron<br>60-40-18, etc. | First choice | AH725                     | 164 - 591       |
| Sharpness |   |                                     | SH725        | 164 - 591                 | 0.001 - 0.004   |
| S         | Titanium alloys<br>Ti-6Al-4V, etc.            | First choice                        | SH725        | 98 - 262                  | 0.001 - 0.004   |
|           |   | Toughness                           | AH725        | 98 - 262                  | 0.001 - 0.004   |
|           |   | Superalloys<br>Inconel718, etc.     | First choice | AH725                     | 66 - 131        |

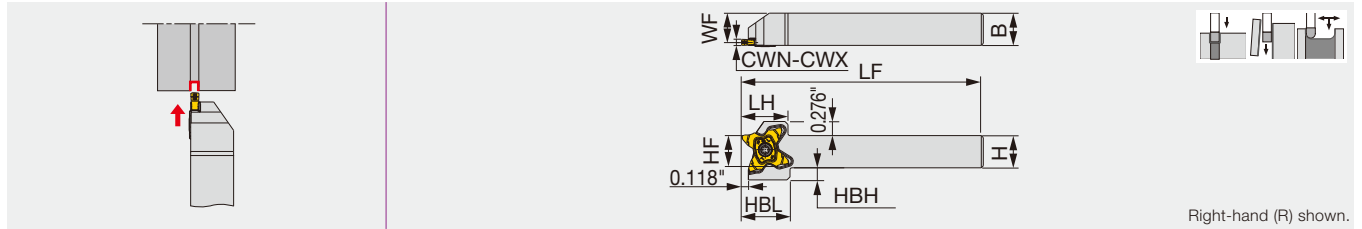
## Precautions of processing



\*Groove depth and max workpiece diameter (øDmax)

Maximum workpiece diameter is limited relative to depth of cut in order to avoid collision between insert and workpiece.

### External toolholders for grooving, parting



| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF    | HBH   | Insert   | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|
| STCR/L06-27 | 0.020 | 0.125 | 0.375 | 0.375 | 5.000 | 0.906 | 0.945 | 0.375 | 0.315 | 0.374 | TC*27... | 1.84   |
| STCR/L08-27 | 0.020 | 0.125 | 0.500 | 0.500 | 5.000 | 0.906 | 0.945 | 0.500 | 0.440 | 0.287 | TC*27... | 1.84   |
| STCR/L10-27 | 0.020 | 0.125 | 0.625 | 0.625 | 5.000 | 0.906 | 0.945 | 0.625 | 0.570 | 0.236 | TC*27... | 1.84   |
| STCR/L12-27 | 0.020 | 0.125 | 0.750 | 0.750 | 5.000 | 0.906 | 0.945 | 0.750 | 0.690 | 0.118 | TC*27... | 1.84   |
| STCR/L16-27 | 0.020 | 0.125 | 1.000 | 1.000 | 5.500 | 0.906 | -     | 1.000 | 0.940 | -     | TC*27... | 1.84   |

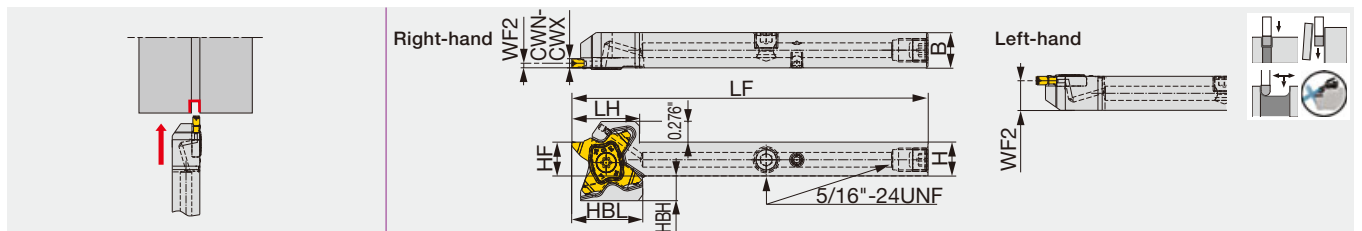
| Metric        | CWN | CWX  | H  | B  | LF  | LH | HBL | HF | WF   | HBH | Insert   | Torque* |
|---------------|-----|------|----|----|-----|----|-----|----|------|-----|----------|---------|
| STCR/L1010-27 | 0.5 | 3.18 | 10 | 10 | 120 | 23 | 24  | 10 | 8.5  | 9.5 | TC*27... | 2.5     |
| STCR/L1212-27 | 0.5 | 3.18 | 12 | 12 | 120 | 23 | 24  | 12 | 10.5 | 8   | TC*27... | 2.5     |
| STCR/L1616-27 | 0.5 | 3.18 | 16 | 16 | 120 | 23 | 24  | 16 | 14.5 | 6   | TC*27... | 2.5     |
| STCR/L2020-27 | 0.5 | 3.18 | 20 | 20 | 120 | 23 | 24  | 20 | 18.5 | 2   | TC*27... | 2.5     |
| STCR/L2525-27 | 0.5 | 3.18 | 25 | 25 | 135 | 23 | -   | 25 | 23.5 | -   | TC*27... | 2.5     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

### STCR/L-27-CHP

Direct connection

Grooving and parting-off toolholder. High pressure coolant capability.



| Inch            | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF2 <sup>(1)</sup> | HBH   | HBL   | Insert   | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|-------|----------|--------|
| STCR/L08-27-CHP | 0.020 | 0.125 | 0.500 | 0.500 | 4.750 | 0.906 | 0.500 | 0.059/0.441        | 0.287 | 0.945 | TC*27... | 1.84   |

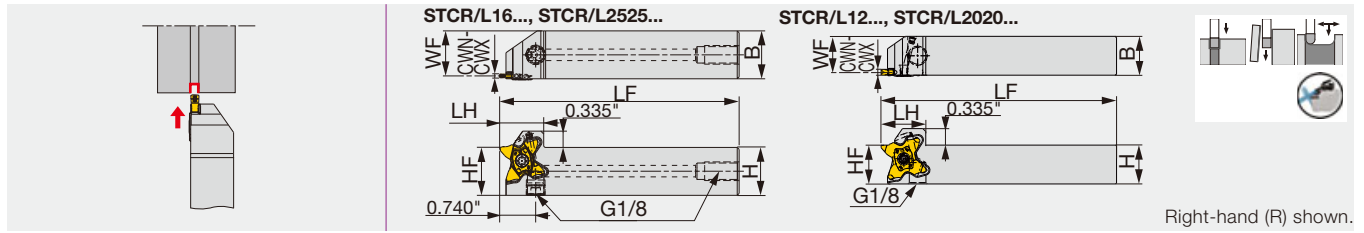
| Metric            | CWN | CWX  | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | HBH | HBL | Insert   | Torque* |
|-------------------|-----|------|----|----|-----|----|----|--------------------|-----|-----|----------|---------|
| STCR/L1212-27-CHP | 0.5 | 3.18 | 12 | 12 | 120 | 23 | 12 | 1.5/10.5           | 8   | 24  | TC*27... | 2.5     |

- Make sure to avoid tool interferences when used on Swiss machines  
 (1) The above WF2 value is valid when an insert width of CW = 0.118" (3 mm) is mounted.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation   | Screw           | Wrench   | Coolant plug   | Wrench | DirectJet plug | Wrench |
|---------------|-----------------|----------|----------------|--------|----------------|--------|
| STCR**-27     | SR16-212-01397L | T-2010/5 | -              | -      | -              | -      |
| STCL**-27     | SR16-212-01397  | T-2010/5 | -              | -      | -              | -      |
| STCR**-27-CHP | SR16-212-01397L | T-2010/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| STCL**-27-CHP | SR16-212-01397  | T-2010/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |

External grooving and parting toolholder, with high pressure coolant capability



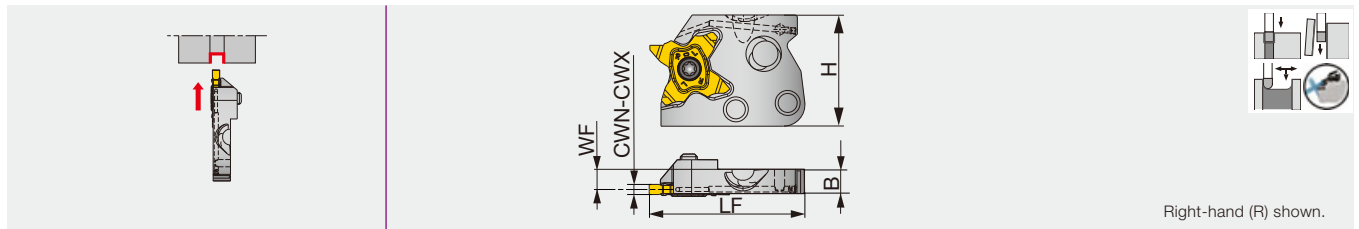
Right-hand (R) shown.

| Inch              | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | Insert   | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---------|
| STCR/L12-27-CHP   | 0.020 | 0.125 | 0.750 | 0.750 | 5.000 | 0.906 | 0.750 | 0.690 | TC*27... | 1.84    |
| STCR/L16-27-CHP   | 0.020 | 0.125 | 1.000 | 1.000 | 4.920 | 0.906 | 1.000 | 0.940 | TC*27... | 1.84    |
| Metric            | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | Insert   | Torque* |
| STCR/L2020-27-CHP | 0.5   | 3.18  | 20    | 20    | 120   | 23    | 20    | 18.5  | TC*27... | 2.5     |
| STCR/L2525-27-CHP | 0.5   | 3.18  | 25    | 25    | 125   | 23    | 25    | 23.5  | TC*27... | 2.5     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

### STCAR/L27-CHP

External grooving and parting adapter, with high pressure coolant capability



Right-hand (R) shown.

| Metric        | CWN | CWX  | WF | H  | LF | B   | Insert   | Torque |
|---------------|-----|------|----|----|----|-----|----------|--------|
| STCAR/L27-CHP | 0.5 | 3.18 | 6  | 33 | 46 | 7.2 | TC*27... | 2.5    |

Torque: Recommended clamping torque: N·m

### SPARE PARTS



| Designation   | Screw           | Wrench   |
|---------------|-----------------|----------|
| STCR**-27-CHP | SR16-212-01397L | T-2010/5 |
| STCL**-27-CHP | SR16-212-01397  | T-2010/5 |
| STCAR27-CHP   | SR16-212-01397L | T-2010/5 |
| STCAL27-CHP   | SR16-212-01397  | T-2010/5 |

Reference pages: STCR/L-27-CHP: Inserts → **F067 - F071**, Standard cutting conditions → **F072**

Parts for coolant hose → **F290**

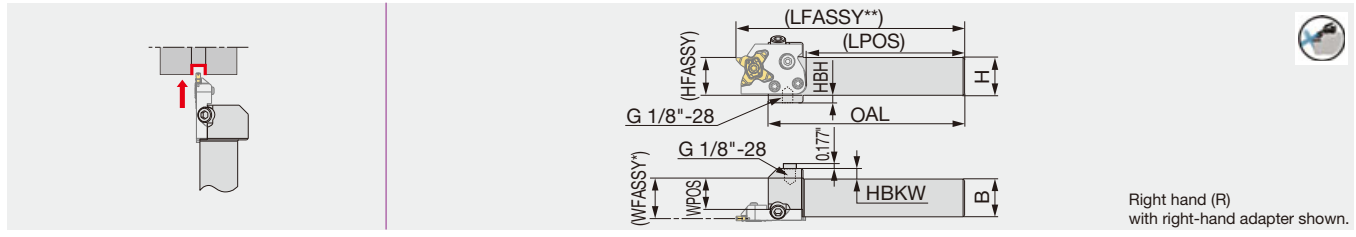
STCAR/L27-CHP: Inserts → **F067 - F071**, Shanks and toolholders → **F063 - F065**

Standard cutting conditions → **F072**, Technical Reference → **L059**

# CHSR/L-CHP

Tube connection

Shank for adapter, with high pressure coolant capability



| Inch         | H     | B     | OAL   | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque |
|--------------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|--------|
| CHSR/L12-CHP | 0.750 | 0.750 | 5.000 | 4.035 | 0.560 | 0.510 | 0.750  | 0.190 | STCAR/L27-CHP    | 3.69   |
| CHSR/L16-CHP | 1.000 | 1.000 | 5.000 | 4.035 | 0.810 | 0.260 | 1.000  | 0.200 | STCAR/L27-CHP    | 3.69   |

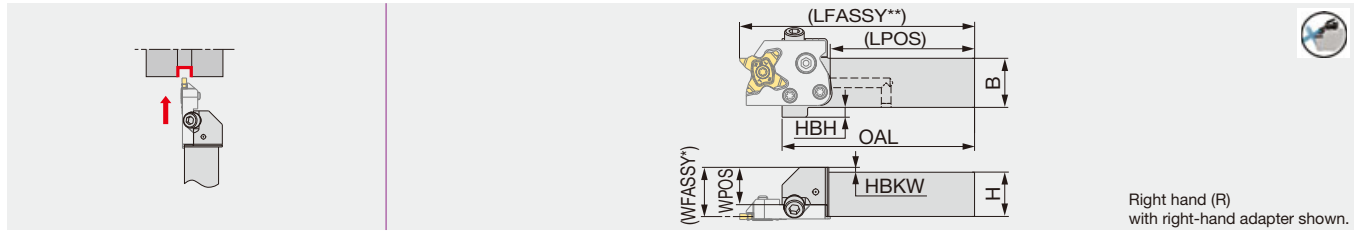
| Metric         | H  | B  | OAL | LPOS  | WPOS | HBKW | HFASSY | HBH | Adapter (Option) | Torque* |
|----------------|----|----|-----|-------|------|------|--------|-----|------------------|---------|
| CHSR/L2020-CHP | 20 | 20 | 130 | 105.5 | 15.1 | 12   | 20     | 10  | STCAR/L27-CHP    | 6.5     |
| CHSR/L2525-CHP | 25 | 25 | 130 | 105.5 | 20.1 | 7    | 25     | 5   | STCAR/L27-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

# CHSR/L-CHP-MC

Direct connection

Shank for adapter, with high pressure coolant capability



| Metric            | H  | B  | OAL | LPOS | WPOS | HBKW | HBH | Adapter (Option) | Torque |
|-------------------|----|----|-----|------|------|------|-----|------------------|--------|
| CHSR/L2020-CHP-MC | 20 | 20 | 98  | 73.5 | 14   | 6    | 10  | STCAR/L27-CHP    | 6.5    |
| CHSR/L2525-CHP-MC | 25 | 25 | 98  | 73.5 | 19   | -    | 5   | STCAR/L27-CHP    | 6.5    |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

| SPARE PARTS    | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|----------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHSR/L*-CHP    | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |
| CHSR/L*-CHP-MC | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | -               |

| Recommended clamping torque (lbs-ft, N·m) |                 |              |
|---|-----------------|--------------|
| Clamping screw                            | Torque (lbs-ft) | Torque (N·m) |
| SR M5-04451                               | 1.84            | 2.5          |
| SR M6X12DIN6912                           | 4.79            | 6.5          |
| SR M6X20-XT                               | 4.79            | 6.5          |

| Shank            | Adapter     |             |
|------------------|-------------|-------------|
|                  | STCAR27-CHP | STCAL27-CHP |
| CHSR**-CHP (-MC) | ●           |             |
| CHSL**-CHP (-MC) |             | ●           |
| CHFVR**-CHP      |             | ●           |
| CHFVL**-CHP      | ●           |             |

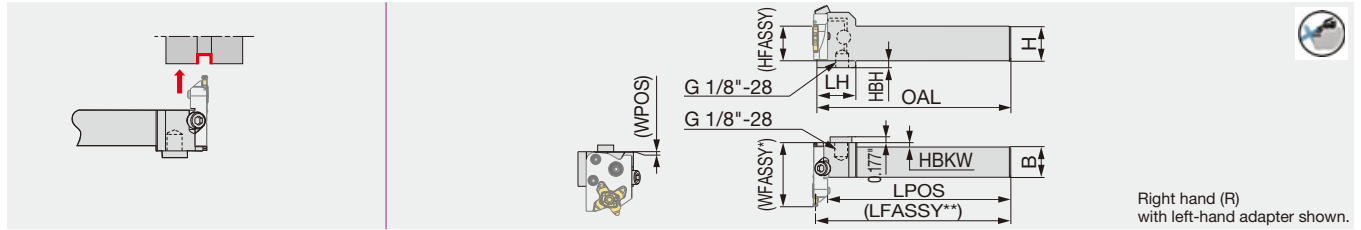
● : Corresponding

Reference pages: Inserts → F067 - F071, Adapters → F062, Standard cutting conditions → F072  
 Parts for coolant hose → F290, Technical Reference → L059

Grade  
 Insert  
 Ext. Toolholder  
 Int. Toolholder  
 Threading  
 Grooving  
 Miniature tool  
 Milling cutter  
 Endmill  
 Drilling tool  
 Tooling System  
 User's Guide  
 Index



Shank for perpendicularly-mounted adapter, with high pressure coolant capability



Right hand (R)  
with left-hand adapter shown.

| Inch          | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque |
|---------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|--------|
| CHFVR/L12-CHP | 0.750 | 0.750 | 5.500 | 1.100 | 5.307 | 0.020 | 0.234 | 0.750  | 0.431 | STCAL/R27-CHP    | 3.69   |
| CHFVR/L16-CHP | 1.000 | 1.000 | 5.500 | 1.100 | 5.307 | 0.020 | -     | 1.000  | 0.200 | STCAL/R27-CHP    | 3.69   |

| Metric          | H  | B  | OAL | LH | LPOS  | WPOS | HBKW | HFASSY | HBH | Adapter (Option) | Torque* |
|-----------------|----|----|-----|----|-------|------|------|--------|-----|------------------|---------|
| CHFVR/L2020-CHP | 20 | 20 | 140 | 28 | 135.1 | 0.5  | 5    | 20     | 10  | STCAL/R27-CHP    | 6.5     |
| CHFVR/L2525-CHP | 25 | 25 | 140 | 28 | 135.1 | 0.5  | 0    | 25     | 5   | STCAL/R27-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHFVR/L...  | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |

### Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

### Combination of adapter and shank

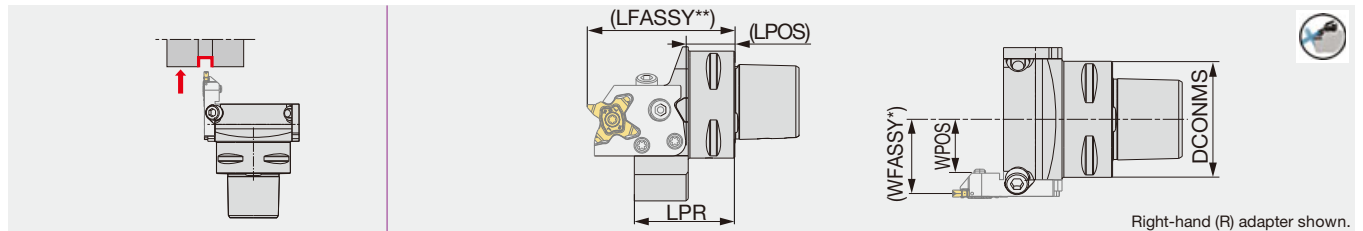
| Shank            | Adapter     |             |
|------------------|-------------|-------------|
|                  | STCAR27-CHP | STCAL27-CHP |
| CHSR**-CHP (-MC) | ●           |             |
| CHSL**-CHP (-MC) |             | ●           |
| CHFVR**-CHP      |             | ●           |
| CHFVL**-CHP      | ●           |             |

● : Corresponding

## C\*CHSN-CHP

Direct connection

Toolholder with TungCap connection, for adapter, with high pressure coolant capability



| Metric          | DCONMS | LPR  | LPOS | WPOS | Adapter (Option) | Torque |
|-----------------|--------|------|------|------|------------------|--------|
| C3CHSN19045-CHP | 32     | 45   | 17.5 | 18.5 | STCAR/L27-CHP    | 6.5    |
| C4CHSN21047-CHP | 40     | 46.5 | 21.5 | 21   | STCAR/L27-CHP    | 6.5    |
| C5CHSN26047-CHP | 50     | 47   | 22.5 | 26   | STCAR/L27-CHP    | 6.5    |
| C6CHSN33050-CHP | 63     | 50   | 24.5 | 32.5 | STCAR/L27-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (WF)

LFASSY\*\* : Toolholder (LPOS) + adapter (LF)

The LFASSY or WFASSY value may change depending on the adapter type.

Torque: Recommended clamping torque: N·m

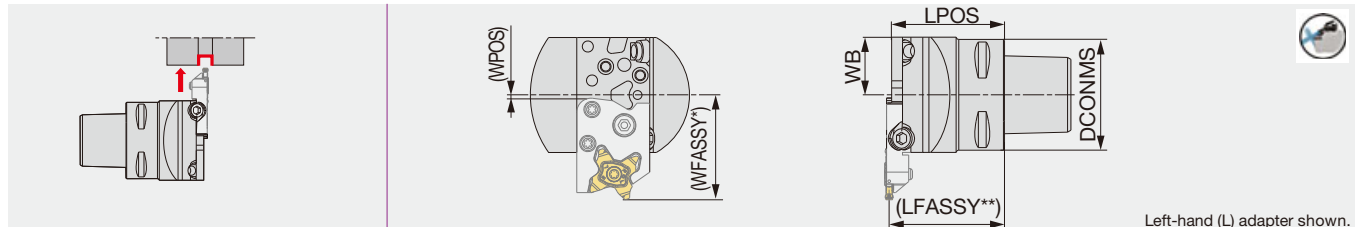
Applicable for 30 MPa coolant

Please see page L059 for instructions on installing and removing the adapter or the insert.

## C\*CHFVN-CHP

Direct connection

Toolholder with TungCap connection, for perpendicularly-mounted adapter, with high pressure coolant capability



| Metric           | DCONMS | LPOS | WB | WPOS | Adapter (Option) | Torque |
|------------------|--------|------|----|------|------------------|--------|
| C3CHFVN26040-CHP | 32     | 40   | 26 | 1.5  | STCAR/L27-CHP    | 6.5    |
| C4CHFVN26046-CHP | 40     | 46   | 26 | 1.5  | STCAR/L27-CHP    | 6.5    |
| C5CHFVN26046-CHP | 50     | 46   | 26 | 1.5  | STCAR/L27-CHP    | 6.5    |
| C6CHFVN33046-CHP | 63     | 46   | 33 | 8.5  | STCAR/L27-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (LF)

LFASSY\*\* : Toolholder (LPOS) + adapter (WF)

The LFASSY or WFASSY value may change depending on the adapter type.

Torque: Recommended clamping torque: N·m

Applicable for 30 MPa coolant

Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation  | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  |
|--------------|------------------|----------|------------------|------------------|----------|---------|
| C*CH**N*-CHP | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N |

### Recommended clamping torque (N·m)

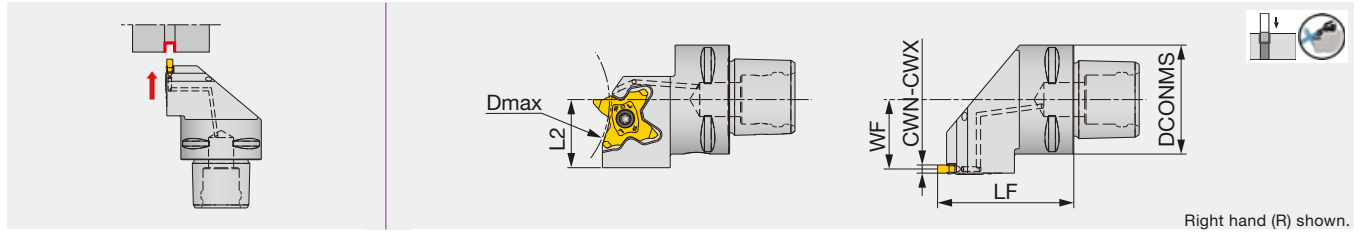
| Clamping screw  | Torque (N·m) |
|-----------------|--------------|
| SR M5-04451     | 2.5          |
| SR M6X12DIN6912 | 6.5          |
| SR M6X20-XT     | 6.5          |

Reference pages: Inserts → F067 - F071, Adapters → F062, Standard cutting conditions → F072  
 Technical Reference → L059

# TETRAFORCE

## C-STCR/L-27-CHP

External grooving toolholder, with high pressure coolant capability



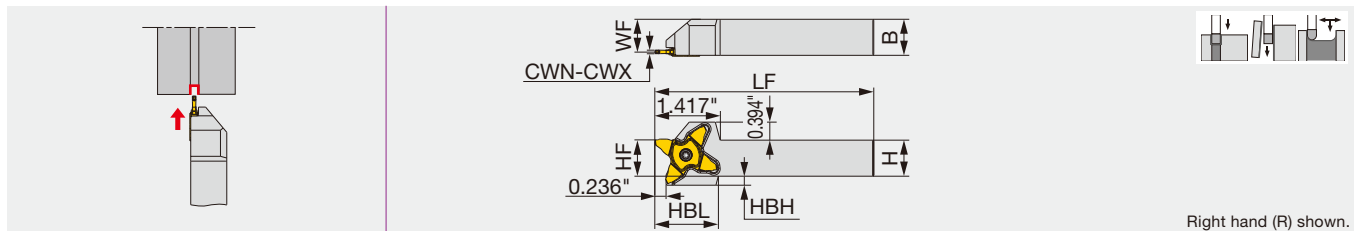
| Metric               | CWN | CWX  | DCONMS | LF | L2 | WF   | Dmax              | Insert      | Torque |
|----------------------|-----|------|--------|----|----|------|-------------------|-------------|--------|
| C4STCR/L27050-27-CHP | 0.5 | 3.18 | 40     | 50 | 25 | 25.5 | 68 <sup>(1)</sup> | TC*27R/L... | 2.5    |

Applicable for 14 MPa coolant  
 (1) The value for 6.4 mm groove depth.  $D_{max}$  varies according to the grooving depth required.  
 Torque: Recommended clamping torque: N·m



## STCR/L-38

External grooving and parting toolholder



| Inch        | CWN   | CWX   | H     | B     | LF    | HF    | WF    | HBH   | HBL   | Insert   | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|
| STCR/L12-38 | 0.059 | 0.157 | 0.750 | 0.750 | 5.000 | 0.750 | 0.670 | 0.234 | 1.378 | TCL38... | 1.84   |
| STCR/L16-38 | 0.059 | 0.157 | 1.000 | 1.000 | 5.500 | 1.000 | 0.920 | -     | -     | TCL38... | 1.84   |
| STCR/L20-38 | 0.059 | 0.157 | 1.250 | 1.250 | 5.500 | 1.250 | 1.170 | -     | -     | TCL38... | 1.84   |

| Metric        | CWN | CWX | H  | B  | LF  | HF | WF   | HBH | HBL | Insert   | Torque* |
|---------------|-----|-----|----|----|-----|----|------|-----|-----|----------|---------|
| STCR/L2020-38 | 1.5 | 4   | 20 | 20 | 120 | 20 | 18.1 | 5   | 35  | TCL38... | 2.5     |
| STCR/L2525-38 | 1.5 | 4   | 25 | 25 | 135 | 25 | 23.1 | -   | -   | TCL38... | 2.5     |
| STCR/L3232-38 | 1.5 | 4   | 32 | 32 | 135 | 32 | 30.1 | -   | -   | TCL38... | 2.5     |

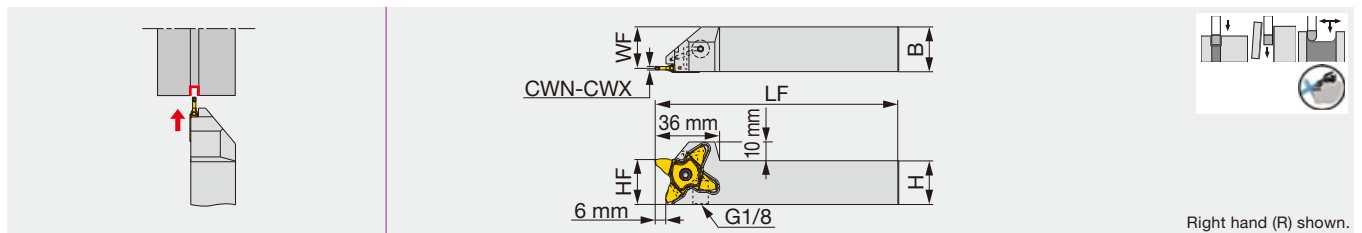
Torque: Recommended clamping torque: lbs-ft (\*N·m)



## STCR/L-38-CHP

Tube connection

External grooving and parting toolholder, with high pressure coolant capability



| Metric            | CWN | CWX | H  | B  | LF  | HF | WF   | Insert   | Torque |
|-------------------|-----|-----|----|----|-----|----|------|----------|--------|
| STCR/L2525-38-CHP | 1.5 | 4   | 25 | 25 | 135 | 25 | 23.1 | TCL38... | 2.5    |

Torque: Recommended clamping torque: N·m

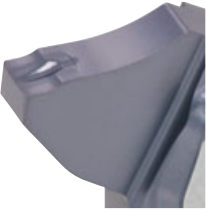
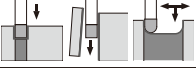
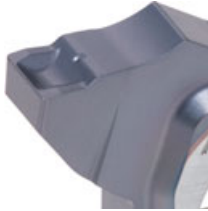
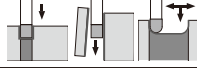
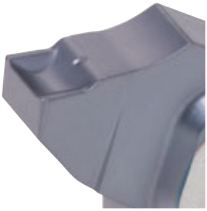
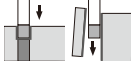

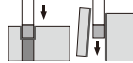
### SPARE PARTS

| Designation        | Screw           | Wrench   |
|--------------------|-----------------|----------|
| C4STCR27050-27-CHP | SR16-212-01397L | T-2010/5 |
| C4STCL27050-27-CHP | SR16-212-01397  | T-2010/5 |
| STCR...            | SR16-212-01397L | T-2010/5 |
| STCL...            | SR16-212-01397  | T-2010/5 |

Reference pages: Inserts → **F067 - F071**, Standard cutting conditions → **F072**  
 Parts for coolant hose → **F290**

# CHIPBREAKER GUIDE

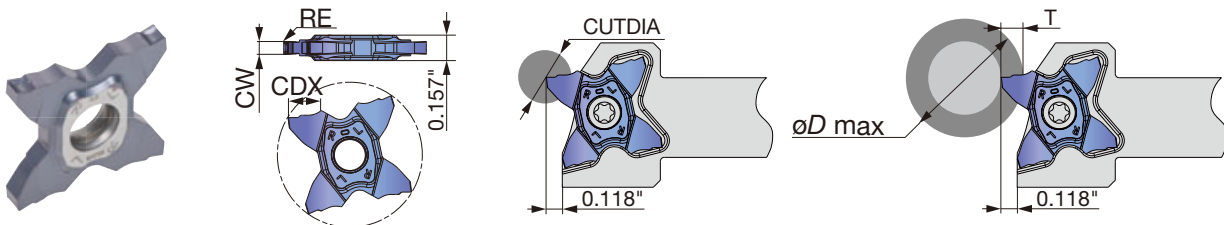
## External grooving and parting

|   |  |  |  |
|---|--|--|--|
| <p><b>TCS27 (4 corners)</b></p>  <p>F068, F069</p> | <p><b>First choice for grooving</b></p> <p>For general machining<br/>Lower cutting force and superior sharpness<br/>CW = 0.020" - 0.125"<br/>CDX = 0.252"</p>               | <p><b>TCM27 (4 corners)</b></p>  <p>F070, F071</p> | <p><b>For higher efficiency</b></p> <p>For high feed machining<br/>Well-designed edge with high strength and fracture resistance<br/>CW = 0.059" - 0.125"<br/>CDX = 0.252"</p>  |
| <p><b>TCL27 (4 corners)</b></p>  <p>F067</p>       | <p><b>For lighter cutting action</b></p> <p>Extremely sharp cutting edge<br/>A large dimple geometry eliminates chip jamming<br/>CW = 0.059" - 0.118"<br/>CDX = 0.252"</p>  | <p><b>TCL38 (4 corners)</b></p>  <p>F071</p>       | <p><b>For lighter cutting action</b></p> <p>Sharp edge for light cutting action<br/>Excellent chip control at low feeds<br/>CW = 0.059" - 0.157"<br/>CDX = 0.394"</p>           |

Please see page F\*\*\* for the product details.

## INSERTS

### TCL27 (for grooving and parting off)



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice

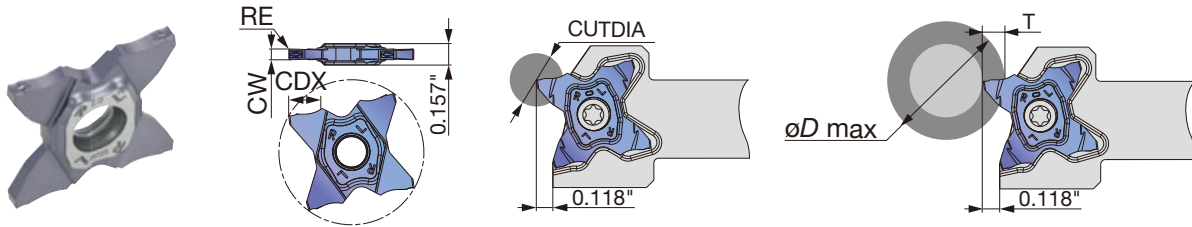
| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | CUTDIA (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |
|---------------|--------------|---------------|---------|--------|--|----------|-------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|               |              |               |         | AH725  |  |          |             | T (in)   |         |         |         |         |         |         |         |         |         |
|               |              |               |         |        |  |          |             | T≤0.118  | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |
| TCL27-150-015 | 1.5          | 0.059         | 0.006   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCL27-200-020 | 2            | 0.079         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCL27-250-020 | 2.5          | 0.098         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCL27-300-020 | 3            | 0.118         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |

5 pieces per package

● : Line up

Reference pages: Toolholders → **F061 - F066**, Standard cutting conditions → **F072**

# TCS27 (for grooving and parting off)



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice

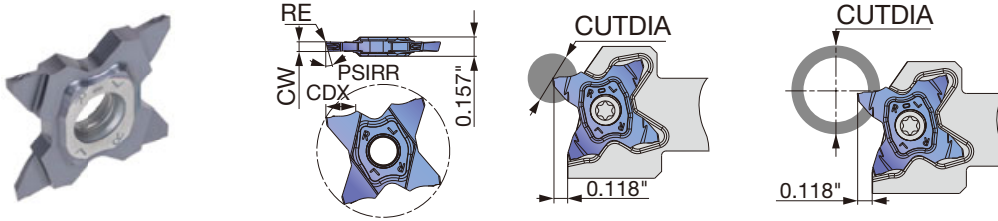
| Designation   | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) | CUTDIA<br>(in) | Relation of groove depth (T) and Max. diameter (øD max)<br>(in) |         |         |         |         |         |         |         |         |         |   |
|---------------|-----------------|------------------|------------|--------|--|-------------|----------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
|               |                 |                  |            | AH725  |  |             |                | T≤0.118   | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |   |
|               |                 |                  |            |        |  |             |                |   |         |         |         |         |         |         |         |         |         |   |
| TCS27-050-000 | 0.5             | 0.020            | 0          | ●      |  | 0.039       | 0.079          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-050-004 | 0.5             | 0.020            | 0.002      | ●      |  | 0.098       | 0.197          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-075-010 | 0.75            | 0.030            | 0.004      | ●      |  | 0.098       | 0.197          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-080-000 | 0.8             | 0.031            | 0          | ●      |  | 0.063       | 0.126          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-100-006 | 1               | 0.039            | 0.002      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-100-010 | 1               | 0.039            | 0.004      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-104-000 | 1.04            | 0.041            | 0          | ●      |  | 0.079       | 0.157          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-120-000 | 1.2             | 0.047            | 0          | ●      |  | 0.079       | 0.157          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-125-010 | 1.25            | 0.049            | 0.004      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-125-020 | 1.25            | 0.049            | 0.008      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-140-000 | 1.4             | 0.055            | 0          | ●      |  | 0.079       | 0.157          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-147-000 | 1.47            | 0.058            | 0          | ●      |  | 0.098       | 0.197          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-150-010 | 1.5             | 0.059            | 0.004      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-150-020 | 1.5             | 0.059            | 0.008      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-157-015 | 1.57            | 0.062            | 0.006      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-170-010 | 1.7             | 0.067            | 0.004      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-175-010 | 1.75            | 0.069            | 0.004      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-175-020 | 1.75            | 0.069            | 0.008      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-178-018 | 1.78            | 0.070            | 0.007      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-185-020 | 1.85            | 0.073            | 0.008      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-196-015 | 1.96            | 0.077            | 0.006      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-200-010 | 2               | 0.079            | 0.004      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   | - |
| TCS27-200-020 | 2               | 0.079            | 0.008      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   | - |
| TCS27-222-015 | 2.22            | 0.087            | 0.006      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-230-020 | 2.3             | 0.091            | 0.008      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-239-015 | 2.39            | 0.094            | 0.006      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-247-020 | 2.47            | 0.097            | 0.008      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-250-010 | 2.5             | 0.098            | 0.004      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-250-030 | 2.5             | 0.098            | 0.012      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-270-010 | 2.7             | 0.106            | 0.004      | ●      |  | 0.244       | 0.488          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       | - |
| TCS27-287-020 | 2.87            | 0.113            | 0.008      | ●      |  | 0.244       | 0.488          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       | - |
| TCS27-300-000 | 3               | 0.118            | 0          | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | - |
| TCS27-300-020 | 3               | 0.118            | 0.008      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | - |
| TCS27-300-030 | 3               | 0.118            | 0.012      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | - |
| TCS27-300-040 | 3               | 0.118            | 0.016      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | - |
| TCS27-315-015 | 3.15            | 0.124            | 0.006      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   | - |
| TCS27-318-020 | 3.18            | 0.125            | 0.008      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   | - |

5 pieces per package

● : Line up

Reference pages: Toolholders → **F061 - F066**, Standard cutting conditions → **F072**

TCS27-R/L (for parting off)



Right hand (R) shown.

|   |                |   |  |  |
|---|----------------|---|--|--|
| P | Steel          | ★ |  |  |
| M | Stainless      | ★ |  |  |
| K | Cast iron      | ★ |  |  |
| N | Non-ferrous    |   |  |  |
| S | Superalloys    | ★ |  |  |
| H | Hard materials |   |  |  |

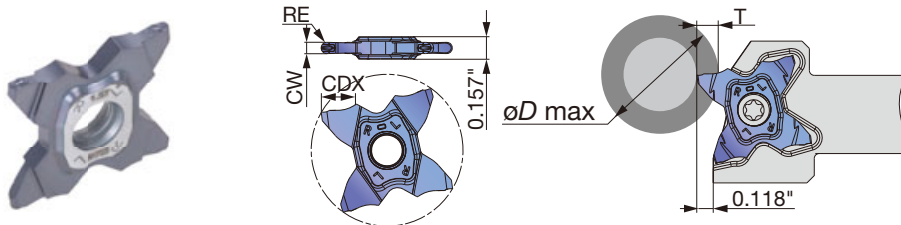
★ : First choice

| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | PSIRL | PSIRR | Max. parting off dia. (CUTDIA) (in) |        |
|---------------|------|--------------|---------------|---------|--------|--|----------|-------|-------|-------------------------------------|--------|
|               |      |              |               |         | AH725  |  |          |       |       | Solid bar                           | Tube   |
| TCS27-100-15R | R    | 1            | 0.039         | 0.002   | ●      |  | 0.138    | 0°    | 15°   | 0.276                               | 23.622 |
| TCS27-100-15L | L    | 1            | 0.039         | 0.002   | ●      |  | 0.138    | 15°   | 0°    | 0.276                               | 23.622 |
| TCS27-150-6R  | R    | 1.5          | 0.059         | 0.002   | ●      |  | 0.224    | 0°    | 6°    | 0.449                               | 1.378  |
| TCS27-150-6L  | L    | 1.5          | 0.059         | 0.002   | ●      |  | 0.224    | 6°    | 0°    | 0.449                               | 1.378  |
| TCS27-150-15R | R    | 1.5          | 0.059         | 0.002   | ●      |  | 0.224    | 0°    | 15°   | 0.449                               | 1.378  |
| TCS27-150-15L | L    | 1.5          | 0.059         | 0.002   | ●      |  | 0.224    | 15°   | 0°    | 0.449                               | 1.378  |
| TCS27-200-6R  | R    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 0°    | 6°    | 0.504                               | 1.181  |
| TCS27-200-6L  | L    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 6°    | 0°    | 0.504                               | 1.181  |
| TCS27-200-15R | R    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 0°    | 15°   | 0.504                               | 1.181  |
| TCS27-200-15L | L    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 15°   | 0°    | 0.504                               | 1.181  |

5 pieces per package

● : Line up

TCS27 (for grooving and profiling, full R)



|   |                |   |  |  |
|---|----------------|---|--|--|
| P | Steel          | ★ |  |  |
| M | Stainless      | ★ |  |  |
| K | Cast iron      | ★ |  |  |
| N | Non-ferrous    |   |  |  |
| S | Superalloys    | ★ |  |  |
| H | Hard materials |   |  |  |

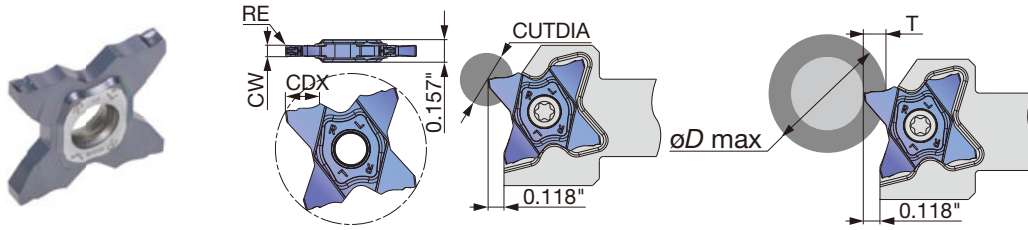
★ : First choice

| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |   |
|---------------|--------------|---------------|---------|--------|--|----------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
|               |              |               |         | AH725  |  |          | T≤0.118  | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |   |
| TCS27-157-079 | 1.57         | 0.062         | 0.031   | ●      |  | 0.118    | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-200-100 | 2            | 0.079         | 0.039   | ●      |  | 0.118    | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-239-120 | 2.39         | 0.094         | 0.047   | ●      |  | 0.224    | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-300-150 | 3            | 0.118         | 0.059   | ●      |  | 0.252    | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | - |

5 pieces per package

● : Line up

# TCM27 (for grooving and parting off)



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice

| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | CUTDIA (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |
|---------------|--------------|---------------|---------|--------|--|----------|-------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|               |              |               |         | AH725  |  |          |             | T  |         |         |         |         |         |         |         |         |         |
|               |              |               |         |        |  |          |             | T≤0.118  | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |
| TCM27-150-010 | 1.5          | 0.059         | 0.004   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-150-020 | 1.5          | 0.059         | 0.008   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-157-015 | 1.57         | 0.062         | 0.006   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-170-010 | 1.7          | 0.067         | 0.004   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-175-010 | 1.75         | 0.069         | 0.004   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-175-020 | 1.75         | 0.069         | 0.008   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-178-018 | 1.78         | 0.070         | 0.007   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-185-020 | 1.85         | 0.073         | 0.008   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-196-015 | 1.96         | 0.077         | 0.006   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-200-010 | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCM27-200-020 | 2            | 0.079         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCM27-222-015 | 2.22         | 0.087         | 0.006   | ●      |  | 0.138    | 0.276       | ∞  | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-230-020 | 2.3          | 0.091         | 0.008   | ●      |  | 0.138    | 0.276       | ∞  | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-239-015 | 2.39         | 0.094         | 0.006   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-247-020 | 2.47         | 0.097         | 0.008   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-250-010 | 2.5          | 0.098         | 0.004   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-250-030 | 2.5          | 0.098         | 0.012   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-270-010 | 2.7          | 0.106         | 0.004   | ●      |  | 0.244    | 0.488       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       |
| TCM27-287-020 | 2.87         | 0.113         | 0.008   | ●      |  | 0.244    | 0.488       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       |
| TCM27-300-000 | 3            | 0.118         | 0       | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-300-020 | 3            | 0.118         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-300-030 | 3            | 0.118         | 0.012   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-300-040 | 3            | 0.118         | 0.016   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-315-015 | 3.15         | 0.124         | 0.006   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   |
| TCM27-318-020 | 3.18         | 0.125         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   |

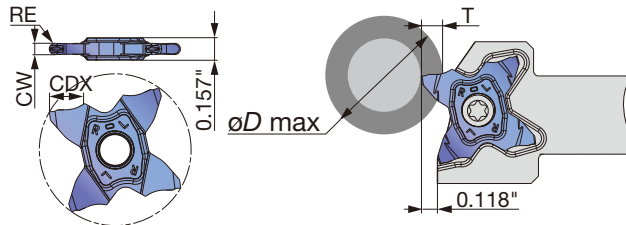
5 pieces per package

● : Line up

Reference pages: Toolholders → **F061 - F066**, Standard cutting conditions → **F072**



## TCM27 (for grooving and profiling, full R)



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

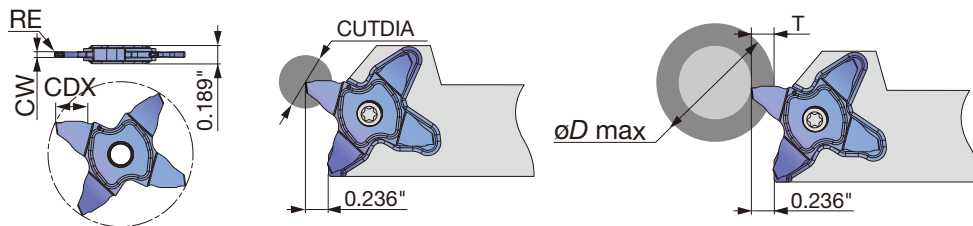
★ : First choice

| Designation   | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) | CUTDIA<br>(in) | Relation of groove depth (T) and Max. diameter (øD max)<br>(in) |           |           |           |           |           |           |           |           |           |
|---------------|-----------------|------------------|------------|--------|--|-------------|----------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|               |                 |                  |            | AH725  |  |             |                | T ≤ 0.118   | T ≤ 0.138 | T ≤ 0.157 | T ≤ 0.177 | T ≤ 0.197 | T ≤ 0.217 | T ≤ 0.224 | T ≤ 0.236 | T ≤ 0.244 | T ≤ 0.252 |
|               |                 |                  |            |        |  |             |                | ∞   | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| TCM27-157-079 | 1.57            | 0.062            | 0.031      | ●      |  | 0.118       | 0.236          | ∞   | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| TCM27-200-100 | 2               | 0.079            | 0.039      | ●      |  | 0.118       | 0.236          | ∞   | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| TCM27-239-120 | 2.39            | 0.094            | 0.047      | ●      |  | 0.224       | 0.449          | ∞   | 23.622    | 11.024    | 7.087     | 5.118     | 1.969     | 1.378     | -         | -         | -         |
| TCM27-300-150 | 3               | 0.118            | 0.059      | ●      |  | 0.252       | 0.504          | ∞   | 23.622    | 11.024    | 7.087     | 5.315     | 4.134     | 3.740     | 3.346     | 3.071     | 2.165     |

5 pieces per package

● : Line up

## TCL38 (for grooving and parting off)



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice

| Designation   | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) | CUTDIA<br>(in) | Relation of groove depth (T) and Max. diameter (øD max)<br>(in) |           |           |           |           |           |
|---------------|-----------------|------------------|------------|--------|--|-------------|----------------|---|-----------|-----------|-----------|-----------|-----------|
|               |                 |                  |            | AH7025 |  |             |                | T ≤ 0.197   | T ≤ 0.236 | T ≤ 0.276 | T ≤ 0.315 | T ≤ 0.354 | T ≤ 0.394 |
|               |                 |                  |            |        |  |             |                | ∞   | 37.402    | 12.402    | 7.480     | 1.772     | -         |
| TCL38-150-020 | 1.5             | 0.059            | 0.008      | ●      |  | 0.354       | 0.709          | ∞   | 37.402    | 12.402    | 7.480     | 1.772     | -         |
| TCL38-200-020 | 2               | 0.079            | 0.008      | ●      |  | 0.354       | 0.709          | ∞   | 37.402    | 12.402    | 7.480     | 1.772     | -         |
| TCL38-300-020 | 3               | 0.118            | 0.008      | ●      |  | 0.394       | 0.787          | ∞   | 37.402    | 12.402    | 7.480     | 5.118     | 1.969     |
| TCL38-400-030 | 4               | 0.157            | 0.012      | ●      |  | 0.394       | 0.787          | ∞   | 37.402    | 12.402    | 7.480     | 5.118     | 1.969     |

5 pieces per package

● : Line up



# STANDARD CUTTING CONDITIONS

## TCL27, TCS27, TCM27

| ISO      | Workpiece materials                 | Grades | Cutting speed<br>Vc<br>(sfm) | Feed: f (ipr)            |                  |                            |                  |  |                  | Depth of cut<br>for profiling<br>(with full<br>radius insert) |
|----------|-------------------------------------|--------|------------------------------|--------------------------|------------------|----------------------------|------------------|--|------------------|---|
|          |                                     |        |                              | Grooving,<br>Parting-off |                  | Parting-off<br>(with hand) |                  | Profiling<br>(with full radius insert) |                  |   |
|          |                                     |        |                              | TCL27                    | TCS27            | TCM27                      | TCS27            | TCS27                                  | TCM27            |   |
| <b>P</b> | Carbon steel<br>1045 etc.           | AH725  | 328 - 656                    | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.010           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.006 | 0.020   |
|          | Alloy steel<br>4140, etc.           | AH725  | 164 - 591                    | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.010           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.006 | 0.020   |
| <b>M</b> | Stainless steel<br>304, etc.        | AH725  | 328 - 492                    | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.008           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.006 | 0.020   |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | AH725  | 164 - 591                    | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.010           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.006 | 0.020   |
|          | Ductile cast iron<br>60-40-18, etc. | AH725  | 164 - 394                    | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.008           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.006 | 0.020   |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.  | AH725  | 98 - 197                     | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.006           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.004 | 0.020   |
|          | Superalloys<br>Inconel718, etc.     | AH725  | 66 - 164                     | 0.001 -<br>0.005         | 0.002 -<br>0.006 | 0.002 -<br>0.006           | 0.002 -<br>0.005 | 0.002 -<br>0.004                       | 0.002 -<br>0.004 | 0.020   |

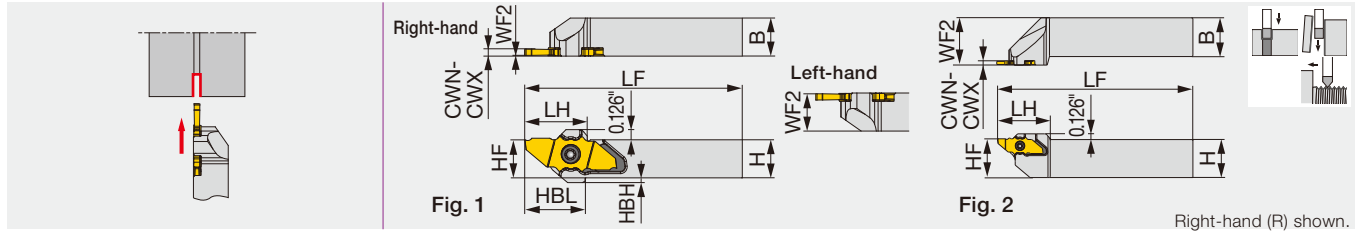


## TCL38

| ISO      | Workpiece materials                 | Grades | Cutting speed<br>Vc<br>(sfm) | Feed: f (ipr)            |
|----------|-------------------------------------|--------|------------------------------|--------------------------|
|          |                                     |        |                              | Grooving,<br>Parting-off |
|          |                                     |        |                              | TCL38                    |
| <b>P</b> | Carbon steel<br>1045 etc.           | AH7025 | 262 - 591                    | 0.001 - 0.007            |
|          | Alloy steel<br>4140, etc.           | AH7025 | 164 - 591                    | 0.001 - 0.007            |
| <b>M</b> | Stainless steel<br>304, etc.        | AH7025 | 164 - 492                    | 0.001 - 0.006            |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | AH7025 | 164 - 591                    | 0.001 - 0.006            |
|          | Ductile cast iron<br>60-40-18, etc. | AH7025 | 164 - 394                    | 0.001 - 0.006            |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.  | AH7025 | 98 - 197                     | 0.001 - 0.006            |
|          | Superalloys<br>Inconel718, etc.     | AH7025 | 66 - 164                     | 0.001 - 0.006            |



Parting-off and grooving toolholders



| Inch       | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH   | Insert                       | Torque | Fig. |
|------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|--------------------|-------|------------------------------|--------|------|
| JSXXR/L063 | 0.024 | 0.098 | 0.375 | 0.375 | 4.750             | 0.774             | 0.375 | 0.008/0.367        | 0.748              | 0.120 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L083 | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 0.774             | 0.500 | 0.008/0.492        | 0.748              | 0.060 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L103 | 0.024 | 0.098 | 0.625 | 0.625 | 4.750             | 0.774             | 0.625 | 0.008/0.617        | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L123 | 0.024 | 0.098 | 0.750 | 0.750 | 3.950             | 0.886             | 0.750 | 0.008/0.742        | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L163 | 0.024 | 0.098 | 1.000 | 1.000 | 5.350             | 1.339             | 1.000 | 1.250              | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 2    |

| Metric         | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH | Insert                       | Torque* | Fig. |
|----------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|--------------------|-----|------------------------------|---------|------|
| JSXXR/L1010X09 | 0.6 | 2.5 | 10 | 10 | 120               | 19.65             | 10 | 0.2/9.8            | 19                 | 3   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212F09 | 0.6 | 2.5 | 12 | 12 | 85                | 19.65             | 12 | 0.2/11.8           | 19                 | 1.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212X09 | 0.6 | 2.5 | 12 | 12 | 120               | 19.65             | 12 | 0.2/11.8           | 19                 | 1.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09 | 0.6 | 2.5 | 16 | 16 | 120               | 19.65             | 16 | 0.2/15.8           | -                  | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L2020H09 | 0.6 | 2.5 | 20 | 20 | 100               | 22.5              | 20 | 0.2/19.8           | -                  | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L2525Z09 | 0.6 | 2.5 | 25 | 25 | 135               | 34                | 25 | 30                 | -                  | -   | JX**06...,12...,16..., 20... | 1.2     | 2    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

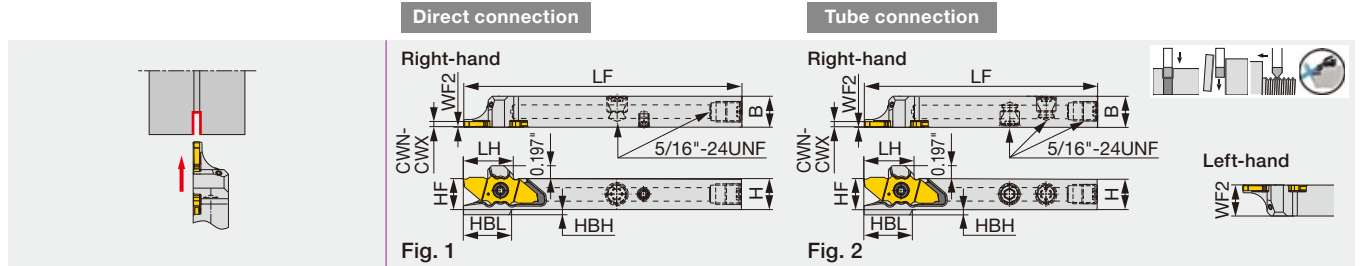
(1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 0.157" (4 mm) shorter for JX\*\*06... insert.

(2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

Note: Use the right-hand insert (JX\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*L...) for a left-hand holder (JSXXL...).

JSXXR/L-F/H/X-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes



| Inch                           | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH   | Insert                       | Torque | Fig. |
|--------------------------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|--------------------|-------|------------------------------|--------|------|
| JSXXR/L083F-CHP                | 0.024 | 0.098 | 0.500 | 0.500 | 3.344             | 0.764             | 0.500 | 0.008/0.492        | 0.736              | 0.051 | JX**06...,12...,16..., 20... | 0.89   | 2    |
| JSXXR/L083X-CHP <sup>(3)</sup> | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 0.764             | 0.500 | 0.008/0.492        | 0.736              | 0.051 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L103X-CHP <sup>(3)</sup> | 0.024 | 0.098 | 0.625 | 0.625 | 4.750             | 0.764             | 0.625 | 0.008/0.617        | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |

| Metric                                | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH | Insert                       | Torque* | Fig. |
|---------------------------------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|--------------------|-----|------------------------------|---------|------|
| JSXXR/L1012H09-CHP <sup>(3)</sup>     | 0.6 | 2.5 | 10 | 12 | 102               | 19.2              | 10 | 0.2/11.8           | 18.7               | 3   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212F09-CHP                    | 0.6 | 2.5 | 12 | 12 | 85                | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16..., 20... | 1.2     | 2    |
| JSXXR/L1212X09-CHP <sup>(3)</sup>     | 0.6 | 2.5 | 12 | 12 | 120               | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 16 | 16 | 120               | 19.4              | 16 | 0.2                | 18.7               | 2.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09B-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 16 | 16 | 120               | 19.4              | 16 | 0.2/15.8           | 18.7               | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

(1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 0.157" (4 mm) shorter for JX\*\*06... insert.

(2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

(3) Compatible to the direct internal coolant supply system without the use of external coolant hose.

(4) To be replaced with the new design

Note: Use the right-hand insert (JX\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*L...) for a left-hand holder (JSXXL...).

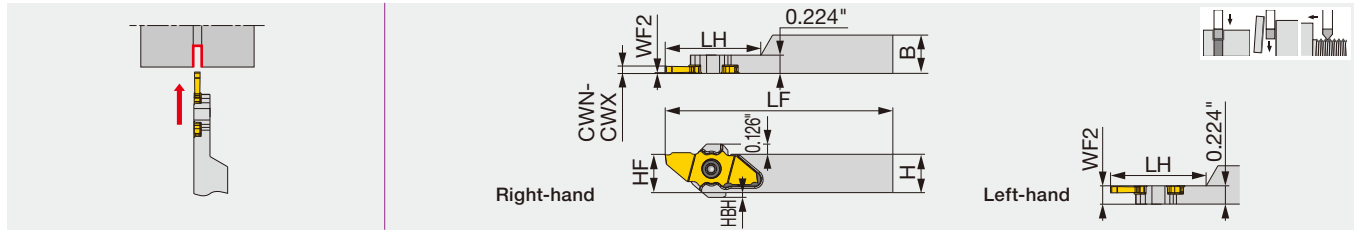
SPARE PARTS

| Designation      | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|------------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR**09        | CSTC-4L100DL   | T-1008/5 | -              | -        | -              | -        |
| JSXXL**09        | CSTC-4L100DR   | T-1008/5 | -              | -        | -              | -        |
| JSXXR**F**-CHP   | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F**-CHP   | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**H/X**-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**H/X**-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: Inserts → **F076, F077**, Standard cutting conditions → **F078**  
Parts for coolant hose → **F290**



Parting-off toolholders, for swiss lathes (for sub spindle)

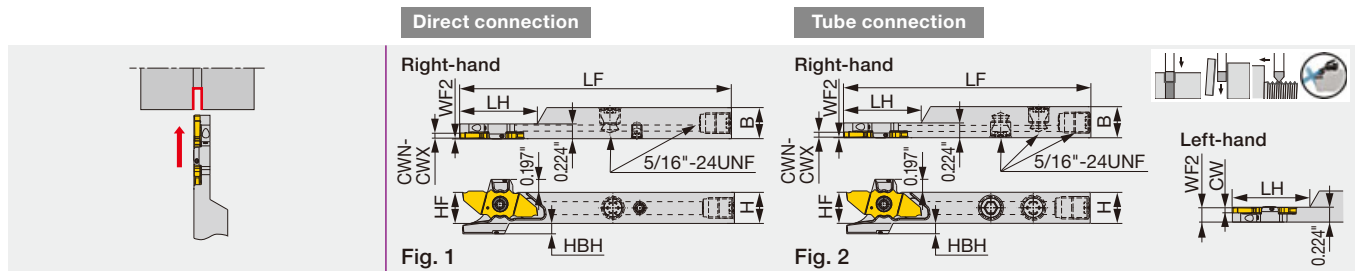


| Inch             | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                               | Torque  |
|------------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|-------|--------------------------------------|---------|
| JSXXR/L063-S     | 0.024 | 0.098 | 0.375 | 0.375 | 4.750             | 1.030             | 0.383 | 0.008/0.217        | 0.120 | JX**06...,12...,16... <sup>(3)</sup> | 0.89    |
| JSXXR/L083-S     | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 1.030             | 0.500 | 0.008/0.217        | 0.060 | JX**06...,12...,16... <sup>(3)</sup> | 0.89    |
| Metric           | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                               | Torque* |
| JSXXR/L1010X09-S | 0.6   | 2.5   | 10    | 10    | 120               | 26                | 10    | 0.2/5.5            | 3     | JX**06...,12...,16... <sup>(3)</sup> | 1.2     |
| JSXXR/L1212F09-S | 0.6   | 2.5   | 12    | 12    | 85                | 26                | 12    | 0.2/5.5            | 1.5   | JX**06...,12...,16... <sup>(3)</sup> | 1.2     |
| JSXXR/L1212X09-S | 0.6   | 2.5   | 12    | 12    | 120               | 30                | 12    | 0.2/5.5            | 1.5   | JX**06...,12...,16... <sup>(3)</sup> | 1.2     |
| JSXXR/L1616X09-S | 0.6   | 2.5   | 16    | 16    | 120               | 30                | 16    | 0.2/5.5            | -     | JX**06...,12...,16..., 20...         | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) LF (Functional Length) and LH (Head Length) values shown above are true with JX\*\*16... insert. Both LF and LH will be 0.079" (2 mm) shorter than the above value with JX\*\*12... and JX\*\*20... inserts; 0.157" (4 mm) shorter with JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) JX\*\*20... insert will not fit.  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

JSXXR/L-F/X-S-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes (for sub spindle)



| Inch                                    | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                       | Torque  | Fig. |
|---|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|-------|------------------------------|---------|------|
| JSXXR/L083F-S-CHP                       | 0.024 | 0.098 | 0.500 | 0.500 | 3.344             | 1.024             | 0.500 | 0.008/0.217        | 0.051 | JX**06...,12...,16..., 20... | 0.89    | 2    |
| JSXXR/L083X-S-CHP                       | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 1.181             | 0.500 | 0.008/0.217        | 0.051 | JX**06...,12...,16..., 20... | 0.89    | 1    |
| JSXXR/L103X-S-CHP                       | 0.024 | 0.098 | 0.625 | 0.625 | 4.750             | 1.181             | 0.625 | 0.008/0.217        | -     | JX**06...,12...,16..., 20... | 0.89    | 1    |
| Metric                                  | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                       | Torque* | Fig. |
| JSXXR/L1212F09-S-CHP <sup>(4)</sup>     | 0.6   | 2.5   | 12    | 12    | 85                | 26                | 12    | 0.2                | 4     | JX**06...,12...,16..., 20... | 1.2     | 2    |
| JSXXR/L1212F09B-S-CHP                   | 0.6   | 2.5   | 12    | 12    | 85                | 30                | 12    | 0.2/5.5            | 2     | JX**06...,12...,16..., 20... | 1.2     | 2    |
| JSXXR/L1212X09-S-CHP <sup>(3),(4)</sup> | 0.6   | 2.5   | 12    | 12    | 120               | 30                | 12    | 0.2/5.5            | 4     | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212X09B-S-CHP <sup>(3)</sup>    | 0.6   | 2.5   | 12    | 12    | 120               | 30                | 12    | 0.2/5.5            | 2     | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09-S-CHP <sup>(3),(4)</sup> | 0.6   | 2.5   | 16    | 16    | 120               | 30                | 16    | 0.2                | 1.5   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09B-S-CHP <sup>(3)</sup>    | 0.6   | 2.5   | 16    | 16    | 120               | 30                | 16    | 0.2/5.5            | -     | JX**06...,12...,16..., 20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) LF (Functional Length) and LH (Head Length) values shown above are true with JX\*\*16... insert. Both LF and LH will be 0.079" (2 mm) shorter than the above value with JX\*\*12... and JX\*\*20... inserts; 0.157" (4 mm) shorter with JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (4) To be replaced with the new design  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

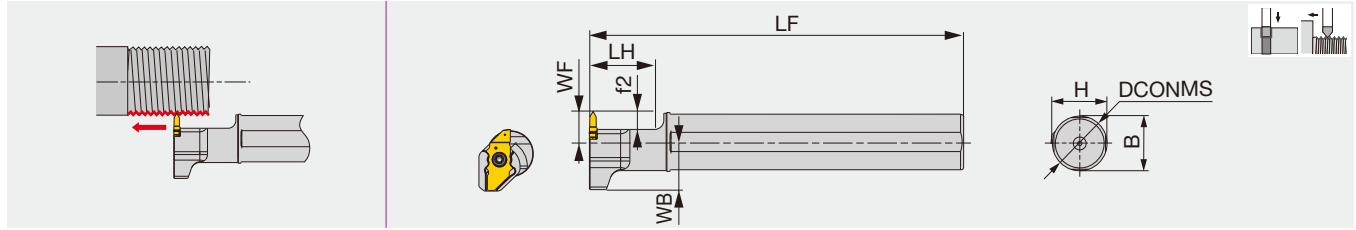
SPARE PARTS

| Designation     | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|-----------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR**S        | CSTC-4L055DL   | T-1008/5 | -              | -        | -              | -        |
| JSXXL**S        | CSTC-4L055DR   | T-1008/5 | -              | -        | -              | -        |
| JSXXR**F**S-CHP | CSTC-4L055DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F**S-CHP | CSTC-4L055DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**X**S-CHP | CSTC-4L055DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**X**S-CHP | CSTC-4L055DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: Inserts → **F076, F077**, Standard cutting conditions → **F078**  
 Parts for coolant hose → **F290**

# JS-SXXL09

External grooving and threading toolholder with round shank, for Swiss lathes



| Metric        | DCONMS | H  | B  | LF  | LH | WB    | WF <sup>(1)</sup> | f2 <sup>(1)</sup> | Insert      | Torque |
|---------------|--------|----|----|-----|----|-------|-------------------|-------------------|-------------|--------|
| JS19G-SXXL09  | 19.05  | 18 | 18 | 90  | 21 | 15.43 | 10                | 6                 | JX**06,12*R | 1.2    |
| JS19X-SXXL09  | 19.05  | 18 | 18 | 120 | 21 | 15.43 | 10                | 6                 | JX**06,12*R | 1.2    |
| JS20G-SXXL09  | 20     | 19 | 19 | 90  | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2    |
| JS20X-SXXL09  | 20     | 19 | 19 | 120 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2    |
| JS22X-SXXL09  | 22     | 21 | 21 | 120 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2    |
| JS25H-SXXL09  | 25     | 24 | 24 | 100 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2    |
| JS254X-SXXL09 | 25.4   | 24 | 24 | 120 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2    |

Torque: Recommended clamping torque: N·m

(1) When using JX..06... insert, both WF and f2 sizes will be 2 mm shorter than the values provided above.

## SPARE PARTS



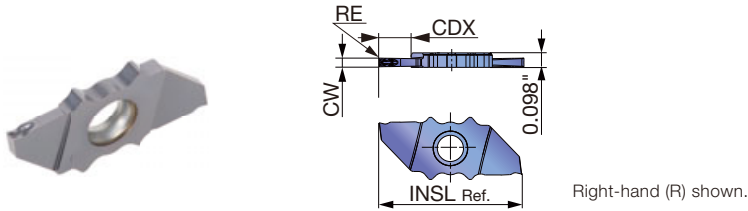
| Designation  | Clamping screw | Wrench   |
|--------------|----------------|----------|
| JS***-SXXL09 | CSTC-4L100DL   | T-1008/5 |

Reference pages: Inserts → **F076, F077**, Standard cutting conditions → **F078**



# INSERTS

## JXPS\*\*R/L-F (with 3D chipbreaker, sharp edge)



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

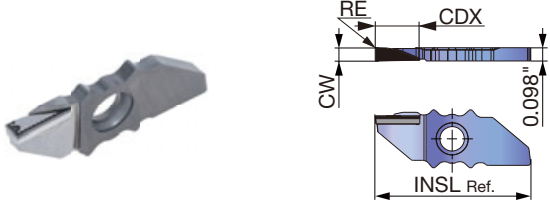
★ : First choice



| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CUTDIA (in) | CDX* (in) | INSL (in) |       |
|-------------|------|---------------|---------------|---------|--------|--|--|--|--|-------------|-----------|-----------|-------|
|             |      |               |               |         | SH725  |  |  |  |  |             |           |           |       |
| JXPS06R06F  | R    | 0.6           | 0.024         | 0.002   | ●      |  |  |  |  |             | 0.236     | 0.138     | 0.827 |
| JXPS06L06F  | L    | 0.6           | 0.024         | 0.002   | ●      |  |  |  |  |             | 0.236     | 0.138     | 0.827 |
| JXPS12R08F  | R    | 0.8           | 0.031         | 0.002   | ●      |  |  |  |  |             | 0.472     | 0.256     | 0.984 |
| JXPS12L08F  | L    | 0.8           | 0.031         | 0.002   | ●      |  |  |  |  |             | 0.472     | 0.256     | 0.984 |
| JXPS12R10F  | R    | 1             | 0.039         | 0.002   | ●      |  |  |  |  |             | 0.472     | 0.256     | 0.984 |
| JXPS12L10F  | L    | 1             | 0.039         | 0.002   | ●      |  |  |  |  |             | 0.472     | 0.256     | 0.984 |
| JXPS12R15F  | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  |             | 0.472     | 0.256     | 0.984 |
| JXPS12L15F  | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  |             | 0.472     | 0.256     | 0.984 |
| JXPS16R15F  | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  |             | 0.630     | 0.335     | 1.142 |
| JXPS16L15F  | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  |             | 0.630     | 0.335     | 1.142 |
| JXPS20R20F  | R    | 2             | 0.079         | 0.002   | ●      |  |  |  |  |             | 0.787     | 0.413     | 1.299 |
| JXPS20L20F  | L    | 2             | 0.079         | 0.002   | ●      |  |  |  |  |             | 0.787     | 0.413     | 1.299 |

\*Max grooving depth (CDX) varies depending on workpiece diameters. ● : Line up

## JDX\*\*R-F (PCD insert)



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          |   |  |  |  |  |  |  |  |
| M | Stainless      |   |  |  |  |  |  |  |  |
| K | Cast iron      |   |  |  |  |  |  |  |  |
| N | Non-ferrous    | ★ |  |  |  |  |  |  |  |
| S | Superalloys    |   |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

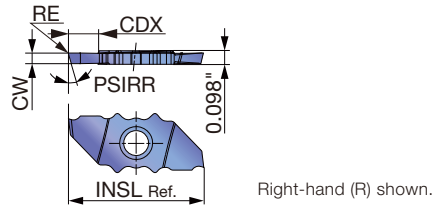
★ : First choice

| Designation | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in)  | PCD   |  |  |  |  | CDX (in) | INSL (in) |       |
|-------------|------|--------------|---------------|----------|-------|--|--|--|--|----------|-----------|-------|
|             |      |              |               |          | DX110 |  |  |  |  |          |           |       |
| JDX12R20F   | R    | 2            | 0.079         | < 0.0039 | ●     |  |  |  |  |          | 0.236     | 0.984 |
| JDX12R25F   | R    | 2.5          | 0.098         | < 0.0039 | ●     |  |  |  |  |          | 0.256     | 0.984 |
| JDX16R25F   | R    | 2.5          | 0.098         | < 0.0039 | ●     |  |  |  |  |          | 0.276     | 1.142 |

● : Line up

Reference pages: Toolholders → F073 - F075, Standard cutting conditions → F078

**JXPG\*\*R/L-F (Sharp edge)**



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  | CUTDIA (in) | CDX* (in) | INSL (in) | PSIRR |
|---------------|------|---------------|---------------|---------|--------|--|--|--|-------------|-----------|-----------|-------|
|               |      |               |               |         | SH725  |  |  |  |             |           |           |       |
| JXPG06R10F    | R    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06L10F    | L    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06R15F    | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06L15F    | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06R10F-15 | R    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG06L10F-15 | L    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG06R15F-15 | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG06L15F-15 | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG12R15F    | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 0°    |
| JXPG12L15F    | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 0°    |
| JXPG12R20F    | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 0°    |
| JXPG12L20F    | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 0°    |
| JXPG12R15F-15 | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 15°   |
| JXPG12L15F-15 | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 15°   |
| JXPG12R20F-15 | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 15°   |
| JXPG12L20F-15 | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     | 15°   |
| JXPG16R15F    | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 0°    |
| JXPG16L15F    | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 0°    |
| JXPG16R20F    | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 0°    |
| JXPG16L20F    | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 0°    |
| JXPG16R15F-15 | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 15°   |
| JXPG16L15F-15 | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 15°   |
| JXPG16R20F-15 | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 15°   |
| JXPG16L20F-15 | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     | 15°   |
| JXPG20R15F    | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 0°    |
| JXPG20L15F    | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 0°    |
| JXPG20R20F    | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 0°    |
| JXPG20L20F    | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 0°    |
| JXPG20R15F-15 | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 15°   |
| JXPG20L15F-15 | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 15°   |
| JXPG20R20F-15 | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 15°   |
| JXPG20L20F-15 | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     | 15°   |

\*Max grooving depth (CDX) varies depending on workpiece diameters.

● : Line up



# STANDARD CUTTING CONDITIONS

## Parting, Grooving

| ISO      | Workpiece materials                                   | Grades | Cutting speed Vc (sfm) | Feed f (ipr)     |
|----------|---|--------|------------------------|------------------|
| <b>P</b> | Low carbon steels<br>1015, etc.                       | SH725  | 164 - 656              | 0.00039 - 0.0020 |
|          | Carbon steels, Alloy steels<br>1055, etc., 4140, etc. | SH725  | 164 - 656              | 0.00039 - 0.0020 |
|          | Free cutting steels<br>SUH22, SUH23, etc.             | SH725  | 164 - 656              | 0.00039 - 0.0020 |
| <b>M</b> | Stainless steels<br>304, etc.                         | SH725  | 164 - 656              | 0.00039 - 0.0020 |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.                   | SH725  | 492 - 656              | 0.00039 - 0.0020 |
|          | Copper alloy<br>C2600, C280C, etc.                    | SH725  | 328 - 656              | 0.00039 - 0.0020 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.                    | SH725  | 98 - 262               | 0.00039 - 0.0020 |
|          | Superalloys<br>Inconel718, etc.                       | SH725  | 98 - 262               | 0.00039 - 0.0020 |

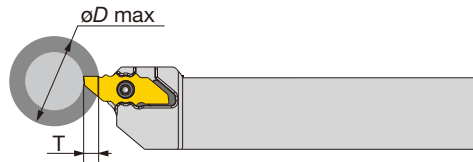


## For aluminum and non-ferrous metal PCD insert

| ISO      | Workpiece materials                 | Grades | Operation | Cutting speed Vc (sfm) | Feed f (ipr)    | Depth of cut ap (in) |
|----------|-------------------------------------|--------|-----------|------------------------|-----------------|----------------------|
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc. | DX110  | Grooving  | 328 - 984              | 0.0012 - 0.0059 | -                    |
|          |                                     | DX110  | Turning   | 328 - 984              | 0.0012 - 0.0059 | < 0.236              |

## Maximum grooving depths (T) in relation to workpiece diameters (øD max) without interference

Maximum grooving depth (T) is limited relative to workpiece diameter (øD max) to avoid interference between workpiece and insert.



Grooving depths (T) and workpiece diameters (øD max) for each insert

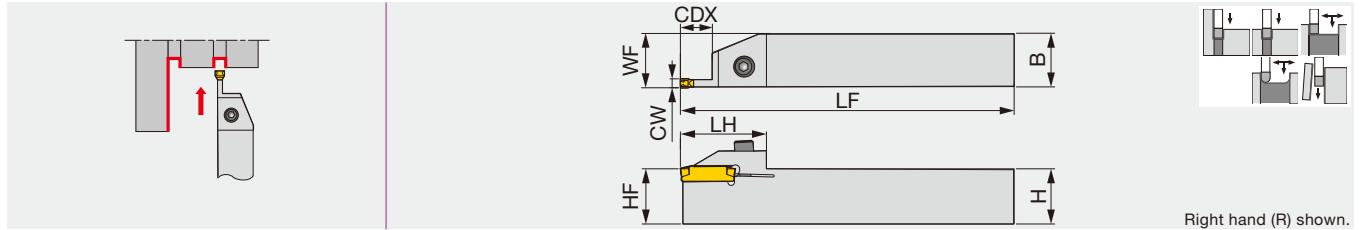
| Designation | T≤0.039 | T≤0.079 | T≤0.098 | T≤0.118 | T≤0.138 | T≤0.157 | T≤0.197 | T≤0.217 | T≤0.236 | T≤0.256 | T≤0.276 | T≤0.295 | T≤0.315 | T≤0.335 | T≤0.354 | T≤0.374 | T≤0.394 | T≤0.413 |       |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| JXP*06...   | ∞       | ∞       | 7.874   | 2.362   | 1.181   | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |       |
| JXP*12...   | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | 3.937   | 2.362   | 1.378   | -       | -       | -       | -       | -       | -       | -       | -       |       |
| JXP*16...   | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | 7.874   | 3.543   | 1.969   | 0.984   | -       | -       | -       | -       |       |
| JXP*20...   | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | ∞       | 7.874   | 3.150   | 1.969   | 0.984 |

(Unit: inch)

# MY-T SERIES

## CGWSR/L-W

External grooving, parting and turning toolholder, for 2 corner inserts

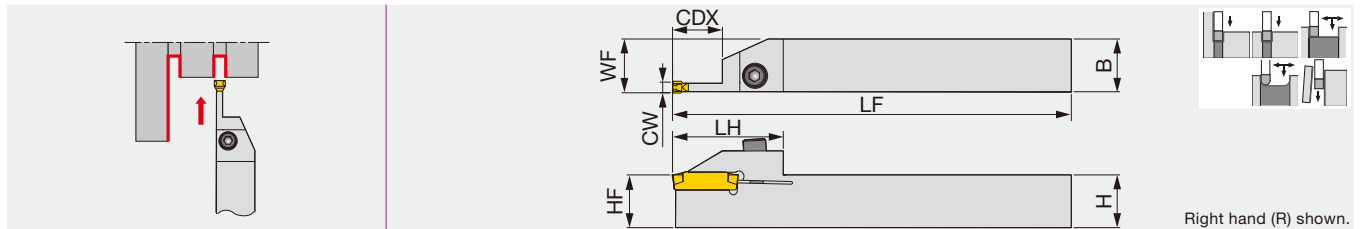


| Metric          | CW | CDX | H  | B  | LF  | LH | HF | WF   | Insert          | Torque |
|-----------------|----|-----|----|----|-----|----|----|------|-----------------|--------|
| CGWSR/L1616-W30 | 3  | 12  | 16 | 16 | 125 | 34 | 16 | 16.4 | WG*30, WGE30R/L | 5      |
| CGWSR/L2020-W30 | 3  | 12  | 20 | 20 | 150 | 34 | 20 | 20.4 | WG*30, WGE30R/L | 5      |
| CGWSR/L2525-W30 | 3  | 12  | 25 | 25 | 150 | 34 | 25 | 25.4 | WG*30, WGE30R/L | 5      |
| CGWSR/L2020-W40 | 4  | 13  | 20 | 20 | 150 | 39 | 20 | 20.4 | WG*40, WGE40R/L | 5      |
| CGWSR/L2525-W40 | 4  | 13  | 25 | 25 | 150 | 39 | 25 | 25.4 | WG*40, WGE40R/L | 5      |
| CGWSR/L2020-W50 | 5  | 13  | 20 | 20 | 150 | 39 | 20 | 20.4 | WG*50, WGE50R/L | 5      |
| CGWSR/L2525-W50 | 5  | 13  | 25 | 25 | 150 | 39 | 25 | 25.4 | WG*50, WGE50R/L | 5      |

Torque: Recommended clamping torque: N·m

## CGWSR/L-W-L

External deep grooving, parting and turning toolholder, for 2 corner inserts



| Metric            | CW | CDX                       | H  | B  | LF  | LH | HF | WF   | Insert          | Torque |
|-------------------|----|---------------------------|----|----|-----|----|----|------|-----------------|--------|
| CGWSR/L1616-W20-L | 2  | 15                        | 16 | 16 | 125 | 37 | 16 | 16.2 | WGE20, WGE20R/L | 5      |
| CGWSR/L2020-W20-L | 2  | 15                        | 20 | 20 | 150 | 37 | 20 | 20.2 | WGE20, WGE20R/L | 5      |
| CGWSR/L2525-W20-L | 2  | 15                        | 25 | 25 | 150 | 37 | 25 | 25.2 | WGE20, WGE20R/L | 5      |
| CGWSR/L1616-W30-L | 3  | 16.5, 17.5 <sup>(1)</sup> | 16 | 16 | 125 | 37 | 16 | 16.4 | WG*30, WGE30R/L | 5      |
| CGWSR/L2020-W30-L | 3  | 16.5, 17.5 <sup>(1)</sup> | 20 | 20 | 150 | 37 | 20 | 20.4 | WG*30, WGE30R/L | 5      |
| CGWSR/L2525-W30-L | 3  | 16.5, 17.5 <sup>(1)</sup> | 25 | 25 | 150 | 37 | 25 | 25.4 | WG*30, WGE30R/L | 5      |
| CGWSR/L2020-W40-L | 4  | 21, 21.5 <sup>(1)</sup>   | 20 | 20 | 150 | 42 | 20 | 20.4 | WG*40, WGE40R/L | 5      |
| CGWSR/L2525-W40-L | 4  | 21, 21.5 <sup>(1)</sup>   | 25 | 25 | 150 | 42 | 25 | 25.4 | WG*40, WGE40R/L | 5      |
| CGWSR/L2020-W50-L | 5  | 21                        | 20 | 20 | 150 | 42 | 20 | 20.4 | WG*50, WGE50R/L | 5      |
| CGWSR/L2525-W50-L | 5  | 21                        | 25 | 25 | 150 | 42 | 25 | 25.4 | WG*50, WGE50R/L | 5      |

Torque: Recommended clamping torque: N·m  
 (1) The value is true when using the WGR insert.

### SPARE PARTS

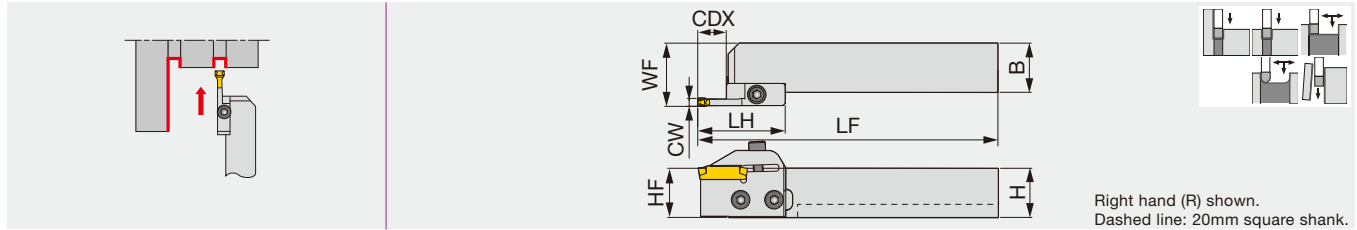
| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| CGWSR/L***-W... | CHHM5-18       | P-4    |

Reference pages: Inserts → **F086 - F088**, Standard cutting conditions → **F088**

# MY-T SERIES

## CGWSR/L-WG

External grooving, parting and turning toolholder, for 2 corner inserts

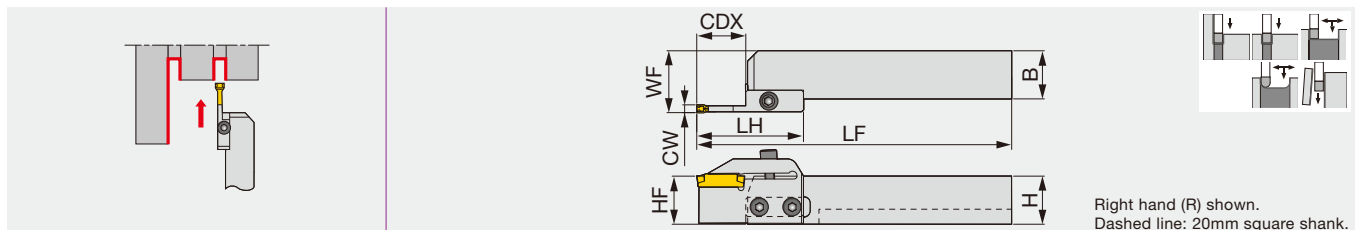


| Metric              | CW | CDX | H  | B  | LF    | LH   | HF | WF   | Insert          | Shank       | Adapter | Torque |
|---------------------|----|-----|----|----|-------|------|----|------|-----------------|-------------|---------|--------|
| CGWSR/L2020-W30GR/L | 3  | 12  | 20 | 20 | 150.5 | 43.5 | 20 | 26.9 | WG*30, WGE30R/L | CGWSR/L2020 | W30GR/L | 5      |
| CGWSR/L2525-W30GR/L | 3  | 12  | 25 | 25 | 150.5 | 43.5 | 25 | 31.9 | WG*30, WGE30R/L | CGWSR/L2525 | W30GR/L | 5      |
| CGWSR/L2020-W40GR/L | 4  | 13  | 20 | 20 | 151.5 | 44.5 | 20 | 26.9 | WG*40, WGE40R/L | CGWSR/L2020 | W40GR/L | 5      |
| CGWSR/L2525-W40GR/L | 4  | 13  | 25 | 25 | 151.5 | 44.5 | 25 | 31.9 | WG*40, WGE40R/L | CGWSR/L2525 | W40GR/L | 5      |
| CGWSR/L2020-W50GR/L | 5  | 13  | 20 | 20 | 151.5 | 44.5 | 20 | 26.9 | WG*50, WGE50R/L | CGWSR/L2020 | W50GR/L | 5      |
| CGWSR/L2525-W50GR/L | 5  | 13  | 25 | 25 | 151.5 | 44.5 | 25 | 31.9 | WG*50, WGE50R/L | CGWSR/L2525 | W50GR/L | 5      |

Note: Use right-hand adapters (R) with right-hand shanks (R); and left-hand adapters (L) with left-hand shanks (L).  
Torque: Recommended clamping torque: N·m

## CGWSR/L-WG-L

External deep grooving, parting and turning toolholder, for 2 corner inserts



| Metric                | CW | CDX                       | H  | B  | LF    | LH   | HF | WF   | Insert          | Shank       | Adapter   | Torque |
|-----------------------|----|---------------------------|----|----|-------|------|----|------|-----------------|-------------|-----------|--------|
| CGWSR/L2020-W20GR/L-L | 2  | 15                        | 20 | 20 | 153.5 | 46.5 | 20 | 26.7 | WGE20, WGE20R/L | CGWSR/L2020 | W20GR/L-L | 5      |
| CGWSR/L2525-W20GR/L-L | 2  | 15                        | 25 | 25 | 153.5 | 46.5 | 25 | 31.7 | WGE20, WGE20R/L | CGWSR/L2525 | W20GR/L-L | 5      |
| CGWSR/L2020-W30GR/L-L | 3  | 16.5, 17.5 <sup>(1)</sup> | 20 | 20 | 157.5 | 50.5 | 20 | 26.9 | WG*30, WGE30R/L | CGWSR/L2020 | W30GR/L-L | 5      |
| CGWSR/L2525-W30GR/L-L | 3  | 16.5, 17.5 <sup>(1)</sup> | 25 | 25 | 157.5 | 50.5 | 25 | 31.9 | WG*30, WGE30R/L | CGWSR/L2525 | W30GR/L-L | 5      |
| CGWSR/L2020-W40GR/L-L | 4  | 21, 21.5 <sup>(1)</sup>   | 20 | 20 | 162.5 | 55.5 | 20 | 26.9 | WG*40, WGE40R/L | CGWSR/L2020 | W40GR/L-L | 5      |
| CGWSR/L2525-W40GR/L-L | 4  | 21, 21.5 <sup>(1)</sup>   | 25 | 25 | 162.5 | 55.5 | 25 | 31.9 | WG*40, WGE40R/L | CGWSR/L2525 | W40GR/L-L | 5      |
| CGWSR/L2020-W50GR/L-L | 5  | 21                        | 20 | 20 | 162.5 | 55.5 | 20 | 26.9 | WG*50, WGE50R/L | CGWSR/L2020 | W50GR/L-L | 5      |
| CGWSR/L2525-W50GR/L-L | 5  | 21                        | 25 | 25 | 162.5 | 55.5 | 25 | 31.9 | WG*50, WGE50R/L | CGWSR/L2525 | W50GR/L-L | 5      |

Note: Use right-hand adapters (R) with right-hand shanks (R); and left-hand adapters (L) with left-hand shanks (L).  
Torque: Recommended clamping torque: N·m  
(1) The value is true when using the WGR insert.

### SPARE PARTS

| Designation        | Clamping screw | Adapter screw | Wrench |
|--------------------|----------------|---------------|--------|
| CGWSR/L***-W**G... | CHHM5-18       | CSHB-6        | P-4    |

### Combination of adapter and shank

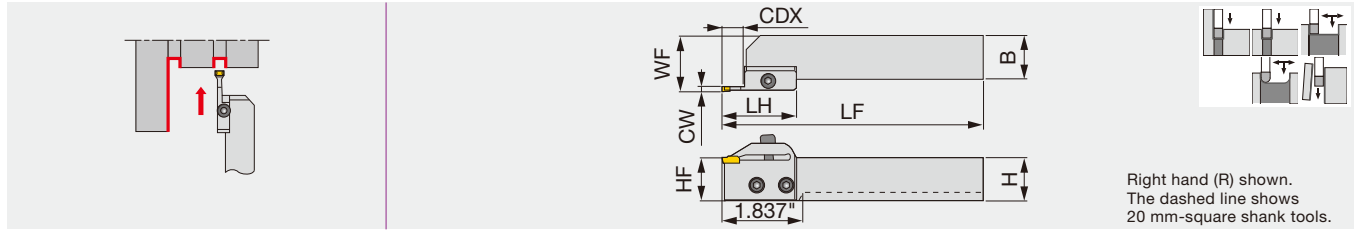
| Shank    | Adapter      |              |
|----------|--------------|--------------|
|          | **GR, **GR-L | **GL, **GL-L |
| CGWSR... | ●            |              |
| CGWSL... |              | ●            |
| CGWTR... |              | ●            |
| CGWTL... | ●            |              |

● : Corresponding

Reference pages: Inserts → **F086 - F088**, Shanks → **F085**, Standard cutting conditions → **F088**

# CGWSR/L-G

External grooving, parting and turning toolholder, for 1 corner inserts



| Inch             | CW    | CDX   | H     | B     | LF    | LH    | HF    | WF    | Insert               | Shank     | Adapter | Torque |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-----------|---------|--------|
| CGWSR/L12-20GR/L | 0.079 | 0.472 | 0.750 | 0.750 | 5.913 | 1.699 | 0.787 | 1.055 | GE20, GE20-AL        | CGWSR/L12 | 20GR/L  | 3.69   |
| CGWSR/L16-20GR/L | 0.079 | 0.472 | 1.000 | 1.000 | 5.913 | 1.699 | 0.984 | 1.252 | GE20, GE20-AL        | CGWSR/L16 | 20GR/L  | 3.69   |
| CGWSR/L12-30GR/L | 0.118 | 0.472 | 0.750 | 0.750 | 5.913 | 1.699 | 0.787 | 1.063 | G*30,GE30R/L,GE30-AL | CGWSR/L12 | 30GR/L  | 3.69   |
| CGWSR/L16-30GR/L | 0.118 | 0.472 | 1.000 | 1.000 | 5.913 | 1.699 | 0.984 | 1.260 | G*30,GE30R/L,GE30-AL | CGWSR/L16 | 30GR/L  | 3.69   |
| CGWSR/L12-40GR/L | 0.157 | 0.472 | 0.750 | 0.750 | 5.913 | 1.699 | 0.787 | 1.067 | G*40,GE40R/L,GE40-AL | CGWSR/L12 | 40GR/L  | 3.69   |
| CGWSR/L16-40GR/L | 0.157 | 0.472 | 1.000 | 1.000 | 5.913 | 1.699 | 0.984 | 1.264 | G*40,GE40R/L,GE40-AL | CGWSR/L16 | 40GR/L  | 3.69   |
| CGWSR/L12-50GR/L | 0.197 | 0.472 | 0.750 | 0.750 | 5.913 | 1.699 | 0.787 | 1.071 | G*50,GE50R           | CGWSR/L12 | 50GR    | 3.69   |

| Metric             | CW | CDX | H  | B  | LF    | LH    | HF | WF   | Insert               | Shank       | Adapter | Torque* |
|--------------------|----|-----|----|----|-------|-------|----|------|----------------------|-------------|---------|---------|
| CGWSR/L2020-20GR/L | 2  | 12  | 20 | 20 | 150.2 | 43.15 | 20 | 26.8 | GE20, GE20-AL        | CGWSR/L2020 | 20GR/L  | 5       |
| CGWSR/L2525-20GR/L | 2  | 12  | 25 | 25 | 150.2 | 43.15 | 25 | 31.8 | GE20, GE20-AL        | CGWSR/L2525 | 20GR/L  | 5       |
| CGWSR/L2020-30GR/L | 3  | 12  | 20 | 20 | 150.2 | 43.15 | 20 | 27   | G*30,GE30R/L,GE30-AL | CGWSR/L2020 | 30GR/L  | 5       |
| CGWSR/L2525-30GR/L | 3  | 12  | 25 | 25 | 150.2 | 43.15 | 25 | 32   | G*30,GE30R/L,GE30-AL | CGWSR/L2525 | 30GR/L  | 5       |
| CGWSR/L2020-40GR/L | 4  | 12  | 20 | 20 | 150.2 | 43.15 | 20 | 27.1 | G*40,GE40R/L,GE40-AL | CGWSR/L2020 | 40GR/L  | 5       |
| CGWSR/L2525-40GR/L | 4  | 12  | 25 | 25 | 150.2 | 43.15 | 25 | 32.1 | G*40,GE40R/L,GE40-AL | CGWSR/L2525 | 40GR/L  | 5       |
| CGWSR/L2020-50GR/L | 5  | 12  | 20 | 20 | 150.2 | 43.15 | 20 | 27.2 | G*50,GE50R           | CGWSR/L2020 | 50GR    | 5       |

Note: For diameter compensation values in traversing, see page F129.  
 Use right-hand adapters (R) with right-hand shanks (R); and left-hand adapters (L) with left-hand shanks (L).  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

## SPARE PARTS

| Designation       | Clamping screw | Adapter screw | Wrench |
|-------------------|----------------|---------------|--------|
| CGW*R/L***-**G... | CHHM5-18       | CSHB-6        | P-4    |

## Combination of adapter and shank

| Shank    | Adapter      |              |
|----------|--------------|--------------|
|          | **GR, **GR-L | **GL, **GL-L |
| CGWSR... | ●            |              |
| CGWSL... |              | ●            |
| CGWTR... |              | ●            |
| CGWTL... | ●            |              |

● : Corresponding

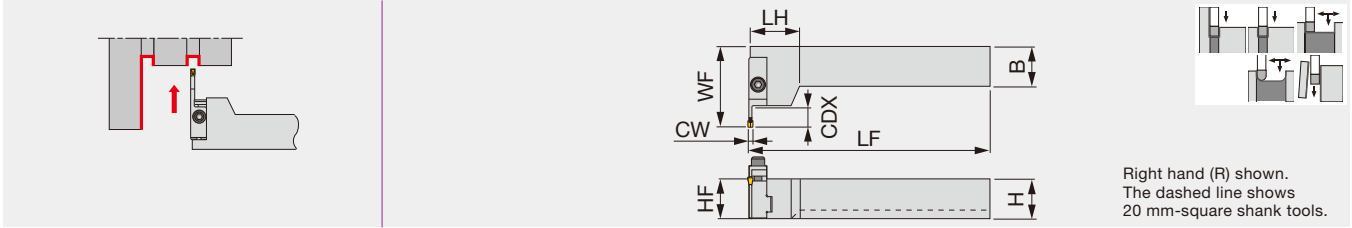
Reference pages: Inserts → F089 - F094, Shanks → F085, Standard cutting conditions → F094



# MY-T SERIES

## CGWTR/L-G

External grooving, parting and turning toolholder, for 1 corner inserts



| Inch             | CW    | CDX   | H     | B     | LF    | LH    | HF    | WF    | Insert               | Shank     | Adapter | Torque |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-----------|---------|--------|
| CGWTR/L12-30GL/R | 0.118 | 0.472 | 0.750 | 0.750 | 5.911 | 0.508 | 0.750 | 1.960 | G*30,GE30R/L,GE30-AL | CGWTR/L12 | 30GL/R  | 3.69   |
| CGWTR/L16-30GL/R | 0.118 | 0.472 | 1.000 | 1.000 | 5.911 | 0.508 | 1.000 | 1.960 | G*30,GE30R/L,GE30-AL | CGWTR/L16 | 30GL/R  | 3.69   |
| CGWTR/L12-40GL/R | 0.157 | 0.472 | 0.750 | 0.750 | 5.911 | 0.508 | 0.750 | 1.960 | G*40,GE40R/L,GE40-AL | CGWTR/L12 | 40GL/R  | 3.69   |
| CGWTR/L16-40GL/R | 0.157 | 0.472 | 1.000 | 1.000 | 5.911 | 0.508 | 1.000 | 1.960 | G*40,GE40R/L,GE40-AL | CGWTR/L16 | 40GL/R  | 3.69   |
| CGWTR/L12-50GL/R | 0.197 | 0.472 | 0.750 | 0.750 | 5.911 | 0.508 | 0.750 | 1.960 | G*50,GE50R/L         | CGWTR/L12 | 50GL/R  | 3.69   |
| CGWTR/L16-50GL/R | 0.197 | 0.472 | 1.000 | 1.000 | 5.911 | 0.508 | 1.000 | 1.960 | G*50,GE50R/L         | CGWTR/L16 | 50GL/R  | 3.69   |

| Metric             | CW | CDX | H  | B  | LF    | LH   | HF | WF   | Insert               | Shank       | Adapter | Torque* |
|--------------------|----|-----|----|----|-------|------|----|------|----------------------|-------------|---------|---------|
| CGWTR/L2020-30GL/R | 3  | 12  | 20 | 20 | 150   | 12.9 | 20 | 49.9 | G*30,GE30R/L,GE30-AL | CGWTR/L2020 | 30GL/R  | 5       |
| CGWTR/L2525-30GL/R | 3  | 12  | 25 | 25 | 150   | 12.9 | 25 | 49.9 | G*30,GE30R/L,GE30-AL | CGWTR/L2525 | 30GL/R  | 5       |
| CGWTR/L2020-40GL/R | 4  | 12  | 20 | 20 | 150.1 | 12.9 | 20 | 49.9 | G*40,GE40R/L,GE40-AL | CGWTR/L2020 | 40GL/R  | 5       |
| CGWTR/L2525-40GL/R | 4  | 12  | 25 | 25 | 150.1 | 12.9 | 25 | 49.9 | G*40,GE40R/L,GE40-AL | CGWTR/L2525 | 40GL/R  | 5       |
| CGWTR/L2020-50GL/R | 5  | 12  | 20 | 20 | 150.2 | 12.9 | 20 | 49.9 | G*50,GE50R/L         | CGWTR/L2020 | 50GL/R  | 5       |
| CGWTR/L2525-50GL/R | 5  | 12  | 25 | 25 | 150.2 | 12.9 | 25 | 49.9 | G*50,GE50R/L         | CGWTR/L2525 | 50GL/R  | 5       |

Note: For diameter compensation values in traversing, see page **F129**.  
 Use left-hand adapters (L) with right-hand shanks (R); and right-hand adapters (R) with left-hand shanks (L).  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation      | Clamping screw | Adapter screw | Wrench |
|------------------|----------------|---------------|--------|
| CGW*R/L****-G... | CHHM5-18       | CSHB-6        | P-4    |

### Combination of adapter and shank

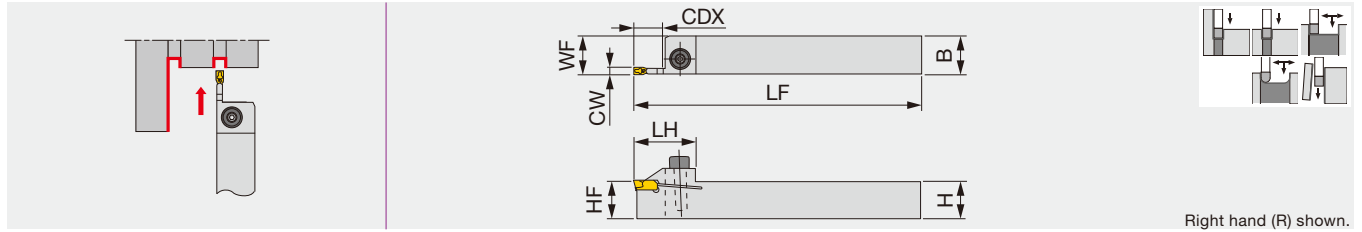
| Shank    | Adapter      |              |
|----------|--------------|--------------|
|          | **GR, **GR-L | **GL, **GL-L |
| CGWSR... | ●            |              |
| CGWSL... |              | ●            |
| CGWTR... |              | ●            |
| CGWTL... | ●            |              |

● : Corresponding

Reference pages: Inserts → **F089 - F094**, Shanks → **F085**, Standard cutting conditions → **F094**

## CGSSR/L

External grooving, parting and turning toolholder, for 1 corner inserts

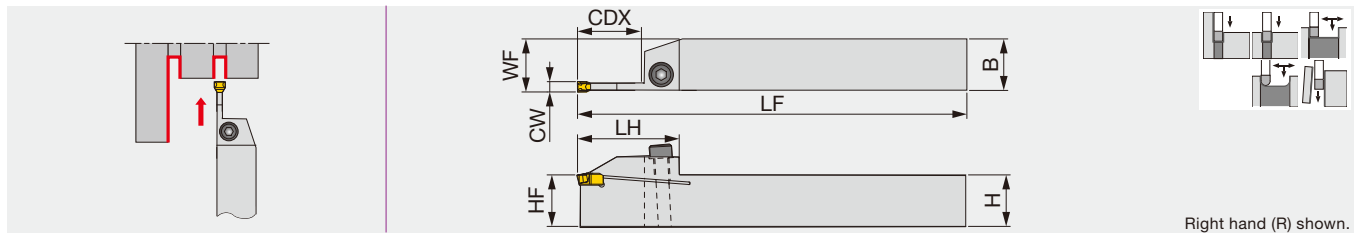


| Metric         | CW | CDX | H  | B  | LF  | LH | HF | WF   | Insert               | Torque |
|----------------|----|-----|----|----|-----|----|----|------|----------------------|--------|
| CGSSR/L1616-20 | 2  | 16  | 16 | 16 | 125 | 27 | 16 | 16.2 | GE20, GE20-AL        | 5      |
| CGSSR/L2020-20 | 2  | 16  | 20 | 20 | 150 | 27 | 20 | 20.2 | GE20, GE20-AL        | 5      |
| CGSSR/L2525-20 | 2  | 16  | 25 | 25 | 150 | 27 | 25 | 25.2 | GE20, GE20-AL        | 5      |
| CGSSR/L1616-30 | 3  | 12  | 16 | 16 | 125 | 27 | 16 | 16.5 | G*30,GE30R/L,GE30-AL | 5      |
| CGSSR/L2020-30 | 3  | 12  | 20 | 20 | 150 | 27 | 20 | 20.5 | G*30,GE30R/L,GE30-AL | 5      |
| CGSSR/L2525-30 | 3  | 12  | 25 | 25 | 150 | 27 | 25 | 25.5 | G*30,GE30R/L,GE30-AL | 5      |
| CGSSR/L2020-40 | 4  | 12  | 20 | 20 | 150 | 27 | 20 | 20.6 | G*40,GE40R/L,GE40-AL | 5      |
| CGSSR/L2525-40 | 4  | 12  | 25 | 25 | 150 | 27 | 25 | 25.6 | G*40,GE40R/L,GE40-AL | 5      |
| CGSSR/L2020-50 | 5  | 12  | 20 | 20 | 150 | 27 | 20 | 20.7 | G*50,GE50R/L         | 5      |
| CGSSR/L2525-50 | 5  | 12  | 25 | 25 | 150 | 27 | 25 | 25.7 | G*50,GE50R/L         | 5      |

Torque: Recommended clamping torque: N·m

## CGSSR/L-D

External grooving, parting and turning toolholder, for 1 corner inserts



| Metric          | CW | CDX | H  | B  | LF  | LH   | HF | WF   | Insert               | Torque |
|-----------------|----|-----|----|----|-----|------|----|------|----------------------|--------|
| CGSSR/L1616-30D | 3  | 22  | 16 | 16 | 125 | 36.2 | 16 | 16.5 | G*30,GE30R/L,GE30-AL | 5      |
| CGSSR/L2020-30D | 3  | 22  | 20 | 20 | 150 | 36.2 | 20 | 20.5 | G*30,GE30R/L,GE30-AL | 5      |
| CGSSR/L2525-30D | 3  | 22  | 25 | 25 | 150 | 36.2 | 25 | 25.5 | G*30,GE30R/L,GE30-AL | 5      |
| CGSSR/L2020-40D | 4  | 25  | 20 | 20 | 150 | 39.5 | 20 | 20.6 | G*40,GE40R/L,GE40-AL | 5      |
| CGSSR/L2525-40D | 4  | 25  | 25 | 25 | 150 | 39.5 | 25 | 25.6 | G*40,GE40R/L,GE40-AL | 5      |
| CGSSR/L2020-50D | 5  | 25  | 20 | 20 | 150 | 39.5 | 20 | 20.7 | G*50,GE50R/L         | 5      |
| CGSSR/L2525-50D | 5  | 25  | 25 | 25 | 150 | 39.5 | 25 | 25.7 | G*50,GE50R/L         | 5      |

Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CGSSR/L...  | CHHM5-18       | P-4    |

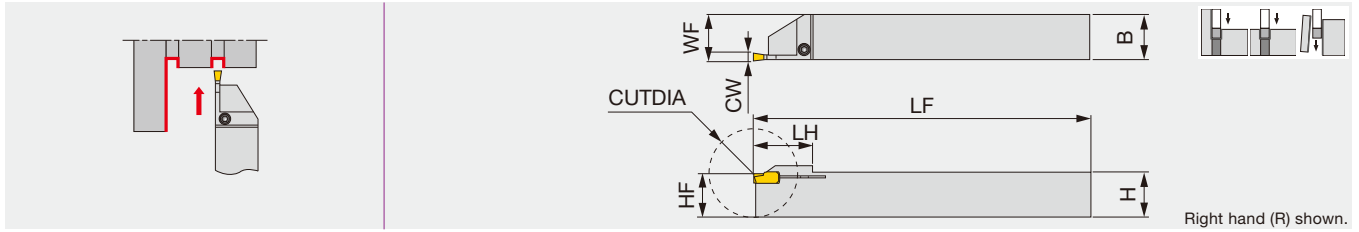
Reference pages: Inserts → **F089 - F094**, Standard cutting conditions → **F094**



# MY-T SERIES

JCGSSR/L

External grooving and parting toolholder, for Swiss lathes



| Metric          | CW | CUTDIA | H  | B  | LF  | LH   | HF | WF   | Insert        | Torque |
|-----------------|----|--------|----|----|-----|------|----|------|---------------|--------|
| JCGSSR/L1010-20 | 2  | 20     | 10 | 10 | 125 | 15   | 10 | 10.2 | GE20, GE20-AL | 2.3    |
| JCGSSR/L1212-20 | 2  | 25     | 12 | 12 | 125 | 19   | 12 | 12.2 | GE20, GE20-AL | 2.3    |
| JCGSSR/L1616-20 | 2  | 32     | 16 | 16 | 125 | 22.5 | 16 | 16.2 | GE20, GE20-AL | 2.3    |

Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| JCGSSR/L... | CSTB-3         | T-9F   |

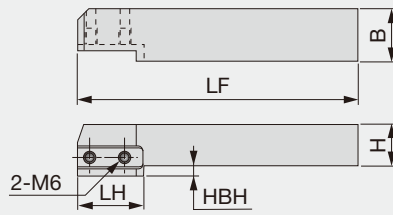


Reference pages: Inserts → [F089 - F094](#), Standard cutting conditions → [F094](#)



## CGWSR/L

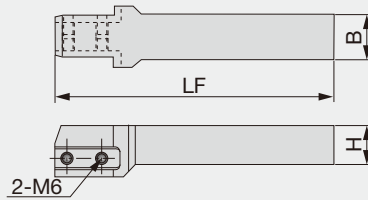
Shank for CGWSR/L-WG, -WG-L, -G, -CGD, -FL-G/TP, and -#S/D toolholders



| Inch        | H     | B     | LF    | LH    | HBH   |
|-------------|-------|-------|-------|-------|-------|
| CGWSR/L12   | 0.750 | 0.750 | 5.400 | 1.310 | 0.250 |
| CGWSR/L16   | 1.000 | 1.000 | 5.400 | -     | -     |
| Metric      | H     | B     | LF    | LH    | HBH   |
| CGWSR/L2020 | 20    | 20    | 137   | 32.5  | 5     |
| CGWSR/L2525 | 25    | 25    | 137   | -     | -     |

## CGWSRL

Shank of toolholders. Vertical type with offset

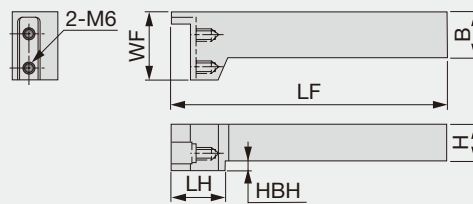


| Inch     | H    | B    | LF   |
|----------|------|------|------|
| CGWSRL12 | 0.75 | 0.75 | 5.40 |
| CGWSRL16 | 1.00 | 1.00 | 5.40 |

Right (R) or Left (L) hand cartridges can be used in this toolholder

## CGWTR/L

Shank for CGWSR/L-WG, -WG-L, -G, -CGD, -FL-G/TP, and -#S/D toolholders, for tangentially clamped adapter



| Inch        | H    | B    | LF   | LH   | WF   | HBH   |
|-------------|------|------|------|------|------|-------|
| CGWTR/L12   | 0.75 | 0.75 | 6.00 | 1.20 | 1.50 | 0.234 |
| CGWTR/L16   | 1.00 | 1.00 | 6.00 | -    | 1.50 | -     |
| Metric      | H    | B    | LF   | LH   | WF   | HBH   |
| CGWTR/L2020 | 20   | 20   | 150  | 30.5 | 37   | 5     |
| CGWTR/L2525 | 25   | 25   | 150  | -    | 37   | -     |

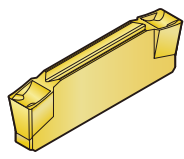
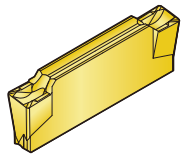
## SPARE PARTS



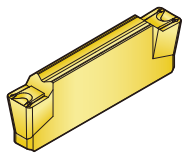
| Designation | Adapter screw |
|-------------|---------------|
| CGW...      | CSHB-6        |

# CHIPBREAKER GUIDE (for 2 corner inserts)

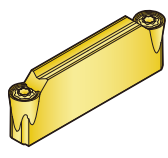
## External grooving and parting

| <p><b>WGE</b></p>  <p><b>F087</b></p>     | <p>1st choice for external grooving and parting<br/>Excellent chip control for grooving<br/>CW = 0.079" - 0.197"</p> | <table border="1"> <caption>Feed: f (ipr) vs Groove width: CW (in) for WGE</caption> <thead> <tr> <th>Groove width: CW (in)</th> <th>External</th> <th>Internal</th> <th>Face</th> <th>Parting</th> </tr> </thead> <tbody> <tr> <td>0.079</td> <td>0.008</td> <td>0.002</td> <td>0.009</td> <td>0.005</td> </tr> <tr> <td>0.118</td> <td>0.010</td> <td>0.002</td> <td>0.009</td> <td>0.007</td> </tr> <tr> <td>0.157</td> <td>0.011</td> <td>0.002</td> <td>0.010</td> <td>0.008</td> </tr> <tr> <td>0.197</td> <td>0.012</td> <td>0.002</td> <td>0.011</td> <td>0.009</td> </tr> </tbody> </table> | Groove width: CW (in) | External | Internal | Face  | Parting | 0.079 | 0.008 | 0.002 | 0.009 | 0.005 | 0.118 | 0.010 | 0.002 | 0.009 | 0.007 | 0.157 | 0.011 | 0.002 | 0.010 | 0.008 | 0.197 | 0.012 | 0.002 | 0.011 | 0.009 |
|--|--|--|-----------------------|----------|----------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Groove width: CW (in)  | External   | Internal   | Face                  | Parting  |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.079  | 0.008  | 0.002  | 0.009                 | 0.005    |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.118  | 0.010  | 0.002  | 0.009                 | 0.007    |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.157  | 0.011  | 0.002  | 0.010                 | 0.008    |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.197  | 0.012  | 0.002  | 0.011                 | 0.009    |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <p><b>WGE R/L</b></p>  <p><b>F087</b></p> | <p>Handed insert<br/>Minimize burr generation when workpiece is cut off<br/>CW = 0.079" - 0.197"</p>                 | <table border="1"> <caption>Feed: f (ipr) vs Groove width: CW (in) for WGE R/L</caption> <thead> <tr> <th>Groove width: CW (in)</th> <th>External</th> </tr> </thead> <tbody> <tr> <td>0.079</td> <td>0.004</td> </tr> <tr> <td>0.118</td> <td>0.006</td> </tr> <tr> <td>0.157</td> <td>0.006</td> </tr> <tr> <td>0.197</td> <td>0.006</td> </tr> </tbody> </table>  | Groove width: CW (in) | External | 0.079    | 0.004 | 0.118   | 0.006 | 0.157 | 0.006 | 0.197 | 0.006 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Groove width: CW (in)  | External   |  |                       |          |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.079  | 0.004  |  |                       |          |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.118  | 0.006  |  |                       |          |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.157  | 0.006  |  |                       |          |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.197  | 0.006  |  |                       |          |          |       |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

## External grooving and turning

| <p><b>WGT</b></p>  <p><b>F088</b></p> | <p>1st choice for turning<br/>Low cutting force and good chip control for traversing<br/>CW = 0.118" - 0.197"</p> | <table border="1"> <caption>Depth of cut: ap (in) vs Feed: f (ipr) for WGT</caption> <thead> <tr> <th>Feed: f (ipr)</th> <th>WGT50</th> <th>WGT40</th> <th>WGT30</th> </tr> </thead> <tbody> <tr> <td>0.002</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.004</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.006</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.008</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.010</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.012</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> </tbody> </table> | Feed: f (ipr) | WGT50 | WGT40 | WGT30 | 0.002 | 0.079 | 0.079 | 0.039 | 0.004 | 0.079 | 0.079 | 0.039 | 0.006 | 0.079 | 0.079 | 0.039 | 0.008 | 0.079 | 0.079 | 0.039 | 0.010 | 0.079 | 0.079 | 0.039 | 0.012 | 0.079 | 0.079 | 0.039 |
|--|---|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Feed: f (ipr)  | WGT50   | WGT40  | WGT30         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.002  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.004  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.006  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.008  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.010  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.012  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

## Profiling

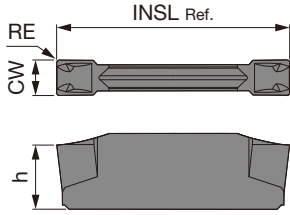
| <p><b>WGR</b></p>  <p><b>F088</b></p> | <p>Low cutting force and good chip control for profiling<br/>CW = 0.118" - 0.197"</p> | <table border="1"> <caption>Depth of cut: ap (in) vs Feed: f (ipr) for WGR</caption> <thead> <tr> <th>Feed: f (ipr)</th> <th>WGR50</th> <th>WGR40</th> <th>WGR30</th> </tr> </thead> <tbody> <tr> <td>0.002</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.004</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.006</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.008</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.010</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> <tr> <td>0.012</td> <td>0.079</td> <td>0.079</td> <td>0.039</td> </tr> </tbody> </table> | Feed: f (ipr) | WGR50 | WGR40 | WGR30 | 0.002 | 0.079 | 0.079 | 0.039 | 0.004 | 0.079 | 0.079 | 0.039 | 0.006 | 0.079 | 0.079 | 0.039 | 0.008 | 0.079 | 0.079 | 0.039 | 0.010 | 0.079 | 0.079 | 0.039 | 0.012 | 0.079 | 0.079 | 0.039 |
|--|---|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Feed: f (ipr)  | WGR50   | WGR40  | WGR30         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.002  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.004  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.006  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.008  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.010  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 0.012  | 0.079   | 0.079  | 0.039         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

Please see page F\*\*\* for the product details.

# INSERTS (2 corners)

## WGE

For external grooving and parting



|   |                |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|--|---|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |  |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |

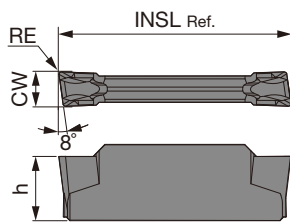
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       |  |  |  | Cermets |        | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|--------|-------|-------|--|--|--|---------|--------|--------------|-----------|-------|
|             |   |   |            | T9225  | AH120 | GH730 |  |  |  |         | NS9530 |              |           |       |
| WGE20       | 2                                       | 0.079                                     | 0.008      | ●      | ●     | ●     |  |  |  |         |        |              | 0.787     | 0.185 |
| WGE30       | 3                                       | 0.118                                     | 0.008      | ●      | ●     | ●     |  |  |  |         |        |              | 0.787     | 0.217 |
| WGE40       | 4                                       | 0.157                                     | 0.008      | ●      | ●     | ●     |  |  |  |         |        |              | 0.984     | 0.224 |
| WGE50       | 5                                       | 0.197                                     | 0.008      | ●      | ●     | ●     |  |  |  |         |        |              | 0.984     | 0.232 |

● : Line up

## WGE(R/L)

For parting off (handed inserts)



Right hand (R) shown.

|   |                |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

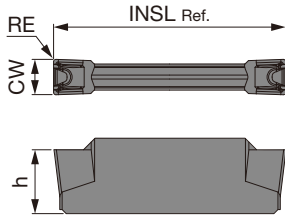
★ : First choice  
☆ : Second choice

| Designation | HAND | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |  |  |  |  | INSL<br>(in) | h<br>(in) |       |       |
|-------------|------|---|---|------------|--------|-------|--|--|--|--|--------------|-----------|-------|-------|
|             |      |   |   |            | AH120  | GH730 |  |  |  |  |              |           |       |       |
| WGE20R      | R    | 2                                       | 0.079                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.787 | 0.185 |
| WGE20L      | L    | 2                                       | 0.079                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.787 | 0.185 |
| WGE30R      | R    | 3                                       | 0.118                                     | 0.008      | ●      | ●     |  |  |  |  |              |           | 0.787 | 0.217 |
| WGE30L      | L    | 3                                       | 0.118                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.787 | 0.217 |
| WGE40R      | R    | 4                                       | 0.157                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.984 | 0.224 |
| WGE40L      | L    | 4                                       | 0.157                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.984 | 0.224 |
| WGE50R      | R    | 5                                       | 0.197                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.984 | 0.232 |
| WGE50L      | L    | 5                                       | 0.197                                     | 0.008      |        | ●     |  |  |  |  |              |           | 0.984 | 0.232 |

● : Line up

## WGT

For external grooving, parting, and turning



|   |                |   |   |   |  |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  | ★ |   |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  |   | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |

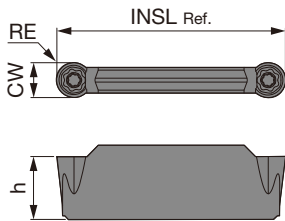
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  | INSL<br>(in) | h<br>(in) |
|-------------|----------------------------|------------------------------|------------|--------|-------|-------|---------|--|--------------|-----------|
|             |                            |                              |            | T9225  | AH120 | GH730 | NS9530  |  |              |           |
| WGT30       | 3                          | 0.118                        | 0.016      | ●      | ●     | ●     | ●       |  | 0.787        | 0.217     |
| WGT40       | 4                          | 0.157                        | 0.016      | ●      | ●     | ●     | ●       |  | 0.984        | 0.224     |
| WGT50       | 5                          | 0.197                        | 0.016      | ●      | ●     | ●     | ●       |  | 0.984        | 0.232     |

● : Line up

## WGR

For profiling (full radius)



|   |                |   |   |   |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  | INSL<br>(in) | h<br>(in) |
|-------------|----------------------------|------------------------------|------------|--------|-------|-------|---------|--|--------------|-----------|
|             |                            |                              |            | T9225  | AH120 | GH730 | NS9530  |  |              |           |
| WGR30       | 3                          | 0.118                        | 0.059      | ●      | ●     | ●     | ●       |  | 0.787        | 0.217     |
| WGR40       | 4                          | 0.157                        | 0.079      | ●      | ●     | ●     | ●       |  | 0.984        | 0.224     |
| WGR50       | 5                          | 0.197                        | 0.098      | ●      | ●     | ●     | ●       |  | 0.984        | 0.232     |

● : Line up

## STANDARD CUTTING CONDITIONS (for 2 corner inserts)

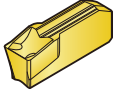
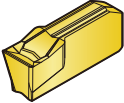
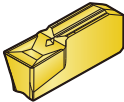
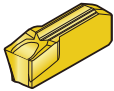
| ISO   | Workpiece material                                    | Recommended grade           | Cutting speed V <sub>c</sub> (sfm) | Operation           | Feed: f (ipr)                            |  |  |                |                       |                |   |   |   |
|---|---|-----------------------------|------------------------------------|---------------------|--|--|--|----------------|-----------------------|----------------|---|---|---|
|   |   |                             |                                    |                     | Groove width: CW                         |  |  |                |                       |                |   |   |   |
|   |   |                             |                                    |                     | 2 mm (0.079")                            | 3 mm (0.118")                            | 4 mm (0.157")                            | 5 mm (0.197")  |                       |                |   |   |   |
| P   | Low carbon steels<br>Alloy steels<br>(~ HB150)        | T9225                       | 262 - 984                          | Grooving<br>(WGE□□) | 0.0024 - 0.008                           | 0.0024 - 0.010                           | 0.0028 - 0.011                           | 0.0028 - 0.012 |                       |                |   |   |   |
|   |   | NS9530                      | 328 - 656                          |                     |  |  |  |                |                       |                |   |   |   |
|   |   | GH730, AH120                | 164 - 591                          |                     |  |  |  |                |                       |                |   |   |   |
|   | Medium carbon steels<br>Alloy steels<br>(HB150 ~ 250) | T9225                       | 262 - 722                          |                     |  |  |  |                | Parting<br>(WGE□□R/L) | 0.0016 - 0.004 | 0.0016 - 0.006                          | 0.0016 - 0.006                          | 0.0016 - 0.006                          |
|   |   | NS9530                      | 262 - 591                          |                     |  |  |  |                |                       |                |   |   |   |
|   |   | GH730, AH120                | 164 - 492                          |                     |  |  |  |                |                       |                |   |   |   |
| High carbon steels<br>Alloy steels<br>(HB250 ~) | T9225   | 262 - 722                   | Turning<br>(WGT□□)                 | -                   | ap = 0.020 - 0.059<br>f = 0.0024 - 0.008 | ap = 0.020 - 0.079<br>f = 0.0024 - 0.010 | ap = 0.020 - 0.098<br>f = 0.0024 - 0.011 |                |                       |                |   |   |   |
|   | NS9530  | 262 - 492                   |                                    |                     |  |  |  |                |                       |                |   |   |   |
|   | GH730, AH120  | 164 - 492                   |                                    |                     |  |  |  |                |                       |                |   |   |   |
| M   | Stainless steels                                      | GH730, AH120                |                                    |                     |  |  |  | 164 - 394      | Profiling<br>(WGR□□)  | -              | ap = 0.020 - 0.055<br>f = 0.002 - 0.010 | ap = 0.020 - 0.059<br>f = 0.002 - 0.010 | ap = 0.020 - 0.063<br>f = 0.002 - 0.012 |
| K   |   | Gray and ductile cast irons |                                    |                     |  |  |  | GH730, AH120   |                       |                |   |   |   |

Note: For diameter compensation values in traversing, see page F129.

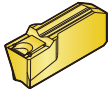
Reference pages: Toolholders → F079, F080

# CHIPBREAKER GUIDE (for 1 corner inserts)

## External grooving and parting

|   |   |  |  |
|---|---|--|--|
| <p><b>GE</b></p>  <p><b>F091</b></p>       | <p>1st choice for external grooving and parting<br/>Excellent chip control</p> <p>CW = 0.079" - 0.197"</p>                            | <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> | <p>Grade<br/>Insert<br/>Ext. Toolholder</p>                            |
| <p><b>GF</b></p>  <p><b>F092</b></p>       | <p>1st choice for face grooving<br/>Low cutting force and good chip control for face grooving</p> <p>CW = 0.118" - 0.197"</p>         | <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> | <p>Int. Toolholder<br/>Threading</p>                                   |
| <p><b>GN</b></p>  <p><b>F093</b></p>     | <p>1st choice for internal grooving<br/>Low cutting force and good chip control for internal grooving</p> <p>CW = 0.118" - 0.197"</p> | <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> | <p>Ext. Toolholder<br/>Grooving</p>                                    |
| <p><b>GE R/L</b></p>  <p><b>F093</b></p> | <p>Handed insert<br/>Minimize burr generation when workpiece is cut off</p> <p>CW = 0.118" - 0.197"</p>                               | <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> | <p>Miniature tool<br/>Milling cutter<br/>Endmill<br/>Drilling tool</p> |

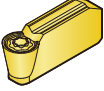
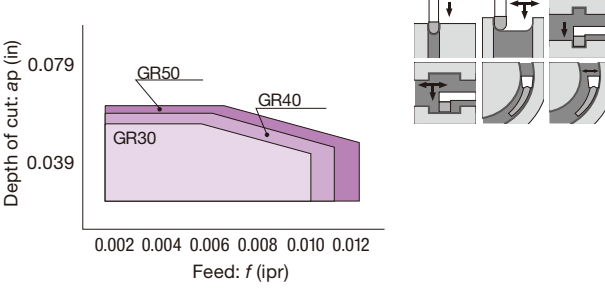
## External grooving and turning

|   |  |   |  |
|---|--|---|--|
| <p><b>GT</b></p>  <p><b>F091</b></p> | <p>1st choice for turning<br/>Low cutting force and good chip control for traversing</p> <p>CW = 0.118" - 0.197"</p> | <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> | <p>Tooling System<br/>User's Guide<br/>Index</p> |
|---|--|---|--|

Please see page F\*\*\* for the product details.

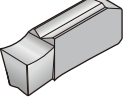
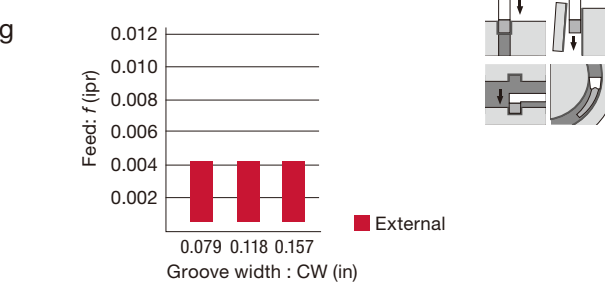


## Profiling

|   |  |  |
|---|--|--|
| <p><b>GR</b></p>  <p><b>F092</b></p> | <p>Full radius type<br/>Low cutting force and good chip control for profiling<br/>CW = 0.118" - 0.197"</p> |  |
|---|--|--|

## For aluminum and non-ferrous metal

- External
- Internal
- Face
- Parting
- Others

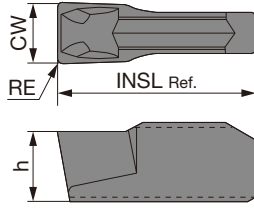
|  |   |  |
|--|---|--|
| <p><b>GE-AL</b></p>  <p><b>F094</b></p> | <p>Reduce cutting force and welding due to sharp chipbreaker<br/>CW = 0.079" - 0.157"</p> |  |
|--|---|--|

Please see page F\*\*\* for the product details.

# INSERTS (1 corner)

## GE

For external grooving and parting



|   |                |   |   |   |  |  |  |   |  |  |  |  |
|---|----------------|---|---|---|--|--|--|---|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |   |  |  |  |  |

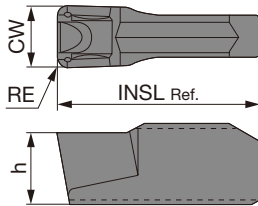
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  | INSL<br>(in) | h<br>(in) |
|-------------|----------------------------|------------------------------|------------|--------|-------|-------|---------|--|--------------|-----------|
|             |                            |                              |            | T9225  | AH120 | GH730 | NS9530  |  |              |           |
| GE20        | 2                          | 0.079                        | 0.008      | ●      | ●     |       | ●       |  | 0.394        | 0.138     |
| GE30        | 3                          | 0.118                        | 0.008      | ●      | ●     | ●     | ●       |  | 0.394        | 0.138     |
| GE40        | 4                          | 0.157                        | 0.008      | ●      | ●     | ●     | ●       |  | 0.394        | 0.157     |
| GE50        | 5                          | 0.197                        | 0.008      | ●      | ●     | ●     | ●       |  | 0.472        | 0.177     |

● : Line up

## GT

For external grooving and turning



|   |                |   |   |   |  |  |  |   |  |  |  |  |
|---|----------------|---|---|---|--|--|--|---|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

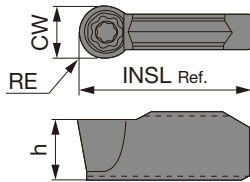
| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  | INSL<br>(in) | h<br>(in) |
|-------------|----------------------------|------------------------------|------------|--------|-------|-------|---------|--|--------------|-----------|
|             |                            |                              |            | T9225  | AH120 | GH730 | NS9530  |  |              |           |
| GT30        | 3                          | 0.118                        | 0.016      | ●      | ●     | ●     | ●       |  | 0.394        | 0.138     |
| GT40        | 4                          | 0.157                        | 0.016      | ●      | ●     | ●     | ●       |  | 0.394        | 0.157     |
| GT50        | 5                          | 0.197                        | 0.016      | ●      | ●     | ●     | ●       |  | 0.472        | 0.177     |

● : Line up



## GR

For profiling (full radius)



|          |                |   |   |   |  |  |  |  |   |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|---|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |
| <b>K</b> | Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |
| <b>S</b> | Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |

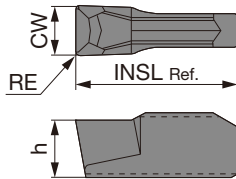
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermet |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|--------|--|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530 |  |  |              |           |
| GR30        | 3                                       | 0.118                                     | 0.059      | ●      | ●     | ●     | ●      |  |  | 0.394        | 0.138     |
| GR40        | 4                                       | 0.157                                     | 0.079      | ●      | ●     | ●     | ●      |  |  | 0.394        | 0.157     |
| GR50        | 5                                       | 0.197                                     | 0.098      | ●      | ●     | ●     | ●      |  |  | 0.472        | 0.177     |

● : Line up

## GF

For face grooving



|          |                |   |  |   |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|---|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  | ☆ |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |   |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

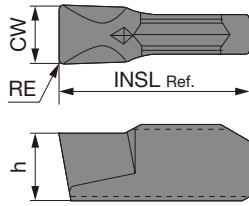
| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  | Cermet |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|--|--------|--|--|--------------|-----------|
|             |   |   |            | GH730  |  | NS9530 |  |  |              |           |
| GF30        | 3                                       | 0.118                                     | 0.008      | ●      |  | ●      |  |  | 0.394        | 0.138     |
| GF40        | 4                                       | 0.157                                     | 0.008      | ●      |  | ●      |  |  | 0.394        | 0.157     |
| GF50        | 5                                       | 0.197                                     | 0.008      | ●      |  | ●      |  |  | 0.472        | 0.177     |

● : Line up

Reference pages: Toolholders → **F081 - F084**, Standard cutting conditions → **F094**

## GN

For internal grooving



|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

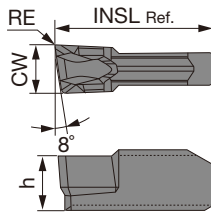
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|--------|--|--|--|--|--|--|--------------|-----------|-------|
|             |   |   |            | GH730  |  |  |  |  |  |  |              |           |       |
| GN30        | 3                                       | 0.118                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GN40        | 4                                       | 0.157                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.157 |
| GN50        | 5                                       | 0.197                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.472     | 0.177 |

● : Line up

## GE-R/L

For parting off (handed inserts)



Right hand (R) shown.

|          |                |   |   |  |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ | ☆ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |  |  |  |  |  |  |  |

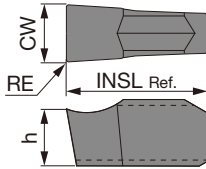
★ : First choice  
☆ : Second choice

| Designation | HAND | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|------|---|---|------------|--------|-------|--|--|--|--|--|--------------|-----------|-------|
|             |      |   |   |            | AH120  | GH730 |  |  |  |  |  |              |           |       |
| GE30R       | R    | 3                                       | 0.118                                     | 0.008      | ●      | ●     |  |  |  |  |  |              | 0.394     | 0.138 |
| GE30L       | L    | 3                                       | 0.118                                     | 0.008      | ●      | ●     |  |  |  |  |  |              | 0.394     | 0.138 |
| GE40R       | R    | 4                                       | 0.157                                     | 0.008      | ●      | ●     |  |  |  |  |  |              | 0.394     | 0.157 |
| GE40L       | L    | 4                                       | 0.157                                     | 0.008      | ●      | ●     |  |  |  |  |  |              | 0.394     | 0.157 |
| GE50R       | R    | 5                                       | 0.197                                     | 0.008      | ●      | ●     |  |  |  |  |  |              | 0.472     | 0.177 |
| GE50L       | L    | 5                                       | 0.197                                     | 0.008      | ●      | ●     |  |  |  |  |  |              | 0.472     | 0.177 |

● : Line up

## GE-AL

For aluminum and non-ferrous metal



|          |                |   |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|
| <b>P</b> | Steel          |   |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Uncoated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|----------|--|--|--|--|--|--|--------------|-----------|-------|
|             |   |   |            | KS05F    |  |  |  |  |  |  |              |           |       |
| GE20-AL     | 2                                       | 0.079                                     | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE30-AL     | 3                                       | 0.118                                     | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE40-AL     | 4                                       | 0.157                                     | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.157 |

● : Line up

## STANDARD CUTTING CONDITIONS (for 1 corner inserts)

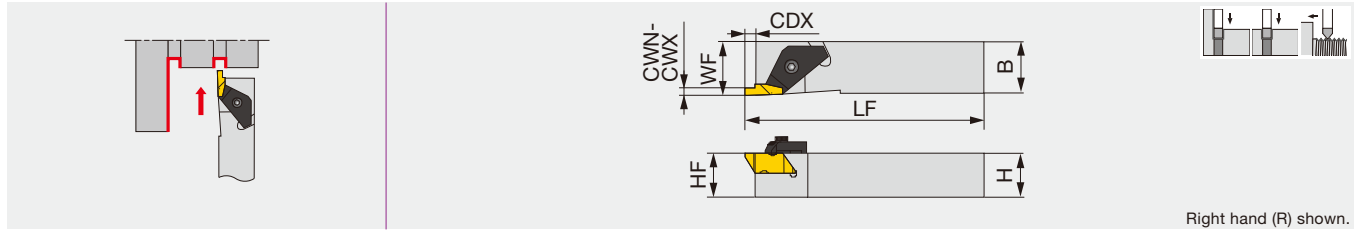
| ISO  | Workpiece material                                | Grades       | Cutting speed<br>Vc (sfm) |
|--|---|--------------|---------------------------|
| <b>P</b>                                     | Low carbon steel, Alloy steel<br>(~ HB150)        | T9225        | 262 - 984                 |
|  |   | NS9530       | 328 - 656                 |
|  |   | GH730, AH120 | 164 - 591                 |
|  | Medium carbon steel, Alloy steel<br>(HB150 ~ 250) | T9225        | 262 - 722                 |
|  |   | NS9530       | 262 - 591                 |
|  |   | GH730, AH120 | 164 - 492                 |
| High carbon steel, Alloy steel<br>(HB250 ~ ) | T9225   | 262 - 722    |                           |
|  | NS9530  | 262 - 492    |                           |
|  | GH730, AH120                                      | 164 - 394    |                           |
| <b>M</b>                                     | Stainless steel                                   | GH730, AH120 | 164 - 394                 |
| <b>K</b>                                     | Gray iron, Ductile cast iron                      | GH730, AH120 | 164 - 591                 |
| <b>N</b>                                     | Aluminum alloy,<br>Non-ferrous metal              | KS05F        | 656 - 984                 |

### For External

| Operation                                 | Feed: f (ipr)    |  |  |  |
|---|------------------|--|--|--|
|   | Groove width: CW |  |  |  |
|   | 2 mm (0.079")    | 3 mm (0.118")                            | 4 mm (0.157")                            | 5 mm (0.197")                            |
| Grooving<br>(GE**)                        | 0.0024 - 0.008   | 0.0024 - 0.010                           | 0.0028 - 0.011                           | 0.0028 - 0.012                           |
| Parting off<br>(GE**R/L)                  | 0.0016 - 0.004   | 0.0016 - 0.006                           | 0.0016 - 0.006                           | 0.0016 - 0.006                           |
| Traversing<br>(GT**)                      | -                | ap = 0.020 - 0.059<br>f = 0.0024 - 0.008 | ap = 0.020 - 0.079<br>f = 0.0024 - 0.010 | ap = 0.020 - 0.098<br>f = 0.0024 - 0.011 |
| Profiling<br>(GR**)                       | -                | ap = 0.020 - 0.055<br>f = 0.002 - 0.010  | ap = 0.020 - 0.059<br>f = 0.002 - 0.010  | ap = 0.020 - 0.063<br>f = 0.002 - 0.012  |
| Grooving for Aluminum alloys<br>(GE**-AL) | 0.0012 - 0.004   | 0.0012 - 0.004                           | 0.0012 - 0.004                           | -  |

For diameter compensation values in traversing, see page F129.

Reference pages: Toolholders → **F081 - F084**



| Inch         | CWN   | CWX   | CDX   | HF    | H     | B     | LF    | WF    | Insert        | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|--------|
| FLASR/L-082D | 0.031 | 0.128 | 0.138 | 0.500 | 0.500 | 0.500 | 6.000 | 0.500 | FL*-2**R/L... | 2.21   |
| FLASR-102B   | 0.031 | 0.128 | 0.138 | 0.625 | 0.625 | 0.625 | 4.500 | 0.625 | FL*-2**R...   | 2.21   |
| FLASR/L-103B | 0.031 | 0.250 | 0.210 | 0.625 | 0.625 | 0.625 | 4.500 | 0.625 | FL*-3**R/L... | 2.21   |

| Metric         | CWN | CWX | CDX  | HF | H  | B  | LF  | WF | Insert        | Torque* |
|----------------|-----|-----|------|----|----|----|-----|----|---------------|---------|
| FLASR/L-1616M3 | 1   | 3   | 5.31 | 16 | 16 | 16 | 125 | 16 | FL*-3**R/L... | 3       |

Note: Use right-hand toolholders (R) with right-hand inserts (R); and left-hand toolholders (L) with left-hand inserts (L).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

#### INCH SPARE PARTS

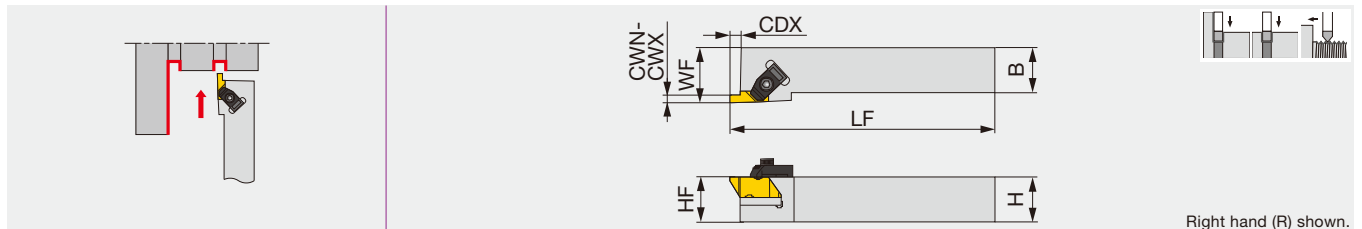
| Designation            | Clamp  | Clamping screw | Wrench  |
|------------------------|--------|----------------|---------|
| FLASR-082D             | TF-182 | S-310          | 7/64HEX |
| FLASL-082D             | TF-183 | S-310          | 7/64HEX |
| FLASR-102B, FLASR-103B | TF-184 | S-412          | 5/32HEX |
| FLASL-103B             | TF-185 | S-412          | 5/32HEX |

#### METRIC SPARE PARTS

| Designation  | Clamp  | Clamping screw | Wrench  |
|--------------|--------|----------------|---------|
| FLASR-1616M3 | TF-184 | S-412          | 5/32HEX |
| FLASL-1616M3 | TF-185 | S-412          | 5/32HEX |

## FLSR/L

### External grooving and threading toolholder, for Swiss lathes



| Inch        | CWN   | CWX   | CDX   | HF    | H     | B     | LF    | WF    | Insert        | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|--------|
| FLSR/L-122B | 0.031 | 0.128 | 0.140 | 0.750 | 0.750 | 0.750 | 4.500 | 1.000 | FL*-2**R/L... | 2.21   |
| FLSR/L-162C | 0.031 | 0.128 | 0.140 | 1.000 | 1.000 | 1.000 | 5.000 | 1.250 | FL*-2**R/L... | 2.21   |
| FLSR/L-123B | 0.031 | 0.250 | 0.210 | 0.750 | 0.750 | 0.750 | 4.500 | 1.000 | FL*-3**R/L... | 2.21   |
| FLSR/L-163C | 0.031 | 0.250 | 0.210 | 1.000 | 1.000 | 1.000 | 5.000 | 1.250 | FL*-3**R/L... | 2.21   |

| Metric        | CWN | CWX | CDX | HF | H  | B  | LF  | WF | Insert        | Torque* |
|---------------|-----|-----|-----|----|----|----|-----|----|---------------|---------|
| FLSR/L-2020M3 | 1   | 3   | 4.5 | 20 | 20 | 20 | 125 | 32 | FL*-3**R/L... | 3       |
| FLSR/L-2525M3 | 1   | 3   | 4.5 | 25 | 25 | 25 | 150 | 32 | FL*-3**R/L... | 3       |

Note: Use right-hand toolholders (R) with right-hand inserts (R); and left-hand toolholders (L) with left-hand inserts (L).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

#### INCH SPARE PARTS

| Designation          | Clamp | Clamping screw | Wrench  |
|----------------------|-------|----------------|---------|
| FLSR-122B, FLSR-162C | TF-74 | S-310          | 7/64HEX |
| FLSL-122B, FLSL-162C | TF-75 | S-310          | 7/64HEX |
| FLSR-123B, FLSR-163C | TF-72 | S-412          | 5/32HEX |
| FLSL-123B, FLSL-163C | TF-73 | S-412          | 5/32HEX |

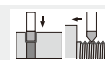
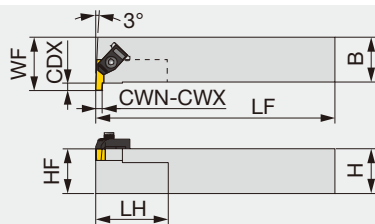
#### METRIC SPARE PARTS

| Designation | Clamp | Clamping screw | Wrench  |
|-------------|-------|----------------|---------|
| FLSR-***M3  | TF-72 | S-412          | 5/32HEX |
| FLSL-***M3  | TF-73 | S-412          | 5/32HEX |

# TUNGST-CLAMP

## FLER/L

### External toolholders for grooving & threading



Right hand (R) shown.

| Inch        | CWN   | CWX   | CDX   | HF    | H     | B     | LF    | LH    | WF    | Insert       | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|--------|
| FLER/L-122B | 0.031 | 0.128 | 0.140 | 0.750 | 0.750 | 0.750 | 4.500 | 1.000 | 1.000 | FL*-2**/L... | 2.21   |
| FLER/L-162C | 0.031 | 0.128 | 0.140 | 1.000 | 1.000 | 1.000 | 5.000 | 1.000 | 1.250 | FL*-2**/L... | 2.21   |
| FLER/L-123B | 0.031 | 0.250 | 0.210 | 0.750 | 0.750 | 0.750 | 4.500 | 2.000 | 1.125 | FL*-3**/L... | 2.21   |
| FLER/L-163D | 0.031 | 0.250 | 0.210 | 1.000 | 1.000 | 1.000 | 6.000 | 2.000 | 1.250 | FL*-3**/L... | 2.21   |

The right hand toolholders use right hand inserts, and the left hand toolholders use left hand inserts.  
Torque: Recommended clamping torque: lbs-ft

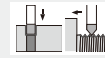
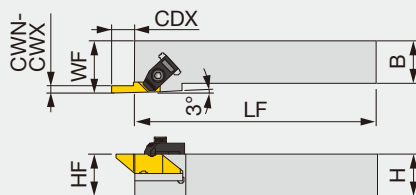
#### SPARE PARTS



| Designation          | Clamp | Clamping screw | Wrench  |
|----------------------|-------|----------------|---------|
| FLER-122B, FLER-162C | TF-75 | S-310          | 7/64HEX |
| FLEL-122B, FLEL-162C | TF-74 | S-310          | 7/64HEX |
| FLER-123B, FLER-163D | TF-73 | S-412          | 5/32HEX |
| FLEL-123B, FLEL-163D | TF-72 | S-412          | 5/32HEX |

## FLSR/LT

### External toolholders for grooving & threading



Right hand (R) shown.

| Inch         | CWN   | CWX   | CDX   | HF    | H     | B     | LF    | WF    | Insert       | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|--------|
| FLSR/LT-163D | 0.094 | 0.189 | 0.440 | 1.000 | 1.000 | 1.000 | 6.000 | 1.250 | FLGT-3R/L... | 2.21   |
| FLSR/LT-203D | 0.094 | 0.189 | 0.440 | 1.250 | 1.250 | 1.250 | 6.000 | 1.500 | FLGT-3R/L... | 2.21   |

The right hand toolholders use right hand inserts, and the left hand toolholders use left hand inserts.  
Torque: Recommended clamping torque: lbs-ft

#### SPARE PARTS

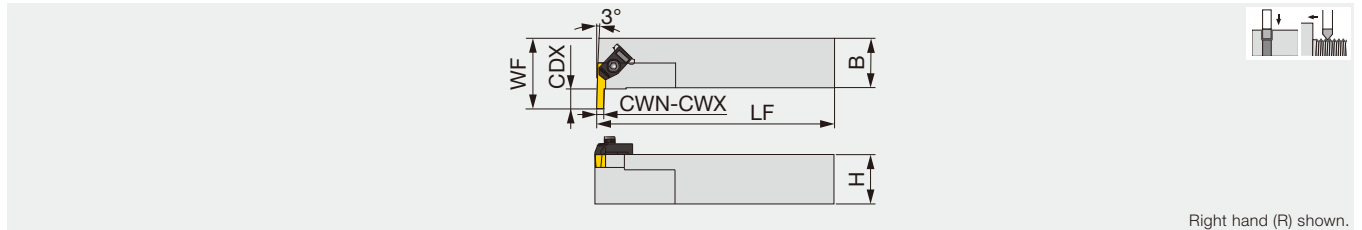


| Designation            | Clamp | Clamping screw | Wrench  |
|------------------------|-------|----------------|---------|
| FLSRT-163D, FLSRT-203D | TF-72 | S-412          | 5/32HEX |
| FLSLT-163D, FLSLT-203D | TF-73 | S-412          | 5/32HEX |

Reference pages: Inserts → **F097 - F104**, Standard cutting conditions → **F104**

# FLER/LT

## External toolholders for grooving & threading



| Inch         | CWN   | CWX   | CDX   | HF    | H     | B     | LF    | WF    | Insert       | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|--------|
| FLER/LT-163D | 0.094 | 0.189 | 0.440 | 1.000 | 1.000 | 1.000 | 6.000 | 1.250 | FLGT-3R/L... | 2.21   |
| FLER/LT-203D | 0.094 | 0.189 | 0.440 | 1.250 | 1.250 | 1.250 | 6.000 | 1.500 | FLGT-3R/L... | 2.21   |

The right hand toolholders use right hand inserts, and the left hand toolholders use left hand inserts.  
Torque: Recommended clamping torque: lbs-ft

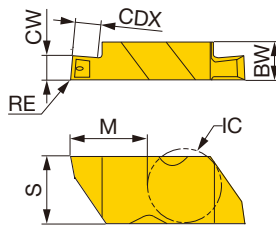
### SPARE PARTS



| Designation            | Clamp | Clamping screw | Wrench  |
|------------------------|-------|----------------|---------|
| FLERT-163D, FLERT-203D | TF-72 | S-412          | 5/32HEX |
| FLELT-163D, FLELT-203D | TF-73 | S-412          | 5/32HEX |

## INSERTS

### FLG-CB (With chipbreaker, metric width)



| Material         | First choice (★) | Second choice (☆) |
|------------------|------------------|-------------------|
| P Steel          | ★                |                   |
| M Stainless      | ★                |                   |
| K Cast iron      | ★                |                   |
| N Non-ferrous    |                  |                   |
| S Superalloys    | ☆                |                   |
| H Hard materials |                  |                   |

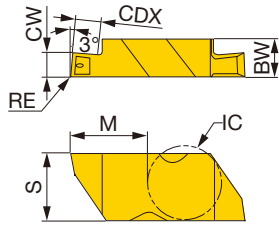
★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in)       | Coated |  |  |  | CDX (in) | IC (in) | BW (in) | S (in) | M (in) |
|---------------|------|---------------|---------------|---------------|--------|--|--|--|----------|---------|---------|--------|--------|
|               |      |               |               |               | AH110  |  |  |  |          |         |         |        |        |
| FLG-3M100R-CB | R    | 1             | 0.039         | 0.005 - 0.010 | ●      |  |  |  | 0.055    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M100L-CB | L    | 1             | 0.039         | 0.005 - 0.010 | ●      |  |  |  | 0.055    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M150R-CB | R    | 1.5           | 0.059         | 0.005 - 0.010 | ●      |  |  |  | 0.100    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M150L-CB | L    | 1.5           | 0.059         | 0.005 - 0.010 | ●      |  |  |  | 0.100    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M200R-CB | R    | 2             | 0.079         | 0.005 - 0.010 | ●      |  |  |  | 0.100    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M200L-CB | L    | 2             | 0.079         | 0.005 - 0.010 | ●      |  |  |  | 0.100    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M250R-CB | R    | 2.5           | 0.098         | 0.005 - 0.010 | ●      |  |  |  | 0.160    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M250L-CB | L    | 2.5           | 0.098         | 0.005 - 0.010 | ●      |  |  |  | 0.160    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M300R-CB | R    | 3             | 0.118         | 0.005 - 0.010 | ●      |  |  |  | 0.160    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3M300L-CB | L    | 3             | 0.118         | 0.005 - 0.010 | ●      |  |  |  | 0.160    | 0.3750  | 0.195   | 0.344  | 0.4050 |

● : Line up

Reference pages: Inserts → **F097 - F104**, Standard cutting conditions → **F104**

# FLG-CB (With chipbreaker)



|   |                |   |  |  |  |  |
|---|----------------|---|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |
| S | Superalloys    | ☆ |  |  |  |  |
| H | Hard materials |   |  |  |  |  |

★ : First choice  
☆ : Second choice



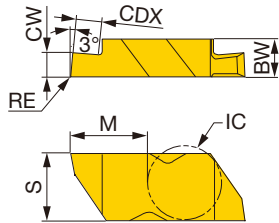
| Designation  | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in)       | Coated |  |  |  |  | CDX (in) | IC (in) | BW (in) | S (in) | M (in) |
|--------------|------|---------------|---------------|---------------|--------|--|--|--|--|----------|---------|---------|--------|--------|
|              |      |               |               |               | AH110  |  |  |  |  |          |         |         |        |        |
| FLG-2047R-CB | R    | 1.2           | 0.047         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2047L-CB | L    | 1.2           | 0.047         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2062R-CB | R    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2062L-CB | L    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2078R-CB | R    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2078L-CB | L    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2094R-CB | R    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2094L-CB | L    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2125R-CB | R    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2125L-CB | L    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-3031R-CB | R    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3031L-CB | L    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3047R-CB | R    | 1.19          | 0.047         | 0.005 - 0.010 | ●      |  |  |  |  | 0.075    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3047L-CB | L    | 1.19          | 0.047         | 0.005 - 0.010 | ●      |  |  |  |  | 0.075    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3062R-CB | R    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3062L-CB | L    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3072R-CB | R    | 1.83          | 0.072         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3072L-CB | L    | 1.83          | 0.072         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3078R-CB | R    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3078L-CB | L    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3088R-CB | R    | 2.24          | 0.088         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3088L-CB | L    | 2.24          | 0.088         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3094R-CB | R    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3094L-CB | L    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3097R-CB | R    | 2.46          | 0.097         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3097L-CB | L    | 2.46          | 0.097         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3125R-CB | R    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3125L-CB | L    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3189R-CB | R    | 4.8           | 0.189         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3189L-CB | L    | 4.8           | 0.189         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |

● : Line up

Reference pages: Toolholders → **F095 - F097**, Standard cutting conditions → **F104**



**FLG**



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

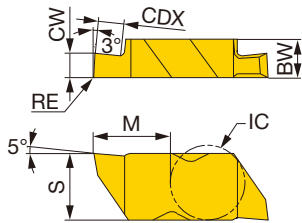
| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in)       | Coated |  |  |  |  | CDX (in) | IC (in) | BW (in) | S (in) | M (in) |
|-------------|------|---------------|---------------|---------------|--------|--|--|--|--|----------|---------|---------|--------|--------|
|             |      |               |               |               | AH110  |  |  |  |  |          |         |         |        |        |
| FLG-2031R   | R    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2031L   | L    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2041R   | R    | 1.04          | 0.041         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2041L   | L    | 1.04          | 0.041         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2047R   | R    | 1.19          | 0.047         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2047L   | L    | 1.19          | 0.047         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2058R   | R    | 1.47          | 0.058         | 0.005 - 0.010 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2058L   | L    | 1.47          | 0.058         | 0.005 - 0.010 | ●      |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2062R   | R    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2062L   | L    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2094R   | R    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2094L   | L    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2125R   | R    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2125L   | L    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-3031R   | R    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3031L   | L    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  | 0.050    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3047R   | R    | 1.19          | 0.047         | 0.005 - 0.010 | ●      |  |  |  |  | 0.075    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3047L   | L    | 1.19          | 0.047         | 0.005 - 0.010 | ●      |  |  |  |  | 0.075    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3062R   | R    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3062L   | L    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3072R   | R    | 1.83          | 0.072         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3072L   | L    | 1.83          | 0.072         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3078R   | R    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3078L   | L    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3088R   | R    | 2.24          | 0.088         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3088L   | L    | 2.24          | 0.088         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3094R   | R    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3094L   | L    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3097R   | R    | 2.46          | 0.097         | 0.010 - 0.015 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3097L   | L    | 2.46          | 0.097         | 0.010 - 0.015 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3105R   | R    | 2.67          | 0.105         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3105L   | L    | 2.67          | 0.105         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3110R   | R    | 2.79          | 0.110         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3110L   | L    | 2.79          | 0.110         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3122R   | R    | 3.1           | 0.122         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3122L   | L    | 3.1           | 0.122         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3125R   | R    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3125L   | L    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3142R   | R    | 3.61          | 0.142         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3142L   | L    | 3.61          | 0.142         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3156R   | R    | 3.96          | 0.156         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3156L   | L    | 3.96          | 0.156         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3178R   | R    | 4.52          | 0.178         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3178L   | L    | 4.52          | 0.178         | 0.005 - 0.010 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3185R   | R    | 4.7           | 0.185         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3185L   | L    | 4.7           | 0.185         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3189R   | R    | 4.8           | 0.189         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3189L   | L    | 4.8           | 0.189         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3250R   | R    | 6.35          | 0.250         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.250   | 0.344  | 0.4050 |
| FLG-3250L   | L    | 6.35          | 0.250         | 0.020 - 0.025 | ●      |  |  |  |  | 0.180    | 0.3750  | 0.250   | 0.344  | 0.4050 |

● : Line up

Reference pages: Toolholders → **F095 - F097**, Standard cutting conditions → **F104**



## FLGP (Positive rake)



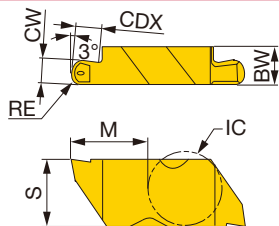
|          |                |   |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGP-2031R  | R    | 0.79             | 0.031            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2031L  | L    | 0.79             | 0.031            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2062R  | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2062L  | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-3047R  | R    | 1.19             | 0.047            | 0.005 - 0.010 | ●      |  |  |  |  | 0.075       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3047L  | L    | 1.19             | 0.047            | 0.005 - 0.010 | ●      |  |  |  |  | 0.075       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3062R  | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3062L  | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3088R  | R    | 2.24             | 0.088            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3088L  | L    | 2.24             | 0.088            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3094R  | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3094L  | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3156R  | R    | 3.96             | 0.156            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3156L  | L    | 3.96             | 0.156            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3189R  | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3189L  | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |

● : Line up

## FLR-CB (Full nose radius, with chipbreaker)



|          |                |   |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |

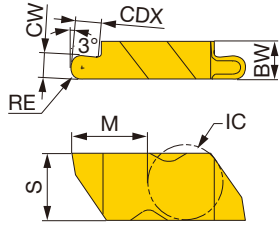
★ : First choice  
☆ : Second choice

| Designation  | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|--------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|              |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLR-3031R-CB | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3031L-CB | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3047R-CB | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3047L-CB | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3062R-CB | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLR-3062L-CB | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |

● : Line up

Reference pages: Toolholders → **F095 - F097**, Standard cutting conditions → **F104**

## FLR (Full nose radius)



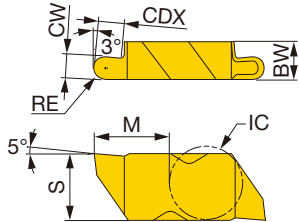
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLR-2031R   | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2683    |
| FLR-2031L   | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2683    |
| FLR-2047R   | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2675    |
| FLR-2047L   | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2675    |
| FLR-2062R   | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2667    |
| FLR-2062L   | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2667    |
| FLR-3031R   | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3031L   | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3047R   | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3047L   | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3062R   | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLR-3062L   | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLR-3078R   | R    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLR-3078L   | L    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLR-3094R   | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |
| FLR-3094L   | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |

● : Line up

## FLRP (Full nose radius and positive rake)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

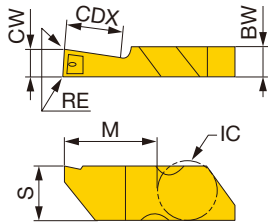
| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLRP-3031R  | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLRP-3031L  | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLRP-3047R  | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLRP-3047L  | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLRP-3062R  | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLRP-3062L  | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLRP-3078R  | R    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLRP-3078L  | L    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLRP-3094R  | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |
| FLRP-3094L  | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |

● : Line up

Reference pages: Toolholders → **F095 - F097**, Standard cutting conditions → **F104**



## FLGD-CB (Single edge deep, with chipbreaker)



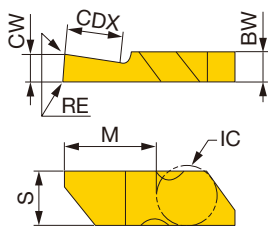
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|---------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|               |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGD-3094R-CB | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3094L-CB | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125R-CB | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125L-CB | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189R-CB | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189L-CB | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |

● : Line up

## FLGD (Single edge deep)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

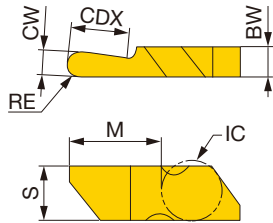
★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGD-3062R  | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3062L  | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3094R  | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3094L  | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189R  | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189L  | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |

● : Line up

Reference pages: Toolholders → **F095 - F097**, Standard cutting conditions → **F104**

## FLRD (Full nose radius, single edge deep)



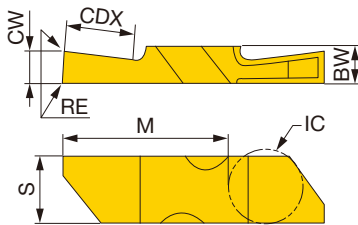
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLRD-3062R  | R    | 3.19             | 0.125            | 0.062      | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5016    |
| FLRD-3062L  | L    | 3.19             | 0.125            | 0.062      | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5016    |
| FLRD-3094R  | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5016    |
| FLRD-3094L  | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5016    |

● : Line up

## FLGT (Double end deep)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGT-3094R  | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.275       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLGT-3094L  | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.275       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLGT-3125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLGT-3125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLGT-3189R  | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLGT-3189L  | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |

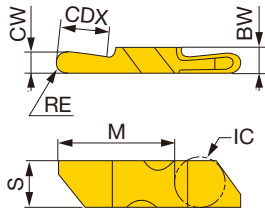
\*Fits FLSLT/RT toolholders

● : Line up

Reference pages: Toolholders → **F095 - F097**, Standard cutting conditions → **F104**



## FLRT (Double end deep FNR)



|          |                |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLRT-3062R  | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLRT-3062L  | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLRT-3094R  | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLRT-3094L  | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |

\*Fits FLSLT/RT toolholders

● : Line up

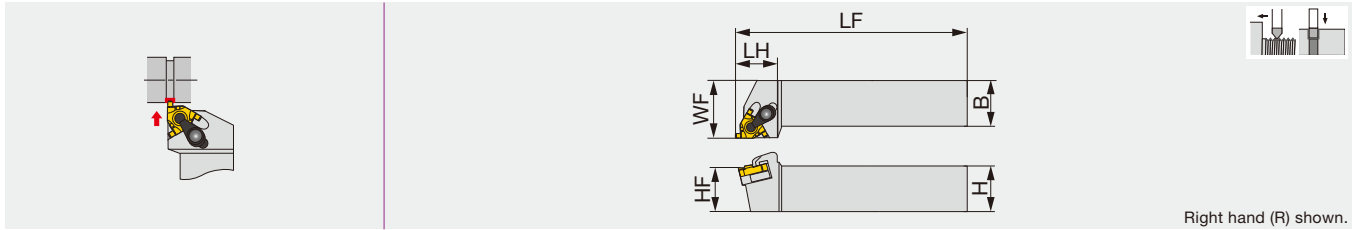
## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Grade | Application | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|-------------------------------------|-------|-------------|---------------------------|-----------------|
| <b>P</b> | High carbon steel<br>1045, etc.     | AH110 | Grooving    | 328 - 656                 | 0.005 - 0.014   |
|          | Alloy steel<br>4137, etc.           | AH110 | Grooving    | 164 - 262                 | 0.005 - 0.012   |
| <b>M</b> | Stainless steel<br>304, etc.        | AH110 | Grooving    | 164 - 492                 | 0.004 - 0.008   |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | AH110 | Grooving    | 164 - 591                 | 0.004 - 0.010   |
|          | Ductile cast iron<br>60-40-18, etc. | AH110 | Grooving    | 164 - 394                 | 0.004 - 0.010   |

Reference pages: Toolholders → **F095 - F097**

## CER/L

External grooving and threading toolholder (The -DT holders can be used either with the insert screw or top-clamp)



| Inch       | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | Insert     | Torque |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| CER/L123DT | 0.039 | 0.089 | 0.750 | 0.750 | 5.000 | 0.870 | 0.750 | 1.000 | GTGN-16... | 2.58   |
| CER/L163DT | 0.039 | 0.089 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.250 | GTGN-16... | 2.58   |
| CER203DT   | 0.039 | 0.089 | 1.250 | 1.250 | 6.000 | 1.250 | 1.250 | 1.500 | GTGN-16... | 2.58   |

| Metric         | CWN | CWX  | H  | B  | LF  | LH | HF | WF | Insert     | Torque* |
|----------------|-----|------|----|----|-----|----|----|----|------------|---------|
| CER/L1212H16DT | 1   | 2.25 | 12 | 12 | 100 | 24 | 12 | 16 | GTGN-16... | 3.5     |
| CER/L1616H16DT | 1   | 2.25 | 16 | 16 | 100 | 24 | 16 | 20 | GTGN-16... | 3.5     |
| CER/L2020K16DT | 1   | 2.25 | 20 | 20 | 125 | 24 | 20 | 25 | GTGN-16... | 3.5     |
| CER/L2525M16DT | 1   | 2.25 | 25 | 25 | 150 | 28 | 25 | 32 | GTGN-16... | 3.5     |
| CER3232P16T    | 1   | 2.25 | 32 | 32 | 170 | 32 | 32 | 40 | GTGN-16... | 3.5     |

Note: A clamp set consists of a clamp and a clamping screw. A shim set consists of a shim and a shim screw to secure the shim to the toolholder.

Standard shims can be used on both right- and left-hand toolholders. Please use either of the sides depending on the tool hand.

When using grooving inserts, please use shims for grooving. Shims for grooving inserts are sold separately.

Use right-hand toolholders (R) with right-hand inserts (R); and left-hand toolholders (L) with left-hand inserts (L).

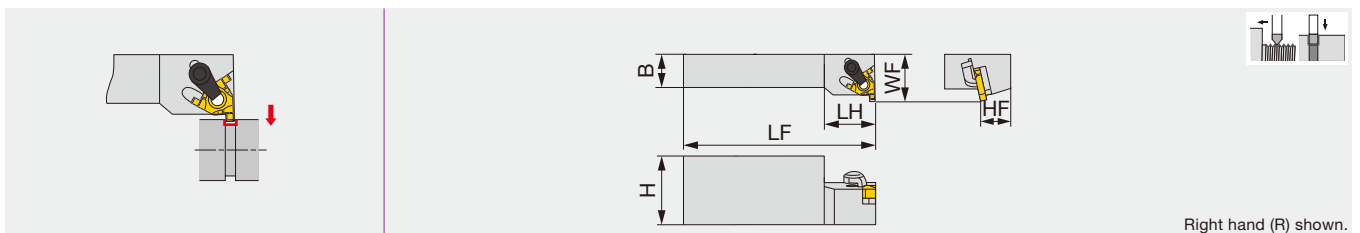
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation  | Clamp set | Clamp screw | Shim screw | *Optional:<br>Shim for grooving | Wrench 1 | Wrench 2 |
|--------------|-----------|-------------|------------|---------------------------------|----------|----------|
| CER*****16DT | CSP16     | CSTB-3.5ST  | DTS5-3.5   | G16ER/IL-DT                     | P-3.5    | T-15F    |
| CEL*****16DT | CSP16     | CSTB-3.5ST  | DTS5-3.5   | G16EL/IR-DT                     | P-3.5    | T-15F    |
| CER3232P16T  | CSP16     | -           | -          | G16ER/IR-S                      | -        | T-15F    |

## B-CER/L

External threading and grooving toolholder, for Swiss lathes



| Metric       | CWN | CWX  | H  | B  | LF  | LH | HF | WF | Insert     | Torque |
|--------------|-----|------|----|----|-----|----|----|----|------------|--------|
| B-CER/L16M16 | 1   | 2.25 | 32 | 16 | 150 | 24 | 16 | 22 | GTGN-16... | 3.5    |

Note: When using grooving inserts, please use shims for grooving. Shims for grooving inserts are sold separately.

Use right-hand toolholders (R) with right-hand inserts (R); and left-hand toolholders (L) with left-hand inserts (L).

Torque: Recommended clamping torque: N·m

### SPARE PARTS

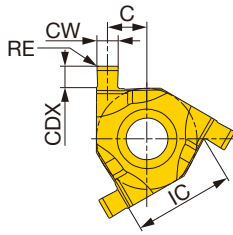
| Designation | Clamp set | Clamp screw | Wrench | *Optional:<br>Shim for grooving |
|-------------|-----------|-------------|--------|---------------------------------|
| B-CER16M16  | CSP16     | -           | T-15F  | G16ER/IL-S                      |
| B-CEL16M16  | CSP16     | -           | T-15F  | G16EL/IR-S                      |

Reference pages: Inserts, Standard cutting conditions → **F106**



# INSERT

## GTGN16



ER/IL shown.

|   |                |   |  |  |
|---|----------------|---|--|--|
| P | Steel          | ★ |  |  |
| M | Stainless      | ★ |  |  |
| K | Cast iron      |   |  |  |
| N | Non-ferrous    |   |  |  |
| S | Superalloys    | ★ |  |  |
| H | Hard materials |   |  |  |

★ : First choice

☆ : Second choice



| Designation     | HAND<br>(External) | CW±0.03<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | Insert<br>size | CDX<br>(in) | IC<br>(in) | C<br>(in) | Shim  |                        |
|-----------------|--------------------|-----------------|------------------|------------|--------|--|----------------|-------------|------------|-----------|---|------------------------|
|                 |                    |                 |                  |            | SH730  |  |                |             |            |           | Dual-clamp<br>toolholder:<br>screw-on and<br>clamp-on | Clamp-on<br>toolholder |
| GTGN-16ER/IL100 | R                  | 1               | 0.039            | 0.004      | ●      |  | 16             | 0.049       | 0.375      | 0.166     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR100 | L                  | 1               | 0.039            | 0.004      | ●      |  | 16             | 0.049       | 0.375      | 0.166     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL120 | R                  | 1.2             | 0.047            | 0.004      | ●      |  | 16             | 0.051       | 0.375      | 0.162     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR120 | L                  | 1.2             | 0.047            | 0.004      | ●      |  | 16             | 0.051       | 0.375      | 0.162     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL140 | R                  | 1.4             | 0.055            | 0.004      | ●      |  | 16             | 0.059       | 0.375      | 0.158     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR140 | L                  | 1.4             | 0.055            | 0.004      | ●      |  | 16             | 0.059       | 0.375      | 0.158     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL170 | R                  | 1.7             | 0.067            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.144     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR170 | L                  | 1.7             | 0.067            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.144     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL195 | R                  | 1.95            | 0.077            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.148     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR195 | L                  | 1.95            | 0.077            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.148     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL225 | R                  | 2.25            | 0.089            | 0.004      | ●      |  | 16             | 0.071       | 0.375      | 0.142     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR225 | L                  | 2.25            | 0.089            | 0.004      | ●      |  | 16             | 0.071       | 0.375      | 0.142     | G16EL/IR-DT   | G16EL/IR-S             |

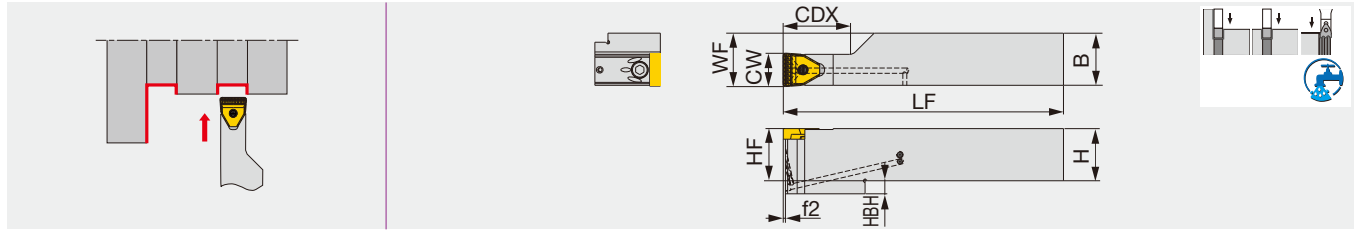
Note: GTGN insert can be used for both external and internal machining, but the tool hand is reversed.  
Shim for GTGN depends on the toolholder type.

● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material  | Grade | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|-------|---------------------------|-----------------|
| <b>P</b> | Steel<br>1045, 4140, etc.                                       | SH730 | 164 - 492                 | 0.002 - 0.004   |
| <b>M</b> | Stainless steel<br>304, 316, etc.                               | SH730 | 98 - 394                  | 0.002 - 0.004   |
| <b>S</b> | Heat-resistant alloys, Titanium alloys, etc.<br>Ti-6Al-4V, etc. | SH730 | 98 - 131                  | 0.002 - 0.004   |

Reference pages: Toolholders → **F105**



| Inch         | CW    | CDX   | H     | B     | LF     | HF    | WF    | HBH   | f2    | Insert (1) | Torque |
|--------------|-------|-------|-------|-------|--------|-------|-------|-------|-------|------------|--------|
| FPGR16-10T20 | 0.394 | 0.787 | 1.000 | 1.000 | 7.000  | 1.000 | 1.020 | -     | 0.019 | PSG*10...  | 1.62   |
| FPGR20-10T36 | 0.394 | 1.417 | 1.250 | 1.250 | 8.000  | 1.250 | 1.270 | -     | 0.019 | PSG*10...  | 1.62   |
| FPGR16-15T20 | 0.590 | 0.787 | 1.000 | 1.000 | 7.000  | 1.000 | 1.020 | -     | 0.019 | PSG*15...  | 1.62   |
| FPGR20-15T40 | 0.590 | 1.574 | 1.250 | 1.250 | 8.000  | 1.250 | 1.270 | -     | 0.015 | PSG*15...  | 1.62   |
| FPGR20-20T40 | 0.787 | 1.574 | 1.250 | 1.250 | 8.000  | 1.250 | 1.270 | 0.314 | 0.015 | PSG*20...  | 6.27   |
| FPGR24-20T50 | 0.787 | 1.968 | 1.500 | 1.500 | 10.000 | 1.500 | 1.520 | 0.314 | 0.015 | PSG*20...  | 6.27   |
| FPGR20-25T40 | 0.984 | 1.574 | 1.250 | 1.250 | 8.000  | 1.250 | 1.270 | 0.314 | 0.015 | PSG*25...  | 6.27   |
| FPGR24-25T50 | 0.984 | 1.968 | 1.500 | 1.500 | 10.000 | 1.500 | 1.520 | 0.314 | 0.015 | PSG*25...  | 6.27   |

| Metric          | CW | CDX | H  | B  | LF  | HF | WF   | HBH | f2  | Insert (1) | Torque* |
|-----------------|----|-----|----|----|-----|----|------|-----|-----|------------|---------|
| FPGR2525M-10T20 | 10 | 20  | 25 | 25 | 150 | 25 | 25.5 | -   | 0.5 | PSG*10...  | 2.2     |
| FPGR3232P-10T36 | 10 | 36  | 32 | 32 | 170 | 32 | 32.5 | -   | 0.5 | PSG*10...  | 2.2     |
| FPGR2525M-15T20 | 15 | 20  | 25 | 25 | 150 | 25 | 25.5 | -   | 0.5 | PSG*15...  | 2.2     |
| FPGR3232P-15T40 | 15 | 40  | 32 | 32 | 170 | 32 | 32.5 | -   | 0.4 | PSG*15...  | 2.2     |
| FPGR3232P-20T40 | 20 | 40  | 32 | 32 | 170 | 32 | 32.5 | 8   | 0.4 | PSG*20...  | 8.5     |
| FPGR4040R-20T50 | 20 | 50  | 40 | 40 | 200 | 40 | 40.5 | 8   | 0.4 | PSG*20...  | 8.5     |
| FPGR3232P-25T40 | 25 | 40  | 32 | 32 | 170 | 32 | 32.5 | 8   | 0.4 | PSG*25...  | 8.5     |
| FPGR4040R-25T50 | 25 | 50  | 40 | 40 | 200 | 40 | 40.5 | 8   | 0.4 | PSG*25...  | 8.5     |

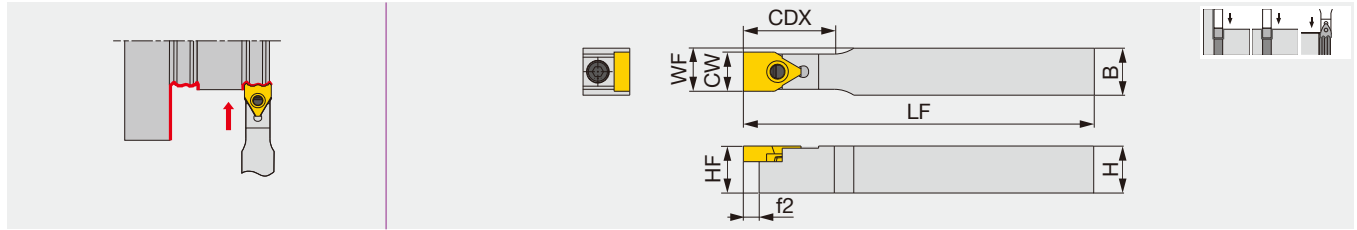
(1) Can be used for both wide grooving and wide profile grooving

Torque: Recommended clamping torque: lbs-ft (\*N·m)

CDX, LF, f2 are dimensions when PSGM insert is attached. When mounting PSGB insert, the dimensions will be 0.197" (5 mm) longer.

#### SPARE PARTS

| Designation          | Lever | Clamping screw | Spring | Wrench |
|----------------------|-------|----------------|--------|--------|
| FPGR*-10T..., 15T... | FCL4  | FCS3           | BP-5   | P-2.5  |
| FPGR*-20T..., 25T... | FCL8  | FCS6           | BP-9   | P-5    |



| Inch         | CW    | CDX   | H     | B     | LF    | HF    | WF    | f2    | Insert <sup>(1)</sup> | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|--------|
| FPGN08-10T20 | 0.394 | 0.984 | 0.500 | 0.500 | 4.946 | 0.500 | 0.450 | 0.216 | PSG*10...             | 1.62   |
| FPGN10-10T20 | 0.394 | 0.984 | 0.625 | 0.625 | 4.946 | 0.625 | 0.510 | 0.216 | PSG*10...             | 1.62   |
| FPGN12-10T20 | 0.394 | 0.984 | 0.750 | 0.750 | 5.196 | 0.750 | 0.570 | 0.216 | PSG*10...             | 1.62   |
| FPGN10-15T25 | 0.590 | 1.181 | 0.625 | 0.625 | 4.946 | 0.625 | 0.610 | 0.216 | PSG*15...             | 1.62   |
| FPGN12-15T25 | 0.590 | 1.181 | 0.750 | 0.750 | 5.196 | 0.750 | 0.670 | 0.216 | PSG*15...             | 1.62   |
| FPGN12-20T32 | 0.787 | 1.456 | 0.750 | 0.750 | 5.196 | 0.750 | 0.770 | 0.216 | PSG*20...             | 6.27   |
| FPGN16-20T32 | 0.787 | 1.456 | 1.000 | 1.000 | 6.196 | 1.000 | 0.890 | 0.216 | PSG*20...             | 6.27   |
| FPGN16-25T36 | 0.984 | 1.614 | 1.000 | 1.000 | 6.196 | 1.000 | 0.990 | 0.216 | PSG*25...             | 6.27   |

| Metric          | CW | CDX | H  | B  | LF  | HF | WF   | f2  | Insert <sup>(1)</sup> | Torque* |
|-----------------|----|-----|----|----|-----|----|------|-----|-----------------------|---------|
| FPGN1212X-10T20 | 10 | 25  | 12 | 12 | 125 | 12 | 11   | 5.5 | PSG*10...             | 2.2     |
| FPGN1616X-10T20 | 10 | 25  | 16 | 16 | 125 | 16 | 13   | 5.5 | PSG*10...             | 2.2     |
| FPGN2020K-10T20 | 10 | 25  | 20 | 20 | 130 | 20 | 15   | 5.5 | PSG*10...             | 2.2     |
| FPGN1616X-15T25 | 15 | 30  | 16 | 16 | 125 | 16 | 15.5 | 5.5 | PSG*15...             | 2.2     |
| FPGN2020K-15T25 | 15 | 30  | 20 | 20 | 130 | 20 | 17.5 | 5.5 | PSG*15...             | 2.2     |
| FPGN2020K-20T32 | 20 | 37  | 20 | 20 | 130 | 20 | 20   | 5.5 | PSG*20...             | 8.5     |
| FPGN2525M-20T32 | 20 | 37  | 25 | 25 | 155 | 25 | 22.5 | 5.5 | PSG*20...             | 8.5     |
| FPGN2525M-25T36 | 25 | 41  | 25 | 25 | 155 | 25 | 25   | 5.5 | PSG*25...             | 8.5     |

PSGB insert blank is available for tailored inserts.

(1) Can be used for both wide grooving and wide profile grooving

Torque: Recommended clamping torque: lbs·ft (\*N·m)

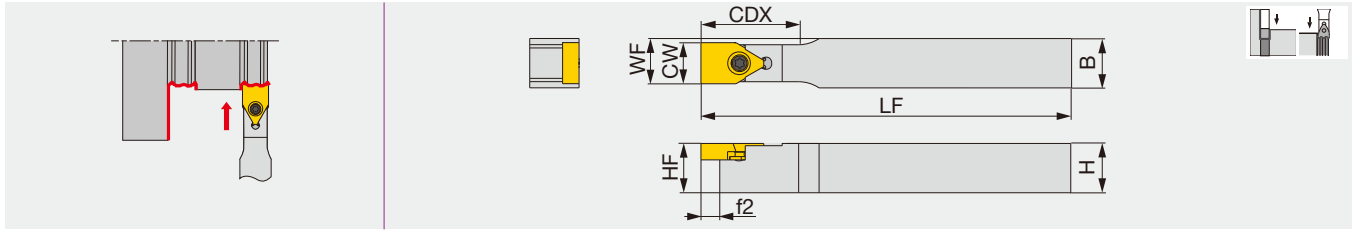
CDX, LF, f2 are dimensions when PSGB insert is attached. When mounting PSGM insert, the dimensions will be 0.197\* (5 mm) shorter.

#### SPARE PARTS

| Designation          | Lever | Clamping screw | Spring | Wrench |
|----------------------|-------|----------------|--------|--------|
| FPGN*-10T..., 15T... | FCL4  | FCS3           | BP-5   | P-2.5  |
| FPGN*-20T..., 25T... | FCL8  | FCS6           | BP-9   | P-5    |

# SPGN

## External profile grooving toolholder



| Inch         | CW    | CDX   | H     | B     | LF    | HF    | WF    | f2    | Insert <sup>(1)</sup> | Torque |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|--------|
| SPGN08-10T20 | 0.394 | 0.984 | 0.500 | 0.500 | 4.946 | 0.500 | 0.450 | 0.216 | PSGB10                | 0.96   |
| SPGN10-10T20 | 0.394 | 0.984 | 0.625 | 0.625 | 4.946 | 0.625 | 0.510 | 0.216 | PSGB10                | 0.96   |
| SPGN12-10T20 | 0.394 | 0.984 | 0.750 | 0.750 | 5.196 | 0.750 | 0.570 | 0.216 | PSGB10                | 0.96   |
| SPGN10-15T25 | 0.590 | 1.181 | 0.625 | 0.625 | 4.946 | 0.625 | 0.610 | 0.216 | PSGB15                | 2.58   |
| SPGN12-15T25 | 0.590 | 1.181 | 0.750 | 0.750 | 5.196 | 0.750 | 0.670 | 0.216 | PSGB15                | 2.58   |
| SPGN12-20T32 | 0.787 | 1.456 | 0.750 | 0.750 | 5.196 | 0.750 | 0.770 | 0.216 | PSGB20                | 3.69   |
| SPGN16-20T32 | 0.787 | 1.456 | 1.000 | 1.000 | 6.196 | 1.000 | 0.890 | 0.216 | PSGB20                | 3.69   |
| SPGN16-25T36 | 0.984 | 1.614 | 1.000 | 1.000 | 6.196 | 1.000 | 0.990 | 0.216 | PSGB25                | 3.69   |

| Metric          | CW | CDX | H  | B  | LF  | HF | WF   | f2  | Insert <sup>(1)</sup> | Torque* |
|-----------------|----|-----|----|----|-----|----|------|-----|-----------------------|---------|
| SPGN1212X-10T20 | 10 | 25  | 12 | 12 | 125 | 12 | 11   | 5.5 | PSGB10                | 2.3     |
| SPGN1616X-10T20 | 10 | 25  | 16 | 16 | 125 | 16 | 13   | 5.5 | PSGB10                | 2.3     |
| SPGN2020K-10T20 | 10 | 25  | 20 | 20 | 130 | 20 | 15   | 5.5 | PSGB10                | 2.3     |
| SPGN1616X-15T25 | 15 | 30  | 16 | 16 | 125 | 16 | 15.5 | 5.5 | PSGB15                | 3.5     |
| SPGN2020K-15T25 | 15 | 30  | 20 | 20 | 130 | 20 | 17.5 | 5.5 | PSGB15                | 3.5     |
| SPGN2020K-20T32 | 20 | 37  | 20 | 20 | 130 | 20 | 20   | 5.5 | PSGB20                | 5       |
| SPGN2525M-20T32 | 20 | 37  | 25 | 25 | 155 | 25 | 22.5 | 5.5 | PSGB20                | 5       |
| SPGN2525M-25T36 | 25 | 41  | 25 | 25 | 155 | 25 | 25   | 5.5 | PSGB25                | 5       |

PSGB insert blank is available for tailored inserts.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)


### SPARE PARTS

| Designation           | Clamping screw | Wrench |
|-----------------------|----------------|--------|
| SPGN**-10T20          | CSTB-3L081     | T-8F   |
| SPGN**-15T25          | CSTB-4         | T-15F  |
| SPGN**-20T..., 25T... | CSTB-5         | T-20F  |

Reference pages: Inserts → **F110, F111**, Standard cutting conditions → **F111**

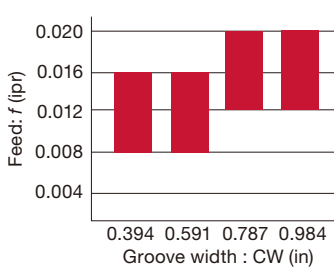
# CHIPBREAKER GUIDE

**PSGM**




For wide grooving  
Improved productivity with excellent chip control and the chipbreaker designed for high feed

CW = 0.394" - 0.984"

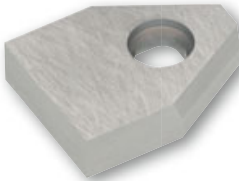


Feed: f (ipr)

Groove width : CW (in)



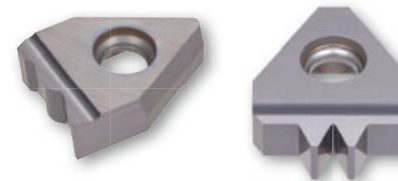
**PSGB**




Blank for wide profile grooving inserts  
Can be prepared for various insert shapes Shortened cutting time and improved productivity with one-pass operations

CW = 0.394" - 0.984"

Specially tailored inserts (example)

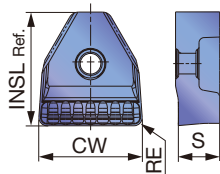




- External
- Internal
- Face
- Parting
- Others

## INSERTS

### PSGM



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

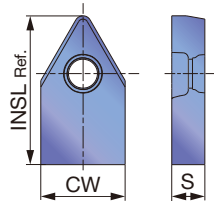
★ : First choice  
☆ : Second choice

| Designation | CW* (mm) | CW** (in) | RE (in) | Coated |  |  |  |  |  | INSL (in) | S (in) |
|-------------|----------|-----------|---------|--------|--|--|--|--|--|-----------|--------|
|             |          |           |         | AH725  |  |  |  |  |  |           |        |
| PSGM10-08   | 10       | 0.394     | 0.031   | ●      |  |  |  |  |  | 0.433     | 0.157  |
| PSGM15-15   | 15       | 0.591     | 0.059   | ●      |  |  |  |  |  | 0.591     | 0.197  |
| PSGM20-20   | 20       | 0.787     | 0.079   | ●      |  |  |  |  |  | 0.866     | 0.256  |
| PSGM25-20   | 25       | 0.984     | 0.079   | ●      |  |  |  |  |  | 0.866     | 0.256  |

\*Tolerance: CW ± 0.08 mm (CW = 10 mm), ± 0.1 mm (CW ≥ 15 mm)  
\*\*Tolerance: CW ± 0.003" (CW = 0.394"), ± 0.004" (CW ≥ 0.591")

● : Line up

## PSGB



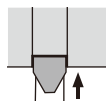
|          |                |   |   |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|
| <b>P</b> | Steel          | ☆ | ★ |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   | ★ |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |   |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |   |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |   |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW±0.025 (mm) | CW±0.001 (in) | Uncoated |      |  |  |  |  |  |  | INSL (in) | S (in) |
|-------------|---------------|---------------|----------|------|--|--|--|--|--|--|-----------|--------|
|             |               |               | TH10     | UX30 |  |  |  |  |  |  |           |        |
| PSGB10      | 10.2          | 0.402         | ●        | ●    |  |  |  |  |  |  | 0.709     | 0.157  |
| PSGB15      | 15.2          | 0.598         | ●        | ●    |  |  |  |  |  |  | 0.787     | 0.197  |
| PSGB20      | 20.2          | 0.795         | ●        | ●    |  |  |  |  |  |  | 1.063     | 0.256  |
| PSGB25      | 25.2          | 0.992         | ●        | ●    |  |  |  |  |  |  | 1.063     | 0.256  |

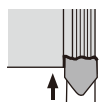
● : Line up

## STANDARD CUTTING CONDITIONS



Wide grooving (PSGM insert)

| ISO                          | Workpiece material        | Hardness (HB) | Grade         | Cutting speed Vc (sfm) |
|------------------------------|---------------------------|---------------|---------------|------------------------|
| <b>P</b>                     | Alloy steel<br>4140, etc. | < 300         | AH725         | 164 - 591              |
| <b>Groove width: CW (in)</b> |                           |               |               |                        |
|                              | <b>0.394</b>              | <b>0.591</b>  | <b>0.787</b>  | <b>0.984</b>           |
| <b>Feed: f (ipr)</b>         | 0.008 - 0.016             | 0.008 - 0.016 | 0.012 - 0.020 | 0.012 - 0.020          |

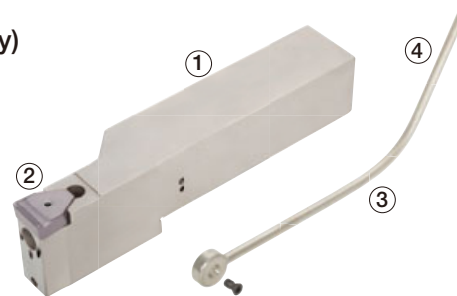


Wide profile grooving (PSGB insert)

| ISO      | Workpiece material                   | Hardness (HB) | Grade | Cutting speed Vc (sfm) |
|----------|--------------------------------------|---------------|-------|------------------------|
| <b>P</b> | Carbon steel<br>1045, etc.           | < 200         | UX30  | 164 - 492              |
| <b>P</b> | Alloy steel<br>4140, etc.            | < 300         | UX30  | 164 - 394              |
| <b>M</b> | Stainless steel<br>303, etc.         | < 200         | UX30  | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.      | -             | TH10  | 164 - 492              |
| <b>K</b> | Ductile cast irons<br>65-45-12, etc. | -             | TH10  | 164 - 394              |
| <b>N</b> | Aluminum alloy<br>Si < 12%, etc.     | -             | TH10  | 328 - 1640             |

## Spare parts for internal coolant supply attachment (Order separately)

| No. | Parts name                | Designation                  | Note           |
|-----|---------------------------|------------------------------|----------------|
| ①   | Body                      | FPGR...                      | -              |
| ②   | Insert                    | PSGM...                      | -              |
| ③   | Coolant supply attachment | SGCU-341                     | -              |
| ④   | Connector                 | Commercial items can be used | G 1/8 thread   |
|     |                           |                              | NPT 1/8 thread |

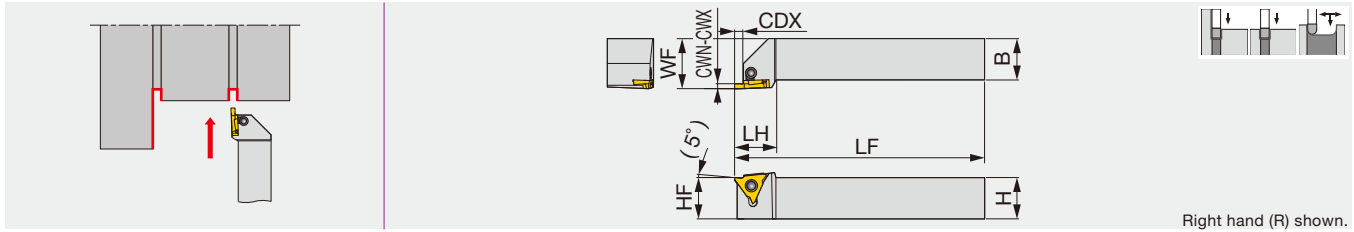


Reference pages: Toolholders → **F107 - F109**



# TGTSR/L

External grooving toolholder, for 3 corner insert



| Inch        | CWN   | CWX   | CDX   | H    | B    | LF | LH   | HF   | WF   | Torque |
|-------------|-------|-------|-------|------|------|----|------|------|------|--------|
| TGTSR16-3   | 0.013 | 0.100 | 0.110 | 1.00 | 1.00 | 6  | 0.98 | 1.00 | 1.00 | 2.21   |
| TGTSR16-4-1 | 0.040 | 0.057 | 0.100 | 1.00 | 1.00 | 6  | 1.00 | 1.00 | 1.00 | 2.21   |
| TGTSR16-4-2 | 0.060 | 0.090 | 0.160 | 1.00 | 1.00 | 6  | 1.00 | 1.00 | 1.00 | 2.21   |
| TGTSR16-4-3 | 0.100 | 0.180 | 0.210 | 1.00 | 1.00 | 6  | 1.00 | 1.00 | 1.00 | 2.21   |

| Metric           | CWN  | CWX  | CDX | H  | B  | LF  | LH | HF | WF | Torque* |
|------------------|------|------|-----|----|----|-----|----|----|----|---------|
| TGTSR/L2020K16   | 0.33 | 2.5  | 2.5 | 20 | 20 | 125 | 25 | 20 | 25 | 3       |
| TGTSR/L2525M16   | 0.33 | 2.5  | 2.5 | 25 | 25 | 150 | 25 | 25 | 30 | 3       |
| TGTSR/L2020K22-1 | 1    | 1.45 | 2   | 20 | 20 | 125 | 25 | 20 | 25 | 3       |
| TGTSR/L2020K22-2 | 1.5  | 2.3  | 3.5 | 20 | 20 | 125 | 25 | 20 | 25 | 3       |
| TGTSR/L2020K22-3 | 2.5  | 4.5  | 5   | 20 | 20 | 125 | 25 | 20 | 25 | 3       |
| TGTSR/L2525M22-1 | 1    | 1.45 | 2   | 25 | 25 | 150 | 25 | 25 | 30 | 3       |
| TGTSR/L2525M22-2 | 1.5  | 2.3  | 3.5 | 25 | 25 | 150 | 25 | 25 | 30 | 3       |
| TGTSR/L2525M22-3 | 2.5  | 4.5  | 5   | 25 | 25 | 150 | 25 | 25 | 30 | 3       |

Use right-hand toolholders (TGTSR) with right-hand inserts (GBR); and left-hand toolholders (TGTSL) with left-hand inserts (GBL).  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 See below insert table.

| Designation      | Insert                              |
|------------------|-------------------------------------|
| TGTSR16-3        | GBR/L32...                          |
| TGTSR16-4-1      | GBR43050R ~ 145                     |
| TGTSR16-4-2      | GBR43150 ~ 230                      |
| TGTSR16-4-3      | GBR43250 ~ 450                      |
| TGTSR/L2020K16   | GBR/L32...                          |
| TGTSR/L2525M16   | GBR/L32...                          |
| TGTSR/L2020K22-1 | GBR/L43125 ~ 145 GBR/L43050R        |
| TGTSR/L2020K22-2 | GBR/L43150 ~ 230 GBR/L43075R ~ 100R |
| TGTSR/L2020K22-3 | GBR/L43250 ~ 450 GBR/L43125R ~ 200R |
| TGTSR/L2525M22-1 | GBR/L43125 ~ 145 GBR/L43050R        |
| TGTSR/L2525M22-2 | GBR/L43150 ~ 230 GBR/L43075R ~ 100R |
| TGTSR/L2525M22-3 | GBR/L43250 ~ 450 GBR/L43125R ~ 200R |

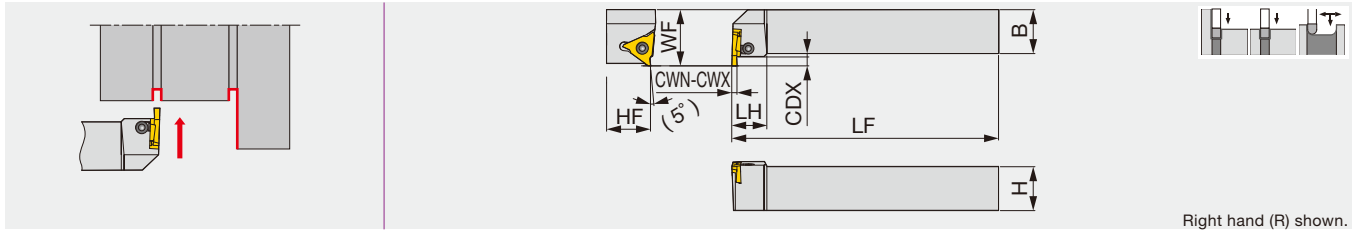
| SPARE PARTS      |       |                |        |
|------------------|-------|----------------|--------|
| Designation      | Clamp | Clamping screw | Wrench |
| TGTSR16-3        | CP900 | MCS520-2.5     | P-2.5  |
| TGTSR16-4...     | CP910 | MCS520-2.5     | P-2.5  |
| TGTSR/L****16    | CP900 | MCS520-2.5     | P-2.5  |
| TGTSR/L****22... | CP910 | MCS520-2.5     | P-2.5  |

Reference pages: Inserts → **F114 - F116**, Standard cutting conditions → **F116**



# TGTTR/L

External grooving with tangential pocket, for 3 corner insert



| Metric           | CWN  | CWX  | CDX | H  | B  | LF  | LH | HF | WF | Torque |
|------------------|------|------|-----|----|----|-----|----|----|----|--------|
| TGTTR/L2020K16   | 0.33 | 2.5  | 2.5 | 20 | 20 | 125 | 20 | 20 | 27 | 3      |
| TGTTR/L2525M16   | 0.33 | 2.5  | 2.5 | 25 | 25 | 150 | 20 | 25 | 32 | 3      |
| TGTTR/L2020K22-1 | 1    | 1.45 | 2   | 20 | 20 | 125 | 20 | 20 | 27 | 3      |
| TGTTR/L2020K22-2 | 1.5  | 2.3  | 3.5 | 20 | 20 | 125 | 20 | 20 | 27 | 3      |
| TGTTR/L2020K22-3 | 2.5  | 4.5  | 5   | 20 | 20 | 125 | 20 | 20 | 27 | 3      |
| TGTTR/L2525M22-1 | 1    | 2.3  | 2   | 25 | 25 | 150 | 20 | 25 | 32 | 3      |
| TGTTR/L2525M22-2 | 1.5  | 2.3  | 3.5 | 25 | 25 | 150 | 20 | 25 | 32 | 3      |
| TGTTR/L2525M22-3 | 2.5  | 4.5  | 5   | 25 | 25 | 150 | 20 | 25 | 32 | 3      |

Use right-hand toolholders (TGTTR) with left-hand inserts (GBL); and left-hand toolholders (TGTTL) with right-hand inserts (GBR).  
Torque: Recommended clamping torque: N·m  
See below insert table.

| Designation      | Insert                              |
|------------------|-------------------------------------|
| TGTTR/L2020K16   | GBL/R32...                          |
| TGTTR/L2525M16   | GBL/R32...                          |
| TGTTR/L2020K22-1 | GBL/R43125 ~ 145 GBL/R43050R        |
| TGTTR/L2020K22-2 | GBL/R43150 ~ 230 GBL/R43075R ~ 100R |
| TGTTR/L2020K22-3 | GBL/R43250 ~ 450 GBL/R43125R ~ 200R |
| TGTTR/L2525M22-1 | GBL/R43125 ~ 145 GBL/R43050R        |
| TGTTR/L2525M22-2 | GBL/R43150 ~ 230 GBL/R43075R ~ 100R |
| TGTTR/L2525M22-3 | GBL/R43250 ~ 450 GBL/R43125R ~ 200R |

## SPARE PARTS

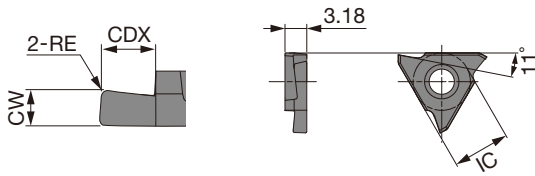
| Designation      | Clamp | Clamping screw | Wrench |
|------------------|-------|----------------|--------|
| TGTTR/L****16    | CP900 | MCS520-2.5     | P-2.5  |
| TGTTR/L****22... | CP910 | MCS520-2.5     | P-2.5  |

Reference pages: Inserts → **F114 - F116**, Standard cutting conditions → **F116**



# INSERTS

## GBR/L32



|   |                |   |  |   |  |  |  |   |  |  |  |
|---|----------------|---|--|---|--|--|--|---|--|--|--|
| P | Steel          | ★ |  | ★ |  |  |  |   |  |  |  |
| M | Stainless      | ★ |  |   |  |  |  |   |  |  |  |
| K | Cast iron      | ★ |  | ☆ |  |  |  |   |  |  |  |
| N | Non-ferrous    |   |  |   |  |  |  | ★ |  |  |  |
| S | Superalloys    | ☆ |  |   |  |  |  | ☆ |  |  |  |
| H | Hard materials |   |  |   |  |  |  |   |  |  |  |

★ : First choice  
☆ : Second choice

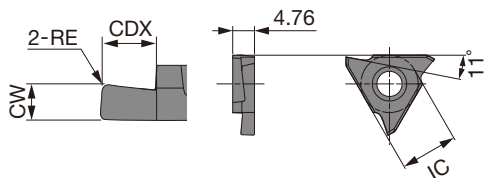


| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  | Cermet |  |  | Uncoated |  |  | CDX (in) | IC (mm) |
|-------------|------|---------------|---------------|---------|--------|--|--|--------|--|--|----------|--|--|----------|---------|
|             |      |               |               |         | AH710  |  |  | NS9530 |  |  | KS05F    |  |  |          |         |
| GBR32033    | R    | 0.33          | 0.013         | 0.0012  | ●      |  |  | ●      |  |  | ●        |  |  | 0.031    | 9.53    |
| GBL32033    | L    | 0.33          | 0.013         | 0.0012  | ●      |  |  |        |  |  |          |  |  | 0.031    | 9.53    |
| GBR32050    | R    | 0.5           | 0.020         | 0.002   | ●      |  |  | ●      |  |  | ●        |  |  | 0.047    | 9.53    |
| GBL32050    | L    | 0.5           | 0.020         | 0.002   | ●      |  |  |        |  |  |          |  |  | 0.047    | 9.53    |
| GBR32075    | R    | 0.75          | 0.030         | 0.002   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 9.53    |
| GBL32075    | L    | 0.75          | 0.030         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32095    | R    | 0.95          | 0.037         | 0.002   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 9.53    |
| GBL32095    | L    | 0.95          | 0.037         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32100    | R    | 1             | 0.039         | 0.002   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 9.53    |
| GBL32100    | L    | 1             | 0.039         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32125    | R    | 1.25          | 0.049         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 9.53    |
| GBL32125    | L    | 1.25          | 0.049         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32145    | R    | 1.45          | 0.057         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 9.53    |
| GBL32145    | L    | 1.45          | 0.057         | 0.008   | ●      |  |  |        |  |  |          |  |  | 0.079    | 9.53    |
| GBR32150    | R    | 1.5           | 0.059         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 9.53    |
| GBL32150    | L    | 1.5           | 0.059         | 0.008   | ●      |  |  |        |  |  |          |  |  | 0.079    | 9.53    |
| GBR32200    | R    | 2             | 0.079         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.098    | 9.53    |
| GBL32200    | L    | 2             | 0.079         | 0.008   | ●      |  |  |        |  |  |          |  |  | 0.098    | 9.53    |
| GBR32250    | R    | 2.5           | 0.098         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.098    | 9.53    |
| GBL32250    | L    | 2.5           | 0.098         | 0.008   | ●      |  |  |        |  |  |          |  |  | 0.098    | 9.53    |

● : Line up

Reference pages: Toolholders → **F112, F113**, Standard cutting conditions → **F116**

# GBR/L43



Right hand (R) shown.  
Unit: mm

|          |                |   |  |   |  |  |  |   |  |  |  |
|----------|----------------|---|--|---|--|--|--|---|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |   |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |  |   |  |  |  |
| <b>K</b> | Cast iron      | ★ |  | ☆ |  |  |  |   |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  | ★ |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |   |  |  |  | ☆ |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |   |  |  |  |

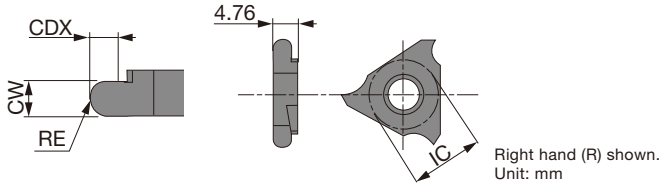
★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  | Cermet |  |  | Uncoated |  |  | CDX (in) | IC (mm) |
|-------------|------|---------------|---------------|---------|--------|--|--|--------|--|--|----------|--|--|----------|---------|
|             |      |               |               |         | AH710  |  |  | NS9530 |  |  | KS05F    |  |  |          |         |
| GBR43125    | R    | 1.25          | 0.049         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 12.7    |
| GBL43125    | L    | 1.25          | 0.049         | 0.008   | ●      |  |  |        |  |  |          |  |  | 0.079    | 12.7    |
| GBR43145    | R    | 1.45          | 0.057         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.079    | 12.7    |
| GBL43145    | L    | 1.45          | 0.057         | 0.008   | ●      |  |  |        |  |  |          |  |  | 0.079    | 12.7    |
| GBR43150    | R    | 1.50          | 0.059         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.138    | 12.7    |
| GBL43150    | L    | 1.50          | 0.059         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.138    | 12.7    |
| GBR43175    | R    | 1.75          | 0.069         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.138    | 12.7    |
| GBL43175    | L    | 1.75          | 0.069         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.138    | 12.7    |
| GBR43185    | R    | 1.85          | 0.073         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.138    | 12.7    |
| GBL43185    | L    | 1.85          | 0.073         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.138    | 12.7    |
| GBR43200    | R    | 2             | 0.079         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.138    | 12.7    |
| GBL43200    | L    | 2             | 0.079         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.138    | 12.7    |
| GBR43230    | R    | 2.3           | 0.091         | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.138    | 12.7    |
| GBL43230    | L    | 2.3           | 0.091         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.138    | 12.7    |
| GBR43250    | R    | 2.5           | 0.098         | 0.012   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43250    | L    | 2.5           | 0.098         | 0.012   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43265    | R    | 2.65          | 0.104         | 0.012   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43265    | L    | 2.65          | 0.104         | 0.012   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43280    | R    | 2.8           | 0.110         | 0.012   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43280    | L    | 2.8           | 0.110         | 0.012   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43300    | R    | 3             | 0.118         | 0.012   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43300    | L    | 3             | 0.118         | 0.012   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43330    | R    | 3.3           | 0.130         | 0.012   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43330    | L    | 3.3           | 0.130         | 0.012   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43350    | R    | 3.5           | 0.138         | 0.012   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43350    | L    | 3.5           | 0.138         | 0.012   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43400    | R    | 4             | 0.157         | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43400    | L    | 4             | 0.157         | 0.016   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43430    | R    | 4.3           | 0.169         | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43430    | L    | 4.3           | 0.169         | 0.016   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |
| GBR43450    | R    | 4.5           | 0.177         | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.197    | 12.7    |
| GBL43450    | L    | 4.5           | 0.177         | 0.016   | ●      |  |  | ●      |  |  |          |  |  | 0.197    | 12.7    |

● : Line up

Grade **A**  
 Insert **B**  
 Ext. Toolholder **C**  
 Int. Toolholder **D**  
 Threading **E**  
 Grooving **F**  
 Miniature tool **G**  
 Milling cutter **H**  
 Endmill **I**  
 Drilling tool **J**  
 Tooling System **K**  
 User's Guide **L**  
 Index **M**

## GBR/L43-R(full radius)



|          |                |   |  |   |  |  |   |  |  |  |
|----------|----------------|---|--|---|--|--|---|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |   |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |   |  |  |  |
| <b>K</b> | Cast iron      | ★ |  | ☆ |  |  |   |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  | ★ |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |   |  |  | ☆ |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |   |  |  |  |

★ : First choice  
☆ : Second choice



| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  | Cermet |  |  | Uncoated |  |  | CDX<br>(in) | IC<br>(mm) |      |
|-------------|------|------------------|------------------|------------|--------|--|--|--------|--|--|----------|--|--|-------------|------------|------|
|             |      |                  |                  |            | AH710  |  |  | NS9530 |  |  | KS05F    |  |  |             |            |      |
| GBR43050R   | R    | 1                | 0.039            | 0.020      | ●      |  |  | ●      |  |  | ●        |  |  |             | 0.079      | 12.7 |
| GBL43050R   | L    | 1                | 0.039            | 0.020      | ●      |  |  |        |  |  | ●        |  |  |             | 0.079      | 12.7 |
| GBR43075R   | R    | 1.5              | 0.059            | 0.030      | ●      |  |  | ●      |  |  | ●        |  |  |             | 0.138      | 12.7 |
| GBL43075R   | L    | 1.5              | 0.059            | 0.030      | ●      |  |  |        |  |  | ●        |  |  |             | 0.138      | 12.7 |
| GBR43100R   | R    | 2                | 0.079            | 0.039      | ●      |  |  | ●      |  |  | ●        |  |  |             | 0.138      | 12.7 |
| GBL43100R   | L    | 2                | 0.079            | 0.039      | ●      |  |  |        |  |  | ●        |  |  |             | 0.138      | 12.7 |
| GBR43125R   | R    | 2.5              | 0.098            | 0.049      | ●      |  |  | ●      |  |  | ●        |  |  |             | 0.197      | 12.7 |
| GBL43125R   | L    | 2.5              | 0.098            | 0.049      | ●      |  |  |        |  |  | ●        |  |  |             | 0.197      | 12.7 |
| GBR43150R   | R    | 3                | 0.118            | 0.059      | ●      |  |  | ●      |  |  | ●        |  |  |             | 0.197      | 12.7 |
| GBL43150R   | L    | 3                | 0.118            | 0.059      | ●      |  |  |        |  |  | ●        |  |  |             | 0.197      | 12.7 |
| GBR43200R   | R    | 4                | 0.157            | 0.079      | ●      |  |  | ●      |  |  | ●        |  |  |             | 0.197      | 12.7 |
| GBL43200R   | L    | 4                | 0.157            | 0.079      | ●      |  |  |        |  |  | ●        |  |  |             | 0.197      | 12.7 |

● : Line up

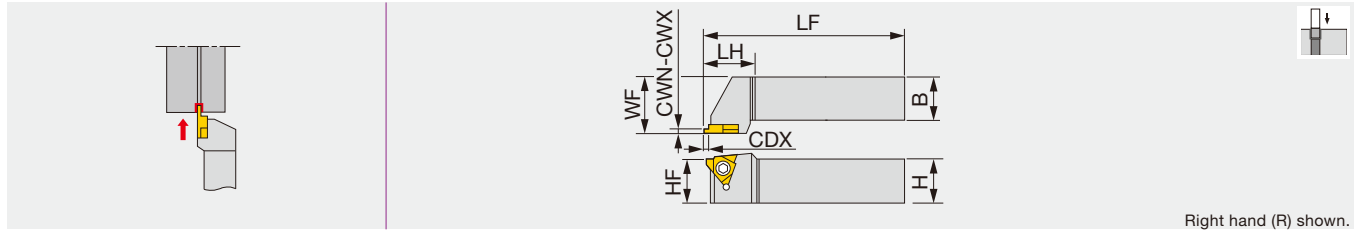
## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                                      | Hardness                                    | Grade  | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|---|--------|---------------------------|-----------------|
| <b>P</b> | Carbon steels, Alloy steels<br>1045, etc.<br>4140, etc. | 150 - 240HB                                 | NS9530 | 328 - 656                 | 0.001 - 0.010   |
|          |   | 150 - 240HB                                 | AH710  | 197 - 492                 | 0.002 - 0.010   |
| <b>M</b> | Stainless steel<br>304, etc.                            | ≤ 240HB                                     | AH710  | 197 - 492                 | 0.002 - 0.006   |
| <b>K</b> | Cast irons<br>No.250B, etc.                             | Tensile strength<br>≤ 350 N/mm <sup>2</sup> | AH710  | 197 - 492                 | 0.002 - 0.006   |
| <b>N</b> | Non-ferrous metal<br>Aluminum, etc.                     | -   | KS05F  | 656 - 984                 | 0.002 - 0.006   |

Reference pages: Toolholders → **F112, F113**

# SGTR/L

External grooving toolholder, for 3 corner inserts



| Metric       | CWN  | CWX | CDX     | H  | B  | LF  | LH | HF | WF | Insert              | Torque |
|--------------|------|-----|---------|----|----|-----|----|----|----|---------------------|--------|
| SGTR1616-3   | 1.15 | 2.7 | 1.5 - 3 | 16 | 16 | 100 | 20 | 16 | 20 | GLR/L3...           | 3.5    |
| SGTR/L2020-3 | 1.15 | 2.7 | 1.5 - 3 | 20 | 20 | 125 | 20 | 20 | 25 | GLR/L3...           | 3.5    |
| SGTR/L2525-3 | 1.15 | 2.7 | 1.5 - 3 | 25 | 25 | 150 | 20 | 25 | 32 | GLR/L3...           | 3.5    |
| SGTR/L2020-4 | 1.15 | 4.2 | 1.5 - 4 | 20 | 20 | 125 | 30 | 20 | 25 | GLR/L4...,GOR/L4... | 5      |
| SGTR/L2525-4 | 1.15 | 4.2 | 1.5 - 4 | 25 | 25 | 150 | 30 | 25 | 32 | GLR/L4...,GOR/L4... | 5      |

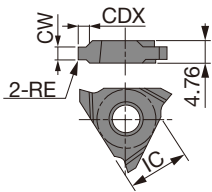
Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| SGTR/L***-3 | CSTB-4         | T-15F  |
| SGTR/L***-4 | CSTB-5         | T-20F  |

## INSERTS

### GOR/L (For O-ring)



Right hand (R) shown.  
Unit: mm

|                         |   |  |  |  |   |  |  |  |  |  |
|-------------------------|---|--|--|--|---|--|--|--|--|--|
| <b>P</b> Steel          | ★ |  |  |  | ★ |  |  |  |  |  |
| <b>M</b> Stainless      |   |  |  |  | ★ |  |  |  |  |  |
| <b>K</b> Cast iron      | ☆ |  |  |  |   |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  |  |  |   |  |  |  |  |  |
| <b>S</b> Superalloys    |   |  |  |  |   |  |  |  |  |  |
| <b>H</b> Hard materials |   |  |  |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

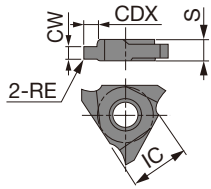
| Designation | HAND | CW <sup>+0.004</sup> <sub>+0.002</sub><br>(in) | CW <sup>+0.1</sup> <sub>+0.05</sub><br>(mm) | RE<br>(mm) | Cermets |      | Uncoated |  | CDX<br>(mm) | IC<br>(mm) |
|-------------|------|--|---|------------|---------|------|----------|--|-------------|------------|
|             |      |  |   |            | NS9530  | UX30 |          |  |             |            |
| GOR4190     | R    | 0.098  | 2.5   | 0.4        | ●       | ●    |          |  | 1.5         | 12.7       |
| GOR4240     | R    | 0.126  | 3.2   | 0.4        | ●       | ●    |          |  | 2           | 12.7       |
| GOR4310     | R    | 0.161  | 4.1   | 0.7        | ●       | ●    |          |  | 2.5         | 12.7       |

● : Line up

Reference pages: Inserts → **F117, F118**, Standard cutting conditions → **F118**



## GLR/L (For lock ring)



Right hand (R) shown.

|          |                |   |  |   |  |  |  |
|----------|----------------|---|--|---|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |
| <b>M</b> | Stainless      |   |  | ★ |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |   |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  |
| <b>S</b> | Superalloys    |   |  |   |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |

★ : First choice  
☆ : Second choice



| Designation | HAND | CW <sup>+0.004</sup> <sub>+0.002</sub><br>(in) | CW <sup>+0.1</sup> <sub>+0.05</sub><br>(mm) | RE<br>(mm) | Cermet |      | Uncoated |  | CDX<br>(mm) | IC<br>(mm) | S<br>(mm) |
|-------------|------|--|---|------------|--------|------|----------|--|-------------|------------|-----------|
|             |      |  |   |            | NS9530 | UX30 |          |  |             |            |           |
| GLR3115     | R    | 0.045  | 1.15  | 0.1        | ●      | ●    |          |  | 1.5         | 9.53       | 3.18      |
| GLL3115     | L    | 0.045  | 1.15  | 0.1        | ●      | ●    |          |  | 1.5         | 9.53       | 3.18      |
| GLR3135     | R    | 0.053  | 1.35  | 0.1        | ●      | ●    |          |  | 1.5         | 9.53       | 3.18      |
| GLL3135     | L    | 0.053  | 1.35  | 0.1        | ●      | ●    |          |  | 1.5         | 9.53       | 3.18      |
| GLR3165     | R    | 0.065  | 1.65  | 0.1        | ●      | ●    |          |  | 2           | 9.53       | 3.18      |
| GLR3175     | R    | 0.069  | 1.75  | 0.1        | ●      | ●    |          |  | 2           | 9.53       | 3.18      |
| GLL3175     | L    | 0.069  | 1.75  | 0.1        | ●      | ●    |          |  | 2           | 9.53       | 3.18      |
| GLR3195     | R    | 0.077  | 1.95  | 0.1        | ●      | ●    |          |  | 2.5         | 9.53       | 3.18      |
| GLL3195     | L    | 0.077  | 1.95  | 0.1        | ●      | ●    |          |  | 2.5         | 9.53       | 3.18      |
| GLR3220     | R    | 0.087  | 2.2   | 0.1        | ●      | ●    |          |  | 3           | 9.53       | 3.18      |
| GLL3220     | L    | 0.087  | 2.2   | 0.1        | ●      | ●    |          |  | 3           | 9.53       | 3.18      |
| GLR3270     | R    | 0.106  | 2.7   | 0.1        | ●      | ●    |          |  | 3           | 9.53       | 3.18      |
| GLL3270     | L    | 0.106  | 2.7   | 0.1        | ●      | ●    |          |  | 3           | 9.53       | 3.18      |
| GLR4115     | R    | 0.045  | 1.15  | 0.1        | ●      | ●    |          |  | 1.5         | 12.7       | 4.76      |
| GLR4135     | R    | 0.053  | 1.35  | 0.1        | ●      | ●    |          |  | 1.5         | 12.7       | 4.76      |
| GLR4165     | R    | 0.065  | 1.65  | 0.1        | ●      | ●    |          |  | 2           | 12.7       | 4.76      |
| GLR4175     | R    | 0.069  | 1.75  | 0.1        | ●      | ●    |          |  | 2           | 12.7       | 4.76      |
| GLR4190     | R    | 0.075  | 1.9   | 0.1        | ●      | ●    |          |  | 2.5         | 12.7       | 4.76      |
| GLR4195     | R    | 0.077  | 1.95  | 0.1        | ●      | ●    |          |  | 2.5         | 12.7       | 4.76      |
| GLR4220     | R    | 0.087  | 2.2   | 0.1        | ●      | ●    |          |  | 3.5         | 12.7       | 4.76      |
| GLL4220     | L    | 0.087  | 2.2   | 0.1        | ●      | ●    |          |  | 3.5         | 12.7       | 4.76      |
| GLR4270     | R    | 0.106  | 2.7   | 0.1        | ●      | ●    |          |  | 3.5         | 12.7       | 4.76      |
| GLR4320     | R    | 0.126  | 3.2   | 0.1        | ●      | ●    |          |  | 4           | 12.7       | 4.76      |
| GLL4320     | L    | 0.126  | 3.2   | 0.1        | ●      | ●    |          |  | 4           | 12.7       | 4.76      |
| GLR4420     | R    | 0.165  | 4.2   | 0.1        | ●      | ●    |          |  | 4           | 12.7       | 4.76      |
| GLL4420     | L    | 0.165  | 4.2   | 0.1        | ●      | ●    |          |  | 4           | 12.7       | 4.76      |

● : Line up

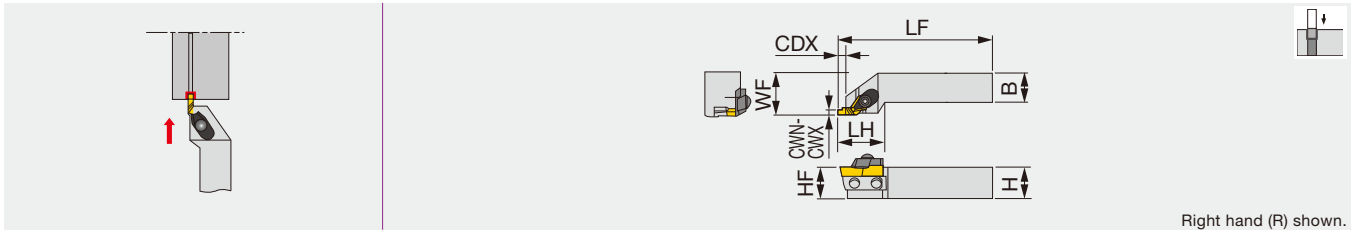
## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material | Grade  | Cutting speed<br>Vc (sfm) | Feed: f (ipr) |                      |               |
|----------|--------------------|--------|---------------------------|---------------|----------------------|---------------|
|          |                    |        |                           | CW < 0.079"   | CW = 0.079" - 0.157" | CW > 0.157"   |
| <b>P</b> | Carbon steel       | NS9530 | 262 - 656                 | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |
|          |                    | UX30   | 197 - 492                 | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |

Reference pages: Toolholders → **F117**

# GX-R/LE

External grooving toolholder, for 2 corner inserts



Right hand (R) shown.

| Inch        | CWN   | CWX   | CDX           | H    | B    | LF   | LH   | HF   | WF   | Insert     | Torque  |
|-------------|-------|-------|---------------|------|------|------|------|------|------|------------|---------|
| GX-1212REU  | 0.039 | 0.177 | 0.059 - 0.236 | 0.75 | 0.75 | 5.00 | 1.38 | 0.75 | 1.00 | XGR63...   | 3.69    |
| GX-1616REU  | 0.039 | 0.177 | 0.059 - 0.236 | 1.00 | 1.00 | 5.90 | 1.38 | 1.00 | 1.25 | XGR63...   | 3.69    |
| Metric      | CWN   | CWX   | CDX           | H    | B    | LF   | LH   | HF   | WF   | Insert     | Torque* |
| GX-2020R/LE | 1     | 4.5   | 1.5 - 6       | 20   | 20   | 125  | 40   | 20   | 25   | XGR/L63... | 5       |
| GX-2525R/LE | 1     | 4.5   | 1.5 - 6       | 25   | 25   | 150  | 38   | 25   | 32   | XGR/L63... | 5       |

Use right-hand toolholders (GX-\*\*\*\*RE) with right-hand inserts (XGR...); and left-hand toolholders (GX-\*\*\*\*LE) with left-hand inserts (XGL...).

Torque: Recommended clamping torque: lbs-ft (\*N·m)

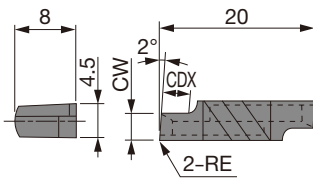
## SPARE PARTS

| Designation              | Clamp set | Clamp screw | Shim  | Shim screw | Wrench |
|--------------------------|-----------|-------------|-------|------------|--------|
| GX-1212REU,<br>GX-2020RE | CP81A     | RT-1        | SL-6R | BHM4-8     | P-4    |
| GX-2020LE                | CP81A     | RT-1        | SL-6L | BHM4-8     | P-4    |
| GX-1616REU,<br>GX-2525RE | CP81A     | RT-1        | SL-1R | BHM4-8     | P-4    |
| GX-2525LE                | CP81A     | RT-1        | SL-1L | BHM4-8     | P-4    |

Note: Max. groove width and max. groove depth will depend on the insert type.

## INSERTS

### XGR/L



Right hand (R) shown.  
Unit: mm

|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   |   |
| Stainless      |   | ★ |   |   |   |   |
| Cast iron      |   |   | ☆ |   |   |   |
| Non-ferrous    |   |   |   | ★ |   |   |
| Superalloys    |   |   |   |   | ☆ |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Cermet |      | Uncoated |  | CDX (in) |
|-------------|------|---------------|---------------|---------|--------|------|----------|--|----------|
|             |      |               |               |         | NS9530 | TH10 | UX30     |  |          |
| XGR6310-02  | R    | 1             | 0.039         | 0.008   | ●      | ●    | ●        |  | 0.059    |
| XGL6310-02  | L    | 1             | 0.039         | 0.008   | ●      | ●    | ●        |  | 0.059    |
| XGR6315-02  | R    | 1.5           | 0.059         | 0.008   | ●      | ●    | ●        |  | 0.091    |
| XGL6315-02  | L    | 1.5           | 0.059         | 0.008   | ●      | ●    | ●        |  | 0.091    |
| XGR6320-02  | R    | 2             | 0.079         | 0.008   | ●      | ●    | ●        |  | 0.118    |
| XGL6320-02  | L    | 2             | 0.079         | 0.008   | ●      | ●    | ●        |  | 0.118    |
| XGR6325-02  | R    | 2.5           | 0.098         | 0.008   | ●      | ●    | ●        |  | 0.150    |
| XGL6325-02  | L    | 2.5           | 0.098         | 0.008   | ●      | ●    | ●        |  | 0.150    |
| XGR6330-02  | R    | 3             | 0.118         | 0.008   | ●      | ●    | ●        |  | 0.177    |
| XGL6330-02  | L    | 3             | 0.118         | 0.008   | ●      | ●    | ●        |  | 0.177    |
| XGR6335-02  | R    | 3.5           | 0.138         | 0.008   | ●      | ●    | ●        |  | 0.209    |
| XGL6335-02  | L    | 3.5           | 0.138         | 0.008   | ●      | ●    | ●        |  | 0.209    |
| XGR6340-02  | R    | 4             | 0.157         | 0.008   | ●      | ●    | ●        |  | 0.236    |
| XGL6340-02  | L    | 4             | 0.157         | 0.008   | ●      | ●    | ●        |  | 0.236    |
| XGR6345-02  | R    | 4.5           | 0.177         | 0.008   | ●      | ●    | ●        |  | 0.236    |
| XGL6345-02  | L    | 4.5           | 0.177         | 0.008   | ●      | ●    | ●        |  | 0.236    |

Use right-hand toolholders (GX-\*\*\*\*RE) with right-hand inserts (XGR...)  
left-hand toolholders (GX-\*\*\*\*LE) with left-hand inserts (XGL...).

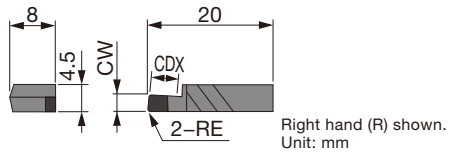
● : Line up

Reference pages: Inserts → **F119, F120**, Standard cutting conditions → **F120**





## XGR/L-QBN



|          |                |   |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|
| <b>P</b> | Steel          |   |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |
| <b>H</b> | Hard materials | ★ |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice



| Designation  | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | CBN   |  |  |  |  |  |  | CDX (in) |       |
|--------------|------|--------------|---------------|---------|-------|--|--|--|--|--|--|----------|-------|
|              |      |              |               |         | BX360 |  |  |  |  |  |  |          |       |
| XGL6310S-QBN | L    | 1            | 0.039         | 0.008   | ●     |  |  |  |  |  |  |          | 0.059 |
| XGR6315S-QBN | R    | 1.5          | 0.059         | 0.008   | ●     |  |  |  |  |  |  |          | 0.091 |
| XGL6315S-QBN | L    | 1.5          | 0.059         | 0.008   | ●     |  |  |  |  |  |  |          | 0.091 |
| XGR6320S-QBN | R    | 2            | 0.079         | 0.008   | ●     |  |  |  |  |  |  |          | 0.118 |
| XGL6320S-QBN | L    | 2            | 0.079         | 0.008   | ●     |  |  |  |  |  |  |          | 0.118 |
| XGR6325S-QBN | R    | 2.5          | 0.098         | 0.008   | ●     |  |  |  |  |  |  |          | 0.150 |
| XGL6325S-QBN | L    | 2.5          | 0.098         | 0.008   | ●     |  |  |  |  |  |  |          | 0.150 |
| XGR6330S-QBN | R    | 3            | 0.118         | 0.008   | ●     |  |  |  |  |  |  |          | 0.177 |
| XGL6330S-QBN | L    | 3            | 0.118         | 0.008   | ●     |  |  |  |  |  |  |          | 0.177 |
| XGR6335S-QBN | R    | 3.5          | 0.138         | 0.008   | ●     |  |  |  |  |  |  |          | 0.209 |
| XGL6335S-QBN | L    | 3.5          | 0.138         | 0.008   | ●     |  |  |  |  |  |  |          | 0.209 |
| XGR6340S-QBN | R    | 4            | 0.157         | 0.008   | ●     |  |  |  |  |  |  |          | 0.236 |
| XGL6340S-QBN | L    | 4            | 0.157         | 0.008   | ●     |  |  |  |  |  |  |          | 0.236 |
| XGR6345S-QBN | R    | 4.5          | 0.177         | 0.008   | ●     |  |  |  |  |  |  |          | 0.236 |
| XGL6345S-QBN | L    | 4.5          | 0.177         | 0.008   | ●     |  |  |  |  |  |  |          | 0.236 |

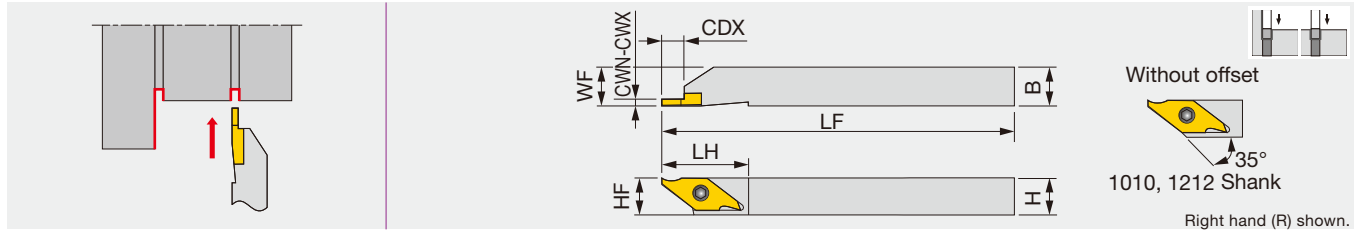
Use right-hand toolholders (GX-\*\*\*\*RE) with right-hand inserts (XGR...)  
left-hand toolholders (GX-\*\*\*\*LE) with left-hand inserts (XGL...).

● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material        | Grade  | Cutting speed<br>Vc (sfm) | Feed: <i>f</i> (ipr) |                      |               |
|----------|---------------------------|--------|---------------------------|----------------------|----------------------|---------------|
|          |                           |        |                           | CW < 0.079"          | CW = 0.079" - 0.157" | CW > 0.157"   |
| <b>P</b> | Carbon steel              | NS9530 | 262 - 656                 | 0.002 - 0.004        | 0.003 - 0.008        | 0.003 - 0.010 |
|          |                           | UX30   | 197 - 492                 | 0.002 - 0.004        | 0.003 - 0.008        | 0.003 - 0.010 |
| <b>K</b> | Cast irons , Light alloys | TH10   | 197 - 492                 | 0.002 - 0.004        | 0.003 - 0.008        | 0.003 - 0.010 |
| <b>H</b> | Hardened steels           | BX360  | 164 - 591                 | 0.002 - 0.006        | 0.002 - 0.006        | 0.002 - 0.006 |

Reference pages: Toolholders → **F119**



| Inch           | CWN   | CWX   | CDX           | H     | B     | LF  | LH    | HF    | WF    | Insert    | Torque  |
|----------------|-------|-------|---------------|-------|-------|-----|-------|-------|-------|-----------|---------|
| JSVGR/L062.5   | 0.013 | 0.079 | 0.028 - 0.217 | 0.375 | 0.375 | 5   | 0.875 | 0.375 | 0.375 | JVGR/L... | 1.70    |
| JSVGR/L082.5   | 0.013 | 0.079 | 0.028 - 0.217 | 0.500 | 0.500 | 5   | 0.875 | 0.500 | 0.500 | JVGR/L... | 1.70    |
| JSVGR/L102.5   | 0.013 | 0.079 | 0.028 - 0.217 | 0.625 | 0.625 | 5   | 0.875 | 0.625 | 0.625 | JVGR/L... | 1.70    |
| Metric         | CWN   | CWX   | CDX           | H     | B     | LF  | LH    | HF    | WF    | Insert    | Torque* |
| JSVGR/L1010K-C | 0.33  | 2     | 0.7 - 5.5     | 10    | 10    | 125 | 23    | 10    | 10    | JVGR/L... | 2.3     |
| JSVGR/L1212K-C | 0.33  | 2     | 0.7 - 5.5     | 12    | 12    | 125 | 23    | 12    | 12    | JVGR/L... | 2.3     |
| JSVGR/L1616K   | 0.33  | 2     | 0.7 - 5.5     | 16    | 16    | 125 | 23    | 16    | 16    | JVGR/L... | 2.3     |

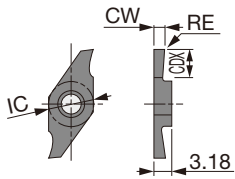
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSVGR/L...  | CSTB-3S        | T-9F     | (T-9L)              |

## INSERT

### JVG (with hand, sharp edge)



Right hand (R) shown.  
Unit: mm

|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ | ★ |   |   |   |   |
| Stainless      | ★ | ★ |   |   |   |   |
| Cast iron      |   |   |   |   | ☆ |   |
| Non-ferrous    |   |   |   |   | ★ |   |
| Superalloys    |   |   |   |   | ★ |   |
| Hard materials |   |   |   |   |   |   |

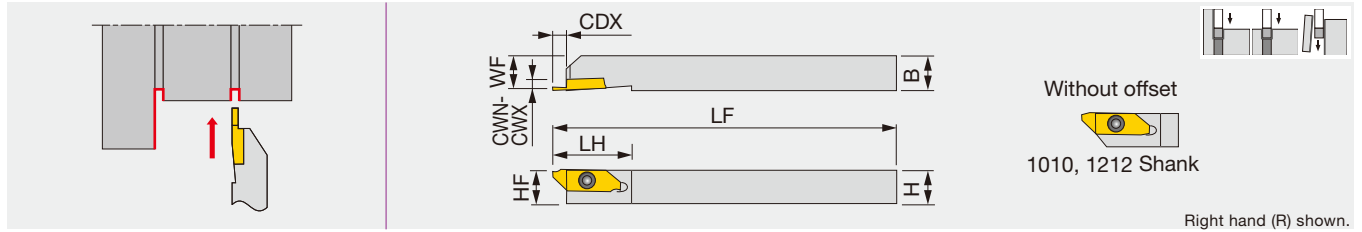
★ : First choice  
☆ : Second choice

| Designation | HAND | CW <sup>+0.05</sup><br>(mm) | CW <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated |      |  | Cermet |  |  | Uncoated |  |  | CDX<br>(in) | IC<br>(mm) |
|-------------|------|-----------------------------|------------------------------|------------|--------|------|--|--------|--|--|----------|--|--|-------------|------------|
|             |      |                             |                              |            | SH725  | J740 |  | NS9530 |  |  | TH10     |  |  |             |            |
| JVGR033F    | R    | 0.33                        | 0.013                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.028       | 7.94       |
| JVGL033F    | L    | 0.33                        | 0.013                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.028       | 7.94       |
| JVGR050F    | R    | 0.5                         | 0.020                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.043       | 7.94       |
| JVGL050F    | L    | 0.5                         | 0.020                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.043       | 7.94       |
| JVGR075F    | R    | 0.75                        | 0.030                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.075       | 7.94       |
| JVGL075F    | L    | 0.75                        | 0.030                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.075       | 7.94       |
| JVGR095F    | R    | 0.95                        | 0.037                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.075       | 7.94       |
| JVGL095F    | L    | 0.95                        | 0.037                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.075       | 7.94       |
| JVGR100F    | R    | 1                           | 0.039                        | 0          | ●      | ●    |  | ●      |  |  |          |  |  | 0.217       | 7.94       |
| JVGL100F    | L    | 1                           | 0.039                        | 0          | ●      | ●    |  | ●      |  |  |          |  |  | 0.217       | 7.94       |
| JVGR125F    | R    | 1.25                        | 0.049                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.197       | 7.94       |
| JVGL125F    | L    | 1.25                        | 0.049                        | 0          | ●      | ●    |  |        |  |  |          |  |  | 0.197       | 7.94       |
| JVGR150F    | R    | 1.5                         | 0.059                        | 0          | ●      | ●    |  | ●      |  |  |          |  |  | 0.217       | 7.94       |
| JVGL150F    | L    | 1.5                         | 0.059                        | 0          | ●      | ●    |  | ●      |  |  |          |  |  | 0.217       | 7.94       |
| JVGR200F    | R    | 2                           | 0.079                        | 0          | ●      | ●    |  | ●      |  |  |          |  |  | 0.217       | 7.94       |
| JVGL200F    | L    | 2                           | 0.079                        | 0          | ●      | ●    |  | ●      |  |  |          |  |  | 0.217       | 7.94       |

● : Line up

Reference pages: Standard cutting conditions → **F128**

Screw-on toolholder for front turning, reverse turning, and external grooving, for Swiss lathes



| Metric          | CWN | CWX | CDX     | H  | B  | LF  | LH | HF | WF   | Insert | Torque |
|-----------------|-----|-----|---------|----|----|-----|----|----|------|--------|--------|
| JSXGR/L1010K8-C | 0.7 | 2   | 4.5 - 6 | 10 | 10 | 125 | 29 | 10 | 9.9  | JXG... | 1.3    |
| JSXGR/L1212K8-C | 0.7 | 2   | 4.5 - 6 | 12 | 12 | 125 | 29 | 12 | 11.9 | JXG... | 1.3    |
| JSXGR/L1616K8   | 0.7 | 2   | 4.5 - 6 | 16 | 16 | 125 | 29 | 16 | 15.9 | JXG... | 1.3    |
| JSXGR/L2020K8   | 0.7 | 2   | 4.5 - 6 | 20 | 20 | 125 | 29 | 20 | 19.9 | JXG... | 1.3    |
| JSXGR/L2525K8   | 0.7 | 2   | 4.5 - 6 | 25 | 25 | 125 | 29 | 25 | 24.9 | JXG... | 1.3    |

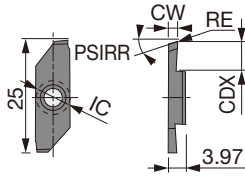
Can be wrenched also from the back with a double-head screw.  
This toolholder can be used for JXF front-turning insert, JXR reverse-turning insert, and JXG parting and grooving insert.  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSXGR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |

### INSERT

#### JXG (with hand, sharp edge)



Right hand (R) shown.  
Unit: mm

|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   | ☆ |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   |   |   |   | ☆ |
| Non-ferrous    |   |   |   |   |   | ★ |
| Superalloys    |   |   |   |   |   | ★ |
| Hard materials |   |   |   |   |   |   |

★ : First choice  
☆ : Second choice

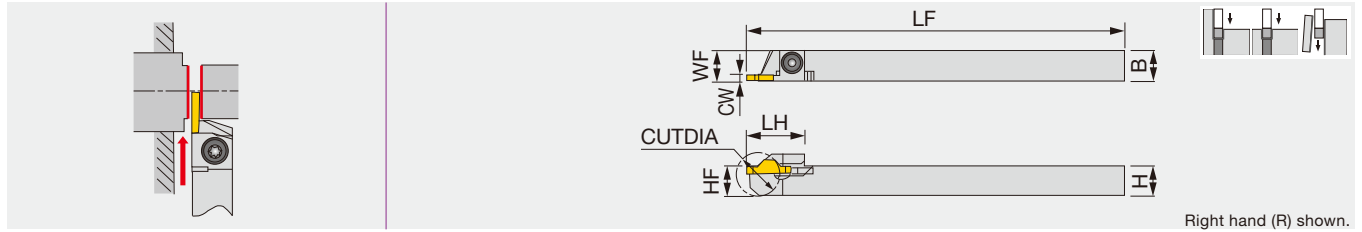
| Designation      | HAND | CW±0.001 (in) | CW±0.025 (mm) | RE (mm) | Coated |      | Uncoated |  | CDX (mm) | IC (mm) | PSIRR |
|------------------|------|---------------|---------------|---------|--------|------|----------|--|----------|---------|-------|
|                  |      |               |               |         | J740   | TH10 |          |  |          |         |       |
| JXGR8070FA       | R    | 0.028         | 0.7           | 0       | ●      | ●    |          |  | 4.5      | 8       | 15°   |
| JXGL8070FA       | L    | 0.028         | 0.7           | 0       | ●      | ●    |          |  | 4.5      | 8       | 15°   |
| JXGR8070FA-005   | R    | 0.028         | 0.7           | 0.05    | ●      |      |          |  | 4.5      | 8       | 15°   |
| JXGR8100FA       | R    | 0.039         | 1             | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGL8100FA       | L    | 0.039         | 1             | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGR8100FA-005   | R    | 0.039         | 1             | 0.05    | ●      |      |          |  | 6        | 8       | 15°   |
| JXGR8100FA45     | R    | 0.039         | 1             | 0       | ●      | ●    |          |  | 4.5      | 8       | 15°   |
| JXGR8100FA45-005 | R    | 0.039         | 1             | 0.05    | ●      |      |          |  | 4.5      | 8       | 15°   |
| JXGR8150FA       | R    | 0.059         | 1.5           | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGL8150FA       | L    | 0.059         | 1.5           | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGR8150FA-005   | R    | 0.059         | 1.5           | 0.05    | ●      |      |          |  | 6        | 8       | 15°   |
| JXGR8150FA50     | R    | 0.059         | 1.5           | 0       | ●      | ●    |          |  | 5        | 8       | 15°   |
| JXGR8150FA50-005 | R    | 0.059         | 1.5           | 0.05    | ●      |      |          |  | 5        | 8       | 15°   |
| JXGR8180FA       | R    | 0.071         | 1.8           | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGR8180FA-005   | R    | 0.071         | 1.8           | 0.05    | ●      |      |          |  | 6        | 8       | 15°   |
| JXGR8200FA       | R    | 0.079         | 2             | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGL8200FA       | L    | 0.079         | 2             | 0       | ●      | ●    |          |  | 6        | 8       | 15°   |
| JXGR8200FA-005   | R    | 0.079         | 2             | 0.05    | ●      |      |          |  | 6        | 8       | 15°   |
| JXGR8200FN       | R    | 0.079         | 2             | 0       | ●      | ●    |          |  | 6        | 8       | 0°    |
| JXGL8200FN       | L    | 0.079         | 2             | 0       | ●      | ●    |          |  | 6        | 8       | 0°    |
| JXGR8200FN-005   | R    | 0.079         | 2             | 0.05    | ●      |      |          |  | 6        | 8       | 0°    |

● : Line up

Reference pages: Standard cutting conditions → **F128**

# JCCWSR/L

External grooving and parting toolholder, for Swiss lathes



| Inch        | CW    | CUTDIA | H     | B     | LF | LH    | HF    | WF     | Insert     | Torque |
|-------------|-------|--------|-------|-------|----|-------|-------|--------|------------|--------|
| JCCWSR/L062 | 0.079 | 0.787  | 0.375 | 0.375 | 5  | 0.748 | 0.375 | 0.1875 | JCC*200... | 2.58   |
| JCCWSR/L082 | 0.079 | 0.787  | 0.500 | 0.500 | 5  | 0.748 | 0.500 | 0.250  | JCC*200... | 2.58   |
| JCCWSR/L102 | 0.079 | 0.787  | 0.625 | 0.625 | 5  | 0.748 | 0.625 | 0.3125 | JCC*200... | 2.58   |

| Metric         | CW | CUTDIA | H  | B  | LF  | LH | HF | WF | Insert     | Torque* |
|----------------|----|--------|----|----|-----|----|----|----|------------|---------|
| JCCWSR/L1010K2 | 2  | 20     | 10 | 10 | 125 | 19 | 10 | 10 | JCC*200... | 3.5     |
| JCCWSR/L1212K2 | 2  | 20     | 12 | 12 | 125 | 19 | 12 | 12 | JCC*200... | 3.5     |
| JCCWSR/L1616K2 | 2  | 20     | 16 | 16 | 125 | 19 | 16 | 16 | JCC*200... | 3.5     |
| JCCWSR/L2020K2 | 2  | 20     | 20 | 20 | 125 | 19 | 20 | 20 | JCC*200... | 3.5     |
| JCCWSR/L2525K2 | 2  | 20     | 25 | 25 | 125 | 19 | 25 | 25 | JCC*200... | 3.5     |

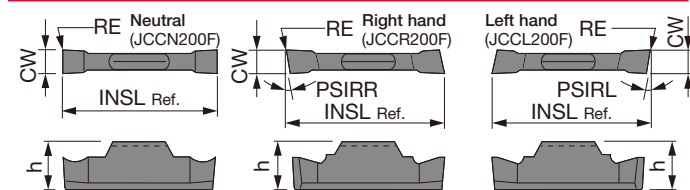
Torque: Recommended clamping torque: lbs-ft (\*N·m)

## SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JCCWSR/L... | CSTB-4S        | T-15F    | (T-15L)             |

## INSERT

### JCC (Sharp edge)



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   | ☆ |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   |   |   | ☆ |   |
| Non-ferrous    |   |   |   | ★ |   |   |
| Superalloys    |   |   |   | ★ |   |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice  
☆ : Second choice

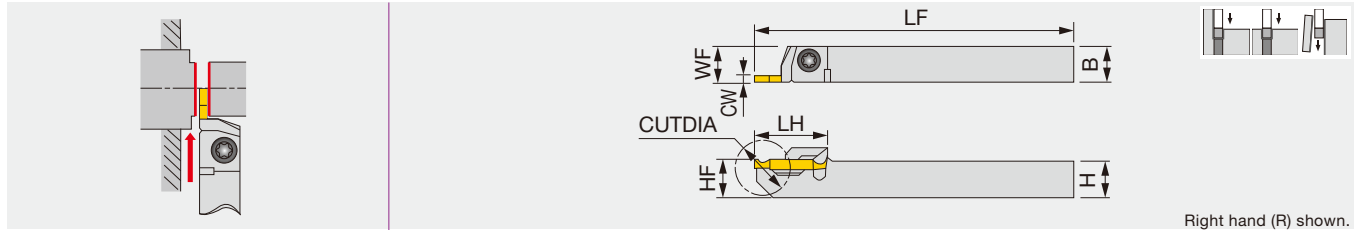
| Designation  | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |      | Uncoated |  | INSL (mm) | h (mm) | PSIRL | PSIRR |
|--------------|------|---------------|---------------|---------|--------|------|----------|--|-----------|--------|-------|-------|
|              |      |               |               |         | J740   | TH10 |          |  |           |        |       |       |
| JCCN200F     | N    | 2             | 0.079         | 0       | ●      |      |          |  | 15        | 4.8    | 0°    | 0°    |
| JCCN200F-005 | N    | 2             | 0.079         | 0.002   | ●      |      |          |  | 15        | 4.8    | 0°    | 0°    |
| JCCR200F     | R    | 2             | 0.079         | 0       | ●      |      | ●        |  | 15        | 4.8    | 0°    | 15°   |
| JCCL200F     | L    | 2             | 0.079         | 0       | ●      |      | ●        |  | 15        | 4.8    | 15°   | 0°    |
| JCCR200F-005 | R    | 2             | 0.079         | 0.002   | ●      |      |          |  | 15        | 4.8    | 0°    | 15°   |
| JCCL200F-005 | L    | 2             | 0.079         | 0.002   | ●      |      |          |  | 15        | 4.8    | 15°   | 0°    |

● : Line up

Reference pages: Standard cutting conditions → **F128**



External grooving and parting toolholder, for Swiss lathes



| Metric         | CW | CUTDIA | H  | B  | LF  | LH | HF | WF | Insert      | Torque |
|----------------|----|--------|----|----|-----|----|----|----|-------------|--------|
| JCGWSR/L1010K2 | 2  | 20     | 10 | 10 | 125 | 20 | 10 | 10 | JCGN200F... | 3.5    |
| JCGWSR/L1212K2 | 2  | 20     | 12 | 12 | 125 | 20 | 12 | 12 | JCGN200F... | 3.5    |
| JCGWSR/L1616K2 | 2  | 20     | 16 | 16 | 125 | 20 | 16 | 16 | JCGN200F... | 3.5    |

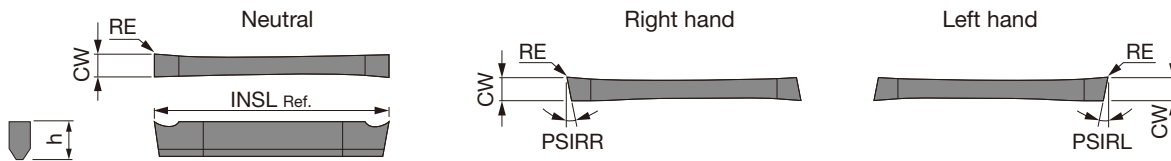
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JCGWSR/L... | CSTB-4S        | T-15F    | (T-15L)             |

## INSERT

### JCGN (Sharp edge)



|   |                |   |  |   |  |  |  |  |
|---|----------------|---|--|---|--|--|--|--|
| P | Steel          | ★ |  | ☆ |  |  |  |  |
| M | Stainless      | ★ |  |   |  |  |  |  |
| K | Cast iron      |   |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |  | ★ |  |  |  |  |
| S | Superalloys    |   |  | ★ |  |  |  |  |
| H | Hard materials |   |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

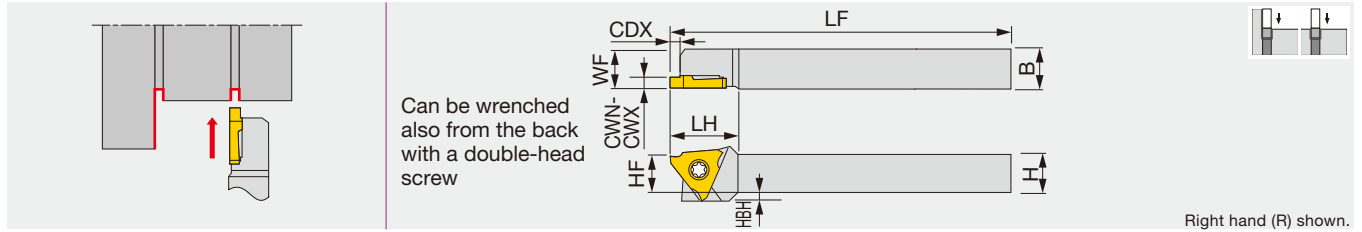
| Designation | HAND | CW±0.001 (in) | CW±0.025 (mm) | RE (mm) | Coated |      | Uncoated |  | INSL (mm) | h (mm) | PSIRL | PSIRR |
|-------------|------|---------------|---------------|---------|--------|------|----------|--|-----------|--------|-------|-------|
|             |      |               |               |         | J740   | TH10 |          |  |           |        |       |       |
| JCGN200F    | N    | 0.079         | 2             | 0.05    | ●      | ●    |          |  | 20        | 3      | 0°    | 0°    |
| JCGN200FR   | R    | 0.079         | 2             | 0.05    | ●      | ●    |          |  | 20        | 3      | 0°    | 8°    |
| JCGN200FL   | L    | 0.079         | 2             | 0.05    | ●      | ●    |          |  | 20        | 3      | 8°    | 0°    |

● : Line up

Reference pages: Standard cutting conditions → **F128**

## JSTGR/L

External grooving toolholder, for Swiss lathes



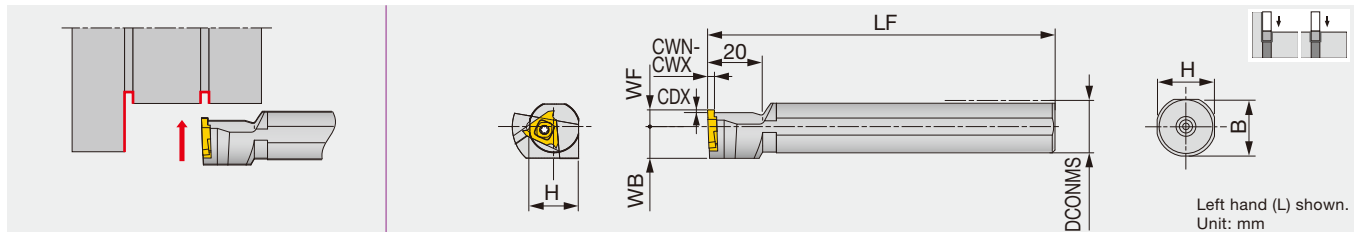
| Inch       | CWN   | CWX   | CDX           | H     | B     | LF | LH   | HF    | WF    | HBH   | Insert     | Torque |
|------------|-------|-------|---------------|-------|-------|----|------|-------|-------|-------|------------|--------|
| JSTGR/L063 | 0.013 | 0.118 | 0.028 - 0.102 | 0.375 | 0.375 | 5  | 0.75 | 0.375 | 0.375 | 0.100 | JTGR/L3... | 0.89   |
| JSTGR/L083 | 0.013 | 0.118 | 0.028 - 0.102 | 0.500 | 0.500 | 5  | 0.75 | 0.500 | 0.500 | -     | JTGR/L3... | 0.89   |
| JSTGR/L103 | 0.013 | 0.118 | 0.028 - 0.102 | 0.625 | 0.625 | 5  | 0.75 | 0.625 | 0.625 | -     | JTGR/L3... | 0.89   |

| Metric        | CWN  | CWX | CDX       | H  | B  | LF  | LH   | HF | WF | HBH | Insert     | Torque* |
|---------------|------|-----|-----------|----|----|-----|------|----|----|-----|------------|---------|
| JSTGR/L1010X3 | 0.33 | 3   | 0.7 - 2.6 | 10 | 10 | 120 | 18.5 | 10 | 10 | 2   | JTGR/L3... | 1.2     |
| JSTGR/L1212F3 | 0.33 | 3   | 0.7 - 2.6 | 12 | 12 | 85  | 18.5 | 12 | 12 | -   | JTGR/L3... | 1.2     |
| JSTGR/L1212X3 | 0.33 | 3   | 0.7 - 2.6 | 12 | 12 | 120 | 18.5 | 12 | 12 | -   | JTGR/L3... | 1.2     |
| JSTGR/L1616X3 | 0.33 | 3   | 0.7 - 2.6 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | JTGR/L3... | 1.2     |
| JSTGL1616K3   | 0.33 | 3   | 0.7 - 2.6 | 16 | 16 | 125 | 18.5 | 16 | 16 | -   | JTGR/L3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

## JS-TGL3

External grooving toolholder, for Swiss lathes



| Metric     | CWN  | CWX | CDX       | DCONMS | H  | B  | LF  | WF | WB   | Insert   | Torque |
|------------|------|-----|-----------|--------|----|----|-----|----|------|----------|--------|
| JS19K-TGL3 | 0.33 | 3   | 0.7 - 2.6 | 19.05  | 18 | 18 | 125 | 6  | 11.5 | JTGR3... | 3      |
| JS20K-TGL3 | 0.33 | 3   | 0.7 - 2.6 | 20     | 19 | 19 | 125 | 6  | 11.5 | JTGR3... | 3      |
| JS22K-TGL3 | 0.33 | 3   | 0.7 - 2.6 | 22     | 21 | 21 | 125 | 6  | 11.5 | JTGR3... | 3      |
| JS25K-TGL3 | 0.33 | 3   | 0.7 - 2.6 | 25.4   | 24 | 24 | 125 | 10 | 12.7 | JTGR3... | 3      |

Note: Use left-hand toolholders (L) with right-hand inserts (R).  
Torque: Recommended clamping torque: N·m

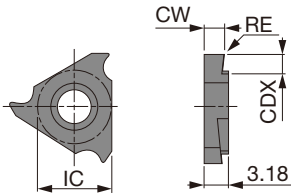
### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSTGR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |
| JS***-TGL3  | CSTB-4S        | T-15F    | -                   |

Reference pages: Inserts → **F126, F127**, Standard cutting conditions → **F128**

# INSERTS

## JTG (Sharp edge)



Right hand (R) shown.  
Unit: mm

|   |                |   |   |  |   |  |   |   |  |
|---|----------------|---|---|--|---|--|---|---|--|
| P | Steel          | ★ | ★ |  | ★ |  | ☆ |   |  |
| M | Stainless      | ★ | ★ |  |   |  |   |   |  |
| K | Cast iron      |   |   |  |   |  | ☆ | ★ |  |
| N | Non-ferrous    |   |   |  |   |  |   | ★ |  |
| S | Superalloys    |   |   |  |   |  |   | ★ |  |
| H | Hard materials |   |   |  |   |  |   |   |  |

★ : First choice  
☆ : Second choice

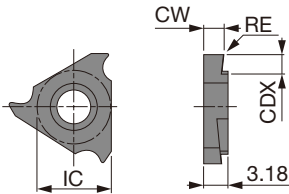


| Designation   | HAND | CW <sup>+0.05</sup><br>(mm) | CW <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated |      | Cermet | Uncoated |   | CDX<br>(in) | IC<br>(mm) |
|---------------|------|-----------------------------|------------------------------|------------|--------|------|--------|----------|---|-------------|------------|
|               |      |                             |                              |            | SH725  | J740 | NS9530 | TH10     |   |             |            |
| JTGR3033F     | R    | 0.33                        | 0.013                        | 0.0012     | ●      | ●    |        |          | ● | 0.028       | 9.53       |
| JTGL3033F     | L    | 0.33                        | 0.013                        | 0.0012     |        | ●    |        |          | ● | 0.028       | 9.53       |
| JTGR3033F-005 | R    | 0.33                        | 0.013                        | 0.002      | ●      |      |        |          |   | 0.028       | 9.53       |
| JTGR3043F     | R    | 0.43                        | 0.017                        | 0.0012     |        | ●    |        |          |   | 0.043       | 9.53       |
| JTGR3050F     | R    | 0.5                         | 0.020                        | 0.0012     | ●      | ●    | ●      |          | ● | 0.043       | 9.53       |
| JTGL3050F     | L    | 0.5                         | 0.020                        | 0.0012     | ●      | ●    |        |          | ● | 0.043       | 9.53       |
| JTGR3050F-005 | R    | 0.5                         | 0.020                        | 0.002      | ●      |      |        |          |   | 0.043       | 9.53       |
| JTGL3050F-005 | L    | 0.5                         | 0.020                        | 0.002      | ●      |      |        |          |   | 0.043       | 9.53       |
| JTGR3065F     | R    | 0.65                        | 0.026                        | 0.0012     | ●      | ●    |        |          |   | 0.075       | 9.53       |
| JTGR3065F-010 | R    | 0.65                        | 0.026                        | 0.004      | ●      |      |        |          |   | 0.075       | 9.53       |
| JTGR3075F     | R    | 0.75                        | 0.030                        | 0.0012     | ●      | ●    | ●      |          | ● | 0.075       | 9.53       |
| JTGL3075F     | L    | 0.75                        | 0.030                        | 0.0012     | ●      | ●    | ●      |          | ● | 0.075       | 9.53       |
| JTGR3075F-010 | R    | 0.75                        | 0.030                        | 0.004      | ●      |      |        |          |   | 0.075       | 9.53       |
| JTGL3075F-010 | L    | 0.75                        | 0.030                        | 0.004      | ●      |      |        |          |   | 0.075       | 9.53       |
| JTGR3080F     | R    | 0.8                         | 0.031                        | 0.0012     | ●      | ●    |        |          |   | 0.075       | 9.53       |
| JTGR3080F-010 | R    | 0.8                         | 0.031                        | 0.004      | ●      |      |        |          |   | 0.075       | 9.53       |
| JTGR3085F     | R    | 0.85                        | 0.033                        | 0.0012     | ●      | ●    |        |          |   | 0.075       | 9.53       |
| JTGR3095F     | R    | 0.95                        | 0.037                        | 0.0012     | ●      | ●    | ●      |          | ● | 0.075       | 9.53       |
| JTGL3095F     | L    | 0.95                        | 0.037                        | 0.0012     | ●      | ●    |        |          | ● | 0.075       | 9.53       |
| JTGR3095F-010 | R    | 0.95                        | 0.037                        | 0.004      | ●      |      |        |          |   | 0.075       | 9.53       |
| JTGL3095F-010 | L    | 0.95                        | 0.037                        | 0.004      | ●      |      |        |          |   | 0.075       | 9.53       |
| JTGR3100F     | R    | 1                           | 0.039                        | 0.002      | ●      | ●    | ●      |          | ● | 0.083       | 9.53       |
| JTGL3100F     | L    | 1                           | 0.039                        | 0.002      | ●      | ●    |        |          | ● | 0.083       | 9.53       |
| JTGR3100F-010 | R    | 1                           | 0.039                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGL3100F-010 | L    | 1                           | 0.039                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGR3110F     | R    | 1.1                         | 0.043                        | 0.002      | ●      | ●    |        |          |   | 0.083       | 9.53       |
| JTGR3120F     | R    | 1.2                         | 0.047                        | 0.002      | ●      | ●    |        |          |   | 0.083       | 9.53       |
| JTGR3120F-010 | R    | 1.2                         | 0.047                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGR3125F     | R    | 1.25                        | 0.049                        | 0.002      | ●      | ●    | ●      |          | ● | 0.083       | 9.53       |
| JTGL3125F     | L    | 1.25                        | 0.049                        | 0.002      | ●      | ●    |        |          | ● | 0.083       | 9.53       |
| JTGR3125F-010 | R    | 1.25                        | 0.049                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGL3125F-010 | L    | 1.25                        | 0.049                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGR3130F     | R    | 1.3                         | 0.051                        | 0.002      | ●      | ●    |        |          |   | 0.083       | 9.53       |
| JTGR3140F     | R    | 1.4                         | 0.055                        | 0.002      | ●      | ●    |        |          |   | 0.083       | 9.53       |
| JTGR3140F-010 | R    | 1.4                         | 0.055                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGR3145F     | R    | 1.45                        | 0.057                        | 0.002      | ●      | ●    | ●      |          | ● | 0.083       | 9.53       |
| JTGL3145F     | L    | 1.45                        | 0.057                        | 0.002      |        | ●    |        |          | ● | 0.083       | 9.53       |
| JTGR3145F-010 | R    | 1.45                        | 0.057                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGR3150F     | R    | 1.5                         | 0.059                        | 0.002      | ●      | ●    | ●      |          | ● | 0.083       | 9.53       |
| JTGL3150F     | L    | 1.5                         | 0.059                        | 0.002      | ●      | ●    |        |          | ● | 0.083       | 9.53       |
| JTGR3150F-010 | R    | 1.5                         | 0.059                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |
| JTGL3150F-010 | L    | 1.5                         | 0.059                        | 0.004      | ●      |      |        |          |   | 0.083       | 9.53       |

● : Line up

Reference pages: Toolholders → **F125**, Standard cutting conditions → **F128**

## JTG (Sharp edge)



Right hand (R) shown.  
Unit: mm

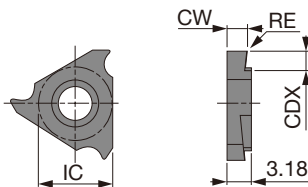
|          |                |   |   |  |   |   |   |   |  |  |
|----------|----------------|---|---|--|---|---|---|---|--|--|
| <b>P</b> | Steel          | ★ | ★ |  | ★ |   | ☆ |   |  |  |
| <b>M</b> | Stainless      | ★ | ★ |  |   |   |   |   |  |  |
| <b>K</b> | Cast iron      |   |   |  |   | ☆ |   | ★ |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |   |   |   | ★ |  |  |
| <b>S</b> | Superalloys    |   |   |  |   |   |   | ★ |  |  |
| <b>H</b> | Hard materials |   |   |  |   |   |   |   |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW <sup>+0.05</sup><br>(mm) | CW <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated |      | Cermet | Uncoated | CDX<br>(in) | IC<br>(mm) |
|---------------|------|-----------------------------|------------------------------|------------|--------|------|--------|----------|-------------|------------|
|               |      |                             |                              |            | SH725  | J740 | NS9530 | TH10     |             |            |
| JTGR3175F     | R    | 1.75                        | 0.069                        | 0.002      | ●      | ●    | ●      | ●        | 0.083       | 9.53       |
| JTGL3175F     | L    | 1.75                        | 0.069                        | 0.002      |        | ●    | ●      | ●        | 0.083       | 9.53       |
| JTGR3175F-010 | R    | 1.75                        | 0.069                        | 0.004      | ●      |      |        |          | 0.083       | 9.53       |
| JTGR3180F     | R    | 1.8                         | 0.071                        | 0.002      | ●      | ●    |        |          | 0.083       | 9.53       |
| JTGR3200F     | R    | 2                           | 0.079                        | 0.002      | ●      | ●    | ●      | ●        | 0.102       | 9.53       |
| JTGL3200F     | L    | 2                           | 0.079                        | 0.002      | ●      | ●    |        | ●        | 0.102       | 9.53       |
| JTGR3200F-010 | R    | 2                           | 0.079                        | 0.004      | ●      |      |        |          | 0.102       | 9.53       |
| JTGL3200F-010 | L    | 2                           | 0.079                        | 0.004      | ●      |      |        |          | 0.102       | 9.53       |
| JTGR3225F     | R    | 2.25                        | 0.089                        | 0.002      | ●      | ●    |        |          | 0.102       | 9.53       |
| JTGR3250F     | R    | 2.5                         | 0.098                        | 0.002      | ●      | ●    | ●      | ●        | 0.102       | 9.53       |
| JTGL3250F     | L    | 2.5                         | 0.098                        | 0.002      | ●      | ●    |        | ●        | 0.102       | 9.53       |
| JTGR3250F-010 | R    | 2.5                         | 0.098                        | 0.004      | ●      |      |        |          | 0.102       | 9.53       |
| JTGL3250F-010 | L    | 2.5                         | 0.098                        | 0.004      | ●      |      |        |          | 0.102       | 9.53       |
| JTGR3275F     | R    | 2.75                        | 0.108                        | 0.002      |        | ●    |        |          | 0.102       | 9.53       |
| JTGR3300F     | R    | 3                           | 0.118                        | 0.002      | ●      | ●    |        |          | 0.102       | 9.53       |
| JTGR3300F-010 | R    | 3                           | 0.118                        | 0.004      | ●      |      |        |          | 0.102       | 9.53       |

● : Line up

## JTG (honed edge)



Right hand (R) shown.  
Unit: mm

|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW <sup>+0.05</sup><br>(mm) | CW <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated cermet |  | CDX<br>(in) | IC<br>(mm) |
|-------------|------|-----------------------------|------------------------------|------------|---------------|--|-------------|------------|
|             |      |                             |                              |            | J9530         |  |             |            |
| JTGR3100    | R    | 1                           | 0.039                        | 0.002      | ●             |  | 0.083       | 9.53       |
| JTGR3125    | R    | 1.25                        | 0.049                        | 0.002      | ●             |  | 0.083       | 9.53       |
| JTGR3150    | R    | 1.5                         | 0.059                        | 0.002      | ●             |  | 0.083       | 9.53       |
| JTGR3200    | R    | 2                           | 0.079                        | 0.002      | ●             |  | 0.102       | 9.53       |

● : Line up



## STANDARD CUTTING CONDITIONS (J-Series grooving tool)

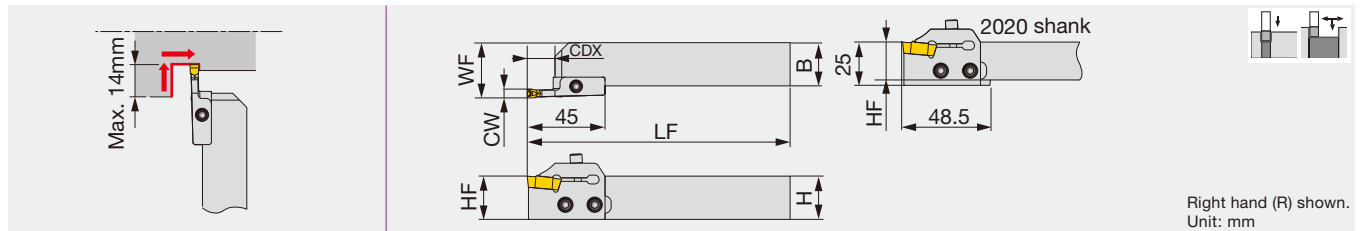
| ISO      | Workpiece material                                | Grade  | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|--------|---------------------------|-----------------|
| <b>P</b> | General steels,<br>Free-cutting steels, etc.      | J740   | 33 - 328                  | 0.0004 - 0.004  |
|          |   | SH725  | 164 - 492                 | 0.0004 - 0.004  |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.004  |
|          |   | J9530  | 164 - 492                 | 0.0004 - 0.004  |
| <b>M</b> | Stainless steels, etc.                            | J740   | 33 - 328                  | 0.0004 - 0.004  |
|          |   | SH725  | 164 - 492                 | 0.0004 - 0.004  |
| <b>N</b> | Aluminum alloys, copper alloys, etc.              | TH10   | 33 - 656                  | 0.0004 - 0.004  |
| <b>S</b> | Difficult-to-cut materials, titanium alloys, etc. | TH10   | 33 - 98                   | 0.0004 - 0.004  |



# MY-T SERIES

## CGWSR/L-FLR/L#GP

External grooving and turning toolholder



| Metric               | CW | CDX | H  | B  | LF  | HF | WF | Insert    | Shank       | Adapter  | Torque |
|----------------------|----|-----|----|----|-----|----|----|-----------|-------------|----------|--------|
| CGWSR/L2020-FLR/L3GP | 3  | 10  | 20 | 20 | 152 | 20 | 27 | FLEX30R/L | CGWSR/L2020 | FLR/L3GP | 5      |
| CGWSR/L2525-FLR/L3GP | 3  | 10  | 25 | 25 | 152 | 25 | 32 | FLEX30R/L | CGWSR/L2525 | FLR/L3GP | 5      |
| CGWSR/L2020-FLR/L4GP | 4  | 12  | 20 | 20 | 152 | 20 | 27 | FLEX40R/L | CGWSR/L2020 | FLR/L4GP | 5      |
| CGWSR/L2525-FLR/L4GP | 4  | 12  | 25 | 25 | 152 | 25 | 32 | FLEX40R/L | CGWSR/L2525 | FLR/L4GP | 5      |
| CGWSR/L2020-FLR/L5GP | 5  | 14  | 20 | 20 | 152 | 20 | 27 | FLEX50R/L | CGWSR/L2020 | FLR/L5GP | 5      |
| CGWSR/L2525-FLR/L5GP | 5  | 14  | 25 | 25 | 152 | 25 | 32 | FLEX50R/L | CGWSR/L2525 | FLR/L5GP | 5      |

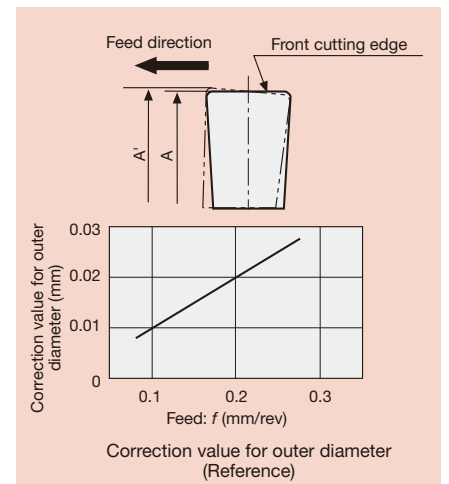
Toolholders are in stock with the designations of: a set of shank and adapter; a shank; a adapter. Combining the designations of a adapter and a shank will make the designation of a set. Please check the stock and place an order with the designation of a set or a shank+a adapter. Use right-hand toolholders (CGWSR...) with right-hand adapter (FLR...); and left-hand toolholders (CGWSL...) with left-hand adapter (FLR...).

### SPARE PARTS

| Designation         | Clamping screw | Adapter screw | Wrench |
|---------------------|----------------|---------------|--------|
| CGWSR/L***-FLR/L#GP | CHHM5-18       | CSHB-6        | P-4    |

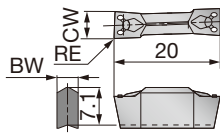
### Caution

Toolholders with FLEX insert have mechanism in which the end cutting edge angle is formed by accepting a cutting force. In external grooving, there is a possibility that if the cutting conditions (feed and depth of cut) are set too high, the programmed diameter will not be achieved. To prevent this problem, it is necessary to perform a compensation in the program by an amount that is equal to the amount A'-A that is shown in the drawing on the right. The values of compensation corresponding to the feeds are also shown in the graph.

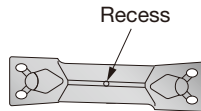


# INSERT

## FLEX(R/L)



Right hand (R) shown.  
Unit: mm



To distinguish the insert hands, the V-shape surface (top surface) of a left-hand insert has a recess. (not of a right-hand insert)

|          |                |   |  |  |   |  |  |   |  |  |
|----------|----------------|---|--|--|---|--|--|---|--|--|
| <b>P</b> | Steel          | ★ |  |  | ★ |  |  | ★ |  |  |
| <b>M</b> | Stainless      | ★ |  |  |   |  |  | ★ |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |   |  |  |   |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |   |  |  |   |  |  |
| <b>S</b> | Superalloys    |   |  |  |   |  |  |   |  |  |
| <b>H</b> | Hard materials |   |  |  |   |  |  |   |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.002 (in) | CW±0.05 (mm) | RE (mm) | Coated |  |  | Cermet |  |   | Uncoated |  |  | BW (mm) |
|-------------|------|---------------|--------------|---------|--------|--|--|--------|--|---|----------|--|--|---------|
|             |      |               |              |         | T9225  |  |  | NS9530 |  |   | UX30     |  |  |         |
| FLEX30R     | R    | 0.118         | 3            | 0.4     |        |  |  | ●      |  |   |          |  |  | 2.2     |
| FLEX30L     | L    | 0.118         | 3            | 0.4     |        |  |  | ●      |  |   |          |  |  | 2.2     |
| FLEX40R     | R    | 0.157         | 4            | 0.4     |        |  |  | ●      |  |   |          |  |  | 3.1     |
| FLEX40L     | L    | 0.157         | 4            | 0.4     |        |  |  | ●      |  |   |          |  |  | 3.1     |
| FLEX50R     | R    | 0.197         | 5            | 0.4     | ●      |  |  | ●      |  | ● |          |  |  | 4       |
| FLEX50L     | L    | 0.197         | 5            | 0.4     | ●      |  |  | ●      |  | ● |          |  |  | 4       |

● : Line up

- External
- Internal
- Face
- Parting
- Others

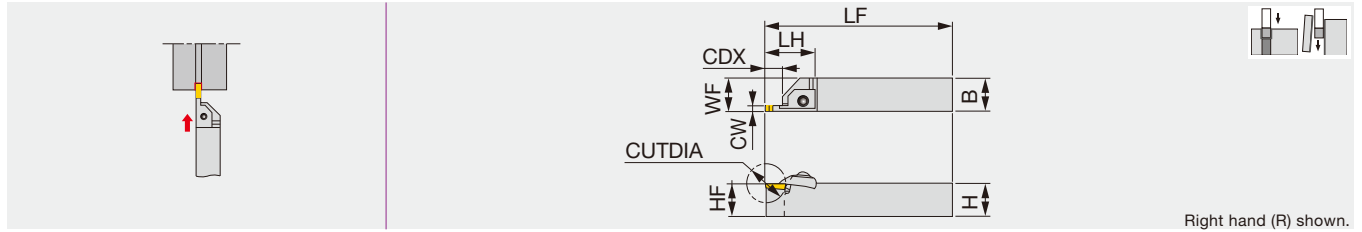
## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material | Grade  | Cutting speed Vc (sfm) | Feed: f (ipr) |               |
|----------|--------------------|--------|------------------------|---------------|---------------|
|          |                    |        |                        | Grooving      | Turning       |
| <b>P</b> | Carbon steel       | T9225  | 262 - 984              | 0.002 - 0.010 | 0.004 - 0.012 |
|          |                    | NS9530 | 262 - 656              | 0.002 - 0.010 | 0.004 - 0.012 |
|          |                    | UX30   | 197 - 492              | 0.002 - 0.010 | 0.004 - 0.012 |

Reference pages: Toolholders → **F129**

# CTWR/L

External grooving and parting toolholder, for 2 corner inserts



| Metric       | CW | CUTDIA | CDX | H  | B  | LF  | LH | HF | WF    | Insert | Torque |
|--------------|----|--------|-----|----|----|-----|----|----|-------|--------|--------|
| CTWR/L2020-3 | 3  | 32     | 14  | 20 | 20 | 150 | 41 | 20 | 20.25 | CTD3   | 5      |
| CTWR/L2525-3 | 3  | 32     | 14  | 25 | 25 | 150 | 41 | 25 | 25.25 | CTD3   | 5      |
| CTWR/L2020-4 | 4  | 32     | 14  | 20 | 20 | 150 | 41 | 20 | 20.25 | CTD4   | 5      |
| CTWR/L2525-4 | 4  | 32     | 14  | 25 | 25 | 150 | 41 | 25 | 25.25 | CTD4   | 5      |
| CTWR/L2525-5 | 5  | 42     | 20  | 25 | 25 | 150 | 46 | 25 | 25.25 | CTD5   | 5      |

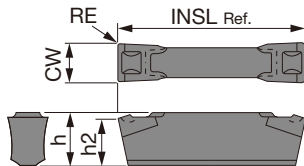
Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation | Clamp  | Pin    | Clamping screw | Washer | Wrench |
|-------------|--------|--------|----------------|--------|--------|
| CTWR2020-3  | CTC-3R | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWL2020-3  | CTC-3L | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWR2525-3  | CTC-3R | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWL2525-3  | CTC-3L | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWR2020-4  | CTC-4R | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWL2020-4  | CTC-4L | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWR2525-4  | CTC-4R | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWL2525-4  | CTC-4L | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWR2525-5  | CTC-5R | BP-360 | CTS-M6         | CDW6   | P-4    |
| CTWL2525-5  | CTC-5L | BP-360 | CTS-M6         | CDW6   | P-4    |

## INSERT

### CTD



|                         |   |  |  |  |  |  |  |  |  |
|-------------------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> Cast iron      | ☆ |  |  |  |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> Superalloys    |   |  |  |  |  |  |  |  |  |
| <b>H</b> Hard materials |   |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW±0.004 (in) | CW±0.1 (mm) | RE (mm) | Coated |  |  |  |  | INSL (mm) | h (mm) | h2 (mm) |
|-------------|---------------|-------------|---------|--------|--|--|--|--|-----------|--------|---------|
|             |               |             |         | AH725  |  |  |  |  |           |        |         |
| CTD3        | 0.118         | 3           | 0.2     | ●      |  |  |  |  | 20        | 4.3    | 4       |
| CTD4        | 0.157         | 4           | 0.2     | ●      |  |  |  |  | 20        | 5.3    | 5       |
| CTD5        | 0.197         | 5           | 0.2     | ●      |  |  |  |  | 25        | 6.3    | 6       |

● : Line up

## STANDARD CUTTING CONDITIONS

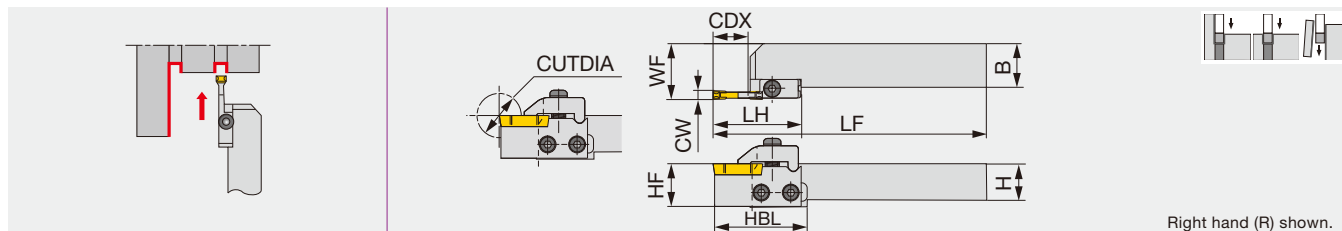
| ISO      | Workpiece material | Grade | Cutting speed Vc (sfm) | Feed: f (ipr) |               |
|----------|--------------------|-------|------------------------|---------------|---------------|
|          |                    |       |                        | Grooving      | Parting off   |
| <b>P</b> | Carbon steel       | AH725 | 262 - 591              | 0.003 - 0.012 | 0.003 - 0.006 |
| <b>M</b> | Stainless steel    | AH725 | 164 - 394              | 0.003 - 0.010 | 0.003 - 0.004 |



# MY-T SERIES

## CGWSR/L-CGD

### External grooving and parting toolholder



| Metric              | CW    | CUTDIA | CDX  | H  | B  | LF    | LH   | HBL  | HF | WF    | Insert            | Shank       | Adapter | Torque |
|---------------------|-------|--------|------|----|----|-------|------|------|----|-------|-------------------|-------------|---------|--------|
| CGWSR/L2020-CGDR/L2 | 2     | 35     | 16   | 20 | 20 | 152   | 45   | 48.5 | 20 | 26.45 | CGD200            | CGWSR/L2020 | CGDR/L2 | 5      |
| CGWSR/L2525-CGDR/L2 | 2     | 35     | 16   | 25 | 25 | 152   | 45   | -    | 25 | 31.45 | CGD200            | CGWSR/L2525 | CGDR/L2 | 5      |
| CGWSR/L2020-CGDR/L3 | 3     | 46     | 21.6 | 20 | 20 | 157.6 | 50.6 | 54.1 | 20 | 26.45 | CGD300            | CGWSR/L2020 | CGDR/L3 | 5      |
| CGWSR/L2525-CGDR/L3 | 3     | 46     | 21.6 | 25 | 25 | 157.6 | 50.6 | -    | 25 | 31.45 | CGD300            | CGWSR/L2525 | CGDR/L3 | 5      |
| CGWSR/L2020-CGDR/L4 | 4     | 46     | 21.6 | 20 | 20 | 157.6 | 50.6 | 54.1 | 20 | 26.65 | CGD400            | CGWSR/L2020 | CGDR/L4 | 5      |
| CGWSR/L2525-CGDR/L4 | 4     | 46     | 21.6 | 25 | 25 | 157.6 | 50.6 | -    | 25 | 31.65 | CGD400            | CGWSR/L2525 | CGDR/L4 | 5      |
| CGWSR/L2020-CGDR/L5 | 5     | 46     | 21.6 | 20 | 20 | 157.6 | 50.6 | 54.1 | 20 | 26.95 | CGD500            | CGWSR/L2020 | CGDR/L5 | 5      |
| CGWSR/L2525-CGDR/L5 | 5     | 46     | 21.6 | 25 | 25 | 157.6 | 50.6 | -    | 25 | 31.95 | CGD500            | CGWSR/L2525 | CGDR/L5 | 5      |
| CGWSR/L2020-CGDR/L6 | 6     | 46     | 21.6 | 20 | 20 | 157.6 | 50.6 | 54.1 | 20 | 27.1  | CGD600            | CGWSR/L2020 | CGDR/L6 | 5      |
| CGWSR/L2525-CGDR/L6 | 6     | 46     | 21.6 | 25 | 25 | 157.6 | 50.6 | -    | 25 | 32.1  | CGD600            | CGWSR/L2525 | CGDR/L6 | 5      |
| CGWSR2525-8         | 7 / 8 | 50     | 21.6 | 25 | 25 | 150   | -    | -    | 25 | 26.35 | CGD700,<br>CGD800 | -           | -       | 8.5    |
| CGWSR3232-8         | 7 / 8 | 50     | 21.6 | 32 | 32 | 170   | -    | -    | 32 | 33.35 | CGD700,<br>CGD800 | -           | -       | 8.5    |

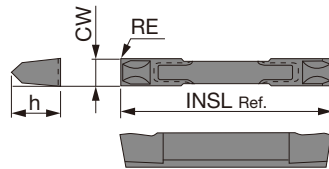
When using a right or left hand adapter set, the right hand adapter set is used with right hand shank and the left hand adapter set is used with left hand shank.  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation     | Adapter | Clamp   | Clamping screw | Adapter screw | Spring pin | Spring | Wrench |
|-----------------|---------|---------|----------------|---------------|------------|--------|--------|
| CGWSR****-CGDR2 | TCR2    | CCR2    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSL****-CGDL2 | TCL2    | CCL2    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSR****-CGDR3 | TCR3    | CCR3    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSL****-CGDL3 | TCL3    | CCL3    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSR****-CGDR4 | TCR4    | CCR4    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSL****-CGDL4 | TCL4    | CCL4    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSR****-CGDR5 | TCR5    | CCR5    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSL****-CGDL5 | TCL5    | CCL5    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSR****-CGDR6 | TCR6    | CCR6    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSL****-CGDL6 | TCL6    | CCL6    | RT-1           | CSHB-6        | -          | BP-9   | P-4    |
| CGWSR****-8     | -       | CCR/L-8 | CHHM6-20       | -             | 5X14AW     | BP-9   | P-5    |

# INSERT

## CGD



|   |                |   |  |   |  |   |  |  |  |  |
|---|----------------|---|--|---|--|---|--|--|--|--|
| P | Steel          | ☆ |  | ★ |  | ★ |  |  |  |  |
| M | Stainless      | ★ |  |   |  | ★ |  |  |  |  |
| K | Cast iron      |   |  | ☆ |  |   |  |  |  |  |
| N | Non-ferrous    |   |  |   |  |   |  |  |  |  |
| S | Superalloys    |   |  |   |  |   |  |  |  |  |
| H | Hard materials |   |  |   |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW±0.001 (in) | CW±0.025 (mm) | RE (mm) | Coated |  |  | Cermet |  |  | Uncoated |  |  | INSL (mm) | h (mm) |
|-------------|---------------|---------------|---------|--------|--|--|--------|--|--|----------|--|--|-----------|--------|
|             |               |               |         | GH330  |  |  | NS9530 |  |  | UX30     |  |  |           |        |
| CGD200      | 0.079         | 2             | 0.2     | ●      |  |  | ●      |  |  | ●        |  |  | 20        | 3.25   |
| CGD300      | 0.118         | 3             | 0.2     | ●      |  |  | ●      |  |  | ●        |  |  | 28.6      | 6.3    |
| CGD400      | 0.157         | 4             | 0.2     | ●      |  |  | ●      |  |  | ●        |  |  | 28.6      | 6.3    |
| CGD500      | 0.197         | 5             | 0.2     | ●      |  |  | ●      |  |  | ●        |  |  | 28.6      | 6.3    |
| CGD600      | 0.236         | 6             | 0.2     | ●      |  |  | ●      |  |  | ●        |  |  | 28.6      | 8.5    |
| CGD700      | 0.276         | 7             | 0.2     | ●      |  |  |        |  |  | ●        |  |  | 28.6      | 8.5    |
| CGD800      | 0.315         | 8             | 0.2     | ●      |  |  |        |  |  | ●        |  |  | 28.6      | 8.5    |

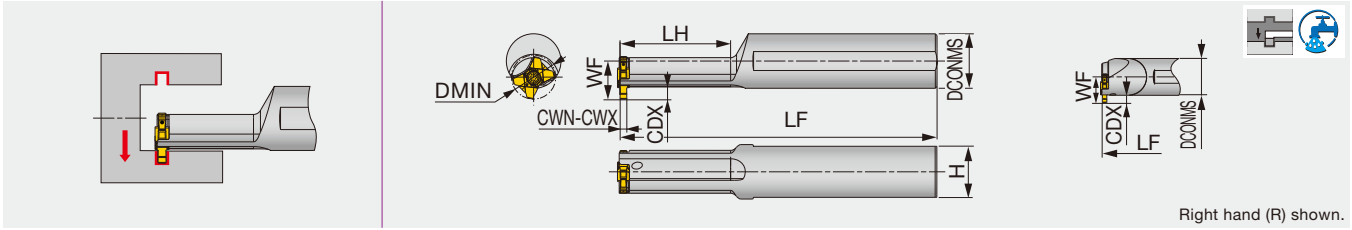
● : Line up

# STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Grade  | Cutting speed Vc (sfm) | Feed: f (ipr) |               |
|-----|--------------------|--------|------------------------|---------------|---------------|
|     |                    |        |                        | Grooving      | Parting off   |
| P   | Carbon steel       | GH330  | 230 - 591              | 0.003 - 0.012 | 0.003 - 0.006 |
|     |                    | NS9530 | 262 - 656              | 0.003 - 0.012 | 0.003 - 0.006 |
|     |                    | UX30   | 197 - 492              | 0.003 - 0.012 | 0.003 - 0.006 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index





| Inch               | Material | CWN   | CWX   | DMIN  | DCONMS | LH    | LF    | WF    | H     | Insert    | Torque |
|--------------------|----------|-------|-------|-------|--------|-------|-------|-------|-------|-----------|--------|
| A08-STCIR/L10-D07U | Steel    | 0.020 | 0.118 | 0.438 | 0.500  | 0.984 | 4.000 | 0.339 | 0.475 | TCIG10... | 0.74   |
| A08-STCIR/L10-D08U | Steel    | 0.020 | 0.118 | 0.500 | 0.500  | 1.220 | 4.000 | 0.339 | 0.475 | TCIG10... | 0.74   |
| E08-STCIR/L10-D10U | Carbide  | 0.020 | 0.118 | 0.625 | 0.500  | -     | 5.000 | 0.339 | 0.475 | TCIG10... | 0.74   |
| A10-STCIR/L12-D09U | Steel    | 0.039 | 0.118 | 0.563 | 0.625  | 1.299 | 4.500 | 0.441 | 0.600 | TCIG12... | 0.96   |
| A10-STCIR/L12-D11U | Steel    | 0.039 | 0.118 | 0.688 | 0.625  | 1.614 | 4.500 | 0.441 | 0.600 | TCIG12... | 0.96   |
| E10-STCIR/L12-D13U | Carbide  | 0.039 | 0.118 | 0.813 | 0.625  | -     | 6.000 | 0.441 | 0.600 | TCIG12... | 0.96   |

| Metric              | Material | CWN | CWX | DMIN | DCONMS | LH | LF  | WF   | H  | Insert    | Torque* |
|---------------------|----------|-----|-----|------|--------|----|-----|------|----|-----------|---------|
| A12H-STCIR/L10-D105 | Steel    | 0.5 | 3   | 10.5 | 12     | 25 | 100 | 8.3  | 11 | TCIG10... | 1       |
| A12H-STCIR/L10-D120 | Steel    | 0.5 | 3   | 12   | 12     | 31 | 100 | 8.3  | 11 | TCIG10... | 1       |
| E12K-STCIR/L10-D150 | Carbide  | 0.5 | 3   | 15   | 12     | -  | 125 | 8.3  | 11 | TCIG10... | 1       |
| A16J-STCIR/L12-D130 | Steel    | 1   | 3   | 13   | 16     | 33 | 110 | 11.3 | 15 | TCIG12... | 1.3     |
| A16J-STCIR/L12-D160 | Steel    | 1   | 3   | 16   | 16     | 41 | 110 | 11.3 | 15 | TCIG12... | 1.3     |
| E16M-STCIR/L12-D200 | Carbide  | 1   | 3   | 20   | 16     | -  | 150 | 11.3 | 15 | TCIG12... | 1.3     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

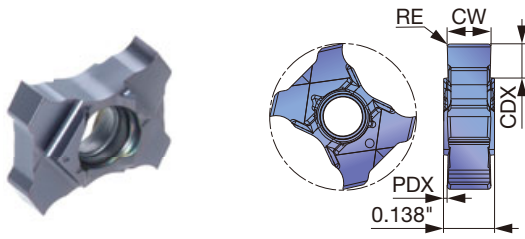
#### SPARE PARTS



| Designation     | Clamping screw |
|-----------------|----------------|
| A/E-STCIR10-... | CSTB-2.2L053DR |
| A/E-STCIL10-... | CSTB-2.2L053DL |
| A/E-STCIR12-... | CSTB-2.5L054DR |
| A/E-STCIL12-... | CSTB-2.5L054DL |

# INSERT

## TCIG



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

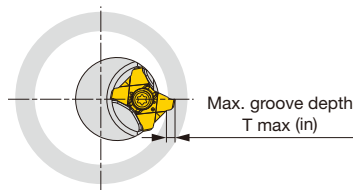
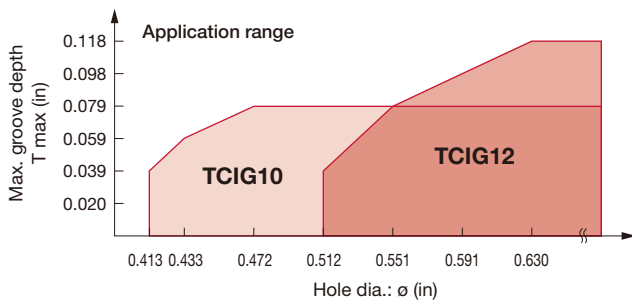
| Designation    | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  |  | CDX (in) | PDX (in) |
|----------------|---------------|---------------|---------|--------|--|--|--|--|--|--|--|----------|----------|
|                |               |               |         | AH725  |  |  |  |  |  |  |  |          |          |
| TCIG10-050-005 | 0.5           | 0.020         | 0.002   | ●      |  |  |  |  |  |  |  | 0.039    | 0.059    |
| TCIG10-122-008 | 1.22          | 0.048         | 0.003   | ●      |  |  |  |  |  |  |  | 0.079    | 0.045    |
| TCIG10-142-008 | 1.42          | 0.056         | 0.003   | ●      |  |  |  |  |  |  |  | 0.079    | 0.041    |
| TCIG10-150-010 | 1.5           | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  | 0.079    | 0.039    |
| TCIG10-172-008 | 1.72          | 0.068         | 0.003   | ●      |  |  |  |  |  |  |  | 0.079    | 0.035    |
| TCIG10-200-010 | 2             | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  | 0.079    | 0.030    |
| TCIG10-250-020 | 2.5           | 0.098         | 0.008   | ●      |  |  |  |  |  |  |  | 0.079    | 0.020    |
| TCIG10-300-020 | 3             | 0.118         | 0.008   | ●      |  |  |  |  |  |  |  | 0.079    | 0.010    |
| TCIG12-100-010 | 1             | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  | 0.098    | 0.049    |
| TCIG12-150-010 | 1.5           | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  | 0.118    | 0.039    |
| TCIG12-197-008 | 1.97          | 0.078         | 0.003   | ●      |  |  |  |  |  |  |  | 0.118    | 0.030    |
| TCIG12-200-020 | 2             | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  | 0.118    | 0.030    |
| TCIG12-224-008 | 2.24          | 0.088         | 0.003   | ●      |  |  |  |  |  |  |  | 0.118    | 0.025    |
| TCIG12-250-020 | 2.5           | 0.098         | 0.008   | ●      |  |  |  |  |  |  |  | 0.118    | 0.020    |
| TCIG12-277-015 | 2.77          | 0.109         | 0.006   | ●      |  |  |  |  |  |  |  | 0.118    | 0.015    |
| TCIG12-300-020 | 3             | 0.118         | 0.008   | ●      |  |  |  |  |  |  |  | 0.118    | 0.010    |

● : Line up

### Shallower groove depths (T max) for smaller bores

Maximum groove depths (T max) for TCIG10 inserts are smaller than the CDX value shown above when the grooving bore diameter is < 0.472" (12 mm); and for TCIG12, when the bore diameter is < 0.630" (16 mm).

See the chart below for T max values in relation to the given bore diameter.

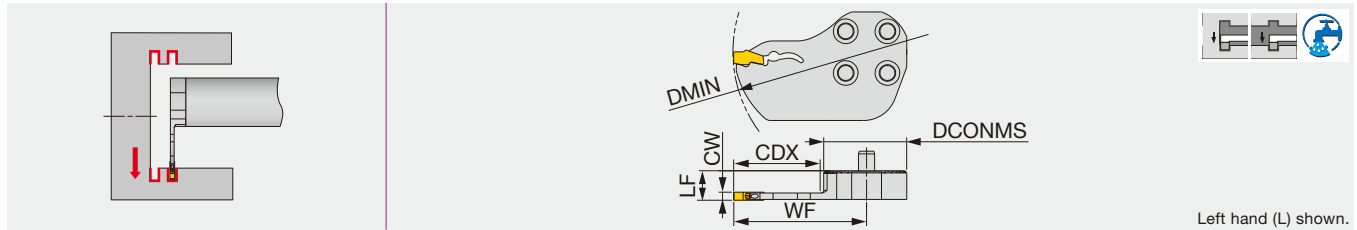


## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                 | Hardness | Priority     | Cutting speed Vc (sfm) | Feed f (ipr)   |
|----------|------------------------------------|----------|--------------|------------------------|----------------|
| <b>P</b> | Steel<br>1045, 4140, etc.          | < 300 HB | First choice | 98 - 262               | 0.0004 - 0.002 |
| <b>M</b> | Stainless steel<br>304, 316, etc.  | < 200 HB | First choice | 98 - 164               | 0.0004 - 0.002 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc. | < HRC 40 | First choice | 33 - 164               | 0.0004 - 0.002 |



### Internal grooving head



Left hand (L) shown.

| Inch                 | CW    | CDX   | DMIN  | DCONMS* | Seat size | LF    | WF    | Shank |
|----------------------|-------|-------|-------|---------|-----------|-------|-------|-------|
| S25-QSIR/L2T26D550-H | 0.079 | 1.024 | 2.165 | 0.984   | 2         | 0.335 | 1.579 | D1.00 |
| S25-QSIR/L3T26D550-H | 0.118 | 1.024 | 2.165 | 0.984   | 3         | 0.354 | 1.579 | D1.00 |
| S32-QSIR/L3T32D700-H | 0.118 | 1.260 | 2.756 | 1.260   | 3         | 0.433 | 1.953 | D1.25 |
| S32-QSIR/L4T32D700-H | 0.157 | 1.260 | 2.756 | 1.260   | 4         | 0.453 | 1.953 | D1.25 |

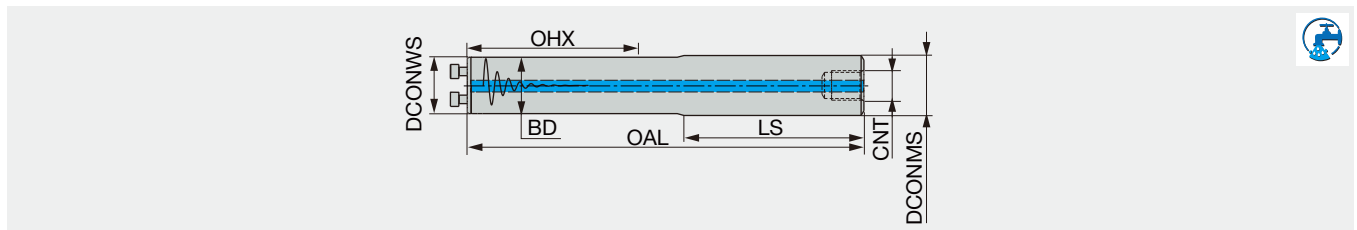
DCONMS\*: Mounting part diameter on the shank

### SPARE PARTS

| Designation   | Wrench |
|---------------|--------|
| S**-QSIR/L... | QL-39  |

### Straight Shank

Anti-vibration bars with through coolant for interchangeable turning heads, for S-QSIR/L modular heads



| Inch               | Material | DCONWS* | DCONMS | BD    | OAL    | LS    | OHX    | CNT  |
|--------------------|----------|---------|--------|-------|--------|-------|--------|------|
| D1.00-L10.2-7D-C   | Steel    | 0.984   | 1.000  | 0.984 | 10.200 | 6.830 | 6.200  | G1/4 |
| D1.00-L13.21-10D-C | Steel    | 0.984   | 1.000  | 0.984 | 13.210 | 8.650 | 9.200  | G1/4 |
| D1.25-L12.48-7D-C  | Steel    | 1.260   | 1.250  | 1.260 | 12.480 | 7.370 | 7.500  | G3/8 |
| D1.25-L16.24-10D-C | Steel    | 1.260   | 1.250  | 1.260 | 16.240 | 9.670 | 11.200 | G3/8 |

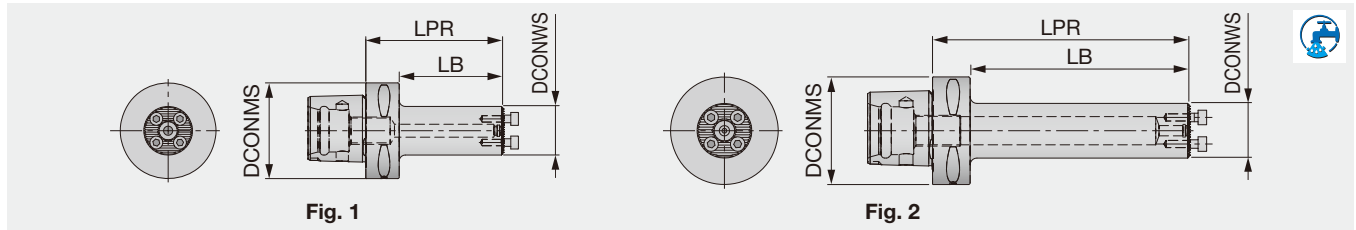
DCONWS\*: Mounting part diameter on the head

### SPARE PARTS

| Designation | Clamping screw  | Wrench |
|-------------|-----------------|--------|
| D1.00...    | SR M4X12DIN912  | HW 3.0 |
| D1.25...    | SR M5X12 DIN912 | HW 4.0 |

## C#-SH-CHP / C#-SH-E-CHP

Tool adapter with PSC connection (made of steel or carbide), for S-QSIR/L modular heads

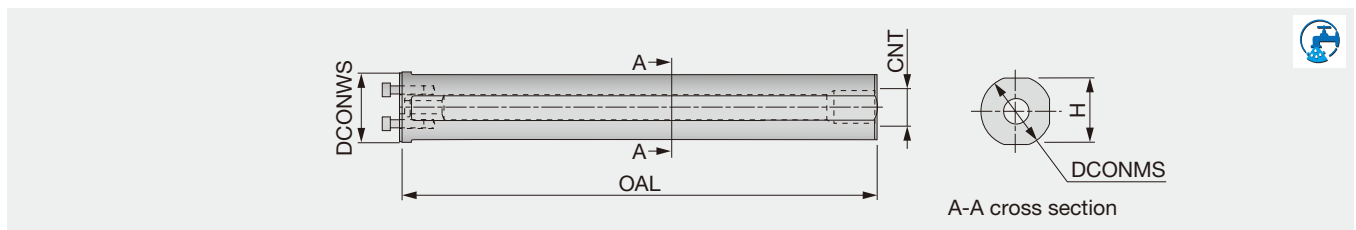


| Metric             | Material | DCONWS*     | DCONMS | LPR | LB  | Fig |
|--------------------|----------|-------------|--------|-----|-----|-----|
| C4-SH-D25-2.5D-CHP | Steel    | 25 (0.984") | 40     | 55  | 35  | 1   |
| C4-SH-D32-2.5D-CHP | Steel    | 32 (1.260") | 40     | 75  | 55  | 1   |
| C6-SH-D25-5D-E-CHP | Carbide  | 25 (0.984") | 63     | 115 | 93  | 2   |
| C6-SH-D32-5D-E-CHP | Carbide  | 32 (1.260") | 63     | 150 | 128 | 2   |

DCONWS\*: Mounting part diameter on the head

## D#4D-SH

Steel shank for internal turning, with through coolant, for S-QSIR/L modular heads

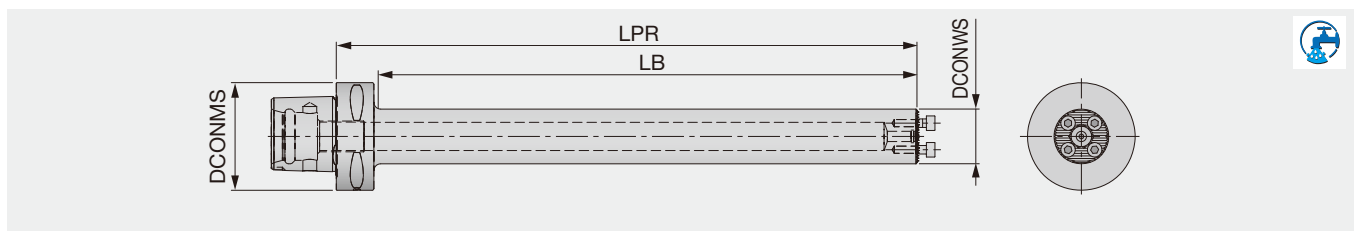


| Inch              | Material | DCONWS* | DCONMS | OAL   | CNT            | H     |
|-------------------|----------|---------|--------|-------|----------------|-------|
| D1.00-L7.2-4D-SH  | Steel    | 1.000   | 1.000  | 7.200 | UNF-2B 1/2"-20 | 0.921 |
| D1.25-L8.74-4D-SH | Steel    | 1.250   | 1.250  | 8.740 | UNF-2B 1/2"-20 | 1.142 |

DCONWS\*: Mounting part diameter on the head

## C6-9D-C

Vibration-dampening toolholder with PSC connection, 9xD, for S-QSIR/L modular heads



| Metric           | Material | DCONWS*     | DCONMS | LPR   | LB    | WT (kg) |
|------------------|----------|-------------|--------|-------|-------|---------|
| C6-D25-L230-9D-C | Steel    | 25 (0.984") | 63     | 230.5 | 200.1 | 1.65    |
| C6-D32-L288-9D-C | Steel    | 32 (1.260") | 63     | 288.5 | 259.5 | 2.73    |

DCONWS\*: Mounting part diameter on the head


### SPARE PARTS

| Designation               | Clamping screw  | Wrench |
|---------------------------|-----------------|--------|
| C4/C6**D25...<br>D1.00... | SR M4X12DIN912  | HW 3.0 |
| C4/C6**D32...<br>D1.25... | SR M5X12 DIN912 | HW 4.0 |

Reference pages: Inserts → **F138, F139**, Standard cutting conditions → **F139**

# CHIPBREAKER GUIDE

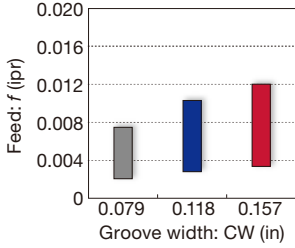
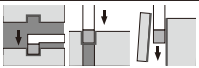
**QGM**




**First choice for grooving and parting**

Smooth chip evacuation  
Well-designed edge with high strength  
CW = 0.079" - 0.157"

Standard feed

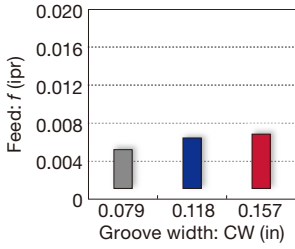
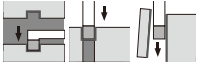
**QGS**



**Lower cutting force and superior sharpness**

Uniquely designed edge and chipbreaker  
CW = 0.079" - 0.157"

Standard feed

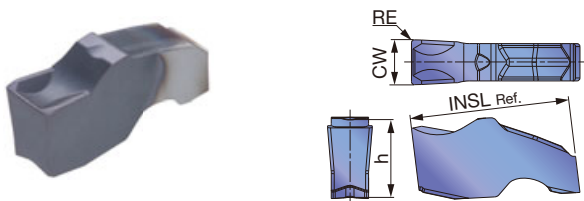



- External
- Internal
- Face
- Parting
- Others

## INSERTS

### QGM

External/internal deep grooving and parting



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

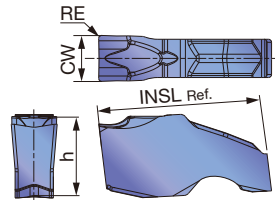
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |  |  |  |  |  | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|--|--|--|--|--|-----------|--------|-------|
|             |           |              |               |         | AH7025 |  |  |  |  |  |           |        |       |
| QGM2-020    | 2         | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |           | 0.433  | 0.209 |
| QGM3-020    | 3         | 3            | 0.118         | 0.008   | ●      |  |  |  |  |  |           | 0.433  | 0.209 |
| QGM4-030    | 4         | 4            | 0.157         | 0.012   | ●      |  |  |  |  |  |           | 0.512  | 0.287 |

●: Line up

Reference pages: Toolholders → **F136, F137**

# QGS

## External/internal deep grooving and parting



|          |                |   |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |  |

★ : First choice

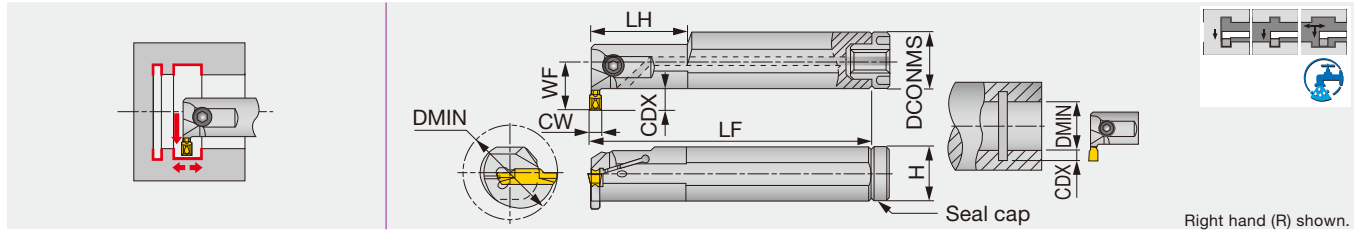
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |  |  |  |  |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--|--|--|--|--|--|-----------|--------|
|             |           |              |               |         | AH7025 |  |  |  |  |  |  |           |        |
| QGS2-020    | 2         | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  | 0.433     | 0.209  |
| QGS3-020    | 3         | 3            | 0.118         | 0.008   | ●      |  |  |  |  |  |  | 0.433     | 0.209  |
| QGS4-030    | 4         | 4            | 0.157         | 0.012   | ●      |  |  |  |  |  |  | 0.512     | 0.287  |

●: Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness | Grade  | Cutting speed Vc (sfm) |
|----------|-------------------------------------|----------|--------|------------------------|
| <b>P</b> | Steel<br>1045, 4140, etc.           | < 300 HB | AH7025 | 164 - 591              |
| <b>M</b> | Stainless steel<br>304, etc.        | < 200 HB | AH7025 | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -        | AH7025 | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -        | AH7025 | 164 - 394              |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40 | AH7025 | 66 - 131               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40 | AH7025 | 66 - 197               |

Please see page **F138** for feed:  $f$  (ipr).



| Inch              | CW    | DMIN  | Seat size | CDX   | DCONMS | H     | LF <sup>(1)</sup> | LH    | WF    | Insert         | Torque |
|-------------------|-------|-------|-----------|-------|--------|-------|-------------------|-------|-------|----------------|--------|
| CTIR/L12-3T06-D16 | 0.118 | 1.000 | 3         | 0.236 | 0.750  | 0.551 | 6.500             | 1.575 | 0.609 | DTI..., DTX... | 3.69   |
| CTIR/L16-3T05-D16 | 0.118 | 1.000 | 3         | 0.201 | 1.000  | 0.709 | 8.000             | 1.575 | 0.689 | DTI..., DTX... | 3.69   |
| CTIR/L16-3T08-D20 | 0.118 | 1.250 | 3         | 0.315 | 1.000  | 0.709 | 8.000             | 1.575 | 0.846 | DTI..., DTX... | 3.69   |
| CTIR/L20-3T10-D25 | 0.118 | 1.563 | 3         | 0.394 | 1.250  | 0.906 | 10.000            | 2.362 | 1.063 | DTI..., DTX... | 3.69   |
| CTIR/L12-4T06-D16 | 0.157 | 1.000 | 4         | 0.236 | 0.750  | 0.906 | 6.500             | 1.575 | 0.609 | DTI..., DTX... | 3.69   |
| CTIR/L16-4T08-D20 | 0.157 | 1.250 | 4         | 0.315 | 1.000  | 1.181 | 8.000             | 1.575 | 0.846 | DTI..., DTX... | 3.69   |
| CTIR/L20-4T04-D20 | 0.157 | 1.250 | 4         | 0.157 | 1.250  | 0.709 | 10.000            | 2.362 | 0.819 | DTI..., DTX... | 3.69   |
| CTIR/L20-4T10-D25 | 0.157 | 1.563 | 4         | 0.394 | 1.250  | 0.906 | 10.000            | 2.362 | 1.063 | DTI..., DTX... | 3.69   |
| CTIR/L16-5T05-D20 | 0.197 | 1.250 | 5         | 0.197 | 1.000  | 1.181 | 8.000             | 2.362 | 0.681 | DTI..., DTX... | 6.27   |
| CTIR/L20-5T10-D25 | 0.197 | 1.563 | 5         | 0.394 | 1.250  | 1.181 | 10.000            | 2.362 | 1.063 | DTI..., DTX... | 6.27   |
| CTIR/L20-6T04-D20 | 0.236 | 1.250 | 6         | 0.157 | 1.250  | 0.906 | 10.000            | 2.362 | 0.820 | DTI..., DTX... | 6.27   |
| CTIR/L20-6T10-D25 | 0.236 | 1.563 | 6         | 0.394 | 1.250  | 1.181 | 10.000            | 2.362 | 1.063 | DTI..., DTX... | 6.27   |
| CTIR/L20-8T05-D23 | 0.315 | 1.438 | 8         | 0.197 | 1.250  | 1.181 | 10.000            | 2.362 | 0.839 | DTI..., DTX... | 6.27   |
| CTIR/L24-8T05-D26 | 0.315 | 1.625 | 8         | 0.228 | 1.500  | 1.181 | 12.000            | 2.559 | 0.982 | DTI..., DTX... | 6.27   |

(1) LF is calculated with the groove width CW in the above table.  
Torque: Recommended clamping torque: lbs-ft

#### INCH SPARE PARTS



| Designation       | Clamping screw | Wrench | Seal cap | Thread type for connection |
|-------------------|----------------|--------|----------|----------------------------|
| CTIR/L12-3T06-D16 | CM5x0.8x12-A   | P-4    | CA-20    | M6                         |
| CTIR/L16-3T05-D16 | CM5x0.8x16-A   | P-4    | CA-25    | R1/8"                      |
| CTIR/L16-3T08-D20 | CM5x0.8x16-A   | P-4    | CA-25    | R1/8"                      |
| CTIR/L20-3T10-D25 | CM5x0.8x16-A   | P-4    | CA-32    | R1/8"                      |
| CTIR/L12-4T06-D16 | CM5x0.8x12-A   | P-4    | CA-20    | M6                         |
| CTIR/L16-4T08-D20 | CM5x0.8x16-A   | P-4    | CA-25    | R1/8"                      |
| CTIR/L20-4T04-D20 | CM5x0.8x16-A   | P-4    | CA-32    | R1/8"                      |
| CTIR/L20-4T10-D25 | CM5x0.8x16-A   | P-4    | CA-32    | R1/8"                      |
| CTIR/L16-5T05-D20 | CM6x1x16-A     | P-5    | CA-25    | R1/8"                      |
| CTIR/L20-5T10-D25 | CM6x1x20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L20-6T04-D20 | CM6x1x20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L20-6T10-D25 | CM6x1x20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L20-8T05-D23 | CM6x1x20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L24-8T05-D26 | CM6x1x25-A     | P-5    | CA-40    | R1/8"                      |

When using the inserts that are not in the above

| Insert                      | Groove width CW (in) | Min. diameter DMIN (in) |
|-----------------------------|----------------------|-------------------------|
| DGM / DGS / SGN / DGL / DTM | 0.079                | 1.969                   |
| DGM / DGS / SGN / DGL / DTM | 0.118                | 1.969                   |
| DGM / DGS / SGN / DTM / DGL | 0.157                | 1.969                   |
| DGM / DGS / DTM / DGL       | 0.197                | 2.362                   |
| DGM / DGS / DTM / DGL       | 0.236                | 2.362                   |
| DGM / DGS / DTM             | 0.315                | 2.756                   |
| DTE / DGG                   | 0.118                | 1.575                   |
| DTE / DGG                   | 0.157                | 1.575                   |
| DTE / DGG                   | 0.197                | 1.969                   |
| DTE / DGG                   | 0.236                | 1.969                   |
| DTE / DGG                   | 0.315                | 2.441                   |
| DTR                         | 0.079                | 1.772                   |
| DTR                         | 0.118                | 1.496                   |
| DTR                         | 0.157                | 1.496                   |
| DTR                         | 0.197                | 1.693                   |
| DTR                         | 0.236                | 1.811                   |
| DTR                         | 0.315                | 2.205                   |

| Metric             | CW | DMIN | Seat size | CDX | DCONMS | H  | LF <sup>(1)</sup> | LH | WF   | Insert                   | Torque |
|--------------------|----|------|-----------|-----|--------|----|-------------------|----|------|--------------------------|--------|
| CTIR/L16-2T08-D250 | 2  | 25   | 2         | 8   | 16     | 14 | 125               | -  | 16.5 | DGIM..., DGIS..., DTX... | 5      |
| CTIR/L20-2T06-D250 | 2  | 25   | 2         | 6   | 20     | 18 | 160               | 40 | 15.8 | DGIM..., DGIS..., DTX... | 5      |
| CTIR/L20-3T06-D250 | 3  | 25   | 3         | 6   | 20     | 18 | 160               | 40 | 15.8 | DTI..., DTX...           | 5      |
| CTIR/L25-3T05-D250 | 3  | 25   | 3         | 5.1 | 25     | 23 | 200               | 40 | 17.5 | DTI..., DTX...           | 5      |
| CTIR/L25-3T08-D320 | 3  | 32   | 3         | 8   | 25     | 23 | 200               | 40 | 21.5 | DTI..., DTX...           | 5      |
| CTIR/L32-3T10-D400 | 3  | 40   | 3         | 10  | 32     | 30 | 250               | 60 | 27   | DTI..., DTX...           | 5      |
| CTIR/L20-4T06-D250 | 4  | 25   | 4         | 6   | 20     | 18 | 160               | 40 | 15.8 | DTI..., DTX...           | 5      |
| CTIR/L25-4T08-D320 | 4  | 32   | 4         | 8   | 25     | 23 | 200               | 40 | 21.5 | DTI..., DTX...           | 5      |
| CTIR/L32-4T04-D310 | 4  | 31   | 4         | 4   | 32     | 30 | 250               | 60 | 20.8 | DTI..., DTX...           | 5      |
| CTIR/L32-4T10-D400 | 4  | 40   | 4         | 10  | 32     | 30 | 250               | 60 | 27   | DTI..., DTX...           | 5      |
| CTIR/L25-5T05-D310 | 5  | 31   | 5         | 5   | 25     | 23 | 200               | 60 | 17.3 | DTI..., DTX...           | 8.5    |
| CTIR/L32-5T10-D400 | 5  | 40   | 5         | 10  | 32     | 30 | 250               | 60 | 27   | DTI..., DTX...           | 8.5    |
| CTIR/L32-6T04-D310 | 6  | 31   | 6         | 4   | 32     | 30 | 250               | 60 | 20.8 | DTI..., DTX...           | 8.5    |
| CTIR/L32-6T10-D400 | 6  | 40   | 6         | 10  | 32     | 30 | 250               | 60 | 27   | DTI..., DTX...           | 8.5    |
| CTIR/L32-8T05-D370 | 8  | 37   | 8         | 5   | 32     | 30 | 250               | 60 | 21.3 | DTI..., DTX...           | 8.5    |
| CTIR/L40-8T05-D420 | 8  | 42   | 8         | 5.8 | 40     | 38 | 300               | 65 | 25.8 | DTI..., DTX...           | 8.5    |

(1) LF is calculated with the groove width CW in the above table.  
Torque: Recommended clamping torque: N·m

### METRIC SPARE PARTS


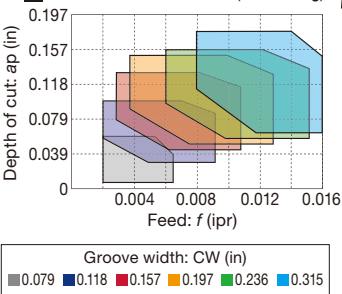
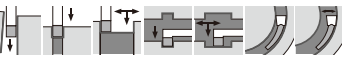
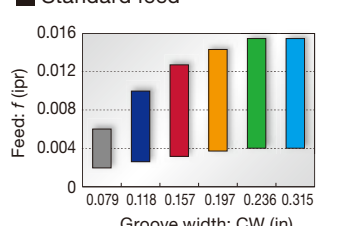

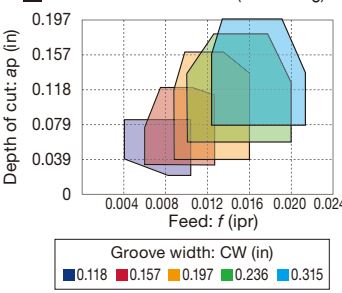

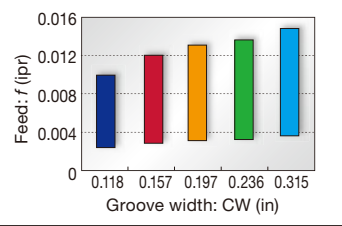

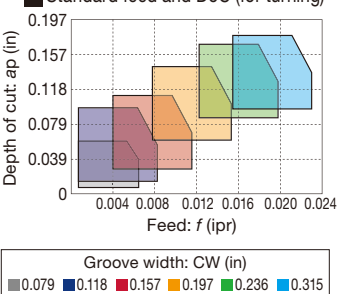

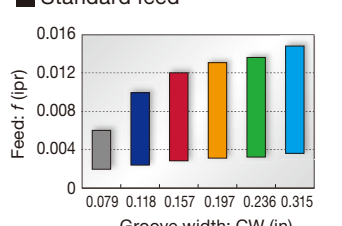

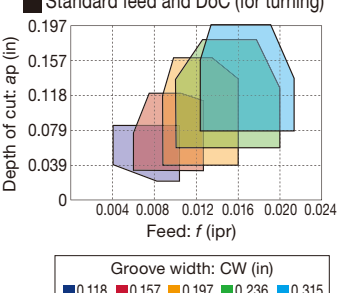

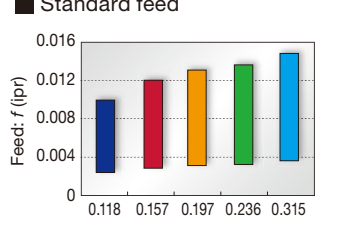


| Designation        | Clamping screw | Wrench | Seal cap | Thread type for connection |
|--------------------|----------------|--------|----------|----------------------------|
| CTIR/L16-2T08-D250 | CM5X0.8X10-A   | P-4    | CA-16    | M6                         |
| CTIR/L20-2T06-D250 | CM5X0.8X12-A   | P-4    | CA-20    | M6                         |
| CTIR/L20-3T06-D250 | CM5X0.8X12-A   | P-4    | CA-20    | M6                         |
| CTIR/L25-3T05-D250 | CM5X0.8X16-A   | P-4    | CA-25    | R1/8"                      |
| CTIR/L25-3T08-D320 | CM5X0.8X16-A   | P-4    | CA-25    | R1/8"                      |
| CTIR/L32-3T10-D400 | CM5X0.8X16-A   | P-4    | CA-32    | R1/8"                      |
| CTIR/L20-4T06-D250 | CM5X0.8X12-A   | P-4    | CA-20    | M6                         |
| CTIR/L25-4T08-D320 | CM5X0.8X16-A   | P-4    | CA-25    | R1/8"                      |
| CTIR/L32-4T04-D310 | CM5X0.8X16-A   | P-4    | CA-32    | R1/8"                      |
| CTIR/L32-4T10-D400 | CM5X0.8X16-A   | P-4    | CA-32    | R1/8"                      |
| CTIR/L25-5T05-D310 | CM6X1X16-A     | P-5    | CA-25    | R1/8"                      |
| CTIR/L32-5T10-D400 | CM6X1X20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L32-6T04-D310 | CM6X1X20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L32-6T10-D400 | CM6X1X20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L32-8T05-D370 | CM6X1X20-A     | P-5    | CA-32    | R1/8"                      |
| CTIR/L40-8T05-D420 | CM6X1X25-A     | P-5    | CA-40    | R1/8"                      |

When using the inserts that are not in the above


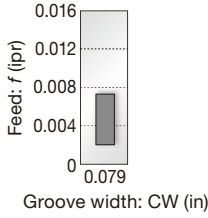


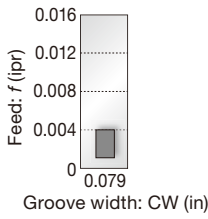


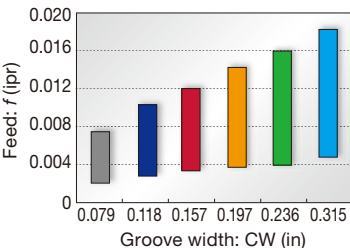
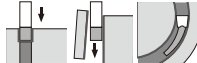

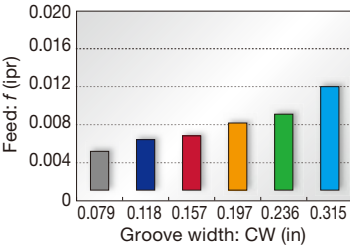
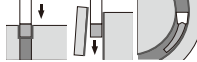
| Insert                      | Groove width CW (mm) | Min. diameter DMIN (mm) |
|-----------------------------|----------------------|-------------------------|
| DGM / DGS / SGN / DGL / DTM | 2                    | 50                      |
| DGM / DGS / SGN / DGL / DTM | 3                    | 50                      |
| DGM / DGS / SGN / DTM / DGL | 4                    | 50                      |
| DGM / DGS / DTM / DGL       | 5                    | 60                      |
| DGM / DGS / DTM / DGL       | 6                    | 60                      |
| DGM / DGS / DTM             | 8                    | 70                      |
| DTE / DGG                   | 3                    | 40                      |
| DTE / DGG                   | 4                    | 40                      |
| DTE / DGG                   | 5                    | 50                      |
| DTE / DGG                   | 6                    | 50                      |
| DTE / DGG                   | 8                    | 62                      |
| DTR                         | 2                    | 45                      |
| DTR                         | 3                    | 38                      |
| DTR                         | 4                    | 38                      |
| DTR                         | 5                    | 43                      |
| DTR                         | 6                    | 46                      |
| DTR                         | 8                    | 56                      |

**Internal grooving and turning**

|  |  |  |  |
|--|--|--|--|
| <p><b>DTX type (2 corners)</b></p> <p>First choice</p>  <p>F147</p> | <p><b>Multi-functional type</b></p> <p>Well balanced sharpness and strength<br/>Multi-functional insert<br/>CW = 0.079" - 0.315"</p>   | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.079</li> <li>0.118</li> <li>0.157</li> <li>0.197</li> <li>0.236</li> <li>0.315</li> </ul>  |  <p>Standard feed</p>  <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p>     |
| <p><b>DTI type (2 corners)</b></p>  <p>F148, F149</p>               | <p><b>For general purpose I.D. grooving</b></p> <p>Unique chipbreaker makes chips shorter<br/>Molded and ground inserts available<br/>CW = 0.118" - 0.315"</p>   | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.118</li> <li>0.157</li> <li>0.197</li> <li>0.236</li> <li>0.315</li> </ul>                 |  <p>Standard feed</p>  <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p>     |
| <p><b>DTM type (2 corners)</b></p>  <p>F149</p>                   | <p><b>General purpose</b></p> <p>1st choice for grooving and turning<br/>Suitable for light to medium cutting<br/>Excellent chip control in machining steel, alloy steel, stainless steel, and heat-resistant alloy<br/>CW = 0.079" - 0.315"</p> | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.079</li> <li>0.118</li> <li>0.157</li> <li>0.197</li> <li>0.236</li> <li>0.315</li> </ul> |  <p>Standard feed</p>  <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p>  |
| <p><b>DTE type (2 corners)</b></p>  <p>F154, F155</p>             | <p><b>General purpose</b></p> <p>Unique chipbreaker makes chips shorter<br/>Molded and ground insert available<br/>CW = 0.104" - 0.315"</p>  | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.118</li> <li>0.157</li> <li>0.197</li> <li>0.236</li> <li>0.315</li> </ul>               |  <p>Standard feed</p>  <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> |

Please see page F\*\*\* for the product details.

## Small diameter internal grooving

|   |   |  |
|---|---|--|
| <p><b>DGIM type<br/>(2 corners)</b></p>  <p><b>F147</b></p>                            | <p><b>2 mm insert width only<br/>(For general purpose)</b></p> <p>Unique chipbreaker for excellent chip control<br/>Excellent fracture resistance due to optimum land on the cutting edge<br/>For general applications on steels &amp; stainless steels<br/>CW = 0.079"</p> | <p>Standard feed</p>  <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p>      |
| <p><b>DGIS type<br/>(2 corners)</b></p>  <p><b>F148</b></p>                            | <p><b>2 mm insert width only<br/>(Lower cutting force)</b></p> <p>Lower cutting force<br/>Excellent fracture resistance due to optimum land on the cutting edge<br/>Applicable for low carbon steels &amp; stainless steels<br/>CW = 0.079"</p>                             | <p>Standard feed</p>  <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p>      |
| <p><b>DGM type (2 corners)<br/>SGM type (1 corner)</b></p>  <p><b>F150, F151</b></p>  | <p><b>1st choice for grooving and parting</b></p> <p>Smooth chip evacuation<br/>Well-designed edge with high strength<br/>Handed insert available<br/>CW = 0.079" - 0.315"</p>  | <p>Standard feed</p>  <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p>     |
| <p><b>DGS type (2 corners)<br/>SGS type (1 corner)</b></p>  <p><b>F152, F153</b></p> | <p><b>Lower cutting force and superior sharpness</b></p> <p>Unique-designed edge and chipbreaker<br/>Handed insert available<br/>CW = 0.079" - 0.315"</p>   | <p>Standard feed</p>  <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p>  |

Please see page F\*\*\* for the product details.




## Small diameter internal grooving

**DGL type (2 corners)**

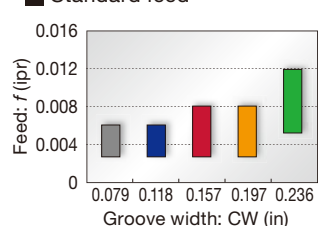
**1st choice for mild steel**

Chipbreaker with excellent chip control at low feed  
Suitable for mild steel which often presents challenges in chip control  
CW = 0.079" - 0.236"

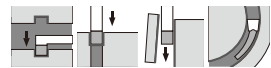
Standard feed



F154



| Groove width: CW (in) | Feed: f (ipr) |
|-----------------------|---------------|
| 0.079                 | ~0.006        |
| 0.118                 | ~0.008        |
| 0.157                 | ~0.010        |
| 0.197                 | ~0.012        |
| 0.236                 | ~0.014        |

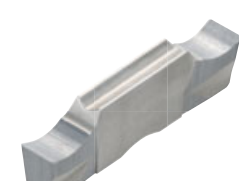


**DGG type (2 corners)**

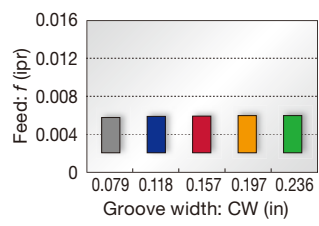
**For non-ferrous materials and titanium**

Chipbreaker with low cutting force  
Sharp cutting edge that prevents vibration and delivers fine surface finish  
CW = 0.079" - 0.236"

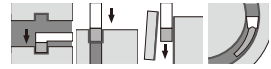
Standard feed



F155



| Groove width: CW (in) | Feed: f (ipr) |
|-----------------------|---------------|
| 0.079                 | ~0.006        |
| 0.118                 | ~0.007        |
| 0.157                 | ~0.008        |
| 0.197                 | ~0.009        |
| 0.236                 | ~0.010        |



## Profiling and undercutting


**DTR type (2 corners)**  
**STR type (1 corner)**

Molded DTR, STR  
Ground DTR

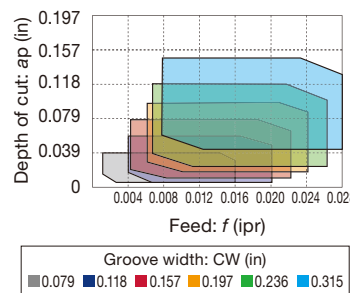
**Full radius type**

Excellent chip control  
Molded and ground inserts available  
CW = 0.079" - 0.315"

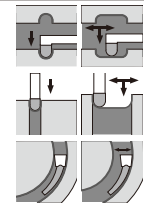
Standard feed and DoC (for turning)



F156, F157



| Feed: f (ipr) | 0.079 CW | 0.118 CW | 0.157 CW | 0.197 CW | 0.236 CW | 0.315 CW |
|---------------|----------|----------|----------|----------|----------|----------|
| 0.004         | ~0.03    | ~0.04    | ~0.05    | ~0.06    | ~0.07    | ~0.08    |
| 0.008         | ~0.04    | ~0.05    | ~0.06    | ~0.07    | ~0.08    | ~0.09    |
| 0.012         | ~0.05    | ~0.06    | ~0.07    | ~0.08    | ~0.09    | ~0.10    |
| 0.016         | ~0.06    | ~0.07    | ~0.08    | ~0.09    | ~0.10    | ~0.11    |
| 0.020         | ~0.07    | ~0.08    | ~0.09    | ~0.10    | ~0.11    | ~0.12    |
| 0.024         | ~0.08    | ~0.09    | ~0.10    | ~0.11    | ~0.12    | ~0.13    |
| 0.028         | ~0.09    | ~0.10    | ~0.11    | ~0.12    | ~0.13    | ~0.14    |




**DTIU type (2 corners)**

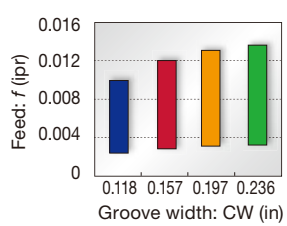
**Full radius type**

Excellent chip control for undercutting  
CW = 0.118" - 0.236"


Standard feed and DoC



F175


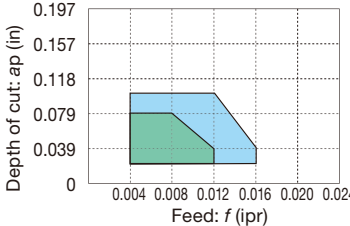



| Groove width: CW (in) | Feed: f (ipr) |
|-----------------------|---------------|
| 0.118                 | ~0.009        |
| 0.157                 | ~0.011        |
| 0.197                 | ~0.013        |
| 0.236                 | ~0.015        |


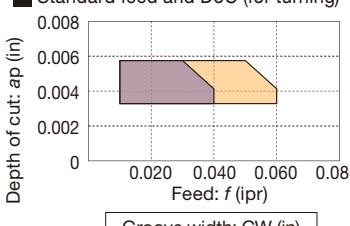



Please see page F\*\*\* for the product details.

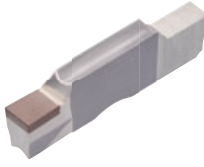
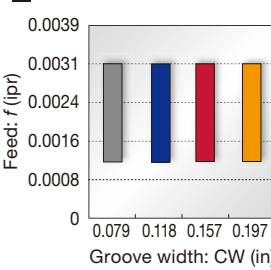

## Aluminum wheel machining

|   |  |  |
|---|--|--|
| <p><b>DTA type<br/>(2 corners)</b></p>  <p><b>F158</b></p> | <p><b>Full radius type</b></p> <p>Excellent chip control<br/>For aluminum wheel profiling<br/>Ground insert<br/>CW = 0.236" - 0.315"</p> | <p>■ Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p> <p>■ 0.236 ■ 0.315</p>  |
|---|--|--|

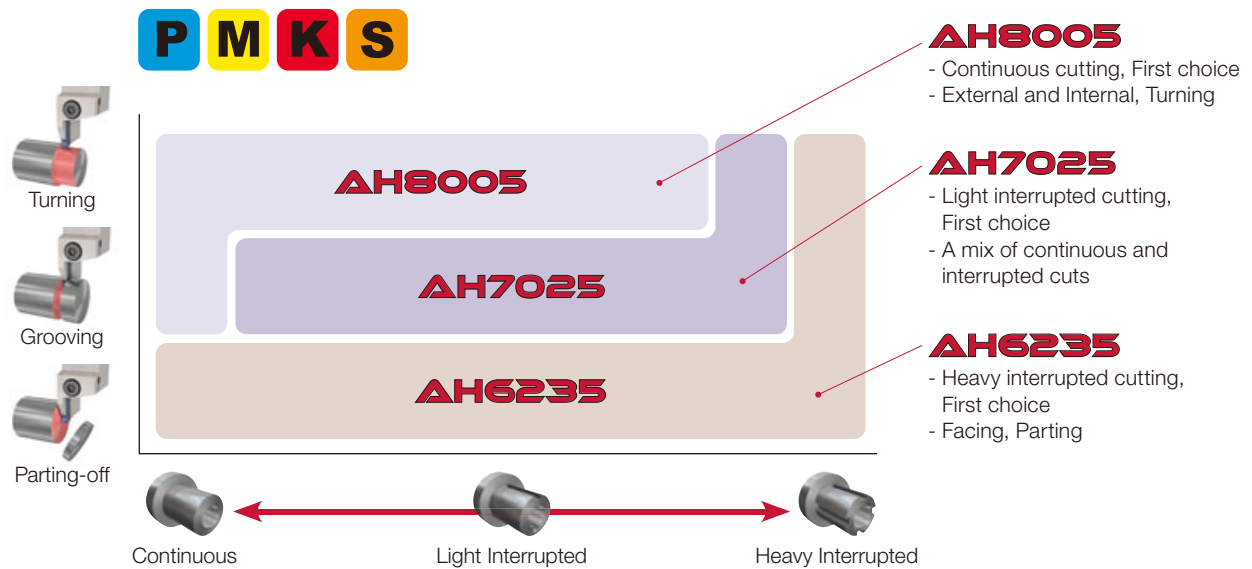
## For high feed external/internal/face turning of hardened steel parts

|  |   |  |
|--|---|--|
| <p><b>STH type<br/>(1 corner)</b></p>  <p><b>F158</b></p> | <p><b>External and face turning of hardened steel parts</b></p> <p>High efficiency machining using light D.O.C. and increased feeds<br/>CW = 0.118", 0.197"</p> | <p>■ Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p> <p>■ 0.118 ■ 0.197</p>  |
|--|---|--|

## External/internal grooving of hardened steel

|  |   |  |
|--|---|--|
| <p><b>SGN-CBN type<br/>(1 corner)</b></p>  <p><b>F159</b></p> | <p><b>For hardened steel cutting</b></p> <p>Optimum cutting edge shape for grooving of hardened steels<br/>High tolerance width for finishing<br/>CW = 0.079" - 0.197"<br/>(Tol. <math>\pm 0.001</math>")</p> | <p>■ Standard feed</p>  <p>Feed: <math>f</math> (ipr)</p> <p>Groove width: CW (in)</p>  |
|--|---|--|

## GRADE SELECTION



## GRADES

**AH8005**

**P M K S**

- First choice for external, internal, and side-turning, continuous cuts

**AH7025**

**P M K S**

- First choice for light interrupted cuts or a mix of continuous and interrupted cuts
- New PVD coating with high Al content provides excellent adhesion strength
- Improved wear and chipping resistance

**AH6235**

**P M K**

- First choice for heavy interrupted cuts, as well as parting and facing applications

**AH725**

**P M S**

- General purpose PVD grade for high fracture resistance

**T515**

**K**

- First recommended grade for cast iron
- Excellent wear resistance in high speed machining

**T9225**

**P**

- Suitable for steel machining at high speeds
- New CVD coating and substrate deliver an outstanding balance of wear and chipping resistance

**NS9530**

**P**

- Advanced cermet for finish cutting of steel
- Innovative grade with incredible fracture and high wear resistance

**GH130**

**P M K**

- Recommended for interrupted machining
- TiCNO PVD coating layer with high wear resistance
- High hardness wear resistance

**AH905**

**S**

- Remarkable for machining of heat resistant alloys
- Exclusive coating layer improves adhesion strength and wear resistance

**KS05F**

**N S**

- Recommended for non-ferrous materials and titanium

**TH10**

**N**

- Recommended for non-ferrous materials

**BXA10**

**H**

- Coated CBN grade designed for turning hardened steel parts

**BX360**

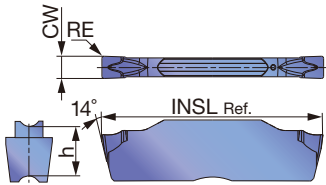
**H**

- Developed for grooving applications of hardened steel parts



## DGIS

Small diameter internal grooving



|   |                |   |   |   |   |  |  |  |  |   |  |  |  |
|---|----------------|---|---|---|---|--|--|--|--|---|--|--|--|
| P | Steel          | ★ | ★ | ☆ | ☆ |  |  |  |  | ★ |  |  |  |
| M | Stainless      |   | ★ | ☆ | ★ |  |  |  |  |   |  |  |  |
| K | Cast iron      |   | ★ |   | ☆ |  |  |  |  | ☆ |  |  |  |
| N | Non-ferrous    |   |   |   |   |  |  |  |  |   |  |  |  |
| S | Superalloys    |   | ★ | ☆ |   |  |  |  |  |   |  |  |  |
| H | Hard materials |   |   |   |   |  |  |  |  |   |  |  |  |

★ : First choice  
☆ : Second choice

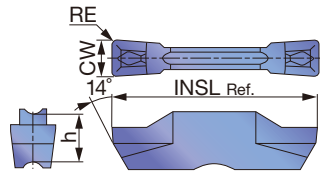
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |       | Cermets |   |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|-------|---------|---|--|--|-----------|--------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | GH130 | NS9530  |   |  |  |           |        |
| DGIS2-020   | 2         | 2            | 0.079         | 0.008   | ●      | ●      | ●     | ●     |         | ● |  |  |           |        |

● : Line up



## DTI

Internal grooving and turning (for high precision)



|   |                |   |   |   |   |  |  |  |  |   |  |  |  |
|---|----------------|---|---|---|---|--|--|--|--|---|--|--|--|
| P | Steel          | ★ | ★ | ☆ | ☆ |  |  |  |  | ★ |  |  |  |
| M | Stainless      |   | ★ | ☆ | ★ |  |  |  |  |   |  |  |  |
| K | Cast iron      |   | ★ |   | ☆ |  |  |  |  | ☆ |  |  |  |
| N | Non-ferrous    |   |   |   |   |  |  |  |  |   |  |  |  |
| S | Superalloys    |   | ★ | ☆ |   |  |  |  |  |   |  |  |  |
| H | Hard materials |   |   |   |   |  |  |  |  |   |  |  |  |

★ : First choice  
☆ : Second choice

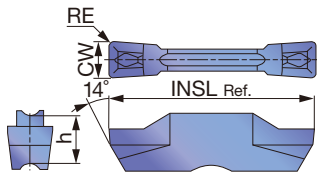
| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |        |       |       | Cermets |   |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--------|-------|-------|---------|---|--|--|-----------|--------|
|             |           |              |                |         | T9225  | AH7025 | AH725 | GH130 | NS9530  |   |  |  |           |        |
| DTI300-040  | 3         | 3            | 0.118          | 0.016   | ●      | ●      | ●     | ●     |         | ● |  |  |           |        |
| DTI400-040  | 4         | 4            | 0.157          | 0.016   | ●      | ●      | ●     | ●     |         | ● |  |  |           |        |
| DTI400-080  | 4         | 4            | 0.157          | 0.031   | ●      | ●      | ●     | ●     |         | ● |  |  |           |        |
| DTI500-040  | 5         | 5            | 0.197          | 0.016   | ●      | ●      | ●     | ●     |         | ● |  |  |           |        |
| DTI500-080  | 5         | 5            | 0.197          | 0.031   | ●      | ●      | ●     | ●     |         | ● |  |  |           |        |
| DTI600-080  | 6         | 6            | 0.236          | 0.031   | ●      | ●      | ●     | ●     |         |   |  |  |           |        |
| DTI600-120  | 6         | 6            | 0.236          | 0.047   | ●      | ●      | ●     | ●     |         |   |  |  |           |        |
| DTI800-080  | 8         | 8            | 0.315          | 0.031   | ●      | ●      | ●     | ●     |         |   |  |  |           |        |
| DTI800-120  | 8         | 8            | 0.315          | 0.047   | ●      | ●      | ●     | ●     |         |   |  |  |           |        |

● : Line up

Reference pages: Toolholders → **F140**, **F141**, Standard cutting conditions → **F160**

## DTI

### Internal grooving and turning



|          |                |   |   |   |   |  |  |  |   |  |  |  |
|----------|----------------|---|---|---|---|--|--|--|---|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ☆ | ☆ |  |  |  | ★ |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ☆ | ★ |  |  |  |   |  |  |  |
| <b>K</b> | Cast iron      |   | ★ |   | ☆ |  |  |  | ☆ |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |   |  |  |  |   |  |  |  |
| <b>S</b> | Superalloys    |   | ★ | ☆ |   |  |  |  |   |  |  |  |
| <b>H</b> | Hard materials |   |   |   |   |  |  |  |   |  |  |  |

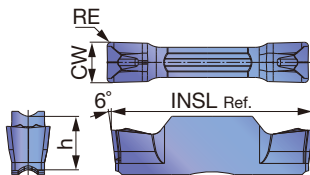
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |       | Cermet | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|-------|--------|-----------|--------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | GH130 | NS9530 |           |        |
| DTI3-040    | 3         | 3            | 0.118         | 0.016   | ●      | ●      | ●     | ●     | ●      | 0.787     | 0.197  |
| DTI4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●      | ●     | ●     | ●      | 0.787     | 0.197  |

● : Line up

## DTM

### External/internal/face grooving and turning



|          |                |   |   |   |  |  |  |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ | ★ | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ | ★ |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

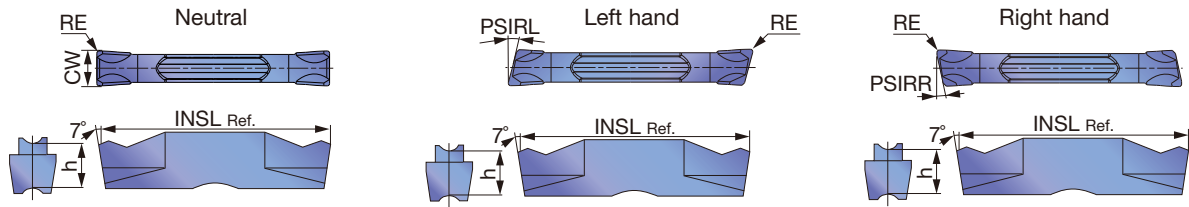
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |        | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|--------|-----------|--------|
|             |           |              |               |         | AH7025 | AH8005 | AH6235 |           |        |
| DTM2-020    | 2         | 2            | 0.079         | 0.008   | ●      | ●      | ●      | 0.787     | 0.197  |
| DTM3-030    | 3         | 3            | 0.118         | 0.012   | ●      | ●      | ●      | 0.787     | 0.197  |
| DTM4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●      | ●      | 0.787     | 0.197  |
| DTM4-080    | 4         | 4            | 0.157         | 0.031   | ●      | ●      | ●      | 0.787     | 0.197  |
| DTM5-080    | 5         | 5            | 0.197         | 0.031   | ●      | ●      | ●      | 0.984     | 0.217  |
| DTM6-080    | 6         | 6            | 0.236         | 0.031   | ●      | ●      | ●      | 0.984     | 0.217  |
| DTM8-080    | 8         | 8            | 0.315         | 0.031   | ●      | ●      | ●      | 1.181     | 0.264  |

● : Line up



# DGM

## External/internal grooving and parting



|                         |   |   |   |   |   |   |   |   |  |  |  |   |  |
|-------------------------|---|---|---|---|---|---|---|---|--|--|--|---|--|
| <b>P</b> Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ | ★ |   |  |  |  |   |  |
| <b>M</b> Stainless      |   | ★ | ☆ | ★ | ★ | ★ | ★ |   |  |  |  |   |  |
| <b>K</b> Cast iron      |   | ★ |   | ★ | ☆ | ☆ | ★ | ☆ |  |  |  | ☆ |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |   |   |   |  |  |  | ☆ |  |
| <b>S</b> Superalloys    |   | ★ | ☆ | ★ | ★ |   |   |   |  |  |  | ★ |  |
| <b>H</b> Hard materials |   |   |   |   |   |   |   |   |  |  |  |   |  |

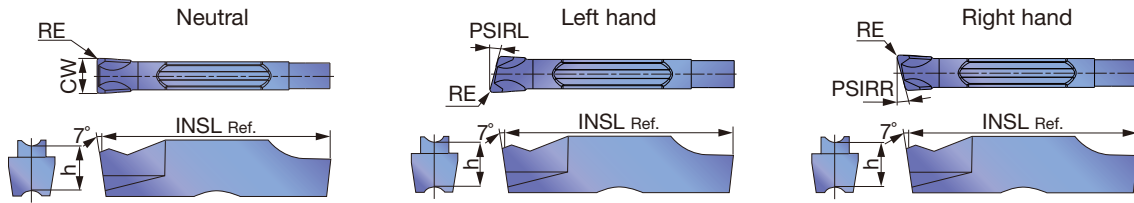
★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |       | Cermet NS9530 | Un-coated KS05F | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|--------|-------|--------|-------|-------|---------------|-----------------|-----------|--------|-------|-------|
|              |           |      |              |               |         | T9225  | AH7025 | AH725 | AH8005 | AH905 | GH130 |               |                 |           |        |       |       |
| DGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.787     | 0.197  | 0°    | 0°    |
| DGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 6°    |
| DGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 6°    | 0°    |
| DGM2-020-8R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 8°    |
| DGM2-020-8L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 8°    | 0°    |
| DGM2-020-15R | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 15°   |
| DGM2-020-15L | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 15°   | 0°    |
| DGM2-002-15R | 2         | R    | 2            | 0.079         | 0.0008  |        |        | ●     |        | ●     |       |               |                 | 0.762     | 0.197  | 0°    | 15°   |
| DGM2-002-15L | 2         | L    | 2            | 0.079         | 0.0008  |        |        | ●     |        | ●     |       |               |                 | 0.762     | 0.197  | 15°   | 0°    |
| DGM2.39-020  | 2         | N    | 2.39         | 0.094         | 0.008   |        | ●      | ●     | ●      | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 0°    |
| DGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.787     | 0.197  | 0°    | 0°    |
| DGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 6°    |
| DGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 6°    | 0°    |
| DGM3-002-6R  | 3         | R    | 3            | 0.118         | 0.008   |        |        | ●     |        | ●     |       |               |                 | 0.766     | 0.197  | 0°    | 6°    |
| DGM3-002-6L  | 3         | L    | 3            | 0.118         | 0.008   |        |        | ●     |        | ●     |       |               |                 | 0.766     | 0.197  | 6°    | 0°    |
| DGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 15°   |
| DGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 15°   | 0°    |
| DGM3.18-020  | 3         | N    | 3.18         | 0.125         | 0.008   |        | ●      | ●     | ●      | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 0°    |
| DGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.787     | 0.197  | 0°    | 0°    |
| DGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 4°    |
| DGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 4°    | 0°    |
| DGM4-030-15R | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 0°    | 15°   |
| DGM4-030-15L | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |       |               |                 | 0.787     | 0.197  | 15°   | 0°    |
| DGM4.76-040  | 5         | N    | 4.76         | 0.187         | 0.016   |        | ●      | ●     | ●      | ●     |       |               |                 | 0.984     | 0.217  | 0°    | 0°    |
| DGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.984     | 0.217  | 0°    | 0°    |
| DGM5-030-4R  | 5         | R    | 5            | 0.197         | 0.012   |        | ●      | ●     |        | ●     |       |               |                 | 0.984     | 0.217  | 0°    | 4°    |
| DGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.984     | 0.217  | 0°    | 0°    |
| DGM6.35-040  | 6         | N    | 6.35         | 0.250         | 0.016   |        | ●      | ●     | ●      | ●     |       |               |                 | 0.984     | 0.217  | 0°    | 0°    |
| DGM8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 1.181     | 0.264  | 0°    | 0°    |

● : Line up

Reference pages: Toolholders → **F140, F141**, Standard cutting conditions → **F160**

External/internal deep grooving and parting



|   |                |   |   |   |   |   |  |   |  |  |  |  |  |
|---|----------------|---|---|---|---|---|--|---|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ★ | ☆ | ★ |  |   |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |  |
| K | Cast iron      | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |  | ☆ |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ | ★ |   |   |  | ★ |  |  |  |  |  |
| H | Hard materials |   |   |   |   |   |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

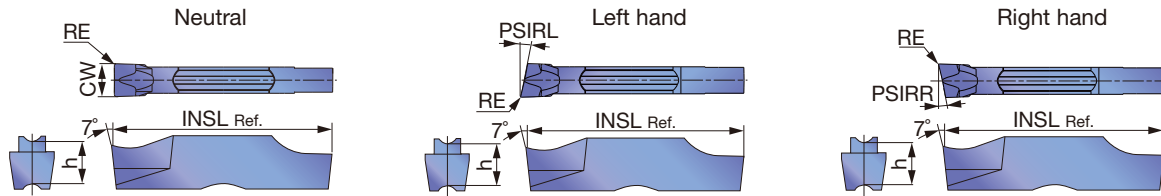
| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  |  | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|--|-----------|--------|-------|-------|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |  |           |        |       |       |
| SGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 0°    | 4°    |
| SGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |  | 0.787     | 0.197  | 4°    | 0°    |
| SGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGM8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      |       | ●      |       | ●      | ●        |  |  | 1.181     | 0.264  | 0°    | 0°    |

● : Line up





External/internal deep grooving and parting



|                         |   |   |   |   |   |  |  |   |  |  |  |  |  |
|-------------------------|---|---|---|---|---|--|--|---|--|--|--|--|--|
| <b>P</b> Steel          | ★ | ☆ | ★ | ☆ | ★ |  |  |   |  |  |  |  |  |
| <b>M</b> Stainless      | ★ | ☆ | ★ | ★ | ★ |  |  |   |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ |   | ★ | ☆ | ★ |  |  | ☆ |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |  |  | ☆ |  |  |  |  |  |
| <b>S</b> Superalloys    | ★ | ☆ | ★ |   |   |  |  | ★ |  |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |   |   |  |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |         | Uncoated |  |  | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|---------|----------|--|--|-----------|--------|-------|-------|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH16235 | KS05F    |  |  |           |        |       |       |
| SGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 0°    | 6°    |
| SGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 6°    | 0°    |
| SGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGS3-002-15R | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 0°    | 15°   |
| SGS3-002-15L | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 15°   | 0°    |
| SGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGS8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      |       | ●      |       |         |          |  |  | 1.181     | 0.264  | 0°    | 0°    |

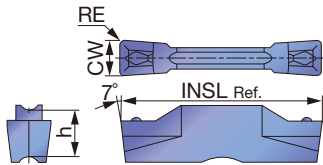
● : Line up





## DTE

External/internal/face grooving and turning



|   |                |   |   |   |   |   |   |   |  |   |  |  |  |
|---|----------------|---|---|---|---|---|---|---|--|---|--|--|--|
| P | Steel          | ★ |   | ★ | ☆ | ★ | ☆ | ★ |  | ★ |  |  |  |
| M | Stainless      |   |   | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |
| K | Cast iron      |   | ★ | ★ |   | ★ | ☆ | ★ |  |   |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |  |   |  |  |  |
| S | Superalloys    |   |   | ★ | ☆ | ★ |   |   |  |   |  |  |  |
| H | Hard materials |   |   |   |   |   |   |   |  |   |  |  |  |

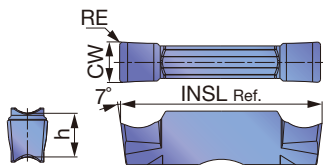
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |      |        |       |        |       | Cermets |        | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|------|--------|-------|--------|-------|---------|--------|-----------|--------|
|             |           |              |               |         | T9225  | T515 | AH7025 | AH725 | AH8005 | GH130 | AH6235  | NS9530 |           |        |
| DTE3-020    | 3         | 3            | 0.118         | 0.008   |        |      | ●      |       | ●      |       | ●       |        | 0.787     | 0.197  |
| DTE3-040    | 3         | 3            | 0.118         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●       |        | 0.787     | 0.197  |
| DTE4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●       |        | 0.787     | 0.197  |
| DTE4-080    | 4         | 4            | 0.157         | 0.031   |        |      | ●      |       | ●      |       |         |        | 0.787     | 0.197  |
| DTE5-040    | 5         | 5            | 0.197         | 0.016   |        | ●    | ●      |       | ●      |       |         |        | 0.984     | 0.217  |
| DTE5-080    | 5         | 5            | 0.197         | 0.031   |        |      | ●      |       | ●      |       |         |        | 0.984     | 0.217  |
| DTE6-080    | 6         | 6            | 0.236         | 0.031   |        | ●    | ●      |       | ●      |       |         |        | 0.984     | 0.217  |

● : Line up

## DGG

External/internal grooving (for high precision)



|   |                |   |  |   |   |  |  |   |  |  |  |  |  |
|---|----------------|---|--|---|---|--|--|---|--|--|--|--|--|
| P | Steel          | ★ |  | ★ |   |  |  |   |  |  |  |  |  |
| M | Stainless      | ★ |  |   |   |  |  |   |  |  |  |  |  |
| K | Cast iron      | ★ |  |   | ☆ |  |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |  |   |   |  |  | ★ |  |  |  |  |  |
| S | Superalloys    | ★ |  |   |   |  |  | ☆ |  |  |  |  |  |
| H | Hard materials |   |  |   |   |  |  |   |  |  |  |  |  |

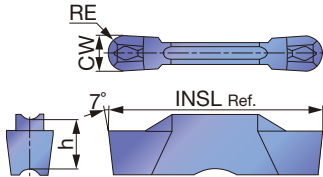
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated | Cermets | Uncoated | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|---------|----------|-----------|--------|
|             |           |              |                |         | AH7025 | NS9530  | KS05F    |           |        |
| DGG200-020  | 2         | 2            | 0.079          | 0.008   | ●      | ●       | ●        | 0.787     | 0.197  |
| DGG300-020  | 3         | 3            | 0.118          | 0.008   | ●      | ●       | ●        | 0.787     | 0.197  |
| DGG400-040  | 4         | 4            | 0.157          | 0.016   | ●      | ●       | ●        | 0.787     | 0.197  |
| DGG500-040  | 5         | 5            | 0.197          | 0.016   | ●      | ●       | ●        | 0.984     | 0.217  |
| DGG600-040  | 6         | 6            | 0.236          | 0.016   | ●      | ●       | ●        | 0.984     | 0.217  |

● : Line up

## DTR

Profiling and undercutting (for high precision)



|   |                |   |   |   |   |  |  |  |  |   |  |  |  |  |  |
|---|----------------|---|---|---|---|--|--|--|--|---|--|--|--|--|--|
| P | Steel          | ★ | ★ | ☆ | ☆ |  |  |  |  | ★ |  |  |  |  |  |
| M | Stainless      |   | ★ | ☆ | ★ |  |  |  |  |   |  |  |  |  |  |
| K | Cast iron      |   | ★ |   | ☆ |  |  |  |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |  |  |  |  |   |  |  |  |  |  |
| S | Superalloys    |   | ★ | ☆ |   |  |  |  |  |   |  |  |  |  |  |
| H | Hard materials |   |   |   |   |  |  |  |  |   |  |  |  |  |  |

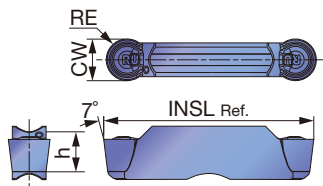
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |        |       |       | Cermets |  | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--------|-------|-------|---------|--|-----------|--------|
|             |           |              |                |         | T9225  | AH7025 | AH725 | GH130 | NS9530  |  |           |        |
| DTR300-150  | 3         | 3            | 0.118          | 0.059   | ●      | ●      | ●     | ●     | ●       |  | 0.787     | 0.197  |
| DTR400-200  | 4         | 4            | 0.157          | 0.079   | ●      | ●      | ●     | ●     | ●       |  | 0.787     | 0.197  |
| DTR478-239  | 5         | 4.78         | 0.188          | 0.094   | ●      | ●      | ●     | ●     | ●       |  | 0.984     | 0.217  |
| DTR500-250  | 5         | 5            | 0.197          | 0.098   | ●      | ●      | ●     | ●     | ●       |  | 0.984     | 0.217  |
| DTR600-300  | 6         | 6            | 0.236          | 0.118   | ●      | ●      | ●     | ●     |         |  | 0.984     | 0.217  |

● : Line up

## DTR

Profiling and undercutting



|   |                |   |   |   |   |   |   |   |  |   |  |   |  |  |  |
|---|----------------|---|---|---|---|---|---|---|--|---|--|---|--|--|--|
| P | Steel          | ★ | ★ | ☆ | ★ |   | ☆ | ★ |  | ★ |  |   |  |  |  |
| M | Stainless      |   | ★ | ☆ | ★ |   | ★ | ★ |  |   |  |   |  |  |  |
| K | Cast iron      |   | ★ |   | ★ | ☆ | ☆ | ★ |  | ☆ |  | ☆ |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |  |   |  | ☆ |  |  |  |
| S | Superalloys    |   | ★ | ☆ | ★ | ★ |   |   |  |   |  | ★ |  |  |  |
| H | Hard materials |   |   |   |   |   |   |   |  |   |  |   |  |  |  |

★ : First choice  
☆ : Second choice

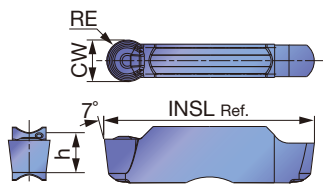
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |       | Cermets | Uncoated | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|--------|-------|-------|---------|----------|-----------|--------|-------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | AH8005 | AH905 | GH130 | AH6235  | NS9530   |           |        | KS05F |
| DTR2-100    | 2         | 2            | 0.079         | 0.039   |        | ●      | ●     | ●      | ●     | ●     | ●       |          | ●         | 0.787  | 0.197 |
| DTR3-150    | 3         | 3            | 0.118         | 0.059   | ●      | ●      | ●     | ●      | ●     | ●     | ●       |          | ●         | 0.787  | 0.197 |
| DTR4-200    | 4         | 4            | 0.157         | 0.079   | ●      | ●      | ●     | ●      | ●     | ●     | ●       |          | ●         | 0.787  | 0.197 |
| DTR5-250    | 5         | 5            | 0.197         | 0.098   | ●      | ●      | ●     | ●      | ●     | ●     | ●       |          | ●         | 0.984  | 0.217 |
| DTR6-300    | 6         | 6            | 0.236         | 0.118   | ●      | ●      | ●     | ●      | ●     | ●     |         | ●        | ●         | 0.984  | 0.217 |
| DTR8-400    | 8         | 8            | 0.315         | 0.157   | ●      | ●      | ●     | ●      | ●     | ●     |         | ●        | ●         | 1.181  | 0.264 |

● : Line up

Reference pages: Toolholders → **F140**, **F141**, Standard cutting conditions → **F160**

## STR

### Profiling and undercutting



|   |                |   |   |  |  |  |  |  |   |  |  |  |  |
|---|----------------|---|---|--|--|--|--|--|---|--|--|--|--|
| P | Steel          | ★ | ★ |  |  |  |  |  |   |  |  |  |  |
| M | Stainless      | ★ | ★ |  |  |  |  |  |   |  |  |  |  |
| K | Cast iron      | ★ | ★ |  |  |  |  |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |   |  |  |  |  |  | ☆ |  |  |  |  |
| S | Superalloys    | ★ | ★ |  |  |  |  |  | ★ |  |  |  |  |
| H | Hard materials |   |   |  |  |  |  |  |   |  |  |  |  |

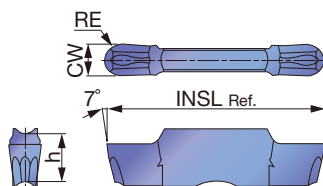
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |  | Uncoated |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|--|----------|--|--|-----------|--------|
|             |           |              |               |         | AH7025 | AH8005 |  | KS05F    |  |  |           |        |
| STR2-100    | 2         | 2            | 0.079         | 0.039   | ●      | ●      |  | ●        |  |  | 0.787     | 0.197  |
| STR3-150    | 3         | 3            | 0.118         | 0.059   | ●      | ●      |  | ●        |  |  | 0.787     | 0.197  |
| STR4-200    | 4         | 4            | 0.157         | 0.079   | ●      | ●      |  | ●        |  |  | 0.787     | 0.197  |
| STR5-250    | 5         | 5            | 0.197         | 0.098   | ●      | ●      |  | ●        |  |  | 0.984     | 0.217  |
| STR6-300    | 6         | 6            | 0.236         | 0.118   | ●      | ●      |  | ●        |  |  | 0.984     | 0.217  |
| STR8-400    | 8         | 8            | 0.315         | 0.157   | ●      | ●      |  | ●        |  |  | 1.181     | 0.264  |

● : Line up

## DTIU

### Profiling and undercutting (for high precision)



|   |                |   |   |   |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ☆ |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |   | ☆ |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |  |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ |   |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |  |  |  |  |  |  |

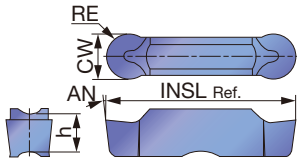
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |       |       | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|-------|-------|-----------|--------|
|             |           |              |                |         | AH7025 | AH725 | GH130 |           |        |
| DTIU300-150 | 3         | 3            | 0.118          | 0.059   | ●      | ●     | ●     | 0.787     | 0.197  |
| DTIU400-200 | 4         | 4            | 0.157          | 0.079   | ●      | ●     | ●     | 0.787     | 0.197  |
| DTIU500-250 | 5         | 5            | 0.197          | 0.098   | ●      | ●     | ●     | 0.984     | 0.217  |
| DTIU600-300 | 6         | 6            | 0.236          | 0.118   | ●      | ●     | ●     | 0.984     | 0.217  |

● : Line up

## DTA

Aluminum wheel machining (for high precision)



|   |                |   |  |  |  |
|---|----------------|---|--|--|--|
| P | Steel          |   |  |  |  |
| M | Stainless      |   |  |  |  |
| K | Cast iron      |   |  |  |  |
| N | Non-ferrous    | ★ |  |  |  |
| S | Superalloys    |   |  |  |  |
| H | Hard materials |   |  |  |  |

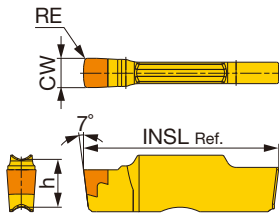
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Uncoated |  |  |  |  |  | INSL (in) | h (in) | AN    |     |
|-------------|-----------|--------------|----------------|---------|----------|--|--|--|--|--|-----------|--------|-------|-----|
|             |           |              |                |         | TH10     |  |  |  |  |  |           |        |       |     |
| DTA600-300  | 6         | 6            | 0.236          | 0.118   | ●        |  |  |  |  |  |           | 0.984  | 0.217 | 7°  |
| DTA800-400  | 8         | 8            | 0.315          | 0.157   | ●        |  |  |  |  |  |           | 1.181  | 0.264 | 10° |

●: Line up

## STH

External/internal/face turning



|   |                |   |  |  |  |
|---|----------------|---|--|--|--|
| P | Steel          |   |  |  |  |
| M | Stainless      |   |  |  |  |
| K | Cast iron      |   |  |  |  |
| N | Non-ferrous    |   |  |  |  |
| S | Superalloys    |   |  |  |  |
| H | Hard materials | ★ |  |  |  |

★ : First choice

| Designation | Seat size | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | CBN   |  |  |  |  |  | INSL (in) | h (in) |       |
|-------------|-----------|---------------|---------------|---------|-------|--|--|--|--|--|-----------|--------|-------|
|             |           |               |               |         | BXA10 |  |  |  |  |  |           |        |       |
| STH300-SR   | 3         | 3             | 0.118         | 0.012   | ●     |  |  |  |  |  |           | 0.787  | 0.197 |
| STH500-SR   | 5         | 5             | 0.197         | 0.012   | ●     |  |  |  |  |  |           | 0.984  | 0.217 |

●: Line up

Reference pages: Toolholders → [F140](#), [F141](#), Standard cutting conditions → [F160](#)





## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness | Priority          | Grade                         | Cutting speed Vc (sfm) |
|----------|-------------------------------------|----------|-------------------|-------------------------------|------------------------|
| <b>P</b> | Steel<br>1045, 4135, etc.           | < 300 HB | First choice      | AH7025, AH725                 | 164 - 591              |
|          |                                     | < 300 HB | Wear resistance   | T9225, AH8005                 | 262 - 984              |
|          |                                     | < 300 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
|          |                                     | < 300 HB | Surface quality   | NS9530                        | 262 - 722              |
| <b>M</b> | Stainless steel<br>303, 304, etc.   | < 200 HB | First choice      | AH7025, AH725                 | 164 - 394              |
|          |                                     | < 200 HB | Wear resistance   | AH8005                        | 164 - 394              |
|          |                                     | < 200 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -        | First choice      | T515                          | 492 - 2297             |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -        | First choice      | T515                          | 492 - 984              |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 394              |
| <b>N</b> | Aluminum alloys<br>Si < 12%         | -        | First choice      | TH10                          | 328 - 1640             |
|          |                                     | -        | First choice      | KS05F                         | 328 - 1969             |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40 | First choice      | AH8005                        | 66 - 197               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725, AH6235         | 66 - 131               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40 | First choice      | KS05F                         | 66 - 328               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725                 | 66 - 262               |

Please see page F142 - F145 for feed:  $f$  (ipr).

### STH

| ISO      | Grade | CW     | Application      | Cutting speed Vc (sfm) | Depth of cut ap (in) | Feed f (ipr)  |
|----------|-------|--------|------------------|------------------------|----------------------|---------------|
| <b>H</b> | BXA10 | 0.118" | External turning | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.039 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.031 |
|          |       | 0.197" | External turning | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.059 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.031 |

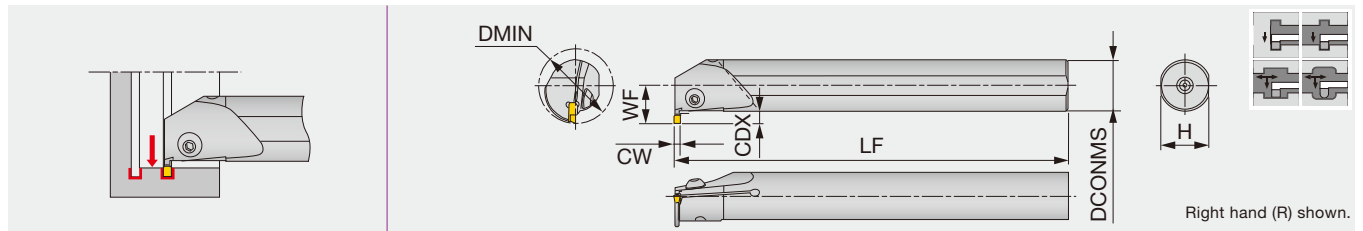
### SGN

| ISO      | Grade | Edge preparation | Workpiece condition | Cutting speed Vc (sfm) | Feed f (ipr)    |
|----------|-------|------------------|---------------------|------------------------|-----------------|
| <b>H</b> | BX360 | No symbol        | Continuous          | 262 - 492              | 0.0012 - 0.0031 |
|          |       | -S               | Light interrupted   | 164 - 394              | 0.0012 - 0.0031 |
|          |       | -H               | Heavy interrupted   | 131 - 328              | 0.0012 - 0.0024 |

# MY-T SERIES

## CGTR/L

Internal grooving and turning toolholder



| Inch           | CW    | DMIN  | CDX   | DCONMS | H     | LF    | WF    | Insert        | Torque |
|----------------|-------|-------|-------|--------|-------|-------|-------|---------------|--------|
| A12Q-CGTR30U   | 0.118 | 1.000 | 0.138 | 0.750  | 0.709 | 7.090 | 0.571 | G*30, GE30-AL | 2.21   |
| A16R-CGTR/L30U | 0.118 | 1.260 | 0.197 | 1.000  | 0.961 | 7.870 | 0.728 | G*30, GE30-AL | 2.21   |
| A16R-CGTR40U   | 0.157 | 1.260 | 0.197 | 1.000  | 0.961 | 7.870 | 0.728 | G*40, GE40-AL | 2.21   |

| Metric        | CW | DMIN | CDX | DCONMS | H  | LF  | WF   | Insert        | Torque* |
|---------------|----|------|-----|--------|----|-----|------|---------------|---------|
| S20Q-CGTR/L30 | 3  | 25   | 3.5 | 20     | 18 | 180 | 14.5 | G*30, GE30-AL | 3       |
| S25R-CGTR/L30 | 3  | 32   | 5   | 25     | 23 | 200 | 18.5 | G*30, GE30-AL | 3       |
| S25R-CGTR/L40 | 4  | 32   | 5   | 25     | 23 | 200 | 18.5 | G*40, GE40-AL | 3       |
| S32S-CGTR/L40 | 4  | 40   | 6   | 32     | 30 | 250 | 23   | G*40, GE40-AL | 3       |
| S25R-CGTR/L50 | 5  | 32   | 5   | 25     | 23 | 200 | 18.5 | G*50          | 3       |
| S32S-CGTR/L50 | 5  | 40   | 6   | 32     | 30 | 250 | 23   | G*50          | 3       |

Torque: Recommended clamping torque: lbs·ft (\*N·m)

### SPARE PARTS



| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| A/S*-CGTR/L... | BHM5-14        | P-3    |

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

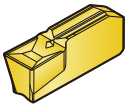
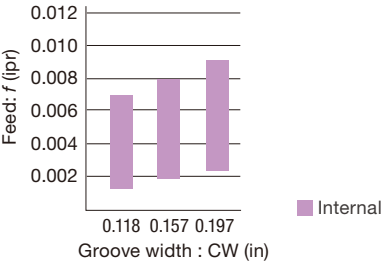
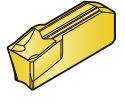
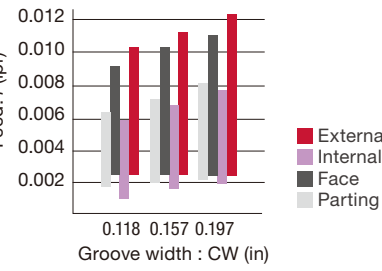
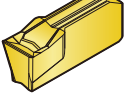
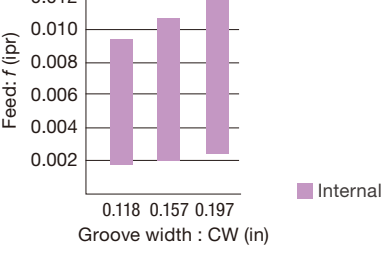
User's Guide

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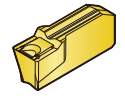
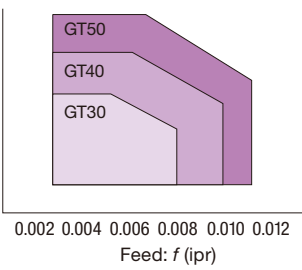
Reference pages: Inserts → **F162 - F165**, Standard cutting conditions → **F166**

# CHIPBREAKER GUIDE

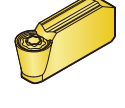
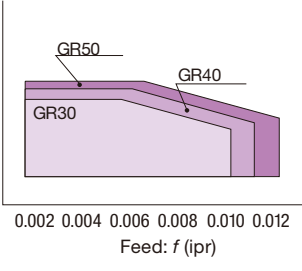
## Internal grooving

|   |  |   |
|---|--|---|
| <p><b>GN</b></p>  <p><b>F165</b></p>   | <p>1st choice for internal grooving<br/>Low cutting force and good chip control for internal grooving<br/>CW = 0.118" - 0.197"</p> |  <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> <p>Internal</p>                                   |
| <p><b>GE</b></p>  <p><b>F163</b></p>   | <p>1st choice for external grooving and parting<br/>Excellent chip control<br/>CW = 0.118" - 0.197"</p>                            |  <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> <p>External<br/>Internal<br/>Face<br/>Parting</p> |
| <p><b>GF</b></p>  <p><b>F164</b></p> | <p>1st choice for face grooving<br/>Low cutting force and good chip control for face grooving<br/>CW = 0.118" - 0.197"</p>         |  <p>Feed: f (ipr)</p> <p>Groove width : CW (in)</p> <p>Internal</p>                                  |

## Grooving and turning

|   |   |  |
|---|---|--|
| <p><b>GT</b></p>  <p><b>F163</b></p> | <p>1st choice for turning<br/>Low cutting force and good chip control for traversing<br/>CW = 0.118" - 0.197"</p> |  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>GT50<br/>GT40<br/>GT30</p> |
|---|---|--|

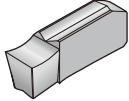
## Profiling

|   |  |  |
|---|--|--|
| <p><b>GR</b></p>  <p><b>F164</b></p> | <p>Full radius type<br/>Low cutting force and good chip control for profiling<br/>CW = 0.118" - 0.197"</p> |  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>GR50<br/>GR40<br/>GR30</p> |
|---|--|--|

Please see page F\*\*\* for the product details.

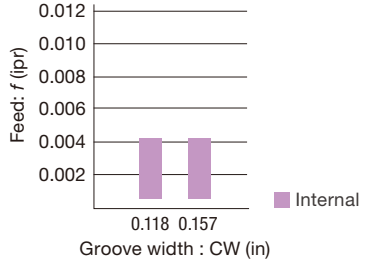
# For aluminum and non-ferrous metal

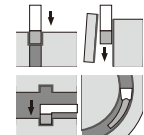
**GE-AL**



**F165**

Reduce cutting force and welding due to sharp chipbreaker  
 CW = 0.118" - 0.157"



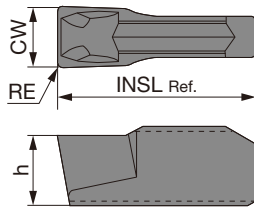


Please see page **F\*\*\*** for the product details.

## INSERTS

### GE

For external grooving and parting



|          |                |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |

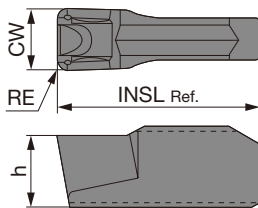
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  |   | INSL<br>(in) | h<br>(in) |  |  |  |  |  |  |  |  |  |  |
|-------------|----------------------------|------------------------------|------------|--------|-------|-------|---------|--|---|--------------|-----------|--|--|--|--|--|--|--|--|--|--|
|             |                            |                              |            | T9225  | AH120 | GH730 | NS9530  |  |   |              |           |  |  |  |  |  |  |  |  |  |  |
| GE30        | 3                          | 0.118                        | 0.008      | ●      | ●     | ●     |         |  | ● |              |           |  |  |  |  |  |  |  |  |  |  |
| GE40        | 4                          | 0.157                        | 0.008      | ●      | ●     | ●     |         |  | ● |              |           |  |  |  |  |  |  |  |  |  |  |
| GE50        | 5                          | 0.197                        | 0.008      | ●      | ●     | ●     |         |  | ● |              |           |  |  |  |  |  |  |  |  |  |  |

● : Line up

### GT

For external grooving and turning



|          |                |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  |   | INSL<br>(in) | h<br>(in) |  |  |  |  |  |  |  |  |  |  |
|-------------|----------------------------|------------------------------|------------|--------|-------|-------|---------|--|---|--------------|-----------|--|--|--|--|--|--|--|--|--|--|
|             |                            |                              |            | T9225  | AH120 | GH730 | NS9530  |  |   |              |           |  |  |  |  |  |  |  |  |  |  |
| GT30        | 3                          | 0.118                        | 0.016      |        | ●     | ●     |         |  | ● |              |           |  |  |  |  |  |  |  |  |  |  |
| GT40        | 4                          | 0.157                        | 0.016      |        | ●     | ●     |         |  | ● |              |           |  |  |  |  |  |  |  |  |  |  |
| GT50        | 5                          | 0.197                        | 0.016      | ●      | ●     | ●     |         |  | ● |              |           |  |  |  |  |  |  |  |  |  |  |

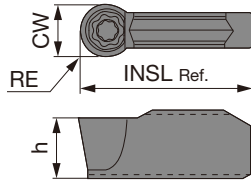
● : Line up

Reference pages: Toolholders → **F161**, Standard cutting conditions → **F166**



## GR

For profiling (full radius)



|          |                |   |   |   |  |  |  |   |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|---|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |  |
| <b>K</b> | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |  |
| <b>S</b> | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |   |  |  |  |  |

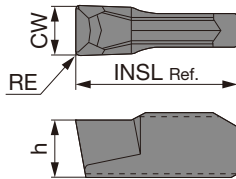
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermet |  |        | INSL<br>(in) | h<br>(in) |  |
|-------------|---|---|------------|--------|-------|-------|--------|--|--------|--------------|-----------|--|
|             |   |   |            | T9225  | AH120 | GH730 |        |  | NS9530 |              |           |  |
| GR30        | 3                                       | 0.118                                     | 0.059      |        | ●     | ●     |        |  | ●      |              |           |  |
| GR40        | 4                                       | 0.157                                     | 0.079      | ●      | ●     | ●     |        |  | ●      |              |           |  |
| GR50        | 5                                       | 0.197                                     | 0.098      | ●      | ●     | ●     |        |  | ●      |              |           |  |

● : Line up

## GF

For face grooving



|          |                |   |  |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  | ☆ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |   |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |  |  |  |  |  |

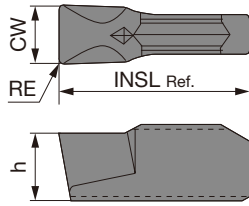
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  |  | Cermet |  |  | INSL<br>(in) | h<br>(in) |  |
|-------------|---|---|------------|--------|--|--|--------|--|--|--------------|-----------|--|
|             |   |   |            | GH730  |  |  | NS9530 |  |  |              |           |  |
| GF30        | 3                                       | 0.118                                     | 0.008      | ●      |  |  | ●      |  |  |              |           |  |
| GF40        | 4                                       | 0.157                                     | 0.008      | ●      |  |  | ●      |  |  |              |           |  |
| GF50        | 5                                       | 0.197                                     | 0.008      | ●      |  |  | ●      |  |  |              |           |  |

● : Line up

## GN

For internal grooving



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

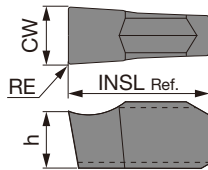
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|--------|--|--|--|--|--|--|--------------|-----------|-------|
|             |   |   |            | GH730  |  |  |  |  |  |  |              |           |       |
| GN30        | 3                                       | 0.118                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GN40        | 4                                       | 0.157                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.157 |
| GN50        | 5                                       | 0.197                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.472     | 0.177 |

● : Line up

## GE-AL

For aluminum and non-ferrous metal



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          |   |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Uncoated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|----------|--|--|--|--|--|--|--------------|-----------|-------|
|             |   |   |            | KS05F    |  |  |  |  |  |  |              |           |       |
| GE30-AL     | 3                                       | 0.118                                     | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE40-AL     | 4                                       | 0.157                                     | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.157 |

● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                                | Grade        | Cutting speed<br>Vc (sfm) |
|----------|---|--------------|---------------------------|
| <b>P</b> | Low carbon steel, Alloy steel<br>(~ HB150)        | T9225        | 262 - 984                 |
|          |   | NS9530       | 328 - 656                 |
|          |   | GH730, AH120 | 164 - 591                 |
|          | Medium carbon steel, Alloy steel<br>(HB150 ~ 250) | T9225        | 262 - 722                 |
|          |   | NS9530       | 262 - 591                 |
|          |   | GH730, AH120 | 164 - 492                 |
|          | High carbon steel, Alloy steel<br>(HB250 ~ )      | T9225        | 262 - 722                 |
|          |   | NS9530       | 262 - 492                 |
|          |   | GH730, AH120 | 164 - 394                 |
| <b>M</b> | Stainless steel                                   | GH730, AH120 | 164 - 394                 |
| <b>K</b> | Gray iron, Ductile cast iron                      | GH730, AH120 | 164 - 591                 |
| <b>N</b> | Aluminum alloy, Non-ferrous metal                 | KS05F        | 656 - 984                 |



### Internal

| Operation                  | Feed: <i>f</i> (ipr)                         |  |  |
|----------------------------|--|--|--|
|                            | Groove width: CW                             |  |  |
|                            | 3 mm (0.118")                                | 4 mm (0.157")                                | 5 mm (0.197")                                |
| Internal grooving (GE**)   | 0.0016 - 0.006                               | 0.002 - 0.006                                | 0.002 - 0.006                                |
| Internal grooving (GN**)   | 0.0016 - 0.006                               | 0.002 - 0.007                                | 0.002 - 0.008                                |
| Internal traversing (GT**) | $ap = 0.020 - 0.059$<br>$f = 0.0024 - 0.008$ | $ap = 0.020 - 0.079$<br>$f = 0.0024 - 0.010$ | $ap = 0.020 - 0.098$<br>$f = 0.0024 - 0.011$ |
| Internal traversing (GR**) | $ap = 0.020 - 0.055$<br>$f = 0.002 - 0.010$  | $ap = 0.020 - 0.059$<br>$f = 0.002 - 0.010$  | $ap = 0.020 - 0.063$<br>$f = 0.002 - 0.012$  |
| Aluminum alloys (GE**-AL)  | 0.0012 - 0.004                               | 0.0012 - 0.004                               | -  |

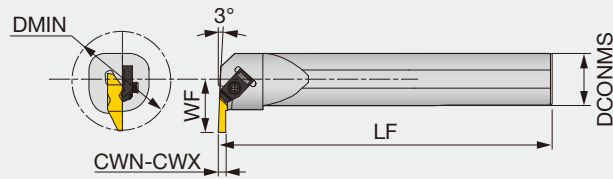
For diameter compensation values in traversing, see page **F129**.

When vibration occurs in turning, please use the lower limit value in the above table

# TUNGST-CLAMP

## A-FLER/LT

### Internal grooving and threading toolholder



Right hand (R) shown.

| Inch         | CWN   | CWX   | DMIN  | DCONMS | LF    | WF    | Insert       | Torque |
|--------------|-------|-------|-------|--------|-------|-------|--------------|--------|
| A20-FLER/LT3 | 0.094 | 0.189 | 1.807 | 1.250  | 6.000 | 1.082 | FLGT-3R/L... | 2.21   |
| A24-FLER/LT3 | 0.094 | 0.189 | 2.057 | 1.500  | 6.000 | 1.207 | FLGT-3R/L... | 2.21   |

Note: The right hand toolholders use right hand inserts, and the left hand toolholders use left hand inserts.  
Torque: Recommended clamping torque: lbs-ft

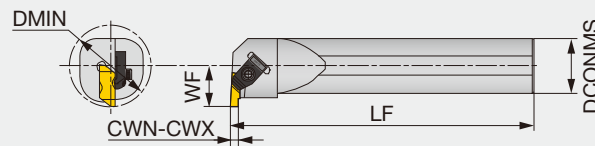
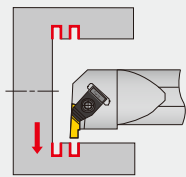
#### SPARE PARTS



| Designation            | Clamp | Clamping screw | Wrench  |
|------------------------|-------|----------------|---------|
| A20-FLERT3, A24-FLERT3 | TF-72 | S-412          | 5/32HEX |
| A20-FLELT3, A24-FLELT3 | TF-73 | S-412          | 5/32HEX |

## A\_M-FLER/L

### Internal grooving and threading toolholder



Right hand (R) shown.

| Inch        | CWN   | CWX   | DMIN  | DCONMS | LF     | WF    | Insert        | Torque |
|-------------|-------|-------|-------|--------|--------|-------|---------------|--------|
| A08-FLER/L2 | 0.031 | 0.125 | 0.730 | 0.500  | 8.000  | 0.437 | FL*-2**L/R... | 2.21   |
| A10-FLER2   | 0.031 | 0.125 | 1.000 | 0.625  | 10.000 | 0.500 | FL*-2**L...   | 2.21   |
| A12-FLER/L2 | 0.031 | 0.128 | 1.125 | 0.750  | 10.000 | 0.562 | FL*-2**L/R... | 2.21   |
| A16-FLER/L2 | 0.031 | 0.128 | 1.375 | 1.000  | 12.000 | 0.688 | FL*-2**L/R... | 2.21   |
| A16-FLER/L3 | 0.031 | 0.250 | 1.375 | 1.000  | 12.000 | 0.688 | FL*-3**L/R... | 2.21   |

| Metric       | CWN | CWX | DMIN  | DCONMS | LF  | WF   | Insert        | Torque* |
|--------------|-----|-----|-------|--------|-----|------|---------------|---------|
| A25M-FLER/L3 | 1   | 3   | 34.9  | 25     | 300 | 17.7 | FL*-3**L/R... | 3       |
| A32M-FLER/L3 | 1   | 3   | 44.45 | 32     | 350 | 22.1 | FL*-3**L/R... | 3       |
| A40M-FLER3   | 1   | 3   | 50.8  | 40     | 350 | 24.5 | FL*-3**L...   | 3       |

Note: Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).  
Torque: Recommended clamping torque: lbs-ft (\*N-m)

#### INCH SPARE PARTS



| Designation                     | Clamp  | Clamping screw | Wrench  |
|---------------------------------|--------|----------------|---------|
| A08-FLER2                       | TF-146 | S-310          | 7/64HEX |
| A08-FLEL2                       | TF-147 | S-310          | 7/64HEX |
| A10-FLER2, A12-FLER2, A16-FLER2 | TF-75  | S-310          | 7/64HEX |
| A12-FLEL2, A16-FLEL2            | TF-74  | S-310          | 7/64HEX |
| A16-FLER3                       | TF-73  | S-412          | 5/32HEX |
| A16-FLEL3                       | TF-72  | S-412          | 5/32HEX |

#### METRIC SPARE PARTS



| Designation | Clamp | Clamping screw | Wrench  |
|-------------|-------|----------------|---------|
| A**M-FLER3  | TF-73 | S-412          | 5/32HEX |
| A**M-FLEL3  | TF-72 | S-412          | 5/32HEX |

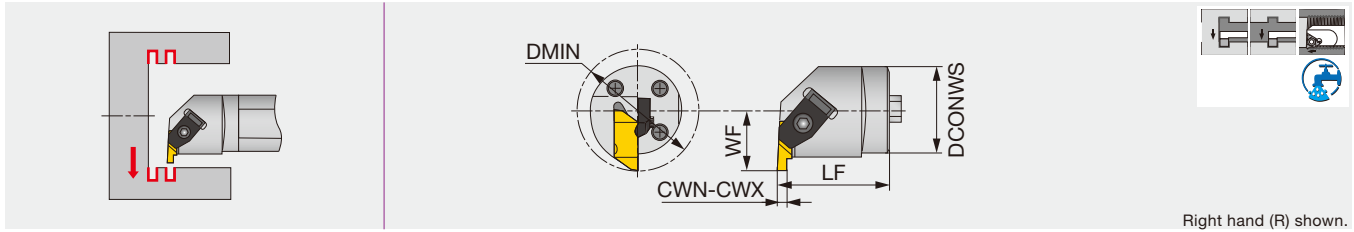
Reference pages: Inserts → **F169 - F176**, Standard cutting conditions → **F176**



# TUNGST-CLAMP

HS-FLER/L

Internal grooving and threading head, for S-570 shank



Right hand (R) shown.

| Metric      | CWN | CWX | DMIN | DCONWS | LF   | WF | Insert      | Torque |
|-------------|-----|-----|------|--------|------|----|-------------|--------|
| HS40-FLER3W | 1   | 3   | 56.1 | 40     | 40.1 | 28 | FL*-3**L... | 3      |
| HS50-FLER3W | 1   | 3   | 70.1 | 50     | 41.9 | 35 | FL*-3**L... | 3      |

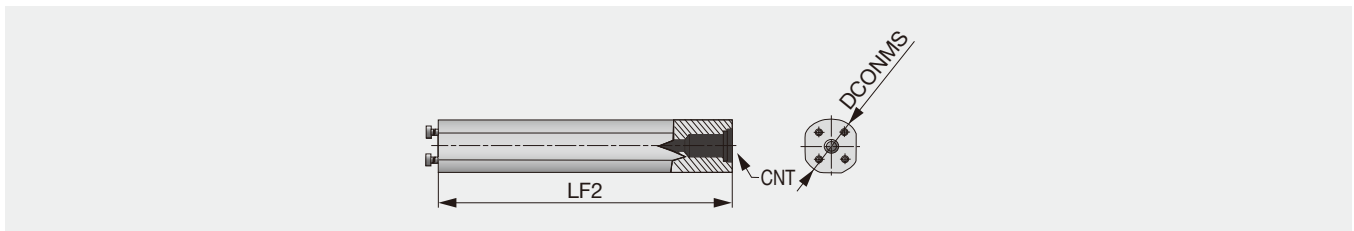
Note: Use right-hand toolholders (R) with left-hand inserts (L).  
Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation | Clamp | Clamping screw | Wrench  |
|-------------|-------|----------------|---------|
| HS**-FLER3W | TF-73 | S-412          | 5/32HEX |

## S-570

Steel shank for head exchangeable tools



| Metric       | DCONMS | LF2 | CNT       |
|--------------|--------|-----|-----------|
| S-570-40M-40 | 40     | 273 | 1/2-14NPT |
| S-570-50M-50 | 50     | 366 | 1/2-14NPT |

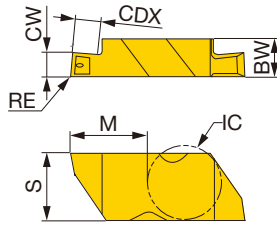
## SPARE PARTS

| Designation  | Clamping screw | Wrench  |
|--------------|----------------|---------|
| S-570-40M-40 | SS100          | 5/32HEX |
| S-570-50M-50 | SS94           | 1/4HEX  |

Reference pages: Inserts → **F169 - F176**, Standard cutting conditions → **F176**

# INSERTS

## FLG-CB (With chipbreaker, metric width)



|          |                |   |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

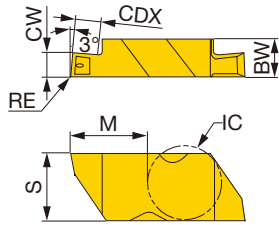
| Designation   | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|---------------|------|------------------|------------------|---------------|--------|--|--|--|-------------|------------|------------|-----------|-----------|
|               |      |                  |                  |               | AH110  |  |  |  |             |            |            |           |           |
| FLG-3M100R-CB | R    | 1                | 0.039            | 0.005 - 0.010 | ●      |  |  |  | 0.055       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M100L-CB | L    | 1                | 0.039            | 0.005 - 0.010 | ●      |  |  |  | 0.055       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M150R-CB | R    | 1.5              | 0.059            | 0.005 - 0.010 | ●      |  |  |  | 0.100       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M150L-CB | L    | 1.5              | 0.059            | 0.005 - 0.010 | ●      |  |  |  | 0.100       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M200R-CB | R    | 2                | 0.079            | 0.005 - 0.010 | ●      |  |  |  | 0.100       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M200L-CB | L    | 2                | 0.079            | 0.005 - 0.010 | ●      |  |  |  | 0.100       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M250R-CB | R    | 2.5              | 0.098            | 0.005 - 0.010 | ●      |  |  |  | 0.160       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M250L-CB | L    | 2.5              | 0.098            | 0.005 - 0.010 | ●      |  |  |  | 0.160       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M300R-CB | R    | 3                | 0.118            | 0.005 - 0.010 | ●      |  |  |  | 0.160       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3M300L-CB | L    | 3                | 0.118            | 0.005 - 0.010 | ●      |  |  |  | 0.160       | 0.3750     | 0.195      | 0.344     | 0.4050    |

● : Line up

Reference pages: Toolholders → **F167, F168**, Standard cutting conditions → **F176**



## FLG-CB (With chipbreaker)



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ☆ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

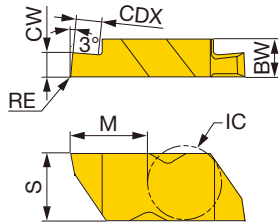
★ : First choice  
☆ : Second choice

| Designation  | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|--------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|              |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLG-2047R-CB | R    | 1.2              | 0.047            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2047L-CB | L    | 1.2              | 0.047            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2062R-CB | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2062L-CB | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2078R-CB | R    | 1.98             | 0.078            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2078L-CB | L    | 1.98             | 0.078            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2094R-CB | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2094L-CB | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2125R-CB | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-2125L-CB | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLG-3031R-CB | R    | 0.79             | 0.031            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3031L-CB | L    | 0.79             | 0.031            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3047R-CB | R    | 1.19             | 0.047            | 0.005 - 0.010 | ●      |  |  |  |  | 0.075       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3047L-CB | L    | 1.19             | 0.047            | 0.005 - 0.010 | ●      |  |  |  |  | 0.075       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3062R-CB | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3062L-CB | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3072R-CB | R    | 1.83             | 0.072            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3072L-CB | L    | 1.83             | 0.072            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3078R-CB | R    | 1.98             | 0.078            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3078L-CB | L    | 1.98             | 0.078            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3088R-CB | R    | 2.24             | 0.088            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3088L-CB | L    | 2.24             | 0.088            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3094R-CB | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3094L-CB | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3097R-CB | R    | 2.46             | 0.097            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3097L-CB | L    | 2.46             | 0.097            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3125R-CB | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3125L-CB | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3189R-CB | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLG-3189L-CB | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |

● : Line up

Reference pages: Toolholders → **F167, F168**, Standard cutting conditions → **F176**

**FLG**



|          |                |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

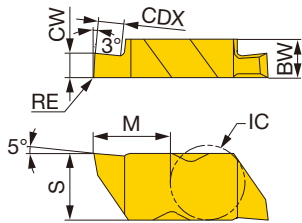
| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in)       | Coated |  |  |  |  |  | CDX (in) | IC (in) | BW (in) | S (in) | M (in) |
|-------------|------|---------------|---------------|---------------|--------|--|--|--|--|--|----------|---------|---------|--------|--------|
|             |      |               |               |               | AH110  |  |  |  |  |  |          |         |         |        |        |
| FLG-2031R   | R    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2031L   | L    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2041R   | R    | 1.04          | 0.041         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2041L   | L    | 1.04          | 0.041         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2047R   | R    | 1.19          | 0.047         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2047L   | L    | 1.19          | 0.047         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2058R   | R    | 1.47          | 0.058         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2058L   | L    | 1.47          | 0.058         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.050    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2062R   | R    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2062L   | L    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2094R   | R    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2094L   | L    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2125R   | R    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-2125L   | L    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.110    | 0.1875  | 0.150   | 0.219  | 0.2700 |
| FLG-3031R   | R    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3031L   | L    | 0.79          | 0.031         | 0.002 - 0.005 | ●      |  |  |  |  |  | 0.050    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3047R   | R    | 1.19          | 0.047         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.075    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3047L   | L    | 1.19          | 0.047         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.075    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3062R   | R    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3062L   | L    | 1.57          | 0.062         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3072R   | R    | 1.83          | 0.072         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3072L   | L    | 1.83          | 0.072         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3078R   | R    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3078L   | L    | 1.98          | 0.078         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.120    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3088R   | R    | 2.24          | 0.088         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3088L   | L    | 2.24          | 0.088         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3094R   | R    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3094L   | L    | 2.39          | 0.094         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3097R   | R    | 2.46          | 0.097         | 0.010 - 0.015 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3097L   | L    | 2.46          | 0.097         | 0.010 - 0.015 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3105R   | R    | 2.67          | 0.105         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3105L   | L    | 2.67          | 0.105         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3110R   | R    | 2.79          | 0.110         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3110L   | L    | 2.79          | 0.110         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3122R   | R    | 3.1           | 0.122         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3122L   | L    | 3.1           | 0.122         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3125R   | R    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3125L   | L    | 3.18          | 0.125         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3142R   | R    | 3.61          | 0.142         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3142L   | L    | 3.61          | 0.142         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3156R   | R    | 3.96          | 0.156         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3156L   | L    | 3.96          | 0.156         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3178R   | R    | 4.52          | 0.178         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3178L   | L    | 4.52          | 0.178         | 0.005 - 0.010 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3185R   | R    | 4.7           | 0.185         | 0.020 - 0.025 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3185L   | L    | 4.7           | 0.185         | 0.020 - 0.025 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3189R   | R    | 4.8           | 0.189         | 0.020 - 0.025 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3189L   | L    | 4.8           | 0.189         | 0.020 - 0.025 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.195   | 0.344  | 0.4050 |
| FLG-3250R   | R    | 6.35          | 0.250         | 0.020 - 0.025 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.250   | 0.344  | 0.4050 |
| FLG-3250L   | L    | 6.35          | 0.250         | 0.020 - 0.025 | ●      |  |  |  |  |  | 0.180    | 0.3750  | 0.250   | 0.344  | 0.4050 |

● : Line up

Reference pages: Toolholders → **F167, F168**, Standard cutting conditions → **F176**



## FLGP (Positive rake)



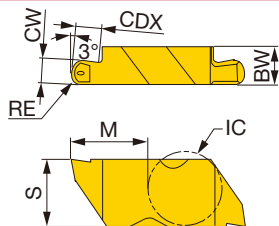
|   |                |   |  |  |  |  |
|---|----------------|---|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |
| S | Superalloys    | ☆ |  |  |  |  |
| H | Hard materials |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGP-2031R  | R    | 0.79             | 0.031            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2031L  | L    | 0.79             | 0.031            | 0.002 - 0.005 | ●      |  |  |  |  | 0.050       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2062R  | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2062L  | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-2125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2700    |
| FLGP-3047R  | R    | 1.19             | 0.047            | 0.005 - 0.010 | ●      |  |  |  |  | 0.075       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3047L  | L    | 1.19             | 0.047            | 0.005 - 0.010 | ●      |  |  |  |  | 0.075       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3062R  | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3062L  | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3088R  | R    | 2.24             | 0.088            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3088L  | L    | 2.24             | 0.088            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3094R  | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3094L  | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3156R  | R    | 3.96             | 0.156            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3156L  | L    | 3.96             | 0.156            | 0.005 - 0.010 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3189R  | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |
| FLGP-3189L  | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4050    |

● : Line up

## FLR-CB (Full nose radius, with chipbreaker)



|   |                |   |  |  |  |  |
|---|----------------|---|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |
| S | Superalloys    | ☆ |  |  |  |  |
| H | Hard materials |   |  |  |  |  |

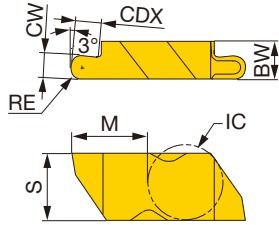
★ : First choice  
☆ : Second choice

| Designation  | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|--------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|              |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLR-3031R-CB | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3031L-CB | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3047R-CB | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3047L-CB | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3062R-CB | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLR-3062L-CB | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |

● : Line up

Reference pages: Toolholders → **F167, F168**, Standard cutting conditions → **F176**

## FLR (Full nose radius)



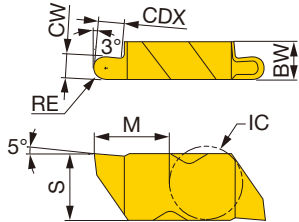
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLR-2031R   | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2683    |
| FLR-2031L   | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2683    |
| FLR-2047R   | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2675    |
| FLR-2047L   | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2675    |
| FLR-2062R   | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2667    |
| FLR-2062L   | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.110       | 0.1875     | 0.150      | 0.219     | 0.2667    |
| FLR-3031R   | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3031L   | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLR-3047R   | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3047L   | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLR-3062R   | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLR-3062L   | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLR-3078R   | R    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLR-3078L   | L    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLR-3094R   | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |
| FLR-3094L   | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |

● : Line up

## FLRP (Full nose radius and positive rake)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

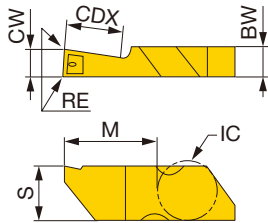
| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLRP-3031R  | R    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLRP-3031L  | L    | 1.57             | 0.062            | 0.031      | ●      |  |  |  |  | 0.125       | 0.3750     | 0.195      | 0.344     | 0.4033    |
| FLRP-3047R  | R    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLRP-3047L  | L    | 2.39             | 0.094            | 0.047      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4025    |
| FLRP-3062R  | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLRP-3062L  | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4017    |
| FLRP-3078R  | R    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLRP-3078L  | L    | 3.96             | 0.156            | 0.078      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4008    |
| FLRP-3094R  | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |
| FLRP-3094L  | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.180       | 0.3750     | 0.195      | 0.344     | 0.4000    |

● : Line up

Reference pages: Toolholders → **F167, F168**, Standard cutting conditions → **F176**



## FLGD-CB (Single edge deep, with chipbreaker)



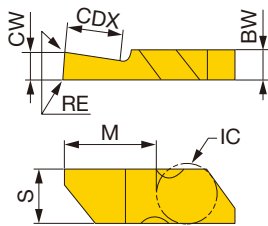
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|---------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|               |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGD-3094R-CB | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3094L-CB | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125R-CB | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125L-CB | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189R-CB | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189L-CB | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |

● : Line up

## FLGD (Single edge deep)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

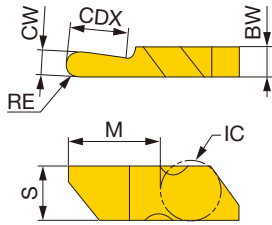
★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |
| FLGD-3062R  | R    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3062L  | L    | 1.57             | 0.062            | 0.005 - 0.010 | ●      |  |  |  |  | 0.120       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3094R  | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3094L  | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189R  | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |
| FLGD-3189L  | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  | 0.250       | 0.3750     | 0.195      | 0.344     | 0.5050    |

● : Line up

Reference pages: Toolholders → **F167, F168**, Standard cutting conditions → **F176**

## FLRD (Full nose radius, single edge deep)



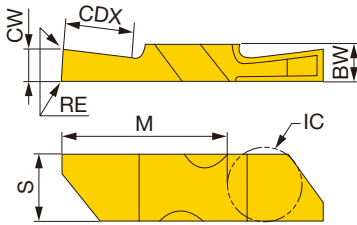
|          |                |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |        |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|--------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |        |
| FLRD-3062R  | R    | 3.19             | 0.125            | 0.062      | ●      |  |  |  |  |             | 0.250      | 0.3750     | 0.195     | 0.344     | 0.5016 |
| FLRD-3062L  | L    | 3.19             | 0.125            | 0.062      | ●      |  |  |  |  |             | 0.250      | 0.3750     | 0.195     | 0.344     | 0.5016 |
| FLRD-3094R  | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  |             | 0.250      | 0.3750     | 0.195     | 0.344     | 0.5016 |
| FLRD-3094L  | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  |             | 0.250      | 0.3750     | 0.195     | 0.344     | 0.5016 |

● : Line up

## FLGT (Double end deep)



|          |                |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

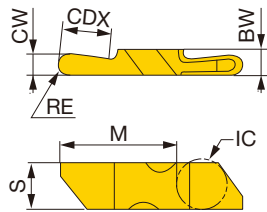
| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in)    | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |        |
|-------------|------|------------------|------------------|---------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|--------|
|             |      |                  |                  |               | AH110  |  |  |  |  |             |            |            |           |           |        |
| FLGT-3094R  | R    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  |             | 0.275      | 0.3750     | 0.195     | 0.344     | 0.8550 |
| FLGT-3094L  | L    | 2.39             | 0.094            | 0.005 - 0.010 | ●      |  |  |  |  |             | 0.275      | 0.3750     | 0.195     | 0.344     | 0.8550 |
| FLGT-3125R  | R    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  |             | 0.437      | 0.3750     | 0.195     | 0.344     | 0.8550 |
| FLGT-3125L  | L    | 3.18             | 0.125            | 0.005 - 0.010 | ●      |  |  |  |  |             | 0.437      | 0.3750     | 0.195     | 0.344     | 0.8550 |
| FLGT-3189R  | R    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  |             | 0.437      | 0.3750     | 0.195     | 0.344     | 0.8550 |
| FLGT-3189L  | L    | 4.8              | 0.189            | 0.020 - 0.025 | ●      |  |  |  |  |             | 0.437      | 0.3750     | 0.195     | 0.344     | 0.8550 |

\*Fits FLSLT/RT toolholders

● : Line up



## FLRT (Double end deep FNR)



|          |                |   |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | IC<br>(in) | BW<br>(in) | S<br>(in) | M<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|------------|-----------|-----------|
|             |      |                  |                  |            | AH110  |  |  |  |  |             |            |            |           |           |
| FLRT-3062R  | R    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLRT-3062L  | L    | 3.18             | 0.125            | 0.062      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLRT-3094R  | R    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |
| FLRT-3094L  | L    | 4.8              | 0.189            | 0.094      | ●      |  |  |  |  | 0.437       | 0.3750     | 0.195      | 0.344     | 0.8550    |

\*Fits FLSLT/RT toolholders

● : Line up

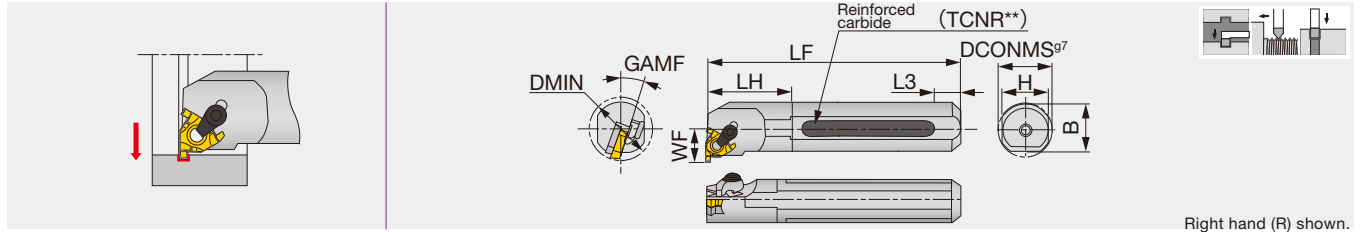
## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Grade | Application | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|-------------------------------------|-------|-------------|---------------------------|-----------------|
| <b>P</b> | High carbon steel<br>1045, etc.     | AH110 | Grooving    | 328 - 656                 | 0.005 - 0.014   |
|          | Alloy steel<br>4137, etc.           | AH110 | Grooving    | 164 - 262                 | 0.005 - 0.012   |
| <b>M</b> | Stainless steel<br>304, etc.        | AH110 | Grooving    | 164 - 492                 | 0.004 - 0.008   |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | AH110 | Grooving    | 164 - 591                 | 0.004 - 0.010   |
|          | Ductile cast iron<br>60-40-18, etc. | AH110 | Grooving    | 164 - 394                 | 0.004 - 0.010   |

Reference pages: Toolholders → **F167, F168**

# CNR/L

Internal threading and grooving toolholder (The -DT holders can be used either with the insert screw or top-clamp)



| Inch       | Material | CWN   | CWX   | DMIN  | DCONMS | H     | B     | LF     | LH    | WF    | L3 | GAMF | Insert     | Torque |
|------------|----------|-------|-------|-------|--------|-------|-------|--------|-------|-------|----|------|------------|--------|
| S12-CNR3DT | Steel    | 0.039 | 0.089 | 0.950 | 0.750  | 0.725 | 0.738 | 7.000  | 1.200 | 0.552 | -  | 15°  | GTGN-16... | 2.58   |
| S16-CNR3DT | Steel    | 0.039 | 0.089 | 1.150 | 1.000  | 0.906 | 0.953 | 8.000  | 1.500 | 0.652 | -  | 15°  | GTGN-16... | 2.58   |
| S20-CNR3DT | Steel    | 0.039 | 0.089 | 1.450 | 1.250  | 1.188 | 1.219 | 10.000 | 1.900 | 0.788 | -  | 15°  | GTGN-16... | 2.58   |

| Metric        | Material   | CWN | CWX  | DMIN | DCONMS | H  | B  | LF  | LH | WF   | L3 | GAMF | Insert     | Torque* |
|---------------|------------|-----|------|------|--------|----|----|-----|----|------|----|------|------------|---------|
| TCNR0020R16DT | Reinforced | 1   | 2.25 | 24   | 20     | 18 | -  | 200 | 30 | 14   | 49 | 15°  | GTGN-16... | 3.5     |
| TCNR0025S16DT | Reinforced | 1   | 2.25 | 29   | 25     | 23 | -  | 250 | 38 | 16.5 | 64 | 15°  | GTGN-16... | 3.5     |
| CNR/L0020P16  | Steel      | 1   | 2.25 | 24   | 20     | 18 | 19 | 170 | 30 | 14   | -  | 15°  | GTGN-16... | 3.5     |
| CNR/L0025R16  | Steel      | 1   | 2.25 | 29   | 25     | 23 | 24 | 200 | 38 | 16.5 | -  | 15°  | GTGN-16... | 3.5     |
| CNR/L0032S16  | Steel      | 1   | 2.25 | 37   | 32     | 30 | 31 | 250 | 48 | 20.1 | -  | 15°  | GTGN-16... | 3.5     |

Note: A clamp set consists of a clamp and a clamping screw.

A shim set consists of a shim and a shim screw to secure the shim to the toolholder.

Use right-hand toolholders (T/CNR...) with right-hand inserts (\*\*IR...); and left-hand toolholders (T/CNL...) with left-hand inserts (\*\*IL...).

Standard shims can be used on both right- and left-hand toolholders. Please use either of the sides depending on the tool hand.

When using grooving inserts, please use shims for grooving. Shims for grooving inserts are sold separately.

Torque: Recommended clamping torque: lbs-ft (\*N·m)

## SPARE PARTS

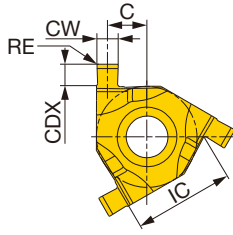
| Designation   | Clamp set | Clamping screw | Shim screw | Shim (Optional) | Wrench1 | Wrench2 |
|---------------|-----------|----------------|------------|-----------------|---------|---------|
| S**-CNR3DT    | CSP16     | CSTB-3.5ST     | DTS5-3.5   | G16EL/IR-DT     | P-3.5   | T-15F   |
| TCNR002**16DT | CSP16     | CSTB-3.5ST     | DTS5-3.5   | G16EL/IR-DT     | P-3.5   | T-15F   |
| CNR00****16   | CSP16     | -              | -          | G16EL/IR-S      | -       | T-15F   |
| CNL00****16   | CSP16     | -              | -          | G16ER/IL-S      | -       | T-15F   |

Reference pages: Inserts, Standard cutting conditions → **F178**



# INSERT

## GTGN16



ER/IL shown.

|          |                |   |  |  |
|----------|----------------|---|--|--|
| <b>P</b> | Steel          | ★ |  |  |
| <b>M</b> | Stainless      | ★ |  |  |
| <b>K</b> | Cast iron      |   |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |
| <b>H</b> | Hard materials |   |  |  |

★ : First choice  
☆ : Second choice

| Designation     | HAND<br>(Internal) | CW±0.03<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | Insert<br>size | CDX<br>(in) | IC<br>(in) | C<br>(in) | Shim  |                        |
|-----------------|--------------------|-----------------|------------------|------------|--------|--|----------------|-------------|------------|-----------|---|------------------------|
|                 |                    |                 |                  |            | SH730  |  |                |             |            |           | Dual-clamp<br>toolholder:<br>screw-on and<br>clamp-on | Clamp-on<br>toolholder |
| GTGN-16ER/IL100 | L                  | 1               | 0.039            | 0.004      | ●      |  | 16             | 0.049       | 0.375      | 0.166     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR100 | R                  | 1               | 0.039            | 0.004      | ●      |  | 16             | 0.049       | 0.375      | 0.166     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL120 | L                  | 1.2             | 0.047            | 0.004      | ●      |  | 16             | 0.051       | 0.375      | 0.162     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR120 | R                  | 1.2             | 0.047            | 0.004      | ●      |  | 16             | 0.051       | 0.375      | 0.162     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL140 | L                  | 1.4             | 0.055            | 0.004      | ●      |  | 16             | 0.059       | 0.375      | 0.158     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR140 | R                  | 1.4             | 0.055            | 0.004      | ●      |  | 16             | 0.059       | 0.375      | 0.158     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL170 | L                  | 1.7             | 0.067            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.144     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR170 | R                  | 1.7             | 0.067            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.144     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL195 | L                  | 1.95            | 0.077            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.148     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR195 | R                  | 1.95            | 0.077            | 0.004      | ●      |  | 16             | 0.067       | 0.375      | 0.148     | G16EL/IR-DT   | G16EL/IR-S             |
| GTGN-16ER/IL225 | L                  | 2.25            | 0.089            | 0.004      | ●      |  | 16             | 0.071       | 0.375      | 0.142     | G16ER/IL-DT   | G16ER/IL-S             |
| GTGN-16EL/IR225 | R                  | 2.25            | 0.089            | 0.004      | ●      |  | 16             | 0.071       | 0.375      | 0.142     | G16EL/IR-DT   | G16EL/IR-S             |

Note: GTGN insert can be used for both external and internal machining, but the tool hand is reversed.  
Shim for GTGN depends on the toolholder type.

● : Line up

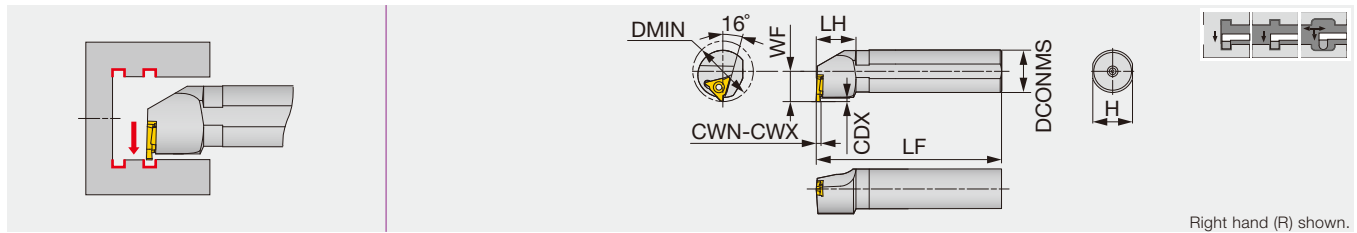
## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material  | Grade | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|-------|---------------------------|-----------------|
| <b>P</b> | Steel<br>1045, 4140, etc.                                       | SH730 | 164 - 492                 | 0.002 - 0.004   |
| <b>M</b> | Stainless steel<br>304, 316, etc.                               | SH730 | 98 - 492                  | 0.002 - 0.004   |
| <b>S</b> | Heat-resistant alloys, Titanium alloys, etc.<br>Ti-6Al-4V, etc. | SH730 | 98 - 328                  | 0.002 - 0.004   |

Reference pages: Toolholders → [F177](#)

# S-SGTR/L

## Internal grooving



Right hand (R) shown.

| Inch          | CWN   | CWX   | DMIN | CDX   | DCONMS | H     | LF   | LH   | WF    | Insert     | Torque  |
|---------------|-------|-------|------|-------|--------|-------|------|------|-------|------------|---------|
| S16R-SGTR/L3  | 0.013 | 0.098 | 1.38 | 0.100 | 1.00   | 0.910 | 7.78 | 1.18 | 0.690 | GBL/R32... | 2.58    |
| Metric        | CWN   | CWX   | DMIN | CDX   | DCONMS | H     | LF   | LH   | WF    | Insert     | Torque* |
| S25R-SGTR/L16 | 0.33  | 2.5   | 35   | 2     | 25     | 23    | 200  | 30   | 17.5  | GBL/R32... | 3.5     |
| S32S-SGTR/L22 | 1.25  | 4.5   | 40   | 2.5   | 32     | 30    | 250  | 30   | 23    | GBL/R43... | 5       |

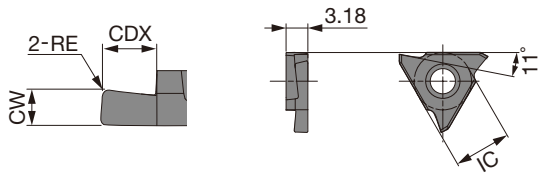
Use right-hand toolholders (SGTR) with left-hand inserts (GBL); and left-hand toolholders (SGTL) with right-hand inserts (GBR).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation                    | Clamping screw | Wrench |
|--------------------------------|----------------|--------|
| S16R-SGTR/L3,<br>S25R-SGTR/L16 | CSTB-4S        | T-15F  |
| S32S-SGTR/L22                  | CSTB-5S        | T-20F  |

## INSERTS

### GBR/L32



Right hand (R) shown.  
Unit: mm

|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ | ★ | ★ | ★ | ★ | ★ |
| Stainless      | ★ | ★ | ★ | ★ | ★ | ★ |
| Cast iron      | ★ | ★ | ☆ | ★ | ★ | ★ |
| Non-ferrous    | ★ | ★ | ★ | ★ | ★ | ★ |
| Superalloys    | ★ | ★ | ★ | ★ | ★ | ★ |
| Hard materials | ★ | ★ | ★ | ★ | ★ | ★ |

★ : First choice  
☆ : Second choice

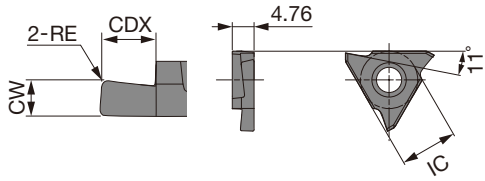
| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  | Cermet |  |  | Uncoated |  |  | CDX (in) | IC (mm) |
|-------------|------|---------------|---------------|---------|--------|--|--|--------|--|--|----------|--|--|----------|---------|
|             |      |               |               |         | AH710  |  |  | NS9530 |  |  | KS05F    |  |  |          |         |
| GBR32033    | R    | 0.33          | 0.013         | 0.0012  | ●      |  |  | ●      |  |  |          |  |  | 0.031    | 9.53    |
| GBL32033    | L    | 0.33          | 0.013         | 0.0012  | ●      |  |  |        |  |  |          |  |  | 0.031    | 9.53    |
| GBR32050    | R    | 0.5           | 0.020         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.047    | 9.53    |
| GBL32050    | L    | 0.5           | 0.020         | 0.002   | ●      |  |  |        |  |  |          |  |  | 0.047    | 9.53    |
| GBR32075    | R    | 0.75          | 0.030         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBL32075    | L    | 0.75          | 0.030         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32095    | R    | 0.95          | 0.037         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBL32095    | L    | 0.95          | 0.037         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32100    | R    | 1             | 0.039         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBL32100    | L    | 1             | 0.039         | 0.002   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32125    | R    | 1.25          | 0.049         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBL32125    | L    | 1.25          | 0.049         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32145    | R    | 1.45          | 0.057         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBL32145    | L    | 1.45          | 0.057         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32150    | R    | 1.5           | 0.059         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBL32150    | L    | 1.5           | 0.059         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.079    | 9.53    |
| GBR32200    | R    | 2             | 0.079         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.098    | 9.53    |
| GBL32200    | L    | 2             | 0.079         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.098    | 9.53    |
| GBR32250    | R    | 2.5           | 0.098         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.098    | 9.53    |
| GBL32250    | L    | 2.5           | 0.098         | 0.008   | ●      |  |  | ●      |  |  |          |  |  | 0.098    | 9.53    |

● : Line up

Reference pages: Inserts → **F179 - F181**, Standard cutting conditions → **F181**



# GBR/L43



|   |                |   |  |   |  |  |  |   |  |  |  |  |
|---|----------------|---|--|---|--|--|--|---|--|--|--|--|
| P | Steel          | ★ |  | ★ |  |  |  |   |  |  |  |  |
| M | Stainless      | ★ |  |   |  |  |  |   |  |  |  |  |
| K | Cast iron      | ★ |  | ☆ |  |  |  |   |  |  |  |  |
| N | Non-ferrous    |   |  |   |  |  |  | ★ |  |  |  |  |
| S | Superalloys    | ☆ |  |   |  |  |  | ☆ |  |  |  |  |
| H | Hard materials |   |  |   |  |  |  |   |  |  |  |  |

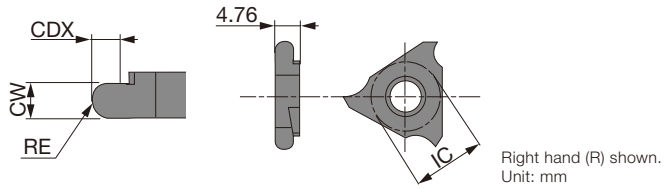
★ : First choice  
☆ : Second choice



| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  | Cermet |  | Uncoated |  | CDX (in) | IC (mm) |
|-------------|------|---------------|---------------|---------|--------|--|--------|--|----------|--|----------|---------|
|             |      |               |               |         | AH710  |  | NS9530 |  | KS05F    |  |          |         |
| GBR43125    | R    | 1.25          | 0.049         | 0.008   | ●      |  | ●      |  | ●        |  | 0.079    | 12.7    |
| GBL43125    | L    | 1.25          | 0.049         | 0.008   | ●      |  |        |  |          |  | 0.079    | 12.7    |
| GBR43145    | R    | 1.45          | 0.057         | 0.008   | ●      |  | ●      |  | ●        |  | 0.079    | 12.7    |
| GBL43145    | L    | 1.45          | 0.057         | 0.008   | ●      |  |        |  |          |  | 0.079    | 12.7    |
| GBR43150    | R    | 1.50          | 0.059         | 0.008   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43150    | L    | 1.50          | 0.059         | 0.008   | ●      |  | ●      |  |          |  | 0.138    | 12.7    |
| GBR43175    | R    | 1.75          | 0.069         | 0.008   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43175    | L    | 1.75          | 0.069         | 0.008   | ●      |  | ●      |  |          |  | 0.138    | 12.7    |
| GBR43185    | R    | 1.85          | 0.073         | 0.008   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43185    | L    | 1.85          | 0.073         | 0.008   | ●      |  | ●      |  |          |  | 0.138    | 12.7    |
| GBR43200    | R    | 2             | 0.079         | 0.008   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43200    | L    | 2             | 0.079         | 0.008   | ●      |  | ●      |  |          |  | 0.138    | 12.7    |
| GBR43230    | R    | 2.3           | 0.091         | 0.008   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43230    | L    | 2.3           | 0.091         | 0.008   | ●      |  | ●      |  |          |  | 0.138    | 12.7    |
| GBR43250    | R    | 2.5           | 0.098         | 0.012   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43250    | L    | 2.5           | 0.098         | 0.012   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43265    | R    | 2.65          | 0.104         | 0.012   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43265    | L    | 2.65          | 0.104         | 0.012   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43280    | R    | 2.8           | 0.110         | 0.012   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43280    | L    | 2.8           | 0.110         | 0.012   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43300    | R    | 3             | 0.118         | 0.012   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43300    | L    | 3             | 0.118         | 0.012   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43330    | R    | 3.3           | 0.130         | 0.012   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43330    | L    | 3.3           | 0.130         | 0.012   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43350    | R    | 3.5           | 0.138         | 0.012   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43350    | L    | 3.5           | 0.138         | 0.012   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43400    | R    | 4             | 0.157         | 0.016   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43400    | L    | 4             | 0.157         | 0.016   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43430    | R    | 4.3           | 0.169         | 0.016   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43430    | L    | 4.3           | 0.169         | 0.016   | ●      |  |        |  |          |  | 0.197    | 12.7    |
| GBR43450    | R    | 4.5           | 0.177         | 0.016   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43450    | L    | 4.5           | 0.177         | 0.016   | ●      |  |        |  |          |  | 0.197    | 12.7    |

● : Line up

## GBR/L43-R (full radius)



|          |                |   |  |   |  |  |  |   |  |  |  |
|----------|----------------|---|--|---|--|--|--|---|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |   |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |  |   |  |  |  |
| <b>K</b> | Cast iron      | ★ |  | ☆ |  |  |  |   |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  | ★ |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |   |  |  |  | ☆ |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |   |  |  |  |

★ : First choice  
☆ : Second choice

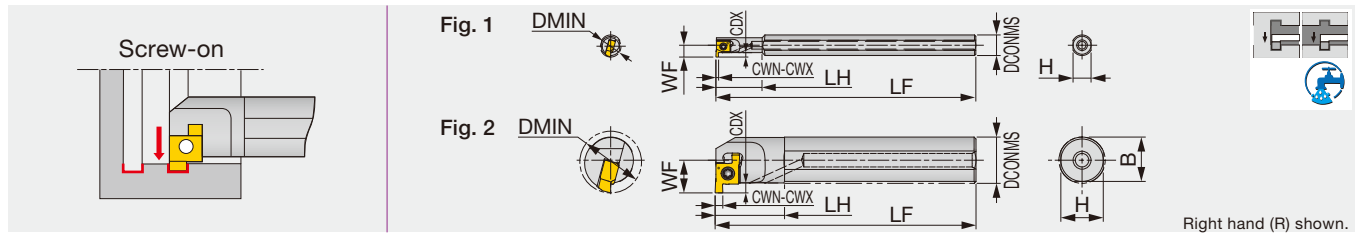
| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  | Cermet |  | Uncoated |  | CDX (in) | IC (mm) |
|-------------|------|---------------|---------------|---------|--------|--|--------|--|----------|--|----------|---------|
|             |      |               |               |         | AH710  |  | NS9530 |  | KS05F    |  |          |         |
| GBR43050R   | R    | 1             | 0.039         | 0.020   | ●      |  | ●      |  | ●        |  | 0.079    | 12.7    |
| GBL43050R   | L    | 1             | 0.039         | 0.020   | ●      |  |        |  | ●        |  | 0.079    | 12.7    |
| GBR43075R   | R    | 1.5           | 0.059         | 0.030   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43075R   | L    | 1.5           | 0.059         | 0.030   | ●      |  |        |  | ●        |  | 0.138    | 12.7    |
| GBR43100R   | R    | 2             | 0.079         | 0.039   | ●      |  | ●      |  | ●        |  | 0.138    | 12.7    |
| GBL43100R   | L    | 2             | 0.079         | 0.039   | ●      |  |        |  | ●        |  | 0.138    | 12.7    |
| GBR43125R   | R    | 2.5           | 0.098         | 0.049   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43125R   | L    | 2.5           | 0.098         | 0.049   | ●      |  |        |  | ●        |  | 0.197    | 12.7    |
| GBR43150R   | R    | 3             | 0.118         | 0.059   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43150R   | L    | 3             | 0.118         | 0.059   | ●      |  |        |  | ●        |  | 0.197    | 12.7    |
| GBR43200R   | R    | 4             | 0.157         | 0.079   | ●      |  | ●      |  | ●        |  | 0.197    | 12.7    |
| GBL43200R   | L    | 4             | 0.157         | 0.079   | ●      |  |        |  | ●        |  | 0.197    | 12.7    |

● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                                      | Hardness                                    | Grade  | Cutting speed Vc (sfm) | Feed f (ipr)  |
|----------|---|---|--------|------------------------|---------------|
| <b>P</b> | Carbon steels, Alloy steels<br>1045, etc.<br>4140, etc. | 150 - 240HB                                 | NS9530 | 328 - 656              | 0.001 - 0.010 |
|          |   | 150 - 240HB                                 | AH710  | 197 - 492              | 0.002 - 0.010 |
| <b>M</b> | Stainless steel<br>304, etc.                            | ≤ 240HB                                     | AH710  | 197 - 492              | 0.002 - 0.006 |
| <b>K</b> | Cast irons<br>No.250B, etc.                             | Tensile strength<br>≤ 350 N/mm <sup>2</sup> | AH710  | 197 - 492              | 0.002 - 0.006 |
| <b>N</b> | Non-ferrous metal<br>Aluminum, etc.                     | -   | KS05F  | 656 - 984              | 0.002 - 0.006 |

Reference pages: Toolholders → **F179**



| Metric           | Material | CWN | CWX | DMIN | CDX | DCONMS | H   | B    | LF    | LH | WF   | Insert          | Torque | Fig. |
|------------------|----------|-----|-----|------|-----|--------|-----|------|-------|----|------|-----------------|--------|------|
| A08H-SNGR06-D080 | Steel    | 1   | 2   | 8    | 1.5 | 8      | 7   | -    | 100   | 18 | 4.73 | 6GMR..., 6GR... | 0.7    | 1    |
| A08H-SNGR07-D100 | Steel    | 1   | 2   | 10   | 1.5 | 8      | 7   | -    | 100   | 23 | 5.8  | 7GMR..., 7GR... | 1.0    | 1    |
| A10K-SNGR07-D120 | Steel    | 1   | 2   | 12   | 1.5 | 10     | 9   | -    | 125   | 29 | 6.8  | 7GMR..., 7GR... | 1.0    | 1    |
| A10K-SNGR08-D140 | Steel    | 1.5 | 3.5 | 14   | 2   | 10     | 9   | -    | 125   | 15 | 7.6  | 8GMR..., 8GR... | 1.0    | 2    |
| A12M-SNGR08-D160 | Steel    | 1.5 | 3.5 | 16   | 2   | 12     | 11  | 11.5 | 150   | 18 | 8.6  | 8GMR..., 8GR... | 1.0    | 2    |
| A16Q-SNGR09-D200 | Steel    | 1.5 | 3.5 | 20   | 3   | 16     | 15  | 15.5 | 180   | 20 | 11.6 | 9GMR..., 9GR... | 1.3    | 2    |
| A20R-SNGR09-D240 | Steel    | 1.5 | 3.5 | 24   | 3   | 20     | 18  | 19   | 200   | 25 | 13.6 | 9GMR..., 9GR... | 1.3    | 2    |
| E08X-SNGR07-D100 | Carbide  | 1   | 2   | 10   | 1.5 | 8      | 7.5 | -    | 120.5 | 35 | 5.8  | 7GMR..., 7GR... | 1.0    | 1    |
| E10X-SNGR07-D120 | Carbide  | 1   | 2   | 12   | 1.5 | 10     | 9   | -    | 143.5 | 45 | 6.8  | 7GMR..., 7GR... | 1.0    | 1    |
| E10X-SNGR08-D140 | Carbide  | 1.5 | 3.5 | 14   | 2   | 10     | 9   | -    | 146   | -  | 7.6  | 8GMR..., 8GR... | 1.0    | 2    |
| E12X-SNGR08-D160 | Carbide  | 1.5 | 3.5 | 16   | 2   | 12     | 11  | -    | 174.8 | -  | 8.6  | 8GMR..., 8GR... | 1.0    | 2    |
| E16X-SNGR09-D200 | Carbide  | 1.5 | 3.5 | 20   | 3   | 16     | 15  | -    | 194.6 | -  | 11.6 | 9GMR..., 9GR... | 1.5    | 2    |

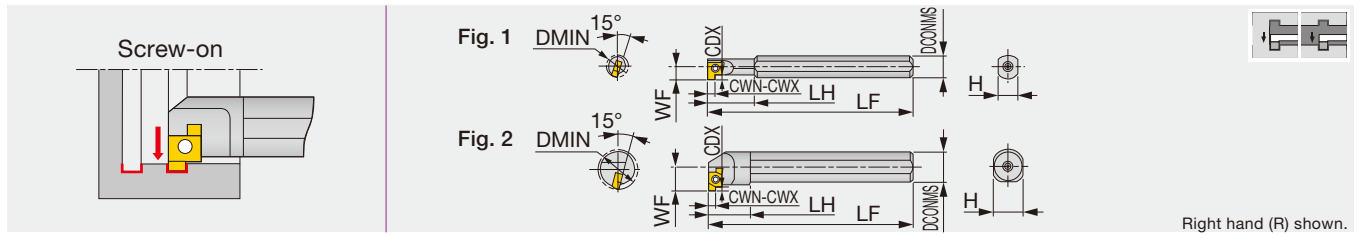
Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR).  
Torque: Recommended clamping torque: N·m

#### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| A**-SNGR06-D... | CSTB-2L040     | T-6F   |
| A**-SNGR07-D... | CSTB-2.2S      | T-7F   |
| A**-SNGR08-D... | CSTB-2.2       | T-7F   |
| A**-SNGR09-D... | CSTB-2.5L080   | T-8F   |
| E**-SNGR07-D... | CSTB-2.2S      | T-7F   |
| E**-SNGR08-D... | CSTB-2.2       | T-7F   |
| E**-SNGR09-D... | CSTB-2.5L080   | T-8F   |

# SNGR/L

## Toolholders for internal grooving



| Metric        | Material | CWN | CWX | DMIN | CDX | DCONMS | H  | LF  | LH | WF   | Insert            | Torque | Fig. |
|---------------|----------|-----|-----|------|-----|--------|----|-----|----|------|-------------------|--------|------|
| SNGR/L08H06   | Steel    | 1   | 2   | 8    | 1.5 | 8      | 7  | 100 | 18 | 4.7  | 6GMR..., 6GR/L... | 0.7    | 1    |
| SNGR/L08H07   | Steel    | 1   | 2   | 10   | 1.5 | 8      | 7  | 100 | 23 | 5.8  | 7GMR..., 7GR/L... | 1.0    | 1    |
| SNGR/L10K07   | Steel    | 1   | 2   | 12   | 1.5 | 10     | 9  | 125 | 29 | 6.8  | 7GMR..., 7GR/L... | 1.0    | 1    |
| SNGR/L10K08   | Steel    | 1.5 | 3.5 | 14   | 2   | 10     | 9  | 125 | 15 | 7.6  | 8GMR..., 8GR/L... | 1.0    | 2    |
| SNGR/L12M08   | Steel    | 1.5 | 3.5 | 16   | 2   | 12     | 11 | 150 | 18 | 8.6  | 8GMR..., 8GR/L... | 1.0    | 2    |
| SNGR/L16Q09   | Steel    | 1.5 | 3.5 | 20   | 3   | 16     | 15 | 180 | 20 | 11.6 | 9GMR..., 9GR/L... | 1.3    | 2    |
| SNGR/L20R09   | Steel    | 1.5 | 3.5 | 24   | 3   | 20     | 18 | 200 | 25 | 13.6 | 9GMR..., 9GR/L... | 1.3    | 2    |
| SNGR/L08K06SC | Carbide  | 1   | 2   | 8    | 1.5 | 8      | 7  | 125 | 28 | 4.7  | 6GMR..., 6GR/L... | 0.7    | 1    |
| SNGR/L08K07SC | Carbide  | 1   | 2   | 10   | 1.5 | 8      | 7  | 125 | 35 | 5.8  | 7GMR..., 7GR/L... | 1.0    | 1    |
| SNGR/L10M07SC | Carbide  | 1   | 2   | 12   | 1.5 | 10     | 9  | 150 | 45 | 6.8  | 7GMR..., 7GR/L... | 1.0    | 1    |
| SNGR/L10M08SC | Carbide  | 1.5 | 3.5 | 14   | 2   | 10     | 9  | 150 | 45 | 7.6  | 8GMR..., 8GR/L... | 1.0    | 2    |
| SNGR/L12Q08SC | Carbide  | 1.5 | 3.5 | 16   | 2   | 12     | 11 | 180 | -  | 8.6  | 8GMR..., 8GR/L... | 1.0    | 2    |
| SNGR/L16R09SC | Carbide  | 1.5 | 3.5 | 20   | 3   | 16     | 15 | 200 | -  | 11.6 | 9GMR..., 9GR/L... | 1.5    | 2    |

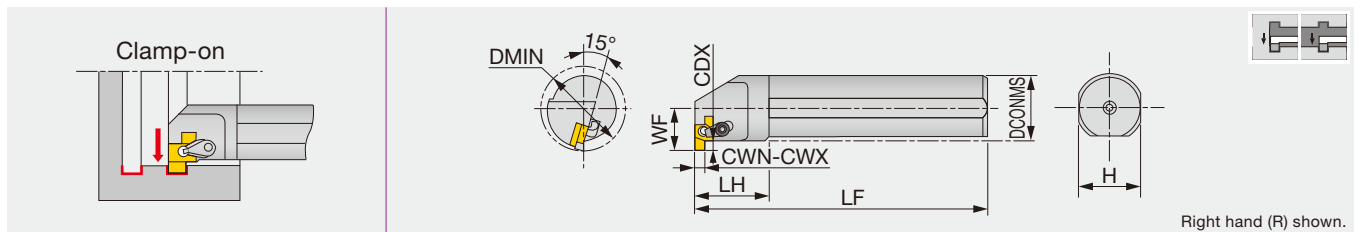
Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR), and use the left-hand insert (□GL) with the left-hand holder (□NGL).  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation   | Clamping screw | Wrench |
|---------------|----------------|--------|
| SNGR/L***06   | CSTB-2L040     | T-6F   |
| SNGR/L***07   | CSTB-2.2S      | T-7F   |
| SNGR/L***08   | CSTB-2.2       | T-7F   |
| SNGR/L***09   | CSTB-2.5L080   | T-8F   |
| SNGR/L***06SC | CSTB-2L040     | T-6F   |
| SNGR/L***07SC | CSTB-2.2S      | T-7F   |
| SNGR/L***08SC | CSTB-2.2       | T-7F   |
| SNGR/L***09SC | CSTB-2.5L080   | T-8F   |

# CNGR/L

## Toolholders for internal grooving



| Metric      | CWN | CWX | DMIN | CDX | DCONMS | H  | LF  | LH | WF   | Insert    | Torque |
|-------------|-----|-----|------|-----|--------|----|-----|----|------|-----------|--------|
| CNGR/L25S15 | 2   | 5   | 32   | 5   | 25     | 23 | 250 | 30 | 18.1 | 15GR/L... | 7      |
| CNGR/L32T15 | 2   | 5   | 40   | 5   | 32     | 30 | 300 | 35 | 22.1 | 15GR/L... | 7      |
| CNGR/L40U15 | 2   | 5   | 48   | 5   | 40     | 38 | 350 | 45 | 26.1 | 15GR/L... | 7      |

Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR), and use the left-hand insert (□GL) with the left-hand holder (□NGL).  
Torque: Recommended clamping torque: N·m

### Optional parts for CNG holders

Use the following parts for screw clamp options.

### SPARE PARTS

| Designation | Clamp set | Screw    | Shim    | Wrench |
|-------------|-----------|----------|---------|--------|
| CNGR...     | CSP22     | DTS5-3.5 | SGSR151 | T-20F  |
| CNGL...     | CSP22     | DTS5-3.5 | SGSL151 | T-20F  |

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CNGR/L...   | CSTB-3.5L      | T-15F  |

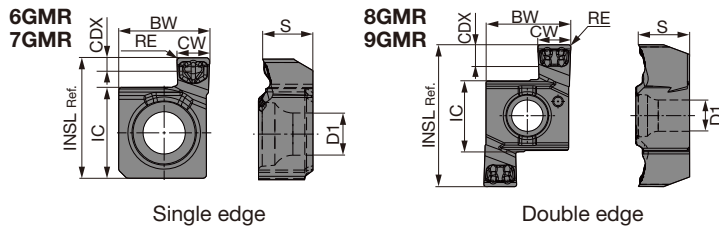
Reference pages: Inserts → **F184, F185**, Standard cutting conditions → **F186**





# INSERTS

\*\*GMR/L



Right hand (R) shown.

|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

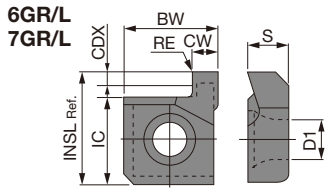
| Designation | HAND | CW±0.001<br>(in) | CW±0.025<br>(mm) | RE<br>(mm) | Coated |  |  |  |  | CDX<br>(mm) | BW<br>(in) | S<br>(in) | IC<br>(in) | INSL<br>(in) | D1<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|-------------|------------|-----------|------------|--------------|------------|
|             |      |                  |                  |            | AH7025 |  |  |  |  |             |            |           |            |              |            |
| 6GMR100-015 | R    | 0.039            | 1                | 0.15       | ●      |  |  |  |  | 1.5         | 0.219      | 0.092     | 0.187      | 0.254        | 0.091      |
| 7GMR200-020 | R    | 0.079            | 2                | 0.2        | ●      |  |  |  |  | 1.5         | 0.219      | 0.121     | 0.219      | 0.290        | 0.102      |
| 8GMR150-020 | R    | 0.059            | 1.5              | 0.2        | ●      |  |  |  |  | 2           | 0.242      | 0.152     | 0.219      | 0.400        | 0.102      |
| 9GMR200-020 | R    | 0.079            | 2                | 0.2        | ●      |  |  |  |  | 3           | 0.305      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GMR300-020 | R    | 0.118            | 3                | 0.2        | ●      |  |  |  |  | 3           | 0.305      | 0.183     | 0.250      | 0.510        | 0.113      |

● : Line up

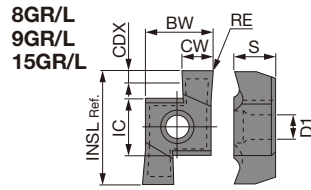


Reference pages: Toolholders → **F182, F183**, Standard cutting conditions → **F186**

**\*\*GR/L**



Single edge



Double edge

Right hand (R) shown.

|   |                |   |  |  |  |   |  |
|---|----------------|---|--|--|--|---|--|
| P | Steel          | ★ |  |  |  | ★ |  |
| M | Stainless      |   |  |  |  | ★ |  |
| K | Cast iron      | ☆ |  |  |  | ★ |  |
| N | Non-ferrous    |   |  |  |  | ★ |  |
| S | Superalloys    |   |  |  |  | ☆ |  |
| H | Hard materials |   |  |  |  |   |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.001 (in) | CW±0.025 (mm) | RE (mm) | Cermet |  | Uncoated |      | CDX (mm) | BW (in) | S (in) | IC (in) | INSL (in) | D1 (in) |
|-------------|------|---------------|---------------|---------|--------|--|----------|------|----------|---------|--------|---------|-----------|---------|
|             |      |               |               |         | NS9530 |  | TH10     | UX30 |          |         |        |         |           |         |
| 6GR100      | R    | 0.039         | 1             | 0.2     | ●      |  | ●        | ●    | 1.5      | 0.220   | 0.092  | 0.187   | 0.254     | 0.098   |
| 6GL100      | L    | 0.039         | 1             | 0.2     |        |  | ●        | ●    | 1.5      | 0.220   | 0.092  | 0.187   | 0.254     | 0.098   |
| 6GR150      | R    | 0.059         | 1.5           | 0.2     | ●      |  | ●        | ●    | 1.5      | 0.220   | 0.092  | 0.187   | 0.254     | 0.098   |
| 6GL150      | L    | 0.059         | 1.5           | 0.2     |        |  | ●        | ●    | 1.5      | 0.220   | 0.092  | 0.187   | 0.254     | 0.098   |
| 6GR200      | R    | 0.079         | 2             | 0.2     | ●      |  | ●        | ●    | 1.5      | 0.220   | 0.092  | 0.187   | 0.254     | 0.098   |
| 6GL200      | L    | 0.079         | 2             | 0.2     |        |  | ●        | ●    | 1.5      | 0.220   | 0.092  | 0.187   | 0.254     | 0.098   |
| 7GR100      | R    | 0.039         | 1             | 0.2     | ●      |  | ●        | ●    | 1.5      | 0.220   | 0.121  | 0.219   | 0.290     | 0.102   |
| 7GR150      | R    | 0.059         | 1.5           | 0.2     | ●      |  | ●        | ●    | 1.5      | 0.220   | 0.121  | 0.219   | 0.290     | 0.102   |
| 7GR200      | R    | 0.079         | 2             | 0.2     | ●      |  | ●        | ●    | 1.5      | 0.220   | 0.121  | 0.219   | 0.290     | 0.102   |
| 7GL200      | L    | 0.079         | 2             | 0.2     |        |  | ●        | ●    | 1.5      | 0.220   | 0.121  | 0.219   | 0.290     | 0.102   |
| 8GR150      | R    | 0.059         | 1.5           | 0.2     | ●      |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GR200      | R    | 0.079         | 2             | 0.2     | ●      |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GL200      | L    | 0.079         | 2             | 0.2     |        |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GR250      | R    | 0.098         | 2.5           | 0.2     | ●      |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GL250      | L    | 0.098         | 2.5           | 0.2     |        |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GR300      | R    | 0.118         | 3             | 0.2     | ●      |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GL300      | L    | 0.118         | 3             | 0.2     |        |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 8GR350      | R    | 0.138         | 3.5           | 0.2     | ●      |  | ●        | ●    | 2        | 0.244   | 0.152  | 0.219   | 0.400     | 0.102   |
| 9GR150      | R    | 0.059         | 1.5           | 0.2     | ●      |  | ●        | ●    | 2        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GL150      | L    | 0.059         | 1.5           | 0.2     | ●      |  | ●        | ●    | 2        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GR200      | R    | 0.079         | 2             | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GL200      | L    | 0.079         | 2             | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GR250      | R    | 0.098         | 2.5           | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GL250      | L    | 0.098         | 2.5           | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GR300      | R    | 0.118         | 3             | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GL300      | L    | 0.118         | 3             | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GR350      | R    | 0.138         | 3.5           | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 9GL350      | L    | 0.138         | 3.5           | 0.2     | ●      |  | ●        | ●    | 3        | 0.303   | 0.183  | 0.250   | 0.510     | 0.114   |
| 15GR200     | R    | 0.079         | 2             | 0.2     | ●      |  | ●        | ●    | 3        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GR250     | R    | 0.098         | 2.5           | 0.2     | ●      |  | ●        | ●    | 3        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GR300     | R    | 0.118         | 3             | 0.2     | ●      |  | ●        | ●    | 3        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GL300     | L    | 0.118         | 3             | 0.2     |        |  | ●        | ●    | 3        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GR350     | R    | 0.138         | 3.5           | 0.2     | ●      |  | ●        | ●    | 3        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GR400     | R    | 0.157         | 4             | 0.2     | ●      |  | ●        | ●    | 4        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GR450     | R    | 0.177         | 4.5           | 0.2     | ●      |  | ●        | ●    | 4        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GL450     | L    | 0.177         | 4.5           | 0.2     |        |  | ●        | ●    | 4        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |
| 15GR500     | R    | 0.197         | 5             | 0.2     | ●      |  | ●        | ●    | 5        | 0.425   | 0.201  | 0.362   | 0.819     | 0.189   |

Note: Use right-hand holder (□NGR ~) with right-hand insert (□GR ~); and left-hand holder (□NGL ~) with left-hand insert (□GL ~). ● : Line up

Reference pages: Toolholders → **F182, F183**, Standard cutting conditions → **F186**

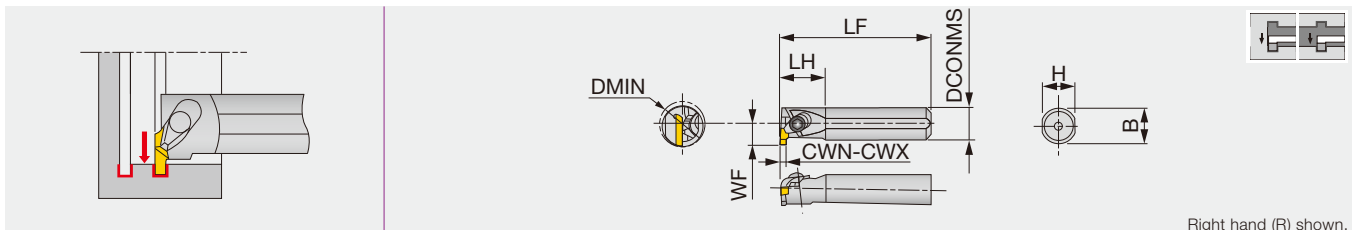
# STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                   | Grade  | Cutting speed<br>Vc (sfm) | Feed rate: f (ipr) |                 |
|----------|--------------------------------------|--------|---------------------------|--------------------|-----------------|
|          |                                      |        |                           | **GMR...           | **GR/L...       |
| <b>P</b> | Carbon steel<br>1045, etc.           | AH7025 | 262 - 591                 | 0.0012 - 0.0047    | -               |
|          |                                      | NS9530 | 262 - 656                 | -                  | 0.002 - 0.0059  |
|          |                                      | UX30   | 131 - 492                 | -                  | 0.002 - 0.0059  |
|          | Alloy steel<br>4137, etc.            | AH7025 | 262 - 591                 | 0.0012 - 0.0047    | -               |
|          |                                      | NS9530 | 262 - 656                 | -                  | 0.002 - 0.0059  |
|          |                                      | UX30   | 131 - 492                 | -                  | 0.002 - 0.0059  |
| <b>M</b> | Stainless steel<br>304, etc.         | AH7025 | 164 - 394                 | 0.0012 - 0.0047    | -               |
|          |                                      | UX30   | 131 - 328                 | -                  | 0.0012 - 0.0039 |
| <b>K</b> | Gray cast irons<br>No.250B, etc.     | AH7025 | 164 - 722                 | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 197 - 656                 | -                  | 0.002 - 0.0059  |
|          | Ductile cast irons<br>60-40-18, etc. | AH7025 | 164 - 591                 | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 131 - 525                 | -                  | 0.002 - 0.0059  |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.   | AH7025 | 98 - 262                  | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 66 - 164                  | -                  | 0.002 - 0.0031  |
|          | Superalloys<br>Inconel718, etc.      | AH7025 | 66 - 197                  | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 33 - 98                   | -                  | 0.0012 - 0.0031 |



## CGXR/L

### Internal grooving



Right hand (R) shown.

| Metric     | Material | CWN | CWX | DMIN | CDX | DCONMS | H  | B    | LF  | LH | WF   | Insert     | Torque |
|------------|----------|-----|-----|------|-----|--------|----|------|-----|----|------|------------|--------|
| CGXR/L0016 | Steel    | 1   | 3   | 20   | 3   | 16     | 15 | 15.5 | 150 | 24 | 11.3 | GIR/L52... | 2.2    |
| CGXR/L0020 | Steel    | 1   | 3   | 24   | 3   | 20     | 18 | 19   | 180 | 30 | 13.3 | GIR/L52... | 2.2    |
| CGXR/L0025 | Steel    | 1   | 5   | 32   | 5.3 | 25     | 23 | 24   | 200 | 38 | 18   | GIR/L63... | 5      |
| CGXR/L0032 | Steel    | 1   | 5   | 40   | 5.3 | 32     | 30 | 31   | 250 | 48 | 23   | GIR/L63... | 5      |
| CGXR/L0040 | Steel    | 1   | 5   | 48   | 5.3 | 40     | 37 | 38.5 | 300 | 60 | 27   | GIR/L63... | 5      |
| CGXR/L16SC | Carbide  | 1   | 3   | 20   | 3   | 16     | 15 | -    | 200 | 24 | 11.3 | GIR/L52... | 2.2    |

Note: Use right-hand holder (CGXR) with right-hand insert (GIR); and left-hand holder (L) with left-hand insert (GIL).  
Torque: Recommended clamping torque: N·m

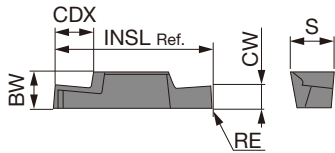
### SPARE PARTS



| Designation      | Clamp set | Wrench1 | Wrench2 |
|------------------|-----------|---------|---------|
| CGXR/L0016/20    | CSW-0     | -       | P-2.5T  |
| CGXR/L0025/32/40 | CSW-2     | P-4     | -       |
| CGXR/L16SC       | CSW-0     | -       | P-2.5T  |

# INSERT

## GIR/L



Right hand (R) shown.

|          |                |   |  |  |   |  |  |  |  |
|----------|----------------|---|--|--|---|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |   |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  | ☆ |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  | ★ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  | ★ |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  | ☆ |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.002 (in) | CW±0.05 (mm) | RE (mm) | Cermet |      | Uncoated |  |  | CDX (mm) | INSL (mm) | BW (mm) | S (mm) |
|-------------|------|---------------|--------------|---------|--------|------|----------|--|--|----------|-----------|---------|--------|
|             |      |               |              |         | NS9530 | TH10 |          |  |  |          |           |         |        |
| GIR5210-02  | R    | 0.039         | 1            | 0.2     | ●      | ●    |          |  |  | 1.5      | 15        | 3.5     | 4.4    |
| GIL5210-02  | L    | 0.039         | 1            | 0.2     | ●      | ●    |          |  |  | 1.5      | 15        | 3.5     | 4.4    |
| GIR5215-02  | R    | 0.059         | 1.5          | 0.2     | ●      | ●    |          |  |  | 2.3      | 15        | 3.5     | 4.4    |
| GIL5215-02  | L    | 0.059         | 1.5          | 0.2     | ●      | ●    |          |  |  | 2.3      | 15        | 3.5     | 4.4    |
| GIR5220-02  | R    | 0.079         | 2            | 0.2     | ●      | ●    |          |  |  | 3        | 15        | 3.5     | 4.4    |
| GIL5220-02  | L    | 0.079         | 2            | 0.2     | ●      | ●    |          |  |  | 3        | 15        | 3.5     | 4.4    |
| GIR5225-02  | R    | 0.098         | 2.5          | 0.2     | ●      | ●    |          |  |  | 3        | 15        | 3.5     | 4.4    |
| GIL5225-02  | L    | 0.098         | 2.5          | 0.2     | ●      | ●    |          |  |  | 3        | 15        | 3.5     | 4.4    |
| GIR5230-02  | R    | 0.118         | 3            | 0.2     | ●      | ●    |          |  |  | 3        | 15        | 3.5     | 4.4    |
| GIL5230-02  | L    | 0.118         | 3            | 0.2     | ●      | ●    |          |  |  | 3        | 15        | 3.5     | 4.4    |
| GIR6310-02  | R    | 0.039         | 1            | 0.2     | ●      | ●    |          |  |  | 1.5      | 24        | 5.5     | 6.4    |
| GIL6310-02  | L    | 0.039         | 1            | 0.2     | ●      | ●    |          |  |  | 1.5      | 24        | 5.5     | 6.4    |
| GIR6315-02  | R    | 0.059         | 1.5          | 0.2     | ●      | ●    |          |  |  | 2.3      | 24        | 5.5     | 6.4    |
| GIL6315-02  | L    | 0.059         | 1.5          | 0.2     | ●      | ●    |          |  |  | 2.3      | 24        | 5.5     | 6.4    |
| GIR6320-02  | R    | 0.079         | 2            | 0.2     | ●      | ●    |          |  |  | 3        | 24        | 5.5     | 6.4    |
| GIL6320-02  | L    | 0.079         | 2            | 0.2     | ●      | ●    |          |  |  | 3        | 24        | 5.5     | 6.4    |
| GIR6325-02  | R    | 0.098         | 2.5          | 0.2     | ●      | ●    |          |  |  | 3.8      | 24        | 5.5     | 6.4    |
| GIL6325-02  | L    | 0.098         | 2.5          | 0.2     | ●      | ●    |          |  |  | 3.8      | 24        | 5.5     | 6.4    |
| GIR6330-02  | R    | 0.118         | 3            | 0.2     | ●      | ●    |          |  |  | 4.5      | 24        | 5.5     | 6.4    |
| GIL6330-02  | L    | 0.118         | 3            | 0.2     | ●      | ●    |          |  |  | 4.5      | 24        | 5.5     | 6.4    |
| GIR6335-02  | R    | 0.138         | 3.5          | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIL6335-02  | L    | 0.138         | 3.5          | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIR6340-02  | R    | 0.157         | 4            | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIL6340-02  | L    | 0.157         | 4            | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIR6345-02  | R    | 0.177         | 4.5          | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIL6345-02  | L    | 0.177         | 4.5          | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIR6350-02  | R    | 0.197         | 5            | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |
| GIL6350-02  | L    | 0.197         | 5            | 0.2     | ●      | ●    |          |  |  | 5.3      | 24        | 5.5     | 6.4    |

Use right-hand toolholders (CGXR~) with right-hand inserts (GIR); and left-hand toolholders (GX-\*\*\*\*L) with left-hand inserts (XGR).

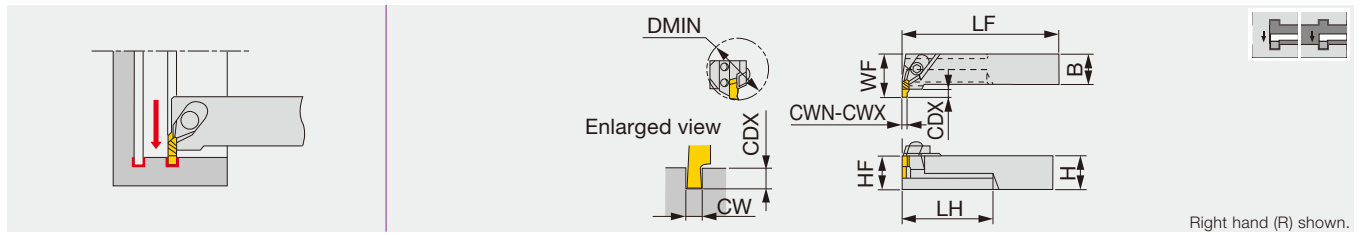
● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material      | Grade  | Cutting speed Vc (sfm) | Feed: f (ipr) |                      |               |
|----------|-------------------------|--------|------------------------|---------------|----------------------|---------------|
|          |                         |        |                        | CW < 0.079"   | CW = 0.079" - 0.157" | CW > 0.157"   |
| <b>P</b> | Carbon steel            | NS9530 | 262 - 492              | 0.002 - 0.004 | 0.003 - 0.006        | 0.003 - 0.008 |
| <b>K</b> | Cast iron, Light alloys | TH10   | 197 - 492              | 0.002 - 0.004 | 0.003 - 0.006        | 0.003 - 0.008 |

# GX-R/LI

## Internal grooving



| Inch        | CWN   | CWX   | DMIN  | CDX           | H     | B    | LF   | LH   | HF   | WF   | Insert     | Torque  |
|-------------|-------|-------|-------|---------------|-------|------|------|------|------|------|------------|---------|
| GX-1212RIU  | 0.039 | 0.177 | 2.165 | 0.059 - 0.236 | 0.750 | 0.75 | 6.30 | 2.36 | 0.75 | 1.37 | XGL63...   | 3.69    |
| GX-1616RIU  | 0.039 | 0.177 | 2.165 | 0.059 - 0.236 | 1.00  | 1.00 | 7.87 | 1.96 | 1.00 | 1.37 | XGL63...   | 3.69    |
| Metric      | CWN   | CWX   | DMIN  | CDX           | H     | B    | LF   | LH   | HF   | WF   | Insert     | Torque* |
| GX-2525R/LI | 1     | 4.5   | 55    | 1.5 - 6       | 25    | 25   | 200  | 70   | 25   | 35   | XGL/R63... | 5       |

Use right-hand toolholders (GX-\*\*\*\*RI) with left-hand inserts (XGL...); and left-hand toolholders (GX-\*\*\*\*LI) with right-hand inserts (XGR...).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

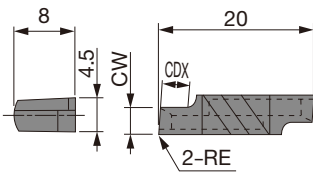
### SPARE PARTS

| Designation           | Clamp set | Clamp screw | Shim  | Shim screw | Wrench |
|-----------------------|-----------|-------------|-------|------------|--------|
| GX-1212RIU            | CP81B     | RT-1        | SL-7R | BHM4-8     | P-4    |
| GX-2525RI             | CP81B     | RT-1        | SL-2R | BHM3-8     | P-4    |
| GX-1616RIU, GX-2525LI | CP81B     | RT-1        | SL-2L | BHM3-8     | P-4    |

Note: Max. groove width and max. groove depth will depend on the insert type.

## INSERT

### XGR/L



| Material         | Star | Star | Star | Star | Star | Star | Star | Star | Star | Star | Star |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| P Steel          | ★    |      |      | ☆    | ★    |      |      |      |      |      |      |
| M Stainless      |      |      |      |      |      | ★    |      |      |      |      |      |
| K Cast iron      | ☆    |      |      | ★    | ★    |      |      |      |      |      |      |
| N Non-ferrous    |      |      |      |      | ★    |      |      |      |      |      |      |
| S Superalloys    |      |      |      |      | ☆    |      |      |      |      |      |      |
| H Hard materials |      |      |      |      |      |      |      |      |      |      |      |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Cermet |      | Uncoated |  | CDX (in) |
|-------------|------|---------------|---------------|---------|--------|------|----------|--|----------|
|             |      |               |               |         | NS9530 | TH10 | UX30     |  |          |
| XGR6310-02  | R    | 1             | 0.039         | 0.008   | ●      | ●    | ●        |  | 0.059    |
| XGL6310-02  | L    | 1             | 0.039         | 0.008   | ●      | ●    | ●        |  | 0.059    |
| XGR6315-02  | R    | 1.5           | 0.059         | 0.008   | ●      | ●    | ●        |  | 0.091    |
| XGL6315-02  | L    | 1.5           | 0.059         | 0.008   | ●      | ●    | ●        |  | 0.091    |
| XGR6320-02  | R    | 2             | 0.079         | 0.008   | ●      | ●    | ●        |  | 0.118    |
| XGL6320-02  | L    | 2             | 0.079         | 0.008   | ●      | ●    | ●        |  | 0.118    |
| XGR6325-02  | R    | 2.5           | 0.098         | 0.008   | ●      | ●    | ●        |  | 0.150    |
| XGL6325-02  | L    | 2.5           | 0.098         | 0.008   | ●      | ●    | ●        |  | 0.150    |
| XGR6330-02  | R    | 3             | 0.118         | 0.008   | ●      | ●    | ●        |  | 0.177    |
| XGL6330-02  | L    | 3             | 0.118         | 0.008   | ●      | ●    | ●        |  | 0.177    |
| XGR6335-02  | R    | 3.5           | 0.138         | 0.008   | ●      | ●    | ●        |  | 0.209    |
| XGL6335-02  | L    | 3.5           | 0.138         | 0.008   | ●      | ●    | ●        |  | 0.209    |
| XGR6340-02  | R    | 4             | 0.157         | 0.008   | ●      | ●    | ●        |  | 0.236    |
| XGL6340-02  | L    | 4             | 0.157         | 0.008   | ●      | ●    | ●        |  | 0.236    |
| XGR6345-02  | R    | 4.5           | 0.177         | 0.008   | ●      | ●    | ●        |  | 0.236    |
| XGL6345-02  | L    | 4.5           | 0.177         | 0.008   | ●      | ●    | ●        |  | 0.236    |

Use right-hand toolholders (GX-\*\*\*\*RI) with left-hand inserts (XGL...);  
left-hand toolholders (GX-\*\*\*\*LI) with right-hand inserts (XGR...).

● : Line up

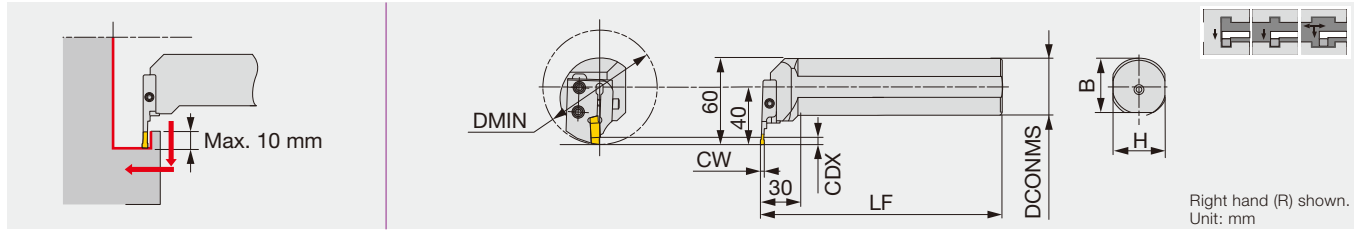
## STANDARD CUTTING CONDITIONS

| ISO | Workpiece material       | Grade  | Cutting speed<br>Vc (sfm) | Feed: f (ipr) |                      |               |
|-----|--------------------------|--------|---------------------------|---------------|----------------------|---------------|
|     |                          |        |                           | CW < 0.079"   | CW = 0.079" - 0.157" | CW > 0.157"   |
| P   | Carbon steel             | NS9530 | 262 - 656                 | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |
|     |                          | UX30   | 197 - 492                 | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |
| K   | Cast irons, Light alloys | TH10   | 197 - 492                 | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |
| H   | Hardened steel           | BX360  | 164 - 591                 | 0.002 - 0.006 | 0.002 - 0.006        | 0.002 - 0.006 |

# MY-T SERIES

## CGWTR/L0040-FLL/R3NP

Internal grooving and turning toolholder



| Metric               | CW | DMIN | CDX | DCONMS | LF  | H    | B  | Insert    | Shank       | Adapter  | Torque |
|----------------------|----|------|-----|--------|-----|------|----|-----------|-------------|----------|--------|
| CGWTR/L0040-FLL/R3NP | 3  | 80   | 10  | 40     | 180 | 37.5 | 37 | FLEX30L/R | CGWTR/L0040 | FLL/R3NP | 5      |

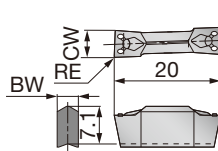
Please place an order with the designation of a set or a shank+a adapter  
 Note: Use right-hand shanks (CGWTR) with left-hand adapters (FLL3NP); and left-hand shanks (CGWTL) with right-hand adapters (FLR3NP).  
 Torque: Recommended clamping torque: N·m

### SPARE PARTS

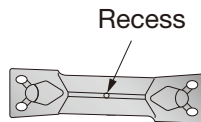
| Designation          | Clamping screw | Adapter screw | Wrench |
|----------------------|----------------|---------------|--------|
| CGWTR/L0040-FLL/R3NP | CHHM5-18       | CSHB-6        | P-4    |

## INSERT

### FLEX(R/L)



Right hand (R) shown.  
Unit: mm



To distinguish the insert hands, the V-shape surface (top surface) of a left-hand insert has a recess. (not of a right-hand insert)

| Grade | Steel | Stainless | Cast iron | Non-ferrous | Superalloys | Hard materials |
|-------|-------|-----------|-----------|-------------|-------------|----------------|
| P     | ★     |           |           |             |             |                |
| M     |       | ★         |           |             |             |                |
| K     |       |           | ☆         |             |             |                |
| N     |       |           |           | ★           |             |                |
| S     |       |           |           |             | ★           |                |
| H     |       |           |           |             |             | ★              |

★ : First choice  
☆ : Second choice

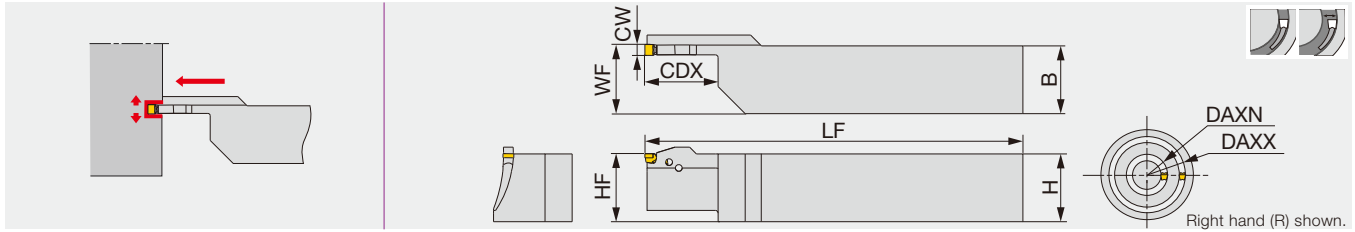
| Designation | HAND | CW±0.002 (in) | CW±0.05 (mm) | RE (mm) | Coated |  |  | Cermet |  |   | Uncoated |  |  | BW (mm) |
|-------------|------|---------------|--------------|---------|--------|--|--|--------|--|---|----------|--|--|---------|
|             |      |               |              |         | T9225  |  |  | NS9530 |  |   | UX30     |  |  |         |
| FLEX30R     | R    | 0.118         | 3            | 0.4     |        |  |  | ●      |  |   |          |  |  | 2.2     |
| FLEX30L     | L    | 0.118         | 3            | 0.4     |        |  |  | ●      |  |   |          |  |  | 2.2     |
| FLEX40R     | R    | 0.157         | 4            | 0.4     |        |  |  | ●      |  |   |          |  |  | 3.1     |
| FLEX40L     | L    | 0.157         | 4            | 0.4     |        |  |  | ●      |  |   |          |  |  | 3.1     |
| FLEX50R     | R    | 0.197         | 5            | 0.4     | ●      |  |  | ●      |  | ● |          |  |  | 4       |
| FLEX50L     | L    | 0.197         | 5            | 0.4     | ●      |  |  | ●      |  | ● |          |  |  | 4       |

● : Line up

## STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Grade  | Cutting speed Vc (sfm) | Feed: f (ipr) |               |
|-----|--------------------|--------|------------------------|---------------|---------------|
|     |                    |        |                        | Grooving      | Turning       |
| P   | Carbon steel       | T9225  | 262 - 984              | 0.002 - 0.010 | 0.004 - 0.012 |
|     |                    | NS9530 | 262 - 656              | 0.002 - 0.010 | 0.004 - 0.012 |
|     |                    | UX30   | 197 - 492              | 0.002 - 0.010 | 0.004 - 0.012 |





| Inch                 | CW    | DAXN  | DAXX   | CDX   | H     | B     | LF    | HF    | WF    | Insert  |
|----------------------|-------|-------|--------|-------|-------|-------|-------|-------|-------|---------|
| ETFR/L12-4T15-030035 | 0.157 | 1.181 | 1.378  | 0.591 | 0.750 | 0.750 | 5.000 | 0.750 | 0.770 | E**4... |
| ETFR/L16-4T15-030035 | 0.157 | 1.181 | 1.378  | 0.591 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L12-4T22-035045 | 0.157 | 1.378 | 1.772  | 0.866 | 0.750 | 0.750 | 5.000 | 0.750 | 0.770 | E**4... |
| ETFR/L16-4T22-035045 | 0.157 | 1.378 | 1.772  | 0.866 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L12-4T25-045055 | 0.157 | 1.772 | 2.165  | 0.984 | 0.750 | 0.750 | 5.000 | 0.750 | 0.770 | E**4... |
| ETFR/L16-4T25-045055 | 0.157 | 1.772 | 2.165  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L12-4T25-055075 | 0.157 | 2.165 | 2.953  | 0.984 | 0.750 | 0.750 | 5.000 | 0.750 | 0.770 | E**4... |
| ETFR/L16-4T25-055075 | 0.157 | 2.165 | 2.953  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L12-4T25-075120 | 0.157 | 2.953 | 4.724  | 0.984 | 0.750 | 0.750 | 5.000 | 0.750 | 0.770 | E**4... |
| ETFR/L16-4T25-075120 | 0.157 | 2.953 | 4.724  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L16-4T25-120200 | 0.157 | 4.724 | 7.874  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L16-4T25-200500 | 0.157 | 7.874 | 19.685 | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR/L16-5T25-035045 | 0.197 | 1.378 | 1.772  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX5... |
| ETFR/L16-5T25-045055 | 0.197 | 1.772 | 2.165  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX5... |
| ETFR/L16-5T25-055075 | 0.197 | 2.165 | 2.953  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX5... |
| ETFR/L16-5T32-075120 | 0.197 | 2.953 | 4.724  | 1.260 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX5... |
| ETFR/L16-5T32-120200 | 0.197 | 4.724 | 7.874  | 1.260 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX5... |
| ETFR/L16-5T32-200500 | 0.197 | 7.874 | 19.685 | 1.260 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX5... |
| ETFR/L16-6T25-040055 | 0.236 | 1.575 | 2.165  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX6... |
| ETFR/L16-6T25-055075 | 0.236 | 2.165 | 2.953  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX6... |
| ETFR/L16-6T32-075120 | 0.236 | 2.953 | 4.724  | 1.260 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX6... |
| ETFR/L16-6T32-120200 | 0.236 | 4.724 | 7.874  | 1.260 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX6... |
| ETFR/L16-6T32-200500 | 0.236 | 7.874 | 19.685 | 1.260 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | ETX6... |

| Metric                 | CW | DAXN | DAXX | CDX | H  | B  | LF  | HF | WF   | Insert  |
|------------------------|----|------|------|-----|----|----|-----|----|------|---------|
| ETFR/L2020-4T15-030035 | 4  | 30   | 35   | 15  | 20 | 20 | 125 | 20 | 20.5 | E**4... |
| ETFR/L2525-4T15-030035 | 4  | 30   | 35   | 15  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2020-4T22-035045 | 4  | 35   | 45   | 22  | 20 | 20 | 125 | 20 | 20.5 | E**4... |
| ETFR/L2525-4T22-035045 | 4  | 35   | 45   | 22  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2020-4T25-045055 | 4  | 45   | 55   | 25  | 20 | 20 | 125 | 20 | 20.5 | E**4... |
| ETFR/L2525-4T25-045055 | 4  | 45   | 55   | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2020-4T25-055075 | 4  | 55   | 75   | 25  | 20 | 20 | 125 | 20 | 20.5 | E**4... |
| ETFR/L2525-4T25-055075 | 4  | 55   | 75   | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2020-4T25-075120 | 4  | 75   | 120  | 25  | 20 | 20 | 125 | 20 | 20.5 | E**4... |
| ETFR/L2525-4T25-075120 | 4  | 75   | 120  | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2525-4T25-120200 | 4  | 120  | 200  | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2525-4T25-200500 | 4  | 200  | 500  | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR/L2525-5T25-035045 | 5  | 35   | 45   | 25  | 25 | 25 | 150 | 25 | 25.5 | ETX5... |
| ETFR/L2525-5T25-045055 | 5  | 45   | 55   | 25  | 25 | 25 | 150 | 25 | 25.5 | ETX5... |
| ETFR/L2525-5T25-055075 | 5  | 55   | 75   | 25  | 25 | 25 | 150 | 25 | 25.5 | ETX5... |
| ETFR/L2525-5T32-075120 | 5  | 75   | 120  | 32  | 25 | 25 | 150 | 25 | 25.5 | ETX5... |
| ETFR/L2525-5T32-120200 | 5  | 120  | 200  | 32  | 25 | 25 | 150 | 25 | 25.5 | ETX5... |
| ETFR/L2525-5T32-200500 | 5  | 200  | 500  | 32  | 25 | 25 | 150 | 25 | 25.5 | ETX5... |
| ETFR/L2525-6T25-040055 | 6  | 40   | 55   | 25  | 25 | 25 | 150 | 25 | 25.5 | ETX6... |
| ETFR/L2525-6T25-055075 | 6  | 55   | 75   | 25  | 25 | 25 | 150 | 25 | 25.5 | ETX6... |
| ETFR/L2525-6T32-075120 | 6  | 75   | 120  | 32  | 25 | 25 | 150 | 25 | 25.5 | ETX6... |
| ETFR/L2525-6T32-120200 | 6  | 120  | 200  | 32  | 25 | 25 | 150 | 25 | 25.5 | ETX6... |
| ETFR/L2525-6T32-200500 | 6  | 200  | 500  | 32  | 25 | 25 | 150 | 25 | 25.5 | ETX6... |

Wrench (ECW...) is not included. Please order it separately.

#### SPARE PARTS



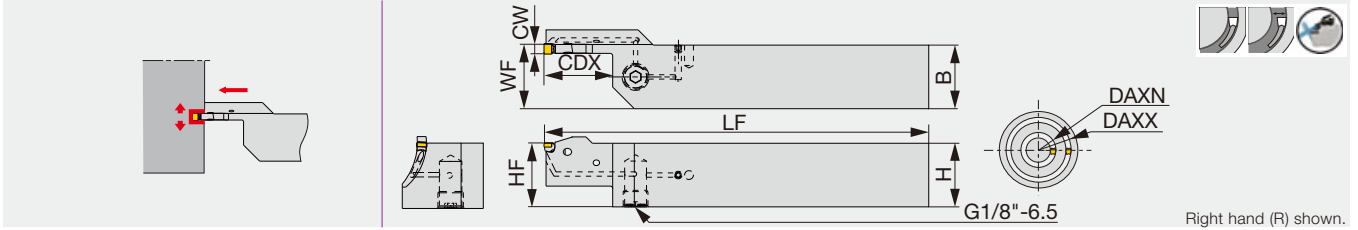
| Designation | Wrench (Optional) |
|-------------|-------------------|
| ETFR/L...   | ECW-456EF         |

Reference pages: Inserts → **F194, F195**, Standard cutting conditions → **F195**

# ETFR-CHP

Tube connection

Face grooving and turning toolholder, with high pressure coolant capability



| Inch                   | CW    | DAXN  | DAXX   | CDX   | H     | B     | LF    | HF    | WF    | Insert  |
|------------------------|-------|-------|--------|-------|-------|-------|-------|-------|-------|---------|
| ETFR16-4T15-030035-CHP | 0.157 | 1.181 | 1.378  | 0.591 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR16-4T22-035045-CHP | 0.157 | 1.378 | 1.772  | 0.866 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR16-4T25-045055-CHP | 0.157 | 1.772 | 2.165  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR16-4T25-055075-CHP | 0.157 | 2.165 | 2.953  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR16-4T25-075120-CHP | 0.157 | 2.953 | 4.724  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR16-4T25-120200-CHP | 0.157 | 4.724 | 7.874  | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |
| ETFR16-4T25-200500-CHP | 0.157 | 7.874 | 19.685 | 0.984 | 1.000 | 1.000 | 6.000 | 1.000 | 1.020 | E**4... |

| Metric                   | CW | DAXN | DAXX | CDX | H  | B  | LF  | HF | WF   | Insert  |
|--------------------------|----|------|------|-----|----|----|-----|----|------|---------|
| ETFR2525-4T15-030035-CHP | 4  | 30   | 35   | 15  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR2525-4T22-035045-CHP | 4  | 35   | 45   | 22  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR2525-4T25-045055-CHP | 4  | 45   | 55   | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR2525-4T25-055075-CHP | 4  | 55   | 75   | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR2525-4T25-075120-CHP | 4  | 75   | 120  | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR2525-4T25-120200-CHP | 4  | 120  | 200  | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |
| ETFR2525-4T25-200500-CHP | 4  | 200  | 500  | 25  | 25 | 25 | 150 | 25 | 25.5 | E**4... |

Wrench (ECW...) is not included. Please order it separately.

## SPARE PARTS



| Designation | Wrench (Optional) |
|-------------|-------------------|
| ETFR/L...   | ECW-456EF         |

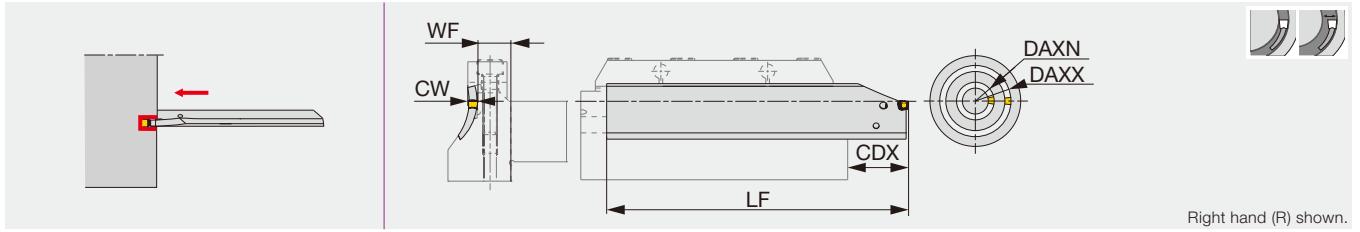
Reference pages: Inserts → **F194, F195**, Standard cutting conditions → **F195**  
 Parts for coolant hose → **F290**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

A  
B  
C  
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F  
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K  
L  
M



### Face grooving blade



| Metric          | CW | DAXN | DAXX | WF   | LF  | Min. CDX | Max. CDX | Insert  |
|-----------------|----|------|------|------|-----|----------|----------|---------|
| EFPR/L-4-030035 | 4  | 30   | 35   | 13.6 | 125 | 18       | 50       | E**4... |
| EFPR-4-035045   | 4  | 35   | 45   | 13.6 | 125 | 18       | 50       | E**4... |
| EFPR-4-045055   | 4  | 45   | 55   | 13.6 | 125 | 18       | 50       | E**4... |
| EFPR-4-055075   | 4  | 55   | 75   | 13.6 | 125 | 18       | 50       | E**4... |
| EFPR-4-075120   | 4  | 75   | 120  | 13.6 | 140 | 18       | 65       | E**4... |
| EFPR-4-120200   | 4  | 120  | 200  | 13.6 | 140 | 18       | 65       | E**4... |
| EFPR-4-200500   | 4  | 200  | 500  | 13.6 | 140 | 18       | 65       | E**4... |
| EFPR-5-035045   | 5  | 35   | 45   | 13.6 | 125 | 19       | 50       | ETX5... |
| EFPR-5-045055   | 5  | 45   | 55   | 13.6 | 125 | 19       | 50       | ETX5... |
| EFPR-5-055075   | 5  | 55   | 75   | 13.6 | 125 | 19       | 50       | ETX5... |
| EFPR-5-075120   | 5  | 75   | 120  | 13.6 | 140 | 19       | 65       | ETX5... |
| EFPR-5-120200   | 5  | 120  | 200  | 13.6 | 140 | 19       | 65       | ETX5... |
| EFPR-5-200500   | 5  | 200  | 500  | 13.6 | 140 | 19       | 65       | ETX5... |
| EFPR-6-045055   | 6  | 45   | 55   | 13.6 | 125 | 20       | 50       | ETX6... |
| EFPR-6-055075   | 6  | 55   | 75   | 13.6 | 125 | 20       | 50       | ETX6... |
| EFPR-6-075120   | 6  | 75   | 120  | 13.6 | 140 | 20       | 65       | ETX6... |
| EFPR-6-120200   | 6  | 120  | 200  | 13.6 | 140 | 20       | 65       | ETX6... |
| EFPR/L-6-200500 | 6  | 200  | 500  | 13.6 | 140 | 20       | 65       | ETX6... |

Wrench (ECW...) is not included. Please order it separately.

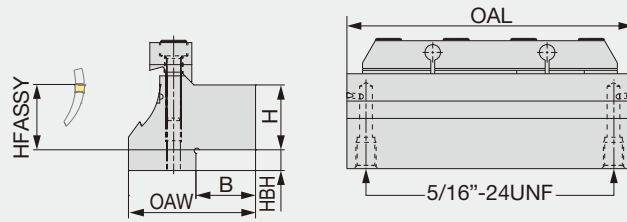
#### SPARE PARTS

| Designation | Wrench (Optional) |
|-------------|-------------------|
| EFPR/L...   | ECW-456I          |

Reference pages: Inserts → **F194, F195**, Standard cutting conditions → **F195**

# CTBU-CHP for EFPR/L

Tool block for EFP blades with high pressure coolant capability



| Inch                | CW           | DAXN  | H     | B     | HFASSY | HBH   | OAW   | OAL   | Blade             |
|---------------------|--------------|-------|-------|-------|--------|-------|-------|-------|-------------------|
| CTBU16-030-4U-CHP   | 0.157        | 1.181 | 1.000 | 0.905 | 1.000  | 0.299 | 1.929 | 4.331 | EFPR/L-4-030035   |
| CTBU16-035-4/5U-CHP | 0.157, 0.197 | 1.378 | 1.000 | 0.905 | 1.000  | 0.299 | 1.929 | 4.331 | EFPR/L-4/5-035045 |
| CTBU16-045-4/5U-CHP | 0.157, 0.197 | 1.772 | 1.000 | 0.905 | 1.000  | 0.299 | 1.929 | 4.331 | EFPR/L-4/5-045055 |
| CTBU16-055-4/5U-CHP | 0.157, 0.197 | 2.165 | 1.000 | 0.905 | 1.000  | 0.299 | 1.850 | 4.331 | EFPR/L-4/5-055075 |
| CTBU16-075-4/5U-CHP | 0.157, 0.197 | 2.953 | 1.000 | 0.905 | 1.000  | 0.299 | 1.771 | 4.331 | EFPR/L-4/5-075120 |
| CTBU16-120-4/5U-CHP | 0.157, 0.197 | 4.724 | 1.000 | 0.905 | 1.000  | 0.299 | 1.732 | 4.331 | EFPR/L-4/5-120200 |
| CTBU16-200-4/5U-CHP | 0.157, 0.197 | 7.874 | 1.000 | 0.905 | 1.000  | 0.299 | 1.633 | 4.331 | EFPR/L-4/5-200500 |
| CTBU16-045-6U-CHP   | 0.236        | 1.772 | 1.000 | 0.905 | 1.000  | 0.299 | 2.007 | 4.331 | EFPR/L-6-045055   |
| CTBU16-055-6U-CHP   | 0.236        | 2.165 | 1.000 | 0.905 | 1.000  | 0.299 | 1.929 | 4.331 | EFPR/L-6-055075   |
| CTBU16-075-6U-CHP   | 0.236        | 2.953 | 1.000 | 0.905 | 1.000  | 0.299 | 1.850 | 4.331 | EFPR/L-6-075120   |
| CTBU16-120-6U-CHP   | 0.236        | 4.724 | 1.000 | 0.905 | 1.000  | 0.299 | 1.811 | 4.331 | EFPR/L-6-120200   |
| CTBU16-200-6U-CHP   | 0.236        | 7.874 | 1.000 | 0.905 | 1.000  | 0.299 | 1.712 | 4.331 | EFPR/L-6-200500   |

| Metric             | CW   | DAXN | H  | B  | HFASSY | HBH | OAW  | OAL | Blade           |
|--------------------|------|------|----|----|--------|-----|------|-----|-----------------|
| CTBU25-030-4-CHP   | 4    | 30   | 25 | 23 | 25     | 8   | 49   | 110 | EFPR/L-4-030035 |
| CTBU25-035-4/5-CHP | 4, 5 | 35   | 25 | 23 | 25     | 8   | 49   | 110 | EFPR-4/5-035045 |
| CTBU25-045-4/5-CHP | 4, 5 | 45   | 25 | 23 | 25     | 8   | 49   | 110 | EFPR-4/5-045055 |
| CTBU25-055-4/5-CHP | 4, 5 | 55   | 25 | 23 | 25     | 8   | 47   | 110 | EFPR-4/5-055075 |
| CTBU25-075-4/5-CHP | 4, 5 | 75   | 25 | 23 | 25     | 8   | 45   | 110 | EFPR-4/5-075120 |
| CTBU25-120-4/5-CHP | 4, 5 | 120  | 25 | 23 | 25     | 8   | 44   | 110 | EFPR-4/5-120200 |
| CTBU25-200-4/5-CHP | 4, 5 | 200  | 25 | 23 | 25     | 8   | 41.5 | 110 | EFPR-4/5-200500 |
| CTBU25-045-6-CHP   | 6    | 45   | 25 | 23 | 25     | 8   | 51   | 110 | EFPR-6-045055   |
| CTBU25-055-6-CHP   | 6    | 55   | 25 | 23 | 25     | 8   | 49   | 110 | EFPR-6-055075   |
| CTBU25-075-6-CHP   | 6    | 75   | 25 | 23 | 25     | 8   | 47   | 110 | EFPR-6-075120   |
| CTBU25-120-6-CHP   | 6    | 120  | 25 | 23 | 25     | 8   | 46   | 110 | EFPR-6-120200   |
| CTBU25-200-6-CHP   | 6    | 200  | 25 | 23 | 25     | 8   | 43.5 | 110 | EFPR/L-6-200500 |

## SPARE PARTS

| Designation        | Clamp  | Clamping screw | Wrench |
|--------------------|--------|----------------|--------|
| CTBU25-***-***-CHP | CT-110 | CM6X30-S       | P-5    |




Reference pages: Inserts → **F194, F195**, Standard cutting conditions → **F195**  
Parts for coolant hose → **F290**




# CHIPBREAKER GUIDE

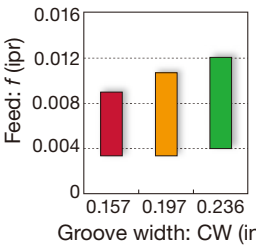
**ETX type**



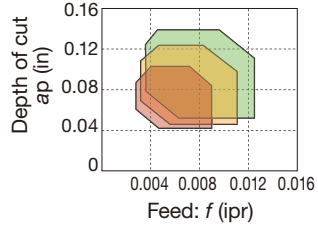
Multi-functional insert  
Grooving and turning suitable for light to medium cutting  
Well-balanced sharpness and strength  
CW = 0.157" - 0.236"




■ Standard feed




■ Standard feed and depth of cut for turning



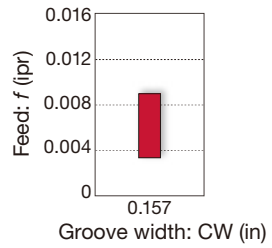
**EGM type**



1st choice for parting  
High strength  
Well-designed edge  
CW = 0.157"



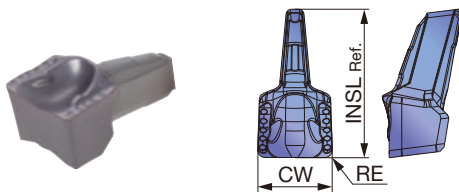
■ Standard feed



- External
- Internal
- Face
- Parting
- Others

## INSERTS

### ETX



|                         |   |  |  |  |  |
|-------------------------|---|--|--|--|--|
| <b>P</b> Steel          | ★ |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |  |  |  |
| <b>K</b> Cast iron      | ☆ |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  |  |  |  |
| <b>S</b> Superalloys    |   |  |  |  |  |
| <b>H</b> Hard materials |   |  |  |  |  |

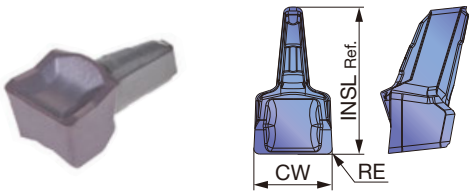
★ : First choice  
☆ : Second choice

| Designation | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |  |  |  |  |  | INSL (in) |
|-------------|--------------|---------------|---------|--------|--|--|--|--|--|-----------|
|             |              |               |         | AH725  |  |  |  |  |  |           |
| ETX4-040    | 4            | 0.157         | 0.016   | ●      |  |  |  |  |  | 0.315     |
| ETX5-040    | 5            | 0.197         | 0.016   | ●      |  |  |  |  |  | 0.394     |
| ETX6-040    | 6            | 0.236         | 0.016   | ●      |  |  |  |  |  | 0.472     |

● : Line up

Reference pages: Toolholders → **F190 - F193**

# EGM



|                         |   |  |  |  |  |
|-------------------------|---|--|--|--|--|
| <b>P</b> Steel          | ★ |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |  |  |  |
| <b>K</b> Cast iron      | ☆ |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  |  |  |  |
| <b>S</b> Superalloys    |   |  |  |  |  |
| <b>H</b> Hard materials |   |  |  |  |  |

★ : First choice  
☆ : Second choice

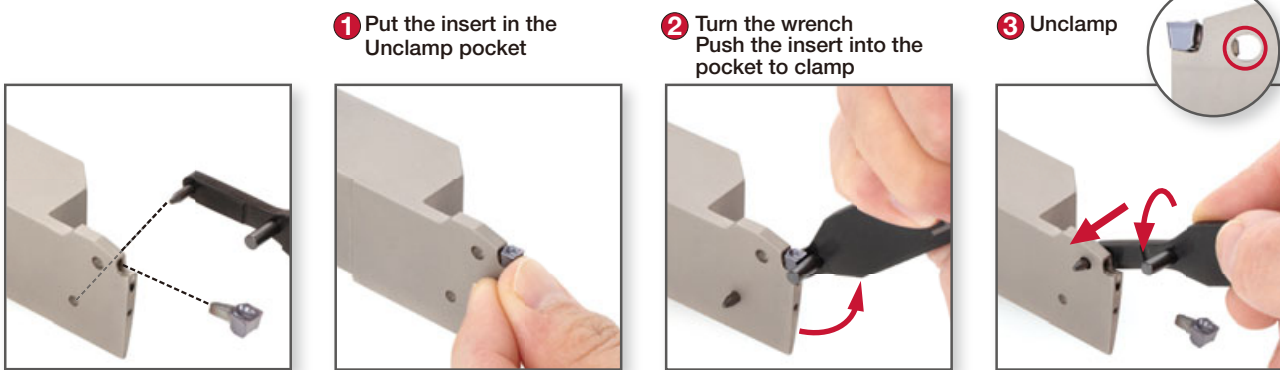
| Designation | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |  |  |  |  |  | INSL (in) |
|-------------|--------------|---------------|---------|--------|--|--|--|--|--|-----------|
|             |              |               |         | AH725  |  |  |  |  |  |           |
| EGM4-030    | 4            | 0.157         | 0.012   | ●      |  |  |  |  |  | 0.315     |

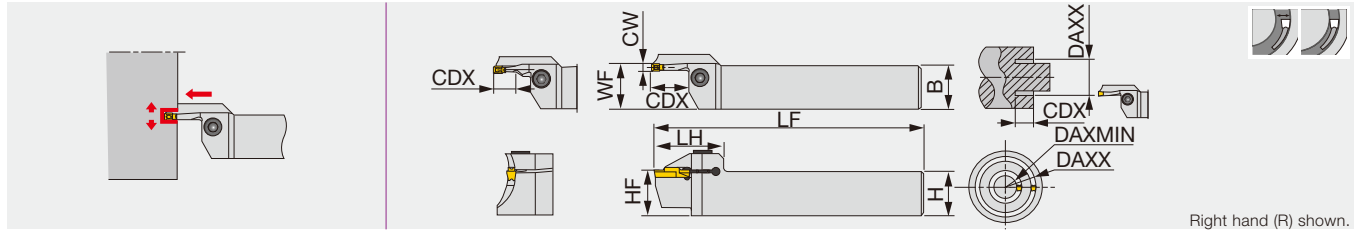
● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                             | Hardness | Grade | Chipbreaker | Cutting speed Vc (sfm) |
|----------|--|----------|-------|-------------|------------------------|
| <b>P</b> | Low carbon steel<br>1018, 1020, 1026, etc.     | - 300 HB | AH725 | ETX         | 262 - 591              |
|          |  | - 300 HB | AH725 | EGM         | 262 - 591              |
|          | Carbon steel, Alloy steel<br>1045, 1055, etc.  | - 300 HB | AH725 | ETX         | 262 - 591              |
|          |  | - 300 HB | AH725 | EGM         | 262 - 591              |
|          |  | - 300 HB | AH725 | ETX         | 262 - 591              |
| <b>M</b> | Stainless steel<br>304SS, 316SS, 17-4 PH, etc. | -        | AH725 | ETX         | 164 - 394              |
|          |  | -        | AH725 | EGM         | 164 - 394              |

## Procedure to clamp and unclamp insert





| Metric                 | CW | DAXMIN | DAXX | Seat size | CDX | H  | B  | LF  | LH | HF | WF <sup>(1)</sup> | Torque |
|------------------------|----|--------|------|-----------|-----|----|----|-----|----|----|-------------------|--------|
| CTFR/L2525-3T10-024035 | 3  | 24     | 35   | 3         | 10  | 25 | 25 | 150 | 38 | 25 | 25.5              | 5      |
| CTFR/L2525-3T10-029040 | 3  | 29     | 40   | 3         | 10  | 25 | 25 | 150 | 38 | 25 | 25.5              | 5      |
| CTFR/L2525-3T10-034050 | 3  | 34     | 50   | 3         | 10  | 25 | 25 | 150 | 38 | 25 | 25.5              | 5      |
| CTFR/L2525-3T15-044070 | 3  | 44     | 70   | 3         | 15  | 25 | 25 | 150 | 38 | 25 | 25.5              | 5      |
| CTFR/L2525-3T15-064100 | 3  | 64     | 100  | 3         | 15  | 25 | 25 | 150 | 38 | 25 | 25.5              | 5      |
| CTFR/L2525-4T10-022036 | 4  | 22     | 36   | 4         | 10  | 25 | 25 | 150 | 39 | 25 | 25.6              | 5      |
| CTFR/L2525-4T20-028042 | 4  | 28     | 42   | 4         | 20  | 25 | 25 | 150 | 39 | 25 | 25.6              | 5      |
| CTFR/L2525-4T20-034050 | 4  | 34     | 50   | 4         | 20  | 25 | 25 | 150 | 39 | 25 | 25.6              | 5      |
| CTFR/L2525-4T20-042070 | 4  | 42     | 70   | 4         | 20  | 25 | 25 | 150 | 39 | 25 | 25.6              | 5      |
| CTFR/L2525-4T20-062120 | 4  | 62     | 120  | 4         | 20  | 25 | 25 | 150 | 39 | 25 | 25.6              | 5      |
| CTFR/L2525-4T20-112200 | 4  | 112    | 200  | 4         | 20  | 25 | 25 | 150 | 39 | 25 | 25.6              | 5      |
| CTFR/L2525-5T25-050080 | 5  | 50     | 80   | 5         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-5T25-070110 | 5  | 70     | 110  | 5         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-5T25-100150 | 5  | 100    | 150  | 5         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-5T25-140200 | 5  | 140    | 200  | 5         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-6T25-048070 | 6  | 48     | 70   | 6         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-6T25-058100 | 6  | 58     | 100  | 6         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-6T25-088180 | 6  | 88     | 180  | 6         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |
| CTFR/L2525-6T25-168400 | 6  | 168    | 400  | 6         | 25  | 25 | 25 | 150 | 49 | 25 | 25.6              | 12     |

When depth is deeper than (insert length - 1.5 mm), 1 corner type is recommended.  
 Max. groove depth will be 15 mm with DTF insert.  
 Use the right-hand insert for the right-hand holder with DTF insert.  
 (1) WF is calculated with the groove width (CW) in the above table.  
 Torque: Recommended clamping torque: N·m

| SPARE PARTS           |                |        |
|-----------------------|----------------|--------|
| Designation           | Clamping screw | Wrench |
| CTFR/L2525-3T - 4T... | CM6X1X25-A     | P-5    |
| CTFR/L2525-5T - 6T... | CM8X1.25X25-A  | P-6    |

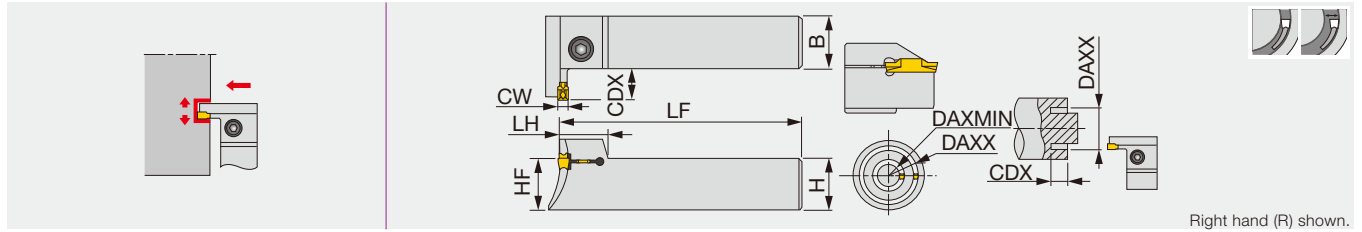
| INSERT                 |           |  |
|------------------------|-----------|--|
| Designation            | Seat size | Insert   |
| CTFR/L2525-3T10-024035 | 3         | DTF, DTX   |
| CTFR/L2525-3T10-029040 | 3         | DTF, DTX   |
| CTFR/L2525-3T10-034050 | 3         | DTF, DTX   |
| CTFR/L2525-3T15-044070 | 3         | DTF, DTX, DTR, DTE, DGG, DTM                     |
| CTFR/L2525-3T15-064100 | 3         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DGL, DTM |
| CTFR/L2525-4T10-022036 | 4         | DTF, DTX   |
| CTFR/L2525-4T20-028042 | 4         | DTF, DTX, DTR                                    |
| CTFR/L2525-4T20-034050 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN |
| CTFR/L2525-4T20-042070 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL |
| CTFR/L2525-4T20-062120 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL |
| CTFR/L2525-4T20-112200 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL |
| CTFR/L2525-5T25-...    | 5         | DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN      |
| CTFR/L2525-6T25-...    | 6         | DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN      |

| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |
| DTR                   | 3                    | 44  |
| DTR                   | 4                    | 32  |
| DTR                   | 5                    | 48  |
| DTR                   | 6                    | 48  |
| DTX                   | 3                    | 22  |
| DTX                   | 4                    | 20  |
| DTX                   | 5                    | 20  |
| DTX                   | 6                    | 23  |
| DTF                   | 3                    | 20  |
| DTF                   | 4                    | 20  |

Reference pages: Inserts → **F207 - F221**, Standard cutting conditions → **F222**

# CTFVR/L

## Face grooving and turning perpendicular toolholder



| Metric                  | CW | DAXMIN | DAXX | Seat size | CDX | H  | B  | LF  | LH   | HF | Torque |
|-------------------------|----|--------|------|-----------|-----|----|----|-----|------|----|--------|
| CTFVR/L2525-3T10-024035 | 3  | 24     | 35   | 3         | 10  | 25 | 25 | 150 | 18   | 25 | 5      |
| CTFVR/L2525-3T10-029040 | 3  | 29     | 40   | 3         | 10  | 25 | 25 | 150 | 18   | 25 | 5      |
| CTFVR/L2525-3T10-034050 | 3  | 34     | 50   | 3         | 10  | 25 | 25 | 150 | 18   | 25 | 5      |
| CTFVR/L2525-3T15-044060 | 3  | 44     | 60   | 3         | 15  | 25 | 25 | 150 | 18   | 25 | 5      |
| CTFVR/L2525-3T15-054085 | 3  | 54     | 85   | 3         | 15  | 25 | 25 | 150 | 18   | 25 | 5      |
| CTFVR/L2525-4T12-022040 | 4  | 22     | 40   | 4         | 12  | 25 | 25 | 150 | 18.5 | 25 | 8.5    |
| CTFVR/L2525-4T15-032050 | 4  | 32     | 50   | 4         | 15  | 25 | 25 | 150 | 18.5 | 25 | 8.5    |
| CTFVR/L2525-4T15-042060 | 4  | 42     | 60   | 4         | 15  | 25 | 25 | 150 | 18.5 | 25 | 8.5    |
| CTFVR/L2525-4T15-052085 | 4  | 52     | 85   | 4         | 15  | 25 | 25 | 150 | 18.5 | 25 | 8.5    |
| CTFVR/L2525-5T20-050080 | 5  | 50     | 80   | 5         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |
| CTFVR/L2525-5T20-070110 | 5  | 70     | 110  | 5         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |
| CTFVR/L2525-5T20-100150 | 5  | 100    | 150  | 5         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |
| CTFVR/L2525-5T20-140200 | 5  | 140    | 200  | 5         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |
| CTFVR/L2525-6T20-048085 | 6  | 48     | 85   | 6         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |
| CTFVR/L2525-6T20-073150 | 6  | 73     | 150  | 6         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |
| CTFVR/L2525-6T20-138250 | 6  | 138    | 250  | 6         | 20  | 25 | 25 | 150 | 22   | 25 | 12     |

When depth is deeper than (insert length - 1.5 mm), 1 corner type is recommended  
 Max. groove depth will be 15 mm with DTF insert.  
 Use the right-hand insert for the right-hand holder with DTF insert.  
 Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation              | Clamping screw | Wrench |
|--------------------------|----------------|--------|
| CTFVR/L2525-3T...        | CM5X0.8X25-A   | P-4    |
| CTFVR/L2525-4T...        | CM6X1X25-A     | P-5    |
| CTFVR/L2525-5T..., 6T... | CM8X1.25X25-A  | P-6    |

### INSERT

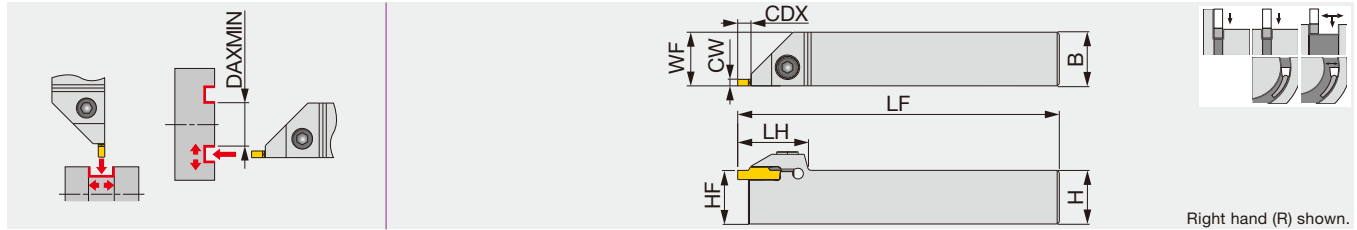
| Designation             | Seat size | Insert   |
|-------------------------|-----------|--|
| CTFVR/L2525-3T10-024035 | 3         | DTF, DTX   |
| CTFVR/L2525-3T10-029040 | 3         | DTF, DTX   |
| CTFVR/L2525-3T10-034050 | 3         | DTF, DTX, DTR                                    |
| CTFVR/L2525-3T15-044060 | 3         | DTF, DTX, DTR                                    |
| CTFVR/L2525-3T15-054085 | 3         | DTF, DTX, DTE, DGG, DTR, DTM                     |
| CTFVR/L2525-4T12-022040 | 4         | DTF, DTX, DTR                                    |
| CTFVR/L2525-4T15-032050 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN |
| CTFVR/L2525-4T15-042060 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL |
| CTFVR/L2525-4T15-052085 | 4         | DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL |
| CTFVR/L2525-5T20-...    | 5         | DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN      |
| CTFVR/L2525-6T20-...    | 6         | DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL           |

| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |
| DTR                   | 3                    | 44  |
| DTR                   | 4                    | 32  |
| DTR                   | 5                    | 48  |
| DTR                   | 6                    | 48  |
| DTX                   | 3                    | 22  |
| DTX                   | 4                    | 20  |
| DTX                   | 5                    | 20  |
| DTX                   | 6                    | 23  |
| DTF                   | 3                    | 20  |
| DTF                   | 4                    | 20  |

Reference pages: Inserts → **F207 - F221**, Standard cutting conditions → **F222**



### External face grooving and turning toolholder



| Inch           | CW    | Seat size | CDX   | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | Torque |
|----------------|-------|-----------|-------|-------|-------|-------|-------|-------|-------------------|--------|
| CTEFR/L12-4T04 | 0.157 | 2, 3, 4   | 0.189 | 0.750 | 0.750 | 5.000 | 1.300 | 0.750 | 0.770             | 6.27   |
| CTEFR/L16-4T04 | 0.157 | 2, 3, 4   | 0.189 | 1.000 | 1.000 | 6.000 | 1.300 | 1.000 | 1.020             | 6.27   |
| CTEFR/L12-6T04 | 0.236 | 5, 6      | 0.189 | 0.750 | 0.750 | 5.000 | 1.460 | 0.750 | 0.770             | 6.27   |
| CTEFR/L16-6T04 | 0.236 | 5, 6      | 0.189 | 1.000 | 1.000 | 6.000 | 1.460 | 1.000 | 1.020             | 6.27   |

| Metric           | CW | Seat size | CDX | H  | B  | LF  | LH | HF | WF <sup>(1)</sup> | Torque* |
|------------------|----|-----------|-----|----|----|-----|----|----|-------------------|---------|
| CTEFR/L2020-4T04 | 4  | 2, 3, 4   | 4.8 | 20 | 20 | 125 | 33 | 20 | 20.5              | 8.5     |
| CTEFR/L2525-4T04 | 4  | 2, 3, 4   | 4.8 | 25 | 25 | 150 | 33 | 25 | 25.5              | 8.5     |
| CTEFR/L2020-6T04 | 6  | 5, 6      | 4.8 | 20 | 20 | 125 | 37 | 20 | 20.6              | 8.5     |
| CTEFR/L2525-6T04 | 6  | 5, 6      | 4.8 | 25 | 25 | 150 | 37 | 25 | 25.6              | 8.5     |

(1) "WF" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

#### INCH SPARE PARTS

| Designation    | Clamping screw | Wrench |
|----------------|----------------|--------|
| CTEFR/L12-4T04 | CM6X1X20-A     | P-5    |
| CTEFR/L16-4T04 | CM6X1X25-A     | P-5    |
| CTEFR/L12-6T04 | CM6X1X20-A     | P-5    |
| CTEFR/L16-6T04 | CM6X1X25-A     | P-5    |

#### METRIC SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| CTEFR/L2020-4T04 | CM6X1X20-A     | P-5    |
| CTEFR/L2525-4T04 | CM6X1X25-A     | P-5    |
| CTEFR/L2020-6T04 | CM6X1X20-A     | P-5    |
| CTEFR/L2525-6T04 | CM6X1X25-A     | P-5    |

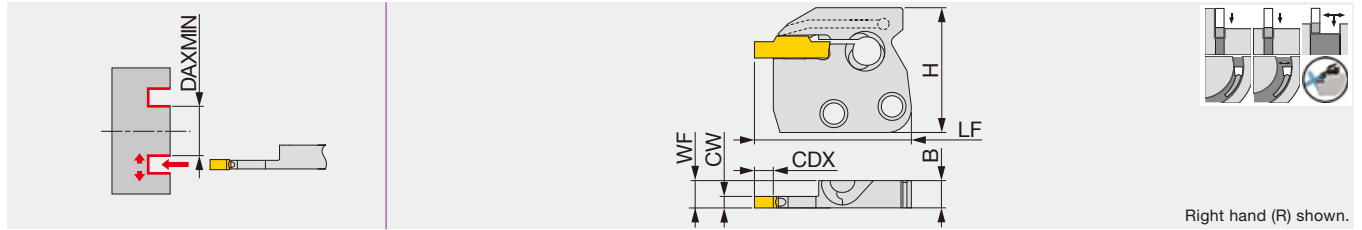
| Insert                | Groove width CW (in) | Face grooving Min. machining dia. DAXMIN (in) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 0.079                | 11.614  |
| DGM / DGS / SGN / DGL | 0.118                | 3.622   |
| DGM / DGS / SGN / DGL | 0.157                | 1.457   |
| DGM / DGS / SGN / DGL | 0.197                | 2.362   |
| DGM / DGS / DGL       | 0.236                | 2.244   |
| DTX / DTM / DTR       | 0.079                | 11.614  |
| DTE / DGG / DTM       | 0.118                | 2.441   |
| DTE / DGG / DTM       | 0.157                | 1.654   |
| DTE / DGG / DTM       | 0.197                | 2.520   |
| DTE / DGG / DTM       | 0.236                | 2.402   |
| DTR                   | 0.118                | 1.732   |
| DTR                   | 0.157                | 1.260   |
| DTR                   | 0.197                | 1.890   |
| DTR                   | 0.236                | 1.890   |
| DTX                   | 0.118                | 0.866   |
| DTX                   | 0.157                | 0.787   |
| DTX                   | 0.197                | 0.787   |
| DTX                   | 0.236                | 0.906   |
| DTF                   | 0.118                | 0.787   |
| DTF                   | 0.157                | 0.787   |

| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 2                    | 295   |
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTX / DTM / DTR       | 2                    | 295   |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |
| DTR                   | 3                    | 44  |
| DTR                   | 4                    | 32  |
| DTR                   | 5                    | 48  |
| DTR                   | 6                    | 48  |
| DTX                   | 3                    | 22  |
| DTX                   | 4                    | 20  |
| DTX                   | 5                    | 20  |
| DTX                   | 6                    | 23  |
| DTF                   | 3                    | 20  |
| DTF                   | 4                    | 20  |

Reference pages: Inserts → **F207 - F221**, Standard cutting conditions → **F222**

## CAEFR/L-CHP

Face and external grooving adapter, with high pressure coolant capability

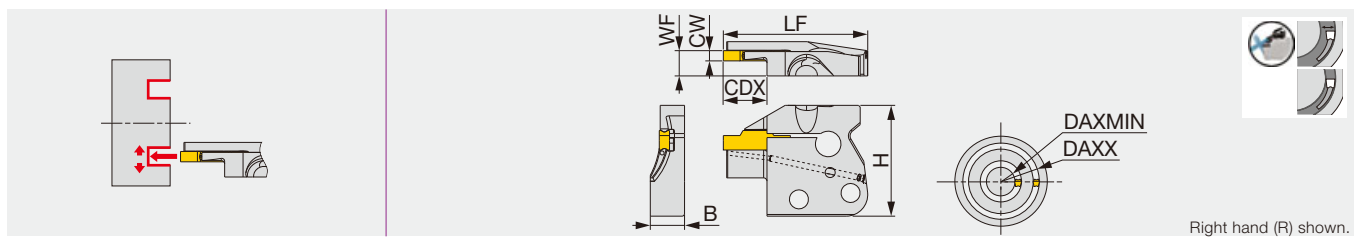


| Metric           | CW | Seat size | CDX | H  | B   | LF   | WF <sup>(1)</sup> |
|------------------|----|-----------|-----|----|-----|------|-------------------|
| CAEFR/L-4T04-CHP | 4  | 2,3,4     | 4.8 | 33 | 7.2 | 41.5 | 7.7               |
| CAEFR/L-6T04-CHP | 6  | 5,6       | 4.8 | 33 | 7.2 | 46.3 | 7.8               |

(1) "WF" value is calculated with groove width "CW" shown in the table.

## CAFR/L-CHP

Face grooving and turning adapter, with high pressure coolant capability



| Metric                 | CW | DAXMIN | DAXX | Seat size | CDX | H  | B    | LF | WF <sup>(1)</sup> |
|------------------------|----|--------|------|-----------|-----|----|------|----|-------------------|
| CAFR/L-3T12-040055-CHP | 3  | 40     | 55   | 3         | 12  | 33 | 10.2 | 43 | 7.5               |
| CAFR/L-3T12-055075-CHP | 3  | 55     | 75   | 3         | 12  | 33 | 10.2 | 43 | 7.5               |
| CAFR/L-3T12-075100-CHP | 3  | 75     | 100  | 3         | 12  | 33 | 10.2 | 43 | 7.5               |
| CAFR/L-3T12-100140-CHP | 3  | 100    | 140  | 3         | 12  | 33 | 10.2 | 43 | 7.5               |
| CAFR/L-3T12-140200-CHP | 3  | 140    | 200  | 3         | 12  | 33 | 10.2 | 43 | 7.5               |
| CAFR/L-4T16-050070-CHP | 4  | 50     | 70   | 4         | 16  | 33 | 10.2 | 43 | 8                 |
| CAFR/L-4T16-070100-CHP | 4  | 70     | 100  | 4         | 16  | 33 | 10.2 | 43 | 8                 |
| CAFR/L-4T16-100150-CHP | 4  | 100    | 150  | 4         | 16  | 33 | 10.2 | 43 | 8                 |
| CAFR/L-4T16-150250-CHP | 4  | 150    | 250  | 4         | 16  | 33 | 10.2 | 43 | 8                 |
| CAFR/L-5T20-055080-CHP | 5  | 55     | 80   | 5         | 20  | 33 | 10.2 | 47 | 8.5               |
| CAFR/L-5T20-080120-CHP | 5  | 80     | 120  | 5         | 20  | 33 | 10.2 | 47 | 8.5               |
| CAFR/L-5T20-120180-CHP | 5  | 120    | 180  | 5         | 20  | 33 | 10.2 | 47 | 8.5               |
| CAFR/L-5T20-180300-CHP | 5  | 180    | 300  | 5         | 20  | 33 | 10.2 | 47 | 8.5               |
| CAFR/L-5T20-300000-CHP | 5  | 300    | ∞    | 5         | 20  | 33 | 10.2 | 47 | 8.5               |
| CAFR/L-6T25-060090-CHP | 6  | 60     | 90   | 6         | 25  | 33 | 10.2 | 52 | 9                 |
| CAFR/L-6T25-090150-CHP | 6  | 90     | 150  | 6         | 25  | 33 | 10.2 | 52 | 9                 |
| CAFR/L-6T25-150250-CHP | 6  | 150    | 250  | 6         | 25  | 33 | 10.2 | 52 | 9                 |
| CAFR/L-6T25-250400-CHP | 6  | 250    | 400  | 6         | 25  | 33 | 10.2 | 52 | 9                 |

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.  
Max. groove depth will be 15 mm with DTF insert.  
Use the right-hand insert for the right-hand holder with DTF insert.  
(1) WF is calculated with the groove width (CW) in the above table.

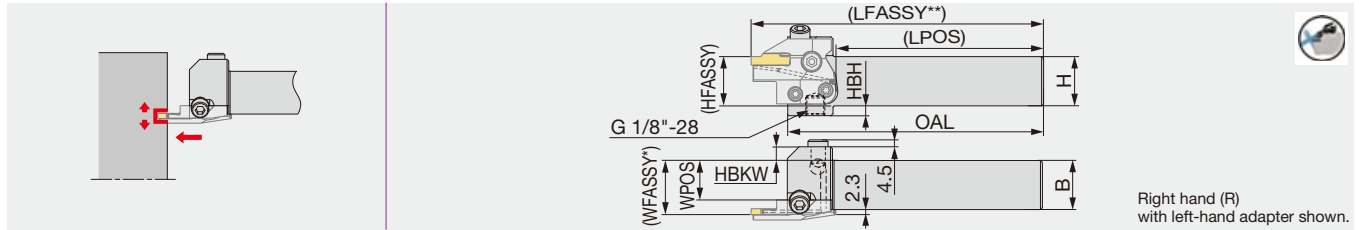
| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 2                    | 295   |
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTX / DTM / DTR       | 2                    | 295   |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |

| Insert | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|--------|----------------------|---|
| DTR    | 3                    | 44  |
| DTR    | 4                    | 32  |
| DTR    | 5                    | 48  |
| DTR    | 6                    | 48  |
| DTX    | 3                    | 22  |
| DTX    | 4                    | 20  |
| DTX    | 5                    | 20  |
| DTX    | 6                    | 23  |
| DTF    | 3                    | 20  |
| DTF    | 4                    | 20  |

Reference pages: Inserts → **F207 - F221**, Shanks and toolholders → **F200 - F202**  
Standard cutting conditions → **F222**, Technical Reference → **L059**



Shank for adapter, with high pressure coolant capability



Right hand (R)  
with left-hand adapter shown.

| Inch         | H     | B     | OAL   | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque |
|--------------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|--------|
| CHSR/L12-CHP | 0.750 | 0.750 | 5.000 | 4.035 | 0.560 | 0.510 | 0.750  | 0.190 | CA*FL/R**-CHP    | 3.69   |
| CHSR/L16-CHP | 1.000 | 1.000 | 5.000 | 4.035 | 0.810 | 0.260 | 1.000  | 0.200 | CA*FL/R**-CHP    | 3.69   |

| Metric         | H  | B  | OAL | LPOS  | WPOS | HBKW | HFASSY | HBH | Adapter (Option) | Torque* |
|----------------|----|----|-----|-------|------|------|--------|-----|------------------|---------|
| CHSR/L2020-CHP | 20 | 20 | 130 | 105.5 | 15.1 | 12   | 20     | 10  | CA*FL/R**-CHP    | 6.5     |
| CHSR/L2525-CHP | 25 | 25 | 130 | 105.5 | 20.1 | 7    | 25     | 5   | CA*FL/R**-CHP    | 6.5     |

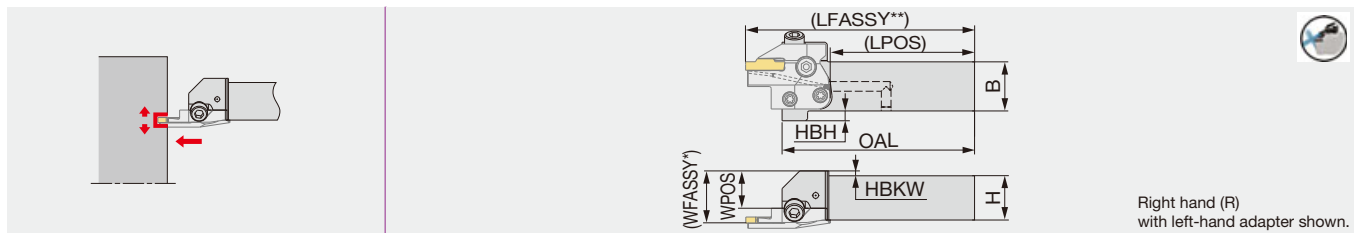
WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.



## CHSR/L-CHP-MC

Direct connection

Shank for adapter, with high pressure coolant capability



Right hand (R)  
with left-hand adapter shown.

| Metric            | H  | B  | OAL | LPOS | WPOS | HBKW | HBH | Adapter (Option) | Torque |
|-------------------|----|----|-----|------|------|------|-----|------------------|--------|
| CHSR/L2020-CHP-MC | 20 | 20 | 98  | 73.5 | 14   | 6    | 10  | CA*FL/R**-CHP    | 6.5    |
| CHSR/L2525-CHP-MC | 25 | 25 | 98  | 73.5 | 19   | -    | 5   | CA*FL/R**-CHP    | 6.5    |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N-m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation    | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|----------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHSR/L*-CHP    | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |
| CHSR/L*-CHP-MC | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | -               |

### Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

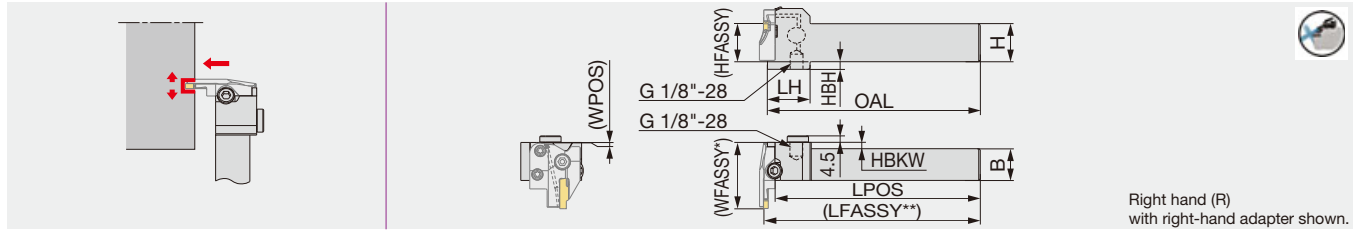
### Combination of adapter and shank

| Shank            | External grooving adapter |                 | Face grooving adapter |            | External and face grooving adapter |             |
|------------------|---------------------------|-----------------|-----------------------|------------|------------------------------------|-------------|
|                  | CAER**-CHP, -MD           | CAEL**-CHP, -MD | CAFR**-CHP            | CAFL**-CHP | CAEFR**-CHP                        | CAEFL**-CHP |
| CHSR**-CHP (-MC) | ●                         |                 |                       | ●          | ●                                  |             |
| CHSL**-CHP (-MC) |                           | ●               | ●                     |            |                                    | ●           |

● : Corresponding

Reference pages: Inserts → F207 - F221, Adapters → F199, Standard cutting conditions → F222  
 Parts for coolant hose → F290, Technical Reference → L059

Shank for perpendicularly-mounted adapter, with high pressure coolant capability



Right hand (R) with right-hand adapter shown.

| Inch            | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|---------|
| CHFVR/L12-CHP   | 0.750 | 0.750 | 5.500 | 1.100 | 5.307 | 0.020 | 0.234 | 0.750  | 0.431 | CA*FR/L**-CHP    | 3.69    |
| CHFVR/L16-CHP   | 1.000 | 1.000 | 5.500 | 1.100 | 5.307 | 0.020 | -     | 1.000  | 0.200 | CA*FR/L**-CHP    | 3.69    |
| Metric          | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque* |
| CHFVR/L2020-CHP | 20    | 20    | 140   | 28    | 135.1 | 0.5   | 5     | 20     | 10    | CA*FR/L**-CHP    | 6.5     |
| CHFVR/L2525-CHP | 25    | 25    | 140   | 28    | 135.1 | 0.5   | 0     | 25     | 5     | CA*FR/L**-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHFVR/L...  | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |

Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

Combination of adapter and shank

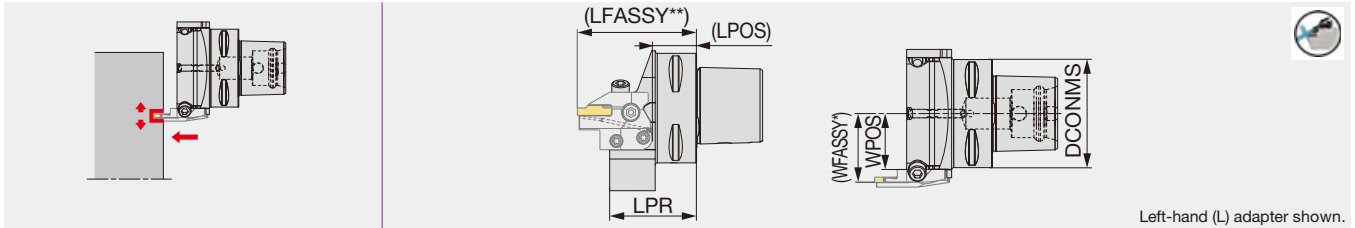
| Shank       | External grooving adapter |                 | Face grooving adapter |            | External and face grooving adapter |             |
|-------------|---------------------------|-----------------|-----------------------|------------|------------------------------------|-------------|
|             | CAER**-CHP, -MD           | CAEL**-CHP, -MD | CAFR**-CHP            | CAFL**-CHP | CAEFR**-CHP                        | CAEFL**-CHP |
| CHFVR**-CHP | ●                         | ●               | ●                     |            | ●                                  | ●           |
| CHFVL**-CHP |                           |                 |                       | ●          |                                    |             |

● : Corresponding

Reference pages: Inserts → F207 - F221, Adapters → F199, Standard cutting conditions → F222  
 Parts for coolant hose → F290, Technical Reference → L059



Toolholder with TungCap connection, for adapter, with high pressure coolant capability



Left-hand (L) adapter shown.

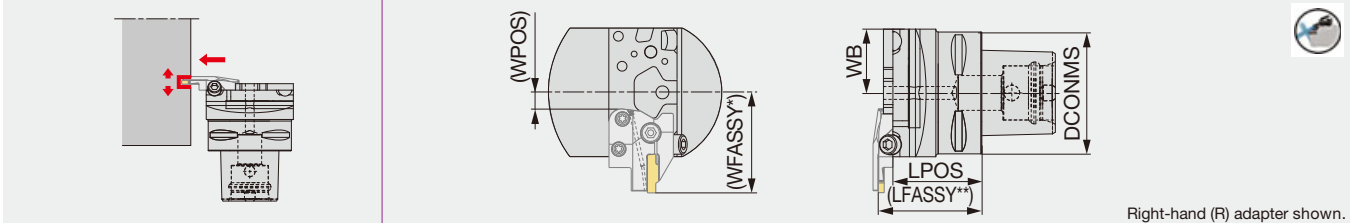
| Metric          | DCONMS | LPR  | LPOSS | WPOSS | Adapter (Option) | Torque |
|-----------------|--------|------|-------|-------|------------------|--------|
| C3CHSN19045-CHP | 32     | 45   | 17.5  | 18.5  | CA*FR/L**-CHP    | 6.5    |
| C4CHSN21047-CHP | 40     | 46.5 | 21.5  | 21    | CA*FR/L**-CHP    | 6.5    |
| C5CHSN26047-CHP | 50     | 47   | 22.5  | 26    | CA*FR/L**-CHP    | 6.5    |
| C6CHSN33050-CHP | 63     | 50   | 24.5  | 32.5  | CA*FR/L**-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOSS) + adapter (WF)  
 LFASSY\*\* : Toolholder (LPOSS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.



## C\*CHFVN-CHP

Toolholder with TungCap connection, for perpendicularly-mounted adapter, with high pressure coolant capability



Right-hand (R) adapter shown.

| Metric           | DCONMS | LPOSS | WB | WPOSS | Adapter (Option) | Torque |
|------------------|--------|-------|----|-------|------------------|--------|
| C3CHFVN26040-CHP | 32     | 40    | 26 | 1.5   | CA*FR/L**-CHP    | 6.5    |
| C4CHFVN26046-CHP | 40     | 46    | 26 | 1.5   | CA*FR/L**-CHP    | 6.5    |
| C5CHFVN26046-CHP | 50     | 46    | 26 | 1.5   | CA*FR/L**-CHP    | 6.5    |
| C6CHFVN33046-CHP | 63     | 46    | 33 | 8.5   | CA*FR/L**-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOSS) + adapter (LF)  
 LFASSY\*\* : Toolholder (LPOSS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

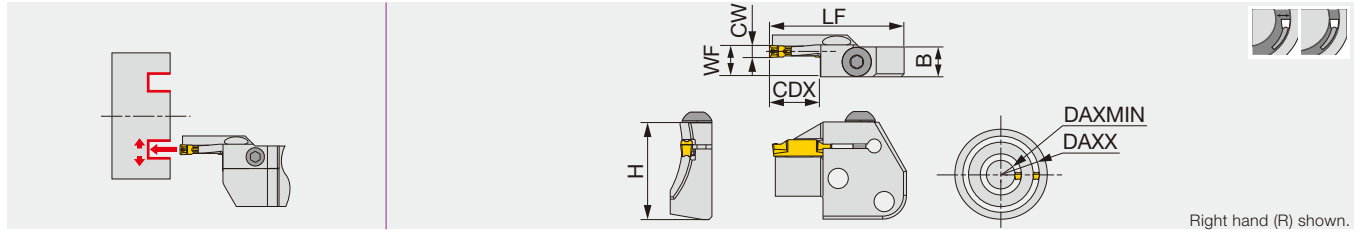
| Designation   | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  |
|---------------|------------------|----------|------------------|------------------|----------|---------|
| C*CH**N**-CHP | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N |

### Recommended clamping torque (N·m)

| Clamping screw  | Torque (N·m) |
|-----------------|--------------|
| SR M5-04451     | 2.5          |
| SR M6X12DIN6912 | 6.5          |
| SR M6X20-XT     | 6.5          |

# CAFR/L

## Face grooving and turning adapter



| Metric             | CW | DAXMIN | DAXX | Seat size | CDX | H    | B  | LF | WF <sup>(1)</sup> | Torque |
|--------------------|----|--------|------|-----------|-----|------|----|----|-------------------|--------|
| CAFR/L-3T12-040055 | 3  | 40     | 55   | 3         | 12  | 32.7 | 10 | 45 | 10.4              | 5      |
| CAFR/L-3T12-055075 | 3  | 55     | 75   | 3         | 12  | 32.7 | 10 | 45 | 10.4              | 5      |
| CAFR/L-3T12-075100 | 3  | 75     | 100  | 3         | 12  | 32.7 | 10 | 45 | 10.4              | 5      |
| CAFR/L-3T12-100140 | 3  | 100    | 140  | 3         | 12  | 32.7 | 10 | 45 | 10.4              | 5      |
| CAFR/L-3T12-140200 | 3  | 140    | 200  | 3         | 12  | 32.7 | 10 | 45 | 10.4              | 5      |
| CAFR/L-4T16-050070 | 4  | 50     | 70   | 4         | 16  | 32.7 | 10 | 45 | 10.5              | 5      |
| CAFR/L-4T16-070100 | 4  | 70     | 100  | 4         | 16  | 32.7 | 10 | 45 | 10.5              | 5      |
| CAFR/L-4T16-100150 | 4  | 100    | 150  | 4         | 16  | 32.7 | 10 | 45 | 10.5              | 5      |
| CAFR/L-4T16-150250 | 4  | 150    | 250  | 4         | 16  | 32.7 | 10 | 45 | 10.5              | 5      |
| CAFR/L-5T20-055080 | 5  | 55     | 80   | 5         | 20  | 32.7 | 10 | 49 | 10.5              | 5      |
| CAFR/L-5T20-080120 | 5  | 80     | 120  | 5         | 20  | 32.7 | 10 | 49 | 10.5              | 5      |
| CAFR/L-5T20-120180 | 5  | 120    | 180  | 5         | 20  | 32.7 | 10 | 49 | 10.5              | 5      |
| CAFR/L-5T20-180300 | 5  | 180    | 300  | 5         | 20  | 32.7 | 10 | 49 | 10.5              | 5      |
| CAFR/L-5T20-300000 | 5  | 300    | ∞    | 5         | 20  | 32.7 | 10 | 49 | 10.5              | 5      |
| CAFR/L-6T25-060090 | 6  | 60     | 90   | 6         | 25  | 32.7 | 10 | 55 | 10.5              | 5      |
| CAFR/L-6T25-090150 | 6  | 90     | 150  | 6         | 25  | 32.7 | 10 | 55 | 10.5              | 5      |
| CAFR/L-6T25-150250 | 6  | 150    | 250  | 6         | 25  | 32.7 | 10 | 55 | 10.5              | 5      |
| CAFR/L-6T25-250400 | 6  | 250    | 400  | 6         | 25  | 32.7 | 10 | 55 | 10.5              | 5      |

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.  
 Max. groove depth will be 15 mm with DTF insert.  
 Use the right-hand insert for the right-hand holder with DTF insert.  
 Not compatible with TungModularSystem  
<sup>(1)</sup> WF is calculated with the groove width (CW) in the above table.  
 Torque: Recommended clamping torque: N·m

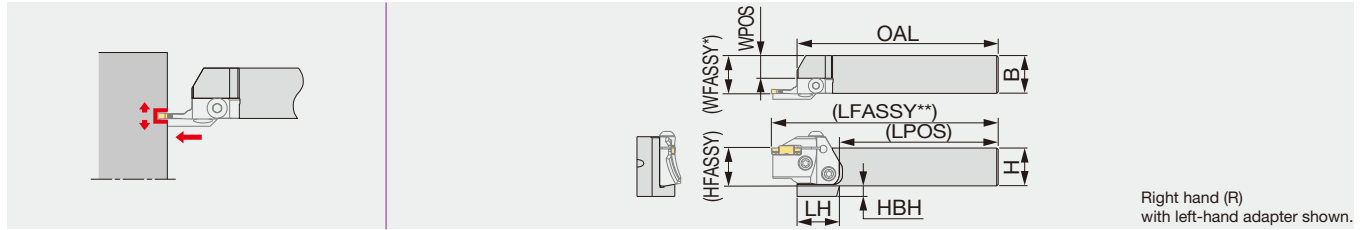
### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CAFR/L...   | BHM6-20-A      | P-4    |

| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |
| DTR                   | 3                    | 44  |
| DTR                   | 4                    | 32  |
| DTR                   | 5                    | 48  |
| DTR                   | 6                    | 48  |
| DTX                   | 3                    | 22  |
| DTX                   | 4                    | 20  |
| DTX                   | 5                    | 20  |
| DTX                   | 6                    | 23  |
| DTF                   | 3                    | 20  |
| DTF                   | 4                    | 20  |

Reference pages: Inserts → **F207 - F221**, Shanks and toolholders → **F204, F205**  
 Standard cutting conditions → **F222**

### Shank for adapter



| Inch       | H     | B     | OAL   | LPOS  | LH    | WPOS  | HFASSY | HBH   | Adapter (Option) |
|------------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|
| CHSR/L12-U | 0.750 | 0.750 | 5.330 | 4.227 | 1.380 | 0.356 | 0.750  | 0.502 | CAFL/R...        |
| CHSR/L16-U | 1.000 | 1.000 | 5.330 | 4.227 | 1.100 | 0.606 | 1.000  | 0.280 | CAFL/R...        |
| CHSR/L20-U | 1.250 | 1.250 | 6.330 | 5.227 | -     | 0.856 | 1.250  | -     | CAFL/R...        |

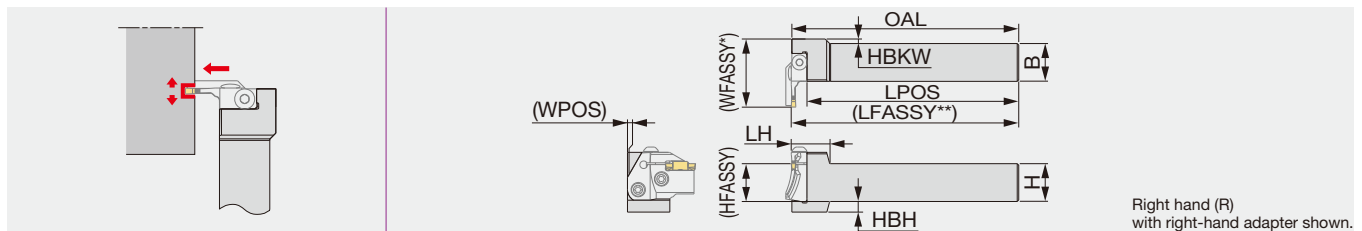
| Metric     | H  | B  | OAL | LPOS | LH | WPOS | HFASSY | HBH | Adapter (Option) |
|------------|----|----|-----|------|----|------|--------|-----|------------------|
| CHSR/L2020 | 20 | 20 | 133 | 105  | 35 | 10   | 20     | 12  | CAFL/R...        |
| CHSR/L2525 | 25 | 25 | 133 | 105  | 28 | 15   | 25     | 7   | CAFL/R...        |
| CHSR/L3232 | 32 | 32 | 153 | 125  | -  | 22   | 32     | -   | CAFL/R...        |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Not compatible with TungModularSystem



### CHFVR/L

### Shank for adapter, perpendicularly mounted



| Inch        | H     | B     | OAL   | LPOS  | LH    | WPOS   | HBKW  | HFASSY | HBH   | Adapter (Option) |
|-------------|-------|-------|-------|-------|-------|--------|-------|--------|-------|------------------|
| CHFVR/L12-U | 0.750 | 0.750 | 6.000 | 5.606 | 0.984 | -0.001 | 0.352 | 0.750  | 0.502 | CAFR/L...        |
| CHFVR/L16-U | 1.000 | 1.000 | 6.000 | 5.606 | 0.984 | -0.001 | 0.102 | 1.000  | 0.276 | CAFR/L...        |
| CHFVR/L20-U | 1.250 | 1.250 | 7.000 | 6.606 | 0.984 | 0.147  | -     | 1.250  | -     | CAFR/L...        |

| Metric      | H  | B  | OAL | LPOS | LH | WPOS | HBKW | HFASSY | HBH | Adapter (Option) |
|-------------|----|----|-----|------|----|------|------|--------|-----|------------------|
| CHFVR/L2020 | 20 | 20 | 150 | 140  | 25 | 0    | 8    | 20     | 12  | CAFR/L...        |
| CHFVR/L2525 | 25 | 25 | 150 | 140  | 25 | 0    | 3    | 25     | 7   | CAFR/L...        |
| CHFVR/L3232 | 32 | 32 | 170 | 160  | 25 | 4    | -    | 32     | -   | CAFR/L...        |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Not compatible with TungModularSystem

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CH**R/L...  | CSHB-6-A       | P-4    |

### Combination of adapter and shank

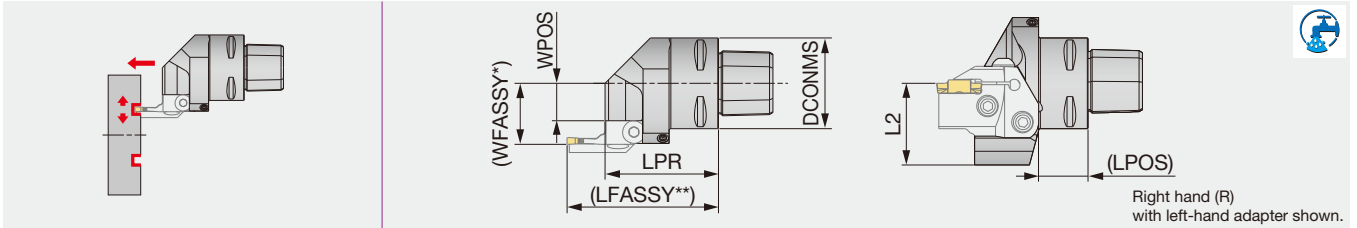
| Shank    | External grooving adapter |         | Face grooving adapter |         |
|----------|---------------------------|---------|-----------------------|---------|
|          | CAER...                   | CAEL... | CAFR...               | CAFL... |
| CHSR...  | ●                         |         |                       | ●       |
| CHSL...  |                           | ●       | ●                     |         |
| CHFVR... |                           | ●       | ●                     |         |
| CHFVL... | ●                         |         |                       | ●       |

● : Corresponding

Reference pages: Inserts → **F207 - F221**, Adapters → **F203**, Standard cutting conditions → **F222**

## C-CHSR/L

Toolholder with TungCap connection for adapter



| Metric         | DCONMS | LPR | LPOS | L2 | WPOS | Adapter (Option) |
|----------------|--------|-----|------|----|------|------------------|
| C3CHSR/L22050N | 32     | 50  | 22.1 | 35 | 11.5 | CAFL/R...        |
| C4CHSR/L27050N | 40     | 50  | 22.1 | 36 | 16.5 | CAFL/R...        |
| C5CHSR/L35060N | 50     | 60  | 32.1 | 36 | 24.5 | CAFL/R...        |
| C6CHSR/L45065N | 63     | 65  | 32.1 | 41 | 34.5 | CAFL/R...        |

WFASSY\* : Toolholder (WPOS) + adapter (WF)

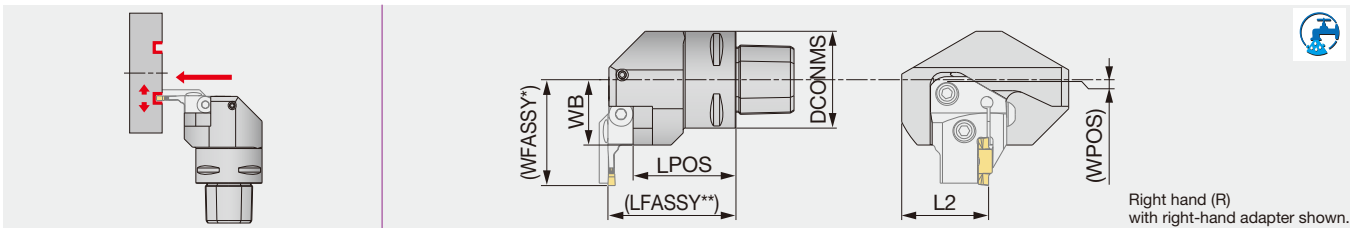
LFASSY\*\* : Toolholder (LPOS) + adapter (LF)

The LFASSY or WFASSY value may change depending on the adapter type. If needed, the coolant direction can be adjusted by the nozzle.

Applicable for 7 MPa coolant. Not compatible with TungModularSystem.

## C-CHFVR/L

Toolholder with TungCap connection for adapter, perpendicularly mounted



| Metric          | DCONMS | LPOS | L2 | WB | WPOS | Adapter (Option) |
|-----------------|--------|------|----|----|------|------------------|
| C3CHFVR/L22040N | 32     | 32.5 | 35 | 22 | -5.9 | CAFR/L...        |
| C4CHFVR/L27050N | 40     | 42.5 | 36 | 27 | -0.9 | CAFR/L...        |
| C5CHFVR/L35060N | 50     | 49.5 | 36 | 35 | 7.1  | CAFR/L...        |
| C6CHFVR/L45065N | 63     | 54.5 | 41 | 45 | 17.1 | CAFR/L...        |

WFASSY\* : Toolholder (WPOS) + adapter (LF)

LFASSY\*\* : Toolholder (LPOS) + adapter (WF)

The LFASSY or WFASSY value may change depending on the adapter type. If needed, the coolant direction can be adjusted by the nozzle.

Applicable for 7 MPa coolant. Not compatible with TungModularSystem.

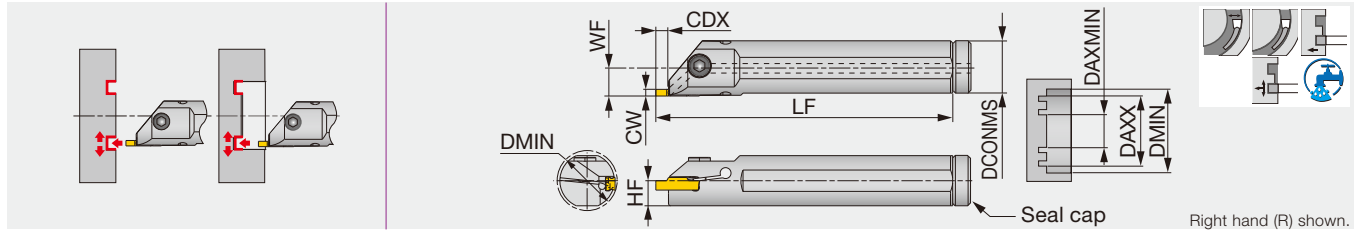
### SPARE PARTS

| Designation  | Coolant parts | Clamping screw | Wrench |
|--------------|---------------|----------------|--------|
| C3CH**R/L... | SATZ-M8X1-M3  | CSHB-6-A       | P-4    |
| C4CH**R/L... | SATZ-M8X1-M3  | CSHB-6-A       | P-4    |
| C5CH**R/L... | SATZ-M10X1-M5 | CSHB-6-A       | P-4    |
| C6CH**R/L... | SATZ-M10X1-M5 | CSHB-6-A       | P-4    |

### Combination of adapter and toolholder

| Toolholder | External grooving adapter |         | Face grooving adapter |         |
|------------|---------------------------|---------|-----------------------|---------|
|            | CAER...                   | CAEL... | CAFR...               | CAFL... |
| C*CHSR...  | ●                         |         |                       | ●       |
| C*CHSL...  |                           | ●       | ●                     |         |
| C*CHFVR... |                           | ●       | ●                     |         |
| C*CHFVL... | ●                         |         |                       | ●       |

● : Corresponding



| Inch               | CW    | Seat size | CDX   | DCONMS | LF     | HF    | WF (1) | Torque |
|--------------------|-------|-----------|-------|--------|--------|-------|--------|--------|
| CTIFR/L16-4T05-D17 | 0.157 | 2, 3, 4   | 0.217 | 1.000  | 8.000  | 0.450 | 0.531  | 3.69   |
| CTIFR/L20-4T05-D22 | 0.157 | 2, 3, 4   | 0.217 | 1.250  | 10.000 | 0.590 | 0.656  | 3.69   |
| CTIFR/L16-5T05-D17 | 0.236 | 5, 6      | 0.217 | 1.000  | 8.000  | 0.450 | 0.531  | 3.69   |
| CTIFR/L20-5T05-D22 | 0.236 | 5, 6      | 0.217 | 1.250  | 10.000 | 0.590 | 0.656  | 3.69   |

| Metric              | CW | Seat size | CDX | DCONMS | LF  | HF   | WF (1) | Torque* |
|---------------------|----|-----------|-----|--------|-----|------|--------|---------|
| CTIFR/L25-4T05-D270 | 4  | 2, 3, 4   | 5.5 | 25     | 200 | 11.5 | 13.3   | 5       |
| CTIFR/L32-4T05-D340 | 4  | 2, 3, 4   | 5.5 | 32     | 250 | 15   | 16.8   | 5       |
| CTIFR/L25-5T05-D270 | 6  | 5, 6      | 5.5 | 25     | 200 | 11.5 | 13.3   | 5       |
| CTIFR/L32-5T05-D340 | 6  | 5, 6      | 5.5 | 32     | 250 | 15   | 16.8   | 5       |

Use the right-hand insert for the right-hand holder with DTF insert.  
 (1) WF is calculated with the groove width CW in the above table.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

### INCH SPARE PARTS

| Designation  | Clamping screw | Wrench | Seal cap |
|--------------|----------------|--------|----------|
| CTIFR/L16... | CM6X1X16-A     | P-5    | CA-25    |
| CTIFR/L20... | CM6X1X20-A     | P-5    | CA-32    |

### METRIC SPARE PARTS

| Designation  | Clamping screw | Wrench | Seal cap |
|--------------|----------------|--------|----------|
| CTIFR/L25... | CM6X1X16-A     | P-5    | CA-25    |
| CTIFR/L32... | CM6X1X20-A     | P-5    | CA-32    |


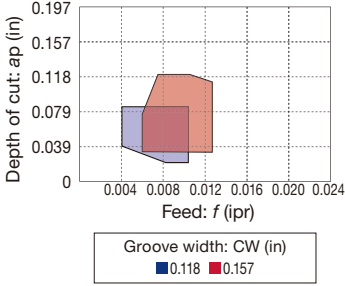
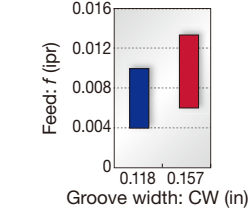

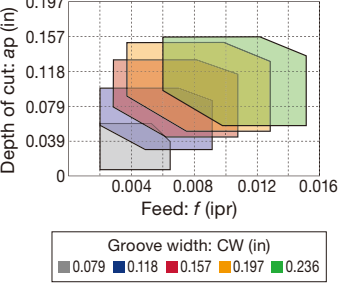
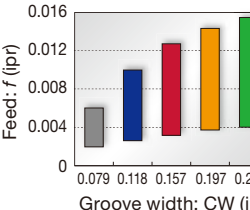

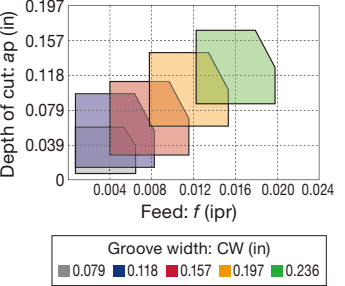
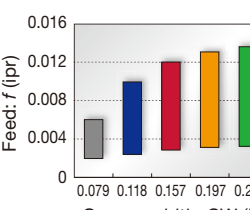

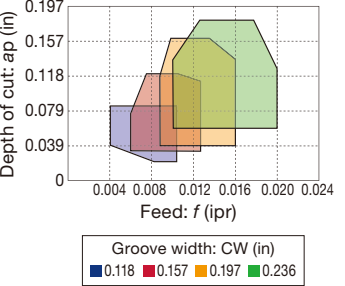
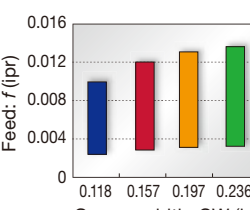
| Seat size | Min. machining dia.: DMIN (in) |                 |
|-----------|--------------------------------|-----------------|
|           | DCONMS = 1.000"                | DCONMS = 1.250" |
| 2         | 11.772                         | 11.772          |
| 3         | 1.035                          | 1.311           |
| 4         | 1.055                          | 1.331           |
| 5         | 1.035                          | 1.311           |
| 6         | 1.055                          | 1.331           |

| Seat size | Min. machining dia.: DMIN (mm) |                |
|-----------|--------------------------------|----------------|
|           | DCONMS = 25 mm                 | DCONMS = 32 mm |
| 2         | 299                            | 299            |
| 3         | 26.3                           | 33.3           |
| 4         | 26.8                           | 33.8           |
| 5         | 26.3                           | 33.3           |
| 6         | 26.8                           | 33.8           |

| Insert                | Groove width CW (in) | Face grooving Min. machining dia. DAXMIN (in) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 0.079                | 11.614  |
| DGM / DGS / SGN / DGL | 0.118                | 3.622   |
| DGM / DGS / SGN / DGL | 0.157                | 1.457   |
| DGM / DGS / SGN / DGL | 0.197                | 2.362   |
| DGM / DGS / DGL       | 0.236                | 2.244   |
| DTX / DTM / DTR       | 0.079                | 11.614  |
| DTE / DGG / DTM       | 0.118                | 2.441   |
| DTE / DGG / DTM       | 0.157                | 1.654   |
| DTE / DGG / DTM       | 0.197                | 2.520   |
| DTE / DGG / DTM       | 0.236                | 2.402   |
| DTR                   | 0.118                | 1.732   |
| DTR                   | 0.157                | 1.260   |
| DTR                   | 0.197                | 1.890   |
| DTR                   | 0.236                | 1.890   |
| DTX                   | 0.118                | 0.866   |
| DTX                   | 0.157                | 0.787   |
| DTX                   | 0.197                | 0.787   |
| DTX                   | 0.236                | 0.906   |
| DTF                   | 0.118                | 0.787   |
| DTF                   | 0.157                | 0.787   |

| Insert                | Groove width CW (mm) | Face grooving Min. machining dia. DAXMIN (mm) |
|-----------------------|----------------------|---|
| DGM / DGS / SGN / DGL | 2                    | 295   |
| DGM / DGS / SGN / DGL | 3                    | 92  |
| DGM / DGS / SGN / DGL | 4                    | 37  |
| DGM / DGS / SGN / DGL | 5                    | 60  |
| DGM / DGS / DGL       | 6                    | 57  |
| DTX / DTM / DTR       | 2                    | 295   |
| DTE / DGG / DTM       | 3                    | 62  |
| DTE / DGG / DTM       | 4                    | 42  |
| DTE / DGG / DTM       | 5                    | 64  |
| DTE / DGG / DTM       | 6                    | 61  |
| DTR                   | 3                    | 44  |
| DTR                   | 4                    | 32  |
| DTR                   | 5                    | 48  |
| DTR                   | 6                    | 48  |
| DTX                   | 3                    | 22  |
| DTX                   | 4                    | 20  |
| DTX                   | 5                    | 20  |
| DTX                   | 6                    | 23  |
| DTF                   | 3                    | 20  |
| DTF                   | 4                    | 20  |

Face grooving and turning

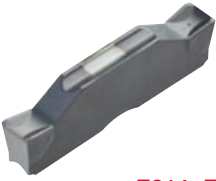
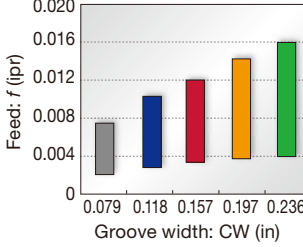
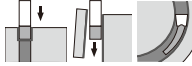

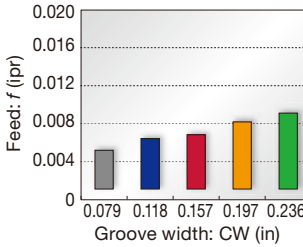
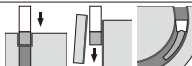
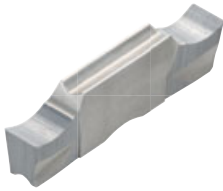
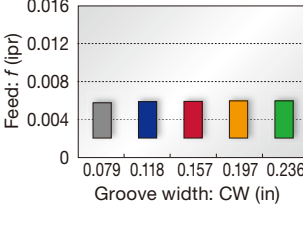
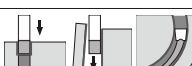

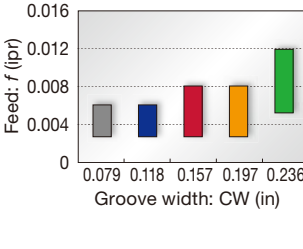
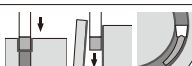
|  |  |  |
|--|--|--|
| <p><b>DTF type (2 corners)</b></p> <p>First choice</p>  <p>F211</p> | <p><b>1st choice for face grooving</b></p> <p>Unique chipbreaker makes chips shorter<br/>Molded and ground insert available</p> <p>CW = 0.118" - 0.157"</p>  | <p>Standard feed and DoC (for turning)</p>  <p>Standard feed</p>      |
| <p><b>DTX type (2 corners)</b></p>  <p>F211</p>                     | <p><b>Multi-functional type</b></p> <p>Well balanced sharpness and strength<br/>Multi-functional insert<br/>CW = 0.079" - 0.236"</p>   | <p>Standard feed and DoC (for turning)</p>  <p>Standard feed</p>      |
| <p><b>DTM type (2 corners)</b></p>  <p>F212</p>                   | <p><b>General purpose</b></p> <p>1st choice for grooving and turning<br/>Suitable for light to medium cutting<br/>Excellent chip control in machining steel, alloy steel, stainless steel, and heat-resistant alloy<br/>CW = 0.079" - 0.236"</p> | <p>Standard feed and DoC (for turning)</p>  <p>Standard feed</p>  |
| <p><b>DTE type (2 corners)</b></p>  <p>F212, F213</p>             | <p><b>General purpose</b></p> <p>Unique chipbreaker makes chips shorter<br/>Molded and ground insert available<br/>CW = 0.104" - 0.236"</p>  | <p>Standard feed and DoC (for turning)</p>  <p>Standard feed</p>  |

Please see page F\*\*\* for the product details.





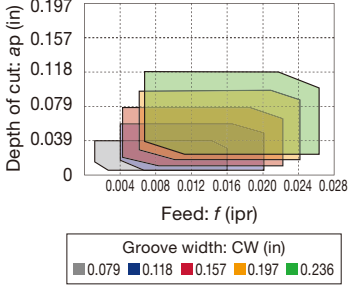
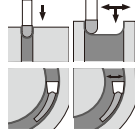


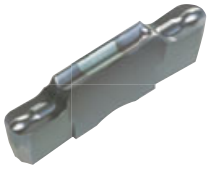
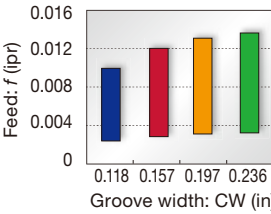
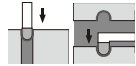
## Grooving

| <p><b>DGM type (2 corners)<br/>SGM type (1 corner)</b></p>  <p><b>F214, F215</b></p> | <p><b>1st choice for grooving and parting</b></p> <p>Smooth chip evacuation<br/>Well-designed edge with high strength<br/>Handed insert available<br/>CW = 0.079" - 0.250"</p>                          | <p>■ Standard feed</p>  <table border="1"> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr><td>0.079</td><td>0.006</td></tr> <tr><td>0.118</td><td>0.010</td></tr> <tr><td>0.157</td><td>0.012</td></tr> <tr><td>0.197</td><td>0.014</td></tr> <tr><td>0.236</td><td>0.016</td></tr> </tbody> </table>   | Groove width: CW (in) | Feed: f (ipr) | 0.079 | 0.006 | 0.118 | 0.010  | 0.157 | 0.012 | 0.197 | 0.014 | 0.236 | 0.016 |    |
|---|---|--|-----------------------|---------------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|---|
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.079   | 0.006   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.118   | 0.010   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.157   | 0.012   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.197   | 0.014   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.236   | 0.016   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| <p><b>DGS type (2 corners)<br/>SGS type (1 corner)</b></p>  <p><b>F216, F217</b></p> | <p><b>Lower cutting force and superior sharpness</b></p> <p>Unique-designed edge and chipbreaker<br/>Handed insert available<br/>CW = 0.079" - 0.250"</p>   | <p>■ Standard feed</p>  <table border="1"> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr><td>0.079</td><td>0.005</td></tr> <tr><td>0.118</td><td>0.006</td></tr> <tr><td>0.157</td><td>0.007</td></tr> <tr><td>0.197</td><td>0.008</td></tr> <tr><td>0.236</td><td>0.009</td></tr> </tbody> </table>   | Groove width: CW (in) | Feed: f (ipr) | 0.079 | 0.005 | 0.118 | 0.006  | 0.157 | 0.007 | 0.197 | 0.008 | 0.236 | 0.009 |    |
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.079   | 0.005   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.118   | 0.006   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.157   | 0.007   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.197   | 0.008   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.236   | 0.009   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| <p><b>DGG type (2 corners)</b></p>  <p><b>F217</b></p>                              | <p><b>For non-ferrous materials and titanium</b></p> <p>Chipbreaker with low cutting force<br/>Sharp cutting edge that prevents vibration and delivers fine surface finish<br/>CW = 0.079" - 0.236"</p> | <p>■ Standard feed</p>  <table border="1"> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr><td>0.079</td><td>0.005</td></tr> <tr><td>0.118</td><td>0.0055</td></tr> <tr><td>0.157</td><td>0.006</td></tr> <tr><td>0.197</td><td>0.006</td></tr> <tr><td>0.236</td><td>0.006</td></tr> </tbody> </table> | Groove width: CW (in) | Feed: f (ipr) | 0.079 | 0.005 | 0.118 | 0.0055 | 0.157 | 0.006 | 0.197 | 0.006 | 0.236 | 0.006 |    |
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.079   | 0.005   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.118   | 0.0055  |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.157   | 0.006   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.197   | 0.006   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.236   | 0.006   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| <p><b>DGL type (2 corners)</b></p>  <p><b>F218</b></p>                             | <p><b>1st choice for mild steel</b></p> <p>Chipbreaker with excellent chip control at low feed<br/>Suitable for mild steel which often presents challenges in chip control<br/>CW = 0.079" - 0.236"</p> | <p>■ Standard feed</p>  <table border="1"> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr><td>0.079</td><td>0.005</td></tr> <tr><td>0.118</td><td>0.006</td></tr> <tr><td>0.157</td><td>0.008</td></tr> <tr><td>0.197</td><td>0.008</td></tr> <tr><td>0.236</td><td>0.012</td></tr> </tbody> </table> | Groove width: CW (in) | Feed: f (ipr) | 0.079 | 0.005 | 0.118 | 0.006  | 0.157 | 0.008 | 0.197 | 0.008 | 0.236 | 0.012 |  |
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.079   | 0.005   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.118   | 0.006   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.157   | 0.008   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.197   | 0.008   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |
| 0.236   | 0.012   |  |                       |               |       |       |       |        |       |       |       |       |       |       |   |


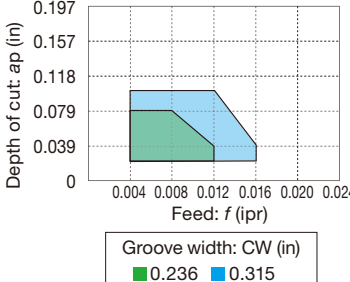
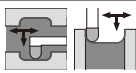
Please see page F\*\*\* for the product details.

## Profiling and undercutting


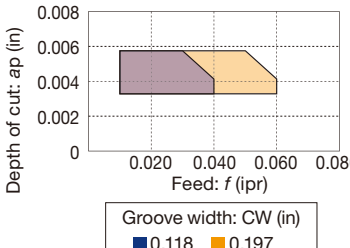

|   |   |  |   |
|---|---|--|---|
| <p><b>DTR type (2 corners)</b><br/><b>STR type (1 corner)</b></p> <p>Molded<br/>DTR, STR</p>  <p>Ground<br/>DTR</p>  <p><b>F218, F219</b></p> | <p><b>Full radius type</b></p> <p>Excellent chip control<br/>Molded and ground inserts available<br/>CW = 0.079" - 0.236"</p> | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.079</li> <li>0.118</li> <li>0.157</li> <li>0.197</li> <li>0.236</li> </ul> |  |
|---|---|--|---|

|  |  |  |   |
|--|--|--|---|
| <p><b>DTIU type (2 corners)</b></p>  <p><b>F220</b></p> | <p><b>Full radius type</b></p> <p>Excellent chip control for undercutting<br/>CW = 0.118" - 0.236"</p> | <p>Standard feed and DoC</p>  <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.118</li> <li>0.157</li> <li>0.197</li> <li>0.236</li> </ul> |  |
|--|--|--|---|

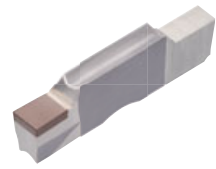
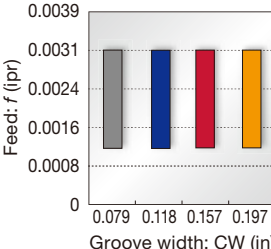
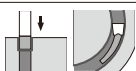
## Aluminum wheel machining

|   |  |  |  |
|---|--|--|--|
| <p><b>DTA type (2 corners)</b></p>  <p><b>F220</b></p> | <p><b>Full radius type</b></p> <p>Excellent chip control<br/>For aluminum wheel profiling<br/>Ground insert<br/>CW = 0.236" - 0.315"</p> | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.236</li> <li>0.315</li> </ul> |  |
|---|--|--|--|

## For high feed external and face turning of hardened steel parts

|  |   |   |   |
|--|---|---|---|
| <p><b>STH type (1 corner)</b></p>  <p><b>F221</b></p> | <p><b>External and face turning of hardened steel parts</b></p> <p>High efficiency machining using light D.O.C. and increased feeds<br/>CW = 0.118", 0.197"</p> | <p>Standard feed and DoC (for turning)</p>  <p>Depth of cut: ap (in)</p> <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.118</li> <li>0.197</li> </ul> |  |
|--|---|---|---|

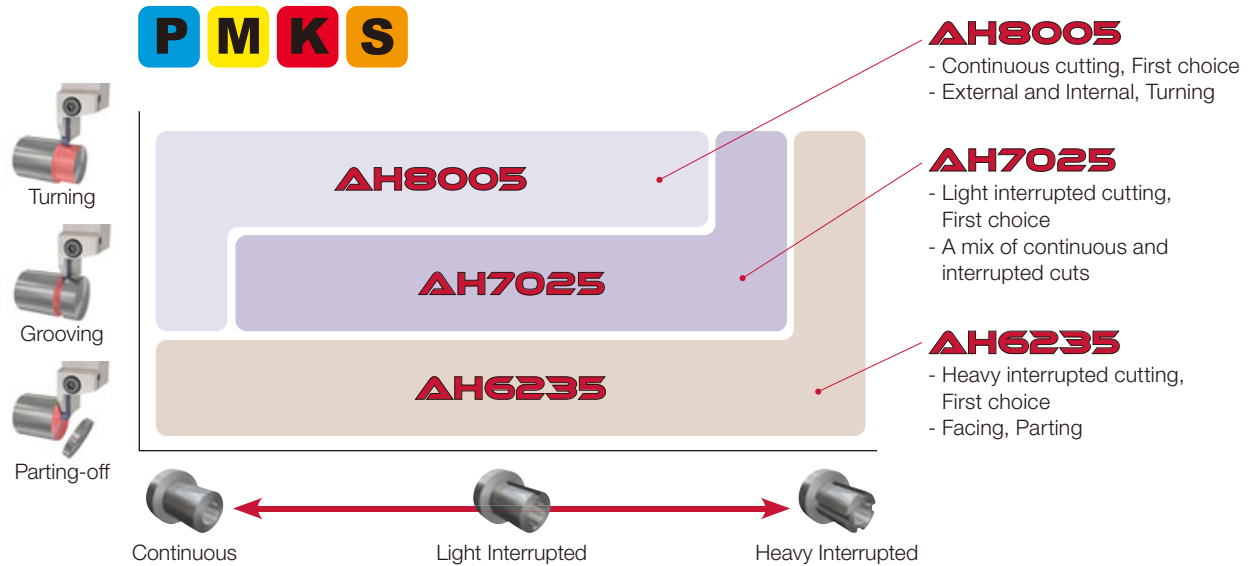
## External grooving of hardened steel

|  |   |  |   |
|--|---|--|---|
| <p><b>SGN-CBN type (1 corner)</b></p>  <p><b>F221</b></p> | <p><b>For hardened steel cutting</b></p> <p>Optimum cutting edge shape for grooving of hardened steels<br/>High tolerance width for finishing<br/>CW = 0.079" - 0.197"<br/>(Tol. ±0.001")</p> | <p>Standard feed</p>  <p>Feed: f (ipr)</p> <p>Groove width: CW (in)</p> <ul style="list-style-type: none"> <li>0.079</li> <li>0.118</li> <li>0.157</li> <li>0.197</li> </ul> |  |
|--|---|--|---|

Please see page F\*\*\* for the product details.



## GRADE SELECTION



## GRADES

### AH8005 **P M K S**

- First choice for external, internal, and side-turning, continuous cuts

### AH7025 **P M K S**

- First choice for light interrupted cuts or a mix of continuous and interrupted cuts
- New PVD coating with high Al content provides excellent adhesion strength
- Improved wear and chipping resistance

### AH6235 **P M K**

- First choice for heavy interrupted cuts, as well as parting and facing applications

### AH725 **P M S**

- General purpose PVD grade for high fracture resistance

### T515 **K**

- First recommended grade for cast iron
- Excellent wear resistance in high speed machining

### T9225 **P**

- Suitable for steel machining at high speeds
- New CVD coating and substrate deliver an outstanding balance of wear and chipping resistance

### NS9530 **P**

- Advanced cermet for finish cutting of steel
- Innovative grade with incredible fracture and high wear resistance

### GH130 **P M K**

- Recommended for interrupted machining
- TiCNO PVD coating layer with high wear resistance
- High hardness wear resistance

### AH905 **S**

- Remarkable for machining of heat resistant alloys
- Exclusive coating layer improves adhesion strength and wear resistance

### KS05F **N S**

- Recommended for non-ferrous materials and titanium

### TH10 **N**

- Recommended for non-ferrous materials

### BXA10 **H**

- Coated CBN grade designed for turning hardened steel parts

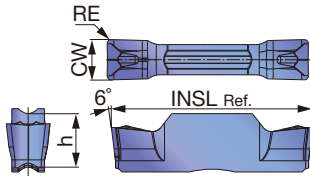
### BX360 **H**

- Developed for grooving applications of hardened steel parts



## DTM

### External face grooving and turning



|   |                |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    | ★ | ★ |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

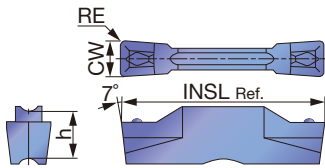
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |        |  | INSL (in) | h (in) |       |       |
|-------------|-----------|--------------|---------------|---------|--------|--------|--------|--|-----------|--------|-------|-------|
|             |           |              |               |         | AH7025 | AH8005 | AH6235 |  |           |        |       |       |
| DTM2-020    | 2         | 2            | 0.079         | 0.008   | ●      | ●      | ●      |  |           |        | 0.787 | 0.197 |
| DTM3-030    | 3         | 3            | 0.118         | 0.012   | ●      | ●      | ●      |  |           |        | 0.787 | 0.197 |
| DTM4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●      | ●      |  |           |        | 0.787 | 0.197 |
| DTM4-080    | 4         | 4            | 0.157         | 0.031   | ●      | ●      | ●      |  |           |        | 0.787 | 0.197 |
| DTM5-080    | 5         | 5            | 0.197         | 0.031   | ●      | ●      | ●      |  |           |        | 0.984 | 0.217 |
| DTM6-080    | 6         | 6            | 0.236         | 0.031   | ●      | ●      | ●      |  |           |        | 0.984 | 0.217 |

● : Line up

## DTE

### External face grooving and turning (for high precision)



|   |                |   |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|---|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ | ☆ | ☆ |  |  |  |  | ★ |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      |   | ★ | ☆ | ★ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      |   | ★ |   | ☆ |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   | ★ | ☆ |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

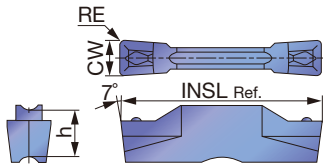
| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |        |       |       | Cermet | INSL (in) | h (in) |       |
|-------------|-----------|--------------|----------------|---------|--------|--------|-------|-------|--------|-----------|--------|-------|
|             |           |              |                |         | T9225  | AH7025 | AH725 | GH130 | NS9530 |           |        |       |
| DTE265-015  | 3         | 2.65         | 0.104          | 0.006   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE300-020  | 3         | 3            | 0.118          | 0.008   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE300-040  | 3         | 3            | 0.118          | 0.016   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE315-015  | 3         | 3.15         | 0.124          | 0.006   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE400-040  | 4         | 4            | 0.157          | 0.016   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE400-080  | 4         | 4            | 0.157          | 0.031   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE415-015  | 4         | 4.15         | 0.163          | 0.006   | ●      | ●      | ●     | ●     | ●      |           | 0.787  | 0.197 |
| DTE478-055  | 5         | 4.78         | 0.188          | 0.022   | ●      | ●      | ●     | ●     | ●      |           | 0.984  | 0.217 |
| DTE500-040  | 5         | 5            | 0.197          | 0.016   | ●      | ●      | ●     | ●     | ●      |           | 0.984  | 0.217 |
| DTE500-080  | 5         | 5            | 0.197          | 0.031   | ●      | ●      | ●     | ●     | ●      |           | 0.984  | 0.217 |
| DTE515-015  | 5         | 5.15         | 0.203          | 0.006   | ●      | ●      | ●     | ●     |        |           | 0.984  | 0.217 |
| DTE600-080  | 6         | 6            | 0.236          | 0.031   | ●      | ●      | ●     | ●     |        |           | 0.984  | 0.217 |
| DTE600-120  | 6         | 6            | 0.236          | 0.047   | ●      | ●      | ●     | ●     |        |           | 0.984  | 0.217 |

● : Line up

Reference pages: Toolholders → **F196 - F206**, Standard cutting conditions → **F222**

# DTE

## External face grooving and turning



|   |                |   |   |   |   |   |   |   |  |   |  |  |  |  |
|---|----------------|---|---|---|---|---|---|---|--|---|--|--|--|--|
| P | Steel          | ★ |   | ★ | ☆ | ★ | ☆ | ★ |  | ★ |  |  |  |  |
| M | Stainless      |   |   | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |
| K | Cast iron      |   | ★ | ★ |   | ★ | ☆ | ★ |  |   |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |  |   |  |  |  |  |
| S | Superalloys    |   |   | ★ | ☆ | ★ |   |   |  |   |  |  |  |  |
| H | Hard materials |   |   |   |   |   |   |   |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

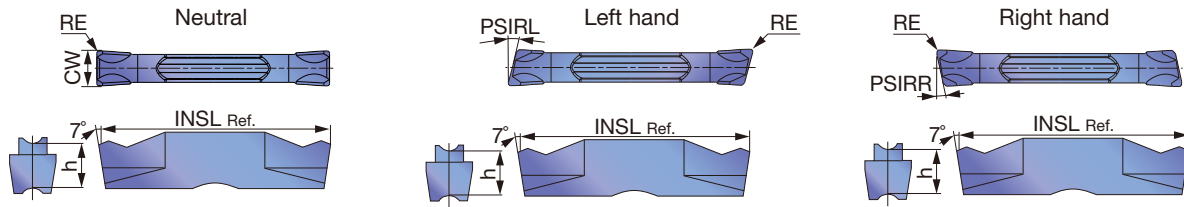
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |      |        |       |        |       | Cermets |        | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|------|--------|-------|--------|-------|---------|--------|-----------|--------|-------|
|             |           |              |               |         | T9225  | T515 | AH7025 | AH725 | AH8005 | GH130 | AH6235  | NS9530 |           |        |       |
| DTE3-020    | 3         | 3            | 0.118         | 0.008   |        |      | ●      |       | ●      |       | ●       |        |           | 0.787  | 0.197 |
| DTE3-040    | 3         | 3            | 0.118         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●       |        |           | 0.787  | 0.197 |
| DTE4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●       |        |           | 0.787  | 0.197 |
| DTE4-080    | 4         | 4            | 0.157         | 0.031   |        |      | ●      |       | ●      |       |         |        |           | 0.787  | 0.197 |
| DTE5-040    | 5         | 5            | 0.197         | 0.016   |        | ●    | ●      |       | ●      |       |         |        |           | 0.984  | 0.217 |
| DTE5-080    | 5         | 5            | 0.197         | 0.031   |        |      | ●      |       | ●      |       |         |        |           | 0.984  | 0.217 |
| DTE6-080    | 6         | 6            | 0.236         | 0.031   |        | ●    | ●      |       | ●      |       |         |        |           | 0.984  | 0.217 |

● : Line up

Grade A  
Insert B  
Ext. Toolholder C  
Int. Toolholder D  
Threading E  
Grooving F  
Miniature tool G  
Milling cutter H  
Endmill I  
Drilling tool J  
Tooling System K  
User's Guide L  
Index M

# DGM

## External/face grooving and parting



|                         |   |   |   |   |   |   |   |   |  |  |  |   |  |
|-------------------------|---|---|---|---|---|---|---|---|--|--|--|---|--|
| <b>P</b> Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ | ★ |   |  |  |  |   |  |
| <b>M</b> Stainless      |   | ★ | ☆ | ★ | ★ | ★ | ★ |   |  |  |  |   |  |
| <b>K</b> Cast iron      |   | ★ |   | ★ | ☆ | ☆ | ★ | ☆ |  |  |  | ☆ |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |   |   |   |  |  |  | ☆ |  |
| <b>S</b> Superalloys    |   | ★ | ☆ | ★ | ★ |   |   |   |  |  |  | ★ |  |
| <b>H</b> Hard materials |   |   |   |   |   |   |   |   |  |  |  |   |  |

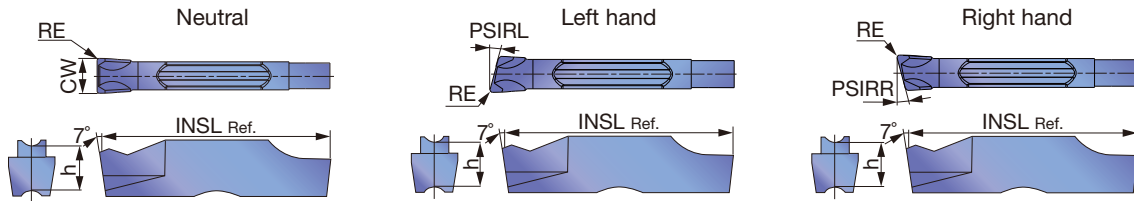
★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |       | Cermet NS9530 | Un-coated KS05F | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|--------|-------|--------|-------|-------|---------------|-----------------|-----------|--------|-------|-------|
|              |           |      |              |               |         | T9225  | AH7025 | AH725 | AH8005 | AH905 | GH130 |               |                 |           |        |       |       |
| DGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.787     | 0.197  | 0°    | 0°    |
| DGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 6°    |
| DGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 6°    | 0°    |
| DGM2-020-8R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 8°    |
| DGM2-020-8L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 8°    | 0°    |
| DGM2-020-15R | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 15°   |
| DGM2-020-15L | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 15°   | 0°    |
| DGM2-002-15R | 2         | R    | 2            | 0.079         | 0.0008  |        |        | ●     |        |       | ●     |               |                 | 0.762     | 0.197  | 0°    | 15°   |
| DGM2-002-15L | 2         | L    | 2            | 0.079         | 0.0008  |        |        | ●     |        |       | ●     |               |                 | 0.762     | 0.197  | 15°   | 0°    |
| DGM2.39-020  | 2         | N    | 2.39         | 0.094         | 0.008   |        | ●      | ●     | ●      |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 0°    |
| DGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.787     | 0.197  | 0°    | 0°    |
| DGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 6°    |
| DGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 6°    | 0°    |
| DGM3-002-6R  | 3         | R    | 3            | 0.118         | 0.008   |        |        | ●     |        |       | ●     |               |                 | 0.766     | 0.197  | 0°    | 6°    |
| DGM3-002-6L  | 3         | L    | 3            | 0.118         | 0.008   |        |        | ●     |        |       | ●     |               |                 | 0.766     | 0.197  | 6°    | 0°    |
| DGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 15°   |
| DGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 15°   | 0°    |
| DGM3.18-020  | 3         | N    | 3.18         | 0.125         | 0.008   |        | ●      |       | ●      |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 0°    |
| DGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.787     | 0.197  | 0°    | 0°    |
| DGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 4°    |
| DGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 4°    | 0°    |
| DGM4-030-15R | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 0°    | 15°   |
| DGM4-030-15L | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |               |                 | 0.787     | 0.197  | 15°   | 0°    |
| DGM4.76-040  | 5         | N    | 4.76         | 0.187         | 0.016   |        | ●      |       | ●      |       | ●     |               |                 | 0.984     | 0.217  | 0°    | 0°    |
| DGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.984     | 0.217  | 0°    | 0°    |
| DGM5-030-4R  | 5         | R    | 5            | 0.197         | 0.012   |        | ●      | ●     |        |       | ●     |               |                 | 0.984     | 0.217  | 0°    | 4°    |
| DGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●             | ●               | 0.984     | 0.217  | 0°    | 0°    |
| DGM6.35-040  | 6         | N    | 6.35         | 0.250         | 0.016   |        | ●      |       | ●      |       | ●     |               |                 | 0.984     | 0.217  | 0°    | 0°    |

● : Line up

# SGM

## External/face deep grooving and parting



|   |                |   |   |   |   |   |  |   |  |  |  |  |  |  |
|---|----------------|---|---|---|---|---|--|---|--|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ★ | ☆ | ★ |  |   |  |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |  |  |
| K | Cast iron      | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |  | ☆ |  |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ | ★ |   |   |  | ★ |  |  |  |  |  |  |
| H | Hard materials |   |   |   |   |   |  |   |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

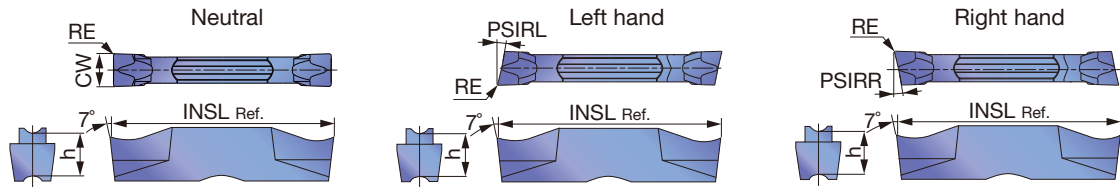
| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  | INSL (in) | h (in) | PSIRL | PSIRR |     |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|-----------|--------|-------|-------|-----|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |           |        |       |       |     |
| SGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 4°  |
| SGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 4°    | 0°  |
| SGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |

● : Line up





External/face grooving and parting



|   |                |   |   |   |   |   |   |   |   |  |  |  |   |  |
|---|----------------|---|---|---|---|---|---|---|---|--|--|--|---|--|
| P | Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ | ★ |   |  |  |  |   |  |
| M | Stainless      |   | ★ | ☆ | ★ | ★ | ★ |   |   |  |  |  |   |  |
| K | Cast iron      |   | ★ |   | ★ | ☆ | ★ |   | ☆ |  |  |  | ☆ |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |   |  |  |  | ☆ |  |
| S | Superalloys    |   | ★ | ☆ | ★ |   |   |   |   |  |  |  | ★ |  |
| H | Hard materials |   |   |   |   |   |   |   |   |  |  |  |   |  |

★ : First choice  
☆ : Second choice

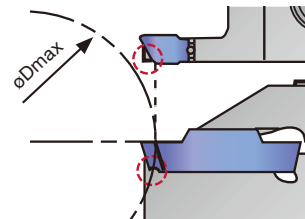
| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       | Cermet | Uncoated | INSL (in) | h (in) | PSIRL | PSIRR |       |
|--------------|-----------|------|--------------|---------------|---------|--------|--------|-------|--------|-------|--------|----------|-----------|--------|-------|-------|-------|
|              |           |      |              |               |         | T9225  | AH7025 | AH725 | AH8005 | GH130 | AH6235 | NS9530   |           |        |       |       | KS05F |
| DGS2-005     | 2         | N    | 2            | 0.079         | 0.002   |        |        | ●     |        |       |        |          |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS2-010     | 2         | N    | 2            | 0.079         | 0.004   |        |        | ●     |        |       |        |          |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●      | ●        |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       |        |          |           | 0.787  | 0.197 | 0°    | 6°    |
| DGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 6°    | 0°    |
| DGS2-002-6R  | 2         | R    | 2            | 0.079         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.768  | 0.197 | 0°    | 6°    |
| DGS2-002-6L  | 2         | L    | 2            | 0.079         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.768  | 0.197 | 6°    | 0°    |
| DGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 0°    | 15°   |
| DGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 15°   | 0°    |
| DGS2-002-15R | 2         | R    | 2            | 0.079         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.768  | 0.197 | 0°    | 15°   |
| DGS2-002-15L | 2         | L    | 2            | 0.079         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.768  | 0.197 | 15°   | 0°    |
| DGS2.39-020  | 2         | N    | 2.39         | 0.094         | 0.008   |        | ●      |       | ●      |       | ●      |          |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●      | ●        |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       |        |          |           | 0.787  | 0.197 | 0°    | 6°    |
| DGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 6°    | 0°    |
| DGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.766  | 0.197 | 0°    | 6°    |
| DGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.766  | 0.197 | 6°    | 0°    |
| DGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 0°    | 15°   |
| DGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 15°   | 0°    |
| DGS3-002-15R | 3         | R    | 3            | 0.118         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.766  | 0.197 | 0°    | 15°   |
| DGS3-002-15L | 3         | L    | 3            | 0.118         | 0.0008  |        |        | ●     |        | ●     |        |          |           | 0.766  | 0.197 | 15°   | 0°    |
| DGS3.18-020  | 3         | N    | 3.18         | 0.125         | 0.008   |        | ●      |       | ●      |       | ●      |          |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●        |           | 0.787  | 0.197 | 0°    | 0°    |
| DGS4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       |        |          |           | 0.787  | 0.197 | 0°    | 4°    |
| DGS4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |        |          |           | 0.787  | 0.197 | 4°    | 0°    |
| DGS4.76-040  | 5         | N    | 4.76         | 0.187         | 0.016   |        | ●      |       | ●      |       | ●      |          |           | 0.984  | 0.217 | 0°    | 0°    |
| DGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●        |           | 0.984  | 0.217 | 0°    | 0°    |
| DGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●        |           | 0.984  | 0.217 | 0°    | 0°    |
| DGS6.35-040  | 6         | N    | 6.35         | 0.250         | 0.016   |        | ●      |       | ●      |       | ●      |          |           | 0.984  | 0.217 | 0°    | 0°    |

● : Line up

Caution

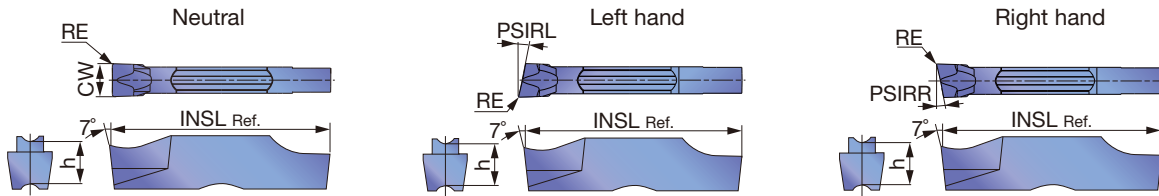
The tool will interfere with the workpiece when grooving larger diameters than øDmax.

| Designation    | øDmax (in) | Designation    | øDmax (in) |
|----------------|------------|----------------|------------|
| DGM2-002-15R/L | 1.102      | DGS2-002-15R/L | 1.102      |
| DGM3-002-15R/L | 1.141      | DGS3-002-15R/L | 1.141      |
| DGM4-030-15R/L | 1.181      | SGS3-020-15R/L | 4.055      |
| SGM3-020-15R/L | 4.055      | SGS3-002-15R/L | 1.338      |



# SGS

## External/face deep grooving and parting



|                         |   |   |   |   |   |  |  |   |   |  |  |  |  |
|-------------------------|---|---|---|---|---|--|--|---|---|--|--|--|--|
| <b>P</b> Steel          | ★ | ☆ | ★ | ☆ | ★ |  |  |   |   |  |  |  |  |
| <b>M</b> Stainless      | ★ | ☆ | ★ | ★ | ★ |  |  |   |   |  |  |  |  |
| <b>K</b> Cast iron      | ★ |   | ★ | ☆ | ★ |  |  | ☆ |   |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |  |  |   | ☆ |  |  |  |  |
| <b>S</b> Superalloys    | ★ | ☆ | ★ |   |   |  |  |   | ★ |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |   |   |  |  |   |   |  |  |  |  |

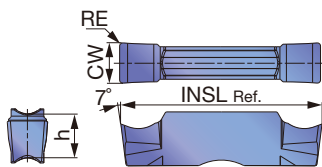
★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  | INSL (in) | h (in) | PSIRL | PSIRR |     |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|-----------|--------|-------|-------|-----|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |           |        |       |       |     |
| SGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |           | 0.780  | 0.197 | 0°    | 6°  |
| SGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |           | 0.780  | 0.197 | 6°    | 0°  |
| SGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGS3-002-15R | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |           | 0.780  | 0.197 | 0°    | 15° |
| SGS3-002-15L | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |        |          |  |           | 0.780  | 0.197 | 15°   | 0°  |
| SGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |

● : Line up

# DGG

## External/face grooving (for high precision)



|                         |   |  |   |   |  |  |  |   |   |  |  |  |  |
|-------------------------|---|--|---|---|--|--|--|---|---|--|--|--|--|
| <b>P</b> Steel          | ★ |  | ★ |   |  |  |  |   |   |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |   |   |  |  |  |   |   |  |  |  |  |
| <b>K</b> Cast iron      | ★ |  |   | ☆ |  |  |  | ☆ |   |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  |   |   |  |  |  |   | ★ |  |  |  |  |
| <b>S</b> Superalloys    | ★ |  |   |   |  |  |  |   | ☆ |  |  |  |  |
| <b>H</b> Hard materials |   |  |   |   |  |  |  |   |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |  |  | Cermet |  | Uncoated |  | INSL (in) | h (in) |       |
|-------------|-----------|--------------|----------------|---------|--------|--|--|--------|--|----------|--|-----------|--------|-------|
|             |           |              |                |         | AH7025 |  |  | NS9530 |  | KS05F    |  |           |        |       |
| DGG200-020  | 2         | 2            | 0.079          | 0.008   | ●      |  |  | ●      |  | ●        |  |           | 0.787  | 0.197 |
| DGG300-020  | 3         | 3            | 0.118          | 0.008   | ●      |  |  | ●      |  | ●        |  |           | 0.787  | 0.197 |
| DGG400-040  | 4         | 4            | 0.157          | 0.016   | ●      |  |  | ●      |  | ●        |  |           | 0.787  | 0.197 |
| DGG500-040  | 5         | 5            | 0.197          | 0.016   | ●      |  |  | ●      |  | ●        |  |           | 0.984  | 0.217 |
| DGG600-040  | 6         | 6            | 0.236          | 0.016   | ●      |  |  | ●      |  | ●        |  |           | 0.984  | 0.217 |

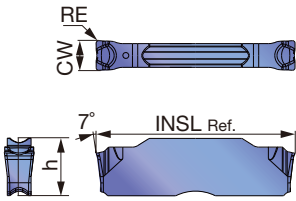
● : Line up

Reference pages: Toolholders → **F196 - F206**, Standard cutting conditions → **F222**



## DGL

### External/face grooving and parting



|          |                |   |   |   |  |  |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ | ★ |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ | ★ | ★ |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ | ★ |   |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |  |  |

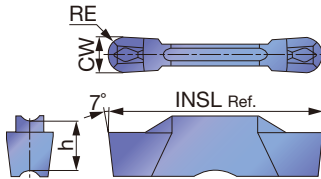
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |        |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|--------|--|-----------|--------|
|             |           |              |               |         | AH7025 | AH8005 | AH6235 |  |           |        |
| DGL2-020    | 2         | 2            | 0.079         | 0.008   | ●      | ●      | ●      |  | 0.787     | 0.197  |
| DGL3-025    | 3         | 3            | 0.118         | 0.010   | ●      | ●      | ●      |  | 0.787     | 0.197  |
| DGL4-030    | 4         | 4            | 0.157         | 0.012   | ●      | ●      | ●      |  | 0.787     | 0.197  |
| DGL5-030    | 5         | 5            | 0.197         | 0.012   | ●      | ●      | ●      |  | 0.984     | 0.217  |
| DGL6-080    | 6         | 6            | 0.236         | 0.031   | ●      | ●      | ●      |  | 0.984     | 0.217  |

● : Line up

## DTR

### Profiling and undercutting (for high precision)



|          |                |   |   |   |   |  |  |  |   |  |  |
|----------|----------------|---|---|---|---|--|--|--|---|--|--|
| <b>P</b> | Steel          | ★ | ★ | ☆ | ☆ |  |  |  | ★ |  |  |
| <b>M</b> | Stainless      |   | ★ | ☆ | ★ |  |  |  |   |  |  |
| <b>K</b> | Cast iron      |   | ★ |   | ☆ |  |  |  | ☆ |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |   |  |  |  |   |  |  |
| <b>S</b> | Superalloys    |   | ★ | ☆ |   |  |  |  |   |  |  |
| <b>H</b> | Hard materials |   |   |   |   |  |  |  |   |  |  |

★ : First choice  
☆ : Second choice

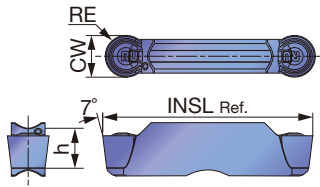
| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |        |       |       | Cermets |  | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--------|-------|-------|---------|--|-----------|--------|
|             |           |              |                |         | T9225  | AH7025 | AH725 | GH130 | NS9530  |  |           |        |
| DTR300-150  | 3         | 3            | 0.118          | 0.059   | ●      | ●      | ●     | ●     | ●       |  | 0.787     | 0.197  |
| DTR400-200  | 4         | 4            | 0.157          | 0.079   | ●      | ●      | ●     | ●     | ●       |  | 0.787     | 0.197  |
| DTR478-239  | 5         | 4.78         | 0.188          | 0.094   | ●      | ●      | ●     | ●     | ●       |  | 0.984     | 0.217  |
| DTR500-250  | 5         | 5            | 0.197          | 0.098   | ●      | ●      | ●     | ●     | ●       |  | 0.984     | 0.217  |
| DTR600-300  | 6         | 6            | 0.236          | 0.118   | ●      | ●      | ●     | ●     |         |  | 0.984     | 0.217  |

● : Line up

Reference pages: Toolholders → **F196 - F206**, Standard cutting conditions → **F222**

## DTR

### Profiling and undercutting



|   |                |   |   |   |   |   |   |   |  |   |  |  |  |  |  |  |  |  |   |
|---|----------------|---|---|---|---|---|---|---|--|---|--|--|--|--|--|--|--|--|---|
| P | Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ | ★ |  |   |  |  |  |  |  |  |  |  |   |
| M | Stainless      |   | ★ | ☆ | ★ |   | ★ | ★ |  |   |  |  |  |  |  |  |  |  |   |
| K | Cast iron      |   | ★ |   | ★ | ☆ | ☆ | ★ |  | ☆ |  |  |  |  |  |  |  |  |   |
| N | Non-ferrous    |   |   |   |   |   |   |   |  |   |  |  |  |  |  |  |  |  | ☆ |
| S | Superalloys    |   | ★ | ☆ | ★ | ★ |   |   |  |   |  |  |  |  |  |  |  |  | ★ |
| H | Hard materials |   |   |   |   |   |   |   |  |   |  |  |  |  |  |  |  |  |   |

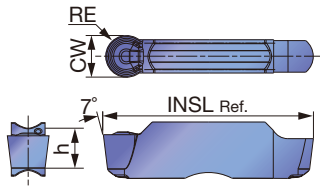
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |       | Cermet | Uncoated | INSL (in) | h (in) |       |       |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|--------|-------|-------|--------|----------|-----------|--------|-------|-------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | AH8005 | AH905 | GH130 | AH6235 | NS9530   |           |        | KS05F |       |
| DTR2-100    | 2         | 2            | 0.079         | 0.039   |        | ●      |       | ●      |       |       |        |          | ●         |        | 0.787 | 0.197 |
| DTR3-150    | 3         | 3            | 0.118         | 0.059   | ●      | ●      | ●     | ●      | ●     | ●     | ●      |          | ●         |        | 0.787 | 0.197 |
| DTR4-200    | 4         | 4            | 0.157         | 0.079   | ●      | ●      | ●     | ●      | ●     | ●     | ●      |          | ●         |        | 0.787 | 0.197 |
| DTR5-250    | 5         | 5            | 0.197         | 0.098   | ●      | ●      | ●     | ●      | ●     | ●     | ●      |          | ●         |        | 0.984 | 0.217 |
| DTR6-300    | 6         | 6            | 0.236         | 0.118   | ●      | ●      | ●     | ●      | ●     | ●     | ●      |          | ●         |        | 0.984 | 0.217 |

● : Line up

## STR

### Profiling and undercutting



|   |                |   |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ★ |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ★ | ★ |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ★ | ★ |  |  |  |  |  |  | ☆ |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |  |  |  |  |  |  | ☆ |  |  |  |  |  |  |  |  |  |
| S | Superalloys    | ★ | ★ |  |  |  |  |  |  | ★ |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

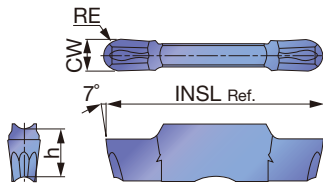
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |  |  | Uncoated | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|--------|--|--|----------|-----------|--------|-------|
|             |           |              |               |         | AH7025 | AH8005 |  |  | KS05F    |           |        |       |
| STR2-100    | 2         | 2            | 0.079         | 0.039   | ●      | ●      |  |  | ●        |           | 0.787  | 0.197 |
| STR3-150    | 3         | 3            | 0.118         | 0.059   | ●      | ●      |  |  | ●        |           | 0.787  | 0.197 |
| STR4-200    | 4         | 4            | 0.157         | 0.079   | ●      | ●      |  |  | ●        |           | 0.787  | 0.197 |
| STR5-250    | 5         | 5            | 0.197         | 0.098   | ●      | ●      |  |  | ●        |           | 0.984  | 0.217 |
| STR6-300    | 6         | 6            | 0.236         | 0.118   | ●      | ●      |  |  | ●        |           | 0.984  | 0.217 |

● : Line up



## DTIU

Profiling and undercutting (for high precision)



|   |                |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ☆ |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |   | ☆ |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

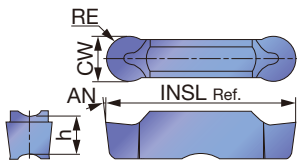
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |       |       |  |  |  |  |  | INSL (in) | h (in) |       |       |
|-------------|-----------|--------------|----------------|---------|--------|-------|-------|--|--|--|--|--|-----------|--------|-------|-------|
|             |           |              |                |         | AH7025 | AH725 | GH130 |  |  |  |  |  |           |        |       |       |
| DTIU300-150 | 3         | 3            | 0.118          | 0.059   | ●      | ●     | ●     |  |  |  |  |  |           |        | 0.787 | 0.197 |
| DTIU400-200 | 4         | 4            | 0.157          | 0.079   | ●      | ●     | ●     |  |  |  |  |  |           |        | 0.787 | 0.197 |
| DTIU500-250 | 5         | 5            | 0.197          | 0.098   | ●      | ●     | ●     |  |  |  |  |  |           |        | 0.984 | 0.217 |
| DTIU600-300 | 6         | 6            | 0.236          | 0.118   | ●      | ●     | ●     |  |  |  |  |  |           |        | 0.984 | 0.217 |

● : Line up

## DTA

Aluminum wheel machining (for high precision)



|   |                |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P | Steel          |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M | Stainless      |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K | Cast iron      |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |  |  | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H | Hard materials |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Uncoated |  |  |  |  |  |  |  | INSL (in) | h (in) | AN    |       |    |
|-------------|-----------|--------------|----------------|---------|----------|--|--|--|--|--|--|--|-----------|--------|-------|-------|----|
|             |           |              |                |         | TH10     |  |  |  |  |  |  |  |           |        |       |       |    |
| DTA600-300  | 6         | 6            | 0.236          | 0.118   | ●        |  |  |  |  |  |  |  |           |        | 0.984 | 0.217 | 7° |

● : Line up

Reference pages: Toolholders → **F196 - F206**, Standard cutting conditions → **F222**



## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness | Priority          | Grade                         | Cutting speed Vc (sfm) |
|----------|-------------------------------------|----------|-------------------|-------------------------------|------------------------|
| <b>P</b> | Steel<br>1045, 4135, etc.           | < 300 HB | First choice      | AH7025, AH725                 | 164 - 591              |
|          |                                     | < 300 HB | Wear resistance   | T9225, AH8005                 | 262 - 984              |
|          |                                     | < 300 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
|          |                                     | < 300 HB | Surface quality   | NS9530                        | 262 - 722              |
| <b>M</b> | Stainless steel<br>303, 304, etc.   | < 200 HB | First choice      | AH7025, AH725                 | 164 - 394              |
|          |                                     | < 200 HB | Wear resistance   | AH8005                        | 164 - 394              |
|          |                                     | < 200 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -        | First choice      | T515                          | 492 - 2297             |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -        | First choice      | T515                          | 492 - 984              |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 394              |
| <b>N</b> | Aluminum alloys<br>Si < 12%         | -        | First choice      | TH10                          | 328 - 1640             |
|          |                                     | -        | First choice      | KS05F                         | 328 - 1969             |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40 | First choice      | AH8005                        | 66 - 197               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725, AH6235         | 66 - 131               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40 | First choice      | KS05F                         | 66 - 328               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725                 | 66 - 262               |

Please see page F207 - F209 for feed:  $f$  (ipr).

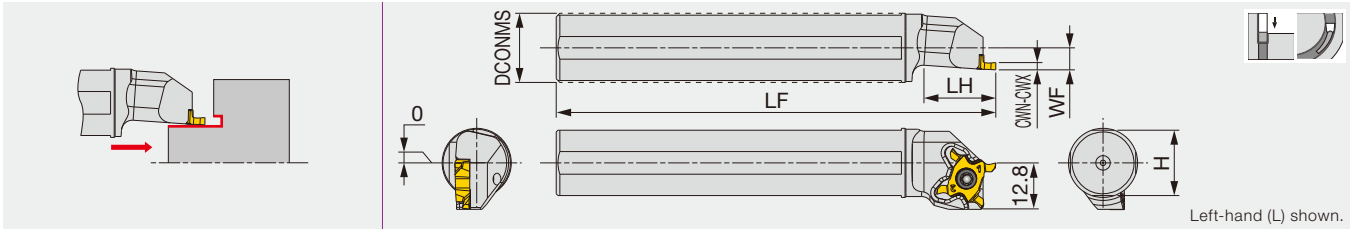
### STH

| ISO      | Grade | CW     | Application      | Cutting speed Vc (sfm) | Depth of cut ap (in) | Feed f (ipr)  |
|----------|-------|--------|------------------|------------------------|----------------------|---------------|
| <b>H</b> | BXA10 | 0.118" | External turning | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.039 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.031 |
|          |       | 0.197" | External turning | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.059 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.031 |

### SGN

| ISO      | Grade | Edge preparation | Workpiece condition | Cutting speed Vc (sfm) | Feed f (ipr)    |
|----------|-------|------------------|---------------------|------------------------|-----------------|
| <b>H</b> | BX360 | No symbol        | Continuous          | 262 - 492              | 0.0012 - 0.0031 |
|          |       | -S               | Light interrupted   | 164 - 394              | 0.0012 - 0.0031 |
|          |       | -H               | Heavy interrupted   | 131 - 328              | 0.0012 - 0.0024 |

### Face grooving toolholder with round shank

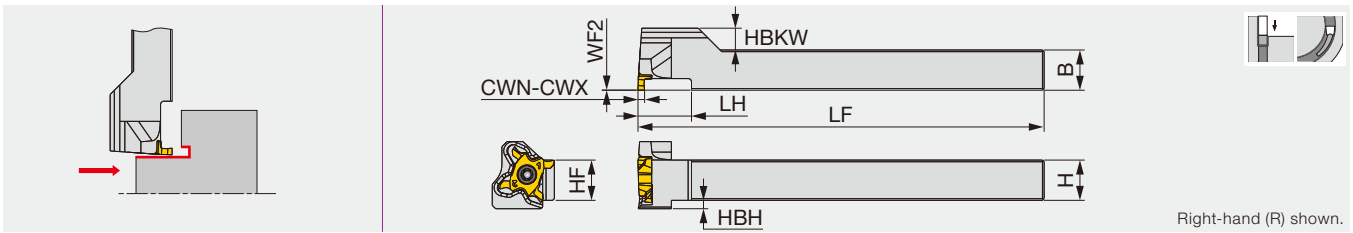


| Metric         | CWN  | CWX  | DCONMS | LF  | LH | H    | WF | Insert    | Torque |
|----------------|------|------|--------|-----|----|------|----|-----------|--------|
| JS16F-STCFL18  | 0.33 | 3.18 | 16     | 85  | 20 | 15   | 6  | TCF18L... | 1.2    |
| JS19G-STCFL18  | 0.33 | 3.18 | 19.05  | 90  | 20 | 18   | 6  | TCF18L... | 1.2    |
| JS19X-STCFL18  | 0.33 | 3.18 | 19.05  | 120 | 20 | 18   | 6  | TCF18L... | 1.2    |
| JS20G-STCFL18  | 0.33 | 3.18 | 20     | 90  | 20 | 19   | 6  | TCF18L... | 1.2    |
| JS20X-STCFL18  | 0.33 | 3.18 | 20     | 120 | 20 | 19   | 6  | TCF18L... | 1.2    |
| JS22X-STCFL18  | 0.33 | 3.18 | 22     | 120 | 20 | 21   | 6  | TCF18L... | 1.2    |
| JS25H-STCFL18  | 0.33 | 3.18 | 25     | 100 | 20 | 24   | 6  | TCF18L... | 1.2    |
| JS254X-STCFL18 | 0.33 | 3.18 | 25.4   | 120 | 20 | 24.5 | 6  | TCF18L... | 1.2    |

Note: The left hand insert (L) is used for the left hand toolholders (L).  
Torque: Recommended clamping torque: N·m

### STCFVR-18

### Face grooving toolholder with square shank, for Swiss lathes



| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF2 | HBKW  | HBH   | Insert    | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-----------|--------|
| STCFVR06-18 | 0.013 | 0.125 | 0.375 | 0.375 | 4.016 | 0.472 | 0.375 | 0   | 0.354 | 0.177 | TCF18L... | 0.89   |
| STCFVR08-18 | 0.013 | 0.125 | 0.500 | 0.500 | 4.764 | 0.630 | 0.500 | 0   | 0.228 | 0.098 | TCF18L... | 0.89   |
| STCFVR10-18 | 0.013 | 0.125 | 0.625 | 0.625 | 4.764 | 0.787 | 0.625 | 0   | 0.106 | -     | TCF18L... | 0.89   |

| Metric        | CWN  | CWX  | H  | B  | LF  | LH | HF | WF2 | HBKW | HBH | Insert    | Torque* |
|---------------|------|------|----|----|-----|----|----|-----|------|-----|-----------|---------|
| STCFVR1010H18 | 0.33 | 3.18 | 10 | 10 | 100 | 12 | 10 | 0   | 8.5  | 4.5 | TCF18L... | 1.2     |
| STCFVR1212F18 | 0.33 | 3.18 | 12 | 12 | 85  | 16 | 12 | 0   | 6.5  | 2.5 | TCF18L... | 1.2     |
| STCFVR1212X18 | 0.33 | 3.18 | 12 | 12 | 120 | 16 | 12 | 0   | 6.5  | 2.5 | TCF18L... | 1.2     |
| STCFVR1616X18 | 0.33 | 3.18 | 16 | 16 | 120 | 20 | 16 | 0   | 2.5  | 0   | TCF18L... | 1.2     |

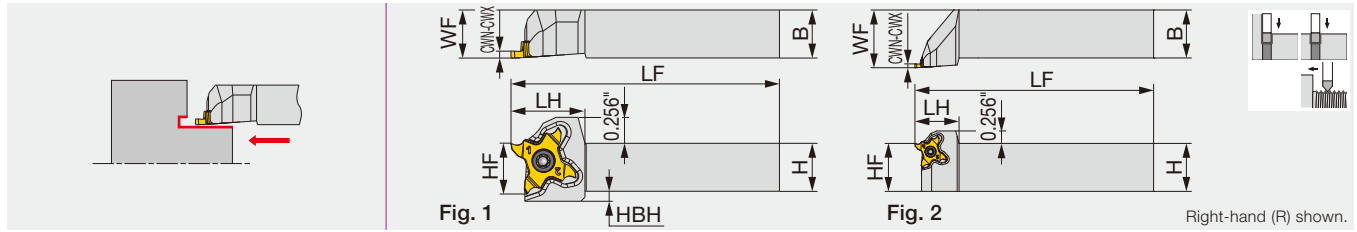
Note: The left hand insert (L) is used for the right hand toolholders (R).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation              | Clamping screw | Wrench   |
|--------------------------|----------------|----------|
| JS**-STCFL18, STCFVR**18 | CSTC-4L100DR   | T-1008/5 |



Precision grooving tools with uniquely shaped insert for swiss type machine and general lathes



| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert   | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|------|
| STCR/L06-18 | 0.013 | 0.125 | 0.375 | 0.375 | 4.750 | 0.740 | 0.375 | 0.375 | 0.177 | TC*18... | 0.89   | 1    |
| STCR/L08-18 | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.740 | 0.500 | 0.500 | 0.098 | TC*18... | 0.89   | 1    |
| STCR/L10-18 | 0.013 | 0.125 | 0.625 | 0.625 | 4.750 | 0.740 | 0.625 | 0.625 | -     | TC*18... | 0.89   | 1    |
| STCR/L12-18 | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC*18... | 0.89   | 2    |
| STCR/L16-18 | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC*18... | 0.89   | 2    |

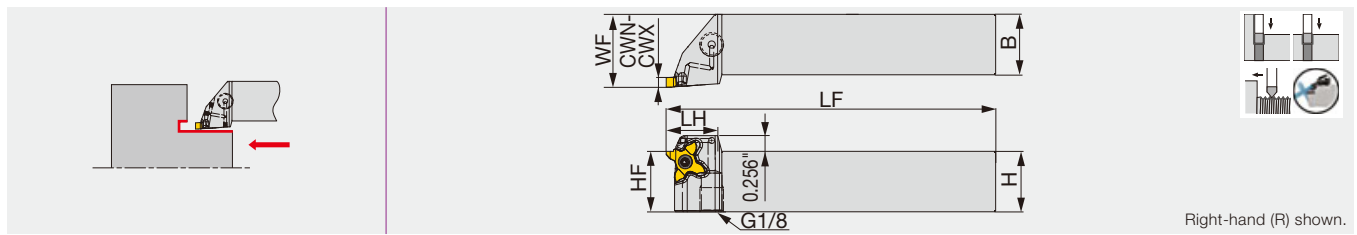
| Metric        | CWN  | CWX  | H  | B  | LF  | LH   | HF | WF | HBH | Insert   | Torque* | Fig. |
|---------------|------|------|----|----|-----|------|----|----|-----|----------|---------|------|
| STCR/L1010X18 | 0.33 | 3.18 | 10 | 10 | 120 | 18.5 | 10 | 10 | 4.5 | TC*18... | 1.2     | 1    |
| STCR/L1212F18 | 0.33 | 3.18 | 12 | 12 | 85  | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1212X18 | 0.33 | 3.18 | 12 | 12 | 120 | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1616X18 | 0.33 | 3.18 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020H18 | 0.33 | 3.18 | 20 | 20 | 100 | 18.5 | 20 | 20 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020X18 | 0.33 | 3.18 | 20 | 20 | 120 | 23   | 20 | 25 | -   | TC*18... | 1.2     | 2    |
| STCR/L2525Z18 | 0.33 | 3.18 | 25 | 25 | 135 | 23   | 25 | 30 | -   | TC*18... | 1.2     | 2    |

The right hand insert (TC\*18R...) is used for the right hand toolholders (STCR...), and the left hand insert is used for the left hand toolholders  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### STCR/L-18-CHP

Tube connection

Threading tool - for external threading with high pressure coolant capability



| Inch            | CWN   | CWX   | H     | B     | LF    | LH    | HBL | HF    | WF    | HBH | Insert   | Torque |
|-----------------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-----|----------|--------|
| STCR/L12-18-CHP | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | -   | 0.750 | 1.000 | -   | TC*18... | 0.89   |
| STCR/L16-18-CHP | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | -   | 1.000 | 1.250 | -   | TC*18... | 0.89   |

| Metric            | CWN  | CWX  | H  | B  | LF  | LH | HBL | HF | WF | HBH | Insert   | Torque* |
|-------------------|------|------|----|----|-----|----|-----|----|----|-----|----------|---------|
| STCR/L2020X18-CHP | 0.33 | 3.18 | 20 | 20 | 120 | 23 | -   | 20 | 25 | -   | TC*18... | 1.2     |
| STCR/L2525Z18-CHP | 0.33 | 3.18 | 25 | 25 | 135 | 23 | -   | 25 | 30 | -   | TC*18... | 1.2     |

Use the right hand insert (TC\*18R...) with the right hand toolholders (STCR...). Use the left hand insert (TC\*18L...) with the left hand holder (STCL...).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

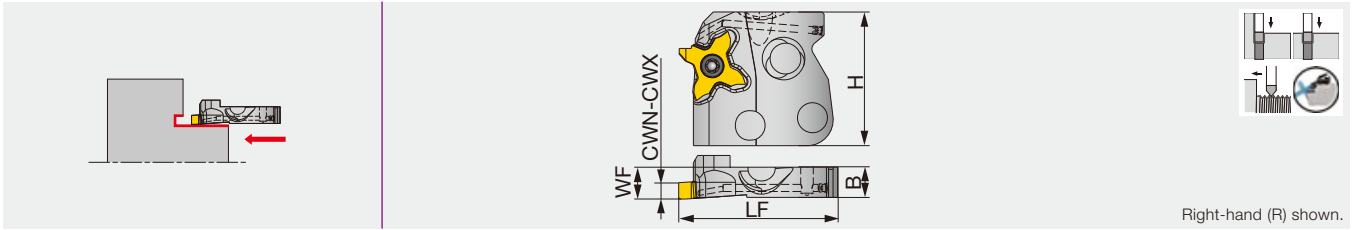
### SPARE PARTS

| Designation            | Clamping screw | Wrench   |
|------------------------|----------------|----------|
| STCL**18, STCL**18-CHP | CSTC-4L100DR   | T-1008/5 |
| STCR**18, STCR**18-CHP | CSTC-4L100DL   | T-1008/5 |

Reference pages: STCR/L-18: Inserts → **F229 - F236**, Standard cutting conditions → **F237**  
STCR/L-18-CHP: Inserts → **F229 - F236**, Standard cutting conditions → **F237**  
Parts for coolant hose → **F290**

# STCAR/L18-CHP

External grooving and threading adapter, with high pressure coolant capability



| Metric        | CWN  | CWX  | WF  | H  | LF | B   | Insert   | Torque |
|---------------|------|------|-----|----|----|-----|----------|--------|
| STCAR/L18-CHP | 0.33 | 3.18 | 7.5 | 33 | 38 | 7.2 | TC*18... | 1.2    |

Use the right hand insert (TC\*18R...) with the right hand adapter (STCAR...). Use the left hand insert (TC\*18L...) with the left hand adapter (STCAL...).  
Torque: Recommended clamping torque: N·m

## SPARE PARTS



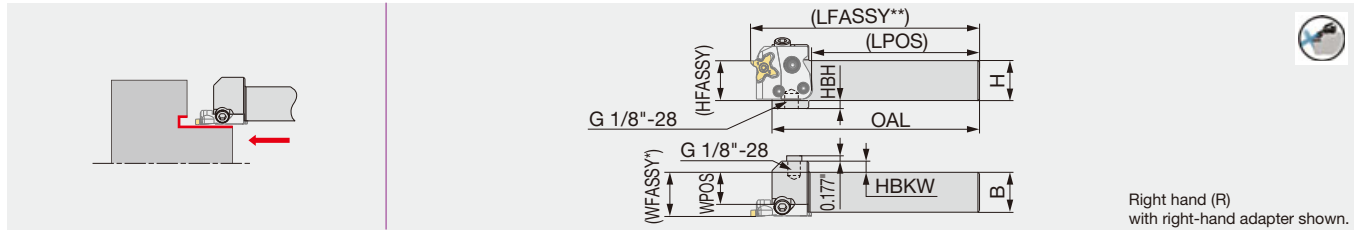
| Designation | Clamping screw | Wrench   |
|-------------|----------------|----------|
| STCAL18-CHP | CSTC-4L100DR   | T-1008/5 |
| STCAR18-CHP | CSTC-4L100DL   | T-1008/5 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

A  
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Reference pages: STCAR/L18-CHP: Inserts → **F229 - F236**, Shanks and toolholders → **F226 - F228**  
Standard cutting conditions → **F237**, Technical Reference → **L059**

Shank for adapter, with high pressure coolant capability



Right hand (R)  
with right-hand adapter shown.

| Inch         | H     | B     | OAL   | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque |
|--------------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|--------|
| CHSR/L12-CHP | 0.750 | 0.750 | 5.000 | 4.035 | 0.560 | 0.510 | 0.750  | 0.190 | STCAR/L18-CHP    | 3.69   |
| CHSR/L16-CHP | 1.000 | 1.000 | 5.000 | 4.035 | 0.810 | 0.260 | 1.000  | 0.200 | STCAR/L18-CHP    | 3.69   |

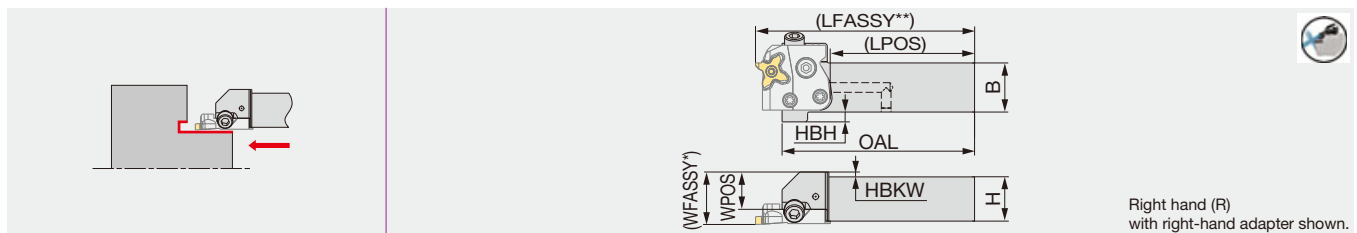
| Metric         | H  | B  | OAL | LPOS  | WPOS | HBKW | HFASSY | HBH | Adapter (Option) | Torque* |
|----------------|----|----|-----|-------|------|------|--------|-----|------------------|---------|
| CHSR/L2020-CHP | 20 | 20 | 130 | 105.5 | 15.1 | 12   | 20     | 10  | STCAR/L18-CHP    | 6.5     |
| CHSR/L2525-CHP | 25 | 25 | 130 | 105.5 | 20.1 | 7    | 25     | 5   | STCAR/L18-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### CHSR/L-CHP-MC

Direct connection

Shank for adapter, with high pressure coolant capability



Right hand (R)  
with right-hand adapter shown.

| Metric            | H  | B  | OAL | LPOS | WPOS | HBKW | HBH | Adapter (Option) | Torque |
|-------------------|----|----|-----|------|------|------|-----|------------------|--------|
| CHSR/L2020-CHP-MC | 20 | 20 | 98  | 73.5 | 14   | 6    | 10  | STCAR/L18-CHP    | 6.5    |
| CHSR/L2525-CHP-MC | 25 | 25 | 98  | 73.5 | 19   | -    | 5   | STCAR/L18-CHP    | 6.5    |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N-m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

### SPARE PARTS

| Designation    | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|----------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHSR/L*-CHP    | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |
| CHSR/L*-CHP-MC | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | -               |

### Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

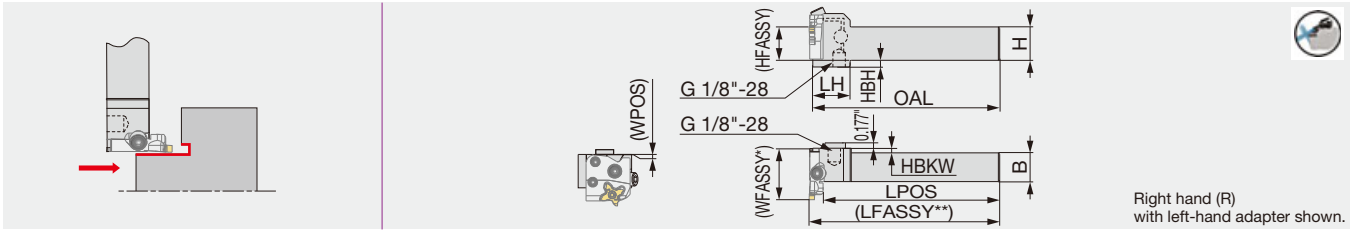
### Combination of adapter and shank

| Shank            | Adapter     |             |
|------------------|-------------|-------------|
|                  | STCAR18-CHP | STCAL18-CHP |
| CHSR**-CHP (-MC) | ●           |             |
| CHSL**-CHP (-MC) |             | ●           |
| CHFVR**-CHP      |             | ●           |
| CHFVL**-CHP      | ●           |             |

● : Corresponding

Reference pages: Inserts → **F229 - F236**, Adapters → **F225**, Standard cutting conditions → **F237**  
 Parts for coolant hose → **F290**, Technical Reference → **L059**

Shank for perpendicularly-mounted adapter, with high pressure coolant capability



| Inch            | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|------------------|---------|
| CHFVR/L12-CHP   | 0.750 | 0.750 | 5.500 | 1.100 | 5.307 | 0.020 | 0.234 | 0.750  | 0.431 | STCAL/R18-CHP    | 3.69    |
| CHFVR/L16-CHP   | 1.000 | 1.000 | 5.500 | 1.100 | 5.307 | 0.020 | -     | 1.000  | 0.200 | STCAL/R18-CHP    | 3.69    |
| Metric          | H     | B     | OAL   | LH    | LPOS  | WPOS  | HBKW  | HFASSY | HBH   | Adapter (Option) | Torque* |
| CHFVR/L2020-CHP | 20    | 20    | 140   | 28    | 135.1 | 0.5   | 5     | 20     | 10    | STCAL/R18-CHP    | 6.5     |
| CHFVR/L2525-CHP | 25    | 25    | 140   | 28    | 135.1 | 0.5   | 0     | 25     | 5     | STCAL/R18-CHP    | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.

SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| CHFVR/L...  | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N | PLUGG1/8ISO1179 |

Recommended clamping torque (lbs-ft, N-m)

| Clamping screw  | Torque (lbs-ft) | Torque (N-m) |
|-----------------|-----------------|--------------|
| SR M5-04451     | 1.84            | 2.5          |
| SR M6X12DIN6912 | 4.79            | 6.5          |
| SR M6X20-XT     | 4.79            | 6.5          |

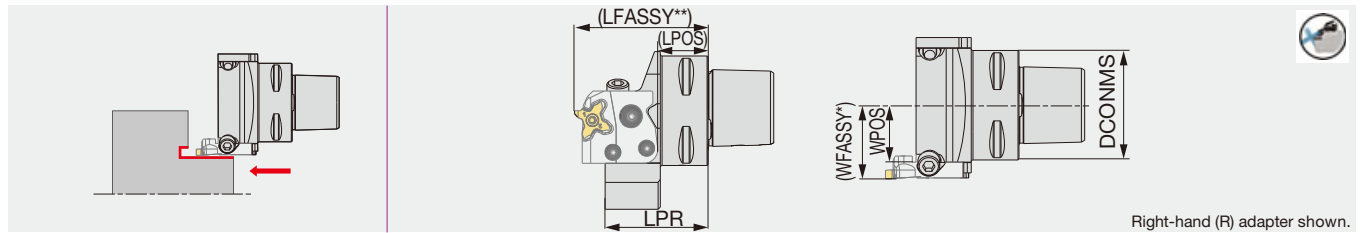
Combination of adapter and shank

| Shank            | Adapter     |             |
|------------------|-------------|-------------|
|                  | STCAR18-CHP | STCAL18-CHP |
| CHSR**-CHP (-MC) | ●           |             |
| CHSL**-CHP (-MC) |             | ●           |
| CHFVR**-CHP      |             | ●           |
| CHFVL**-CHP      | ●           |             |

● : Corresponding



Toolholder with TungCap connection, for adapter, with high pressure coolant capability



Right-hand (R) adapter shown.

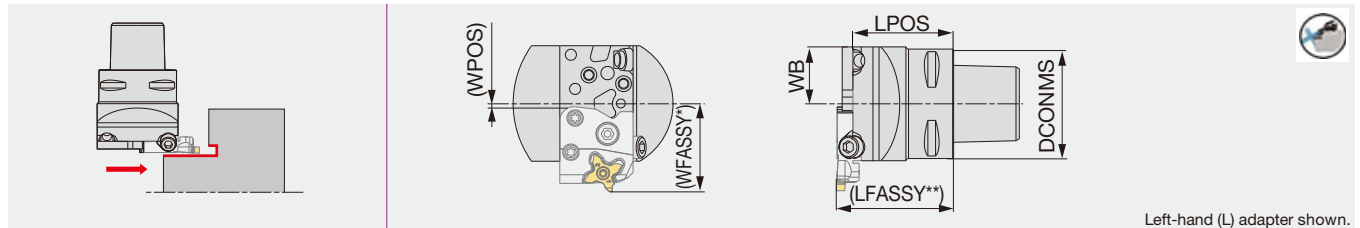
| Metric          | DCONMS | LPR  | LPOS | WPOS | Adapter (Option) | Torque |
|-----------------|--------|------|------|------|------------------|--------|
| C3CHSN19045-CHP | 32     | 45   | 17.5 | 18.5 | STCAR/L18-CHP    | 6.5    |
| C4CHSN21047-CHP | 40     | 46.5 | 21.5 | 21   | STCAR/L18-CHP    | 6.5    |
| C5CHSN26047-CHP | 50     | 47   | 22.5 | 26   | STCAR/L18-CHP    | 6.5    |
| C6CHSN33050-CHP | 63     | 50   | 24.5 | 32.5 | STCAR/L18-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (WF)  
 LFASSY\*\* : Toolholder (LPOS) + adapter (LF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.



## C\*CHFVN-CHP

Toolholder with TungCap connection, for perpendicularly-mounted adapter, with high pressure coolant capability



Left-hand (L) adapter shown.

| Metric           | DCONMS | LPOS | WB | WPOS | Adapter (Option) | Torque |
|------------------|--------|------|----|------|------------------|--------|
| C3CHFVN26040-CHP | 32     | 40   | 26 | 1.5  | STCAR/L18-CHP    | 6.5    |
| C4CHFVN26046-CHP | 40     | 46   | 26 | 1.5  | STCAR/L18-CHP    | 6.5    |
| C5CHFVN26046-CHP | 50     | 46   | 26 | 1.5  | STCAR/L18-CHP    | 6.5    |
| C6CHFVN33046-CHP | 63     | 46   | 33 | 8.5  | STCAR/L18-CHP    | 6.5    |

WFASSY\* : Toolholder (WPOS) + adapter (LF)  
 LFASSY\*\* : Toolholder (LPOS) + adapter (WF)  
 The LFASSY or WFASSY value may change depending on the adapter type.  
 Torque: Recommended clamping torque: N·m  
 Applicable for 30 MPa coolant  
 Please see page L059 for instructions on installing and removing the adapter or the insert.



### SPARE PARTS

| Designation   | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  |
|---------------|------------------|----------|------------------|------------------|----------|---------|
| C*CH**N**-CHP | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | HW5.0    | OR 5X1N |

### Recommended clamping torque (N·m)

| Clamping screw  | Torque (N·m) |
|-----------------|--------------|
| SR M5-04451     | 2.5          |
| SR M6X12DIN6912 | 6.5          |
| SR M6X20-XT     | 6.5          |



**Face grooving**

|  |  |
|--|--|
| <p><b>TCF18 (4 corners)</b></p>  <p><b>F230</b></p> | <p><b>First choice for face grooving</b></p> <p>Provides light cutting action and excellent surface finish. Provides superior chip evacuation for face grooving operations.</p> <p>CW = 0.020" - 0.098"<br/>CDX = 0.118"</p>  |
|--|--|

**External grooving**

|   |  |
|---|--|
| <p><b>TCS18 (4 corners)</b></p>  <p><b>F230, F231</b></p> | <p><b>First choice for O.D. grooving</b></p> <p>General-purpose pressed-in 3D chipbreaker for smooth chip control</p> <p>CW = 0.039" - 0.118"<br/>CDX = 0.118"</p>  |
|---|--|

|  |  |
|--|--|
| <p><b>TCL18 (4 corners)</b></p>  <p><b>F232</b></p> | <p><b>For lighter cutting action</b></p> <p>Features pressed-in 3D chipbreaker with sharp cutting edge for light cutting action. Provides excellent chip control at low feed rates.</p> <p>CW = 0.059" - 0.118"<br/>CDX = 0.118"</p>  |
|--|--|

|  |  |
|--|--|
| <p><b>TCG18 (4 corners)</b></p>  <p><b>F233, F234</b></p> | <p><b>For better chipping resistance</b></p> <p>Features an optimum rake angle and edge preparation for a good balance of light cutting action and fracture resistance.</p> <p>CW = 0.039" - 0.125"<br/>CDX = 0.118"</p>  |
|--|--|

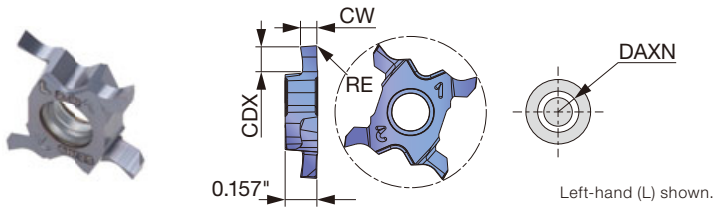
|   |   |
|---|---|
| <p><b>TCP18 (4 corners)</b></p>  <p><b>F235, F236</b></p> | <p><b>For higher surface quality</b></p> <p>Featuring a large rake angle, providing light cutting action and better surface finish. TCP-F style insert is also available for sharp cutting edge.</p> <p>CW = 0.013" - 0.118"<br/>CDX = 0.118"</p>  |
|---|---|

Please see page F\*\*\* for the product details.



# INSERTS

## TCF18L (Face grooving, sharp edge)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

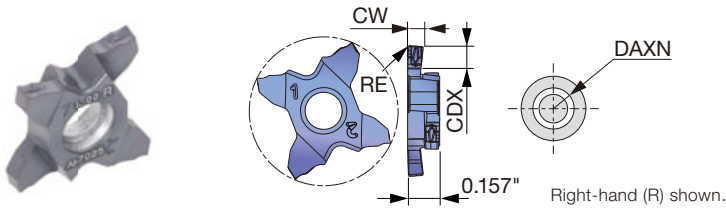
★ : First choice

| Designation    | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CDX (in) | DAXN (in) |       |
|----------------|------|--------------|---------------|---------|--------|--|--|--|--|----------|-----------|-------|
|                |      |              |               |         | SH725  |  |  |  |  |          |           |       |
| TCF18L050F-005 | L    | 0.5          | 0.020         | 0.002   | ●      |  |  |  |  |          | 0.039     | 0.236 |
| TCF18L100F-005 | L    | 1            | 0.039         | 0.002   | ●      |  |  |  |  |          | 0.098     | 0.236 |
| TCF18L150F-005 | L    | 1.5          | 0.059         | 0.002   | ●      |  |  |  |  |          | 0.098     | 0.236 |
| TCF18L200F-005 | L    | 2            | 0.079         | 0.002   | ●      |  |  |  |  |          | 0.118     | 0.236 |
| TCF18L250F-005 | L    | 2.5          | 0.098         | 0.002   | ●      |  |  |  |  |          | 0.118     | 0.236 |

5 pieces per package

● : Line up

## TCS18R/L (3D chipbreaker, honed edge)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CDX (in) | DAXN (in) |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|----------|-----------|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |          |           |       |
| TCS18R100-010 | R    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18L100-010 | L    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18R120-010 | R    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18L120-010 | L    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18R125-010 | R    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18L125-010 | L    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18R125-020 | R    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18L125-020 | L    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |          | 0.079     | 2.559 |
| TCS18R130-020 | R    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18L130-020 | L    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18R140-010 | R    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18L140-010 | L    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18R140-020 | R    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18L140-020 | L    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18R145-010 | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |          | 0.118     | 2.559 |
| TCS18L145-010 | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |          | 0.118     | 2.559 |

5 pieces per package

● : Line up

Reference pages: Toolholders → **F223 - F228**, Standard cutting conditions → **F237**

|   |                |   |  |  |  |
|---|----------------|---|--|--|--|
| P | Steel          | ★ |  |  |  |
| M | Stainless      | ★ |  |  |  |
| K | Cast iron      | ★ |  |  |  |
| N | Non-ferrous    |   |  |  |  |
| S | Superalloys    | ★ |  |  |  |
| H | Hard materials |   |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | DAXN<br>(in) |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|-------------|--------------|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |             |              |       |
| TCS18R150-010 | R    | 1.5             | 0.059            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L150-010 | L    | 1.5             | 0.059            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R150-020 | R    | 1.5             | 0.059            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L150-020 | L    | 1.5             | 0.059            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R160-020 | R    | 1.6             | 0.063            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L160-020 | L    | 1.6             | 0.063            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R170-020 | R    | 1.7             | 0.067            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L170-020 | L    | 1.7             | 0.067            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R175-010 | R    | 1.75            | 0.069            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L175-010 | L    | 1.75            | 0.069            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R175-020 | R    | 1.75            | 0.069            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L175-020 | L    | 1.75            | 0.069            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R185-020 | R    | 1.85            | 0.073            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L185-020 | L    | 1.85            | 0.073            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R195-020 | R    | 1.95            | 0.077            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L195-020 | L    | 1.95            | 0.077            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R200-010 | R    | 2               | 0.079            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L200-010 | L    | 2               | 0.079            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R200-020 | R    | 2               | 0.079            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L200-020 | L    | 2               | 0.079            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R225-020 | R    | 2.25            | 0.089            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L225-020 | L    | 2.25            | 0.089            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R230-020 | R    | 2.3             | 0.091            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L230-020 | L    | 2.3             | 0.091            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R250-010 | R    | 2.5             | 0.098            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L250-010 | L    | 2.5             | 0.098            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R250-020 | R    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L250-020 | L    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R250-030 | R    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L250-030 | L    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R265-030 | R    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L265-030 | L    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R280-030 | R    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L280-030 | L    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R300-010 | R    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L300-010 | L    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R300-020 | R    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L300-020 | L    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18R300-030 | R    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCS18L300-030 | L    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |

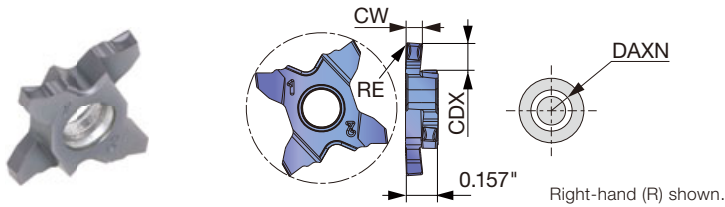
5 pieces per package  
● : Line up

Reference pages: Toolholders → **F223 - F228**, Standard cutting conditions → **F237**





# TCL18R/L (3D chipbreaker, honed edge)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

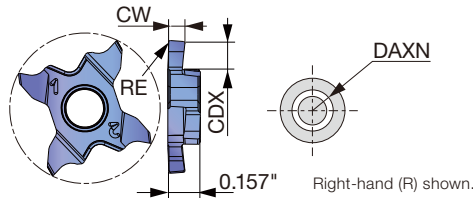
★ : First choice



| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  |  | CDX (in) | DAXN (in) |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|--|--|--|----------|-----------|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |  |  |  |          |           |       |
| TCL18R150-010 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L150-010 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R150-020 | R    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L150-020 | L    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R175-020 | R    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L175-020 | L    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R200-010 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L200-010 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R200-020 | R    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L200-020 | L    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R250-030 | R    | 2.5          | 0.098         | 0.012   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L250-030 | L    | 2.5          | 0.098         | 0.012   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R300-010 | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L300-010 | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R300-020 | R    | 3            | 0.118         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L300-020 | L    | 3            | 0.118         | 0.008   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18R300-030 | R    | 3            | 0.118         | 0.012   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |
| TCL18L300-030 | L    | 3            | 0.118         | 0.012   | ●      |  |  |  |  |  |  |  |          | 0.118     | 2.559 |

5 pieces per package  
● : Line up

# TCG18R/L (honed edge)



|          |                |   |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  |  |  |  | CDX (in) | DAXN (in) |       |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|--|--|--|--|--|----------|-----------|-------|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |  |  |  |  |  |          |           |       |       |
| TCG18R100-010 | R    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18L100-010 | L    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18R120-010 | R    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18L120-010 | L    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18R125-010 | R    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18L125-010 | L    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18R125-020 | R    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18L125-020 | L    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18R130-020 | R    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18L130-020 | L    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCG18R140-010 | R    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L140-010 | L    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R140-020 | R    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L140-020 | L    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R145-010 | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L145-010 | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R145-020 | R    | 1.45         | 0.057         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L145-020 | L    | 1.45         | 0.057         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R150-010 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L150-010 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R150-020 | R    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L150-020 | L    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R160-020 | R    | 1.6          | 0.063         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L160-020 | L    | 1.6          | 0.063         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R170-020 | R    | 1.7          | 0.067         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L170-020 | L    | 1.7          | 0.067         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R175-010 | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L175-010 | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R175-020 | R    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L175-020 | L    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R185-020 | R    | 1.85         | 0.073         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L185-020 | L    | 1.85         | 0.073         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R195-020 | R    | 1.95         | 0.077         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L195-020 | L    | 1.95         | 0.077         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R200-010 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L200-010 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R200-020 | R    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L200-020 | L    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R225-020 | R    | 2.25         | 0.089         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L225-020 | L    | 2.25         | 0.089         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R230-020 | R    | 2.3          | 0.091         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L230-020 | L    | 2.3          | 0.091         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18R250-010 | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCG18L250-010 | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F223 - F228**, Standard cutting conditions → **F237**

|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

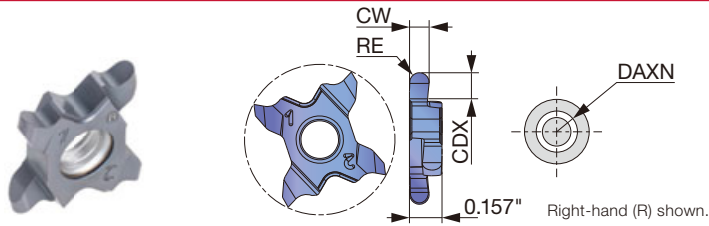
★ : First choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | DAXN<br>(in) |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|-------------|--------------|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |             |              |       |
| TCG18R250-020 | R    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L250-020 | L    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R250-030 | R    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L250-030 | L    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R265-030 | R    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L265-030 | L    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R280-030 | R    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L280-030 | L    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R300-010 | R    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L300-010 | L    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R300-020 | R    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L300-020 | L    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R300-030 | R    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L300-030 | L    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |             | 0.118        | 2.559 |

5 pieces per package  
● : Line up



### TCG18R/L (Full R, honed edge)



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

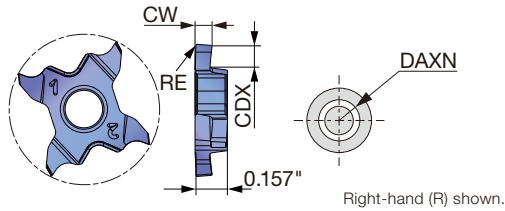
★ : First choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) | DAXN<br>(in) |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|-------------|--------------|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |             |              |       |
| TCG18R100-050 | R    | 1               | 0.039            | 0.020      | ●      |  |  |  |  |             | 0.079        | 2.559 |
| TCG18L100-050 | L    | 1               | 0.039            | 0.020      | ●      |  |  |  |  |             | 0.079        | 2.559 |
| TCG18R158-079 | R    | 1.58            | 0.062            | 0.031      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L158-079 | L    | 1.58            | 0.062            | 0.031      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R200-100 | R    | 2               | 0.079            | 0.039      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L200-100 | L    | 2               | 0.079            | 0.039      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R239-120 | R    | 2.39            | 0.094            | 0.047      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L239-120 | L    | 2.39            | 0.094            | 0.047      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R300-150 | R    | 3               | 0.118            | 0.059      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L300-150 | L    | 3               | 0.118            | 0.059      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18R318-159 | R    | 3.18            | 0.125            | 0.063      | ●      |  |  |  |  |             | 0.118        | 2.559 |
| TCG18L318-159 | L    | 3.18            | 0.125            | 0.063      | ●      |  |  |  |  |             | 0.118        | 2.559 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F223 - F228**, Standard cutting conditions → **F237**

# TCP18R/L (lightly honed edge)



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

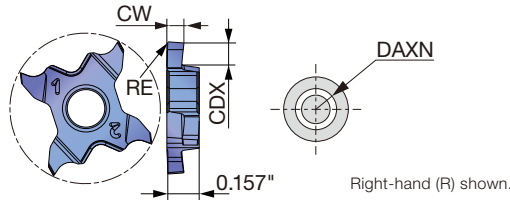
★ : First choice

| Designation      | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  |  |  |  | CDX (in) | DAXN (in) |       |       |
|------------------|------|--------------|---------------|---------|--------|--|--|--|--|--|--|--|--|--|----------|-----------|-------|-------|
|                  |      |              |               |         | AH725  |  |  |  |  |  |  |  |  |  |          |           |       |       |
| TCP18R033-005    | R    | 0.33         | 0.013         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.031 | 2.559 |
| TCP18L033-005    | L    | 0.33         | 0.013         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.031 | 2.559 |
| TCP18R043-005    | R    | 0.43         | 0.017         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18L043-005    | L    | 0.43         | 0.017         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18R050-005    | R    | 0.5          | 0.020         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18L050-005    | L    | 0.5          | 0.020         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18R075-005    | R    | 0.75         | 0.030         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L075-005    | L    | 0.75         | 0.030         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R095-005    | R    | 0.95         | 0.037         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L095-005    | L    | 0.95         | 0.037         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R100-010    | R    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L100-010    | L    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R120-010    | R    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L120-010    | L    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R125-010    | R    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L125-010    | L    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R140-010-35 | R    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L140-010-35 | L    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R145-010    | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L145-010    | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R145-010-35 | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L145-010-35 | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R150-010    | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L150-010    | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R150-010-35 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L150-010-35 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R175-010    | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L175-010    | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R175-010-35 | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L175-010-35 | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R200-010    | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18L200-010    | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18R200-010-35 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L200-010-35 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R250-010    | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18L250-010    | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18R250-010-35 | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L250-010-35 | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R300-010    | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18L300-010    | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18R300-010-35 | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L300-010-35 | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F223 - F228**, Standard cutting conditions → **F237**

# TCP18R/L-F (sharp edge)



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice



| Designation       | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  |  |  |  | CDX (in) | DAXN (in) |       |       |
|-------------------|------|--------------|---------------|---------|--------|--|--|--|--|--|--|--|--|--|----------|-----------|-------|-------|
|                   |      |              |               |         | SH725  |  |  |  |  |  |  |  |  |  |          |           |       |       |
| TCP18R033F-005    | R    | 0.33         | 0.013         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.031 | 2.559 |
| TCP18L033F-005    | L    | 0.33         | 0.013         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.031 | 2.559 |
| TCP18R043F-005    | R    | 0.43         | 0.017         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18L043F-005    | L    | 0.43         | 0.017         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18R050F-005    | R    | 0.5          | 0.020         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18L050F-005    | L    | 0.5          | 0.020         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.047 | 2.559 |
| TCP18R075F-005    | R    | 0.75         | 0.030         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L075F-005    | L    | 0.75         | 0.030         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R095F-005    | R    | 0.95         | 0.037         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L095F-005    | L    | 0.95         | 0.037         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R100F-005    | R    | 1            | 0.039         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R100F-010    | R    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L100F-010    | L    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R120F-005    | R    | 1.2          | 0.047         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R120F-010    | R    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L120F-010    | L    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R125F-005    | R    | 1.25         | 0.049         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R125F-010    | R    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L125F-010    | L    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R140F-010-35 | R    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R145F-005-35 | R    | 1.45         | 0.057         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R145F-010    | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L145F-010    | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R145F-010-35 | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L145F-010-35 | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R150F-005-35 | R    | 1.5          | 0.059         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R150F-010    | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L150F-010    | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R150F-010-35 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L150F-010-35 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R175F-005-35 | R    | 1.75         | 0.069         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R175F-010    | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18L175F-010    | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.079 | 2.559 |
| TCP18R175F-010-35 | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L175F-010-35 | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R200F-005-35 | R    | 2            | 0.079         | 0.002   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R200F-010    | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18L200F-010    | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18R200F-010-35 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L200F-010-35 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R250F-010    | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18L250F-010    | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18R250F-010-35 | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L250F-010-35 | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18R300F-010    | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18L300F-010    | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.098 | 2.559 |
| TCP18R300F-010-35 | R    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |
| TCP18L300F-010-35 | L    | 3            | 0.118         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |           | 0.118 | 2.559 |

5 pieces per package  
● : Line up

Reference pages: Toolholders → **F223 - F228**, Standard cutting conditions → **F237**

## STANDARD CUTTING CONDITIONS

### TCF18L (Face grooving)

| ISO | Workpiece materials                           | Grades | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|-----|---|--------|---------------------------|-----------------|
| P   | Low carbon steel<br>1015, etc.                | SH725  | 98 - 328                  | 0.0004 - 0.0016 |
|     | Carbon steel, Alloy steel<br>1055, 4140, etc. | SH725  | 98 - 328                  | 0.0004 - 0.0016 |
|     | Prehardened steel<br>NAK80, PX5, etc.         | SH725  | 98 - 328                  | 0.0004 - 0.0016 |
| M   | Stainless steel<br>304, 316, etc.             | SH725  | 98 - 328                  | 0.0004 - 0.0016 |
| K   | Gray cast iron<br>No.250B, No.300B, etc.      | SH725  | 98 - 328                  | 0.0004 - 0.0016 |
|     | Ductile cast iron<br>60-40-18, etc.           | SH725  | 98 - 328                  | 0.0004 - 0.0016 |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.            | SH725  | 66 - 131                  | 0.0004 - 0.0016 |
|     | Superalloys<br>Inconel718, etc.               | SH725  | 33 - 98                   | 0.0004 - 0.0016 |

### TCS18R/L, TCL18R/L (3D chipbreaker), TCG18R/L (honed edge), TCG18R/L (Full R)

| ISO | Workpiece materials                           | Grade  | Cutting speed<br>Vc (sfm) | Feed: f (ipr) |               |               |
|-----|---|--------|---------------------------|---------------|---------------|---------------|
|     |   |        |                           | TCL18         | TCS18         | TCG18         |
| P   | Low carbon steel<br>1015, etc.                | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Carbon steel, Alloy steel<br>1055, 4140, etc. | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Prehardened steel<br>NAK80, PX5, etc.         | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
| M   | Stainless steel<br>304, 316, etc.             | AH7025 | 164 - 394                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
| K   | Gray cast iron<br>No.250B, No.300B, etc.      | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Ductile cast iron<br>60-40-18, etc.           | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.            | AH7025 | 98 - 197                  | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |
|     | Superalloys<br>Inconel718, etc.               | AH7025 | 66 - 131                  | 0.001 - 0.005 | 0.002 - 0.006 | 0.002 - 0.006 |

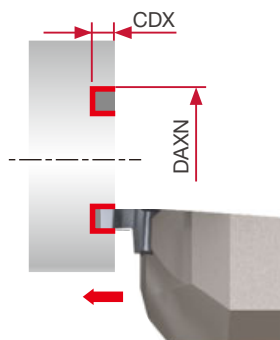
### TCP18R/L (lightly honed edge), TCP18R/L-F (sharp edge)

| ISO | Workpiece materials                           | Priority     | Grades   | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|-----|---|--------------|----------|---------------------------|-----------------|
| P   | Low carbon steel<br>1015, etc.                | First choice | SH725    | 262 - 591                 | 0.001 - 0.004   |
|     |   | Toughness    | AH725    | 262 - 591                 | 0.001 - 0.004   |
|     | Carbon steel, Alloy steel<br>1055, 4140, etc. | First choice | SH725    | 262 - 591                 | 0.001 - 0.004   |
|     |   | Toughness    | AH725    | 262 - 591                 | 0.001 - 0.004   |
| M   | Prehardened steel<br>NAK80, PX5, etc.         | First choice | SH725    | 262 - 591                 | 0.001 - 0.004   |
|     |   | Toughness    | AH725    | 262 - 591                 | 0.001 - 0.004   |
|     | Stainless steel<br>304, 316, etc.             | First choice | SH725    | 164 - 394                 | 0.001 - 0.004   |
|     |   | Toughness    | AH725    | 164 - 394                 | 0.001 - 0.004   |
| K   | Gray cast iron<br>No.250B, No.300B, etc.      | First choice | AH725    | 164 - 591                 | 0.001 - 0.004   |
|     |   | Sharpness    | SH725    | 164 - 591                 | 0.001 - 0.004   |
|     | Ductile cast iron<br>60-40-18, etc.           | First choice | AH725    | 164 - 591                 | 0.001 - 0.004   |
|     |   | Sharpness    | SH725    | 164 - 591                 | 0.001 - 0.004   |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.            | First choice | SH725    | 98 - 262                  | 0.001 - 0.004   |
|     | Toughness                                     | AH725        | 98 - 262 | 0.001 - 0.004             |                 |
|     | Superalloys<br>Inconel718, etc.               | First choice | AH725    | 66 - 131                  | 0.001 - 0.004   |

## Precautions of processing

Minimum diameter  
for face grooving

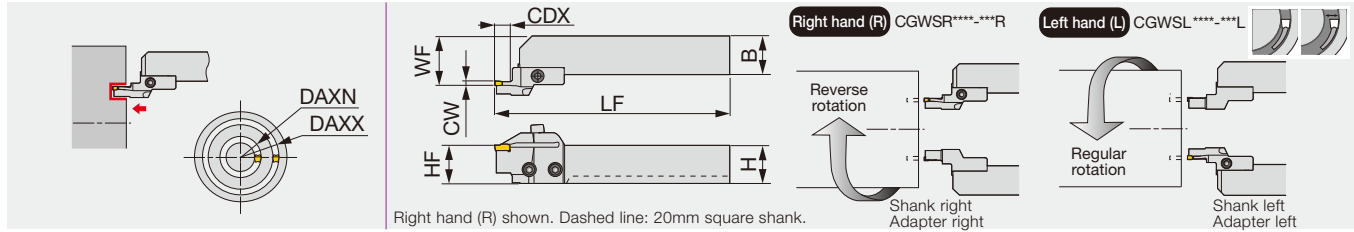
| Minimum face<br>diameter<br>DAXN (in) | Maximum groove<br>depth<br>CDX (in) |
|---------------------------------------|-------------------------------------|
| 2.559                                 | 0.118                               |



# MY-T SERIES

#S/D##R/L+CGWSR/L

Adapter for face grooving and turning toolholders (CGWSR/L-#S/D, CGWTR/L-#S/D)



Right hand (R) shown. Dashed line: 20mm square shank.

| Metric       | CW | DAXN | DAXX | CDX | H     | B     | LF    | HF    | WF    | Insert        | Shank      | Torque |
|--------------|----|------|------|-----|-------|-------|-------|-------|-------|---------------|------------|--------|
| 30S3040R/L   | 3  | 30   | 40   | 10  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*30, GE30-AL | CGWSR/L... | 5      |
| 30S4050R/L   | 3  | 40   | 50   | 10  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*30, GE30-AL | CGWSR/L... | 5      |
| 30S5065R/L   | 3  | 50   | 65   | 10  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*30, GE30-AL | CGWSR/L... | 5      |
| 30S6590R/L   | 3  | 65   | 90   | 10  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*30, GE30-AL | CGWSR/L... | 5      |
| 30S90150R/L  | 3  | 90   | 150  | 10  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*30, GE30-AL | CGWSR/L... | 5      |
| 30S150500R/L | 3  | 150  | 500  | 10  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*30, GE30-AL | CGWSR/L... | 5      |
| 40S3545R/L   | 4  | 35   | 45   | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40S4555R/L   | 4  | 45   | 55   | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40S5580R/L   | 4  | 55   | 80   | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40S80140R/L  | 4  | 80   | 140  | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40S140500R/L | 4  | 140  | 500  | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40D3545R/L   | 4  | 35   | 45   | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40D4555R/L   | 4  | 45   | 55   | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40D5580R/L   | 4  | 55   | 80   | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40D80140R/L  | 4  | 80   | 140  | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 40D140500R/L | 4  | 140  | 500  | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*40, GE40-AL | CGWSR/L... | 5      |
| 50S3545R/L   | 5  | 35   | 45   | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50S4555R/L   | 5  | 45   | 55   | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50S5575R/L   | 5  | 55   | 75   | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50S75130R/L  | 5  | 75   | 130  | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50S130500R/L | 5  | 130  | 500  | 14  | 20/25 | 20/25 | 152.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50D3545R/L   | 5  | 35   | 45   | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50D4555R/L   | 5  | 45   | 55   | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50D5575R/L   | 5  | 55   | 75   | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50D75130R/L  | 5  | 75   | 130  | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |
| 50D130500R/L | 5  | 130  | 500  | 22  | 20/25 | 20/25 | 160.5 | 20/25 | 27/32 | G*50          | CGWSR/L... | 5      |

Toolholders are in stock with the designations of: a set of shank and adapter; a shank; a adapter. Combining the designations of a adapter and a shank will make the designation of a set. Please check the stock and place an order with the designation of a set or a shank+a adapter. Use right-hand shanks (CGWSR~) with right-hand adapters (~R); and left-hand shanks (CGWSL~) with left-hand adapters (~L). Torque: Recommended clamping torque: N·m

| SPARE PARTS    |                |               |        |
|----------------|----------------|---------------|--------|
| Designation    | Clamping screw | Adapter screw | Wrench |
| 30S..., 40S... | CHHM5-18       | CSHB-6        | P-4    |
| 40D...         | CM5X0.8X16     | CSHB-6        | P-4    |
| 50S...         | CHHM5-18       | CSHB-6        | P-4    |
| 50D...         | CM5X0.8X16     | CSHB-6        | P-4    |

## Combination of adapter and shank

| Shank    | Adapter  |          |
|----------|----------|----------|
|          | **S/D**R | **S/D**L |
| CGWSR... | ●        |          |
| CGWSL... |          | ●        |
| CGWTR... |          | ●        |
| CGWTL... | ●        |          |

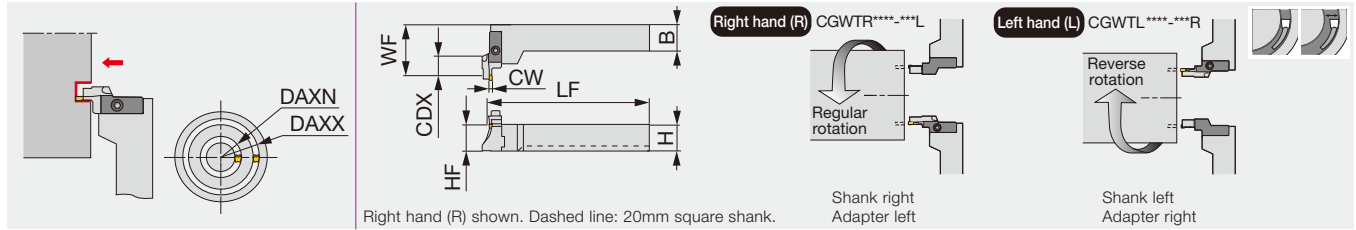
● : Corresponding

Reference pages: Inserts → F241 - F244, Shanks → F240, Standard cutting conditions → F245



# #S/D##R/L+CGWTR/L

Adapter for face grooving and turning toolholders (CGWSR/L-#S/D, CGWTR/L-#S/D)



Right hand (R) shown. Dashed line: 20mm square shank.

| Metric       | CW | DAXN | DAXX | CDX | H     | B     | LF  | HF    | WF    | Insert        | Shank      | Torque |
|--------------|----|------|------|-----|-------|-------|-----|-------|-------|---------------|------------|--------|
| 30S3040R/L   | 3  | 30   | 40   | 10  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*30, GE30-AL | CGWTL/R... | 5      |
| 30S4050R/L   | 3  | 40   | 50   | 10  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*30, GE30-AL | CGWTL/R... | 5      |
| 30S5065R/L   | 3  | 50   | 65   | 10  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*30, GE30-AL | CGWTL/R... | 5      |
| 30S6590R/L   | 3  | 65   | 90   | 10  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*30, GE30-AL | CGWTL/R... | 5      |
| 30S90150R/L  | 3  | 90   | 150  | 10  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*30, GE30-AL | CGWTL/R... | 5      |
| 30S150500R/L | 3  | 150  | 500  | 10  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*30, GE30-AL | CGWTL/R... | 5      |
| 40S3545R/L   | 4  | 35   | 45   | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40S4555R/L   | 4  | 45   | 55   | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40S5580R/L   | 4  | 55   | 80   | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40S80140R/L  | 4  | 80   | 140  | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40S140500R/L | 4  | 140  | 500  | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40D3545R/L   | 4  | 35   | 45   | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40D4555R/L   | 4  | 45   | 55   | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40D5580R/L   | 4  | 55   | 80   | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40D80140R/L  | 4  | 80   | 140  | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 40D140500R/L | 4  | 140  | 500  | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*40, GE40-AL | CGWTL/R... | 5      |
| 50S3545R/L   | 5  | 35   | 45   | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*50          | CGWTL/R... | 5      |
| 50S4555R/L   | 5  | 45   | 55   | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*50          | CGWTL/R... | 5      |
| 50S5575R/L   | 5  | 55   | 75   | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*50          | CGWTL/R... | 5      |
| 50S75130R/L  | 5  | 75   | 130  | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*50          | CGWTL/R... | 5      |
| 50S130500R/L | 5  | 130  | 500  | 14  | 20/25 | 20/25 | 150 | 20/25 | 52.25 | G*50          | CGWTL/R... | 5      |
| 50D3545R/L   | 5  | 35   | 45   | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*50          | CGWTL/R... | 5      |
| 50D4555R/L   | 5  | 45   | 55   | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*50          | CGWTL/R... | 5      |
| 50D5575R/L   | 5  | 55   | 75   | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*50          | CGWTL/R... | 5      |
| 50D75130R/L  | 5  | 75   | 130  | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*50          | CGWTL/R... | 5      |
| 50D130500R/L | 5  | 130  | 500  | 22  | 20/25 | 20/25 | 150 | 20/25 | 60.25 | G*50          | CGWTL/R... | 5      |

Toolholders are in stock with the designations of: a set of shank and adapter; a shank; a adapter. Combining the designations of a adapter and a shank will make the designation of a set. Please check the stock and place an order with the designation of a set or a shank+a adapter. Use right-hand shanks (CGWTR~) with left-hand adapters (~L); and left-hand shanks (CGWTL~) with right-hand adapters (~R). Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation    | Clamping screw | Adapter screw | Wrench |
|----------------|----------------|---------------|--------|
| 30S..., 40S... | CHHM5-18       | CSHB-6        | P-4    |
| 40D...         | CM5X0.8X16     | CSHB-6        | P-4    |
| 50S...         | CHHM5-18       | CSHB-6        | P-4    |
| 50D...         | CM5X0.8X16     | CSHB-6        | P-4    |

## Combination of adapter and shank

| Shank    | Adapter  |          |
|----------|----------|----------|
|          | **S/D**R | **S/D**L |
| CGWSR... | ●        |          |
| CGWSL... |          | ●        |
| CGWTR... |          | ●        |
| CGWTL... | ●        |          |

● : Corresponding

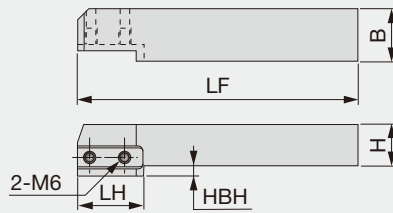
Reference pages: Inserts → F241 - F244, Shanks → F240, Standard cutting conditions → F245



# MY-T SERIES

## CGWSR/L

Shank for CGWSR/L-WG, -WG-L, -G, -CGD, -FL-G/TP, and -#S/D toolholders

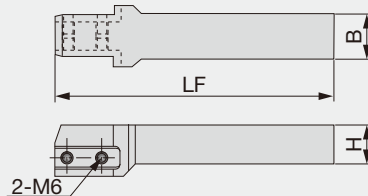


| Inch        | H    | B    | LF   | LH    | HBH   |
|-------------|------|------|------|-------|-------|
| CGWSR/L12   | 0.75 | 0.75 | 5.40 | 1.310 | 0.250 |
| CGWSR/L16   | 1.00 | 1.00 | 5.40 | -     | -     |
| Metric      | H    | B    | LF   | LH    | HBH   |
| CGWSR/L2020 | 20   | 20   | 137  | 32.5  | 5     |
| CGWSR/L2525 | 25   | 25   | 137  | -     | -     |



## CGWSRL

Shank of toolholders. Vertical type with offset

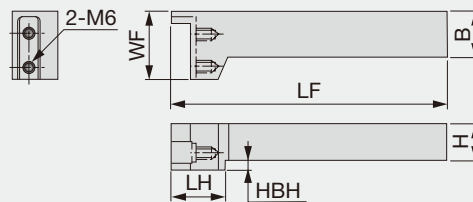


| Inch     | H    | B    | LF   |
|----------|------|------|------|
| CGWSRL12 | 0.75 | 0.75 | 5.40 |
| CGWSRL16 | 1.00 | 1.00 | 5.40 |

Note: Right (R) or Left (L) hand cartridges can be used in this toolholder

## CGWTR/L

Shank for CGWSR/L-WG, -WG-L, -G, -CGD, -FL-G/TP, and -#S/D toolholders, for tangentially clamped adapter



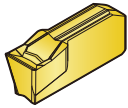
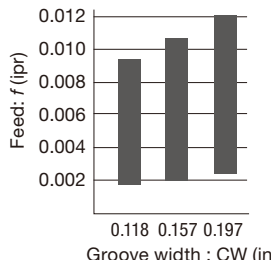
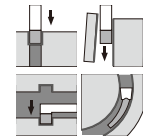
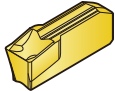
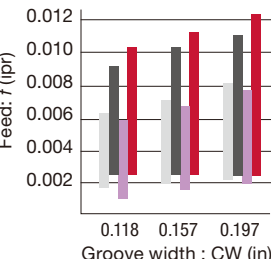
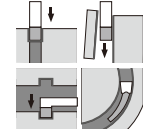
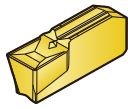
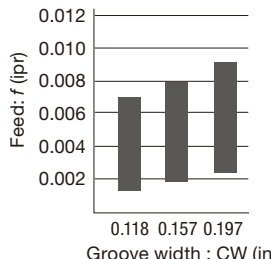
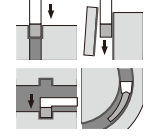
| Inch        | H    | B    | LF   | LH   | WF   | HBH   |
|-------------|------|------|------|------|------|-------|
| CGWTR/L12   | 0.75 | 0.75 | 6.00 | 1.20 | 1.50 | 0.234 |
| CGWTR/L16   | 1.00 | 1.00 | 6.00 | -    | 1.50 | -     |
| Metric      | H    | B    | LF   | LH   | WF   | HBH   |
| CGWTR/L2020 | 20   | 20   | 150  | 30.5 | 37   | 5     |
| CGWTR/L2525 | 25   | 25   | 150  | -    | 37   | -     |

### SPARE PARTS

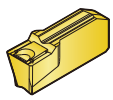
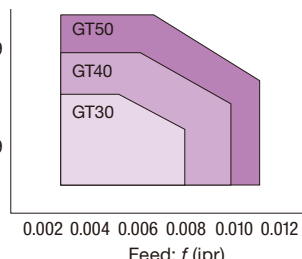
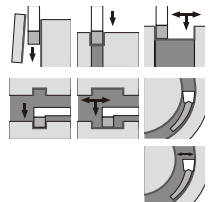


| Designation | Adapter screw |
|-------------|---------------|
| CGW...      | CSHB-6        |

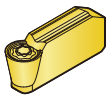
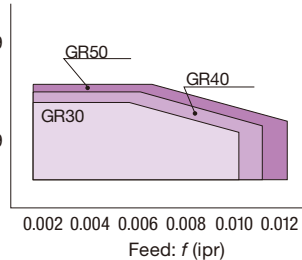
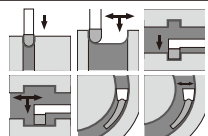
**Face grooving**

|  |  |   |
|--|--|---|
| <p><b>GF</b></p>  <p><b>F243</b></p>  | <p>1st choice for face grooving<br/>Low cutting force and good chip control for face grooving<br/>CW = 0.118" - 0.197"</p>         |   <p>■ Face grooving</p>   |
| <p><b>GE</b></p>  <p><b>F242</b></p>  | <p>1st choice for external grooving and parting<br/>Excellent chip control for grooving<br/>CW = 0.118" - 0.197"</p>               |   <p>■ External grooving<br/>■ Internal grooving<br/>■ Face grooving<br/>■ Parting</p> |
| <p><b>GN</b></p>  <p><b>F244</b></p> | <p>1st choice for internal grooving<br/>Low cutting force and good chip control for internal grooving<br/>CW = 0.118" - 0.197"</p> |   <p>■ Face grooving</p>   |

**External grooving and turning**

|   |   |  |
|---|---|--|
| <p><b>GT</b></p>  <p><b>F242</b></p> | <p>1st choice for turning<br/>Low cutting force and good chip control for traversing<br/>CW = 0.118" - 0.197"</p> |   |
|---|---|--|

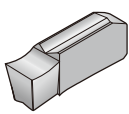
**For profiling**

|   |  |  |
|---|--|--|
| <p><b>GR</b></p>  <p><b>F243</b></p> | <p>Full radius type<br/>Low cutting force and good chip control for profiling<br/>CW = 0.118" - 0.197"</p> |   |
|---|--|--|

Please see page F\*\*\* for the product details.

## For aluminum and non-ferrous metal

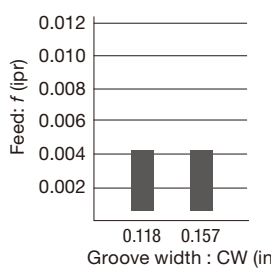
**GE-AL**

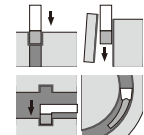


**F244**

Reduce cutting force and welding due to sharp chipbreaker

CW = 0.118" - 0.157"



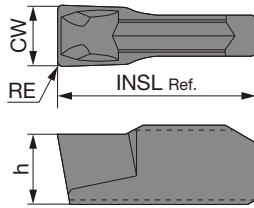


Please see page F\*\*\* for the product details.

## INSERTS

### GE

For external grooving and parting



|                         |   |   |   |  |  |  |  |   |  |  |  |  |
|-------------------------|---|---|---|--|--|--|--|---|--|--|--|--|
| <b>P</b> Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |
| <b>M</b> Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |
| <b>K</b> Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |
| <b>S</b> Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |

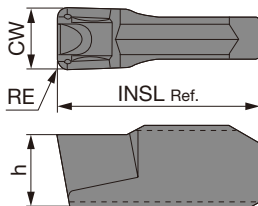
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|---------|--|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530  |  |  |              |           |
| GE30        | 3                                       | 0.118                                     | 0.008      | ●      | ●     | ●     | ●       |  |  | 0.394        | 0.138     |
| GE40        | 4                                       | 0.157                                     | 0.008      | ●      | ●     | ●     | ●       |  |  | 0.394        | 0.157     |
| GE50        | 5                                       | 0.197                                     | 0.008      | ●      | ●     | ●     | ●       |  |  | 0.472        | 0.177     |

● : Line up

### GT

For external grooving and turning



|                         |   |   |   |  |  |  |  |   |  |  |  |  |
|-------------------------|---|---|---|--|--|--|--|---|--|--|--|--|
| <b>P</b> Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |
| <b>M</b> Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |
| <b>K</b> Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |
| <b>S</b> Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

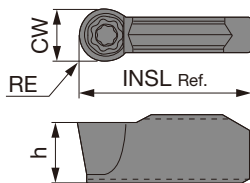
| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |       |       | Cermets |   |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|---------|---|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530  |   |  |              |           |
| GT30        | 3                                       | 0.118                                     | 0.016      |        | ●     | ●     |         | ● |  | 0.394        | 0.138     |
| GT40        | 4                                       | 0.157                                     | 0.016      |        | ●     | ●     |         | ● |  | 0.394        | 0.157     |
| GT50        | 5                                       | 0.197                                     | 0.016      | ●      | ●     | ●     |         | ● |  | 0.472        | 0.177     |

● : Line up

Reference pages: Toolholders → **F238 - F240**, Standard cutting conditions → **F245**

## GR

For profiling (full radius)



|   |                |   |   |   |  |  |  |  |   |  |  |  |  |
|---|----------------|---|---|---|--|--|--|--|---|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |

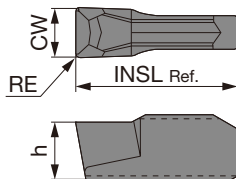
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|---------|--|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530  |  |  |              |           |
| GR30        | 3                                       | 0.118                                     | 0.059      | ●      | ●     | ●     | ●       |  |  | 0.394        | 0.138     |
| GR40        | 4                                       | 0.157                                     | 0.079      | ●      | ●     | ●     | ●       |  |  | 0.394        | 0.157     |
| GR50        | 5                                       | 0.197                                     | 0.098      | ●      | ●     | ●     | ●       |  |  | 0.472        | 0.177     |

● : Line up

## GF

For face grooving



|   |                |   |  |   |  |  |  |  |  |  |  |  |  |
|---|----------------|---|--|---|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ |  | ★ |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |   |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ☆ |  | ☆ |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |   |  |  |  |  |  |  |  |  |  |
| S | Superalloys    |   |  |   |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |  |   |  |  |  |  |  |  |  |  |  |

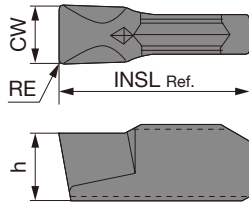
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  | Cermets |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|--|---------|--|--|--------------|-----------|
|             |   |   |            | GH730  |  | NS9530  |  |  |              |           |
| GF30        | 3                                       | 0.118                                     | 0.008      | ●      |  | ●       |  |  | 0.394        | 0.138     |
| GF40        | 4                                       | 0.157                                     | 0.008      | ●      |  | ●       |  |  | 0.394        | 0.157     |
| GF50        | 5                                       | 0.197                                     | 0.008      | ●      |  | ●       |  |  | 0.472        | 0.177     |

● : Line up

## GN

For internal grooving



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

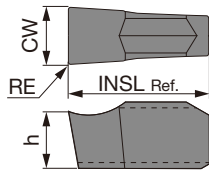
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|----------------------------|------------------------------|------------|--------|--|--|--|--|--|--|--------------|-----------|-------|
|             |                            |                              |            | GH730  |  |  |  |  |  |  |              |           |       |
| GN30        | 3                          | 0.118                        | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GN40        | 4                          | 0.157                        | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.157 |
| GN50        | 5                          | 0.197                        | 0.008      | ●      |  |  |  |  |  |  |              | 0.472     | 0.177 |

● : Line up

## GE-AL

For aluminum and non-ferrous metal



|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          |   |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Uncoated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|----------------------------|------------------------------|------------|----------|--|--|--|--|--|--|--------------|-----------|-------|
|             |                            |                              |            | KS05F    |  |  |  |  |  |  |              |           |       |
| GE30-AL     | 3                          | 0.118                        | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE40-AL     | 4                          | 0.157                        | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.157 |

● : Line up

Reference pages: Toolholders → **F238 - F240**

## STANDARD CUTTING CONDITIONS

| ISO | Workpiece material                                | Grade        | Cutting speed<br>Vc (sfm) |
|-----|---|--------------|---------------------------|
| P   | Low carbon steel, Alloy steel<br>(~ HB150)        | T9225        | 262 - 984                 |
|     |   | NS9530       | 328 - 656                 |
|     |   | GH730, AH120 | 164 - 591                 |
|     | Medium carbon steel, Alloy steel<br>(HB150 ~ 250) | T9225        | 262 - 722                 |
|     |   | NS9530       | 262 - 591                 |
|     |   | GH730, AH120 | 164 - 492                 |
|     | High carbon steel, Alloy steel<br>(HB250 ~ )      | T9225        | 262 - 722                 |
|     |   | NS9530       | 262 - 492                 |
|     |   | GH730, AH120 | 164 - 394                 |
| M   | Stainless steel                                   | GH730, AH120 | 164 - 394                 |
| K   | Gray iron, Ductile cast iron                      | GH730, AH120 | 164 - 591                 |
| N   | Aluminum alloy, Non-ferrous metal                 | KS05F        | 656 - 984                 |

### For face grooving

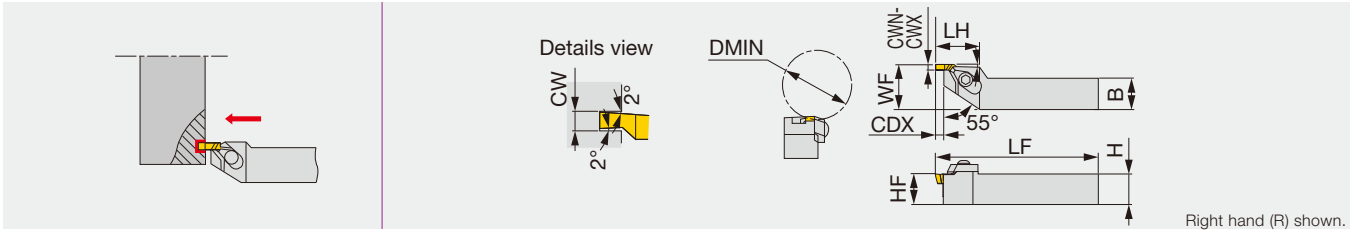
| Operation                                 | Feed: <i>f</i> (ipr)                                   |  |  |
|---|--|--|--|
|   | Groove width: CW                                       |  |  |
|   | 3 mm (0.118")  | 4 mm (0.157")  | 5 mm (0.197")  |
| Face grooving<br>(GE**)                   | 0.0024 - 0.009   | 0.0024 - 0.009   | 0.0028 - 0.010   |
| Face grooving<br>(GF**)                   | 0.0016 - 0.010   | 0.0020 - 0.010   | 0.0020 - 0.012   |
| Traversing<br>(GT**)                      | <i>ap</i> = 0.020 - 0.059<br><i>f</i> = 0.0024 - 0.008 | <i>ap</i> = 0.020 - 0.079<br><i>f</i> = 0.0024 - 0.010 | <i>ap</i> = 0.020 - 0.098<br><i>f</i> = 0.0024 - 0.011 |
| Traversing<br>(GR**)                      | <i>ap</i> = 0.020 - 0.055<br><i>f</i> = 0.002 - 0.010  | <i>ap</i> = 0.020 - 0.059<br><i>f</i> = 0.002 - 0.010  | <i>ap</i> = 0.020 - 0.063<br><i>f</i> = 0.002 - 0.012  |
| Grooving for Aluminum alloys<br>(GE**-AL) | 0.0012 - 0.004   | 0.0012 - 0.004   | -  |

For diameter compensation values in traversing, [F129](#) page

When vibration occurs in turning, please use the lower limit value in the above table.

# GX-R/LF

## Face grooving toolholder



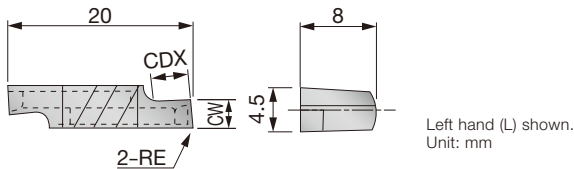
| Metric      | CWN | CWX | DMIN | CDX     | H  | B  | LF  | LH | HF | WF | Insert     | Torque |
|-------------|-----|-----|------|---------|----|----|-----|----|----|----|------------|--------|
| GX-2525R/LF | 1   | 4.5 | 55   | 1.5 - 6 | 25 | 25 | 150 | 35 | 25 | 32 | XNL/R63... | 5      |

Use right-hand toolholders (GX-...RF) with left-hand inserts (XNL); and left-hand toolholders (GX-...LF) with right-hand inserts (XNR).  
Torque: Recommended clamping torque: N·m

| SPARE PARTS | Clamp set | Clamping screw | Shim  | Shim screw | Wrench |
|-------------|-----------|----------------|-------|------------|--------|
| GX-2525RF   | CP81A     | RT-1           | SL-3R | BHM4-8     | P-4    |
| GX-2525LF   | CP81A     | RT-1           | SL-3L | BHM4-8     | P-4    |

### INSERT

#### XNR/L



|   |                |   |  |   |  |  |  |  |
|---|----------------|---|--|---|--|--|--|--|
| P | Steel          | ★ |  | ★ |  |  |  |  |
| M | Stainless      |   |  |   |  |  |  |  |
| K | Cast iron      | ☆ |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |  |   |  |  |  |  |
| S | Superalloys    |   |  |   |  |  |  |  |
| H | Hard materials |   |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.002 (in) | CW±0.05 (mm) | RE (mm) | Cermet |      | Uncoated |  | CDX (mm) |
|-------------|------|---------------|--------------|---------|--------|------|----------|--|----------|
|             |      |               |              |         | NS9530 | TH10 |          |  |          |
| XNR6310-02  | R    | 0.039         | 1            | 0.2     | ●      | ●    |          |  | 1.5      |
| XNL6310-02  | L    | 0.039         | 1            | 0.2     | ●      | ●    |          |  | 1.5      |
| XNR6315-02  | R    | 0.059         | 1.5          | 0.2     | ●      | ●    |          |  | 2.3      |
| XNL6315-02  | L    | 0.059         | 1.5          | 0.2     | ●      | ●    |          |  | 2.3      |
| XNR6320-02  | R    | 0.079         | 2            | 0.2     | ●      | ●    |          |  | 3        |
| XNL6320-02  | L    | 0.079         | 2            | 0.2     | ●      | ●    |          |  | 3        |
| XNR6325-02  | R    | 0.098         | 2.5          | 0.2     | ●      | ●    |          |  | 3.8      |
| XNL6325-02  | L    | 0.098         | 2.5          | 0.2     | ●      | ●    |          |  | 3.8      |
| XNR6330-02  | R    | 0.118         | 3            | 0.2     | ●      | ●    |          |  | 4.5      |
| XNL6330-02  | L    | 0.118         | 3            | 0.2     | ●      | ●    |          |  | 4.5      |
| XNR6335-02  | R    | 0.138         | 3.5          | 0.2     | ●      | ●    |          |  | 5.3      |
| XNL6335-02  | L    | 0.138         | 3.5          | 0.2     | ●      | ●    |          |  | 5.3      |
| XNR6340-02  | R    | 0.157         | 4            | 0.2     | ●      | ●    |          |  | 6        |
| XNL6340-02  | L    | 0.157         | 4            | 0.2     | ●      | ●    |          |  | 6        |
| XNR6345-02  | R    | 0.177         | 4.5          | 0.2     | ●      | ●    |          |  | 6        |
| XNL6345-02  | L    | 0.177         | 4.5          | 0.2     | ●      | ●    |          |  | 6        |

● : Line up

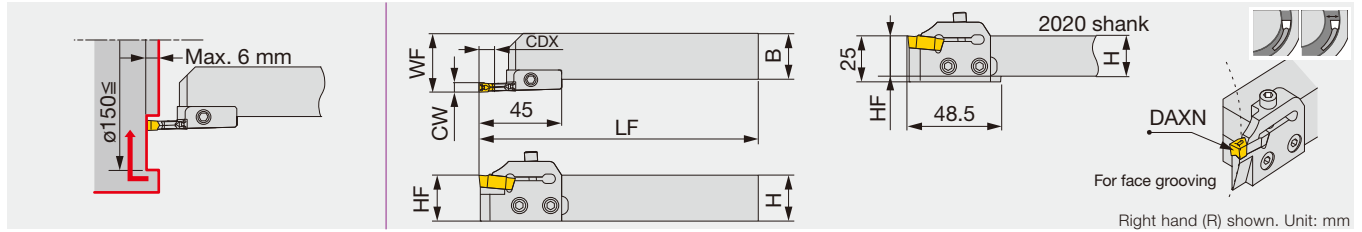
### STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material       | Grade  | Cutting speed Vc (sfm) | Feed: f (ipr) |                      |               |
|----------|--------------------------|--------|------------------------|---------------|----------------------|---------------|
|          |                          |        |                        | CW < 0.079"   | CW = 0.079" - 0.157" | CW > 0.157"   |
| <b>P</b> | Carbon steels            | NS9530 | 262 - 656              | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |
| <b>K</b> | Cast irons, Light alloys | TH10   | 197 - 492              | 0.002 - 0.004 | 0.003 - 0.008        | 0.003 - 0.010 |

# MY-T SERIES

## CGWSR/L-FLR/L5TP

Face grooving and turning toolholder



| Metric               | CW | DAXN | CDX | H  | B  | LF  | HF | WF | Insert    | Shank       | Adapter  | Torque |
|----------------------|----|------|-----|----|----|-----|----|----|-----------|-------------|----------|--------|
| CGWSR/L2020-FLR/L5TP | 5  | 150  | 6   | 20 | 20 | 152 | 20 | 27 | FLEX50R/L | CGWSR/L2020 | FLR/L5TP | 5      |
| CGWSR/L2525-FLR/L5TP | 5  | 150  | 6   | 25 | 25 | 152 | 25 | 32 | FLEX50R/L | CGWSR/L2525 | FLR/L5TP | 5      |

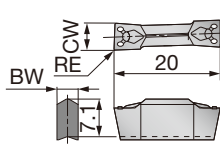
Toolholders are in stock with the designations of: a set of shank and adapter; a shank; a adapter. Combining the designations of a adapter and a shank will make the designation of a set. Please check the stock and place an order with the designation of a set or a shank+a adapter.  
 Note: Use right-hand shanks (CGWSR...) with right-hand adapters (FLR5TP); and left-hand shanks (CGWSL...) with left-hand adapters (FLR5TP).  
 Torque: Recommended clamping torque: N·m

### SPARE PARTS

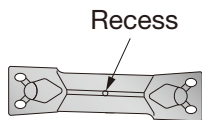
| Designation          | Clamping screw | Adapter screw | Wrench |
|----------------------|----------------|---------------|--------|
| CGWSR/L****-FLR/L5TP | CHHM5-18       | CSHB-6        | P-4    |

## INSERT

### FLEX(R/L)



Right hand (R) shown.  
Unit: mm



To distinguish the insert hands, the V-shape surface (top surface) of a left-hand insert has a recess. (not of a right-hand insert)

|   |                |   |  |  |  |   |  |  |  |   |  |  |
|---|----------------|---|--|--|--|---|--|--|--|---|--|--|
| P | Steel          | ★ |  |  |  | ★ |  |  |  |   |  |  |
| M | Stainless      | ★ |  |  |  |   |  |  |  | ★ |  |  |
| K | Cast iron      | ☆ |  |  |  | ☆ |  |  |  |   |  |  |
| N | Non-ferrous    |   |  |  |  |   |  |  |  |   |  |  |
| S | Superalloys    |   |  |  |  |   |  |  |  |   |  |  |
| H | Hard materials |   |  |  |  |   |  |  |  |   |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.002 (in) | CW±0.05 (mm) | RE (mm) | Coated |  | Cermet |  | Uncoated |  | BW (mm) |
|-------------|------|---------------|--------------|---------|--------|--|--------|--|----------|--|---------|
|             |      |               |              |         | T9225  |  | NS9530 |  | UX30     |  |         |
| FLEX30R     | R    | 0.118         | 3            | 0.4     |        |  | ●      |  |          |  | 2.2     |
| FLEX30L     | L    | 0.118         | 3            | 0.4     |        |  | ●      |  |          |  | 2.2     |
| FLEX40R     | R    | 0.157         | 4            | 0.4     |        |  | ●      |  |          |  | 3.1     |
| FLEX40L     | L    | 0.157         | 4            | 0.4     |        |  | ●      |  |          |  | 3.1     |
| FLEX50R     | R    | 0.197         | 5            | 0.4     | ●      |  | ●      |  | ●        |  | 4       |
| FLEX50L     | L    | 0.197         | 5            | 0.4     | ●      |  | ●      |  | ●        |  | 4       |

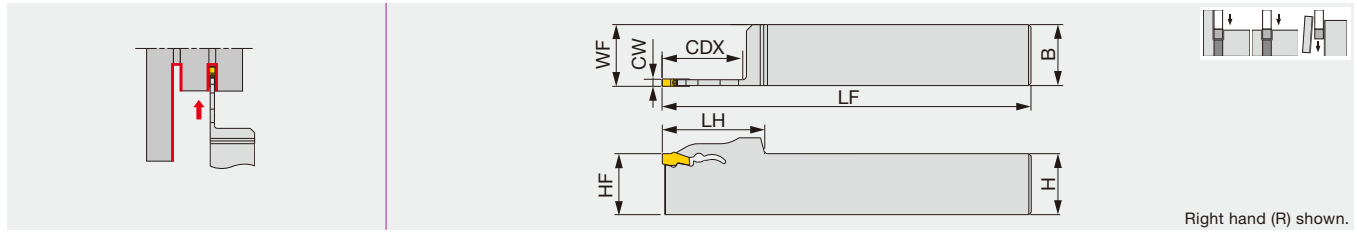
● : Line up

## STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Grade  | Cutting speed Vc (sfm) | Feed: f (ipr) |               |
|-----|--------------------|--------|------------------------|---------------|---------------|
|     |                    |        |                        | Grooving      | Turning       |
| P   | Carbon steel       | T9225  | 262 - 984              | 0.002 - 0.010 | 0.004 - 0.012 |
|     |                    | NS9530 | 262 - 656              | 0.002 - 0.010 | 0.004 - 0.012 |
|     |                    | UX30   | 197 - 492              | 0.002 - 0.010 | 0.004 - 0.012 |



### External toolholders for grooving and parting



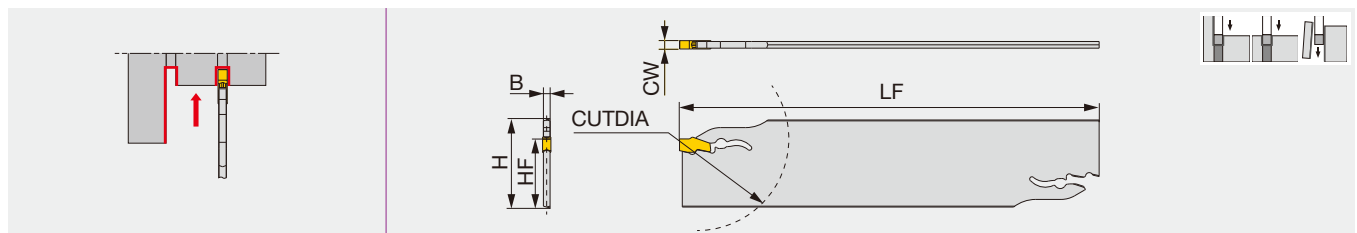
| Inch          | CW    | CDX   | Seat size | H     | B     | LF    | LH    | HF    | WF    |
|---------------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|
| QSER/L12-2T26 | 0.079 | 1.024 | 2         | 0.750 | 0.750 | 5.000 | 1.417 | 0.750 | 0.756 |
| QSER/L12-2T33 | 0.079 | 1.299 | 2         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.756 |
| QSER/L16-2T26 | 0.079 | 1.024 | 2         | 1.000 | 1.000 | 6.000 | 1.417 | 1.000 | 1.004 |
| QSER/L16-2T33 | 0.079 | 1.299 | 2         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.004 |
| QSER/L12-3T26 | 0.118 | 1.024 | 3         | 0.750 | 0.750 | 5.000 | 1.417 | 0.750 | 0.764 |
| QSER/L12-3T33 | 0.118 | 1.299 | 3         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.764 |
| QSER/L16-3T26 | 0.118 | 1.024 | 3         | 1.000 | 1.000 | 6.000 | 1.417 | 1.000 | 1.012 |
| QSER/L16-3T33 | 0.118 | 1.299 | 3         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.012 |
| QSER/L12-4T33 | 0.157 | 1.299 | 4         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.768 |
| QSER/L16-4T33 | 0.157 | 1.299 | 4         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.016 |
| QSER/L16-5T33 | 0.197 | 1.299 | 5         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.020 |
| QSER/L16-6T36 | 0.236 | 1.417 | 6         | 1.000 | 1.000 | 6.000 | 1.890 | 1.000 | 1.016 |

| Metric          | CW | CDX | Seat size | H  | B  | LF  | LH | HF | WF   |
|-----------------|----|-----|-----------|----|----|-----|----|----|------|
| QSER/L2020-2T26 | 2  | 26  | 2         | 20 | 20 | 125 | 36 | 20 | 20.1 |
| QSER/L2020-2T33 | 2  | 33  | 2         | 20 | 20 | 125 | 42 | 20 | 20.1 |
| QSER/L2525-2T26 | 2  | 26  | 2         | 25 | 25 | 150 | 36 | 25 | 25.1 |
| QSER/L2525-2T33 | 2  | 33  | 2         | 25 | 25 | 150 | 42 | 25 | 25.1 |
| QSER/L2020-3T26 | 3  | 26  | 3         | 20 | 20 | 125 | 36 | 20 | 20.3 |
| QSER/L2020-3T33 | 3  | 33  | 3         | 20 | 20 | 125 | 42 | 20 | 20.3 |
| QSER/L2525-3T26 | 3  | 26  | 3         | 25 | 25 | 150 | 36 | 25 | 25.3 |
| QSER/L2525-3T33 | 3  | 33  | 3         | 25 | 25 | 150 | 42 | 25 | 25.3 |
| QSER/L2020-4T33 | 4  | 33  | 4         | 20 | 20 | 125 | 42 | 20 | 20.4 |
| QSER/L2525-4T33 | 4  | 33  | 4         | 25 | 25 | 150 | 42 | 25 | 25.4 |
| QSER/L2525-5T33 | 5  | 33  | 5         | 25 | 25 | 150 | 42 | 25 | 25.5 |

### QSP

#### Blades for external deep grooving and parting



| Metric   | CW | CUTDIA | Seat size | H  | B   | LF  | HF   |
|----------|----|--------|-----------|----|-----|-----|------|
| QSP26-2D | 2  | 52     | 2         | 26 | 1.8 | 150 | 21.4 |
| QSP32-2D | 2  | 66     | 2         | 32 | 1.8 | 150 | 24.8 |
| QSP26-3D | 3  | 75     | 3         | 26 | 2.4 | 150 | 21.4 |
| QSP32-3D | 3  | 120    | 3         | 32 | 2.4 | 150 | 24.8 |
| QSP26-4D | 4  | 80     | 4         | 26 | 3.2 | 150 | 21.4 |
| QSP32-4D | 4  | 120    | 4         | 32 | 3.2 | 150 | 24.9 |
| QSP32-5D | 5  | 120    | 5         | 32 | 4   | 150 | 24.9 |

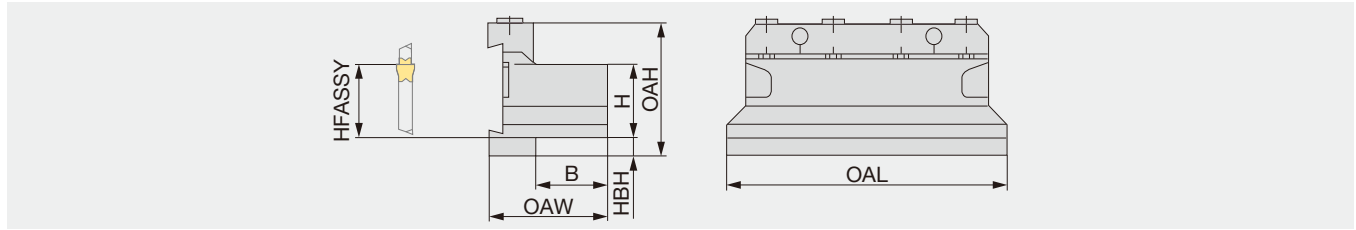
#### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| QS...       | QL-39  |

Reference pages: Inserts → **F252, F253**, Standard cutting conditions → **F253**

## CTBU

Tool block for QSP blades



| Inch        | H     | B     | OAL   | HFASSY | HBH   | OAH   | OAW   | Blade (Optional) |
|-------------|-------|-------|-------|--------|-------|-------|-------|------------------|
| CTBU12-26-U | 0.750 | 0.827 | 3.386 | 0.750  | 0.354 | 1.693 | 1.496 | QSP26...         |
| CTBU16-26-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.197 | 1.772 | 1.654 | QSP26...         |
| CTBU12-32-U | 0.750 | 0.748 | 3.937 | 0.750  | 0.512 | 1.969 | 1.496 | QSP32...         |
| CTBU16-32-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.315 | 1.969 | 1.654 | QSP32...         |
| CTBU20-32-U | 1.250 | 1.142 | 4.331 | 1.250  | 0.197 | 2.126 | 1.890 | QSP32...         |

| Metric    | H  | B  | OAL | HFASSY | HBH | OAH | OAW | Blade (Optional) |
|-----------|----|----|-----|--------|-----|-----|-----|------------------|
| CTBU20-26 | 20 | 21 | 86  | 20     | 9   | 43  | 38  | QSP26...         |
| CTBU25-26 | 25 | 23 | 110 | 25     | 5   | 45  | 43  | QSP26...         |
| CTBU20-32 | 20 | 19 | 100 | 20     | 13  | 50  | 38  | QSP32...         |
| CTBU25-32 | 25 | 23 | 110 | 25     | 8   | 50  | 42  | QSP32...         |
| CTBU32-32 | 32 | 29 | 110 | 32     | 5   | 54  | 48  | QSP32...         |

### INCH SPARE PARTS

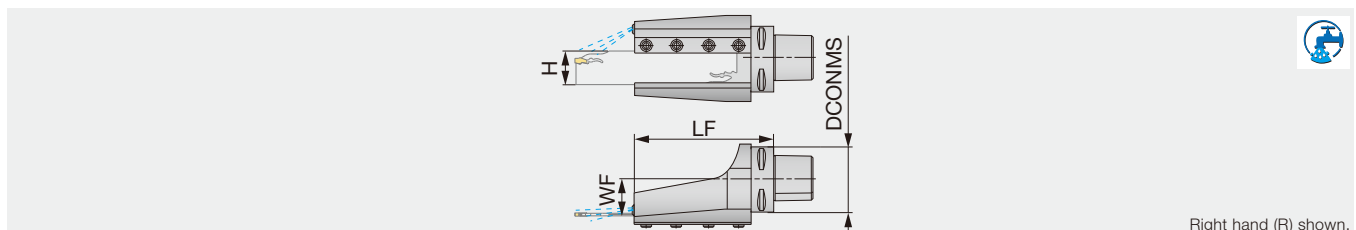
| Designation | Clamp  | Clamping screw | Wrench |
|-------------|--------|----------------|--------|
| CTBU12-26-U | CT-86  | CM6X30-S       | P-5    |
| CTBU16-26-U | CT-100 | CM6X30-S       | P-5    |
| CTBU12-32-U | CT-105 | CM6X30-S       | P-5    |
| CTBU16-32-U | CT-110 | CM6X30-S       | P-5    |
| CTBU20-32-U | CT-110 | CM6X30-S       | P-5    |

### METRIC SPARE PARTS

| Designation | Clamp  | Clamping screw | Wrench |
|-------------|--------|----------------|--------|
| CTBU20-26   | CT-86  | CM6X30-S       | P-5    |
| CTBU25-26   | CT-105 | CM6X30-S       | P-5    |
| CTBU20-32   | CT-100 | CM6X30-S       | P-5    |
| CTBU25-32   | CT-110 | CM6X30-S       | P-5    |
| CTBU32-32   | CT-110 | CM6X30-S       | P-5    |

## C-TBK-R/L

Toolholder with TungCap connection for parting-off blade



| Metric      | DCONMS | WF | LF  | H  |
|-------------|--------|----|-----|----|
| C6TBK-32R/L | 63     | 32 | 138 | 32 |

Applicable for 3 MPa coolant

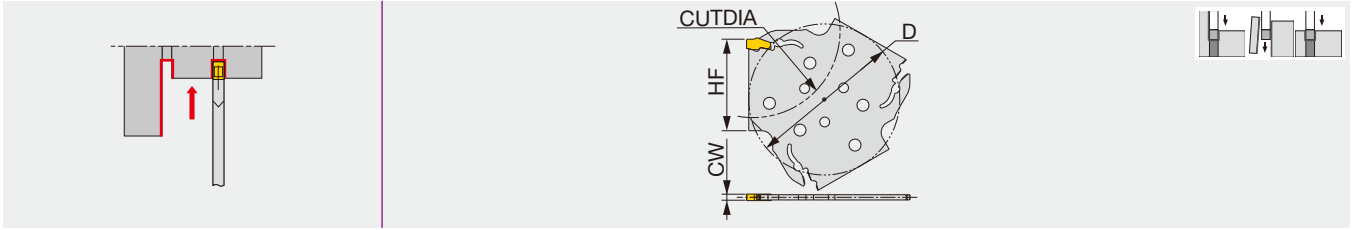
### SPARE PARTS

| Designation | Clamp      | Clamping screw     | Wrench | Coolant parts |
|-------------|------------|--------------------|--------|---------------|
| C6TBK-32R/L | BK32-9WEDG | SRM6X16DIN912-12.9 | HW5.0  | EZ125         |

Reference pages: Inserts → **F252, F253**, Standard cutting conditions → **F253**



Parting-off and external grooving blade



| Metric    | CW | Seat size | CUTDIA | HF | D    |
|-----------|----|-----------|--------|----|------|
| QSG52-2T  | 2  | 2         | 52     | 27 | 48.3 |
| QSG82-2T  | 2  | 2         | 82     | 42 | 69.3 |
| QSG52-3T  | 3  | 3         | 52     | 27 | 48.3 |
| QSG82-3T  | 3  | 3         | 82     | 42 | 69.3 |
| QSG120-3T | 3  | 3         | 120    | 61 | 88   |
| QSG52-4T  | 4  | 4         | 52     | 27 | 69.3 |
| QSG82-4T  | 4  | 4         | 82     | 42 | 69.3 |
| QSG120-4T | 4  | 4         | 120    | 61 | 88   |
| QSG120-5T | 5  | 5         | 120    | 61 | 88   |



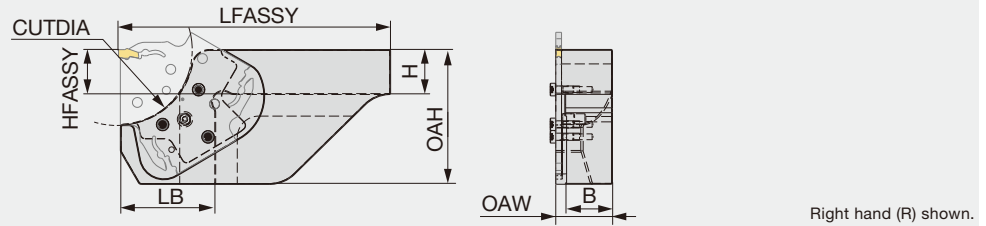
SPARE PARTS



| Designation | Wrench |
|-------------|--------|
| QSG...      | QL-39  |

# CHTBR/L

Tool block for QSG blade



| Inch          | CUTDIA | H     | B     | LFASSY | HFASSY | OAH   | OAW   | LB    |
|---------------|--------|-------|-------|--------|--------|-------|-------|-------|
| CHTBR/L12-52  | 2.047  | 0.750 | 0.770 | 4.000  | 0.750  | 1.968 | 1.000 | 1.457 |
| CHTBR/L16-52  | 2.047  | 1.000 | 1.020 | 5.000  | 1.000  | 1.968 | 1.250 | 1.457 |
| CHTBR/L12-82  | 3.228  | 0.750 | 0.770 | 5.500  | 0.750  | 2.953 | 1.000 | 2.087 |
| CHTBR/L16-82  | 3.228  | 1.000 | 1.020 | 6.000  | 1.000  | 2.953 | 1.250 | 2.087 |
| CHTBR/L16-120 | 4.724  | 1.000 | 1.020 | 6.500  | 1.000  | 3.937 | 1.250 | 2.638 |
| CHTBR/L20-120 | 4.724  | 1.250 | 1.270 | 6.500  | 1.250  | 3.937 | 1.500 | 2.638 |

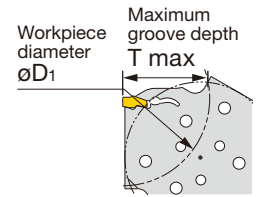
  

| Metric          | CUTDIA | H  | B    | LFASSY | HFASSY | OAH | OAW  | LB |
|-----------------|--------|----|------|--------|--------|-----|------|----|
| CHTBR/L2020-52  | 52     | 20 | 20.5 | 100    | 20     | 50  | 26.5 | 37 |
| CHTBR/L2525-52  | 52     | 25 | 25.5 | 125    | 25     | 50  | 31.5 | 37 |
| CHTBR/L2020-82  | 82     | 20 | 20.5 | 140    | 20     | 75  | 26.5 | 53 |
| CHTBR/L2525-82  | 82     | 25 | 25.5 | 150    | 25     | 75  | 31.5 | 53 |
| CHTBR/L2525-120 | 120    | 25 | 25.5 | 165    | 25     | 100 | 31.5 | 67 |
| CHTBR/L3232-120 | 120    | 32 | 32.5 | 165    | 32     | 100 | 38.5 | 67 |

The blade clamping screw heads protrude out for as much as 0.122" (3.1 mm) over the insert cutting edge point. Maintain the clearance from the chucking device to avoid interference.

## SPARE PARTS

| Designation | Clamping screw     | Grip   | Torx bit  |
|-------------|--------------------|--------|-----------|
| CHTBR/L...  | SR ISO 14580 M4X10 | SW6-SD | BLDT20/S7 |



## Maximum groove depth (T max) as function of workpiece diameter (øD1)

| Designation   | øD1 (in) |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------------|----------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| CHTBR/L**-52  | 2.087    | 2.126 | 2.165 | 2.205 | 2.283 | 2.362  | 2.441  | 2.559  | 2.677  | 2.835  | 3.071  | 3.307  | 3.622  | 4.016  | 4.528  | 5.236  | 6.260  | 7.795  |
| CHTBR/L**-82  | 4.094    | 4.252 | 4.409 | 4.567 | 4.764 | 5.000  | 5.276  | 5.591  | 5.945  | 6.378  | 6.929  | 7.559  | 8.346  | 9.331  | 10.630 | 12.323 | 14.764 | 18.425 |
| CHTBR/L**-120 | 8.071    | 8.425 | 8.819 | 9.252 | 9.724 | 10.276 | 10.945 | 11.693 | 12.559 | 13.583 | 14.803 | 16.299 | 18.189 | 20.551 | 23.661 | 27.913 | 34.055 | 43.780 |
| T max (in)    | 0.827    | 0.787 | 0.748 | 0.709 | 0.669 | 0.630  | 0.591  | 0.551  | 0.512  | 0.472  | 0.433  | 0.394  | 0.354  | 0.315  | 0.276  | 0.236  | 0.197  | 0.157  |

| Designation   | øD1 (in) |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CHTBR/L**-82  | 3.268    | 3.307 | 3.307 | 3.346 | 3.386 | 3.425 | 3.504 | 3.543 | 3.622 | 3.701 | 3.780 | 3.858 | 3.976 |
| CHTBR/L**-120 | 5.669    | 5.787 | 5.906 | 6.024 | 6.142 | 6.299 | 6.457 | 6.614 | 6.811 | 7.008 | 7.244 | 7.480 | 7.756 |
| T max (in)    | 1.339    | 1.299 | 1.260 | 1.220 | 1.181 | 1.142 | 1.102 | 1.063 | 1.024 | 0.984 | 0.945 | 0.906 | 0.866 |


| Designation   | øD1 (in) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CHTBR/L**-120 | 4.764    | 4.803 | 4.843 | 4.882 | 4.921 | 4.961 | 5.000 | 5.039 | 5.079 | 5.118 | 5.157 | 5.236 | 5.276 | 5.354 | 5.433 | 5.512 | 5.591 |
| T max (in)    | 2.165    | 2.047 | 1.969 | 1.890 | 1.850 | 1.811 | 1.772 | 1.732 | 1.693 | 1.654 | 1.614 | 1.575 | 1.535 | 1.496 | 1.457 | 1.417 | 1.378 |

Reference pages: Inserts → **F252, F253**, Standard cutting conditions → **F253**



# CHIPBREAKER GUIDE

**QGM**



**First choice for grooving and parting**

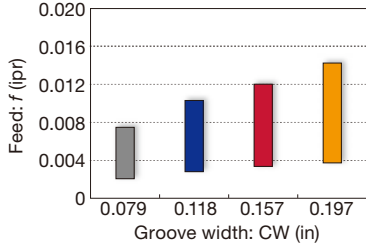
Smooth chip evacuation  
Well-designed edge with high strength  
CW = 0.079" - 0.197"

**TUNGF<sup>3D</sup>BLADE**

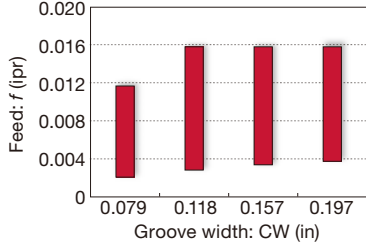
Enables high feed machining when combined with extremely rigid TungFeed-Blade toolholder

CW = 0.079" - 0.197"  
CUTDIA =  $\varnothing$ 2.047",  $\varnothing$ 3.228",  $\varnothing$ 4.724"

Standard feed




Recommended feed when using TungFeed-Blade



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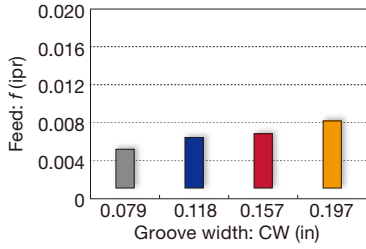
**QGS**



**Lower cutting force and superior sharpness**

Uniquely designed edge and chipbreaker  
CW = 0.079" - 0.197"

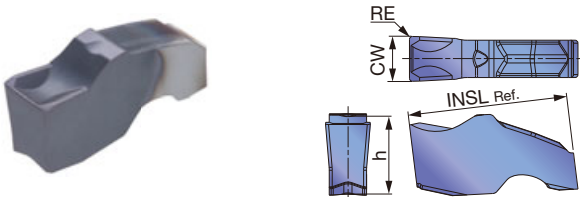
Standard feed



# INSERTS

## QGM

External deep grooving and parting



|                         |   |  |  |  |  |  |  |  |  |
|-------------------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ |  |  |  |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> Superalloys    | ★ |  |  |  |  |  |  |  |  |
| <b>H</b> Hard materials |   |  |  |  |  |  |  |  |  |

★ : First choice

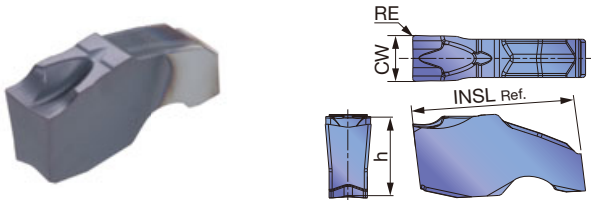
| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |  |  |  |  |  |  |  |  |  | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|--|--|--|--|--|--|--|--|--|-----------|--------|-------|
|             |           |              |               |         | AH7025 |  |  |  |  |  |  |  |  |  |           |        |       |
| QGM2-020    | 2         | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |           | 0.433  | 0.209 |
| QGM3-020    | 3         | 3            | 0.118         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |           | 0.433  | 0.209 |
| QGM4-030    | 4         | 4            | 0.157         | 0.012   | ●      |  |  |  |  |  |  |  |  |  |           | 0.512  | 0.287 |
| QGM5-030    | 5         | 5            | 0.197         | 0.012   | ●      |  |  |  |  |  |  |  |  |  |           | 0.512  | 0.287 |

● : Line up

Reference pages: Toolholders → **F248 - F251**

## QGS

External deep grooving and parting



|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

★ : First choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |  |  |  |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--|--|--|--|--|-----------|--------|
|             |           |              |               |         | AH7025 |  |  |  |  |  |           |        |
| QGS2-020    | 2         | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  | 0.433     | 0.209  |
| QGS3-020    | 3         | 3            | 0.118         | 0.008   | ●      |  |  |  |  |  | 0.433     | 0.209  |
| QGS4-030    | 4         | 4            | 0.157         | 0.012   | ●      |  |  |  |  |  | 0.512     | 0.287  |
| QGS5-030    | 5         | 5            | 0.197         | 0.012   | ●      |  |  |  |  |  | 0.512     | 0.287  |

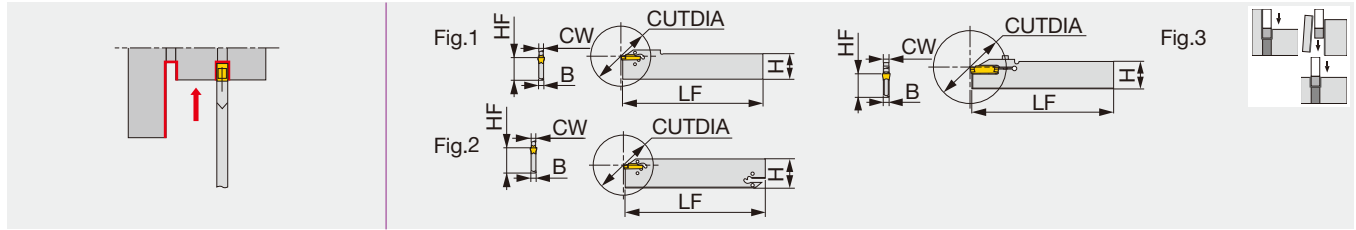
● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness | Grade  | Cutting speed Vc (sfm) |
|----------|-------------------------------------|----------|--------|------------------------|
| <b>P</b> | Steel<br>1045, 4140, etc.           | < 300 HB | AH7025 | 164 - 591              |
| <b>M</b> | Stainless steel<br>304, etc.        | < 200 HB | AH7025 | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -        | AH7025 | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -        | AH7025 | 164 - 394              |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40 | AH7025 | 66 - 197               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40 | AH7025 | 66 - 262               |

Please see page **F252** for feed:  $f$  (ipr).

Reference pages: Toolholders → **F248 - F251**



| Metric      | CW  | Seat size | CUTDIA | H  | B   | LF  | HF   | Fig. | Torque |
|-------------|-----|-----------|--------|----|-----|-----|------|------|--------|
| CGP26-1.4S  | 1.4 | 1         | 26     | 26 | 1   | 150 | 21.4 | 1    | -      |
| CGP32-1.4D  | 1.4 | 1         | 26     | 32 | 1   | 150 | 24.8 | 2    | -      |
| CGP26-2S    | 2   | 2         | 40     | 26 | 1.8 | 150 | 21.4 | 1    | -      |
| CGP32-2D    | 2   | 2         | 50     | 32 | 1.8 | 150 | 24.8 | 2    | -      |
| CGP26-3S    | 3   | 3         | 50     | 26 | 2.4 | 150 | 21.4 | 1    | -      |
| CGP32-3D    | 3   | 3         | 100    | 32 | 2.4 | 150 | 24.8 | 2    | -      |
| CGP26-4S    | 4   | 4         | 80     | 26 | 3.2 | 150 | 21.4 | 1    | -      |
| CGP32-4D    | 4   | 4         | 100    | 32 | 3.2 | 150 | 24.9 | 2    | -      |
| CGP45-4D    | 4   | 4         | 120    | 45 | 3.2 | 150 | 38.1 | 2    | -      |
| CGP32-5D    | 5   | 5         | 120    | 32 | 4   | 150 | 24.9 | 2    | -      |
| CGP32-6D    | 6   | 6         | 120    | 32 | 5.2 | 150 | 24.9 | 2    | -      |
| CGP32-8S-CL | 8   | 8         | 80     | 32 | 6.2 | 150 | 24.9 | 3    | 3      |

When depth is deeper than (insert length - 1.5mm), 1 corner type is recommended.  
Wrench (CRW...) is not included. Please order it separately.  
Torque: Recommended clamping torque: N·m

#### SPARE PARTS

| Designation     | Clamping screw  | Wrench | Wrench (Optional) |
|-----------------|-----------------|--------|-------------------|
| CGP**-1.4*      | -               | -      | CRW23             |
| CGP**-2/3/4/5/6 | -               | -      | CRW33             |
| CGP32-8S-CL     | CM4X0.7X20-M0-A | P-3    | -                 |

### Caution

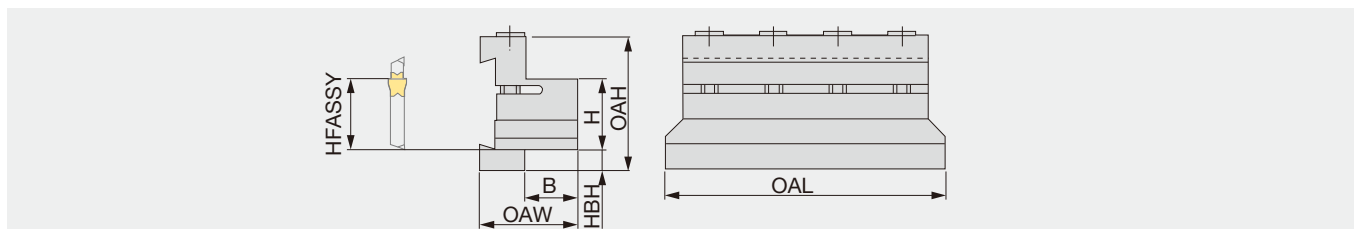
#### Newly developed clamp

Insert is clamped by the elastic deformation of upper jaw.  
Low clamping stress increases the stability and tool life.



### CTBF

Tool block for CGP blade, mono block



| Metric    | H  | B  | OAL | HFASSY | HBH | OAH | OAW | Blade (Optional) |
|-----------|----|----|-----|--------|-----|-----|-----|------------------|
| CTBF25-45 | 25 | 22 | 110 | 25     | 25  | 66  | 40  | CGP45...         |
| CTBF32-45 | 32 | 28 | 120 | 32     | 18  | 66  | 45  | CGP45...         |

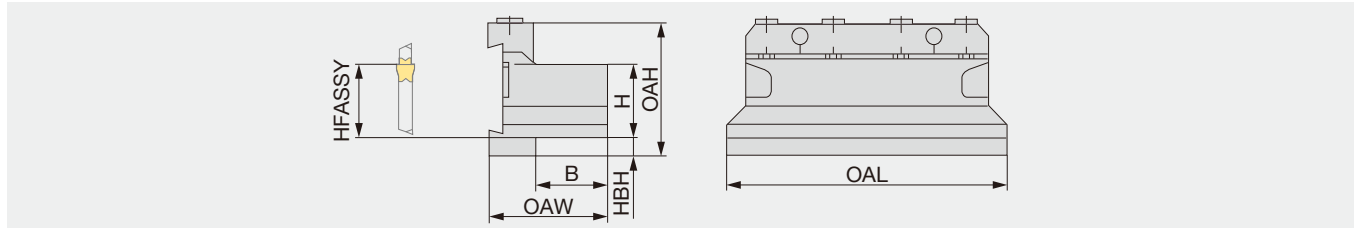
#### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CTBF...     | CM6X1.0X40-A   | P-5    |

Reference pages: Inserts → **F261 - F270**, Tool blocks → **F254, F255**, Standard cutting conditions → **F271**

## CTBU

Tool block for CGP blade



| Inch        | H     | B     | OAL   | HFASSY | HBH   | OAH   | OAW   | Blade (Optional) |
|-------------|-------|-------|-------|--------|-------|-------|-------|------------------|
| CTBU12-26-U | 0.750 | 0.827 | 3.386 | 0.750  | 0.354 | 1.693 | 1.496 | CGP26...         |
| CTBU16-26-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.197 | 1.772 | 1.654 | CGP26...         |
| CTBU12-32-U | 0.750 | 0.748 | 3.937 | 0.750  | 0.512 | 1.969 | 1.496 | CGP32...         |
| CTBU16-32-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.315 | 1.969 | 1.654 | CGP32...         |
| CTBU20-32-U | 1.250 | 1.142 | 4.331 | 1.250  | 0.197 | 2.126 | 1.890 | CGP32...         |

| Metric    | H  | B  | OAL | HFASSY | HBH | OAH | OAW | Blade (Optional) |
|-----------|----|----|-----|--------|-----|-----|-----|------------------|
| CTBU20-26 | 20 | 21 | 86  | 20     | 9   | 43  | 38  | CGP26...         |
| CTBU25-26 | 25 | 23 | 110 | 25     | 5   | 45  | 43  | CGP26...         |
| CTBU20-32 | 20 | 19 | 100 | 20     | 13  | 50  | 38  | CGP32...         |
| CTBU25-32 | 25 | 23 | 110 | 25     | 8   | 50  | 42  | CGP32...         |
| CTBU32-32 | 32 | 29 | 110 | 32     | 5   | 54  | 48  | CGP32...         |

### INCH SPARE PARTS

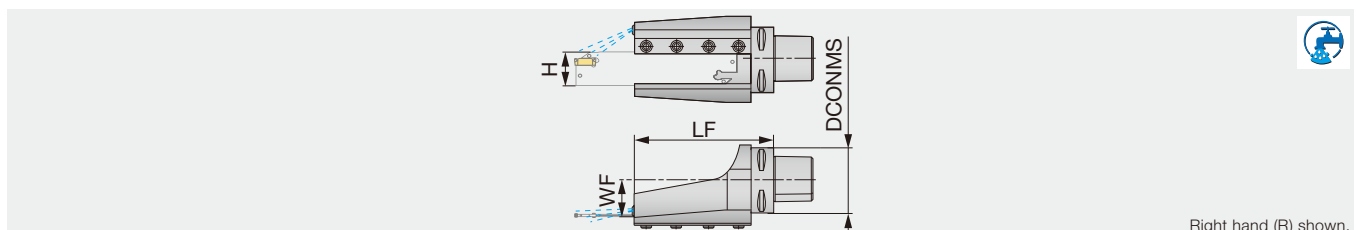
| Designation | Clamp  | Clamping screw | Wrench |
|-------------|--------|----------------|--------|
| CTBU12-26-U | CT-86  | CM6X30-S       | P-5    |
| CTBU16-26-U | CT-100 | CM6X30-S       | P-5    |
| CTBU12-32-U | CT-105 | CM6X30-S       | P-5    |
| CTBU16-32-U | CT-110 | CM6X30-S       | P-5    |
| CTBU20-32-U | CT-110 | CM6X30-S       | P-5    |

### METRIC SPARE PARTS

| Designation | Clamp  | Clamping screw | Wrench |
|-------------|--------|----------------|--------|
| CTBU20-26   | CT-86  | CM6X30-S       | P-5    |
| CTBU25-26   | CT-105 | CM6X30-S       | P-5    |
| CTBU20-32   | CT-100 | CM6X30-S       | P-5    |
| CTBU25-32   | CT-110 | CM6X30-S       | P-5    |
| CTBU32-32   | CT-110 | CM6X30-S       | P-5    |

## C-TBK-R/L

Toolholder with TungCap connection for parting-off blade



| Metric      | DCONMS | WF | LF  | H  |
|-------------|--------|----|-----|----|
| C6TBK-32R/L | 63     | 32 | 138 | 32 |

Applicable for 3 MPa coolant

### SPARE PARTS

| Designation | Clamp      | Clamping screw     | Wrench | Coolant parts |
|-------------|------------|--------------------|--------|---------------|
| C6TBK-32R/L | BK32-9WEDG | SRM6X16DIN912-12.9 | HW5.0  | EZ125         |

Reference pages: Inserts → **F261 - F270**, Blades → **F254**, Standard cutting conditions → **F271**

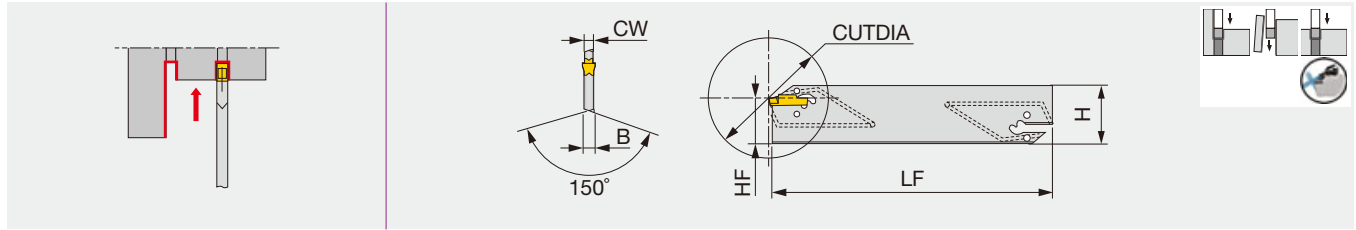




# TUNG CUT

## CGP32-CHP

External deep grooving and parting blade, with high pressure coolant capability



| Metric       | CW | Seat size | CUTDIA | H  | B   | LF  | HF   |
|--------------|----|-----------|--------|----|-----|-----|------|
| CGP32-2D-CHP | 2  | 2         | 50     | 32 | 1.8 | 150 | 24.8 |
| CGP32-3D-CHP | 3  | 3         | 90     | 32 | 2.5 | 150 | 24.8 |
| CGP32-4D-CHP | 4  | 4         | 90     | 32 | 3.2 | 150 | 24.9 |
| CGP32-5D-CHP | 5  | 5         | 110    | 32 | 4   | 150 | 24.9 |
| CGP32-6D-CHP | 6  | 6         | 110    | 32 | 5.2 | 150 | 24.9 |

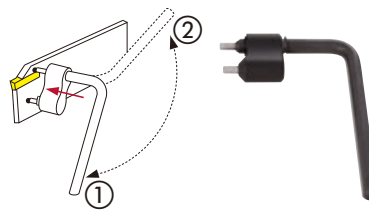
When depth is deeper than (insert length - 1.5mm), 1 corner type is recommended.  
Wrench (CRW...) is not included. Please order it separately.

| SPARE PARTS  |               |                   |
|--------------|---------------|-------------------|
| Designation  | Sealing screw | Wrench (Optional) |
| CGP32-*D-CHP | SGC340        | CRW33             |

### Caution

#### Newly developed clamp

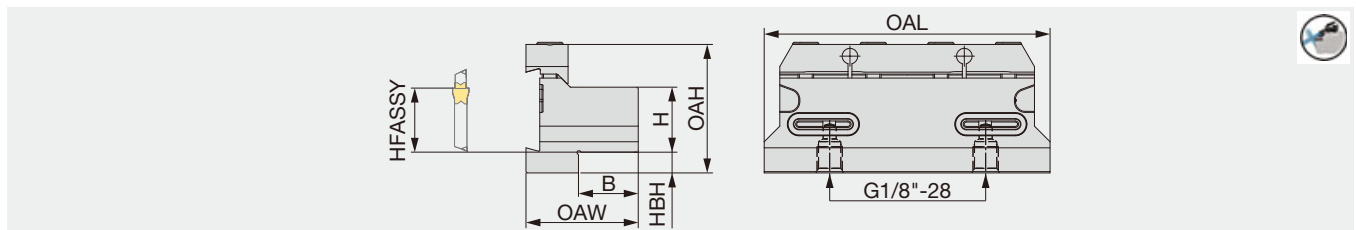
Insert is clamped by the elastic deformation of upper jaw.  
Low clamping stress increases the stability and tool life.



① → ② : unclamp  
② → ① : clamp

## CTBU-CHP

Tool block for CGP-CHP blade, with high pressure coolant capability



| Inch            | H     | B     | OAL   | HFASSY | HBH   | OAH  | OAW   | Blade (Optional) |
|-----------------|-------|-------|-------|--------|-------|------|-------|------------------|
| CTBU16-32-U-CHP | 1.000 | 0.906 | 4.331 | 1.000  | 0.315 | 1.97 | 1.654 | CGP32-*D-CHP     |
| Metric          | H     | B     | OAL   | HFASSY | HBH   | OAH  | OAW   | Blade (Optional) |
| CTBU25-32-CHP   | 25    | 23    | 110   | 25     | 8     | 50   | 43.2  | CGP32-*D-CHP     |

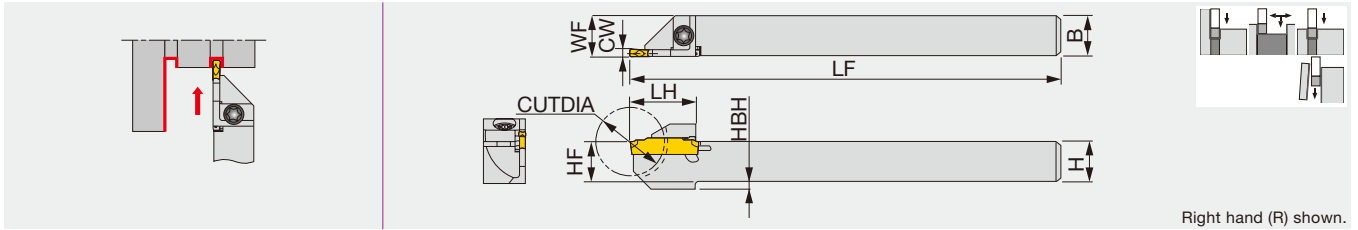
Applicable for 14 MPa coolant

| SPARE PARTS |                    |        |        |            |
|-------------|--------------------|--------|--------|------------|
| Designation | Clamping screw     | Clamp  | Wrench | O-ring     |
| CTBU...     | SRM6X16DIN912-12.9 | CT-110 | P-5    | OR14X2.5NN |

Reference pages: Inserts → **F261 - F270**, Standard cutting conditions → **F271**  
Parts for coolant hose → **F290**

## JCTER/L

External grooving and parting toolholder, for Swiss lathes



| Inch           | CW    | Seat size | CUTDIA | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | HBH   | Torque |
|----------------|-------|-----------|--------|-------|-------|-------|-------|-------|-------------------|-------|--------|
| JCTER/L08-2T12 | 0.079 | 2         | 0.945  | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.504             | 0.079 | 2.21   |
| JCTER/L08-3T12 | 0.118 | 3         | 0.945  | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.512             | 0.079 | 2.21   |
| JCTER/L10-2T16 | 0.079 | 2         | 1.260  | 0.625 | 0.625 | 4.750 | 0.945 | 0.625 | 0.629             | -     | 2.21   |
| JCTER/L10-3T16 | 0.118 | 3         | 1.260  | 0.625 | 0.625 | 4.750 | 0.945 | 0.625 | 0.637             | -     | 2.21   |

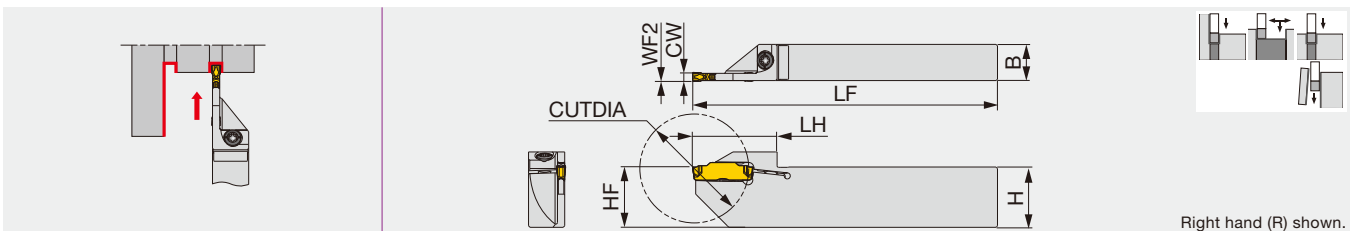
  

| Metric             | CW  | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF <sup>(1)</sup> | HBH | Torque* |
|--------------------|-----|-----------|--------|----|----|-----|------|----|-------------------|-----|---------|
| JCTER/L1010X1.4T10 | 1.4 | 1         | 20     | 10 | 10 | 120 | 18   | 10 | 10.2              | -   | 3       |
| JCTER/L1212F1.4T12 | 1.4 | 1         | 24     | 12 | 12 | 85  | 19.5 | 12 | 12.2              | -   | 3       |
| JCTER/L1212X1.4T12 | 1.4 | 1         | 24     | 12 | 12 | 120 | 19.5 | 12 | 12.2              | -   | 3       |
| JCTER/L1414-1.4T12 | 1.4 | 1         | 24     | 14 | 14 | 125 | 19.5 | 14 | 14.2              | -   | 3       |
| JCTER/L1616X1.4T16 | 1.4 | 1         | 32     | 16 | 16 | 120 | 24   | 16 | 16.2              | -   | 3       |
| JCTER/L1010X2T10   | 2   | 2         | 20     | 10 | 10 | 120 | 19   | 10 | 10.1              | 2   | 3       |
| JCTER/L1212F2T12   | 2   | 2         | 24     | 12 | 12 | 85  | 19   | 12 | 12.1              | 2   | 3       |
| JCTER/L1212X2T12   | 2   | 2         | 24     | 12 | 12 | 120 | 19   | 12 | 12.1              | 2   | 3       |
| JCTER/L1414-2T12   | 2   | 2         | 24     | 14 | 14 | 125 | 19   | 14 | 14.1              | -   | 3       |
| JCTER/L1616X2T16   | 2   | 2         | 32     | 16 | 16 | 120 | 24   | 16 | 16.1              | -   | 3       |
| JCTER/L1212F3T12   | 3   | 3         | 24     | 12 | 12 | 85  | 19   | 12 | 12.3              | 2   | 3       |
| JCTER/L1212X3T12   | 3   | 3         | 24     | 12 | 12 | 120 | 19   | 12 | 12.3              | 2   | 3       |
| JCTER/L1616X3T16   | 3   | 3         | 32     | 16 | 16 | 120 | 24   | 16 | 16.3              | -   | 3       |
| JCTER/L2020H3T16   | 3   | 3         | 32     | 20 | 20 | 100 | 24   | 20 | 20.3              | -   | 3       |

(1) "WF" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: lbs-ft (\*N-m)

## JCTER/L2012

External grooving and parting toolholder, for Swiss lathes, with 20 mm shank height



| Metric           | CW | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | Torque |
|------------------|----|-----------|--------|----|----|-----|----|----|--------------------|--------|
| JCTER/L2012H2T18 | 2  | 2         | 36     | 20 | 12 | 100 | 25 | 20 | 0.1                | 3      |
| JCTER/L2012H3T21 | 3  | 3         | 42     | 20 | 12 | 100 | 28 | 20 | 0.3                | 3      |

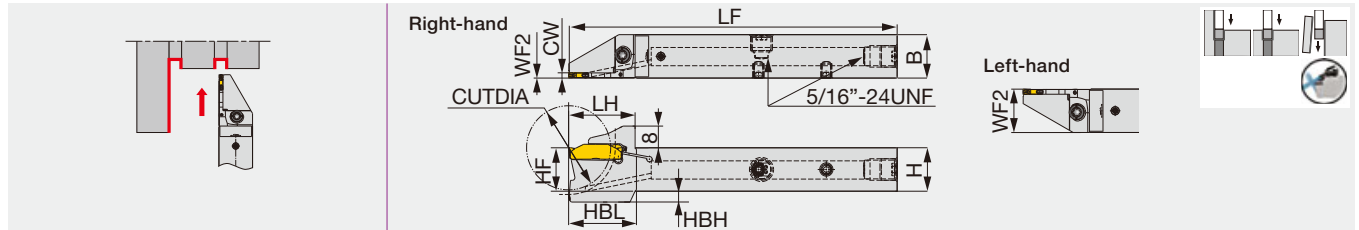
(1) "WF2" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: N-m

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| JCTER/L...  | CSHB-4-A       | T-15F  |

Reference pages: Inserts → **F261 - F270**, Standard cutting conditions → **F271**

External grooving and parting toolholder, with high pressure coolant capability



| Inch               | CW    | Seat size | CUTDIA | H     | B     | LF    | LH    | HF    | WF2 <sup>(1)</sup> | HBH   | HBL   | Torque |
|--------------------|-------|-----------|--------|-------|-------|-------|-------|-------|--------------------|-------|-------|--------|
| JCTER/L08X2T12-CHP | 0.079 | 2         | 0.980  | 0.500 | 0.500 | 4.750 | 0.972 | 0.500 | 0 / 0.500          | 0.169 | 0.965 | 2.21   |
| JCTER/L10X2T12-CHP | 0.079 | 2         | 0.980  | 0.625 | 0.625 | 4.750 | 0.972 | 0.625 | 0 / 0.625          | 0.039 | 0.965 | 2.21   |
| JCTER/L10X2T16-CHP | 0.079 | 2         | 1.260  | 0.625 | 0.625 | 4.750 | 0.972 | 0.625 | 0 / 0.625          | 0.157 | 0.965 | 2.21   |
| JCTER/L12X2T16-CHP | 0.079 | 2         | 1.260  | 0.750 | 0.750 | 4.750 | 0.972 | 0.750 | 0 / 0.750          | 0.037 | 0.965 | 2.21   |

| Metric               | CW | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF2 <sup>(1)</sup> | HBH | HBL  | Torque* |
|----------------------|----|-----------|--------|----|----|-----|------|----|--------------------|-----|------|---------|
| JCTER/L1212X2T12-CHP | 2  | 2         | 25     | 12 | 12 | 120 | 24.7 | 12 | 0/12               | 5   | 24.7 | 3       |
| JCTER/L1616X2T12-CHP | 2  | 2         | 25     | 16 | 16 | 120 | 24.7 | 16 | 0/16               | 1   | 24.5 | 3       |
| JCTER/L1616X2T16-CHP | 2  | 2         | 32     | 16 | 16 | 120 | 24.7 | 16 | 0/16               | 4   | 24.7 | 3       |
| JCTER/L2020X2T16-CHP | 2  | 2         | 32     | 20 | 20 | 120 | 24.7 | 20 | 0/20               | -   | -    | 3       |

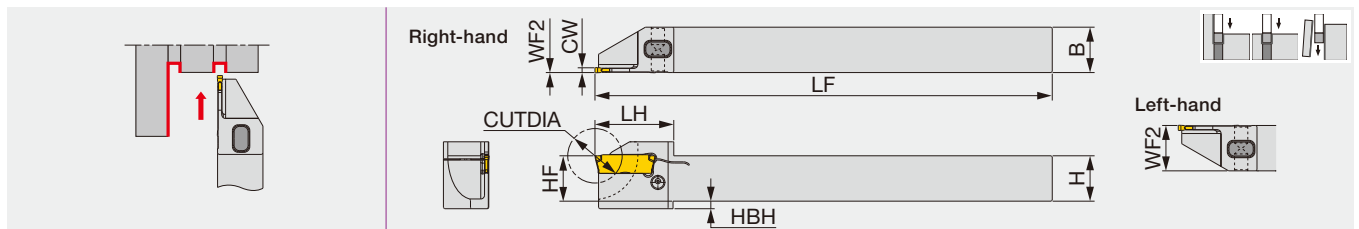
(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|-------------|----------------|----------|----------------|----------|----------------|----------|
| JCTER/L...  | CSHB-4-A       | T-15F    | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

## JTTER/L

External grooving and parting toolholder, for Swiss lathes



| Metric             | CW  | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | HBH | Torque |
|--------------------|-----|-----------|--------|----|----|-----|----|----|--------------------|-----|--------|
| JTTER/L1010H1.2D12 | 1.2 | 0.9       | 12     | 10 | 10 | 100 | 17 | 10 | 0/10               | -   | 1.5    |
| JTTER/L1212F1.2D16 | 1.2 | 0.9       | 16     | 12 | 12 | 85  | 19 | 12 | 0/12               | -   | 1.5    |
| JTTER/L1212X1.2D16 | 1.2 | 0.9       | 16     | 12 | 12 | 120 | 19 | 12 | 0/12               | -   | 1.5    |
| JTTER/L1212X1.2D20 | 1.2 | 0.9       | 20     | 12 | 12 | 120 | 21 | 12 | 0/12               | 2   | 1.5    |
| JTTER/L1616X1.2D20 | 1.2 | 0.9       | 20     | 16 | 16 | 120 | 21 | 16 | 0/16               | -   | 2      |

(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
Torque: Recommended clamping torque: N·m

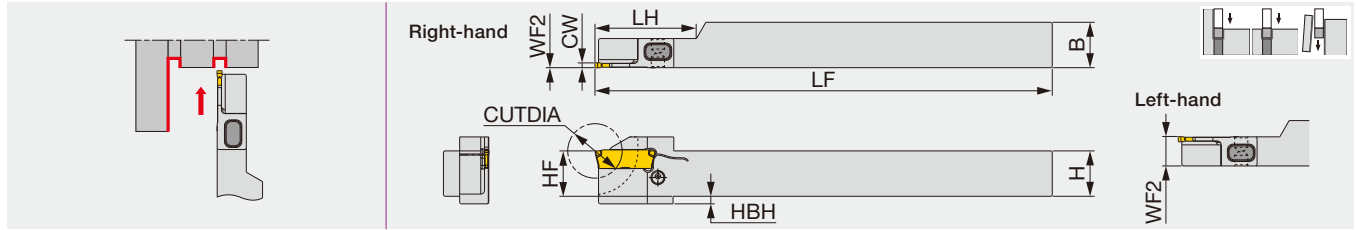
### SPARE PARTS

| Designation    | Clamping screw | Clamping pin | Wrench |
|----------------|----------------|--------------|--------|
| JTTER/L1010... | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |
| JTTER/L1212... | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |
| JTTER/L1616... | SRM5-24145-RL  | PIN-32121    | P-2.5F |

Reference pages: Inserts → **F261 - F270**, Standard cutting conditions → **F271**  
Parts for coolant hose → **F290**

## JTTER/L-S

External grooving and parting toolholder, for Swiss lathes (for sub spindle)



| Metric                            | CW  | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF2 <sup>(1)</sup> | HBH | Torque |
|-----------------------------------|-----|-----------|--------|----|----|-----|------|----|--------------------|-----|--------|
| JTTER/L1010H1.2D12-S              | 1.2 | 0.9       | 12     | 10 | 10 | 100 | 22.8 | 10 | 0/7.7              | -   | 1.5    |
| JTTER1212F1.2D16-S <sup>(2)</sup> | 1.2 | 0.9       | 16     | 12 | 12 | 85  | 22.8 | 12 | 0                  | -   | 1.5    |
| JTTER/L1212X1.2D16-S              | 1.2 | 0.9       | 16     | 12 | 12 | 120 | 26.8 | 12 | 0/7.7              | -   | 1.5    |
| JTTER/L1212X1.2D20-S              | 1.2 | 0.9       | 20     | 12 | 12 | 120 | 26.8 | 12 | 0/7.7              | 2   | 1.5    |
| JTTER/L1616X1.2D20-S              | 1.2 | 0.9       | 20     | 16 | 16 | 120 | 26.8 | 16 | 0/7.7              | -   | 1.5    |

(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

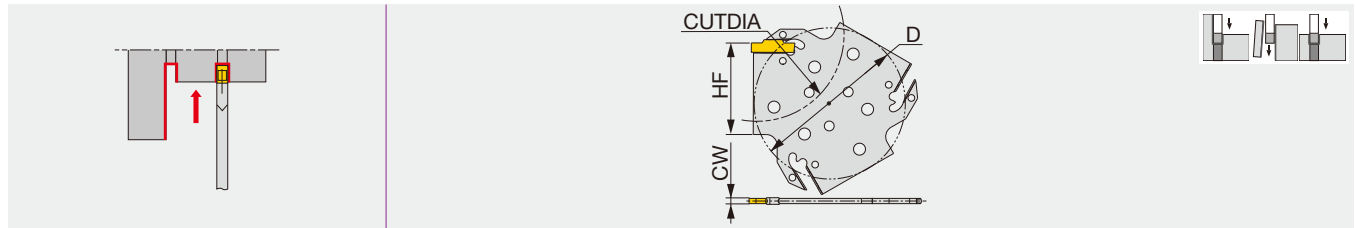
(2) No clamping screw from the insert side.  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation | Clamping screw | Clamping pin | Wrench |
|-------------|----------------|--------------|--------|
| JTTER/L*-S  | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |

## CHGP

Parting-off and external grooving blade

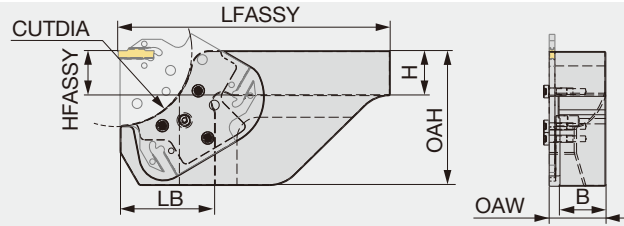


| Metric    | CW | Seat size | CUTDIA | HF | D    |
|-----------|----|-----------|--------|----|------|
| CHGP52-2T | 2  | 2         | 52     | 27 | 48.3 |
| CHGP52-3T | 3  | 3         | 52     | 27 | 48.3 |
| CHGP82-3T | 3  | 3         | 82     | 42 | 69.3 |
| CHGP82-4T | 4  | 4         | 82     | 42 | 69.3 |

When depth is deeper than insert length - 1.5mm, 1 corner type is recommended.

### SPARE PARTS

| Designation | Wrench (Option) |
|-------------|-----------------|
| CHGP...     | CRW33           |



Right hand (R) shown.

| Inch         | CUTDIA | H     | B     | LFASSY | HFASSY | OAH   | OAW   | LB    |
|--------------|--------|-------|-------|--------|--------|-------|-------|-------|
| CHTBR/L12-52 | 2.047  | 0.750 | 0.770 | 4.000  | 0.750  | 1.968 | 1.000 | 1.457 |
| CHTBR/L16-52 | 2.047  | 1.000 | 1.020 | 5.000  | 1.000  | 1.968 | 1.250 | 1.457 |
| CHTBR/L12-82 | 3.228  | 0.750 | 0.770 | 5.500  | 0.750  | 2.953 | 1.000 | 2.087 |
| CHTBR/L16-82 | 3.228  | 1.000 | 1.020 | 6.000  | 1.000  | 2.953 | 1.250 | 2.087 |

| Metric         | CUTDIA | H  | B    | LFASSY | HFASSY | OAH | OAW  | LB |
|----------------|--------|----|------|--------|--------|-----|------|----|
| CHTBR/L2020-52 | 52     | 20 | 20.5 | 100    | 20     | 50  | 26.5 | 37 |
| CHTBR/L2525-52 | 52     | 25 | 25.5 | 125    | 25     | 50  | 31.5 | 37 |
| CHTBR/L2020-82 | 82     | 20 | 20.5 | 140    | 20     | 75  | 26.5 | 53 |
| CHTBR/L2525-82 | 82     | 25 | 25.5 | 150    | 25     | 75  | 31.5 | 53 |

The blade clamping screw heads protrude out for as much as 0.122" (3.1 mm) over the insert cutting edge point. Maintain the clearance from the chucking device to avoid interference.

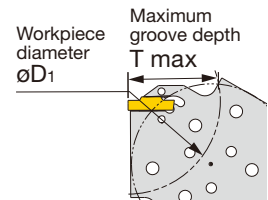
### SPARE PARTS

| Designation | Clamping screw     | Grip   | Torx bit  |
|-------------|--------------------|--------|-----------|
| CHTBR/L...  | SR ISO 14580 M4X10 | SW6-SD | BLDT20/S7 |


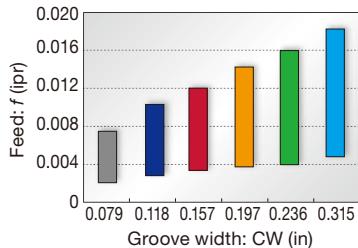
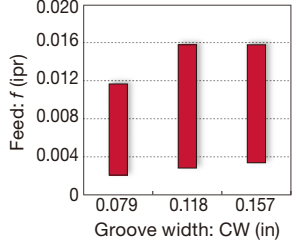

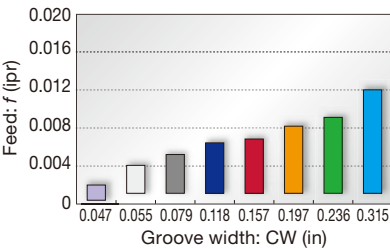

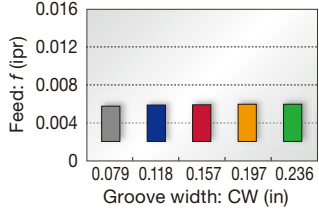

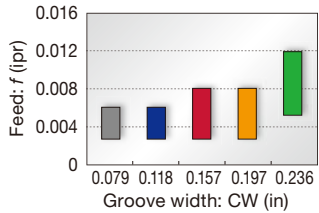
### Maximum groove depth (T max) as function of workpiece diameter (øD<sub>1</sub>)

| Designation  | øD <sub>1</sub> (in) |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |        |
|--------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| CHTBR/L**-52 | 2.087                | 2.126 | 2.165 | 2.205 | 2.283 | 2.362 | 2.441 | 2.559 | 2.677 | 2.835 | 3.071 | 3.307 | 3.622 | 4.016 | 4.528  | 5.236  | 6.260  | 7.795  |
| CHTBR/L**-82 | 4.094                | 4.252 | 4.409 | 4.567 | 4.764 | 5.000 | 5.276 | 5.591 | 5.945 | 6.378 | 6.929 | 7.559 | 8.346 | 9.331 | 10.630 | 12.323 | 14.764 | 18.425 |
| T max (in)   | 0.827                | 0.787 | 0.748 | 0.709 | 0.669 | 0.630 | 0.591 | 0.551 | 0.512 | 0.472 | 0.433 | 0.394 | 0.354 | 0.315 | 0.276  | 0.236  | 0.197  | 0.157  |

| Designation  | øD <sub>1</sub> (in) |       |       |       |       |       |       |       |       |       |       |       |
|--------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CHTBR/L**-82 | 3.268                | 3.307 | 3.346 | 3.386 | 3.425 | 3.504 | 3.543 | 3.622 | 3.701 | 3.780 | 3.858 | 3.976 |
| T max (in)   | 1.339                | 1.299 | 1.220 | 1.181 | 1.142 | 1.102 | 1.063 | 1.024 | 0.984 | 0.945 | 0.906 | 0.866 |



External grooving and parting

|   |   |  |
|---|---|--|
| <p><b>DGM type (2 corners)<br/>SGM type (1 corner)</b></p>  <p>F264, F265</p>  | <p><b>1st choice for grooving and parting</b></p> <p>Smooth chip evacuation<br/>Well-designed edge with high strength<br/>Handed insert available<br/>CW = 0.079" - 0.315"</p> <p><b>TUNGFEED<sup>***</sup>BLADE</b></p> <p>Enables high feed machining when combined with extremely rigid TungFeed-Blade toolholder<br/>CW = 0.079" - 0.157"<br/>CUTDIA = <math>\varnothing</math>2.047", <math>\varnothing</math>3.228"</p> | <p>Standard feed</p>  <p>Recommended feed when using TungFeed-Blade</p>  |
| <p><b>DGS type (2 corners)<br/>SGS type (1 corner)</b></p>  <p>F266, F267</p> | <p><b>Lower cutting force and superior sharpness</b></p> <p>Unique-designed edge and chipbreaker<br/>Handed insert available<br/>CW = 0.047" - 0.315"</p>   | <p>Standard feed</p>    |
| <p><b>DGG type (2 corners)</b></p>  <p>F268</p>                              | <p><b>For non-ferrous materials and titanium</b></p> <p>Chipbreaker with low cutting force<br/>Sharp cutting edge that prevents vibration and delivers fine surface finish<br/>CW = 0.079" - 0.236"</p>   | <p>Standard feed</p>   |
| <p><b>DGL type (2 corners)</b></p>  <p>F268</p>                              | <p><b>1st choice for mild steel</b></p> <p>Chipbreaker with excellent chip control at low feed<br/>Suitable for mild steel which often presents challenges in chip control<br/>CW = 0.079" - 0.236"</p>   | <p>Standard feed</p>   |

Please see page F\*\*\* for the product details.



## External grooving and parting

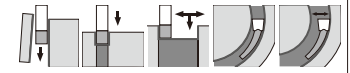
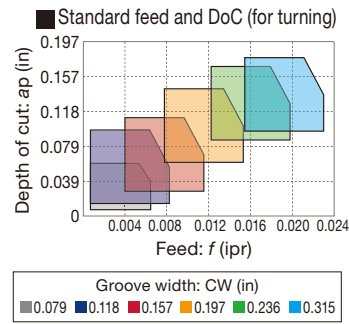
### DTM type (2 corners)



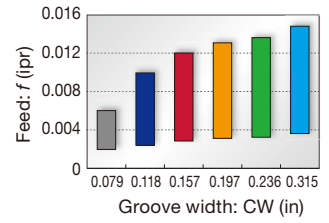
F269

#### General purpose

1st choice for grooving and turning  
Suitable for light to medium cutting  
Excellent chip control in machining steel, alloy steel, stainless steel, and heat-resistant alloy  
CW = 0.079" - 0.315"



#### Standard feed



## External grooving, turning and parting

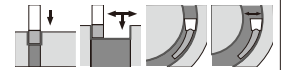
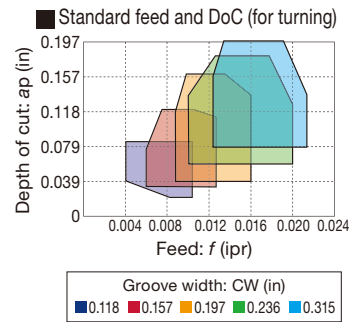
### DTE type (2 corners)



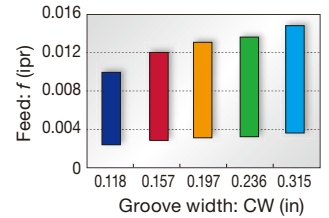
F269, F270

#### General purpose

Unique chipbreaker makes chips shorter  
Molded and ground insert available  
CW = 0.104" - 0.315"



#### Standard feed



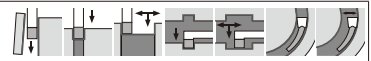
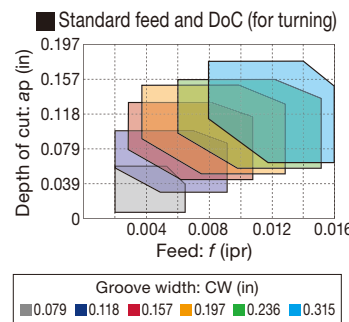
### DTX type (2 corners)



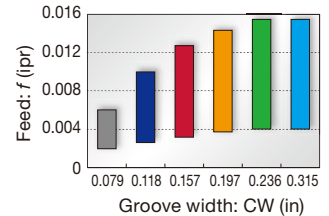
F270

#### Multi-functional type

Well balanced sharpness and strength  
Multi-functional insert  
CW = 0.079" - 0.315"

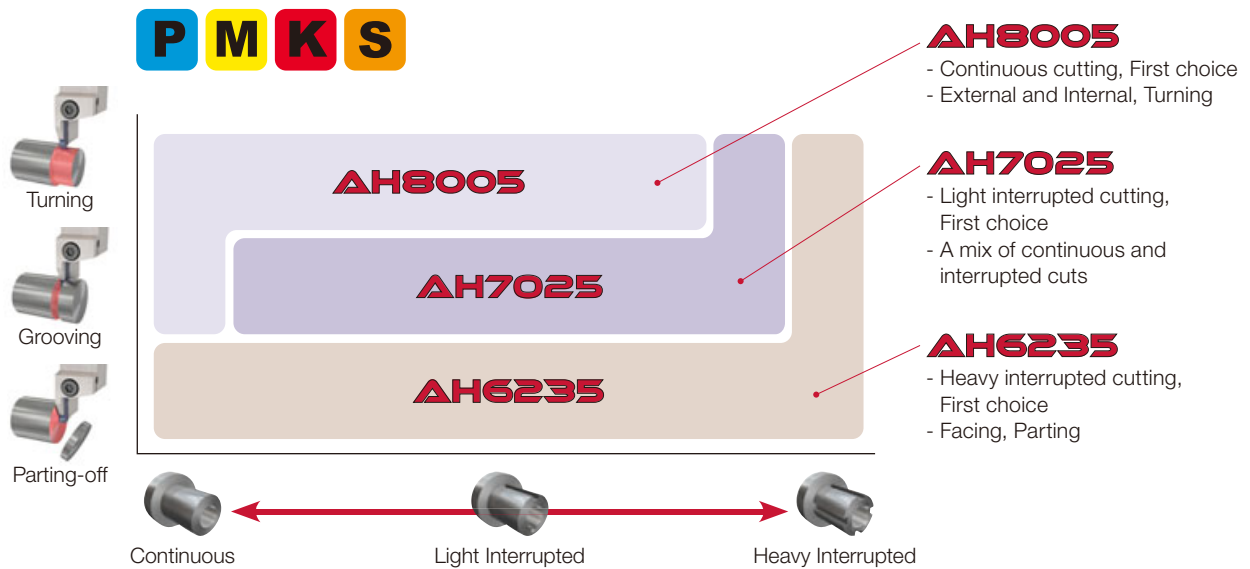


#### Standard feed



Please see page F\*\*\* for the product details.

## GRADE SELECTION



## GRADES

### AH8005 **P M K S**

- First choice for external, internal, and side-turning, continuous cuts

### AH7025 **P M K S**

- First choice for light interrupted cuts or a mix of continuous and interrupted cuts
- New PVD coating with high Al content provides excellent adhesion strength
- Improved wear and chipping resistance

### AH6235 **P M K**

- First choice for heavy interrupted cuts, as well as parting and facing applications

### AH725 **P M S**

- General purpose PVD grade for high fracture resistance

### T515 **K**

- First recommended grade for cast iron
- Excellent wear resistance in high speed machining

### T9225 **P**

- Suitable for steel machining at high speeds
- New CVD coating and substrate deliver an outstanding balance of wear and chipping resistance

### NS9530 **P**

- Advanced cermet for finish cutting of steel
- Innovative grade with incredible fracture and high wear resistance

### GH130 **P M K**

- Recommended for interrupted machining
- TiCNO PVD coating layer with high wear resistance
- High hardness wear resistance

### AH905 **S**

- Remarkable for machining of heat resistant alloys
- Exclusive coating layer improves adhesion strength and wear resistance

### KS05F **N S**

- Recommended for non-ferrous materials and titanium

### TH10 **N**

- Recommended for non-ferrous materials

### BXA10 **H**

- Coated CBN grade designed for turning hardened steel parts

### BX360 **H**

- Developed for grooving applications of hardened steel parts

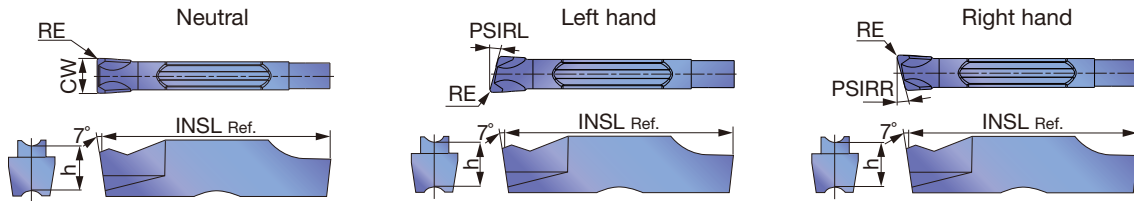






# SGM

## External deep grooving and parting



|   |                |   |   |   |   |   |  |   |  |  |  |  |  |  |
|---|----------------|---|---|---|---|---|--|---|--|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ★ | ☆ | ★ |  |   |  |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |  |  |
| K | Cast iron      | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |  | ☆ |  |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ | ★ |   |   |  | ★ |  |  |  |  |  |  |
| H | Hard materials |   |   |   |   |   |  |   |  |  |  |  |  |  |

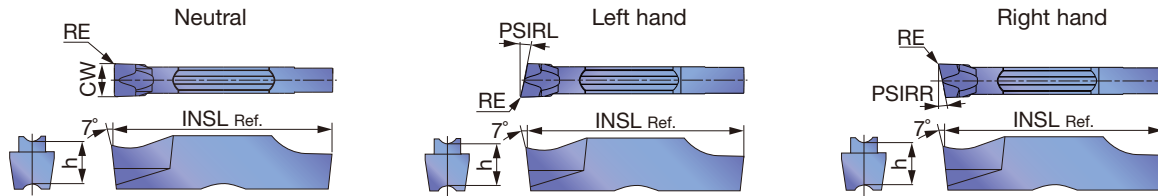
★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  |  | INSL (in) | h (in) | PSIRL | PSIRR |     |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|--|-----------|--------|-------|-------|-----|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |  |           |        |       |       |     |
| SGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 0°    | 4°  |
| SGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   | ●      | ●     |        | ●     |        |          |  |  |           | 0.787  | 0.197 | 4°    | 0°  |
| SGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGM8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      |       | ●      |       | ●      | ●        |  |  |           | 1.181  | 0.264 | 0°    | 0°  |

● : Line up



External deep grooving and parting



|                         |   |   |   |   |   |  |  |   |  |  |  |  |  |
|-------------------------|---|---|---|---|---|--|--|---|--|--|--|--|--|
| <b>P</b> Steel          | ★ | ☆ | ★ | ☆ | ★ |  |  |   |  |  |  |  |  |
| <b>M</b> Stainless      | ★ | ☆ | ★ | ★ | ★ |  |  |   |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ |   | ★ | ☆ | ★ |  |  | ☆ |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |  |  | ☆ |  |  |  |  |  |
| <b>S</b> Superalloys    | ★ | ☆ | ★ |   |   |  |  | ★ |  |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |   |   |  |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

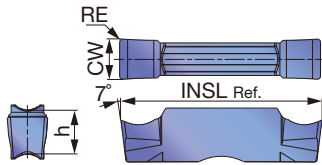
| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |         | Uncoated |  |  | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|---------|----------|--|--|-----------|--------|-------|-------|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH16235 | KS05F    |  |  |           |        |       |       |
| SGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 6°    |
| SGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 6°    | 0°    |
| SGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 0°    | 6°    |
| SGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 6°    | 0°    |
| SGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 0°    | 15°   |
| SGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     |        | ●     |         |          |  |  | 0.787     | 0.197  | 15°   | 0°    |
| SGS3-002-15R | 3         | R    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 0°    | 15°   |
| SGS3-002-15L | 3         | L    | 3            | 0.118         | 0.0008  |        | ●     |        | ●     |         |          |  |  | 0.780     | 0.197  | 15°   | 0°    |
| SGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.787     | 0.197  | 0°    | 0°    |
| SGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●       | ●        |  |  | 0.984     | 0.217  | 0°    | 0°    |
| SGS8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      |       | ●      |       |         |          |  |  | 1.181     | 0.264  | 0°    | 0°    |

● : Line up



## DGG

External grooving and parting (for high precision)



|          |                |   |  |   |  |  |   |   |  |  |  |  |  |
|----------|----------------|---|--|---|--|--|---|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |   |   |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |   |   |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  | ☆ |  |  | ☆ |   |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |   | ★ |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |   |  |  |   | ☆ |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |   |   |  |  |  |  |  |

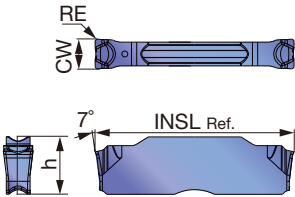
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |  |  | Cermet |  |  | Uncoated |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--|--|--------|--|--|----------|--|--|-----------|--------|
|             |           |              |                |         | AH7025 |  |  | NS9530 |  |  | KS05F    |  |  |           |        |
| DGG200-020  | 2         | 2            | 0.079          | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.787     | 0.197  |
| DGG300-020  | 3         | 3            | 0.118          | 0.008   | ●      |  |  | ●      |  |  | ●        |  |  | 0.787     | 0.197  |
| DGG400-040  | 4         | 4            | 0.157          | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.787     | 0.197  |
| DGG500-040  | 5         | 5            | 0.197          | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.984     | 0.217  |
| DGG600-040  | 6         | 6            | 0.236          | 0.016   | ●      |  |  | ●      |  |  | ●        |  |  | 0.984     | 0.217  |

● : Line up

## DGL

External grooving and parting



|          |                |   |   |   |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ | ★ | ★ |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ | ★ |   |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |        | Cermet |  |  | Uncoated |  |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|--------|--------|--|--|----------|--|--|-----------|--------|
|             |           |              |               |         | AH7025 | AH8005 | AH6235 |        |  |  |          |  |  |           |        |
| DGL2-020    | 2         | 2            | 0.079         | 0.008   | ●      | ●      | ●      |        |  |  |          |  |  | 0.787     | 0.197  |
| DGL3-025    | 3         | 3            | 0.118         | 0.010   | ●      | ●      | ●      |        |  |  |          |  |  | 0.787     | 0.197  |
| DGL4-030    | 4         | 4            | 0.157         | 0.012   | ●      | ●      | ●      |        |  |  |          |  |  | 0.787     | 0.197  |
| DGL5-030    | 5         | 5            | 0.197         | 0.012   | ●      | ●      | ●      |        |  |  |          |  |  | 0.984     | 0.217  |
| DGL6-080    | 6         | 6            | 0.236         | 0.031   | ●      | ●      | ●      |        |  |  |          |  |  | 0.984     | 0.217  |

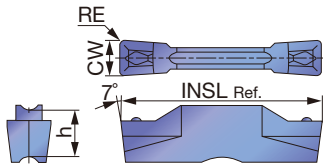
● : Line up

Reference pages: Toolholders → **F254 - F260**, Standard cutting conditions → **F271**



## DTE

External/face grooving, turning and parting



|   |                |   |   |   |   |   |   |   |  |   |  |  |  |  |
|---|----------------|---|---|---|---|---|---|---|--|---|--|--|--|--|
| P | Steel          | ★ |   | ★ | ☆ | ★ | ☆ | ★ |  | ★ |  |  |  |  |
| M | Stainless      |   |   | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |
| K | Cast iron      |   | ★ | ★ |   | ★ | ☆ | ★ |  |   |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |  |   |  |  |  |  |
| S | Superalloys    |   |   | ★ | ☆ | ★ |   |   |  |   |  |  |  |  |
| H | Hard materials |   |   |   |   |   |   |   |  |   |  |  |  |  |

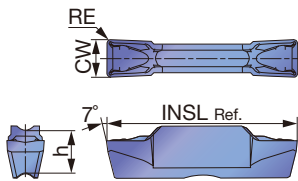
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |      |        |       |        |       | Cermet |        | INSL (in) | h (in) |       |
|-------------|-----------|--------------|---------------|---------|--------|------|--------|-------|--------|-------|--------|--------|-----------|--------|-------|
|             |           |              |               |         | T9225  | T515 | AH7025 | AH725 | AH8005 | GH130 | AH6235 | NS9530 |           |        |       |
| DTE3-020    | 3         | 3            | 0.118         | 0.008   |        |      | ●      |       | ●      | ●     |        |        |           | 0.787  | 0.197 |
| DTE3-040    | 3         | 3            | 0.118         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●      |        |           | 0.787  | 0.197 |
| DTE4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●    | ●      | ●     | ●      | ●     | ●      |        |           | 0.787  | 0.197 |
| DTE4-080    | 4         | 4            | 0.157         | 0.031   |        |      | ●      |       | ●      | ●     |        |        |           | 0.787  | 0.197 |
| DTE5-040    | 5         | 5            | 0.197         | 0.016   |        | ●    |        | ●     |        | ●     |        |        |           | 0.984  | 0.217 |
| DTE5-080    | 5         | 5            | 0.197         | 0.031   |        |      | ●      |       | ●      | ●     |        |        |           | 0.984  | 0.217 |
| DTE6-080    | 6         | 6            | 0.236         | 0.031   |        | ●    | ●      |       | ●      | ●     |        |        |           | 0.984  | 0.217 |

● : Line up

## DTX

External/internal/face grooving, turning and parting



|   |                |   |   |   |   |   |   |  |   |  |  |   |  |  |
|---|----------------|---|---|---|---|---|---|--|---|--|--|---|--|--|
| P | Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ |  | ★ |  |  |   |  |  |
| M | Stainless      |   | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |   |  |  |
| K | Cast iron      |   | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  | ☆ |  |  |
| N | Non-ferrous    |   |   |   |   |   |   |  |   |  |  | ☆ |  |  |
| S | Superalloys    |   | ★ | ☆ | ★ |   |   |  |   |  |  | ★ |  |  |
| H | Hard materials |   |   |   |   |   |   |  |   |  |  |   |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |        | Cermet |  | Uncoated |  | INSL (in) | h (in) |
|-------------|-----------|--------------|---------------|---------|--------|--------|-------|--------|-------|--------|--------|--|----------|--|-----------|--------|
|             |           |              |               |         | T9225  | AH7025 | AH725 | AH8005 | GH130 | AH6235 | NS9530 |  | KS05F    |  |           |        |
| DTX2-020    | 2         | 2            | 0.079         | 0.008   |        | ●      |       | ●      |       | ●      |        |  | ●        |  | 0.787     | 0.197  |
| DTX3-030    | 3         | 3            | 0.118         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●      |  | ●        |  | 0.787     | 0.197  |
| DTX4-040    | 4         | 4            | 0.157         | 0.016   | ●      | ●      | ●     | ●      | ●     | ●      | ●      |  | ●        |  | 0.787     | 0.197  |
| DTX5-040    | 5         | 5            | 0.197         | 0.016   | ●      | ●      | ●     | ●      | ●     | ●      | ●      |  | ●        |  | 0.984     | 0.217  |
| DTX6-080    | 6         | 6            | 0.236         | 0.031   |        | ●      | ●     | ●      | ●     | ●      |        |  | ●        |  | 0.984     | 0.217  |
| DTX8-080    | 8         | 8            | 0.315         | 0.031   |        | ●      |       | ●      |       | ●      |        |  | ●        |  | 1.181     | 0.264  |

● : Line up

Reference pages: Toolholders → **F254 - F260**, Standard cutting conditions → **F271**

# STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness | Priority          | Grade                         | Cutting speed Vc (sfm) |
|----------|-------------------------------------|----------|-------------------|-------------------------------|------------------------|
| <b>P</b> | Steel<br>1045, 4135, etc.           | < 300 HB | First choice      | AH7025, AH725                 | 164 - 591              |
|          |                                     | < 300 HB | Wear resistance   | T9225, AH8005                 | 262 - 984              |
|          |                                     | < 300 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
|          |                                     | < 300 HB | Surface quality   | NS9530                        | 262 - 722              |
| <b>M</b> | Stainless steel<br>303, 304, etc.   | < 200 HB | First choice      | AH7025, AH725                 | 164 - 394              |
|          |                                     | < 200 HB | Wear resistance   | AH8005                        | 164 - 394              |
|          |                                     | < 200 HB | Impact resistance | AH6235, GH130                 | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -        | First choice      | T515                          | 492 - 2297             |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -        | First choice      | T515                          | 492 - 984              |
|          |                                     | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 394              |
| <b>N</b> | Aluminum alloys<br>Si < 12%         | -        | First choice      | TH10                          | 328 - 1640             |
|          |                                     | -        | First choice      | KS05F                         | 328 - 1969             |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40 | First choice      | AH8005                        | 66 - 197               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725, AH6235         | 66 - 131               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40 | First choice      | KS05F                         | 66 - 328               |
|          |                                     | < HRC 40 | Impact resistance | AH7025, AH725                 | 66 - 262               |

Please see page F261, F262 for feed:  $f$  (ipr).

## STH

| ISO      | Grade | CW     | Application      | Cutting speed Vc (sfm) | Depth of cut ap (in) | Feed f (ipr)  |
|----------|-------|--------|------------------|------------------------|----------------------|---------------|
| <b>H</b> | BXA10 | 0.118" | External turning | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.039 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.016 - 0.031 |
|          |       | 0.197" | External turning | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.059 |
|          |       |        | Face turning     | 328 - 755              | 0.003 - 0.005        | 0.020 - 0.031 |

## SGN

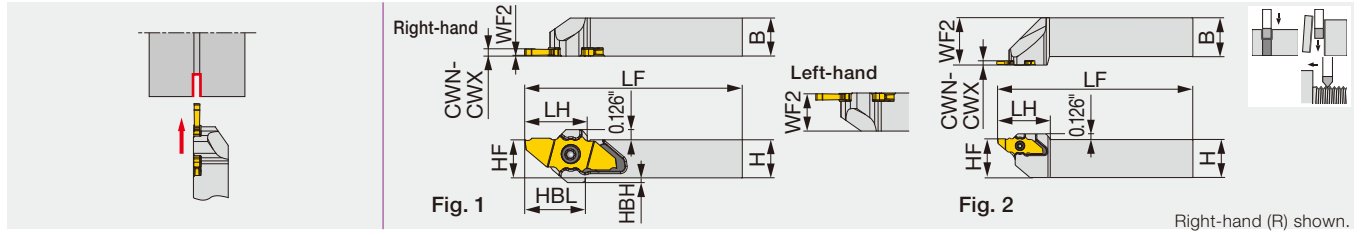
| ISO      | Grade | Edge preparation | Workpiece condition | Cutting speed Vc (sfm) | Feed f (ipr)    |
|----------|-------|------------------|---------------------|------------------------|-----------------|
| <b>H</b> | BX360 | No symbol        | Continuous          | 262 - 492              | 0.0012 - 0.0031 |
|          |       | -S               | Light interrupted   | 164 - 394              | 0.0012 - 0.0031 |
|          |       | -H               | Heavy interrupted   | 131 - 328              | 0.0012 - 0.0024 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
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Parting-off and grooving toolholders



| Inch       | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH   | Insert                       | Torque | Fig. |
|------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|--------------------|-------|------------------------------|--------|------|
| JSXXR/L063 | 0.024 | 0.098 | 0.375 | 0.375 | 4.750             | 0.774             | 0.375 | 0.008/0.367        | 0.748              | 0.120 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L083 | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 0.774             | 0.500 | 0.008/0.492        | 0.748              | 0.060 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L103 | 0.024 | 0.098 | 0.625 | 0.625 | 4.750             | 0.774             | 0.625 | 0.008/0.617        | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L123 | 0.024 | 0.098 | 0.750 | 0.750 | 3.950             | 0.886             | 0.750 | 0.008/0.742        | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L163 | 0.024 | 0.098 | 1.000 | 1.000 | 5.350             | 1.339             | 1.000 | 1.250              | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 2    |

| Metric         | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH | Insert                       | Torque* | Fig. |
|----------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|--------------------|-----|------------------------------|---------|------|
| JSXXR/L1010X09 | 0.6 | 2.5 | 10 | 10 | 120               | 19.65             | 10 | 0.2/9.8            | 19                 | 3   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212F09 | 0.6 | 2.5 | 12 | 12 | 85                | 19.65             | 12 | 0.2/11.8           | 19                 | 1.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212X09 | 0.6 | 2.5 | 12 | 12 | 120               | 19.65             | 12 | 0.2/11.8           | 19                 | 1.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09 | 0.6 | 2.5 | 16 | 16 | 120               | 19.65             | 16 | 0.2/15.8           | -                  | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L2020H09 | 0.6 | 2.5 | 20 | 20 | 100               | 22.5              | 20 | 0.2/19.8           | -                  | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L2525Z09 | 0.6 | 2.5 | 25 | 25 | 135               | 34                | 25 | 30                 | -                  | -   | JX**06...,12...,16..., 20... | 1.2     | 2    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

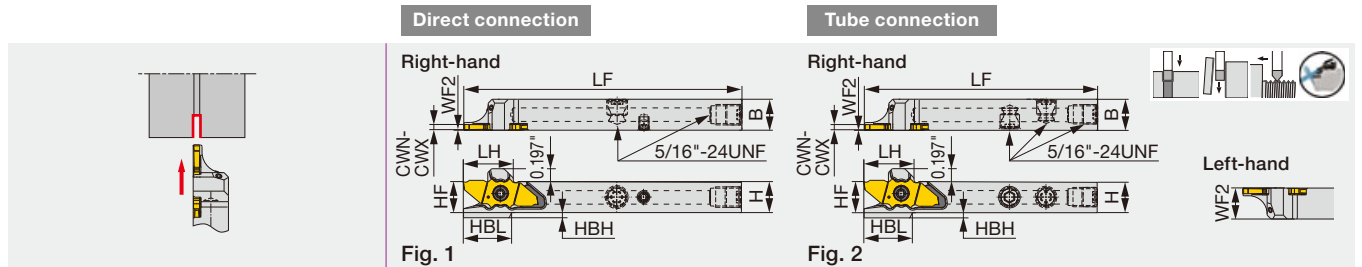
(1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 0.157" (4 mm) shorter for JX\*\*06... insert.

(2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

Note: Use the right-hand insert (JX\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*L...) for a left-hand holder (JSXXL...).

JSXXR/L-F/H/X-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes



| Inch                           | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH   | Insert                       | Torque | Fig. |
|--------------------------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|--------------------|-------|------------------------------|--------|------|
| JSXXR/L083F-CHP                | 0.024 | 0.098 | 0.500 | 0.500 | 3.344             | 0.764             | 0.500 | 0.008 / 0.492      | 0.736              | 0.051 | JX**06...,12...,16..., 20... | 0.89   | 2    |
| JSXXR/L083X-CHP <sup>(3)</sup> | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 0.764             | 0.500 | 0.008 / 0.492      | 0.736              | 0.051 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L103X-CHP <sup>(3)</sup> | 0.024 | 0.098 | 0.625 | 0.625 | 4.750             | 0.764             | 0.625 | 0.008 / 0.617      | -                  | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |

| Metric                              | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH | Insert                       | Torque* | Fig. |
|-------------------------------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|--------------------|-----|------------------------------|---------|------|
| JSXXR/L1012H09-CHP <sup>(3)</sup>   | 0.6 | 2.5 | 10 | 12 | 102               | 19.2              | 10 | 0.2/11.8           | 18.7               | 3   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212F09-CHP                  | 0.6 | 2.5 | 12 | 12 | 85                | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16..., 20... | 1.2     | 2    |
| JSXXR/L1212X09-CHP <sup>(3)</sup>   | 0.6 | 2.5 | 12 | 12 | 120               | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR1616X09-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 16 | 16 | 120               | 19.4              | 16 | 0.2                | 18.7               | 2.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09B-CHP <sup>(3)</sup>  | 0.6 | 2.5 | 16 | 16 | 120               | 19.4              | 16 | 0.2/15.8           | 18.7               | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

(1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 0.157" (4 mm) shorter for JX\*\*06... insert.

(2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

(3) Compatible to the direct internal coolant supply system without the use of external coolant hose.

(4) To be replaced with the new design

Note: Use the right-hand insert (JX\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*L...) for a left-hand holder (JSXXL...).

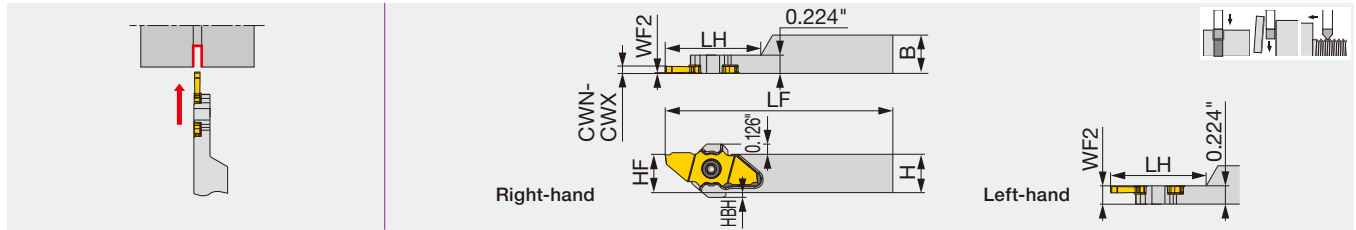
SPARE PARTS

| Designation      | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|------------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR**09        | CSTC-4L100DL   | T-1008/5 | -              | -        | -              | -        |
| JSXXL**09        | CSTC-4L100DR   | T-1008/5 | -              | -        | -              | -        |
| JSXXR**F**-CHP   | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F**-CHP   | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**H/X**-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**H/X**-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: Inserts → **F274, F275**, Standard cutting conditions → **F275**

Parts for coolant hose → **F290**

Parting-off toolholders, for swiss lathes (for sub spindle)



| Inch         | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                               | Torque |
|--------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|-------|--------------------------------------|--------|
| JSXXR/L063-S | 0.024 | 0.098 | 0.375 | 0.375 | 4.750             | 1.030             | 0.383 | 0.008/0.217        | 0.120 | JX**06...,12...,16... <sup>(3)</sup> | 0.89   |
| JSXXR/L083-S | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 1.030             | 0.500 | 0.008/0.217        | 0.060 | JX**06...,12...,16... <sup>(3)</sup> | 0.89   |

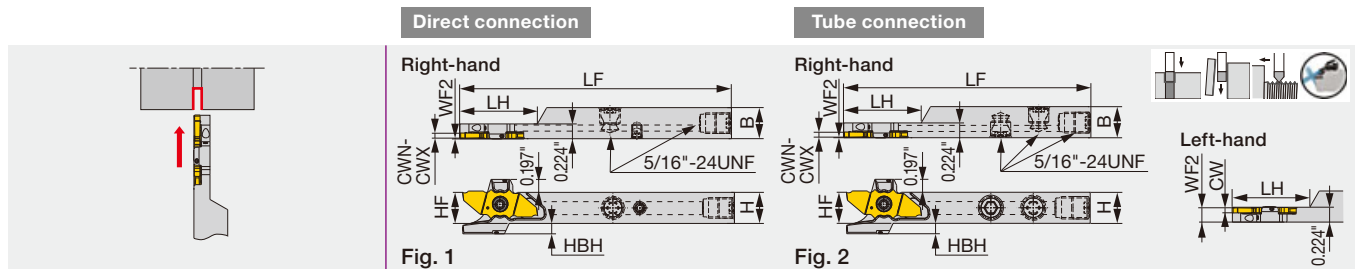
  

| Metric           | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBH | Insert                               | Torque* |
|------------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|-----|--------------------------------------|---------|
| JSXXR/L1010X09-S | 0.6 | 2.5 | 10 | 10 | 120               | 26                | 10 | 0.2/5.5            | 3   | JX**06...,12...,16... <sup>(3)</sup> | 1.2     |
| JSXXR/L1212F09-S | 0.6 | 2.5 | 12 | 12 | 85                | 26                | 12 | 0.2/5.5            | 1.5 | JX**06...,12...,16... <sup>(3)</sup> | 1.2     |
| JSXXR/L1212X09-S | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 1.5 | JX**06...,12...,16... <sup>(3)</sup> | 1.2     |
| JSXXR/L1616X09-S | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2/5.5            | -   | JX**06...,12...,16..., 20...         | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) LF (Functional Length) and LH (Head Length) values shown above are true with JX\*\*16... insert. Both LF and LH will be 0.079" (2 mm) shorter than the above value with JX\*\*12... and JX\*\*20... inserts; 0.157" (4 mm) shorter with JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) JX\*\*20... insert will not fit.  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

**JSXXR/L-F/X-S-CHP**

Parting-off toolholders with high pressure coolant capability, for swiss lathes (for sub spindle)



| Inch              | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                       | Torque | Fig. |
|-------------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|-------|------------------------------|--------|------|
| JSXXR/L083F-S-CHP | 0.024 | 0.098 | 0.500 | 0.500 | 3.344             | 1.024             | 0.500 | 0.008/0.217        | 0.051 | JX**06...,12...,16..., 20... | 0.89   | 2    |
| JSXXR/L083X-S-CHP | 0.024 | 0.098 | 0.500 | 0.500 | 4.750             | 1.181             | 0.500 | 0.008/0.217        | 0.051 | JX**06...,12...,16..., 20... | 0.89   | 1    |
| JSXXR/L103X-S-CHP | 0.024 | 0.098 | 0.625 | 0.625 | 4.750             | 1.181             | 0.625 | 0.008/0.217        | -     | JX**06...,12...,16..., 20... | 0.89   | 1    |

| Metric                                  | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBH | Insert                       | Torque* | Fig. |
|---|-----|-----|----|----|-------------------|-------------------|----|--------------------|-----|------------------------------|---------|------|
| JSXXR/L1212F09-S-CHP <sup>(4)</sup>     | 0.6 | 2.5 | 12 | 12 | 85                | 26                | 12 | 0.2                | 4   | JX**06...,12...,16..., 20... | 1.2     | 2    |
| JSXXR/L1212F09B-S-CHP                   | 0.6 | 2.5 | 12 | 12 | 85                | 30                | 12 | 0.2/5.5            | 2   | JX**06...,12...,16..., 20... | 1.2     | 2    |
| JSXXR/L1212X09-S-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 4   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1212X09B-S-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 2   | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09-S-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2                | 1.5 | JX**06...,12...,16..., 20... | 1.2     | 1    |
| JSXXR/L1616X09B-S-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2/5.5            | -   | JX**06...,12...,16..., 20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) LF (Functional Length) and LH (Head Length) values shown above are true with JX\*\*16... insert. Both LF and LH will be 0.079" (2 mm) shorter than the above value with JX\*\*12... and JX\*\*20... inserts; 0.157" (4 mm) shorter with JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (4) To be replaced with the new design  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

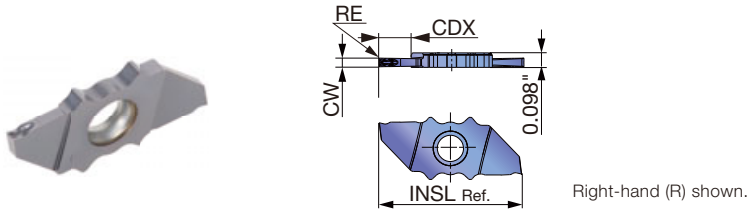
| SPARE PARTS      | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|------------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR**-S        | CSTC-4L055DL   | T-1008/5 | -              | -        | -              | -        |
| JSXXL**-S        | CSTC-4L055DR   | T-1008/5 | -              | -        | -              | -        |
| JSXXR**F**-S-CHP | CSTC-4L055DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F**-S-CHP | CSTC-4L055DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**X**-S-CHP | CSTC-4L055DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**X**-S-CHP | CSTC-4L055DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: Inserts → **F274, F275**, Standard cutting conditions → **F275**  
 Parts for coolant hose → **F290**



# INSERTS

## JXPS\*\*R/L-F (with 3D chipbreaker, sharp edge)



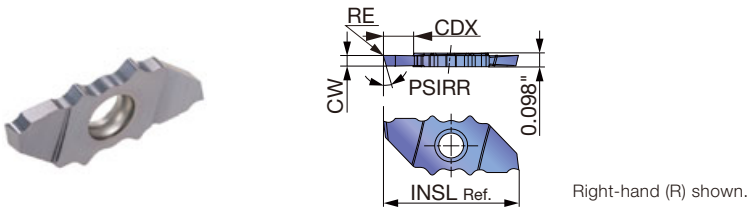
|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  | CUTDIA (in) | CDX* (in) | INSL (in) |
|-------------|------|---------------|---------------|---------|--------|--|--|--|-------------|-----------|-----------|
|             |      |               |               |         | SH725  |  |  |  |             |           |           |
| JXPS06R06F  | R    | 0.6           | 0.024         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     |
| JXPS06L06F  | L    | 0.6           | 0.024         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     |
| JXPS12R08F  | R    | 0.8           | 0.031         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12L08F  | L    | 0.8           | 0.031         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12R10F  | R    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12L10F  | L    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12R15F  | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12L15F  | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS16R15F  | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     |
| JXPS16L15F  | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.630       | 0.335     | 1.142     |
| JXPS20R20F  | R    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     |
| JXPS20L20F  | L    | 2             | 0.079         | 0.002   | ●      |  |  |  | 0.787       | 0.413     | 1.299     |

\*Max grooving depth (CDX) varies depending on workpiece diameters. ● : Line up

## JXPG\*\*R/L-F (Sharp edge)



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  | CUTDIA (in) | CDX* (in) | INSL (in) | PSIRR |
|---------------|------|---------------|---------------|---------|--------|--|--|--|-------------|-----------|-----------|-------|
|               |      |               |               |         | SH725  |  |  |  |             |           |           |       |
| JXPG06R10F    | R    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06L10F    | L    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06R15F    | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06L15F    | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 0°    |
| JXPG06R10F-15 | R    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG06L10F-15 | L    | 1             | 0.039         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG06R15F-15 | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |
| JXPG06L15F-15 | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  | 0.236       | 0.138     | 0.827     | 15°   |

\*Max grooving depth (CDX) varies depending on workpiece diameters. ● : Line up

Reference pages: Toolholders → [F272](#), [F273](#)

|          |                |   |  |  |  |  |
|----------|----------------|---|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |

★ : First choice

| Designation   | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  | CUTDIA<br>(in) | CDX*<br>(in) | INSL<br>(in) | PSIRR |
|---------------|------|------------------|------------------|------------|--------|--|--|--|----------------|--------------|--------------|-------|
|               |      |                  |                  |            | SH725  |  |  |  |                |              |              |       |
| JXPG12R15F    | R    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 0°    |
| JXPG12L15F    | L    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 0°    |
| JXPG12R20F    | R    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 0°    |
| JXPG12L20F    | L    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 0°    |
| JXPG12R15F-15 | R    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 15°   |
| JXPG12L15F-15 | L    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 15°   |
| JXPG12R20F-15 | R    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 15°   |
| JXPG12L20F-15 | L    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.472          | 0.256        | 0.984        | 15°   |
| JXPG16R15F    | R    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 0°    |
| JXPG16L15F    | L    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 0°    |
| JXPG16R20F    | R    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 0°    |
| JXPG16L20F    | L    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 0°    |
| JXPG16R15F-15 | R    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 15°   |
| JXPG16L15F-15 | L    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 15°   |
| JXPG16R20F-15 | R    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 15°   |
| JXPG16L20F-15 | L    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.630          | 0.335        | 1.142        | 15°   |
| JXPG20R15F    | R    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 0°    |
| JXPG20L15F    | L    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 0°    |
| JXPG20R20F    | R    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 0°    |
| JXPG20L20F    | L    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 0°    |
| JXPG20R15F-15 | R    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 15°   |
| JXPG20L15F-15 | L    | 1.5              | 0.059            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 15°   |
| JXPG20R20F-15 | R    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 15°   |
| JXPG20L20F-15 | L    | 2                | 0.079            | 0.002      | ●      |  |  |  | 0.787          | 0.413        | 1.299        | 15°   |

\*Max grooving depth (CDX) varies depending on workpiece diameters.

● : Line up

## STANDARD CUTTING CONDITIONS

### Parting, Grooving

| ISO      | Workpiece materials                                   | Grades | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr)  |
|----------|---|--------|---------------------------|------------------|
| <b>P</b> | Low carbon steels<br>1015, etc.                       | SH725  | 164 - 656                 | 0.00039 - 0.0020 |
|          | Carbon steels, Alloy steels<br>1055, etc., 4140, etc. | SH725  | 164 - 656                 | 0.00039 - 0.0020 |
|          | Free cutting steels<br>SUH22, SUH23, etc.             | SH725  | 164 - 656                 | 0.00039 - 0.0020 |
| <b>M</b> | Stainless steels<br>304, etc.                         | SH725  | 164 - 656                 | 0.00039 - 0.0020 |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.                   | SH725  | 492 - 656                 | 0.00039 - 0.0020 |
|          | Copper alloy<br>C2600, C280C, etc.                    | SH725  | 328 - 656                 | 0.00039 - 0.0020 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.                    | SH725  | 98 - 262                  | 0.00039 - 0.0020 |
|          | Superalloys<br>Inconel718, etc.                       | SH725  | 98 - 262                  | 0.00039 - 0.0020 |

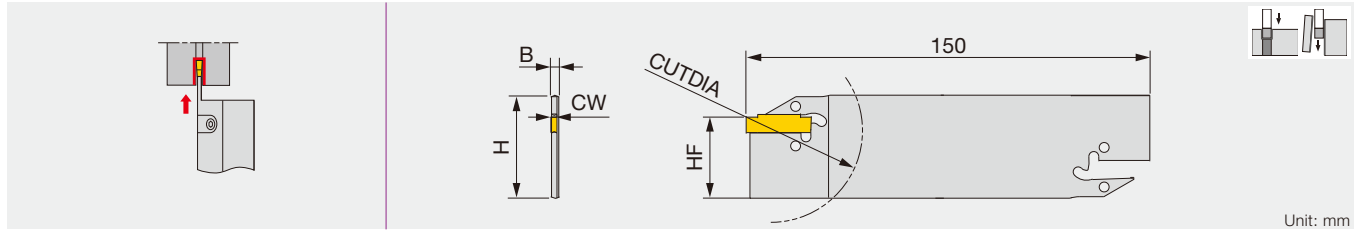
Reference pages: Toolholders → **F272, F273**



# MY-T SERIES

## CCH-W

External grooving and parting blade, for 2 corner inserts



Unit: mm

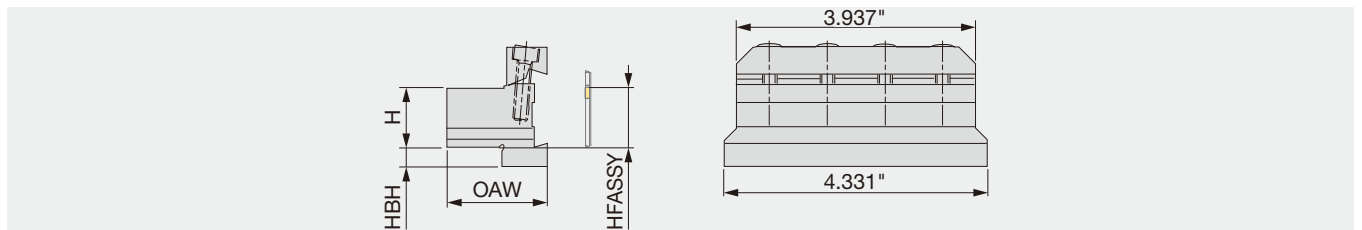
| Metric    | CW | CUTDIA | H  | B   | HF   | Insert          |
|-----------|----|--------|----|-----|------|-----------------|
| CCH32-W20 | 2  | 33     | 32 | 1.6 | 24.6 | WGE20, WGE20R/L |
| CCH32-W30 | 3  | 33     | 32 | 2.2 | 24.6 | WG*30, WGE30R/L |
| CCH32-W40 | 4  | 42     | 32 | 3.2 | 24.5 | WG*40, WGE40R/L |
| CCH32-W50 | 5  | 42     | 32 | 4.2 | 24.3 | WG*50, WGE50R/L |

### SPARE PARTS

| Designation | Wrench (Optional) |
|-------------|-------------------|
| CCH32-W...  | CRW33             |

### CCBS-32

Tool block for CCH blade



| Inch        | H     | HFASSY | HBH   | OAW   | Blade    |
|-------------|-------|--------|-------|-------|----------|
| CCBS12-32-U | 0.750 | 0.750  | 0.550 | 1.490 | CCH32... |
| CCBS16-32-U | 1.000 | 1.000  | 0.300 | 1.660 | CCH32... |
| CCBS20-32-U | 1.250 | 1.250  | 0.210 | 1.660 | CCH32... |

| Metric    | H  | HFASSY | HBH | OAW | Blade    |
|-----------|----|--------|-----|-----|----------|
| CCBS20-32 | 20 | 20     | 13  | 38  | CCH32... |
| CCBS25-32 | 25 | 25     | 8   | 42  | CCH32... |
| CCBS32-32 | 32 | 32     | 5   | 42  | CCH32... |

Blade sold separately.

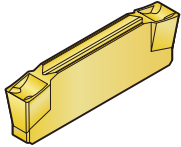
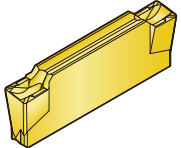
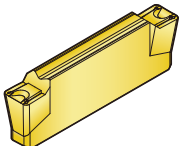
### SPARE PARTS

| Designation | Clamp | Screw  | Wrench |
|-------------|-------|--------|--------|
| CCBS...     | CC-32 | CM6X25 | P-5    |

Reference pages: Inserts → **F277 - F279**, Standard cutting conditions → **F279**

# CHIPBREAKER GUIDE (for 2 corner inserts)

## External grooving and parting

|  |  |  |
|--|--|--|
| <p><b>WGE</b></p>  <p><b>F278</b></p>     | <p>1st choice for external grooving and parting<br/>Excellent chip control for grooving<br/>CW = 0.079" - 0.197"</p> | <p>Feed: <math>f</math> (ipr)</p> <p>Groove width : CW (in)</p> <p>Legend: External, Internal, Face, Parting</p> |
| <p><b>WGE R/L</b></p>  <p><b>F279</b></p> | <p>Handed insert<br/>Minimize burr generation when workpiece is cut off<br/>CW = 0.079" - 0.197"</p>                 | <p>Feed: <math>f</math> (ipr)</p> <p>Groove width : CW (in)</p> <p>Legend: Parting</p>                           |
| <p><b>WGT</b></p>  <p><b>F278</b></p>   | <p>1st choice for turning<br/>Low cutting force and good chip control for traversing<br/>CW = 0.118" - 0.197"</p>    | <p>Depth of cut: <math>a_p</math> (in)</p> <p>Feed: <math>f</math> (ipr)</p> <p>Legend: WGT50, WGT40, WGT30</p>  |

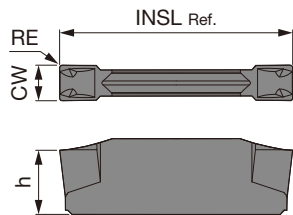
Please see page F\*\*\* for the product details.



## INSERTS (2 corners)

### WGE

For external grooving and parting



|   |                |   |   |   |  |  |  |   |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|---|--|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |   |  |  |  |  |  |

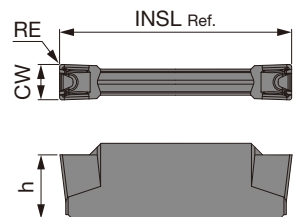
★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |       |       | Cermet |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|--------|--|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530 |  |  |              |           |
| WGE20       | 2                                       | 0.079                                     | 0.008      | ●      | ●     | ●     | ●      |  |  | 0.787        | 0.185     |
| WGE30       | 3                                       | 0.118                                     | 0.008      | ●      | ●     | ●     | ●      |  |  | 0.787        | 0.217     |
| WGE40       | 4                                       | 0.157                                     | 0.008      | ●      | ●     | ●     | ●      |  |  | 0.984        | 0.224     |
| WGE50       | 5                                       | 0.197                                     | 0.008      | ●      | ●     | ●     | ●      |  |  | 0.984        | 0.232     |

● : Line up

### WGT

For external grooving, parting and turning



|   |                |   |   |   |  |  |  |   |  |  |  |  |  |
|---|----------------|---|---|---|--|--|--|---|--|--|--|--|--|
| P | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |  |  |
| M | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |  |  |
| K | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |  |  |
| S | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |  |  |
| H | Hard materials |   |   |   |  |  |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

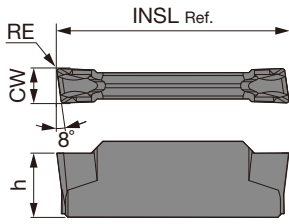
| Designation | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |       |       | Cermet |   |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|--------|---|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530 |   |  |              |           |
| WGT30       | 3                                       | 0.118                                     | 0.016      | ●      |       | ●     |        | ● |  | 0.787        | 0.217     |
| WGT40       | 4                                       | 0.157                                     | 0.016      | ●      |       | ●     |        | ● |  | 0.984        | 0.224     |
| WGT50       | 5                                       | 0.197                                     | 0.016      | ●      | ●     | ●     |        | ● |  | 0.984        | 0.232     |

● : Line up

Reference pages: Toolholders → **F276**

## WGE(R/L)

For parting off (handed inserts)



Right hand (R) shown.

|          |                |   |   |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ | ☆ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |   |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|------|----------------------------|------------------------------|------------|--------|-------|--|--|--|--|--|--|--------------|-----------|-------|
|             |      |                            |                              |            | AH120  | GH730 |  |  |  |  |  |  |              |           |       |
| WGE20R      | R    | 2                          | 0.079                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.787     | 0.185 |
| WGE20L      | L    | 2                          | 0.079                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.787     | 0.185 |
| WGE30R      | R    | 3                          | 0.118                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.787     | 0.217 |
| WGE30L      | L    | 3                          | 0.118                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.787     | 0.217 |
| WGE40R      | R    | 4                          | 0.157                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.984     | 0.224 |
| WGE40L      | L    | 4                          | 0.157                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.984     | 0.224 |
| WGE50R      | R    | 5                          | 0.197                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.984     | 0.232 |
| WGE50L      | L    | 5                          | 0.197                        | 0.008      | ●      |       |  |  |  |  |  |  |              | 0.984     | 0.232 |

● : Line up

## STANDARD CUTTING CONDITIONS (for 2 corner inserts)

| ISO      | Workpiece material                                 | Recommended grade | Cutting speed V <sub>c</sub> (sfm) | Operation                     | Feed: f (ipr)    |  |  |  |
|----------|--|-------------------|------------------------------------|-------------------------------|------------------|--|--|--|
|          |  |                   |                                    |                               | Groove width: CW |  |  |  |
|          |  |                   |                                    |                               | 2 mm (0.079")    | 3 mm (0.118")                            | 4 mm (0.157")                            | 5 mm (0.197")                            |
| <b>P</b> | Low carbon steels<br>Alloy steels (~ HB150)        | T9225             | 262 - 984                          | <b>Grooving (WGE□□)</b>       | 0.0024 - 0.008   | 0.0024 - 0.010                           | 0.0028 - 0.011                           | 0.0028 - 0.012                           |
|          |  | NS9530            | 328 - 656                          |                               |                  |  |  |  |
|          | Medium carbon steels<br>Alloy steels (HB150 ~ 250) | GH730, AH120      | 164 - 591                          |                               |                  |  |  |  |
|          |  | T9225             | 262 - 722                          |                               |                  |  |  |  |
|          | High carbon steels<br>Alloy steels (HB250 ~)       | NS9530            | 262 - 591                          |                               |                  |  |  |  |
|          |  | GH730, AH120      | 164 - 492                          |                               |                  |  |  |  |
| <b>M</b> | Stainless steels                                   | T9225             | 262 - 722                          | <b>Parting off (WGE□□R/L)</b> | 0.0016 - 0.004   | 0.0016 - 0.006                           | 0.0016 - 0.006                           | 0.0016 - 0.006                           |
|          |  | NS9530            | 262 - 492                          |                               |                  |  |  |  |
| <b>K</b> | Gray and ductile cast irons                        | GH730, AH120      | 164 - 492                          | <b>Turning (WGT□□)</b>        | -                | ap = 0.020 - 0.059<br>f = 0.0024 - 0.008 | ap = 0.020 - 0.079<br>f = 0.0024 - 0.010 | ap = 0.020 - 0.098<br>f = 0.0024 - 0.011 |
|          |  | GH730, AH120      | 164 - 591                          |                               |                  |  |  |  |

Reference pages: Toolholders → **F276**

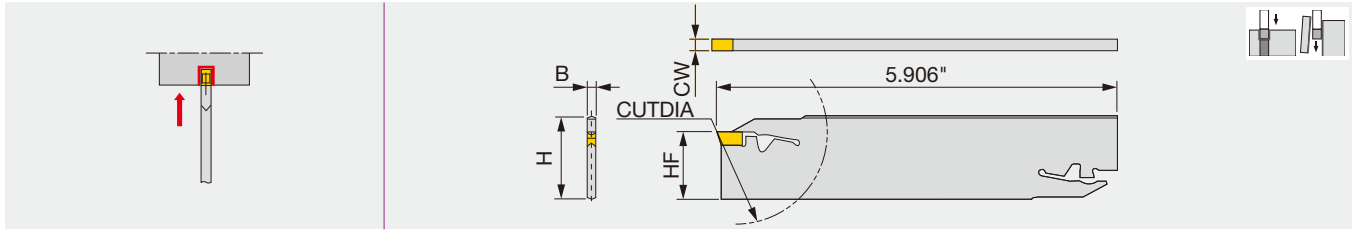




# MY-T SERIES

CCH

External grooving and parting blade, for 1 corner inserts



| Inch      | CW    | CUTDIA | H     | B     | HF    | Insert               |
|-----------|-------|--------|-------|-------|-------|----------------------|
| CCH26-30  | 0.118 | 2.76   | 0.979 | 0.087 | 0.843 | GE30,GE30R/L,GE30-AL |
| CCH26-40  | 0.157 | 2.76   | 0.968 | 0.126 | 0.837 | GE40,GE40R/L,GE40-AL |
| CCH32-30U | 0.118 | 3.94   | 1.230 | 0.087 | 0.968 | GE30,GE30R/L,GE30-AL |
| CCH32-40U | 0.157 | 3.94   | 1.220 | 0.126 | 0.963 | GE40,GE40R/L,GE40-AL |
| CCH32-50U | 0.197 | 4.72   | 1.210 | 0.165 | 0.958 | GE50,GE50R/L         |

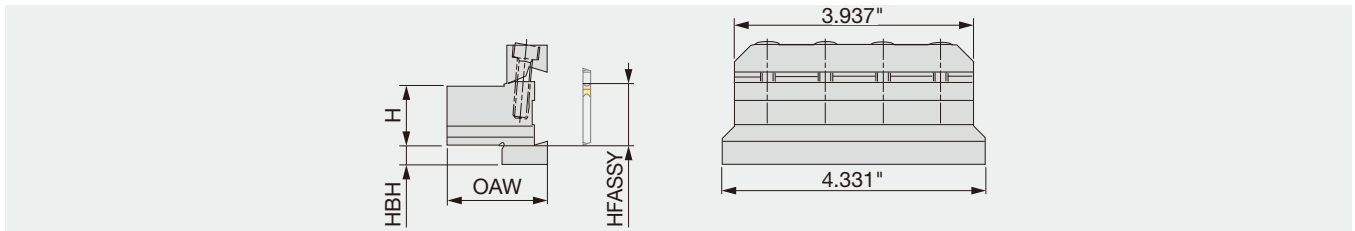
| Metric   | CW | CUTDIA | H  | B   | HF   | Insert               |
|----------|----|--------|----|-----|------|----------------------|
| CCH32-30 | 3  | 100    | 32 | 2.2 | 24.6 | GE30,GE30R/L,GE30-AL |
| CCH32-40 | 4  | 100    | 32 | 3.2 | 24.5 | GE40,GE40R/L,GE40-AL |
| CCH32-50 | 5  | 120    | 32 | 4.2 | 24.3 | GE50,GE50R/L         |

## SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| CCH...      | CTL-2  |

## CCBS-32

Tool block for CCH blade



| Inch        | H     | HFASSY | HBH   | OAW   | Blade    |
|-------------|-------|--------|-------|-------|----------|
| CCBS12-32-U | 0.750 | 0.750  | 0.550 | 1.490 | CCH32... |
| CCBS16-32-U | 1.000 | 1.000  | 0.300 | 1.660 | CCH32... |
| CCBS20-32-U | 1.250 | 1.250  | 0.210 | 1.660 | CCH32... |

| Metric    | H  | HFASSY | HBH | OAW | Blade    |
|-----------|----|--------|-----|-----|----------|
| CCBS20-32 | 20 | 20     | 13  | 38  | CCH32... |
| CCBS25-32 | 25 | 25     | 8   | 42  | CCH32... |
| CCBS32-32 | 32 | 32     | 5   | 42  | CCH32... |

Blade sold separately.

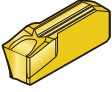
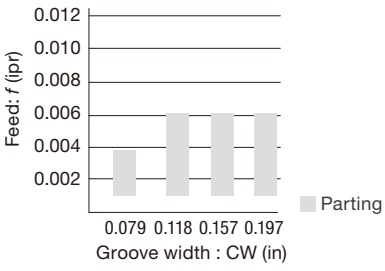

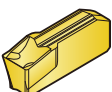
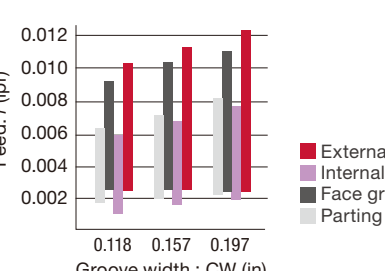
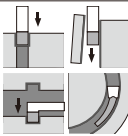
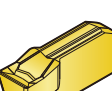
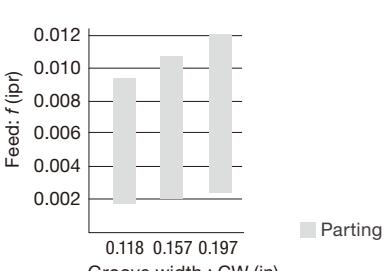
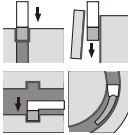

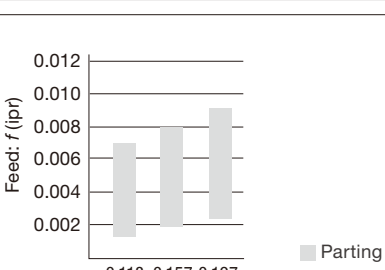
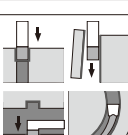
## SPARE PARTS

| Designation | Clamp | Screw  | Wrench |
|-------------|-------|--------|--------|
| CCBS...     | CC-32 | CM6X25 | P-5    |

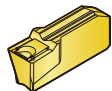
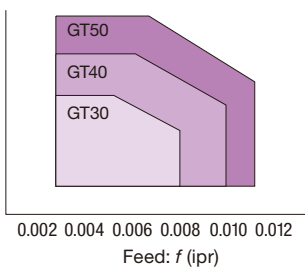
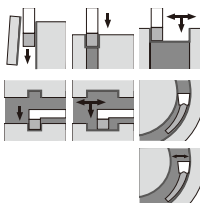
Reference pages: Inserts → [F281 - F285](#), Standard cutting conditions → [F285](#)

# CHIPBREAKER GUIDE (for 1 corner inserts)

## External grooving and parting

|   |  |  |
|---|--|--|
| <p><b>GE R/L</b></p>  <p><b>F282</b></p> | <p>Handed insert<br/>Minimize burr generation when workpiece is cut off<br/>CW = 0.118" - 0.197"</p>                               |       |
| <p><b>GE</b></p>  <p><b>F283</b></p>     | <p>1st choice for external grooving and parting<br/>Excellent chip control for grooving<br/>CW = 0.118" - 0.197"</p>               |       |
| <p><b>GF</b></p>  <p><b>F283</b></p>   | <p>1st choice for face grooving<br/>Low cutting force and good chip control for face grooving<br/>CW = 0.118" - 0.197"</p>         |     |
| <p><b>GN</b></p>  <p><b>F284</b></p>   | <p>1st choice for internal grooving<br/>Low cutting force and good chip control for internal grooving<br/>CW = 0.118" - 0.197"</p> |   |

## External grooving and turning

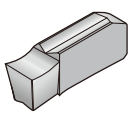
|   |   |  |
|---|---|--|
| <p><b>GT</b></p>  <p><b>F284</b></p> | <p>1st choice for turning<br/>Low cutting force and good chip control for traversing<br/>CW = 0.118" - 0.197"</p> |   |
|---|---|--|

Please see page F\*\*\* for the product details.



# For aluminum and non-ferrous metal

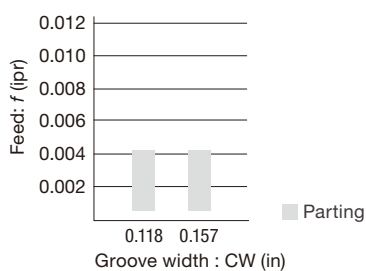
**GE-AL**

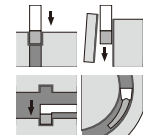


**F285**

Reduce cutting force and welding due to sharp chipbreaker

CW = 0.118" - 0.157"





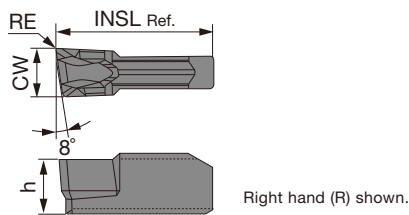
Please see page F\*\*\* for the product details.

- External
- Internal
- Face
- Parting
- Others

## INSERTS (1 corner)

### GE-R/L

For parting off (handed inserts)



|          |                |   |   |  |  |  |  |  |  |
|----------|----------------|---|---|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ | ☆ |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |   |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

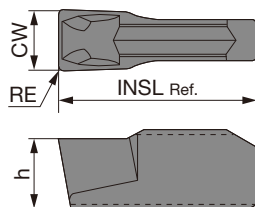
| Designation | HAND | CW <sup>+0.1</sup> <sub>0</sub><br>(mm) | CW <sup>+0.004</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |       |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|------|---|---|------------|--------|-------|--|--|--|--|--|--|--------------|-----------|-------|
|             |      |   |   |            | AH120  | GH730 |  |  |  |  |  |  |              |           |       |
| GE30R       | R    | 3                                       | 0.118                                     | 0.008      | ●      | ●     |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE30L       | L    | 3                                       | 0.118                                     | 0.008      |        | ●     |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE40R       | R    | 4                                       | 0.157                                     | 0.008      | ●      | ●     |  |  |  |  |  |  |              | 0.394     | 0.157 |
| GE40L       | L    | 4                                       | 0.157                                     | 0.008      |        | ●     |  |  |  |  |  |  |              | 0.394     | 0.157 |
| GE50R       | R    | 5                                       | 0.197                                     | 0.008      |        | ●     |  |  |  |  |  |  |              | 0.472     | 0.177 |
| GE50L       | L    | 5                                       | 0.197                                     | 0.008      | ●      | ●     |  |  |  |  |  |  |              | 0.472     | 0.177 |

● : Line up

Reference pages: Toolholders → **F280**, Standard cutting conditions → **F285**

## GE

For external grooving and parting



|          |                |   |   |   |  |  |  |  |   |  |  |  |  |
|----------|----------------|---|---|---|--|--|--|--|---|--|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  |  | ★ |  |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ★ |  |  |  |  |   |  |  |  |  |
| <b>K</b> | Cast iron      |   | ★ | ☆ |  |  |  |  | ☆ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |  |   |  |  |  |  |
| <b>S</b> | Superalloys    |   |   | ☆ |  |  |  |  |   |  |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |  |   |  |  |  |  |

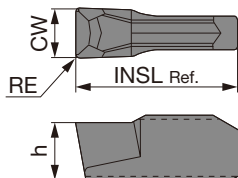
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|-------|-------|---------|--|--|--------------|-----------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530  |  |  |              |           |
| GE30        | 3                                       | 0.118                                     | 0.008      | ●      | ●     | ●     | ●       |  |  | 0.394        | 0.138     |
| GE40        | 4                                       | 0.157                                     | 0.008      | ●      | ●     | ●     | ●       |  |  | 0.394        | 0.157     |
| GE50        | 5                                       | 0.197                                     | 0.008      | ●      | ●     | ●     | ●       |  |  | 0.472        | 0.177     |

● : Line up

## GF

For face grooving



|          |                |   |  |   |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|---|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  | ☆ |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |   |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

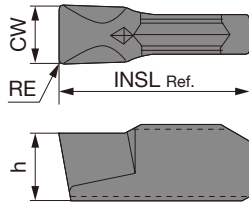
| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  | Cermets |  |  | INSL<br>(in) | h<br>(in) |
|-------------|---|---|------------|--------|--|---------|--|--|--------------|-----------|
|             |   |   |            | GH730  |  | NS9530  |  |  |              |           |
| GF30        | 3                                       | 0.118                                     | 0.008      | ●      |  | ●       |  |  | 0.394        | 0.138     |
| GF40        | 4                                       | 0.157                                     | 0.008      | ●      |  | ●       |  |  | 0.394        | 0.157     |
| GF50        | 5                                       | 0.197                                     | 0.008      | ●      |  | ●       |  |  | 0.472        | 0.177     |

● : Line up



## GN

For internal grooving



|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ☆ |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

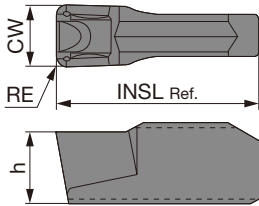
★ : First choice  
☆ : Second choice

| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|--------|--|--|--|--|--|--|--------------|-----------|-------|
|             |   |   |            | GH730  |  |  |  |  |  |  |              |           |       |
| GN30        | 3                                       | 0.118                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GN40        | 4                                       | 0.157                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.394     | 0.157 |
| GN50        | 5                                       | 0.197                                     | 0.008      | ●      |  |  |  |  |  |  |              | 0.472     | 0.177 |

● : Line up

## GT

For external grooving and turning



|          |                |   |   |   |  |  |  |   |  |  |  |
|----------|----------------|---|---|---|--|--|--|---|--|--|--|
| <b>P</b> | Steel          | ★ | ★ | ★ |  |  |  | ★ |  |  |  |
| <b>M</b> | Stainless      |   | ★ | ★ |  |  |  |   |  |  |  |
| <b>K</b> | Cast iron      |   | ★ | ☆ |  |  |  | ☆ |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |   |  |  |  |   |  |  |  |
| <b>S</b> | Superalloys    |   |   | ☆ |  |  |  |   |  |  |  |
| <b>H</b> | Hard materials |   |   |   |  |  |  |   |  |  |  |

★ : First choice  
☆ : Second choice

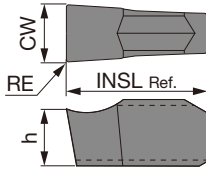
| Designation | CW <sub>0</sub> <sup>+0.1</sup><br>(mm) | CW <sub>0</sub> <sup>+0.004</sup><br>(in) | RE<br>(in) | Coated |       |       | Cermets |   | INSL<br>(in) | h<br>(in) |       |
|-------------|---|---|------------|--------|-------|-------|---------|---|--------------|-----------|-------|
|             |   |   |            | T9225  | AH120 | GH730 | NS9530  |   |              |           |       |
| GT30        | 3                                       | 0.118                                     | 0.016      |        | ●     | ●     |         | ● |              | 0.394     | 0.138 |
| GT40        | 4                                       | 0.157                                     | 0.016      |        | ●     | ●     |         | ● |              | 0.394     | 0.157 |
| GT50        | 5                                       | 0.197                                     | 0.016      |        | ●     | ●     |         | ● |              | 0.472     | 0.177 |

● : Line up

Reference pages: Toolholders → **F280**

## GE-AL

For aluminum and non-ferrous metal



|          |                |   |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          |   |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | CW <sup>+0.1</sup><br>(mm) | CW <sup>+0.004</sup><br>(in) | RE<br>(in) | Uncoated |  |  |  |  |  |  | INSL<br>(in) | h<br>(in) |       |
|-------------|----------------------------|------------------------------|------------|----------|--|--|--|--|--|--|--------------|-----------|-------|
|             |                            |                              |            | KS05F    |  |  |  |  |  |  |              |           |       |
| GE30-AL     | 3                          | 0.118                        | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.138 |
| GE40-AL     | 4                          | 0.157                        | 0.008      | ●        |  |  |  |  |  |  |              | 0.394     | 0.157 |

● : Line up

## STANDARD CUTTING CONDITIONS (for 1 corner inserts)

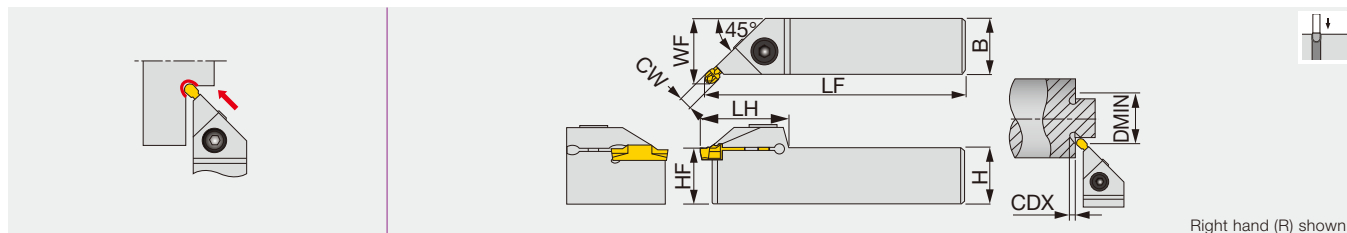
| ISO  | Workpiece material                                | Grades       | Cutting speed<br>Vc (sfm) |
|--|---|--------------|---------------------------|
| <b>P</b>                                     | Low carbon steel, Alloy steel<br>(~ HB150)        | T9225        | 262 - 984                 |
|  |   | NS9530       | 328 - 656                 |
|  |   | GH730, AH120 | 164 - 591                 |
|  | Medium carbon steel, Alloy steel<br>(HB150 ~ 250) | T9225        | 262 - 722                 |
|  |   | NS9530       | 262 - 591                 |
|  |   | GH730, AH120 | 164 - 492                 |
| High carbon steel, Alloy steel<br>(HB250 ~ ) | T9225   | 262 - 722    |                           |
|  | NS9530  | 262 - 492    |                           |
|  | GH730, AH120                                      | 164 - 394    |                           |
| <b>M</b>                                     | Stainless steel                                   | GH730, AH120 | 164 - 394                 |
| <b>K</b>                                     | Gray iron, Ductile cast iron                      | GH730, AH120 | 164 - 591                 |
| <b>N</b>                                     | Aluminum alloy,<br>Non-ferrous metal              | KS05F        | 656 - 984                 |

### For Parting off

| Operation                                    | Feed: f (ipr)                            |  |  |
|--|--|--|--|
|  | Groove width: CW                         |  |  |
|  | 3 mm (0.118")                            | 4 mm (0.157")                            | 5 mm (0.197")                            |
| Grooving<br>(GE**)                           | 0.0024 - 0.010                           | 0.0028 - 0.011                           | 0.0028 - 0.012                           |
| Parting off<br>(GE**R/L)                     | 0.0016 - 0.006                           | 0.0016 - 0.006                           | 0.0016 - 0.006                           |
| Traversing<br>(GT**)                         | ap = 0.020 - 0.059<br>f = 0.0024 - 0.008 | ap = 0.020 - 0.079<br>f = 0.0024 - 0.010 | ap = 0.020 - 0.098<br>f = 0.0024 - 0.011 |
| Parting off for Aluminum alloys<br>(GE**-AL) | 0.0012 - 0.004                           | 0.0012 - 0.004                           | -  |

For diameter compensation values in traversing, see page F129.

Reference pages: Toolholders → F280

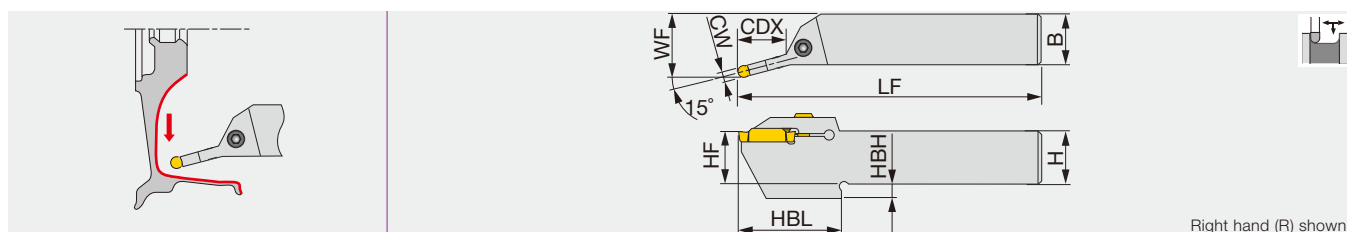


| Metric           | CW | DMIN | Seat size | CDX | H  | B  | LF  | LH | HF | WF <sup>(1)</sup> | Insert  | Torque |
|------------------|----|------|-----------|-----|----|----|-----|----|----|-------------------|---------|--------|
| CGEUR/L1616-3T02 | 3  | 32   | 3         | 2.8 | 16 | 16 | 110 | 30 | 16 | 19.3              | DTIU... | 5      |
| CGEUR/L2020-3T02 | 3  | 32   | 3         | 2.8 | 20 | 20 | 125 | 30 | 20 | 23.3              | DTIU... | 5      |
| CGEUR/L2525-3T02 | 3  | 32   | 3         | 2.8 | 25 | 25 | 150 | 30 | 25 | 28.3              | DTIU... | 5      |
| CGEUR/L1616-4T02 | 4  | 32   | 4         | 2.8 | 16 | 16 | 110 | 31 | 16 | 19.5              | DTIU... | 8.5    |
| CGEUR/L2020-4T02 | 4  | 32   | 4         | 2.8 | 20 | 20 | 125 | 31 | 20 | 23.5              | DTIU... | 8.5    |
| CGEUR/L2525-4T02 | 4  | 32   | 4         | 2.8 | 25 | 25 | 150 | 31 | 25 | 28.5              | DTIU... | 8.5    |
| CGEUR/L2525-6T03 | 6  | 34   | 5, 6      | 3.4 | 25 | 25 | 150 | 35 | 25 | 28.9              | DTIU... | 8.5    |

(1) "WF" value is calculated with groove width "CW" shown in the table.  
Torque: Recommended clamping torque: N·m

## CTER/L-15A

Square shank toolholder for profiling aluminum wheel



| Metric              | CW | Seat size | CDX | H  | B  | LF  | HF | WF   | HBH | HBL  | Insert | Torque |
|---------------------|----|-----------|-----|----|----|-----|----|------|-----|------|--------|--------|
| CTER/L2525-6T25-15A | 6  | 6         | 25  | 25 | 25 | 150 | 25 | 32.2 | 7   | 50.5 | DTA... | 5      |
| CTER/L2525-8T30-15A | 8  | 8         | 30  | 25 | 25 | 150 | 25 | 32.9 | 7   | 55   | DTA... | 5      |

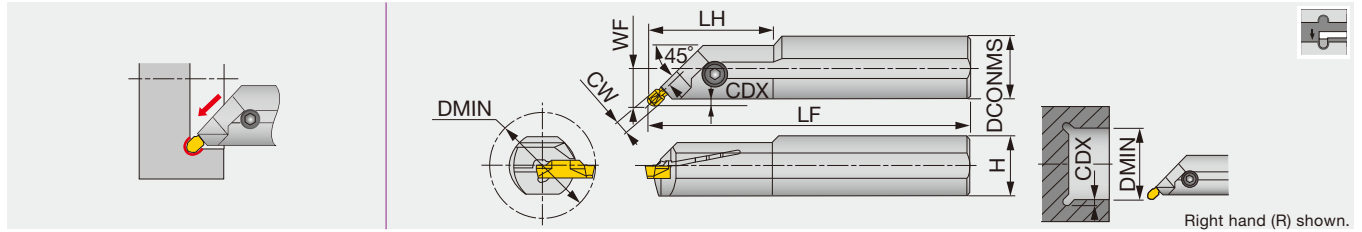
Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| CGEUR/L****-3T02 | CM5X0.8X16-A   | P-4    |
| CGEUR/L1616-4T02 | CM6X1X16-A     | P-5    |
| CGEUR/L2020-4T02 | CM6X1X20-A     | P-5    |
| C**R/L2525-...   | CM6X1X25-A     | P-5    |

## CGIUR/L

Internal 45° undercutting toolholder



| Metric              | CW | DMIN | Seat size | CDX | DCONMS | H  | LF  | LH | WF <sup>(1)</sup> | Insert  | Torque |
|---------------------|----|------|-----------|-----|--------|----|-----|----|-------------------|---------|--------|
| CGIUR/L20-3T02-D380 | 3  | 38   | 3         | 2.8 | 20     | 19 | 160 | -  | 12.8              | DTIU... | 5      |
| CGIUR/L25-3T02-D380 | 3  | 38   | 3         | 2.8 | 25     | 23 | 200 | 40 | 14.8              | DTIU... | 5      |
| CGIUR/L20-4T02-D380 | 4  | 38   | 4         | 2.8 | 20     | 19 | 160 | -  | 12.9              | DTIU... | 5      |
| CGIUR/L25-4T02-D460 | 4  | 46   | 4         | 2.8 | 25     | 23 | 200 | 40 | 14.9              | DTIU... | 5      |
| CGIUR/L25-6T02-D460 | 6  | 46   | 5, 6      | 2.8 | 25     | 23 | 200 | -  | 15.2              | DTIU... | 8.5    |

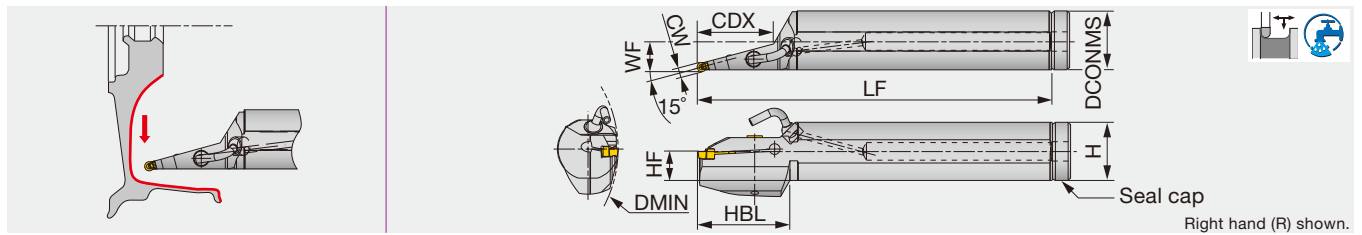
(1) WF is calculated with the groove width CW in the above table.  
Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation         | Clamping screw | Wrench |
|---------------------|----------------|--------|
| CGIUR/L20-3T02-D380 | CM5X0.8X12-A   | P-4    |
| CGIUR/L25-3T02-D380 | CM5X0.8X16-A   | P-4    |
| CGIUR/L*-4T02-D...  | CM5X0.8X16-A   | P-4    |
| CGIUR/L25-6T02-D460 | CM6X1X25-A     | P-5    |

## CGIUR/L-15A

Round-shank toolholder for profiling aluminum wheel



| Metric                  | CW | DMIN | Seat size | CDX | DCONMS | H    | WF   | LF  | HF   | HBL | Insert | Seal cap | Torque |
|-------------------------|----|------|-----------|-----|--------|------|------|-----|------|-----|--------|----------|--------|
| CGIUR/L40-6T50-D160-15A | 6  | 160  | 6         | 50  | 40     | 38.5 | 19.7 | 320 | 19   | 60  | DTA... | CA-40    | 5      |
| CGIUR/L40-8T83-D160-15A | 8  | 160  | 8         | 83  | 40     | 38.5 | 20.5 | 320 | 19   | 85  | DTA... | CA-40    | 5      |
| CGIUR/L50-6T85-D200-15A | 6  | 200  | 6         | 85  | 50     | 48.5 | 25.2 | 350 | 23.5 | 85  | DTA... | -        | 5      |
| CGIUR/L50-8T85-D200-15A | 8  | 200  | 8         | 85  | 50     | 48.5 | 25.9 | 350 | 23.5 | 85  | DTA... | -        | 5      |

Torque: Recommended clamping torque: N·m

### SPARE PARTS

| Designation  | Clamping screw | Wrench | Seal cap |
|--------------|----------------|--------|----------|
| CGIUR/L*-15A | CM6X1X25-A     | P-5    | CA-40    |

### NOZZLE

| Coolant pipe | Coolant nozzle |
|--------------|----------------|
| PNZ5         | CNZ125         |

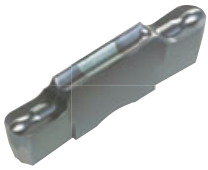
Reference pages: Inserts → **F288, F289**, Standard cutting conditions → **F289**



# CHIPBREAKER GUIDE

## Profiling and undercutting

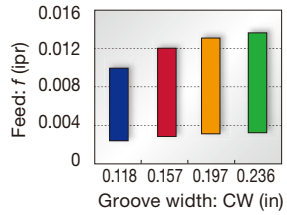
**DTIU type  
(2 corners)**

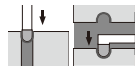


**Full radius type**

Excellent chip control for undercutting  
CW = 0.118" - 0.236"


■ Standard feed and DoC





## Aluminum wheel machining

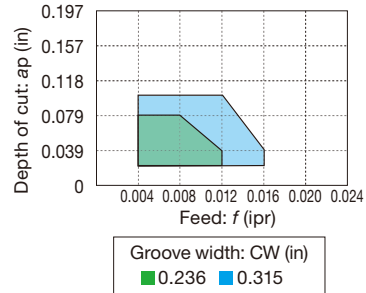
**DTA type  
(2 corners)**




**Full radius type**

Excellent chip control  
For aluminum wheel profiling  
Ground insert  
CW = 0.236" - 0.315"

■ Standard feed and DoC (for turning)

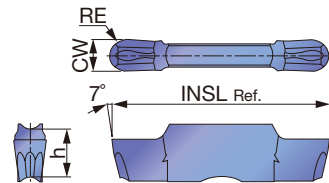




# INSERTS

## DTIU

Profiling and undercutting (for high precision)



|                         |       |
|-------------------------|-------|
| <b>P</b> Steel          | ★ ☆ ☆ |
| <b>M</b> Stainless      | ★ ☆ ★ |
| <b>K</b> Cast iron      | ★ ☆   |
| <b>N</b> Non-ferrous    |       |
| <b>S</b> Superalloys    | ★ ☆   |
| <b>H</b> Hard materials |       |

★ : First choice  
☆ : Second choice

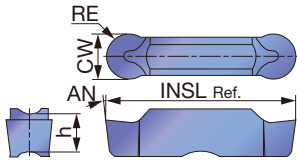
| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated |       |       | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|-------|-------|-----------|--------|
|             |           |              |                |         | AH7025 | AH725 | GH130 |           |        |
| DTIU300-150 | 3         | 3            | 0.118          | 0.059   | ●      | ●     | ●     | 0.787     | 0.197  |
| DTIU400-200 | 4         | 4            | 0.157          | 0.079   | ●      | ●     | ●     | 0.787     | 0.197  |
| DTIU500-250 | 5         | 5            | 0.197          | 0.098   | ●      | ●     | ●     | 0.984     | 0.217  |
| DTIU600-300 | 6         | 6            | 0.236          | 0.118   | ●      | ●     | ●     | 0.984     | 0.217  |

● : Line up

Reference pages: Toolholders → [F286](#), [F287](#)

# DTA

Aluminum wheel machining (for high precision)



|          |                |   |  |  |  |
|----------|----------------|---|--|--|--|
| <b>P</b> | Steel          |   |  |  |  |
| <b>M</b> | Stainless      |   |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |
| <b>S</b> | Superalloys    |   |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Uncoated |  |  |  |  |  |  | INSL (in) | h (in) | AN  |
|-------------|-----------|--------------|----------------|---------|----------|--|--|--|--|--|--|-----------|--------|-----|
|             |           |              |                |         | TH10     |  |  |  |  |  |  |           |        |     |
| DTA600-300  | 6         | 6            | 0.236          | 0.118   | ●        |  |  |  |  |  |  | 0.984     | 0.217  | 7°  |
| DTA800-400  | 8         | 8            | 0.315          | 0.157   | ●        |  |  |  |  |  |  | 1.181     | 0.264  | 10° |

●: Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                  | Hardness          | Priority          | Grade         | Cutting speed Vc (sfm) |
|----------|-------------------------------------|-------------------|-------------------|---------------|------------------------|
| <b>P</b> | Steel<br>1045, 4135, etc.           | < 300 HB          | First choice      | AH7025, AH725 | 164 - 591              |
|          |                                     | < 300 HB          | Impact resistance | GH130         | 164 - 394              |
| <b>M</b> | Stainless steel<br>303, 304, etc.   | < 200 HB          | First choice      | AH7025, AH725 | 164 - 394              |
|          |                                     | < 200 HB          | Impact resistance | GH130         | 164 - 394              |
| <b>K</b> | Gray cast iron<br>No.250B, etc.     | -                 | First choice      | AH7025        | 492 - 2297             |
|          |                                     | -                 | Impact resistance | GH130         | 164 - 591              |
|          | Ductile cast iron<br>65-45-12, etc. | -                 | First choice      | AH7025        | 492 - 984              |
| -        |                                     | Impact resistance | GH130             | 164 - 394     |                        |
| <b>N</b> | Aluminum alloys<br>Si < 12%         | -                 | First choice      | TH10          | 328 - 1640             |
| <b>S</b> | Superalloys<br>Inconel718, etc.     | < HRC 40          | First choice      | AH7025, AH725 | 66 - 197               |
|          |                                     | < HRC 40          | Impact resistance | GH130         | 66 - 131               |
|          | Titanium alloys<br>Ti-6Al-4V, etc.  | < HRC 40          | Impact resistance | AH7025, AH725 | 66 - 262               |

Please see page F288 for feed: f (ipr).

Reference pages: Toolholders → F286, F287

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# PARTS FOR COOLANT HOSE

## Connecting hose

Fig.1

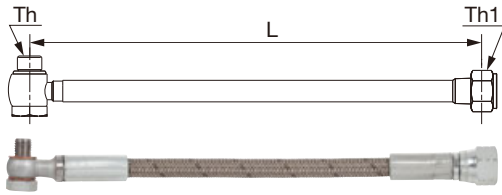
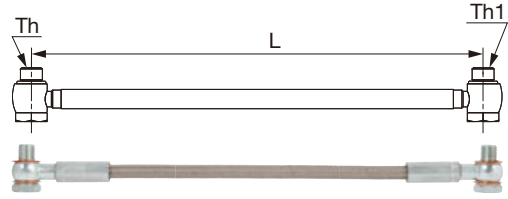
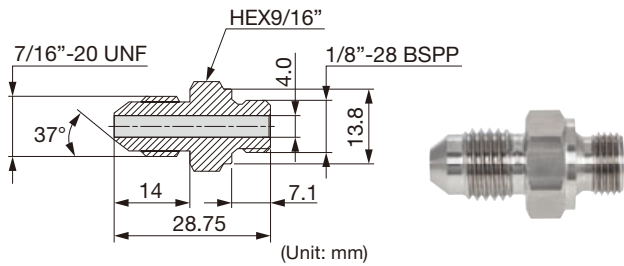


Fig.2



| Metric                   | Length<br>L | Screw         |               | Max. pressure<br>MPa (PSI) | Fig. |
|--------------------------|-------------|---------------|---------------|----------------------------|------|
|                          |             | Th            | Th1           |                            |      |
| CHP-HOSE-G1/8-7/16-200BS | 200         | G1/8"-28 BSPP | 7/16"-20 UNF  | 26 (3771)                  | 1    |
| CHP-HOSE-G1/8-7/16-250BS | 250         | G1/8"-28 BSPP | 7/16"-20 UNF  | 26 (3771)                  | 1    |
| CHP-HOSE-5/16-7/16-200BS | 200         | 5/16"-24UNF   | 7/16"-20 UNF  | 20 (2901)                  | 1    |
| CHP-HOSE-5/16-G1/8-200BS | 200         | 5/16"-24UNF   | G1/8"-28 BSPP | 20 (2901)                  | 1    |
| CHP-HOSE-G1/8-G1/8-200BB | 200         | G1/8"-28 BSPP | G1/8"-28 BSPP | 26 (3771)                  | 2    |
| CHP-HOSE-G1/8-G1/8-250BB | 250         | G1/8"-28 BSPP | G1/8"-28 BSPP | 26 (3771)                  | 2    |

## Connector



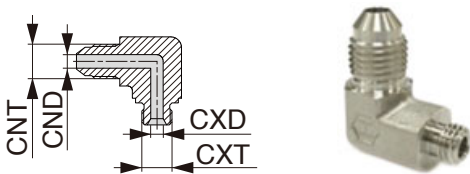
| Metric                  |
|-------------------------|
| CHP-NIPPLE-G1/8-7/16UNF |

## Seal washer

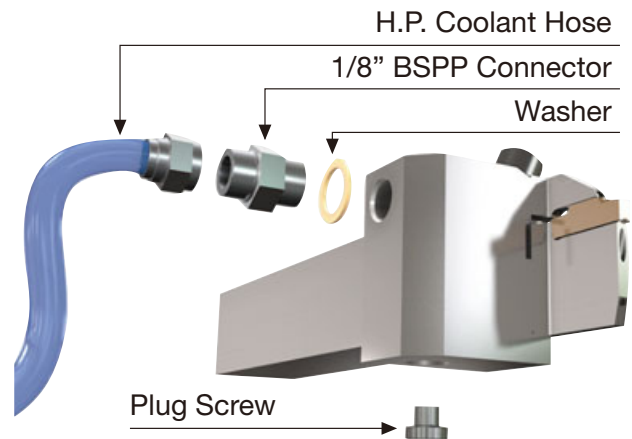


| Metric                  | øD   | ød   | W    |
|-------------------------|------|------|------|
| CHP-COPPER-SEAL1/8      | 15   | 10   | 1    |
| CHP-COPPER-SEAL5/16     | 11.9 | 8.15 | 1.35 |
| CHP-COPPER-SEAL5/16-2.5 | 9.4  | 8    | 2.5  |

## Connector elbow



| Metric                    | CNT          | CND | CXT          | CXD |
|---------------------------|--------------|-----|--------------|-----|
| CHP-ELBOW-90-G1/8-7/16UNF | 7/16"-20 UNF | 4.4 | 1/8"-28 BSPP | 4   |
| CHP-ELBOW-90-5/16-7/16UNF | 7/16"-20 UNF | 4.4 | 5/16"-24 UNF | 4   |



# Miniature Machining

---



# Miniature Machining - Content structure

- Products are listed by application.
- In the same application, products are listed by insert shape.
- Items are listed by product series.
- Toolholders in the catalog are our standard items.

## How to use the page

**Method ①** Select the application and the insert shape described at the left end of each page, jump to the page on the left index, and choose a designation you need (⑤) in the dimension table (④). Applicable inserts are shown in (⑦) and (⑨).

**Method ②** Select the series name on G003 and check the details on each page.

**Method ③** Select an item from Quick Guide on G004 - G025.

**CC**  
Rhombic, 80° with hole Positive 7°

**MODUMTURN**  
QC12-JSCL2CR-Y

Screw-on modular head with 95° approach angle, for positive 80° rhombic inserts

Without offset

Cutting edge style L2

| Metric           | H  | B  | LH   | HF | WF | LB   | H2   | DISTX | RE** | Insert                   | Torque*       |
|------------------|----|----|------|----|----|------|------|-------|------|--------------------------|---------------|
| QC12-JSCL2CR99-Y | 12 | 12 | 19.5 | 0  | 6  | 19.8 | 18.6 | 0.3   | 0.2  | CC109T3.<br>(CC"32.5...) | 1.2<br>(0.89) |

**QC12-JSCL2CR-Y-CHP**  
Screw-on Y-axis turning modular head with 95° approach angle, for positive 80° rhombic inserts, with high pressure coolant capability

Without offset

Cutting edge style L2

| Metric               | H  | B  | LH   | HF | WF | LB   | H2   | DISTX | RE** | Insert                   | Torque*       |
|----------------------|----|----|------|----|----|------|------|-------|------|--------------------------|---------------|
| QC12-JSCL2CR99-Y-CHP | 12 | 12 | 19.5 | 0  | 6  | 19.8 | 18.6 | 0.3   | 0.2  | CC109T3.<br>(CC"32.5...) | 1.2<br>(0.89) |

**QC12-JSCL2CR**  
Screw-on modular head with 95° approach angle, for positive 80° rhombic inserts

Without offset

Cutting edge style L2

| Metric         | H  | B  | LH   | HF | WF | OAW | RE** | Insert                   | Torque*       |
|----------------|----|----|------|----|----|-----|------|--------------------------|---------------|
| QC12-JSCL2CR99 | 12 | 12 | 19.5 | 12 | 6  | 19  | 0.2  | CC109T3.<br>(CC"32.5...) | 1.2<br>(0.89) |

**SPARE PARTS**

| Clamping screw       | Clamping nut | Clamping pin | Clamping pin         | Clamping pin |
|----------------------|--------------|--------------|----------------------|--------------|
| QC12-JSCL2CR99-Y     | CSTB-450     | 1-F          | ORBS-0454-SX1-0NBR70 |              |
| QC12-JSCL2CR99       | CSTB-450     | 1-F          |                      |              |
| QC12-JSCL2CR99-Y-CHP | CSTB-450     | 1-F          | ORBS-0454-SX1-0NBR70 |              |

Reference pages - QC12-JSCL2CR-Y, QC12-JSCL2CR-Y-CHP, QC12-JSCL2CR:  
Inserts → B112, CBN → B191, PCD → B213, Shank, Accessory → G115, G116

G030 tungaloy.com/us

**INSERT SELECTION**

| Application area         | Grade | Shank Shape | Clamping conditions | Application area         | Grade | Shank Shape | Clamping conditions |
|--------------------------|-------|-------------|---------------------|--------------------------|-------|-------------|---------------------|
| Precision finishing      | SH725 | JP          | G114                | Precision finishing      | SH725 | JP          | G114                |
| Medium to finish cutting | SH725 | JS          | G114                | Medium to finish cutting | SH725 | JS          | G114                |
| Medium to finish cutting | SH725 | J10         | G114                | Medium to finish cutting | SH725 | J10         | G114                |
| Medium to finish cutting | SH725 | CM          | G114                | Medium to finish cutting | SH725 | CM          | G114                |
| Medium to finish cutting | SH725 | JS          | G114                | Medium to finish cutting | SH725 | JS          | G114                |
| Medium to finish cutting | SH725 | JS          | G114                | Medium to finish cutting | SH725 | JS          | G114                |

Reference pages - QC12-JSCL2CR-CHP: Inserts → B112, CBN → B191, PCD → B213  
Shank, Accessory → G115, G116

Tungaloy G031

- ① : Application
- ② : Insert shape
- ③ : Tool series name
- ④ : Dimension table
- ⑤ : Toolholder designation
- e.g. right-hand, 0.5 inch square shank
- ⑥ : Dimension drawing (conforming to ISO13399)
- ⑦ : Applicable insert
- ⑧ : Spare parts
- ⑨ : Insert selection
- ⑩ : Reference page

→ **JSDJ2XR082** X-CHP

When ordering

- Please specify the designation and quantity.

e.g. **JSWL2XR082X-CHP** ... 1 (one toolholder per package)

\* Inserts are not included. Please order those separately.

# Main products

|   |   |  |
|---|---|--|
|    | <b>MODUM<sup>INI</sup>TURN</b><br>Modular head turning toolholder system<br>   | G026   |
|    | <b>MINI<sup>V LOCK</sup>GROOVE</b><br>High precision grooving and threading tool series for CNC automatic lathes<br>                               | G014, G020, G083 -, G168 -                         |
|    | <b>MINI<sup>FORCE</sup>TURN</b><br>Economical double-sided inserts with excellent sharpness<br>  | G029   |
|    | <b>J-SERIES</b><br>Toolholders for small-part machining<br>  | G004 -, G032 -<br>G106 -, G182 -                   |
|   | <b>TETRAM<sup>INI</sup>CUT</b><br>Unique insert pocket geometry for grooving with high quality and precision<br> CW = 0.013" - 0.125"            | G014 -<br>G016 -, G020 -<br>G086 -, G137 -, G170 - |
|  | <b>TETRA<sup>FORCE</sup>CUT</b><br>4-cornered insert with good clamping rigidity for highly precise grooving and parting<br> CW = 0.02" - 0.125" | G014, G099 -                                       |
|  | <b>DUO<sup>FORCE</sup>CUT</b><br>New flexible turning tool series for CNC automatic lathes and cam-driven lathes<br>CW = 0.02" - 0.039"   | G074, G140 -                                       |
|  | <b>DUO<sup>JUST</sup>CUT</b><br>Innovative clamping system for high rigidity in parting<br> CW = 0.024" - 0.079"                                 | G018 -, G022 -<br>G142 -, G176 -                   |
|  | <b>TUNG<sup>INI</sup>CUT</b><br>Multi-functional tool series for various grooving operations<br> CW = 0.047" - 0.157"                            | G018 -, G148 -                                     |
|  | <b>TINY<sup>INI</sup>TURN</b><br>Solid boring bar for turning small diameters with high precision<br>  | G024 -, G123 -                                     |
|  | <b>TUNG<sup>HEAVY</sup>GROOVE</b><br>Highly rigid clamping for wide grooving and profiling in one pass<br>CW = 0.394" - 1.000"  | G016, G112 -                                       |

# Miniature External Turning - Quick Guide

## CC\*\* inserts

| Cutting edge angle | Application | Designation      | Insert   | Size of square shanks (in) |               |               |               |               | Holder                      |             |                               | Clamping style |            | Offset   | Page |
|--------------------|-------------|------------------|----------|----------------------------|---------------|---------------|---------------|---------------|-----------------------------|-------------|-------------------------------|----------------|------------|----------|------|
|                    |             |                  |          | 0.375 x 0.375              | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.750 x 0.750 | MOORETIAN<br>(Modular head) | Y-axis feed | TUNGTJET<br>(Through-coolant) | Screw-on       | Back-clamp |          |      |
| 95°                |             | QC-JSCL2CR-Y     | CC**3... |                            | ○             | ○             |               |               | ○                           | ○           |                               | ✓              |            | without* | G030 |
|                    |             | QC-JSCL2CR-Y-CHP | CC**3... |                            | ○             | ○             |               |               | ○                           | ○           | ○                             | ✓              |            | without* | G030 |
|                    |             | QC-JSCL2CR       | CC**3... |                            | ○             | ○             |               |               | ○                           |             |                               | ✓              |            | without* | G030 |
|                    |             | QC-JSCL2CR-CHP   | CC**3... |                            | ○             | ○             |               |               | ○                           |             | ○                             | ✓              |            | without* | G031 |
|                    |             | JSCL2CR/L        | CC**2... | ○                          | ○             |               | ○             |               |                             |             |                               | ✓              |            | without  | G032 |
|                    |             | JSCL2CR-CHP      | CC**3... |                            | ○             |               | ○             |               |                             |             | ○                             | ✓              |            | without  | G033 |

\* When using stepped-head shank, the "Offset" will be "with".

## CN\*\* inserts

| Cutting edge angle | Application | Designation | Insert      | Size of square shanks (in) |               | Holder | Clamping style |            |            |              | Offset | Page |
|--------------------|-------------|-------------|-------------|----------------------------|---------------|--------|----------------|------------|------------|--------------|--------|------|
|                    |             |             |             | 0.625 x 0.625              | 0.750 x 0.750 |        | Screw-on       | Back-clamp | Lever-lock | Double-clamp |        |      |
| 95°                |             | PCLNR/L     | C/GN**33    |                            | ○             |        | ✓              |            |            |              | with   | G036 |
|                    |             | ACLNR/L     | C/GN**33/43 |                            | ○             |        |                | ✓          |            |              | with   | C019 |
|                    |             | PCLNR/L-CHP | C/GN**33    |                            | ○             | ○      |                |            |            | ✓            | with   | C023 |

# DC\*\* inserts

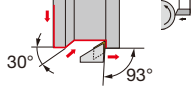
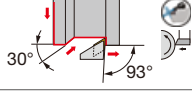
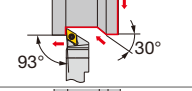
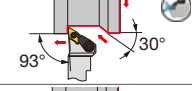
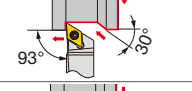
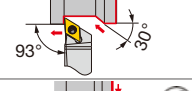
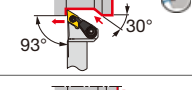
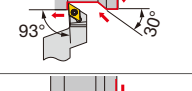

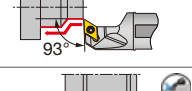
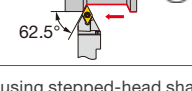
| Cutting edge angle | Application | Designation             | Insert  | Size of square shanks (in) |               |               |               | Cylindrical shank (shank dia.) |        | Holder                  |             |                           | Clamping style |            | Offset   | Page                       |
|--------------------|-------------|-------------------------|---------|----------------------------|---------------|---------------|---------------|--------------------------------|--------|-------------------------|-------------|---------------------------|----------------|------------|----------|----------------------------|
|                    |             |                         |         | 0.375 x 0.375              | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | ø0.625                         | ø0.750 | MOBILITY (Modular head) | Y-axis feed | TUNGJET (through-coolant) | Screw-on       | Back-clamp |          |                            |
| 93°                |             | <b>QC-JSDJ2CR-Y</b>     | DC**2   | ○                          | ○             |               |               |                                |        | ○                       | ○           |                           | ✓              |            | without* | <b>G037</b>                |
|                    |             | <b>QC-JSDJ2CR-Y-CHP</b> | DC**2   | ○                          | ○             |               |               |                                |        | ○                       | ○           | ○                         | ✓              |            | without* | <b>G038</b>                |
|                    |             | <b>QC-JSDJ2CR</b>       | DC**2/3 |                            | ○             | ○             |               |                                |        |                         | ○           |                           | ✓              |            | without* | <b>G038</b>                |
|                    |             | <b>QC-JSDJ2CR-CHP</b>   | DC**2/3 |                            | ○             | ○             |               |                                |        |                         | ○           | ○                         | ✓              |            | without* | <b>G038</b>                |
|                    |             | <b>JSDJ2CR/L</b>        | DC**2/3 | ○                          | ○             |               | ○             |                                |        |                         |             |                           | ✓              |            | without  | <b>G039</b>                |
|                    |             | <b>JSDJ2CR/L-CHP</b>    | DC**2/3 |                            | ○             |               | ○             |                                |        |                         |             | ○                         | ✓              |            | without  | <b>G040</b><br><b>G041</b> |
|                    |             | <b>JS-SDUCL</b>         | DC**2/3 |                            |               |               |               |                                |        | ○                       |             |                           | ✓              |            | -        | <b>G043</b>                |
| 62.5°              |             | <b>JSDNCN</b>           | DC**2   | ○                          | ○             |               | ○             |                                |        |                         |             |                           | ✓              |            | with     | <b>G044</b>                |

\* When using stepped-head shank, the "Offset" will be "with".



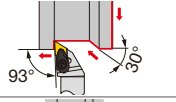
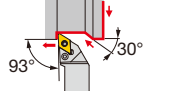
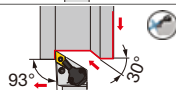
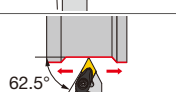
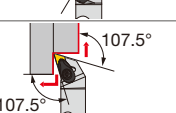
# Miniature External Turning - Quick Guide

## DX\*U inserts

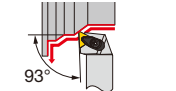
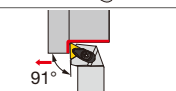
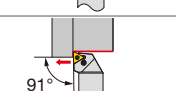
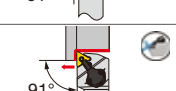
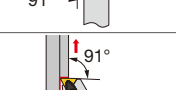
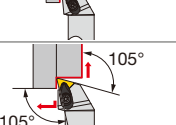
| Cutting edge angle | Application   | Designation      | Insert | Size of square shanks (in) |               |               |               |               |               | Cylindrical shank (shank dia.) |        | Holder                      |             |                               | Clamping style |            | Offset   | Page     |         |      |
|--------------------|---|------------------|--------|----------------------------|---------------|---------------|---------------|---------------|---------------|--------------------------------|--------|-----------------------------|-------------|-------------------------------|----------------|------------|----------|----------|---------|------|
|                    |   |                  |        | 0.375 x 0.375              | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.625 x 0.750 | 0.750 x 0.750 | ø0.625                         | ø0.750 | MODULAR TURN (Modular head) | Y-axis feed | TUNGSTALLOY (Through-coolant) | Screw-on       | Back-clamp |          |          |         |      |
| 93°                |    | QC-JSDJ2XR-Y     | DX*U   | ○                          | ○             |               |               |               |               |                                |        |                             | ○           | ○                             |                | ✓          |          | without* | G046    |      |
|                    |    | QC-JSDJ2XR-Y-CHP | DX*U   | ○                          | ○             |               |               |               |               |                                |        |                             | ○           | ○                             | ○              | ✓          |          | without* | G046    |      |
|                    |    | QC-JSDJ2XR       | DX*U   | ○                          | ○             |               |               |               |               |                                |        |                             | ○           |                               |                | ✓          |          | without* | G046    |      |
|                    |    | QC-JSDJ2XR-CHP   | DX*U   | ○                          | ○             |               |               |               |               |                                |        |                             | ○           | ○                             |                | ✓          |          | without* | G047    |      |
|                    |    | JSDJ2XR/L        | DX*U   | ○                          | ○             |               | ○             |               |               |                                |        |                             |             |                               |                | ✓          |          | without  | G047    |      |
|                    |   | JPDJ2XR/L        | DX*U   | ○                          | ○             |               | ○             |               |               |                                |        |                             |             |                               |                |            | ✓        |          | without | G048 |
|                    |  | JSDJ2XR/L-CHP    | DX*U   | ○                          |               | ○             |               |               |               |                                |        |                             |             | ○                             |                | ✓          |          | without  | G048    |      |
|                    |  | JSDJXR-F         | DX*U   |                            |               | ○             |               | ○             |               |                                |        |                             |             |                               |                | ✓          |          | with     | G049    |      |
|                    |  | JSDJXR/L         | DX*U   |                            |               |               |               |               |               | ○                              |        |                             |             |                               |                | ✓          |          | with     | C057    |      |
|                    |  | JS-SDUXL         | DX*U   |                            |               |               |               |               |               |                                | ○      | ○                           |             |                               |                | ✓          |          | -        | G050    |      |
| 62.5°              |  | QC-JSDNXR-CHP    | DX*U   | ○                          | ○             |               |               |               |               |                                |        | ○                           | ○           |                               | ✓              |            | without* | G051     |         |      |

\* When using stepped-head shank, the "Offset" will be "with".

## DN\*\* inserts

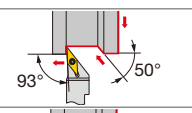
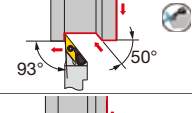
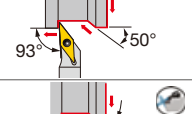
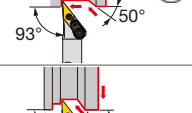

| Cutting edge angle | Application   | Designation        | Insert       | Size of square shanks (in) |               | Holder<br><b>TUNGJET</b><br>(Through-coolant) | Clamping style |              | Offset | Page        |
|--------------------|---|--------------------|--------------|----------------------------|---------------|---|----------------|--------------|--------|-------------|
|                    |   |                    |              | 0.625 x 0.625              | 0.750 x 0.750 |   | Lever-lock     | Double-clamp |        |             |
| 93°                |  | <b>ADJNR/L</b>     | DN**33/43/44 |                            | ○             |   |                | ✓            | with   | <b>C036</b> |
|                    |  | <b>PDJNR/L</b>     | DN**33/43/44 | ○                          | ○             |   | ✓              |              | with   | <b>G052</b> |
|                    |  | <b>PDJNR/L-CHP</b> | DN**33/43/44 |                            | ○             | ○   | ✓              |              | with   | <b>C039</b> |
| 62.5°              |  | <b>ADPNN</b>       | DN**43       |                            | ○             |   |                | ✓            | with   | <b>C049</b> |
| 107.5°             |  | <b>ADQNR/L</b>     | DN**33/43/44 |                            | ○             |   |                | ✓            | with   | <b>C045</b> |

## TN\*\* inserts

| Cutting edge angle | Application   | Designation        | Insert    | Size of square shanks (in) |               | Holder<br><b>TUNGJET</b><br>(Through-coolant) | Clamping style |              | Offset | Page        |
|--------------------|---|--------------------|-----------|----------------------------|---------------|---|----------------|--------------|--------|-------------|
|                    |   |                    |           | 0.625 x 0.625              | 0.750 x 0.750 |   | Lever-lock     | Double-clamp |        |             |
| 93°                |  | <b>ATJNR/L</b>     | TN**33    |                            | ○             |   |                | ✓            | with   | <b>C088</b> |
| 91°                |  | <b>ATGNR/L</b>     | TN**33    |                            | ○             |   |                | ✓            | with   | <b>C091</b> |
|                    |  | <b>PTGNR/L</b>     | TN**23    |                            | ○             |   | ✓              |              | with   | <b>C092</b> |
|                    |  | <b>PTGNR/L-CHP</b> | TN**23/33 |                            | ○             | ○   | ✓              |              | with   | <b>C093</b> |
|                    |  | <b>ATFNR/L</b>     | TN**33    |                            | ○             |   |                | ✓            | with   | <b>C094</b> |
| 105°               |  | <b>ATQNR/L</b>     | TN**33    |                            | ○             |   |                | ✓            | with   | <b>C096</b> |

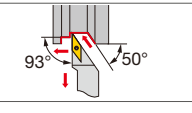
# Miniature External Turning - Quick Guide

## VB\*\* inserts

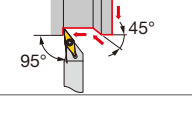
| Cutting edge angle | Application   | Designation           | Insert | Size of square shanks (in) |               |               |               |               |               | Holder                       |                                | Clamping style |            | Offset   | Page        |
|--------------------|---|-----------------------|--------|----------------------------|---------------|---------------|---------------|---------------|---------------|------------------------------|--------------------------------|----------------|------------|----------|-------------|
|                    |   |                       |        | 0.375 x 0.375              | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.625 x 0.750 | 0.750 x 0.750 | MODUM TURN<br>(Modular head) | TUNGE TIT<br>(Through-coolant) | Screw-on       | Back-clamp |          |             |
| 93°                |  | <b>QC-JSVJ2BR</b>     | VB**22 | ○                          | ○             |               |               |               |               | ○                            |                                | ✓              |            | without* | <b>G058</b> |
|                    |  | <b>QC-JSVJ2BR-CHP</b> | VB**22 | ○                          | ○             |               |               |               |               | ○                            | ○                              | ✓              |            | without* | <b>G058</b> |
|                    |  | <b>JSVJ2BR/L</b>      | VB**22 | ○                          | ○             |               | ○             |               |               |                              |                                | ✓              |            | without  | <b>G058</b> |
|                    |  | <b>JSVJ2BR/L-CHP</b>  | VB**22 |                            | ○             |               | ○             |               |               |                              | ○                              | ✓              |            | without  | <b>G059</b> |
|                    |  | <b>JSVJBR/L</b>       | VB**22 |                            |               |               |               |               |               |                              |                                | ✓              |            | with     | <b>G060</b> |

\* When using stepped-head shank, the "Offset" will be "with".

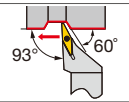
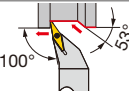
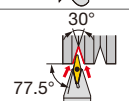
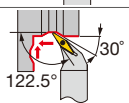
## VC\*\* inserts

| Cutting edge angle | Application   | Designation  | Insert | Size of square shanks (in) |               | Clamping style |            | Offset | Page        |
|--------------------|---|--------------|--------|----------------------------|---------------|----------------|------------|--------|-------------|
|                    |   |              |        | 0.625 x 0.625              | 0.750 x 0.750 | Screw-on       | Back-clamp |        |             |
| 93°                |  | <b>SVJCR</b> | VB**33 | ○                          | ○             | ✓              |            | with   | <b>C113</b> |

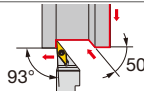
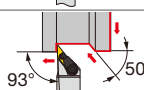
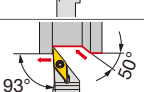
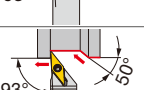
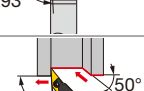
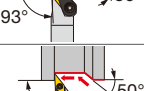
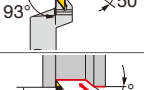
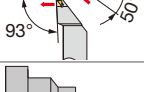
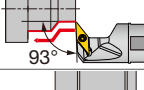
## VP\*\* inserts

| Cutting edge angle | Application   | Designation      | Insert | Size of square shanks (in) |               |               | Clamping style |            | Offset  | Page        |
|--------------------|---|------------------|--------|----------------------------|---------------|---------------|----------------|------------|---------|-------------|
|                    |   |                  |        | 0.500 x 0.500              | 0.625 x 0.625 | 0.750 x 0.750 | Screw-on       | Back-clamp |         |             |
| 93°                |  | <b>JSVL2PR/L</b> | VP**22 | ○                          | ○             |               | ✓              |            | without | <b>G062</b> |

## YWMT inserts

| Cutting edge angle | Application   | Designation    | Insert | Size of square shanks (in) |               | Clamping style |            | Offset | Page        |
|--------------------|---|----------------|--------|----------------------------|---------------|----------------|------------|--------|-------------|
|                    |   |                |        | 0.625 x 0.625              | 0.750 x 0.750 | Screw-on       | Back-clamp |        |             |
| 93°                |  | <b>SYJBR/L</b> | YWMT16 |                            | ○             | ✓              |            | with   | <b>C130</b> |
| 100°               |  | <b>SYHBR/L</b> | YWMT16 |                            | ○             | ✓              |            | with   | <b>C132</b> |
| 77.5°              |  | <b>SYIBN</b>   | YWMT16 |                            | ○             | ✓              |            | with   | <b>C131</b> |
| 122.5°             |  | <b>SYQBR/L</b> | YWMT16 |                            | ○             | ✓              |            | with   | <b>C131</b> |

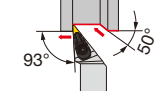

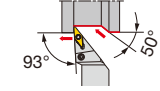
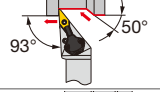
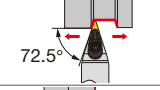
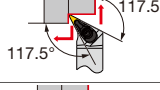
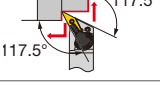
## VXGU inserts

| Cutting edge angle | Application   | Designation           | Insert | Size of square shanks (in) |               |               |               |               |               | Cylindrical shank (shank dia.) |        |        | Holder                      |                              | Clamping style |            | Offset   | Page        |
|--------------------|---|-----------------------|--------|----------------------------|---------------|---------------|---------------|---------------|---------------|--------------------------------|--------|--------|-----------------------------|------------------------------|----------------|------------|----------|-------------|
|                    |   |                       |        | 0.375 x 0.375              | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.625 x 0.750 | 0.750 x 0.750 | ø0.625                         | ø0.750 | ø1.000 | MODUMTURN<br>(Modular head) | TUNGJET<br>(Through-coolant) | Screw-on       | Back-clamp |          |             |
| 93°                |  | <b>QC-JSVJ2XR</b>     | VXGU   | ○                          | ○             |               |               |               |               |                                |        |        | ○                           | ○                            | ✓              |            | without* | <b>G064</b> |
|                    |  | <b>QC-JSVJ2XR-CHP</b> | VXGU   | ○                          | ○             |               |               |               |               |                                |        |        | ○                           | ○                            | ✓              |            | without* | <b>G064</b> |
|                    |  | <b>JSVJ2XR/L</b>      | VXGU   | ○                          | ○             |               | ○             |               |               |                                |        |        |                             |                              | ✓              |            | without  | <b>G065</b> |
|                    |  | <b>JPVJ2XR/L</b>      | VXGU   | ○                          | ○             |               | ○             |               |               |                                |        |        |                             |                              | ✓              |            | without  | <b>G065</b> |
|                    |  | <b>JSVJ2XR/L-CHP</b>  | VXGU   |                            | ○             |               | ○             |               |               |                                |        |        |                             | ○                            | ✓              |            | without  | <b>G066</b> |
|                    |  | <b>JSVJXR-F</b>       | VXGU   |                            |               | ○             |               | ○             |               |                                |        |        |                             |                              | ✓              |            | with     | <b>G067</b> |
|                    |  | <b>JSVJXR/L</b>       | VXGU   |                            |               |               |               |               |               |                                |        |        |                             |                              | ✓              |            | with     | <b>C119</b> |
| 72.5°              |  | <b>JS-SVUXL</b>       | VXGU   |                            |               |               |               |               | ○             | ○                              | ○      |        |                             |                              | ✓              |            | -        | <b>C120</b> |
|                    |  | <b>QC-JSVVXR-CHP</b>  | VXGU   | ○                          | ○             |               |               |               |               |                                |        |        | ○                           | ○                            | ✓              |            | without* | <b>G067</b> |

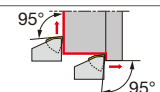
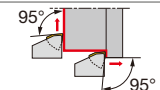
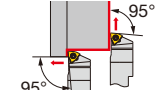
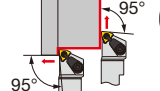
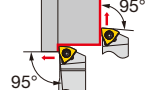

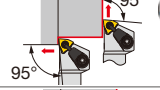

\* When using stepped-head shank, the "Offset" will be "with".

# Miniature External Turning - Quick Guide

## V/YN\*\* inserts

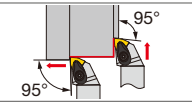
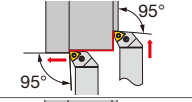
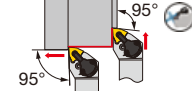
| Cutting edge angle | Application  | Designation | Insert             | Size of square shanks (in) |               | Holder  | Clamping style |              | Offset | Page        |
|--------------------|--|-------------|--------------------|----------------------------|---------------|---|----------------|--------------|--------|-------------|
|                    |  |             |                    | 0.625 x 0.625              | 0.750 x 0.750 |   | Lever-lock     | Double-clamp |        |             |
| 93°                |   | AVJNR/L     | VN**2.33, V/YN**33 |                            | ○             |  |                | ✓            | with   | <b>C103</b> |
|                    |   | PVJNR/L     | VN**2.33           | ○                          |               |   | ✓              |              | with   | <b>C104</b> |
|                    |   | PVJNR/L-CHP | VN**2.33, V/YN**33 |                            | ○             |   | ○              | ✓            |        | with        |
| 72.5°              |   | AVVNN       | VN**2.33, V/YN**33 |                            | ○             |   |                | ✓            | with   | <b>C107</b> |
| 117.5°             |   | AVQNR/L     | VN**2.33, V/YN**33 |                            | ○             |   |                | ✓            | with   | <b>C110</b> |
|                    |  | PVQNR/L-CHP | V/YN**33           |                            | ○             | ○   | ✓              |              | with   | <b>C112</b> |

## WXGU inserts

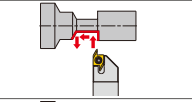
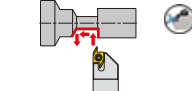
| Cutting edge angle | Application   | Designation      | Insert | Size of square shanks (in) |               |               |               |               |               | Holder                      |             |                             | Clamping style |            | Offset | Page     |             |
|--------------------|---|------------------|--------|----------------------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|-------------|-----------------------------|----------------|------------|--------|----------|-------------|
|                    |   |                  |        | 0.375 x 0.375              | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.625 x 0.750 | 0.750 x 0.750 | MODULAR TURN (Modular head) | Y-axis feed | TUNG TJET (Through-coolant) | Screw-on       | Back-clamp |        |          |             |
| 95°                |  | QC-JSWL2XR-Y     | WXGU   |                            | ○             | ○             |               |               |               |                             |             | ○                           | ○              | ○          | ✓      | without* | <b>G069</b> |
|                    |  | QC-JSWL2XR-Y-CHP | WXGU   |                            | ○             | ○             |               |               |               |                             |             | ○                           | ○              | ○          | ✓      | without* | <b>G069</b> |
|                    |  | QC-JSWL2XR       | WXGU   |                            | ○             | ○             |               |               |               |                             |             | ○                           |                |            | ✓      | without* | <b>G070</b> |
|                    |  | QC-JSWL2XR-CHP   | WXGU   |                            | ○             | ○             |               |               |               |                             |             | ○                           |                | ○          | ✓      | without* | <b>G070</b> |
|                    |  | JSWL2XR/L        | WXGU   | ○                          | ○             |               | ○             |               |               |                             |             |                             |                |            | ✓      | without  | <b>G071</b> |
|                    |  | JPWL2XR/L        | WXGU   | ○                          | ○             |               | ○             |               |               |                             |             |                             |                |            | ✓      | without  | <b>G071</b> |
|                    |  | JSWL2XR/L-CHP    | WXGU   |                            | ○             |               | ○             |               |               |                             |             |                             | ○              |            | ✓      | without  | <b>G072</b> |
|                    |  | JSWLXR-F         | WXGU   |                            |               | ○             |               |               | ○             |                             |             |                             |                |            | ✓      | with     | <b>G073</b> |

\* When using stepped-head shank, the "Offset" will be "with".

## WN\*\* inserts

| Cutting edge angle | Application   | Designation       | Insert    | Size of square shanks (in) |               |               | Holder  | Clamping style |              | Offset | Page        |
|--------------------|---|-------------------|-----------|----------------------------|---------------|---------------|---|----------------|--------------|--------|-------------|
|                    |   |                   |           | 0.500 x 0.500              | 0.500 x 0.625 | 0.750 x 0.750 |   | Lever-lock     | Double-clamp |        |             |
| 95°                |  | <b>AWLNR/L</b>    | WN**43/33 |                            |               | ○             | <b>MODUMTURN</b><br>(Modular head)<br><b>TUNGETJET</b><br>(Through-coolant) |                | ✓            | with   | <b>C121</b> |
|                    |  | <b>PWLNRL/L</b>   | WN**33    |                            |               | ○             |   | ✓              |              | with   | <b>C123</b> |
|                    |  | <b>PWLNRL-CHP</b> | WN**43/33 |                            |               | ○             | ○   | ✓              |              | with   | <b>C124</b> |

## J10E inserts

| Cutting edge angle | Application   | Designation         | Insert   | Size of square shanks (in) |               |               | Holder  | Clamping style |            | Offset   | Page        |
|--------------------|---|---------------------|----------|----------------------------|---------------|---------------|---|----------------|------------|----------|-------------|
|                    |   |                     |          | 0.500 x 0.500              | 0.500 x 0.625 | 0.750 x 0.750 |   | Screw-on       | Back-clamp |          |             |
| Back turning       |  | <b>QC-JSEGR</b>     | J10ER... | ○                          | ○             |               | <b>MODUMTURN</b><br>(Modular head)<br><b>TUNGETJET</b><br>(Through-coolant) | ✓              |            | without* | <b>G078</b> |
|                    |  | <b>QC-JSEGR-CHP</b> | J10ER... | ○                          | ○             |               | ○   | ✓              |            | without* | <b>G078</b> |

\* When using stepped-head shank, the "Offset" will be "with".

## JTB inserts

| Cutting edge angle | Application   | Designation    | Insert   | Size of square shanks (in) |               |               | Clamping style |            | Offset  | Page        |
|--------------------|---|----------------|----------|----------------------------|---------------|---------------|----------------|------------|---------|-------------|
|                    |   |                |          | 0.375 x 0.375              | 0.500 x 0.500 | 0.625 x 0.625 | Screw-on       | Back-clamp |         |             |
| Back turning       |  | <b>JSTBR/L</b> | JTBR/L30 | ○                          | ○             | ○             | ✓              |            | without | <b>G081</b> |

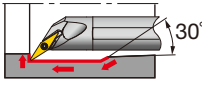
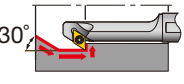
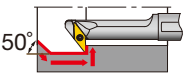
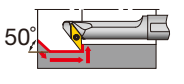
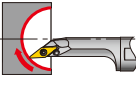
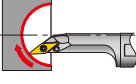
# Miniature Internal Turning - Quick Guide

## Positive type

### StreamJet-Bar

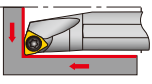
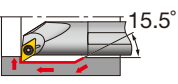
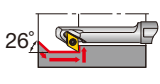
| Application                 | Style  | Designation | Insert  | Material         | Through coolant       | ISO Insert            | Y-PRO | Min. bore diameter DMIN (in)  |   |       |       |       |       |       |       |       |       | Page |
|-----------------------------|--------|-------------|---------|------------------|-----------------------|-----------------------|-------|---|---|-------|-------|-------|-------|-------|-------|-------|-------|------|
|                             |        |             |         |                  |                       |                       |       | 0   | 0.125   | 0.250 | 0.375 | 0.500 | 0.625 | 0.750 | 0.875 | 1.000 | 1.250 |      |
| Boring & internal facing    |        | SEXPR/L     | EP...   | Steel<br>Carbide | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.250"</span> <span>ø0.250"</span> </div>   |   |       |       |       |       |       |       |       |       | D048 |
|                             |        | SCLCR/L     | CC...   | Steel<br>Carbide | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.375"</span> <span>ø1.250"</span> </div> <div style="display: flex; justify-content: space-between;"> <span>ø0.500"</span> <span>ø1.250"</span> </div> |   |       |       |       |       |       |       |       |       | D018 |
|                             |        | SCLPR/L     | CP...   | Steel<br>Carbide | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.500"</span> <span>ø0.875"</span> </div> <div style="display: flex; justify-content: space-between;"> <span>ø0.500"</span> <span>ø0.875"</span> </div> |   |       |       |       |       |       |       |       |       | D022 |
| Boring & internal profiling |        | SDUCR/L     | DC...   | Steel<br>Carbide | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.625"</span> <span>ø1.000"</span> </div> <div style="display: flex; justify-content: space-between;"> <span>ø0.625"</span> <span>ø1.000"</span> </div> |   |       |       |       |       |       |       |       |       | D032 |
|                             |        | SVUCR/L     | VC...   | Steel            | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.875"</span> <span>ø1.000"</span> </div>   |   |       |       |       |       |       |       |       |       | D072 |
|                             |        | SVUBR/L     | VB...   | Steel            | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø1.000"</span> </div>  |   |       |       |       |       |       |       |       |       | D068 |
|                             |        | SDQCR/L     | DC...   | Steel            | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.625"</span> <span>ø0.875"</span> </div>   |   |       |       |       |       |       |       |       |       | D035 |
|                             |        | SVQCR/L     | VC...   | Steel            | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.688"</span> <span>ø1.000"</span> </div>   |   |       |       |       |       |       |       |       |       | D074 |
|                             |        | SVQBR/L     | VB...   | Steel            | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø1.000"</span> </div>  |   |       |       |       |       |       |       |       |       | D069 |
|                             |        | SYUBR/L     | YW...   | Steel<br>Carbide | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø1.000"</span> <span>ø1.000"</span> </div> <div style="display: flex; justify-content: space-between;"> <span>ø0.875"</span> <span>ø1.000"</span> </div> |   |       |       |       |       |       |       |       |       | D088 |
|                             | Boring |             | STUPR/L | TP...            | Steel<br>Carbide      | <input type="radio"/> | ✓     |   | <div style="display: flex; justify-content: space-between;"> <span>ø0.438"</span> <span>ø1.250"</span> </div> <div style="display: flex; justify-content: space-between;"> <span>ø0.438"</span> <span>ø0.875"</span> </div> |       |       |       |       |       |       |       |       |      |
| Blind hole boring           |        | STFPR/L     | TP...   | Carbide          | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.500"</span> <span>ø1.000"</span> </div>   |   |       |       |       |       |       |       |       |       | D057 |
|                             |        | STFCR/L     | TC...   | Carbide          | <input type="radio"/> | ✓                     |       | <div style="display: flex; justify-content: space-between;"> <span>ø0.500"</span> <span>ø1.000"</span> </div>   |   |       |       |       |       |       |       |       |       | D056 |

## StreamJet-Bar

| Application                   | Style   | Designation | Insert | Material         | Through coolant | ISO Insert | Min. bore diameter DMIN (in) |       |       |       |       |         |         |         | Page |
|-------------------------------|---|-------------|--------|------------------|-----------------|------------|------------------------------|-------|-------|-------|-------|---------|---------|---------|------|
|                               |   |             |        |                  |                 |            | 0                            | 0.125 | 0.250 | 0.375 | 0.500 | 0.625   | 0.750   | 0.875   |      |
| Internal undercut & profiling |  | SYQBR/L     | YW...  | Steel<br>Carbide | ○               | ✓          |                              |       |       |       |       |         | ø0.750" | ø0.875" | D089 |
|                               |   |             |        |                  |                 |            |                              |       |       |       |       |         | ø0.750" | ø0.875" |      |
| Back boring                   |  | SDZCR/L     | DC...  | Steel            | ○               | ✓          |                              |       |       |       |       |         |         | ø0.875" | D037 |
|                               |  | SVZCR/L     | VC...  | Steel            | ○               | ✓          |                              |       |       |       |       | ø0.750" | ø1.000" | D076    |      |
|                               |  | SVZBR/L     | VB...  | Steel            | ○               | ✓          |                              |       |       |       |       |         | ø1.000" | D071    |      |
|                               |   |             |        |                  |                 |            |                              |       |       |       |       |         |         |         |      |
| Internal sphere cutting       |  | SVJCR/L     | VC...  | Steel            | ○               | ✓          |                              |       |       |       |       |         | ø1.000" | D075    |      |
|                               |  | SVJBR/L     | VB...  | Steel            | ○               | ✓          |                              |       |       |       |       |         | ø1.000" | D070    |      |

## Double-sided insert with positive cutting edges

### MiniForce-Turn

| Application                 | Style   | Designation | Insert  | Material         | Through coolant | MINIFURN | Min. bore diameter DMIN (in) |       |       |       |       |       |         |         | Page |
|-----------------------------|---|-------------|---------|------------------|-----------------|----------|------------------------------|-------|-------|-------|-------|-------|---------|---------|------|
|                             |   |             |         |                  |                 |          | 0                            | 0.125 | 0.250 | 0.375 | 0.500 | 0.625 | 0.750   | 0.875   |      |
| Boring & internal facing    |  | SWLXR/L     | WX*U... | Steel<br>Carbide | ○               | ✓        |                              |       |       |       |       |       | ø0.500" | ø1.000" | D081 |
|                             |   |             |         |                  |                 |          |                              |       |       |       |       |       | ø0.500" | ø1.000" |      |
| Boring & internal profiling |  | SDXXR/L     | DX*U... | Steel<br>Carbide | ○               | ✓        |                              |       |       |       |       |       | ø0.625" | ø1.000" | D040 |
|                             |   |             |         |                  |                 |          |                              |       |       |       |       |       |         |         |      |
| Back boring                 |  | SDZXR/L     | DX*U... | Steel            | ○               | ✓        |                              |       |       |       |       |       | ø0.625" | ø0.875" | D041 |



# Miniature Grooving - Quick Guide

## External Grooving



### MiniVLockGroove

| Application | Designation                            | Insert | Square shank<br>(height x width) |               |               |               | Holder                      |                              |                   | Groove width (in) |        | Max. groove<br>depth (in) | Page        |
|-------------|--|--------|----------------------------------|---------------|---------------|---------------|-----------------------------|------------------------------|-------------------|-------------------|--------|---------------------------|-------------|
|             |  |        | 0.375 x 0.375                    | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | MODUMTURN<br>(Modular head) | TUNGJET<br>(Through-coolant) | Direct connection | 0                 | 0.0313 |                           |             |
|             |  |        |                                  |               |               |               |                             |                              |                   | 0.0938            | 0.157  |                           |             |
|             | <b>QC12-SVER/L-CHP</b><br>Modular head | VGP... |                                  | ○             | ○             |               | ○                           | ○                            | ○                 | 0.013"            | 0.039" | 0.079" -<br>0.157"        | <b>G083</b> |
|             | <b>SVER/L</b>                          | VGP... | ○                                | ○             |               |               |                             |                              |                   | 0.020"            | 0.039" | 0.098" -<br>0.157"        | <b>G083</b> |
|             | <b>SVER/L-CHP</b>                      | VGP... |                                  | ○             |               |               | ○                           | ○                            |                   | 0.020"            | 0.039" | 0.098" -<br>0.157"        | <b>G084</b> |



### TetraMini-Cut

| Application | Designation                              | Insert      | Square shank<br>(height x width) |               |               |               |               |               | Cylindrical shank<br>(shank dia.) |        |        |        | Holder                      |             |                              |                   |
|-------------|--|-------------|----------------------------------|---------------|---------------|---------------|---------------|---------------|-----------------------------------|--------|--------|--------|-----------------------------|-------------|------------------------------|-------------------|
|             |  |             | 0.375 x 0.375                    | 0.375 x 0.500 | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.750 x 0.750 | ø0.500                            | ø0.625 | ø0.750 | ø1.000 | MODUMTURN<br>(Modular head) | Y-axis feed | TUNGJET<br>(Through-coolant) | Direct connection |
|             | <b>QC12-STCR/L-Y</b><br>Modular head     | TC*18R/L... |                                  |               | ○             | ○             |               |               |                                   |        |        | ○      | ○                           |             |                              |                   |
|             | <b>QC12-STCR/L-Y-CHP</b><br>Modular head | TC*18R/L... |                                  |               | ○             | ○             |               |               |                                   |        |        | ○      | ○                           | ○           | ○                            |                   |
|             | <b>QC12-STCR/L</b><br>Modular head       | TC*18R/L... |                                  |               | ○             | ○             |               |               |                                   |        |        | ○      |                             |             |                              |                   |
|             | <b>QC12-STCR/L-CHP</b><br>Modular head   | TC*18R/L... |                                  |               | ○             | ○             |               |               |                                   |        |        | ○      |                             | ○           | ○                            |                   |
|             | <b>STCR/L-18</b>                         | TC*18R/L... | ○                                |               | ○             |               | ○             | ○             |                                   |        |        |        |                             |             |                              |                   |
|             | <b>STCR/L-18-CHP</b>                     | TC*18R/L... |                                  |               | ○             | ○             |               |               |                                   |        |        |        |                             | ○           | ○                            |                   |
|             | <b>JS-STCL18</b>                         | TC*18R/L... |                                  |               |               |               |               |               | ○                                 | ○      | ○      |        |                             |             |                              |                   |



### TetraForce-Cut

| Application | Designation          | Insert   | Square shank<br>(height x width) |               |               |               | Holder                      |                              |                   | Groove width (in) |        |        |        |        |        |        |
|-------------|----------------------|----------|----------------------------------|---------------|---------------|---------------|-----------------------------|------------------------------|-------------------|-------------------|--------|--------|--------|--------|--------|--------|
|             |                      |          | 0.375 x 0.375                    | 0.500 x 0.500 | 0.625 x 0.625 | 0.750 x 0.750 | MODUMTURN<br>(Modular head) | TUNGJET<br>(Through-coolant) | Direct connection | 0                 | 0.0313 | 0.0625 | 0.0938 | 0.1250 | 0.1563 | 0.1875 |
|             | <b>STCR/L-27</b>     | TC*27... | ○                                | ○             | ○             | ○             |                             |                              |                   | 0.020"            |        |        |        |        |        | 0.125" |
|             | <b>STCR/L-27-CHP</b> | TC*27... |                                  | ○             |               | ○             |                             | ○                            | ○                 | 0.020"            |        |        |        |        |        | 0.125" |
|             | <b>STCR/L-38</b>     | TCL38... |                                  |               |               | ○             |                             |                              |                   | 0.059"            |        |        |        |        |        | 0.157" |

| Groove width (in) |        |        |        |        |        | Max. groove depth (in) | Page                       |
|-------------------|--------|--------|--------|--------|--------|------------------------|----------------------------|
| 0                 | 0.0313 | 0.0625 | 0.0938 | 0.1250 | 0.1563 |                        |                            |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G086</b>                |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G086</b>                |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G087</b>                |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G087</b>                |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G088</b>                |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G088</b><br><b>G089</b> |
| 0.013"            |        |        |        |        | 0.125" | 0.0315" - 0.138"       | <b>G089</b>                |

| Max. groove depth (in) | Page                       |
|------------------------|----------------------------|
| 0.039" - 0.252"        | <b>G099</b>                |
| 0.039" - 0.252"        | <b>G099</b><br><b>G100</b> |
| 0.354" - 0.394"        | <b>G105</b>                |



Max.  
groove  
depth (in) Page

0.049" - 0.071" **F105**

Min. bore diameter DMIN (in)

0 0.125 0.250 0.375 0.625 0.750 0.875 1.000 Page

∅0.438"  ∅0.813" **G117**

Min. face groove outside diameter (in)

0 0.125 0.250 0.375 0.625 0.750 0.875 1.000 Page

∅0.236" | **G137**

∅0.236" | **G137**

Grade

A

Insert

B

Ext. Toolholder

C

Int. Toolholder

D

Threading

E

Grooving

F

Miniature tool

G

Milling cutter

H

Endmill

I

Drilling tool

J

Tooling System

K

User's Guide


L





Index


M






# Miniature Parting - Quick Guide


## Parting



 **DuoJustCut**





| Application   | Designation          | Insert | Square shank<br>(height x width) |               |               |               | Groove<br>width<br>(in) | Holder                       |  |  |
|---|----------------------|--------|----------------------------------|---------------|---------------|---------------|-------------------------|------------------------------|--|--|
|   |                      |        | 0.375 x 0.375                    | 0.500 x 0.500 | 0.625 x 0.625 | 0.750 x 0.750 |                         | TUNGJET<br>(Through-coolant) |  |  |
|  | <b>JSXXR/L</b>       | JXP... | ○                                | ○             | ○             | ○             | 0.024" -<br>0.079"      |                              |  |  |
|  | <b>JSXXR/L-CHP</b>   | JXP... |                                  | ○             | ○             |               | 0.024" -<br>0.079"      | ○                            |  |  |
|  | <b>JSXXR/L-S</b>     | JXP... | ○                                | ○             |               |               | 0.024" -<br>0.079"      |                              |  |  |
|  | <b>JSXXR/L-S-CHP</b> | JXP... |                                  | ○             | ○             |               | 0.024" -<br>0.079"      | ○                            |  |  |






 **TungCut**



| Application   | Designation                             | Insert          | Square shank<br>(height x width) |               |               |               |               | Groove<br>width<br>(in) | Holder                      |                              |                   |
|---|---|-----------------|----------------------------------|---------------|---------------|---------------|---------------|-------------------------|-----------------------------|------------------------------|-------------------|
|   |   |                 | 0.375 x 0.375                    | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.750 x 0.750 |                         | MODUMTURN<br>(Modular head) | TUNGJET<br>(Through-coolant) | Direct connection |
|  | <b>QC12-JTTER/L-CHP</b><br>Modular head | DG.../<br>SG... |                                  | ○             | ○             |               |               | 0.047" -<br>0.079"      | ○                           | ○                            | ○                 |
|  | <b>J*TER/L</b>                          | DG.../<br>SG... |                                  | ○             |               | ○             |               | 0.079" -<br>0.118"      |                             |                              |                   |
|  | <b>JCTER/L-CHP</b>                      | DG.../<br>SG... |                                  | ○             |               | ○             | ○             | 0.079"                  |                             | ○                            | ○                 |
|  | <b>CHGP</b>                             | DG.../<br>SG... |                                  |               |               |               | ○             | 0.079" -<br>0.157"      |                             |                              |                   |
|  | <b>CGP</b>                              | DG.../<br>SG... |                                  |               |               |               | ○             | 0.055" -<br>0.315"      |                             |                              |                   |

 **AddForceCut**

| Application   | Designation | Insert | Square shank  |               |               |               |               | Groove<br>width<br>(in) | Holder                      |                              |                   |
|---|-------------|--------|---------------|---------------|---------------|---------------|---------------|-------------------------|-----------------------------|------------------------------|-------------------|
|   |             |        | 0.375 x 0.375 | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.750 x 0.750 |                         | MODUMTURN<br>(Modular head) | TUNGJET<br>(Through-coolant) | Direct connection |
|  | <b>QSG</b>  | QG...  |               |               |               |               | ○             | 0.079" -<br>0.157"      |                             |                              |                   |
|  | <b>QSP</b>  | QG...  |               |               |               |               | ○             | 0.079" -<br>0.157"      |                             |                              |                   |


| Max. parting diameter (in) |   | Page                |
|----------------------------|---|---------------------|
| 0                          | 0.250 0.500 0.750 1.000 1.250 1.500 1.750 2.000                                   |                     |
| ø0.236"                    |  | ø0.787" <b>G142</b> |
| ø0.236"                    |  | ø0.787" <b>G143</b> |
| ø0.236"                    |  | ø0.787" <b>G142</b> |
| ø0.236"                    |  | ø0.787" <b>G143</b> |




| Max. parting diameter (in) |   | Page                               |
|----------------------------|---|------------------------------------|
| 0                          | 0.625 1.250 1.875 2.500 3.125 3.750 4.375 5.000   |                                    |
| ø0.787"                    |          | <b>G148</b>                        |
| ø0.945"                    |          | ø1.260" <b>G149</b><br><b>G150</b> |
| ø0.980"                    |          | ø1.260" <b>G151</b>                |
|                            | ø2.047"  | ø3.228" <b>G152</b>                |
| ø1.024"                    |          | ø4.724" <b>G152</b>                |


| Max. parting diameter (in) |   | Page                |
|----------------------------|---|---------------------|
| 0                          | 0.625 1.250 1.875 2.500 3.125 3.750 4.375 5.000   |                     |
|                            | ø2.047"  | ø3.228" <b>G164</b> |
|                            | ø2.047"  | ø4.724" <b>G163</b> |








# Miniature Threading - Quick Guide

## External Threading

 **MiniVLockGroove**

| Application   | Designation                            | Insert    | Square shank (height x width) |               |               | Corner R (in)   | Holder                    |                           |                   |
|---|--|-----------|-------------------------------|---------------|---------------|-----------------|---------------------------|---------------------------|-------------------|
|   |  |           | 0.375 x 0.375                 | 0.500 x 0.500 | 0.500 x 0.625 |                 | MODUM TURN (Modular head) | TUNGJET (Through-coolant) | Direct connection |
|  | <b>QC12-SVER/L-CHP</b><br>Modular head | VGT10F... |                               | ○             | ○             | 0.020" - 0.039" | ○                         |                           | ○                 |
|  | <b>SVER/L</b>                          | VGT10F... | ○                             | ○             |               | 0.020" - 0.039" |                           |                           |                   |
|  | <b>SVER/L-CHP</b>                      | VGT10F... |                               | ○             |               | 0.020" - 0.039" |                           |                           | ○                 |

 **TetraMini-Cut**

| Application   | Designation                              | Insert      | Square shank (height x width) |               |               |               |               |               | Cylindrical shank (shank dia.) |        |        |        | Corner R (in)   |
|---|--|-------------|-------------------------------|---------------|---------------|---------------|---------------|---------------|--------------------------------|--------|--------|--------|-----------------|
|   |  |             | 0.375 x 0.375                 | 0.375 x 0.500 | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.750 x 0.750 | ø0.500                         | ø0.625 | ø0.750 | ø1.000 |                 |
|  | <b>QC12-STCR/L-Y</b><br>Modular head     | TCT18R/L... |                               |               | ○             | ○             |               |               |                                |        |        |        | 0.002" - 0.008" |
|  | <b>QC12-STCR/L-Y-CHP</b><br>Modular head | TCT18R/L... |                               |               | ○             | ○             |               |               |                                |        |        |        | 0.002" - 0.008" |
|  | <b>QC12-STCR/L</b><br>Modular head       | TCT18R/L... |                               |               | ○             | ○             |               |               |                                |        |        |        | 0.002" - 0.008" |
|  | <b>QC12-STCR/L-CHP</b><br>Modular head   | TCT18R/L... |                               |               | ○             | ○             |               |               |                                |        |        |        | 0.002" - 0.008" |
|  | <b>STCR/L-18</b>                         | TCT18R/L... | ○                             |               | ○             |               | ○             | ○             |                                |        |        |        | 0.002" - 0.008" |
|  | <b>STCR/L-18-CHP</b>                     | TCT18R/L... |                               |               | ○             | ○             |               |               |                                |        |        |        | 0.002" - 0.008" |
|  | <b>JS-STCL18</b>                         | TCT18R/L... |                               |               |               |               |               |               | ○                              | ○      | ○      |        | 0.002" - 0.008" |

|  |    | Threads per inch |    |    |    |    |    |    |     |     |     |      |
|--|----|------------------|----|----|----|----|----|----|-----|-----|-----|------|
|  |    | 0                | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | Page |
|  | 12 |                  |    |    |    |    |    |    |     |     |     | G168 |
|  | 12 |                  |    |    |    |    |    |    |     |     |     | G168 |
|  | 12 |                  |    |    |    |    |    |    |     |     |     | G168 |

|  | Holder                    |                       |                              |                       | Threads per inch |    |    |    |    |    |    |     |     |     | Page |              |
|--|---------------------------|-----------------------|------------------------------|-----------------------|------------------|----|----|----|----|----|----|-----|-----|-----|------|--------------|
|  | MODULAR<br>(Modular head) | Y-axis feed           | TUNGJET<br>(through-coolant) | Direct connection     | 0                | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 |      |              |
|  | <input type="radio"/>     | <input type="radio"/> |                              |                       | 8                |    |    |    |    |    |    |     |     |     |      | G170         |
|  | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/>        | <input type="radio"/> | 8                |    |    |    |    |    |    |     |     |     |      | G170         |
|  | <input type="radio"/>     |                       |                              |                       | 8                |    |    |    |    |    |    |     |     |     |      | G171         |
|  | <input type="radio"/>     |                       | <input type="radio"/>        | <input type="radio"/> | 8                |    |    |    |    |    |    |     |     |     |      | G171         |
|  |                           |                       |                              |                       | 8                |    |    |    |    |    |    |     |     |     |      | G172         |
|  |                           |                       | <input type="radio"/>        | <input type="radio"/> | 8                |    |    |    |    |    |    |     |     |     |      | G172<br>G173 |
|  |                           |                       |                              |                       | 8                |    |    |    |    |    |    |     |     |     |      | G173         |



# Miniature Threading - Quick Guide

## External Threading



### DuoJust-Cut

| Application | Designation          | Insert    | Square shank<br>(height x width) |               |               |               | Corner R<br>(in) | Holder                       |                   |
|-------------|----------------------|-----------|----------------------------------|---------------|---------------|---------------|------------------|------------------------------|-------------------|
|             |                      |           | 0.375 x 0.375                    | 0.500 x 0.500 | 0.625 x 0.625 | 0.750 x 0.750 |                  | TUNGJET<br>(Through-coolant) | Direct connection |
|             | <b>JSXXR/L</b>       | JXTG12... | ○                                | ○             | ○             | ○             | 0.002" - 0.004"  |                              |                   |
|             | <b>JSXXR/L-CHP</b>   | JXTG12... |                                  | ○             | ○             |               | 0.002" - 0.004"  | ○                            | ○                 |
|             | <b>JSXXR/L-S</b>     | JXTG12... | ○                                | ○             |               |               | 0.002" - 0.004"  |                              |                   |
|             | <b>JSXXR/L-S-CHP</b> | JXTG12... |                                  | ○             | ○             |               | 0.002" - 0.004"  | ○                            | ○                 |



### TungThread

| Application | Designation        | Insert    | Square shank<br>(height x width) |               |               |               |               | Corner R<br>(in) | Holder                    |                              |                   |
|-------------|--------------------|-----------|----------------------------------|---------------|---------------|---------------|---------------|------------------|---------------------------|------------------------------|-------------------|
|             |                    |           | 0.375 x 0.375                    | 0.500 x 0.500 | 0.500 x 0.625 | 0.625 x 0.625 | 0.750 x 0.750 |                  | MODULAN<br>(Modular head) | TUNGJET<br>(Through-coolant) | Direct connection |
|             | <b>JSE2R16-CHP</b> | 16ER...   |                                  | ○             |               | ○             |               | 0.002" - 0.009"  |                           | ○                            | ○                 |
|             | <b>CER/L</b>       | 16ER/L... |                                  |               |               |               | ○             | 0.002" - 0.009"  |                           | ○                            | ○                 |

## Internal Threading



### TungThread

| Application | Designation | Insert   | Min. bore diameter<br>DMIN (in) | Corner R (in)   |
|-------------|-------------|----------|---------------------------------|-----------------|
|             | <b>SIR</b>  | 6/8IR... | ø0.640" - ø1.800"               | 0.002" - 0.007" |
|             | <b>SNR</b>  | 6IR...   | ø0.750"                         | 0.002" - 0.004" |

| Threads per inch |    |    |    |    |    |    |     |     |     | Page        |
|------------------|----|----|----|----|----|----|-----|-----|-----|-------------|
| 0                | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 |             |
| 16               |    |    |    |    |    |    |     |     | 127 | <b>G176</b> |
| 16               |    |    |    |    |    |    |     |     | 127 | <b>G177</b> |
| 16               |    |    |    |    |    |    |     |     | 127 | <b>G176</b> |
| 16               |    |    |    |    |    |    |     |     | 127 | <b>G177</b> |

| Threads per inch |    |    |    |    |    |    |     |     |      | Page        |
|------------------|----|----|----|----|----|----|-----|-----|------|-------------|
| 0                | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144  |             |
| 8                |    |    |    |    |    |    |     |     | 50.8 | <b>G180</b> |
| 8                |    |    |    |    |    |    |     |     | 50.8 | <b>E036</b> |

| Threads per inch |    |    |    |    |    |    |     |     |      | Page        |
|------------------|----|----|----|----|----|----|-----|-----|------|-------------|
| 0                | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144  |             |
| 12.7             |    |    |    |    |    |    |     |     | 50.8 | <b>E054</b> |
| 14.5             |    |    |    |    |    |    |     |     | 50.8 | <b>E055</b> |

# Miniature Internal Turning - Quick Guide

## TinyMini-Turn

Solid carbide tools for small diameters turning

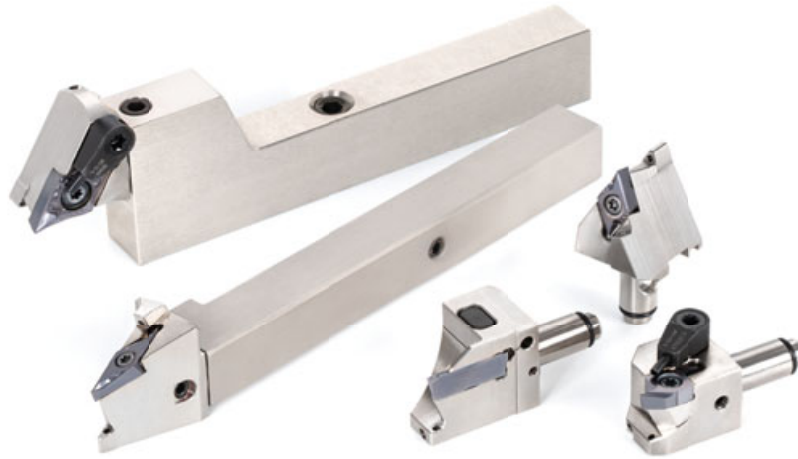
|                                       | Application | Description | Material | Through coolant | Cylindrical shank |    | Groove width |
|---------------------------------------|-------------|-------------|----------|-----------------|-------------------|----|--------------|
|                                       |             |             |          |                 | ø4                | ø7 |              |
| Boring, profiling & chamfering        |             | <b>TBT</b>  | Carbide  |                 | ○                 | ○  | -            |
|                                       |             | <b>JBT</b>  | Carbide  | ○               | ○                 | ○  |              |
| Internal, Face grooving               |             | <b>TBP</b>  | Carbide  |                 | ○                 | ○  | -            |
|                                       |             | <b>JBP</b>  | Carbide  | ○               | ○                 | ○  |              |
| Back boring & chamfering              |             | <b>TBU</b>  | Carbide  |                 |                   | ○  | -            |
|                                       |             | <b>JBU</b>  | Carbide  | ○               |                   | ○  |              |
| Boring & 45° chamfering               |             | <b>TBC</b>  | Carbide  |                 |                   | ○  | -            |
|                                       |             | <b>JBC</b>  | Carbide  | ○               |                   | ○  |              |
| Back boring                           |             | <b>TBB</b>  | Carbide  |                 | ○                 | ○  | -            |
|                                       |             | <b>JBB</b>  | Carbide  | ○               | ○                 | ○  |              |
| Threading (Metric thread)             |             | <b>TBI</b>  | Carbide  |                 | ○                 | ○  | -            |
|                                       |             | <b>JBI</b>  | Carbide  | ○               | ○                 | ○  |              |
| Internal Grooving                     |             | <b>TBG</b>  | Carbide  |                 | ○                 | ○  | 0.5 - 2      |
|                                       |             | <b>JBG</b>  | Carbide  | ○               | ○                 | ○  |              |
| Face grooving                         |             | <b>TBF</b>  | Carbide  |                 |                   | ○  | 1 - 3        |
|                                       |             | <b>JBF</b>  | Carbide  | ○               |                   | ○  |              |
| Face grooving (for shaft)             |             | <b>TBS</b>  | Carbide  |                 |                   | ○  | 2            |
|                                       |             | <b>JBS</b>  | Carbide  | ○               |                   | ○  |              |
| Boring & profiling (full radius type) |             | <b>TBR</b>  | Carbide  |                 |                   | ○  | 1            |
|                                       |             | <b>JBR</b>  | Carbide  | ○               |                   | ○  |              |

Indexable tools for small diameters turning

|                          | Application | Description  | Cylindrical shank | Through coolant | Min. bore diameter DMIN (mm) |   |   |      |    |   | Page |             |
|--------------------------|-------------|--------------|-------------------|-----------------|------------------------------|---|---|------|----|---|------|-------------|
|                          |             |              |                   |                 | ø7                           | 0 | 2 | 4    | 6  | 8 |      | 10          |
| Boring & internal facing |             | <b>SEXPR</b> | ○                 | ○               |                              |   |   | ø5   | ø6 |   |      | <b>G133</b> |
| Back boring              |             | <b>SEZPR</b> | ○                 | ○               |                              |   |   | ø5.5 |    |   |      | <b>G133</b> |

| Min. bore diameter DMIN (mm) |                     | Page                |                     |                   |      |      |      |    |            |      |      |
|------------------------------|---------------------|---------------------|---------------------|-------------------|------|------|------|----|------------|------|------|
| 0                            | 2                   | 4                   | 6                   | 8                 | 10   | 12   | 14   | 15 | Page       |      |      |
| ø1                           | [Bar from 1 to 7]   |                     |                     |                   |      |      |      | ø7 | G125       |      |      |
| ø0.6                         | [Bar from 1 to 7]   |                     |                     |                   |      |      |      | ø7 | G123, G124 |      |      |
| ø2.8                         | [Bar from 2.8 to 5] |                     |                     |                   | ø5   |      |      |    |            | G126 |      |
| ø2.8                         | [Bar from 2.8 to 5] |                     |                     |                   | ø5   |      |      |    |            | G126 |      |
|                              |                     |                     | ø5                  | [Bar from 5 to 5] |      |      |      |    |            | G126 |      |
|                              |                     |                     | ø5                  | [Bar from 5 to 5] |      |      |      |    |            | G127 |      |
|                              |                     | ø5                  | [Bar from 5 to 6.8] |                   |      |      | ø6.8 |    |            | G127 |      |
|                              |                     | ø5                  | [Bar from 5 to 6.8] |                   |      |      | ø6.8 |    |            | G127 |      |
| ø3                           | [Bar from 3 to 7]   |                     |                     |                   |      | ø7   |      |    |            | G128 |      |
| ø3                           | [Bar from 3 to 5]   |                     |                     | ø5                |      |      |      |    |            | G128 |      |
|                              | ø4                  | [Bar from 4 to 7]   |                     |                   |      | ø7   |      |    |            | G128 |      |
|                              | ø4                  | [Bar from 4 to 6]   |                     |                   | ø6   |      |      |    |            | G129 |      |
| ø2                           | [Bar from 2 to 6.8] |                     |                     |                   | ø6.8 |      |      |    |            | G129 |      |
| ø2                           | [Bar from 2 to 6.8] |                     |                     |                   | ø6.8 |      |      |    |            | G130 |      |
|                              |                     | ø6                  | [Bar from 6 to 15]  |                   |      |      |      |    |            | ø15  | G131 |
|                              |                     | ø6                  | [Bar from 6 to 15]  |                   |      |      |      |    |            | ø15  | G131 |
|                              |                     | ø6                  | [Bar from 6 to 6]   |                   |      |      |      |    |            | G132 |      |
|                              |                     | ø6                  | [Bar from 6 to 6]   |                   |      |      |      |    |            | G132 |      |
|                              | ø5                  | [Bar from 5 to 6.8] |                     |                   |      | ø6.8 |      |    |            | G132 |      |
|                              | ø5                  | [Bar from 5 to 6.8] |                     |                   |      | ø6.8 |      |    |            | G132 |      |

|                 |   |
|-----------------|---|
| Grade           | A |
| Insert          | B |
| Ext. Toolholder | C |
| Int. Toolholder | D |
| Threading       | E |
| Grooving        | F |
| Miniature tool  | G |
| Milling cutter  | H |
| Endmill         | I |
| Drilling tool   | J |
| Tooling System  | K |
| User's Guide    | L |
| Index           | M |



## Modular style Swiss turning tool system facilitates tool changes with high repeatability

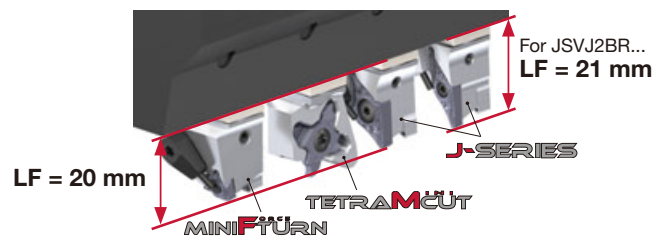
### Unique coupling design

Simply loosen the clamping screw for easy tool exchanges. Unique coupling design allows extremely high repeatability.



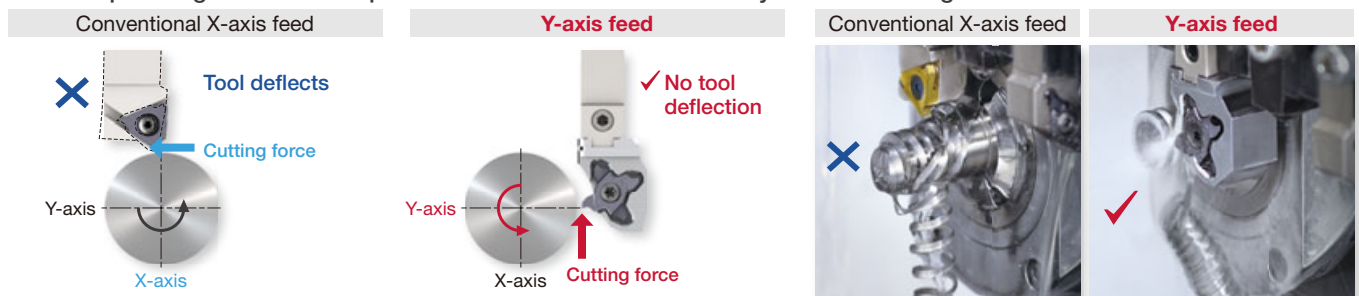
### Benefits of Y-axis feed

Designed with common functional lengths (LF), the cutting heads allow easy tool changes without removing the shank from the tool post.



### Benefits of Y-axis feed

No chip entanglements — Chips are directed downward and away from the cutting zone



Reference pages : **G030 - , G083 - , G148, G168 -**  
 Shank, Accessory : **G115, G116**



## Thru-coolant holder system

- High pressure coolant is supplied through the holder to facilitate smooth chip evacuation, improved chip breaking and reduced machine down-time

External coolant supply at normal pressure



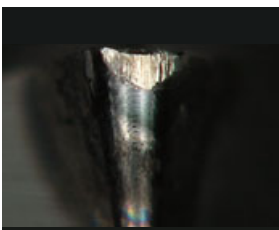
High pressure coolant (7 MPa)



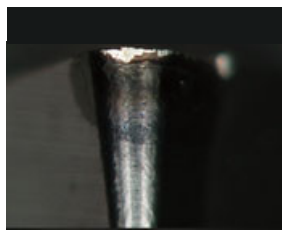
- Coolant jets from two outlets ensure high cutting efficiency and extended tool life

### Directly to the cutting edge

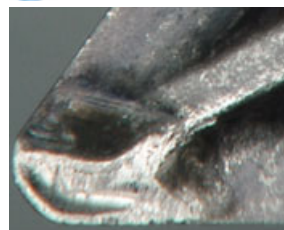
- Reliable chip control
- Reduces crater and notch wears



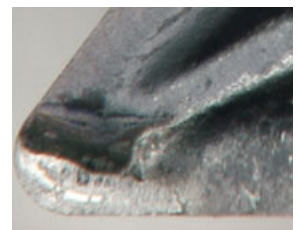
Excessive wear with external coolant supply (at normal pressure)



High pressure coolant (7 MPa)



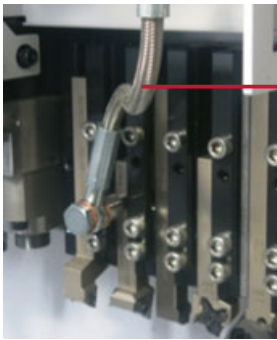
Excessive crater wear with external coolant supply (at normal pressure)



High pressure coolant (7 MPa)

Tube-free design streamlines tool setup.  
Through-coolant supply enables high productivity

Conventional



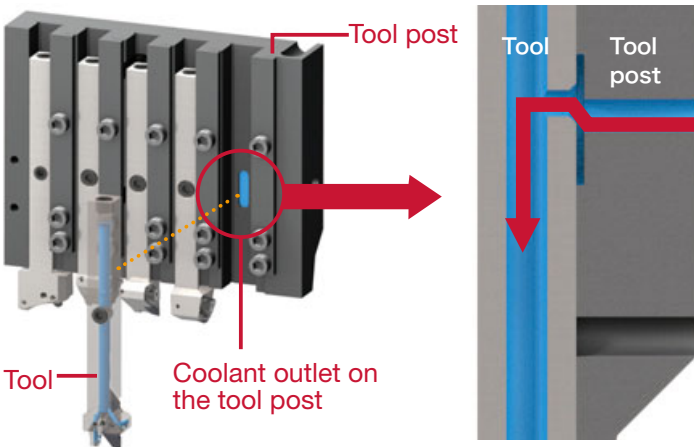
Hose

DirectTung-Jet system



No need for coolant tube setup.  
Eliminates chip entanglement on tubes and streamlines tool replacement.

Coolant is supplied from the tool post directly to the tools.

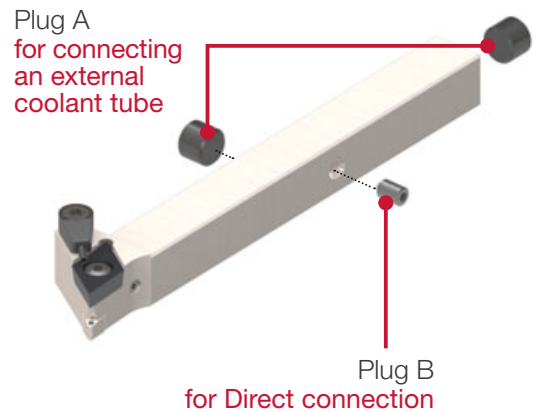


Tool post

Tool Tool post

Tool

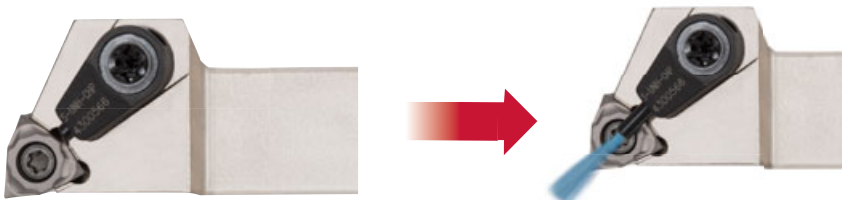
Coolant outlet on the tool post



Plug A for connecting an external coolant tube

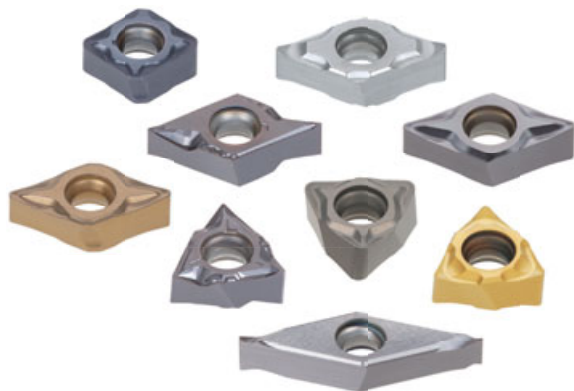
Plug B for Direct connection

Use a non-coolant-through tool when a coolant supply is not needed through the tool.



Nozzle tube delivers coolant directly to the cutting edge



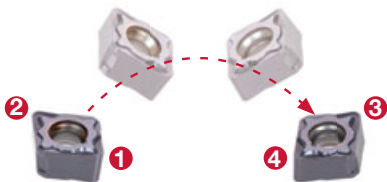


## Economical double-sided positive insert

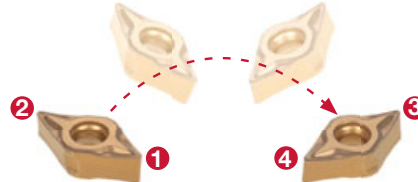
Innovative geometry and seat interface ensures stability and high performance.

### Insert

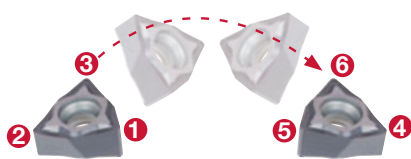
**CXMU0603...** 4 edges, rhombic 80°



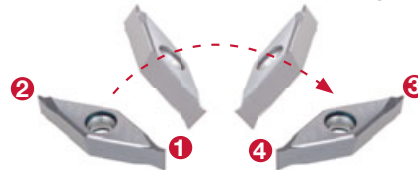
**DXM/GU0703...** 4 edges, rhombic 55°



**WXGU0403...** 6 positive cutting edges



**VXGU09T2...** 4 positive cutting edges



### High rake angle

**WXGU0403...**

External turning

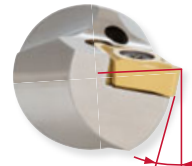
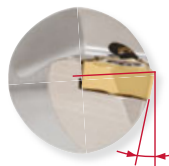
External turning



**DXGU0703...**

Internal turning

Internal turning





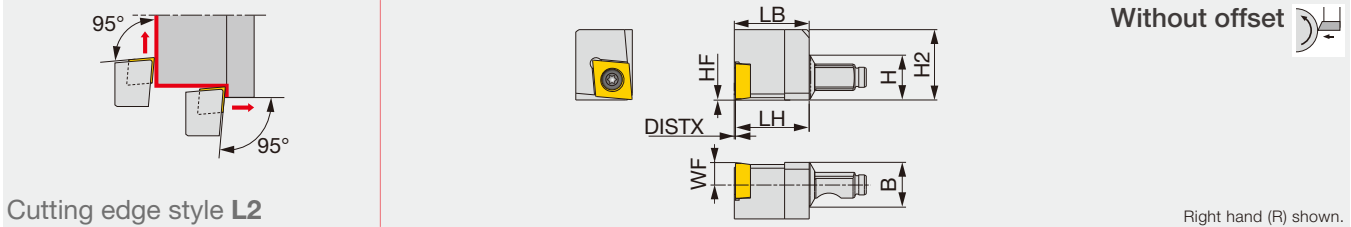
# CC



**Rhombic, 80°  
with hole  
Positive 7°**

## MODUM<sup>INI</sup>TURN QC12-JSCL2CR-Y

Screw-on Y-axis turning modular head with 95° approach angle, for positive 80° rhombic inserts

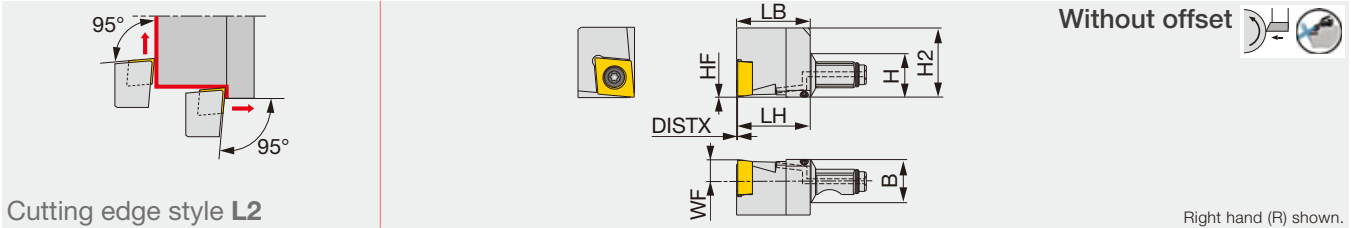


| Metric           | H              | B              | LH               | HF        | WF            | LB               | H2               | DISTX           | RE**            | Insert                       | Torque        |
|------------------|----------------|----------------|------------------|-----------|---------------|------------------|------------------|-----------------|-----------------|------------------------------|---------------|
| QC12-JSCL2CR09-Y | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 19.8<br>(0.780") | 18.6<br>(0.732") | 0.3<br>(0.012") | 0.2<br>(0.008") | CC**09T3...<br>(CC**32.5...) | 1.2<br>(0.89) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius

### QC12-JSCL2CR-Y-CHP

Screw-on Y-axis turning modular head with 95° approach angle, for positive 80° rhombic inserts, with high pressure coolant capability

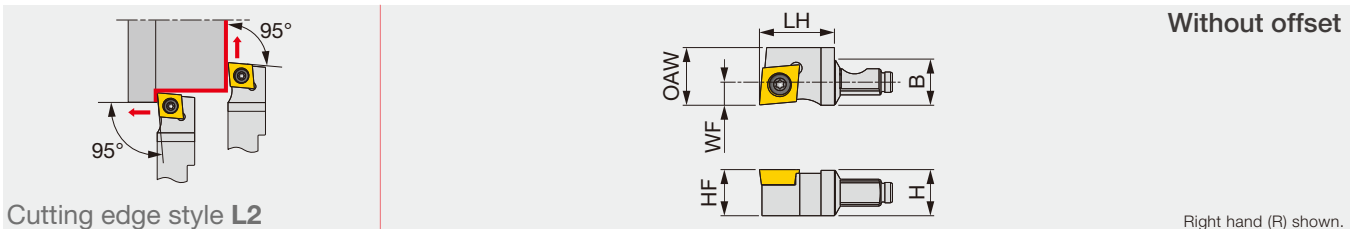


| Metric               | H              | B              | LH               | HF        | WF            | LB               | H2               | DISTX           | RE**            | Insert                       | Torque*       |
|----------------------|----------------|----------------|------------------|-----------|---------------|------------------|------------------|-----------------|-----------------|------------------------------|---------------|
| QC12-JSCL2CR09-Y-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 19.8<br>(0.780") | 18.6<br>(0.732") | 0.3<br>(0.012") | 0.2<br>(0.008") | CC**09T3...<br>(CC**32.5...) | 1.2<br>(0.89) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius

### QC12-JSCL2CR

Screw-on modular head with 95° approach angle, for positive 80° rhombic inserts



| Metric         | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                       | Torque*       |
|----------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|------------------------------|---------------|
| QC12-JSCL2CR09 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | CC**09T3...<br>(CC**32.5...) | 1.2<br>(0.89) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius

#### SPARE PARTS



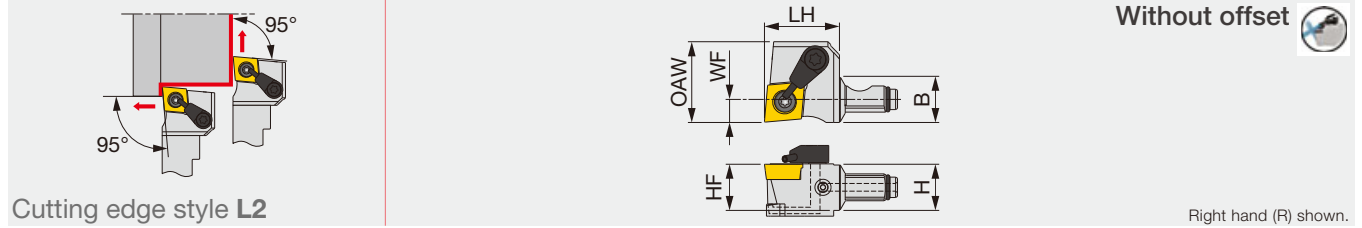
| Designation                         | Clamping screw | Wrench | O-ring               |
|-------------------------------------|----------------|--------|----------------------|
| QC12-JSCL2CR09-Y,<br>QC12-JSCL2CR09 | CSTB-4SD       | T-8F   | -                    |
| QC12-JSCL2CR09-Y-CHP                | CSTB-4SD       | T-8F   | ORSS-0454.5X1.0NBR70 |

Reference pages : QC12-JSCL2CR-Y, QC12-JSCL2CR-Y-CHP, QC12-JSCL2CR:

Inserts → **B112** -, CBN → **B191**, PCD → **B213**, Shank, Accessory → **G115**, **G116**

# QC12-JSCL2CR-CHP

Screw-on modular head with 95° approach angle, for positive 80° rhombic inserts, with high pressure coolant capability



| Metric             | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                       | Torque*       |
|--------------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|------------------------------|---------------|
| QC12-JSCL2CR09-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 21<br>(0.827") | 0.2<br>(0.008") | CC**09T3...<br>(CC**32.5...) | 1.2<br>(0.89) |

Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius

## SPARE PARTS

| Designation        | Clamping screw | Coolant unit | Wrench | O-ring               |
|--------------------|----------------|--------------|--------|----------------------|
| QC12-JSCL2CR09-CHP | CSTB-4SD       | S-CU-CHP     | T-8F   | ORSS-0454.5X1.0NBR70 |

## INSERT SELECTION

|                    |                    |                          |                          |                          |                          |                     |                     |                |                          |       |  |
|--------------------|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------|---------------------|----------------|--------------------------|-------|--|
| <b>P</b>           | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b>                 | Application areas   | Precision finishing | Finish cutting | Medium to finish cutting |       |  |
|                    | Grade              | SH725                    | SH725                    | SH725                    |                          | SH725               | Grade               | SH725          | SH725                    | SH725 |  |
|                    | Breaker Shape      | 01                       | JP                       | JS                       | JS                       | Breaker Shape       | 01                  | JP             | JS                       | JS    |  |
|                    | Cutting conditions | G114                     |                          |                          |                          |                     | Cutting conditions  | G114           |                          |       |  |
| <b>P</b>           | Application areas  | Medium to finish cutting | <b>M</b>                 | Application areas        | Medium to finish cutting |                     |                     |                |                          |       |  |
|                    | Grade              | SH725                    |                          | Grade                    | SH725                    |                     |                     |                |                          |       |  |
| Breaker Shape      | J10                | Breaker Shape            | J10                      |                          |                          |                     |                     |                |                          |       |  |
| Cutting conditions | G114               | Cutting conditions       | G114                     |                          |                          |                     |                     |                |                          |       |  |
| <b>K</b>           | Application areas  | medium to finish cutting | <b>N</b>                 | Application areas        | Precision finishing      | Finish cutting      | Medium cutting      |                |                          |       |  |
|                    | Grade              | T515                     |                          | Grade                    | DX110                    | TH10                | KS05F               |                |                          |       |  |
| Breaker Shape      | CM                 | Breaker Shape            | NS                       | W20                      | AL                       |                     |                     |                |                          |       |  |
| Cutting conditions | B020               | Cutting conditions       | B022                     |                          |                          |                     |                     |                |                          |       |  |
| <b>S</b>           | Application areas  | Finish cutting           | Medium to finish cutting | <b>H</b>                 | Application areas        | Precision finishing | Finish cutting      |                |                          |       |  |
|                    | Grade              | SH725                    | SH725                    |                          | Grade                    | BXA10               | BXA20               |                |                          |       |  |
| Breaker Shape      | JS                 | JS                       | Breaker Shape            | CBN                      | CBN                      |                     |                     |                |                          |       |  |
| Cutting conditions | G114               |                          | Cutting conditions       | B026                     |                          |                     |                     |                |                          |       |  |

Reference pages : QC12-JSCL2CR-CHP: Inserts → **B112 -**, CBN → **B191**, PCD → **B213**  
Shank, Accessory → **G115**, **G116**



# CC

 **Rhombic, 80°  
with hole  
Positive 7°**

## J-SERIES JSCL2CR/L

Screw-on toolholder with 95° approach angle, for positive 80° rhombic inserts



**C**

**D**

**F**

**G**

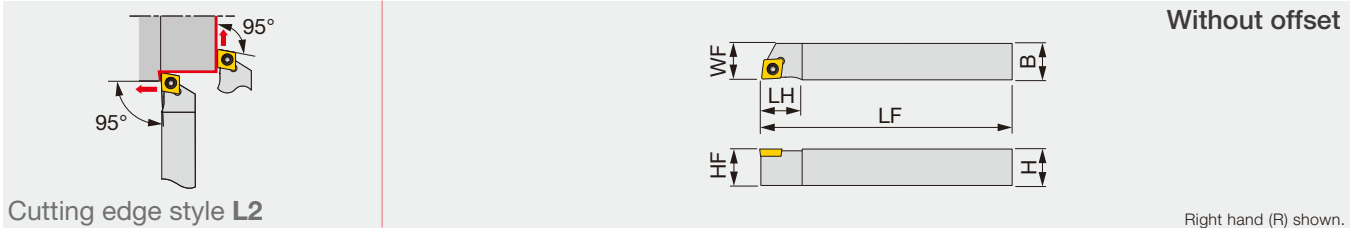
**S**

**T**

**V**

**W**

**OTHERS**



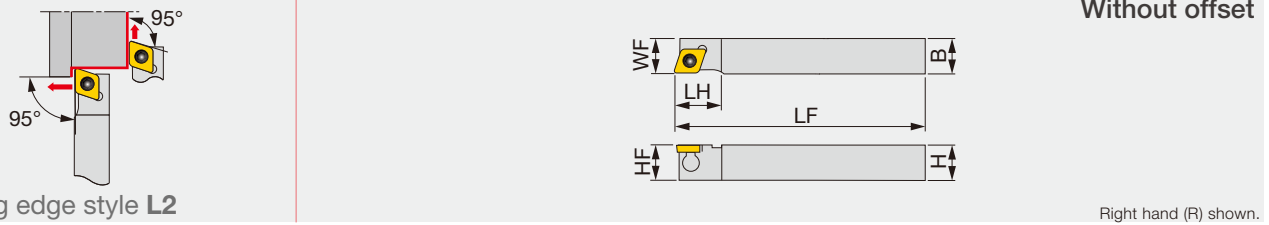
| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| JSCL2CR/L062     | 0.375 | 0.375 | 5.000 | 0.438 | 0.375 | 0.375 | 0.008 | CC**21.5... | 0.89    |
| JSCL2CR/L082     | 0.500 | 0.500 | 5.000 | 0.438 | 0.500 | 0.500 | 0.008 | CC**21.5... | 0.89    |
| JSCL2CR/L103     | 0.625 | 0.625 | 5.000 | 0.625 | 0.625 | 0.625 | 0.008 | CC**32.5... | 0.89    |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| JSCL2CR/L1010X06 | 10    | 10    | 120   | 12    | 10    | 10    | 0.2   | CC**0602... | 1.2     |
| JSCL2CR/L1212F06 | 12    | 12    | 85    | 12    | 12    | 12    | 0.2   | CC**0602... | 1.2     |
| JSCL2CR/L1212X06 | 12    | 12    | 120   | 12    | 12    | 12    | 0.2   | CC**0602... | 1.2     |
| JSCL2CR/L1212F09 | 12    | 12    | 85    | 16    | 12    | 12    | 0.2   | CC**09T3... | 1.2     |
| JSCL2CR/L1212X09 | 12    | 12    | 120   | 16    | 12    | 12    | 0.2   | CC**09T3... | 1.2     |
| JSCL2CR/L1616X09 | 16    | 16    | 120   | 16    | 16    | 16    | 0.2   | CC**09T3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

\*\*RE: Standard corner radius

## JTCL2CR/L

Back-clamp toolholder with 95° approach angle, for positive 80° rhombic inserts



| Metric           | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|-------------|---------|
| JTCL2CR/L1010X06 | 10 | 10 | 120 | 12 | 10 | 10 | 0.2  | CC**0602... | 0.9     |
| JTCL2CR/L1212F09 | 12 | 12 | 85  | 16 | 12 | 12 | 0.2  | CC**09T3... | 1.2     |
| JTCL2CR/L1212X09 | 12 | 12 | 120 | 16 | 12 | 12 | 0.2  | CC**09T3... | 1.2     |
| JTCL2CR/L1616X09 | 16 | 16 | 120 | 16 | 16 | 16 | 0.2  | CC**09T3... | 1.2     |

Torque\*: Recommended clamping torque (N-m)

RE\*\*: Standard corner radius

### SPARE PARTS

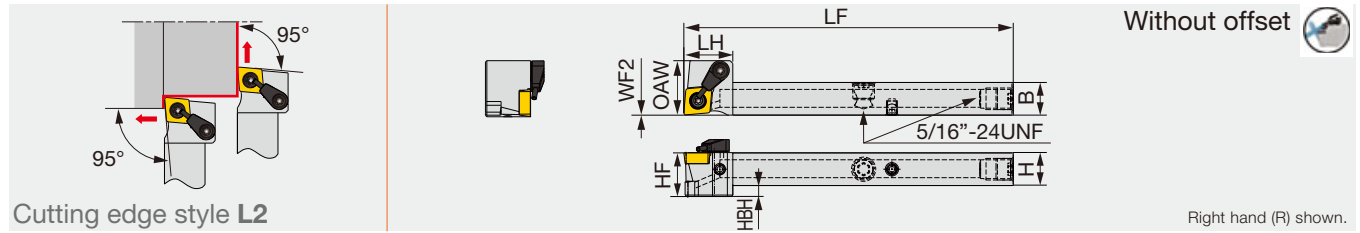
| Designation                     | Clamping screw | Clamp | Clamping screw | Wrench | Wrench 1 | Wrench 2 (Optional) |
|---------------------------------|----------------|-------|----------------|--------|----------|---------------------|
| JSCL2CR/L062/082, JSCL2CR/L**06 | CSTB-2.5       | -     | -              | -      | T-8F     | (T-8L)              |
| JSCL2CR/L103, JSCL2CR/L**09     | CSTB-4SD       | -     | -              | -      | T-8F     | (T-8L)              |
| JTCL2CR/L**06                   | -              | JCP-2 | JDS-3525       | P-2F   | -        | -                   |
| JTCL2CR/L**09                   | -              | JCP-3 | JDS-5040       | P-2.5F | -        | -                   |

Reference pages : JSCL2CR/L, JTCL2CR/L : Inserts → **B112 -**, CBN → **B191**, PCD → **B213**

# JSCL2CR-CHP

Direct connection

Screw-on toolholder without offset, 95° approach angle for positive 80° rhombic inserts, high pressure coolant compatible



| Inch                | H     | B     | LF    | LH    | HF    | HBH   | WF2 | OAW   | RE    | Insert       | Torque  |
|---------------------|-------|-------|-------|-------|-------|-------|-----|-------|-------|--------------|---------|
| JSCL2CR083X-CHP     | 0.500 | 0.500 | 4.750 | 0.709 | 0.500 | 0.031 | 0   | 0.787 | 0.008 | CC** 32.5... | 0.89    |
| JSCL2CR103X-CHP     | 0.625 | 0.625 | 4.750 | 0.709 | 0.625 | -     | 0   | 0.787 | 0.008 | CC** 32.5... | 0.89    |
| Metric              | H     | B     | LF    | LH    | HF    | HBH   | WF2 | OAW   | RE    | Insert       | Torque* |
| JSCL2CR1212X09B-CHP | 12    | 12    | 120   | 18    | 12    | 1.5   | 0   | 20    | 0.2   | CC**09T3...  | 1.2     |
| JSCL2CR1616X09-CHP  | 16    | 16    | 120   | 18    | 16    | -     | 0   | 20    | 0.2   | CC**09T3...  | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius

| SPARE PARTS   |                |              |        |                |          |                |          |
|---------------|----------------|--------------|--------|----------------|----------|----------------|----------|
| Designation   | Clamping screw | Coolant unit | Wrench | Coolant plug   | Wrench 1 | DirectJet plug | Wrench 2 |
| JSCL2CR**-CHP | CSTB-4SD       | S-CU-CHP     | T-8F   | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

## INSERT SELECTION

|          |                    |                          |                          |                          |          |                    |                          |                     |                          |                |
|----------|--------------------|--------------------------|--------------------------|--------------------------|----------|--------------------|--------------------------|---------------------|--------------------------|----------------|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b> | Application areas  | Precision finishing      | Finish cutting      | Medium to finish cutting |                |
|          | Grade              | SH725                    | SH725                    | SH725                    |          | SH725              | SH725                    | SH725               | SH725                    |                |
| <b>P</b> | Breaker Shape      |                          |                          |                          | <b>M</b> | Breaker Shape      |                          |                     |                          |                |
|          | Cutting conditions | G114                     |                          |                          |          | Cutting conditions | G114                     |                     |                          |                |
| <b>K</b> | Application areas  | Medium to finish cutting |                          |                          | <b>N</b> | Application areas  | Medium to finish cutting |                     |                          |                |
|          | Grade              | T515                     |                          |                          |          | Grade              | SH725                    |                     |                          |                |
| <b>S</b> | Breaker Shape      |                          |                          |                          | <b>H</b> | Breaker Shape      |                          |                     |                          |                |
|          | Cutting conditions | B020                     |                          |                          |          | Cutting conditions | G114                     |                     |                          |                |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting |                          |          | <b>N</b>           | Application areas        | Precision finishing | Finish cutting           | Medium cutting |
|          | Grade              | SH725                    | SH725                    |                          |          |                    | Grade                    | DX110               | TH10                     | KS05F          |
| <b>S</b> | Breaker Shape      |                          |                          |                          |          | <b>H</b>           | Breaker Shape            |                     |                          |                |
|          | Cutting conditions | G114                     |                          |                          |          |                    | Cutting conditions       | B022                |                          |                |
| <b>S</b> | Application areas  | Finish cutting           |                          |                          | <b>H</b> | Application areas  | Precision finishing      | Finish cutting      |                          |                |
|          | Grade              | SH725                    |                          |                          |          | Grade              | DX110                    | TH10                |                          |                |
| <b>S</b> | Breaker Shape      |                          |                          |                          | <b>H</b> | Breaker Shape      |                          |                     |                          |                |
|          | Cutting conditions | G114                     |                          |                          |          | Cutting conditions | B026                     |                     |                          |                |

Reference pages : JSCL2CR-CHP: Inserts → B112 -, CBN → B191, PCD → B213

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Drilling tool  
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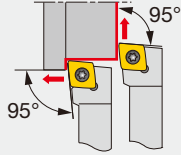
# CC



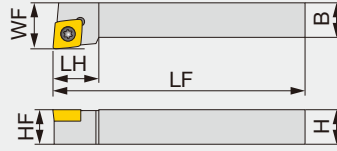
**Rhombic, 80°  
with hole  
Positive 7°**

## J-SERIES JSCLCR/L

Screw-on toolholder with 95° approach angle, for positive 80° rhombic inserts



Cutting edge style L



Right hand (R) shown.

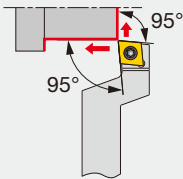
| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JSCLCR/L0808H06 | 8  | 8  | 100 | 12 | 8  | 10 | 0.4  | CC**0602... | 1.2     |
| JSCLCR/L1010H06 | 10 | 10 | 100 | 12 | 10 | 12 | 0.4  | CC**0602... | 1.2     |
| JSCLCR/L1212H09 | 12 | 12 | 100 | 16 | 12 | 16 | 0.8  | CC**09T3... | 1.2     |
| JSCLCR/L1616H09 | 16 | 16 | 100 | 16 | 16 | 20 | 0.8  | CC**09T3... | 1.2     |

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

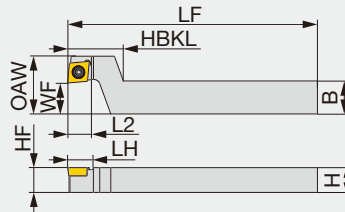
C

## JSCLCR-F

Screw-on stepped-head toolholder with 95° approach angle, for positive 80° rhombic inserts



Cutting edge style L



Right hand (R) shown.

| Metric            | H  | B  | LF  | L2 | HBKL | LH   | HF | WF | OAW | RE** | Insert      | Torque* |
|-------------------|----|----|-----|----|------|------|----|----|-----|------|-------------|---------|
| JSCLCR1216F09-F15 | 12 | 16 | 85  | 12 | 27   | 12.5 | 12 | 15 | 28  | 0.2  | CC**09T3... | 1.2     |
| JSCLCR1216X09-F15 | 12 | 16 | 120 | 12 | 27   | 12.5 | 12 | 15 | 28  | 0.2  | CC**09T3... | 1.2     |
| JSCLCR1620X09-F15 | 16 | 20 | 120 | 12 | 27   | 12.5 | 16 | 15 | 28  | 0.2  | CC**09T3... | 1.2     |

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

### SPARE PARTS

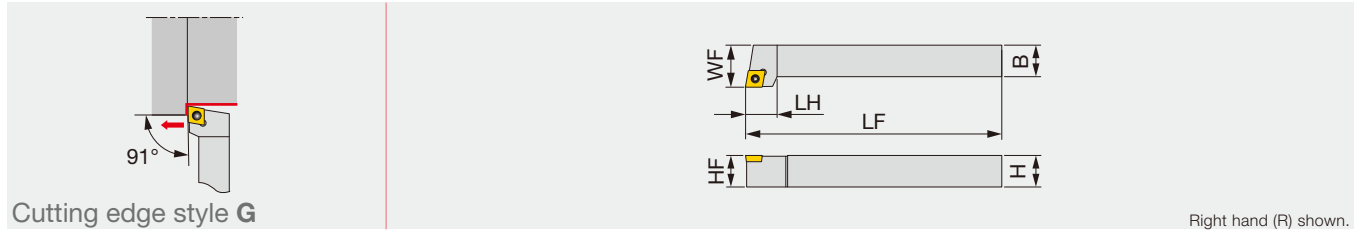


| Designation   | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|---------------|----------------|----------|---------------------|
| JSCLCR/L**H06 | CSTB-2.5       | T-8F     | -                   |
| JSCLCR/L**H09 | CSTB-4SD       | T-8F     | -                   |
| JSCLCR**F15   | CSTB-4SD       | T-8F     | (T-8L)              |

Reference pages : JSCLCR/L, JSCLCR-F: Inserts → **B112** -, CBN → **B191**, PCD → **B213**

# JSCGCR/L

Screw-on toolholder with 91° approach angle, for positive 80° rhombic inserts



| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JSCGCR/L1212H06 | 12 | 12 | 100 | 12 | 12 | 16 | 0.4  | CC**0602... | 1.2     |
| JSCGCR/L1616H09 | 16 | 16 | 100 | 16 | 16 | 20 | 0.8  | CC**09T3... | 1.2     |

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

## SPARE PARTS

| Designation     | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-----------------|----------------|----------|---------------------|
| JSCGCR/L1212H06 | CSTB-2.5       | T-8F     | (T-8L)              |
| JSCGCR/L1616H09 | CSTB-4SD       | T-8F     | (T-8L)              |

## INSERT SELECTION

|          |                    |                          |                          |                          |                          |                     |                     |                |                          |       |
|----------|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------|---------------------|----------------|--------------------------|-------|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b>                 | Application areas   | Precision finishing | Finish cutting | Medium to finish cutting |       |
|          | Grade              | SH725                    | SH725                    | SH725                    |                          | SH725               | SH725               | SH725          | SH725                    | SH725 |
|          | Breaker Shape      | 01                       | JP                       | JS                       | JS                       | 01                  | JP                  | JS             | JS                       |       |
|          | Cutting conditions | G114                     |                          |                          |                          |                     | G114                |                |                          |       |
| <b>P</b> | Application areas  | Medium to finish cutting | <b>M</b>                 | Application areas        | Medium to finish cutting |                     |                     |                |                          |       |
|          | Grade              | SH725                    |                          | Grade                    | SH725                    |                     |                     |                |                          |       |
|          | Breaker Shape      | J10                      |                          | Breaker Shape            | J10                      |                     |                     |                |                          |       |
|          | Cutting conditions | G114                     |                          | Cutting conditions       | G114                     |                     |                     |                |                          |       |
| <b>K</b> | Application areas  | medium to finish cutting | <b>N</b>                 | Application areas        | Precision finishing      | Finish cutting      | Medium cutting      |                |                          |       |
|          | Grade              | T515                     |                          | Grade                    | DX110                    | TH10                | KS05F               |                |                          |       |
|          | Breaker Shape      | CM                       |                          | Breaker Shape            | NS                       | W20                 | AL                  |                |                          |       |
|          | Cutting conditions | B020                     |                          | Cutting conditions       | B022                     |                     |                     |                |                          |       |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting | <b>H</b>                 | Application areas        | Precision finishing | Finish cutting      |                |                          |       |
|          | Grade              | SH725                    | SH725                    |                          | Grade                    | BXA10               | BXA20               |                |                          |       |
|          | Breaker Shape      | JS                       | JS                       |                          | Breaker Shape            | CBN                 | CBN                 |                |                          |       |
|          | Cutting conditions | G114                     |                          |                          | Cutting conditions       | B026                |                     |                |                          |       |

Reference pages : JSCGCR/L: Inserts → **B112** -, CBN → **B191**, PCD → **B213**



# CN



Rhombic, 80° with hole

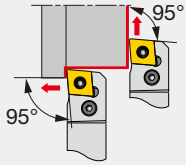
# GN



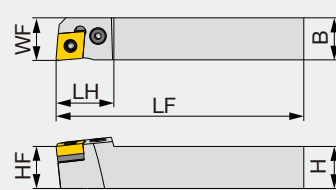
Rhombic, 70° with hole

## J-SERIES PCL2NR

Lever-lock toolholder with 95° approach angle, for negative 80°/70° rhombic inserts



Cutting edge style **L2**



Without offset

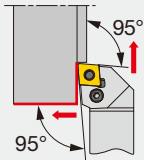
Right hand (R) shown.

| Metric        | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|---------------|----|----|-----|----|----|----|------|------------------|---------|
| PCL2NR2020H12 | 20 | 20 | 100 | 26 | 20 | 20 | 0.8  | CN**/GNMG1204... | 3       |

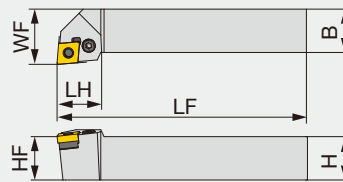
Torque\*: Recommended clamping torque (N-m) RE\*\*: Standard corner radius

## PCLNR/L

Lever-lock toolholder with 95° approach angle, for negative 80°/70° rhombic inserts



Cutting edge style **L**



Right hand (R) shown.

| Inch        | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert          | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-----------------|--------|
| PCLNR/L1233 | 0.750 | 0.750 | 4.500 | 0.813 | 0.750 | 1.000 | 0.031 | CN**/GNMG 33... | 1.48   |

| Metric       | H  | B  | LF  | LH | HF | WF | RE** | Insert           | Torque* |
|--------------|----|----|-----|----|----|----|------|------------------|---------|
| PCLNR2020H12 | 20 | 20 | 100 | 26 | 20 | 25 | 0.8  | CN**/GNMG1204... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius

## SPARE PARTS

| Designation  | Shim   | Clamping screw | Lever | Spring pin | Wrench |
|--------------|--------|----------------|-------|------------|--------|
| PCLNR/L1233  | LSC317 | LCS3           | LCL33 | LSP3       | P-2.5  |
| PCL**2020H12 | LSC42  | LCS4           | LCL4  | LSP4       | P-3    |

## INSERT SELECTION

| Application areas  | Precision finishing | Finish cutting | Medium cutting | Medium to heavy cutting |
|--------------------|---------------------|----------------|----------------|-------------------------|
|                    | Grade               | Grade          | Grade          | Grade                   |
|                    | NS9530              | GT9530         | T9215          | T9215                   |
| Breaker Shape      | TF                  | TSF            | TM             | TH                      |
| Cutting conditions | B004                |                |                |                         |

| Application areas  | Finish cutting | Medium cutting | Medium to heavy cutting |
|--------------------|----------------|----------------|-------------------------|
|                    | Grade          | Grade          | Grade                   |
|                    | T6215          | AH6225         | AH6225                  |
| Breaker Shape      | SF             | SM             | SH                      |
| Cutting conditions | B006           |                |                         |

| Application areas  | Finish cutting | Medium cutting | Medium to heavy cutting |
|--------------------|----------------|----------------|-------------------------|
|                    | Grade          | Grade          | Grade                   |
|                    | T515           | T515           | T515                    |
| Breaker Shape      | All-round      | All-round      | All-round               |
| Cutting conditions | B008           |                |                         |

| Application areas  | Finish cutting | Medium cutting |
|--------------------|----------------|----------------|
|                    | Grade          | Grade          |
|                    | DX110          | TH10           |
| Breaker Shape      | DIA            | 28             |
| Cutting conditions | B010           |                |

| Application areas  | Precision finishing | Finish cutting | Medium cutting |
|--------------------|---------------------|----------------|----------------|
|                    | Grade               | Grade          | Grade          |
|                    | BX950               | AH8005         | AH8005         |
| Breaker Shape      | CBN                 | HRF            | HRM            |
| Cutting conditions | B012                |                |                |

| Application areas  | Precision finishing |
|--------------------|---------------------|
|                    | Grade               |
|                    | BXA10               |
| Breaker Shape      | HP                  |
| Cutting conditions | B014                |

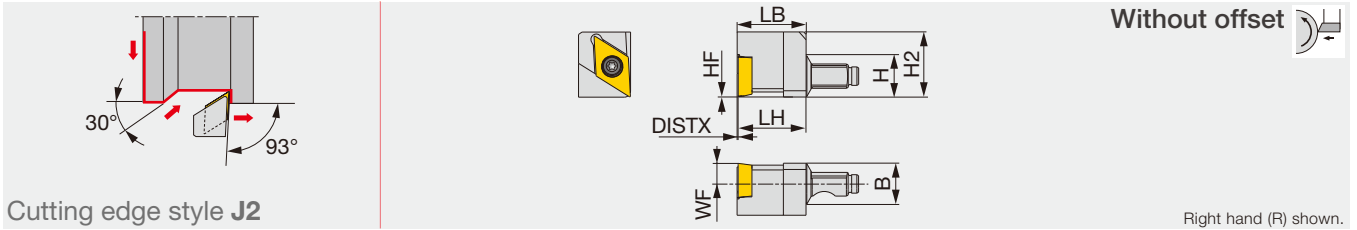
Reference pages : PCL2NR, PCLNR/L: Inserts → **B054** -, CBN → **B168** -, PCD → **B211**

# DC

**Rhombic, 55°  
with hole  
Positive 7°**

## MODUM<sup>INI</sup>TURN QC12-JSDJ2CR-Y

Screw-on Y-axis turning modular head with 93° approach angle, for positive 55° rhombic inserts



| Metric           | H              | B              | LH               | HF        | WF            | LB              | H2               | DISTX           | RE**            | Insert                       | Torque*       |
|------------------|----------------|----------------|------------------|-----------|---------------|-----------------|------------------|-----------------|-----------------|------------------------------|---------------|
| QC12-JSDJ2CR11-Y | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 19.8<br>(0.78") | 18.7<br>(0.736") | 0.3<br>(0.012") | 0.2<br>(0.008") | DC**11T3...<br>(DC**32.5...) | 1.2<br>(0.89) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius

### SPARE PARTS

| Designation      | Clamping screw | Wrench |
|------------------|----------------|--------|
| QC12-JSDJ2CR11-Y | CSTB-4SD       | T-8F   |

### INSERT SELECTION

|          |                    |                          |                          |                          |          |                   |                     |                          |                          |                |       |  |
|----------|--------------------|--------------------------|--------------------------|--------------------------|----------|-------------------|---------------------|--------------------------|--------------------------|----------------|-------|--|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b> | Application areas | Precision finishing | Finish cutting           | Medium to finish cutting |                |       |  |
|          | Grade              | SH725                    | SH725                    | SH725                    |          | SH725             | Grade               | SH725                    | SH725                    | SH725          | SH725 |  |
|          | 01                 | JP                       | JS                       | JS                       |          | 01                | JP                  | JS                       | JS                       |                |       |  |
|          | Breaker Shape      |                          |                          |                          |          |                   |                     |                          |                          |                |       |  |
|          | Cutting conditions | G114                     |                          |                          |          | G114              |                     |                          |                          |                |       |  |
| <b>P</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>M</b>          | Application areas   | Medium to finish cutting |                          |                |       |  |
|          | Grade              | SH725                    |                          |                          |          |                   | Grade               | SH725                    |                          |                |       |  |
|          | 01                 |                          |                          |                          |          | 01                |                     |                          |                          |                |       |  |
|          | Breaker Shape      |                          |                          |                          |          |                   |                     |                          |                          |                |       |  |
|          | Cutting conditions | G114                     |                          |                          |          | G114              |                     |                          |                          |                |       |  |
| <b>K</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>N</b>          | Application areas   | Precision finishing      | Medium cutting           |                |       |  |
|          | Grade              | T515                     |                          |                          |          |                   | Grade               | DX110                    | KS05F                    |                |       |  |
|          | CM                 |                          |                          |                          |          | NS                | AL                  |                          |                          |                |       |  |
|          | Breaker Shape      |                          |                          |                          |          |                   |                     |                          |                          |                |       |  |
|          | Cutting conditions | B020                     |                          |                          |          | B022              |                     |                          |                          |                |       |  |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting |                          |          |                   | <b>H</b>            | Application areas        | Precision finishing      | Finish cutting |       |  |
|          | Grade              | SH725                    | SH725                    |                          |          |                   |                     | Grade                    | BXA10                    | BXA20          |       |  |
|          | JS                 | JS                       |                          |                          |          |                   | CBN                 | CBN                      |                          |                |       |  |
|          | Breaker Shape      |                          |                          |                          |          |                   |                     |                          |                          |                |       |  |
|          | Cutting conditions | G114                     |                          |                          |          | B026              |                     |                          |                          |                |       |  |

Reference pages : QC12-JSDJ2CR-Y : Inserts → **B121 -**, CBN → **B193 -**, PCD → **B214**  
Shank, Accessory → **G115, G116**

Grade  
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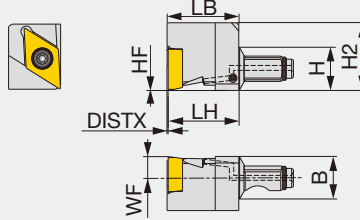
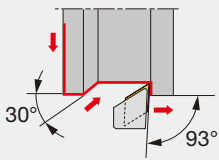
# DC

Rhombic, 55°  
with hole  
Positive 7°

## MODUMTURN

### QC12-JSDJ2CR-Y-CHP

Screw-on Y-axis turning modular head with 93° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



Without offset



Right hand (R) shown.

Cutting edge style J2

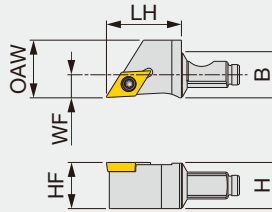
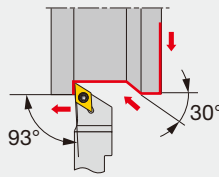
| Metric               | H              | B              | LH               | HF        | WF            | LB              | H2               | DISTX           | RE**            | Insert                       | Torque*       |
|----------------------|----------------|----------------|------------------|-----------|---------------|-----------------|------------------|-----------------|-----------------|------------------------------|---------------|
| QC12-JSDJ2CR11-Y-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 19.8<br>(0.78") | 18.7<br>(0.736") | 0.3<br>(0.012") | 0.2<br>(0.008") | DC**11T3...<br>(DC**32.5...) | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N-m (lbs-ft)

RE\*\*: Standard corner radius

### QC12-JSDJ2CR

Screw-on modular head with 93° approach angle, for positive 55° rhombic inserts



Without offset

Right hand (R) shown.

Cutting edge style J2

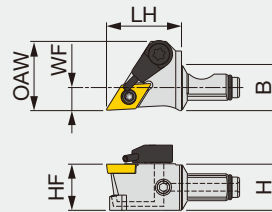
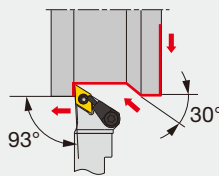
| Metric         | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                       | Torque*       |
|----------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|------------------------------|---------------|
| QC12-JSDJ2CR07 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | DC**0702...<br>(DC**21.5...) | 1.2<br>(0.89) |
| QC12-JSDJ2CR11 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | DC**11T3...<br>(DC**32.5...) | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N-m (lbs-ft)

RE\*\*: Standard corner radius

### QC12-JSDJ2CR-CHP

Screw-on modular head with 93° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



Without offset



Right hand (R) shown.

Cutting edge style J2

| Metric             | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                       | Torque*       |
|--------------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|------------------------------|---------------|
| QC12-JSDJ2CR07-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 18<br>(0.709") | 0.2<br>(0.008") | DC**0702...<br>(DC**21.5...) | 1.2<br>(0.89) |
| QC12-JSDJ2CR11-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 21<br>(0.827") | 0.2<br>(0.008") | DC**11T3...<br>(DC**32.5...) | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N-m (lbs-ft)

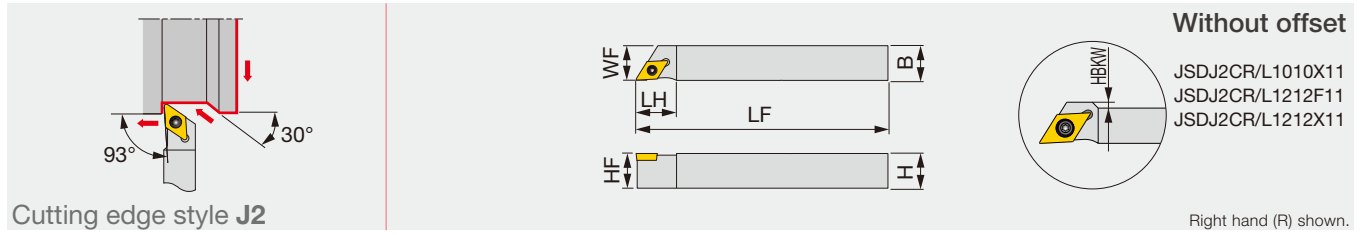
RE\*\*: Standard corner radius

#### SPARE PARTS



| Designation          | Clamping screw | Coolant unit | Wrench | O-ring               |
|----------------------|----------------|--------------|--------|----------------------|
| QC12-JSDJ2CR11-Y-CHP | CSTB-4SD       | -            | T-8F   | ORSS-0454.5X1.0NBR70 |
| QC12-JSDJ2CR07       | CSTB-2.5       | -            | T-8F   | -                    |
| QC12-JSDJ2CR07-CHP   | CSTB-2.5       | S-CU-CHP     | T-8F   | ORSS-0454.5X1.0NBR70 |
| QC12-JSDJ2CR11-CHP   | CSTB-4SD       | S-CU-CHP     | T-8F   | ORSS-0454.5X1.0NBR70 |

Screw-on toolholder with 93° approach angle, for positive 55° rhombic inserts



Cutting edge style J2

Right hand (R) shown.

| Inch         | H     | B     | LF    | LH    | HF    | WF    | HBKW | RE**  | Insert      | Torque |
|--------------|-------|-------|-------|-------|-------|-------|------|-------|-------------|--------|
| JSDJ2CR/L062 | 0.375 | 0.375 | 5.000 | 0.563 | 0.375 | 0.380 | -    | 0.008 | DC**21.5... | 0.89   |
| JSDJ2CR/L082 | 0.500 | 0.500 | 5.000 | 0.563 | 0.500 | 0.500 | -    | 0.008 | DC**21.5... | 0.89   |
| JSDJ2CR/L103 | 0.625 | 0.625 | 5.000 | 0.813 | 0.625 | 0.630 | -    | 0.008 | DC**32.5... | 0.89   |

| Metric           | H  | B  | LF  | LH | HF | WF | HBKW | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|------|-------------|---------|
| JSDJ2CR/L0808F07 | 8  | 8  | 85  | 14 | 8  | 8  | -    | 0.2  | DC**0702... | 1.2     |
| JSDJ2CR/L1010X07 | 10 | 10 | 120 | 14 | 10 | 10 | -    | 0.2  | DC**0702... | 1.2     |
| JSDJ2CR/L1010X11 | 10 | 10 | 120 | 20 | 10 | 10 | 4    | 0.2  | DC**11T3... | 1.2     |
| JSDJ2CR/L1212F07 | 12 | 12 | 85  | 14 | 12 | 12 | -    | 0.2  | DC**0702... | 1.2     |
| JSDJ2CR/L1212F11 | 12 | 12 | 85  | 20 | 12 | 12 | 2    | 0.2  | DC**11T3... | 1.2     |
| JSDJ2CR/L1212X07 | 12 | 12 | 120 | 14 | 12 | 12 | -    | 0.2  | DC**0702... | 1.2     |
| JSDJ2CR/L1212X11 | 12 | 12 | 120 | 20 | 12 | 12 | 2    | 0.2  | DC**11T3... | 1.2     |
| JSDJ2CR/L1616X11 | 16 | 16 | 120 | 20 | 16 | 16 | -    | 0.2  | DC**11T3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
RE\*\*: Standard corner radius

**SPARE PARTS**

| Designation                    | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|--------------------------------|----------------|----------|---------------------|
| JSDJ2CR/L062/082, JSDJ2CR/L*07 | CSTB-2.5       | T-8F     | (T-8L)              |
| JSDJ2CR/L103, JSDJ2CR/L*11     | CSTB-4SD       | T-8F     | (T-8L)              |

### INSERT SELECTION

|          |                    |                          |                          |                          |          |                   |                     |                          |                          |                |  |  |
|----------|--------------------|--------------------------|--------------------------|--------------------------|----------|-------------------|---------------------|--------------------------|--------------------------|----------------|--|--|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b> | Application areas | Precision finishing | Finish cutting           | Medium to finish cutting |                |  |  |
|          | Grade              | SH725                    | SH725                    | SH725                    |          | SH725             | SH725               | SH725                    | SH725                    | SH725          |  |  |
|          | Breaker Shape      | 01                       | JP                       | JS                       | JS       | 01                | JP                  | JS                       | JS                       |                |  |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | G114                |                          |                          |                |  |  |
| <b>P</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>M</b>          | Application areas   | Medium to finish cutting |                          |                |  |  |
|          | Grade              | SH725                    |                          |                          |          |                   | Grade               | SH725                    |                          |                |  |  |
|          | Breaker Shape      | 01                       |                          |                          |          |                   | 01                  |                          |                          |                |  |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | G114                |                          |                          |                |  |  |
| <b>K</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>N</b>          | Application areas   | Precision finishing      | Medium cutting           |                |  |  |
|          | Grade              | T515                     |                          |                          |          |                   | Grade               | DX110                    | KS05F                    |                |  |  |
|          | Breaker Shape      | CM                       |                          |                          |          |                   | NS                  | AL                       |                          |                |  |  |
|          | Cutting conditions | B020                     |                          |                          |          |                   | B022                |                          |                          |                |  |  |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting |                          |          |                   | <b>H</b>            | Application areas        | Precision finishing      | Finish cutting |  |  |
|          | Grade              | SH725                    | SH725                    |                          |          |                   |                     | Grade                    | BXA10                    | BXA20          |  |  |
|          | Breaker Shape      | JS                       | JS                       |                          |          |                   |                     | CBN                      | CBN                      |                |  |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | B026                |                          |                          |                |  |  |

Reference pages : QC12-JSDJ2CR-Y-CHP, QC12-JSDJ2CR, QC12-JSDJ2CR-CHP, JSDJ2CR/L  
: Inserts → B121 -, CBN → B193 -, PCD → B214, Shank, Accessory → G115, G116



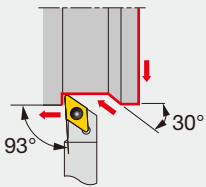
# DC

Rhombic, 55°  
with hole  
Positive 7°

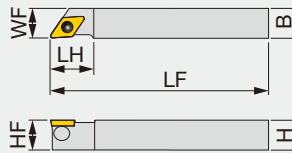
## J-SERIES

### JTDJ2CR/L

Back-clamp toolholder with 93° approach angle, for positive 55° rhombic inserts

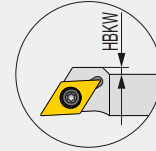


Cutting edge style J2



Without offset

JTDJ2CR/L1212F11  
JTDJ2CR/L1212X11



Right hand (R) shown.

| Metric           | H  | B  | LF  | LH | HF | WF | HBKW | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|------|-------------|---------|
| JTDJ2CR/L1010X07 | 10 | 10 | 120 | 14 | 10 | 10 | -    | 0.2  | DC**0702... | 0.9     |
| JTDJ2CR/L1212F07 | 12 | 12 | 85  | 14 | 12 | 12 | -    | 0.2  | DC**0702... | 0.9     |
| JTDJ2CR/L1212X07 | 12 | 12 | 120 | 14 | 12 | 12 | -    | 0.2  | DC**0702... | 0.9     |
| JTDJ2CR/L1212F11 | 12 | 12 | 85  | 20 | 12 | 12 | 2    | 0.2  | DC**11T3... | 1.2     |
| JTDJ2CR/L1212X11 | 12 | 12 | 120 | 20 | 12 | 12 | 2    | 0.2  | DC**11T3... | 1.2     |
| JTDJ2CR/L1616X11 | 16 | 16 | 120 | 20 | 16 | 16 | -    | 0.2  | DC**11T3... | 1.2     |

Torque\*: Recommended clamping torque (N-m)

RE\*\*: Standard corner radius

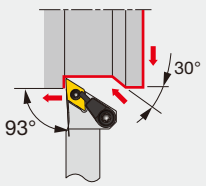
C

D

### JSDJ2CR-CHP

Direct connection

Screw-on toolholder without offset, 93° approach angle for positive 55° rhombic inserts, high pressure coolant compatible



Cutting edge style J2

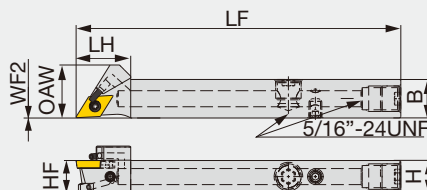


Fig.1

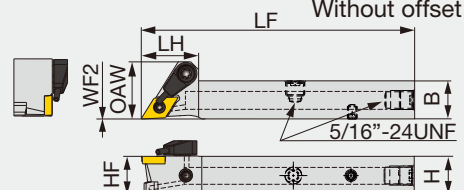


Fig.2

Right hand (R) shown.

| Inch               | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert      | Torque  | Fig. |
|--------------------|-------|-------|-------|-------|-------|-----|-------|-------|-------------|---------|------|
| JSDJ2CR083X-CHP    | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0   | 0.807 | 0.008 | DC**32.5... | 0.89    | -    |
| JSDJ2CR103X-CHP    | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0   | 0.807 | 0.008 | DC**32.5... | 0.89    | -    |
| Metric             | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert      | Torque* | Fig. |
| JSDJ2CR1012H07-CHP | 10    | 12    | 100   | 17    | 10    | 0   | 16.4  | 0.2   | DC**0702    | 1.2     | 1    |
| JSDJ2CR1212X11-CHP | 12    | 12    | 120   | 19    | 12    | 0   | 20.5  | 0.2   | DC**11T3    | 1.2     | 2    |
| JSDJ2CR1616X11-CHP | 16    | 16    | 120   | 19    | 16    | 0   | 20.5  | 0.2   | DC**11T3    | 1.2     | 2    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

RE\*\*: Standard corner radius

#### SPARE PARTS

| Designation   | Clamping screw | Clamp    | Clamping screw |
|---------------|----------------|----------|----------------|
| JTDJ2CR/L**07 | JCP-2          | JDS-3525 | P-2F           |
| JTDJ2CR/L**11 | JCP-3          | JDS-5040 | P-2.5F         |

#### SPARE PARTS

| Designation        | Clamping screw | Coolant nozzle | Nozzle retainer screw | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench |
|--------------------|----------------|----------------|-----------------------|--------|----------------|--------|----------------|--------|
| JSDJ2CR1012H07-CHP | CSTB-2.5       | NZ-1.10-7-CHP  | SSHM4-4-TB            | T-8F   | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |

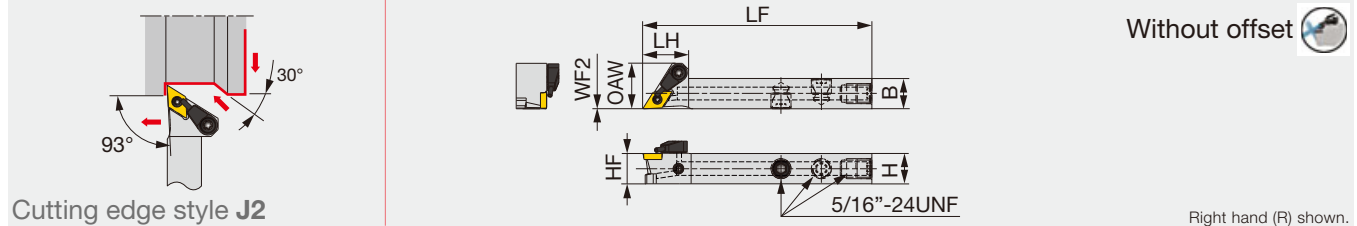
| Designation                        | Clamping screw | Coolant unit | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench |
|------------------------------------|----------------|--------------|--------|----------------|--------|----------------|--------|
| JSDJ2CR**X-CHP,<br>JSDJ2CR**11-CHP | CSTB-4SD       | S-CU-CHP     | T-8F   | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |

Reference pages : JTDJ2CR/L, JSDJ2CR-CHP: Inserts → B121 -, CBN → B193 -, PCD → B214

# JSDJ2CR/L-CHP

Tube connection

Screw-on toolholders without offset – 93° approach angle. For positive 55° rhombic insert. High-pressure coolant capability.



| Inch                 | H     | B     | LF    | LH    | HF    | WF    | OAW   | RE   | Insert      | Torque  |
|----------------------|-------|-------|-------|-------|-------|-------|-------|------|-------------|---------|
| JSDJ2CR/L082-CHP     | 0.500 | 0.500 | 3.344 | 0.710 | 0.500 | 0.500 | 0.710 | 0.2  | DC**21.5... | 0.89    |
| Metric               | H     | B     | LF    | LH    | HF    | WF2   | OAW   | RE** | Insert      | Torque* |
| JSDJ2CR/L1212F07-CHP | 12    | 12    | 85    | 18    | 12    | 0     | 18    | 0.2  | DC**0702... | 1.2     |
| JSDJ2CR/L1212F11-CHP | 12    | 12    | 85    | 19    | 12    | 0     | 20.5  | 0.2  | DC**11T3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
RE\*\*: Standard corner radius

## SPARE PARTS

| Designation                            | Clamping screw | Coolant unit | Wrench 1 | Wrench 2 (Optional) |
|--|----------------|--------------|----------|---------------------|
| JSDJ2CR/L082-CHP, JSDJ2CR/L1212F07-CHP | CSTB-2.5       | S-CU-CHP     | T-8F     | -                   |
| JSDJ2CR/L1212F11-CHP                   | CSTB-4SD       | S-CU-CHP     | T-8F     | -                   |

## INSERT SELECTION

|          |                    |                          |                          |                          |          |                   |                     |                          |                          |  |
|----------|--------------------|--------------------------|--------------------------|--------------------------|----------|-------------------|---------------------|--------------------------|--------------------------|--|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b> | Application areas | Precision finishing | Finish cutting           | Medium to finish cutting |  |
|          | Grade              | SH725                    | SH725                    | SH725                    |          | SH725             | SH725               | SH725                    | SH725                    |  |
|          | Breaker Shape      | 01                       | JP                       | JS                       | JS       | 01                | JP                  | JS                       | JS                       |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | G114                |                          |                          |  |
| <b>P</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>M</b>          | Application areas   | Medium to finish cutting |                          |  |
|          | Grade              | SH725                    |                          |                          |          |                   | Grade               | SH725                    |                          |  |
|          | Breaker Shape      | 01                       |                          |                          |          |                   | 01                  |                          |                          |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | G114                |                          |                          |  |
| <b>K</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>N</b>          | Application areas   | Precision finishing      | Medium cutting           |  |
|          | Grade              | T515                     |                          |                          |          |                   | Grade               | DX110                    | KS05F                    |  |
|          | Breaker Shape      | CM                       |                          |                          |          |                   | NS                  | AL                       |                          |  |
|          | Cutting conditions | B020                     |                          |                          |          |                   | B022                |                          |                          |  |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting |                          |          | <b>H</b>          | Application areas   | Precision finishing      | Finish cutting           |  |
|          | Grade              | SH725                    | SH725                    |                          |          |                   | Grade               | BXA10                    | BXA20                    |  |
|          | Breaker Shape      | JS                       | JS                       |                          |          |                   | CBN                 | CBN                      |                          |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | B026                |                          |                          |  |

Reference pages : JSDJ2CR/L-CHP: Inserts → B121 -, CBN → B193 -, PCD → B214

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



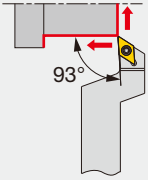
# DC

Rhombic, 55°  
with hole  
Positive 7°

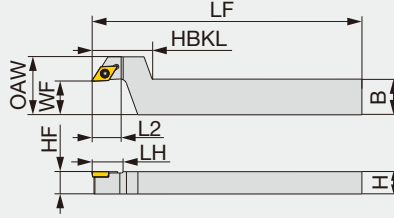
## J-SERIES

### JSDJCR-F

Screw-on stepped-head toolholder with 93° approach angle, for positive 55° rhombic inserts



Cutting edge style J



Right hand (R) shown.

| Metric            | H  | B  | LF  | L2   | HBKL | LH | HF | WF | OAW | RE** | Insert      | Torque* |
|-------------------|----|----|-----|------|------|----|----|----|-----|------|-------------|---------|
| JSDJCR1016X07-F15 | 10 | 16 | 120 | 12.5 | 27   | 14 | 10 | 15 | 26  | 0.2  | DC**0702... | 1.2     |
| JSDJCR1216F07-F15 | 12 | 16 | 85  | 12.5 | 27   | 14 | 12 | 15 | 26  | 0.2  | DC**0702... | 1.2     |
| JSDJCR1216X07-F15 | 12 | 16 | 120 | 12.5 | 27   | 14 | 12 | 15 | 26  | 0.2  | DC**0702... | 1.2     |
| JSDJCR1216F11-F15 | 12 | 16 | 85  | 12.5 | 27   | 20 | 12 | 15 | 28  | 0.2  | DC**11T3... | 1.2     |
| JSDJCR1216X11-F15 | 12 | 16 | 120 | 12.5 | 27   | 20 | 12 | 15 | 28  | 0.2  | DC**11T3... | 1.2     |
| JSDJCR1620X11-F15 | 16 | 20 | 120 | 12.5 | 27   | 20 | 16 | 15 | 28  | 0.2  | DC**11T3... | 1.2     |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

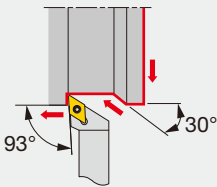
C

D

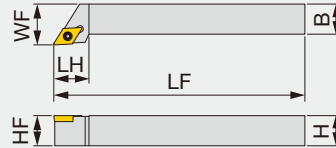
F

### JSDJCR/L

Screw-on toolholder with 93° approach angle, for positive 55° rhombic inserts



Cutting edge style J



Right hand (R) shown.

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JSDJCR/L0808H07 | 8  | 8  | 100 | 14 | 8  | 10 | 0.4  | DC**0702... | 1.2     |
| JSDJCR/L1010H11 | 10 | 10 | 100 | 18 | 10 | 12 | 0.8  | DC**11T3... | 1.2     |
| JSDJCR/L1212H07 | 12 | 12 | 100 | 14 | 12 | 16 | 0.4  | DC**0702... | 1.2     |
| JSDJCR/L1212H11 | 12 | 12 | 100 | 18 | 12 | 16 | 0.8  | DC**11T3... | 1.2     |
| JSDJCR/L1616H11 | 16 | 16 | 100 | 18 | 16 | 20 | 0.8  | DC**11T3... | 1.2     |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

G

S

T

V

W

OTHERS

### SPARE PARTS

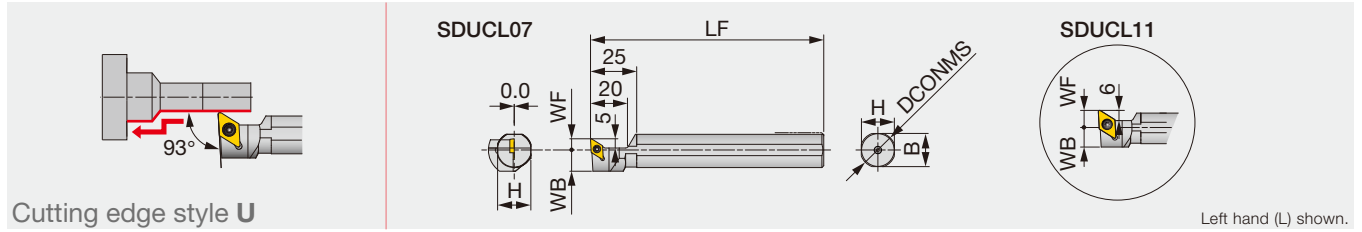


| Designation                | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|----------------------------|----------------|----------|---------------------|
| JSDJC**H07, JSDJCR**07-F15 | CSTB-2.5       | T-8F     | (T-8L)              |
| JSDJC**H11, JSDJCR**11-F15 | CSTB-4SD       | T-8F     | (T-8L)              |

Reference pages : JSDJCR-F, JSDJCR/L: Inserts → **B121** -, CBN → **B193** -, PCD → **B214**

# JS-SDUCL

Screw-on round-shank toolholder with 93° approach angle, for positive 55° rhombic inserts



| Metric         | DCONMS | WF | LF  | H  | B  | WB   | RE** | Insert      | Torque* |
|----------------|--------|----|-----|----|----|------|------|-------------|---------|
| JS19K-SDUCL07  | 19.05  | 6  | 125 | 18 | 18 | 11.5 | 0.4  | DC**0702... | 1.2     |
| JS20K-SDUCL07  | 20     | 6  | 125 | 19 | 19 | 11.5 | 0.4  | DC**0702... | 1.2     |
| JS22K-SDUCL07  | 22     | 6  | 125 | 21 | 21 | 11.5 | 0.4  | DC**0702... | 1.2     |
| JS19K-SDUCL11  | 19.05  | 10 | 125 | 18 | 18 | 11.5 | 0.8  | DC**11T3... | 1.2     |
| JS20K-SDUCL11  | 20     | 10 | 125 | 19 | 19 | 11.5 | 0.8  | DC**11T3... | 1.2     |
| JS22K-SDUCL11  | 22     | 11 | 125 | 21 | 21 | 11.5 | 0.8  | DC**11T3... | 1.2     |
| JS25K-SDUCL11  | 25     | 12 | 125 | 24 | 24 | 12.5 | 0.8  | DC**11T3... | 1.2     |
| JS254K-SDUCL11 | 25.4   | 12 | 125 | 24 | 24 | 12.7 | 0.8  | DC**11T3... | 1.2     |

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

## SPARE PARTS

| Designation   | Clamping screw | Wrench |
|---------------|----------------|--------|
| JS**K-SDUCL07 | CSTB-2.5       | T-8F   |
| JS**K-SDUCL11 | CSTB-4SD       | T-8F   |

## INSERT SELECTION

|          |                    |                          |                          |                          |          |                   |                     |                          |                          |                |       |  |
|----------|--------------------|--------------------------|--------------------------|--------------------------|----------|-------------------|---------------------|--------------------------|--------------------------|----------------|-------|--|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b> | Application areas | Precision finishing | Finish cutting           | Medium to finish cutting |                |       |  |
|          | Grade              | SH725                    | SH725                    | SH725                    |          | SH725             | Grade               | SH725                    | SH725                    | SH725          | SH725 |  |
|          | Breaker Shape      | 01                       | JP                       | JS                       | JS       |                   | Breaker Shape       | 01                       | JP                       | JS             | JS    |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | Cutting conditions  | G114                     |                          |                |       |  |
| <b>P</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>M</b>          | Application areas   | Medium to finish cutting |                          |                |       |  |
|          | Grade              | SH725                    |                          |                          |          |                   | Grade               | SH725                    |                          |                |       |  |
|          | Breaker Shape      | 01                       |                          |                          |          |                   | Breaker Shape       | 01                       |                          |                |       |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | Cutting conditions  | G114                     |                          |                |       |  |
| <b>K</b> | Application areas  | Medium to finish cutting |                          |                          |          | <b>N</b>          | Application areas   | Precision finishing      | Medium cutting           |                |       |  |
|          | Grade              | T515                     |                          |                          |          |                   | Grade               | DX110                    | KS05F                    |                |       |  |
|          | Breaker Shape      | CM                       |                          |                          |          |                   | Breaker Shape       | NS                       | AL                       |                |       |  |
|          | Cutting conditions | B020                     |                          |                          |          |                   | Cutting conditions  | B022                     |                          |                |       |  |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting |                          |          |                   | <b>H</b>            | Application areas        | Precision finishing      | Finish cutting |       |  |
|          | Grade              | SH725                    | SH725                    |                          |          |                   |                     | Grade                    | BXA10                    | BXA20          |       |  |
|          | Breaker Shape      | JS                       | JS                       |                          |          |                   |                     | Breaker Shape            | CBN                      | CBN            |       |  |
|          | Cutting conditions | G114                     |                          |                          |          |                   | Cutting conditions  | B026                     |                          |                |       |  |

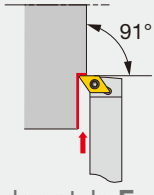
Reference pages : JS-SDUCL: Inserts → B121 -, CBN → B193 -, PCD → B214

# DC

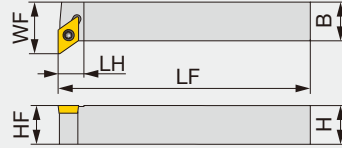
**Rhombic, 55°  
with hole  
Positive 7°**

## J-SERIES JSDFCR/L

Screw-on toolholder for facing with 91° approach angle, for positive 55° rhombic inserts



Cutting edge style F



Right hand (R) shown.

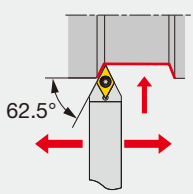
| Metric          | H  | B  | LF  | LH   | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|------|----|----|------|-------------|---------|
| JSDFCR/L1212H07 | 12 | 12 | 100 | 8    | 12 | 16 | 0.4  | DC**0702... | 1.2     |
| JSDFCR/L1616H11 | 16 | 16 | 100 | 10.5 | 16 | 22 | 0.8  | DC**11T3... | 1.2     |

Torque\*: Recommended clamping torque (N-m)

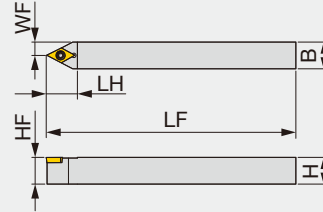
RE\*\*: Standard corner radius

## JSDNCN

Screw-on toolholder with 62.5° approach angle, for positive 55° rhombic inserts



Cutting edge style N



| Inch      | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------------|--------|
| JSDNCN062 | 0.375 | 0.375 | 5.000 | 0.563 | 0.375 | 0.188 | 0.008 | DC**21.5... | 0.89   |
| JSDNCN082 | 0.500 | 0.500 | 5.000 | 0.563 | 0.500 | 0.250 | 0.008 | DC**21.5... | 0.89   |
| JSDNCN103 | 0.625 | 0.625 | 5.000 | 0.813 | 0.625 | 0.313 | 0.008 | DC**21.5... | 0.89   |

| Metric        | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|---------------|----|----|-----|----|----|----|------|-------------|---------|
| JSDNCN1010X07 | 10 | 10 | 120 | 15 | 10 | 5  | 0.2  | DC**0702... | 1.2     |
| JSDNCN1010X11 | 10 | 10 | 120 | 21 | 10 | 5  | 0.2  | DC**11T3... | 1.2     |
| JSDNCN1212F07 | 12 | 12 | 85  | 15 | 12 | 6  | 0.2  | DC**0702... | 1.2     |
| JSDNCN1212X07 | 12 | 12 | 120 | 15 | 12 | 6  | 0.2  | DC**0702... | 1.2     |
| JSDNCN1212F11 | 12 | 12 | 85  | 21 | 12 | 6  | 0.2  | DC**11T3... | 1.2     |
| JSDNCN1212X11 | 12 | 12 | 120 | 21 | 12 | 6  | 0.2  | DC**11T3... | 1.2     |
| JSDNCN1616X11 | 16 | 16 | 120 | 21 | 16 | 8  | 0.2  | DC**11T3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

RE\*\*: Standard corner radius

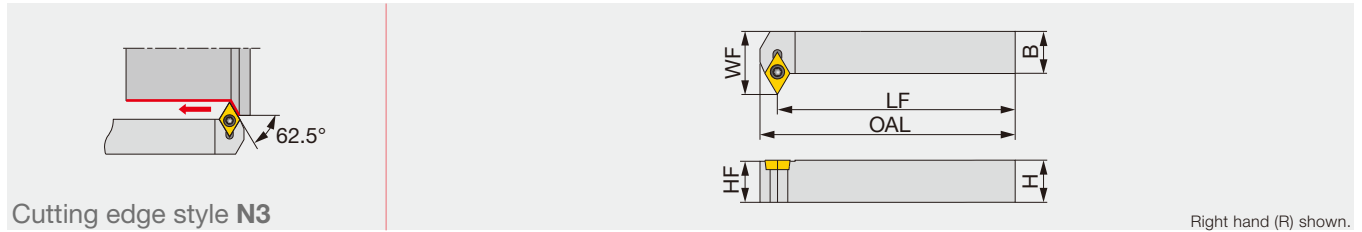
### SPARE PARTS

| Designation  | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|--|----------------|----------|---------------------|
| JSDFCR/L1212H07, JSDNCN**07<br>JSDNCN062, 082, 103 | CSTB-2.5       | T-8F     | (T-8L)              |
| JSDNCN**11, JSDFCR/L1616H11                        | CSTB-4SD       | T-8F     | (T-8L)              |

Reference pages : JSDFCR/L, JSDNCN: Inserts → **B121 -**, CBN → **B193 -**, PCD → **B214**

# JSDN3CR

Screw-on toolholder with 62.5° approach angle (N3-style), for positive 55° rhombic inserts



Right hand (R) shown.

| Metric         | H  | B  | OAL | LF  | HF | WF | RE** | Insert      | Torque* |
|----------------|----|----|-----|-----|----|----|------|-------------|---------|
| JSDN3CR1212H07 | 12 | 12 | 105 | 100 | 12 | 18 | 0.4  | DC**0702... | 1.2     |
| JSDN3CR1616H11 | 16 | 16 | 107 | 100 | 16 | 25 | 0.8  | DC**11T3... | 1.2     |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

## SPARE PARTS



| Designation    | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|----------------|----------------|----------|---------------------|
| JSDN3CR1212H07 | CSTB-2.5       | T-8F     | (T-8L)              |
| JSDN3CR1616H11 | CSTB-4SD       | T-8F     | (T-8L)              |

## INSERT SELECTION

|          |                    |                          |                          |                          |                          |                     |                     |                |                          |       |
|----------|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------|---------------------|----------------|--------------------------|-------|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | <b>M</b>                 | Application areas   | Precision finishing | Finish cutting | Medium to finish cutting |       |
|          | Grade              | SH725                    | SH725                    | SH725                    |                          | SH725               | SH725               | SH725          | SH725                    | SH725 |
|          | Breaker Shape      | 01                       | JP                       | JS                       | JS                       | 01                  | JP                  | JS             | JS                       |       |
|          | Cutting conditions | G114                     |                          |                          |                          |                     | G114                |                |                          |       |
| <b>P</b> | Application areas  | Medium to finish cutting | <b>M</b>                 | Application areas        | Medium to finish cutting |                     |                     |                |                          |       |
|          | Grade              | SH725                    |                          | Grade                    | SH725                    |                     |                     |                |                          |       |
|          | Breaker Shape      | J10                      |                          | Breaker Shape            | J10                      |                     |                     |                |                          |       |
|          | Cutting conditions | G114                     |                          | Cutting conditions       | G114                     |                     |                     |                |                          |       |
| <b>K</b> | Application areas  | Medium to finish cutting | <b>N</b>                 | Application areas        | Precision finishing      | Finish cutting      | Medium cutting      |                |                          |       |
|          | Grade              | T515                     |                          | Grade                    | DX110                    | DX140               | KS05F               |                |                          |       |
|          | Breaker Shape      | CM                       |                          | Breaker Shape            | NS                       | DIA                 | AL                  |                |                          |       |
|          | Cutting conditions | B020                     |                          | Cutting conditions       | B022                     |                     |                     |                |                          |       |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting | <b>H</b>                 | Application areas        | Precision finishing | Finish cutting      |                |                          |       |
|          | Grade              | SH725                    | SH725                    |                          | Grade                    | HP                  | CBN                 | BXA20          |                          |       |
|          | Breaker Shape      | JS                       | JS                       |                          | Breaker Shape            |                     |                     |                |                          |       |
|          | Cutting conditions | G114                     |                          |                          | Cutting conditions       | B026                |                     |                |                          |       |

Reference pages : JSDN3CR: Inserts → B121 -, CBN → B193 -, PCD → B214

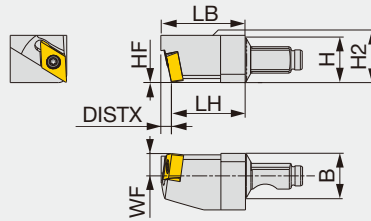
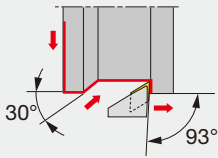



# DX

 Rhombic, 55° with hole

## MINIFORCE QC12-JSDJ2XR-Y

Screw-on Y-axis turning modular head with 93° approach angle, for DX\*U inserts



Without offset 

Cutting edge style J2

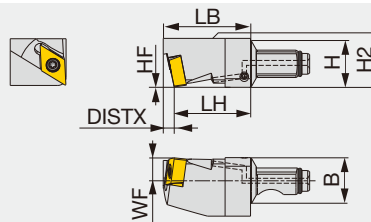
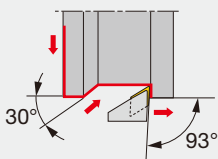
Right hand (R) shown.


| Metric           | H              | B              | LH               | HF        | WF            | LB               | H2               | DISTX           | RE**            | Insert                           | Torque*       |
|------------------|----------------|----------------|------------------|-----------|---------------|------------------|------------------|-----------------|-----------------|----------------------------------|---------------|
| QC12-JSDJ2XR07-Y | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 22.3<br>(0.878") | 12.5<br>(0.492") | 2.8<br>(0.110") | 0.2<br>(0.008") | DX*U0703**L...<br>(DX*U22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N·m (lbs·ft) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

## QC12-JSDJ2XR-Y-CHP

Screw-on Y-axis turning modular head with 93° approach angle, for DX\*U inserts, with high pressure coolant capability



Without offset 

Cutting edge style J2

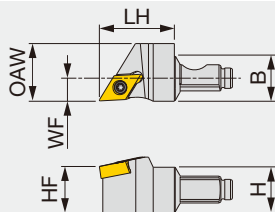
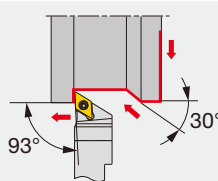
Right hand (R) shown.

| Metric               | H              | B              | LH               | HF        | WF            | LB               | H2               | DISTX           | RE**            | Insert                           | Torque*       |
|----------------------|----------------|----------------|------------------|-----------|---------------|------------------|------------------|-----------------|-----------------|----------------------------------|---------------|
| QC12-JSDJ2XR07-Y-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 22.3<br>(0.878") | 12.5<br>(0.492") | 2.8<br>(0.110") | 0.2<br>(0.008") | DX*U0703**L...<br>(DX*U22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N·m (lbs·ft) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

## QC12-JSDJ2XR

Screw-on modular head with 93° approach angle, for DX\*U inserts



Without offset

Cutting edge style J2

Right hand (R) shown.

| Metric         | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                           | Torque*       |
|----------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|----------------------------------|---------------|
| QC12-JSDJ2XR07 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | DX*U0703**L...<br>(DX*U22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N·m (lbs·ft) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

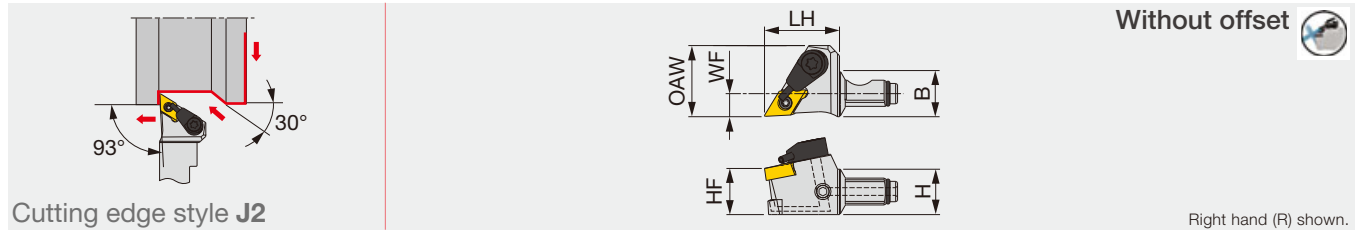
### SPARE PARTS

| Designation                             | Clamping screw | Wrench | O-ring               |
|---|----------------|--------|----------------------|
| QC12-JSDJ2XR07-Y                        | SR34-514       | T-7F   | -                    |
| QC12-JSDJ2XR07-Y-CHP,<br>QC12-JSDJ2XR07 | SR34-514       | T-7F   | ORSS-0454.5X1.0NBR70 |

Reference pages : QC12-JSDJ2XR-Y, QC12-JSDJ2XR-Y-CHP, QC12-JSDJ2XR: Inserts → **B126 -**  
Shank, accessory → **G115, G116**, Standard cutting conditions → **G114**

## QC12-JSDJ2XR-CHP

Screw-on modular head with 93° approach angle, for DX\*U inserts, with high pressure coolant capability

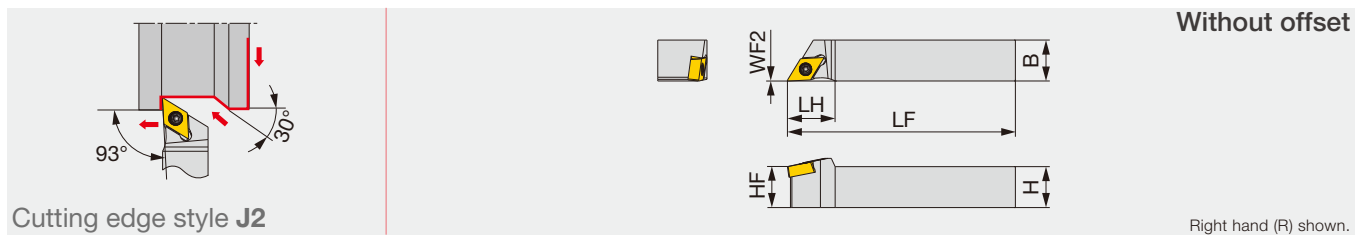


| Metric             | H              | B              | LH               | HF             | WF            | OAW              | RE**            | Insert                           | Torque*       |
|--------------------|----------------|----------------|------------------|----------------|---------------|------------------|-----------------|----------------------------------|---------------|
| QC12-JSDJ2XR07-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 18.4<br>(0.724") | 0.2<br>(0.008") | DX*U0703**L...<br>(DX*U22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

## JSDJ2XR/L

Screw-on toolholder with 93° approach angle, for DX\*U inserts



| Inch         | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert         | Torque |
|--------------|-------|-------|-------|-------|-------|----|-------|----------------|--------|
| JSDJ2XR/L062 | 0.375 | 0.375 | 4.750 | 0.625 | 0.375 | 0  | 0.008 | DX*U22**L/R... | 0.66   |
| JSDJ2XR/L082 | 0.500 | 0.500 | 4.750 | 0.625 | 0.500 | 0  | 0.008 | DX*U22**L/R... | 0.66   |
| JSDJ2XR/L102 | 0.625 | 0.625 | 4.750 | 0.625 | 0.625 | 0  | 0.008 | DX*U22**L/R... | 0.66   |

| Metric           | H  | B  | LF  | LH | HF | WF2 | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|-----|------|------------------|---------|
| JSDJ2XR/L1010X07 | 10 | 10 | 120 | 14 | 10 | 0   | 0.2  | DX*U0703**L/R... | 0.9     |
| JSDJ2XR/L1212F07 | 12 | 12 | 85  | 14 | 12 | 0   | 0.2  | DX*U0703**L/R... | 0.9     |
| JSDJ2XR/L1212X07 | 12 | 12 | 120 | 14 | 12 | 0   | 0.2  | DX*U0703**L/R... | 0.9     |
| JSDJ2XR/L1616X07 | 16 | 16 | 120 | 18 | 16 | 0   | 0.2  | DX*U0703**L/R... | 0.9     |
| JSDJ2XR/L2020H07 | 20 | 20 | 100 | 18 | 20 | 0   | 0.2  | DX*U0703**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

| SPARE PARTS        |                |              |        |                      |
|--------------------|----------------|--------------|--------|----------------------|
| Designation        | Clamping screw | Coolant unit | Wrench | O-ring               |
| QC12-JSDJ2XR07-CHP | SR34-514       | S-CU-CHP     | T-7F   | ORSS-0454.5X1.0NBR70 |
| JSDJ2XR/L...       | SR34-514       | -            | T-7F   | -                    |

## INSERT SELECTION

for Swiss lathes

|                    |                   |                |                          |                    |                   |                |                          |
|--------------------|-------------------|----------------|--------------------------|--------------------|-------------------|----------------|--------------------------|
| <b>P</b>           | Application areas | Finish cutting | Medium to finish cutting | <b>M</b>           | Application areas | Finish cutting | Medium to finish cutting |
|                    | Grade             | SH725          | SH725                    |                    | Grade             | SH725          | SH725                    |
|                    | Breaker Shape     | JSS            | JS                       |                    | Breaker Shape     | JSS            | JS                       |
| Cutting conditions |                   | G114           |                          | Cutting conditions |                   | G114           |                          |

for Small CNC lathes

|                    |                   |                |                |                    |                   |                |                |                    |                   |                          |       |
|--------------------|-------------------|----------------|----------------|--------------------|-------------------|----------------|----------------|--------------------|-------------------|--------------------------|-------|
| <b>P</b>           | Application areas | Finish cutting | Medium cutting | <b>M</b>           | Application areas | Finish cutting | Medium cutting | <b>N</b>           | Application areas | Medium to finish cutting |       |
|                    | Grade             | AH725          | AH725          |                    | Grade             | AH8015         | AH8015         |                    | Grade             | KS05F                    | KS05F |
|                    | Breaker Shape     | SS             | TS             |                    | Breaker Shape     | SS             | TS             |                    | Breaker Shape     | SS                       | TS    |
| Cutting conditions |                   | G114           |                | Cutting conditions |                   | G114           |                | Cutting conditions |                   | B022                     |       |

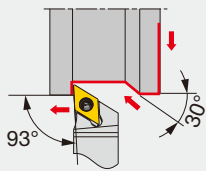
Reference pages : QC12-JSDJ2XR-CHP, JSDJ2XR/L: Inserts → **B126 -**  
Shank, accessory → **G115, G116**, Standard cutting conditions → **G114**

# DX

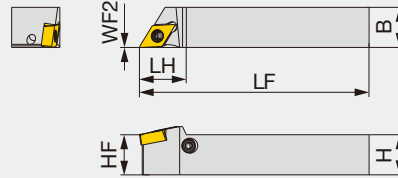
 Rhombic, 55° with hole

## MINIFORCE TURN JPDJ2XR/L

Lever-lock toolholder with 93° approach angle, for DX\*U inserts



Cutting edge style J2



Without offset

Right hand (R) shown.

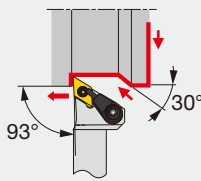
| Inch             | H     | B     | LF    | LH    | HF    | WF  | RE**  | Insert          | Torque  |
|------------------|-------|-------|-------|-------|-------|-----|-------|-----------------|---------|
| JPDJ2XR/L062     | 0.375 | 0.375 | 4.750 | 0.625 | 0.375 | 0   | 0.008 | DX*U22**/R...   | 0.66    |
| JPDJ2XR/L082     | 0.500 | 0.500 | 4.750 | 0.625 | 0.500 | 0   | 0.008 | DX*U22**/R...   | 0.66    |
| JPDJ2XR/L102     | 0.625 | 0.625 | 4.750 | 0.625 | 0.625 | 0   | 0.008 | DX*U22**/R...   | 0.66    |
| Metric           | H     | B     | LF    | LH    | HF    | WF2 | RE**  | Insert          | Torque* |
| JPDJ2XR/L1010X07 | 10    | 10    | 120   | 14    | 10    | 0   | 0.2   | DX*U0703**/R... | 0.9     |
| JPDJ2XR/L1212F07 | 12    | 12    | 85    | 14    | 12    | 0   | 0.2   | DX*U0703**/R... | 0.9     |
| JPDJ2XR/L1212X07 | 12    | 12    | 120   | 14    | 12    | 0   | 0.2   | DX*U0703**/R... | 0.9     |
| JPDJ2XR/L1616X07 | 16    | 16    | 120   | 18    | 16    | 0   | 0.2   | DX*U0703**/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

## JSDJ2XR-CHP

Direct connection

Screw-on toolholder without offset, 93° approach angle, for DX\*U inserts, high pressure coolant compatible



Cutting edge style J2

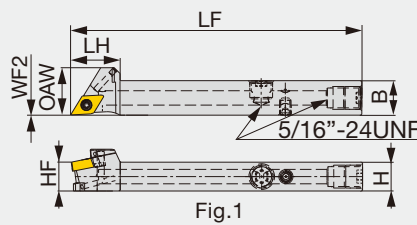


Fig.1

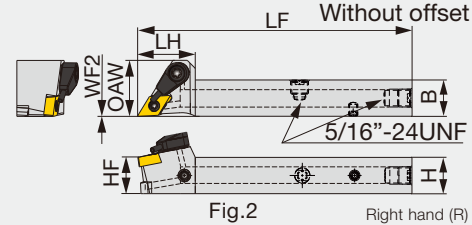
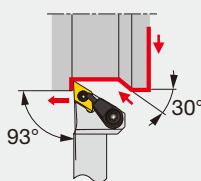


Fig.2

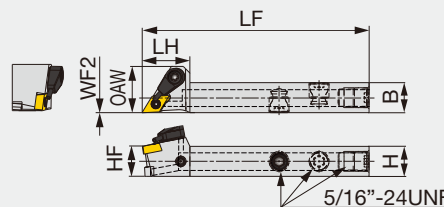
Right hand (R) shown.

| Inch               | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert          | Torque  | Fig. |
|--------------------|-------|-------|-------|-------|-------|-----|-------|-------|-----------------|---------|------|
| JSDJ2XR082X-CHP    | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0   | 0.728 | 0.008 | DX*U22**/L/R... | 0.66    | 2    |
| JSDJ2XR102X-CHP    | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0   | 0.728 | 0.008 | DX*U22**/L/R... | 0.66    | 2    |
| Metric             | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert          | Torque* | Fig. |
| JSDJ2XR1012H07-CHP | 10    | 12    | 100   | 17    | 10    | 0   | 14.7  | 0.2   | DX*U0703**L     | 0.9     | 1    |
| JSDJ2XR1212X07-CHP | 12    | 12    | 120   | 19    | 12    | 0   | 18.5  | 0.2   | DX*U0703**L     | 0.9     | 2    |
| JSDJ2XR1616X07-CHP | 16    | 16    | 120   | 19    | 16    | 0   | 18.5  | 0.2   | DX*U0703**L     | 0.9     | 2    |

Tube connection



Cutting edge style J2



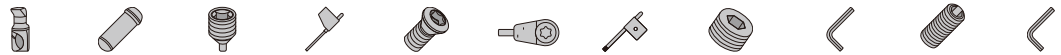
Without offset

Right hand (R) shown.

| Inch                 | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert            | Torque  |
|----------------------|-------|-------|-------|-------|-------|-----|-------|-------|-------------------|---------|
| JSDJ2XR/L082-CHP     | 0.500 | 0.500 | 3.344 | 0.750 | 0.500 | 0   | 0.730 | 0.008 | DXGU0703**/L/R... | 0.66    |
| Metric               | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert            | Torque* |
| JSDJ2XR/L1212F07-CHP | 12    | 12    | 85    | 19    | 12    | 0   | 18.5  | 0.2   | DX*U0703**/L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Right-hand toolholders (R) are used with left-hand inserts (L). Left-hand toolholders (L) are used with right-hand inserts (R).

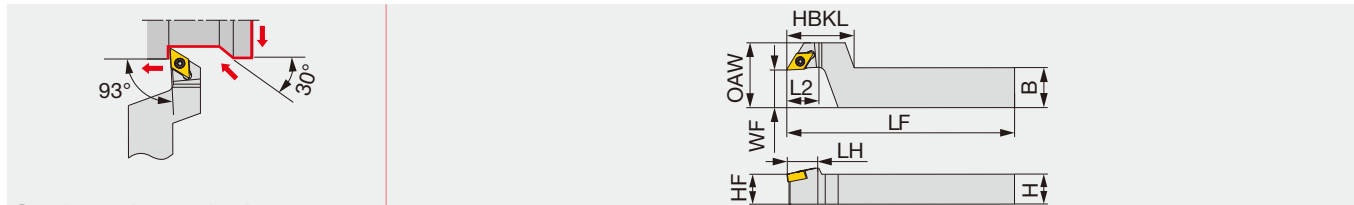
**SPARE PARTS**



| Designation          | Lever  | Pin     | Clamping screw 1 | Wrench 1   | Clamping screw 2 | Coolant unit | Wrench 2 | Coolant plug   | Wrench 3 | DirectJet plug | Wrench 4 |
|----------------------|--------|---------|------------------|------------|------------------|--------------|----------|----------------|----------|----------------|----------|
| JPDJ2XR/L...         | SLLV-2 | SL-PI-2 | SR10400611       | HW2.0/5RED | -                | -            | -        | -              | -        | -              | -        |
| JSDJ2XR1012H07-CHP   | -      | -       | -                | -          | SR34-514         | -            | T-7F     | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSDJ2XR**07-CHP      | -      | -       | -                | -          | SR34-514         | S-CU-CHP     | T-7F     | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSDJ2XR/L1212F07-CHP | -      | -       | -                | -          | SR34-514         | S-CU-CHP     | T-7F     | SR5/16UNFTL360 | P-4      | -              | -        |
| JSDJXR**F15          | -      | -       | -                | -          | SR34-514         | -            | T-7F     | -              | -        | -              | -        |

**JSDJXR-F**

Screw-on stepped-head toolholder with 93° approach angle, for DX\*U inserts



**Cutting edge style J**

Right hand (R) shown.

| Inch              | H     | B     | LF    | L2    | HBKL  | LH    | HF    | WF    | OAW   | RE**  | Insert         | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|---------|
| JSDJXR082-F10     | 0.500 | 0.625 | 4.750 | 0.500 | 1.130 | 0.625 | 0.500 | 0.625 | 1.000 | 0.008 | DX*U22**L/R... | 0.66    |
| JSDJXR102-F10     | 0.625 | 0.750 | 4.750 | 0.500 | 1.130 | 0.625 | 0.625 | 0.625 | 1.000 | 0.008 | DX*U22**L/R... | 0.66    |
| Metric            | H     | B     | LF    | L2    | HBKL  | LH    | HF    | WF    | OAW   | RE**  | Insert         | Torque* |
| JSDJXR1016X07-F15 | 10    | 16    | 120   | 12    | 27    | 14    | 10    | 15    | 26    | 0.2   | DX*U0703**L... | 0.9     |
| JSDJXR1216F07-F15 | 12    | 16    | 85    | 12    | 27    | 14    | 12    | 15    | 26    | 0.2   | DX*U0703**L... | 0.9     |
| JSDJXR1216X07-F15 | 12    | 16    | 120   | 12    | 27    | 14    | 12    | 15    | 26    | 0.2   | DX*U0703**L... | 0.9     |
| JSDJXR1620X07-F15 | 16    | 20    | 120   | 12    | 27    | 14    | 16    | 15    | 26    | 0.2   | DX*U0703**L... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

**SPARE PARTS**



| Designation  | Clamping screw | Wrench |
|--------------|----------------|--------|
| JSDJXR**F... | SR34-514       | T-7F   |

**INSERT SELECTION**

for Swiss lathes

| P                  | Application areas | Finish cutting | Medium to finish cutting | M                  | Application areas | Finish cutting | Medium to finish cutting |
|--------------------|-------------------|----------------|--------------------------|--------------------|-------------------|----------------|--------------------------|
|                    | Grade             | SH725          | SH725                    |                    | SH725             | Grade          | SH725                    |
| Breaker Shape      | JSS               | JS             | JS                       | Breaker Shape      | JSS               | JS             | JS                       |
| Cutting conditions | G114              |                |                          | Cutting conditions | G114              |                |                          |

for Small CNC lathes

| P                  | Application areas | Finish cutting | Medium cutting | M                  | Application areas | Finish cutting | Medium cutting | N                  | Application areas | Medium to finish cutting |
|--------------------|-------------------|----------------|----------------|--------------------|-------------------|----------------|----------------|--------------------|-------------------|--------------------------|
|                    | Grade             | AH725          | AH725          |                    | AH8015            | Grade          | AH8015         |                    | AH8015            | Grade                    |
| Breaker Shape      | SS                | TS             | TS             | Breaker Shape      | SS                | TS             | TS             | Breaker Shape      | SS                | TS                       |
| Cutting conditions | G114              |                |                | Cutting conditions | G114              |                |                | Cutting conditions | B022              |                          |

Reference pages : JPDJ2XR/L, JSDJ2XR-CHP, JSDJXR-F : Inserts → **B126** -  
Standard cutting conditions → **G114**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

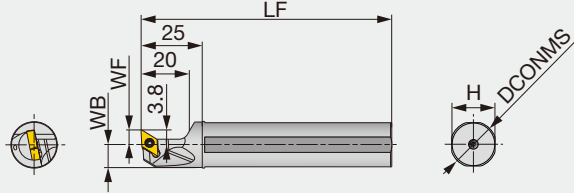
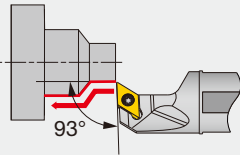


# DX

 **Rhombic, 55° with hole**

## MINIFORCE TURN JS-SDUXL

Screw-on round-shank toolholder with 93° approach angle, for DX\*U inserts



Cutting edge style U

Left hand (L) shown.

| Metric         | DCONMS | WF | LF  | H  | WB    | RE** | Insert         | Torque* |
|----------------|--------|----|-----|----|-------|------|----------------|---------|
| JS14H-SDUXL07  | 14     | 6  | 100 | 13 | 6.75  | 0.2  | DX*U0703**L... | 0.9     |
| JS159F-SDUXL07 | 15.875 | 6  | 85  | 15 | 7.687 | 0.2  | DX*U0703**L... | 0.9     |
| JS16F-SDUXL07  | 16     | 6  | 85  | 15 | 7.75  | 0.2  | DX*U0703**L... | 0.9     |
| JS19G-SDUXL07  | 19.05  | 6  | 90  | 18 | 9.275 | 0.2  | DX*U0703**L... | 0.9     |
| JS19X-SDUXL07  | 19.05  | 6  | 120 | 18 | 9.275 | 0.2  | DX*U0703**L... | 0.9     |
| JS20G-SDUXL07  | 20     | 6  | 90  | 19 | 9.75  | 0.2  | DX*U0703**L... | 0.9     |
| JS20X-SDUXL07  | 20     | 6  | 120 | 19 | 9.75  | 0.2  | DX*U0703**L... | 0.9     |
| JS22X-SDUXL07  | 22     | 10 | 120 | 21 | 10.75 | 0.2  | DX*U0703**L... | 0.9     |
| JS25H-SDUXL07  | 25     | 10 | 100 | 24 | 12.25 | 0.2  | DX*U0703**L... | 0.9     |
| JS254X-SDUXL07 | 25.4   | 10 | 120 | 24 | 12.45 | 0.2  | DX*U0703**L... | 0.9     |

Torque\*: Recommended clamping torque (N-m) RE\*\*: Standard corner radius  
Use left-hand toolholders (L) with left-hand inserts (L).

### SPARE PARTS

| Designation  | Clamping screw | Wrench |
|--------------|----------------|--------|
| JS**-SDUXL07 | SR34-514       | T-7F   |

## INSERT SELECTION

for Swiss lathes

| P                  | Application areas | Finish cutting | Medium to finish cutting | M                  | Application areas | Finish cutting | Medium to finish cutting |
|--------------------|-------------------|----------------|--------------------------|--------------------|-------------------|----------------|--------------------------|
|                    | Grade             | SH725          | SH725                    |                    | SH725             | Grade          | SH725                    |
| Breaker Shape      | JSS               | JS             |                          | Breaker Shape      | JSS               | JS             |                          |
| Cutting conditions |                   | G114           |                          | Cutting conditions |                   | G114           |                          |

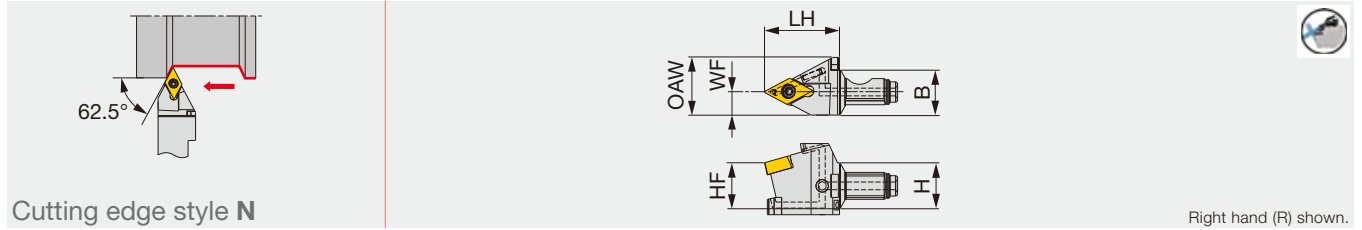
for Small CNC lathes

| P                  | Application areas | Finish cutting | Medium cutting | M                  | Application areas | Finish cutting | Medium cutting | N                  | Application areas | Medium to finish cutting |       |
|--------------------|-------------------|----------------|----------------|--------------------|-------------------|----------------|----------------|--------------------|-------------------|--------------------------|-------|
|                    | Grade             | AH725          | AH725          |                    | AH8015            | Grade          | AH8015         |                    | AH8015            | Grade                    | KS05F |
| Breaker Shape      | SS                | TS             |                | Breaker Shape      | SS                | TS             |                | Breaker Shape      | SS                | TS                       |       |
| Cutting conditions |                   | G114           |                | Cutting conditions |                   | G114           |                | Cutting conditions |                   | B022                     |       |

Reference pages : JS-SDUXL: Inserts → **B126 -**, Standard cutting conditions → **G114**

# QC12-JSDNXR-CHP

Screw-on modular head with 62.5° approach angle, for DX\*U inserts, with high pressure coolant capability



| Metric            | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                           | Torque*       |
|-------------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|----------------------------------|---------------|
| QC12-JSDNXR07-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | DX*U0703**L...<br>(DX*U22**L...) | 0.9<br>(0.66) |

Torque\*: Recommended clamping torque: N-m (lbs-ft)  
 RE\*\*: Standard corner radius  
 Use right-hand toolholders (R) with left-hand inserts (L).

## SPARE PARTS

| Designation       | Clamping screw | Wrench | O-ring               |
|-------------------|----------------|--------|----------------------|
| QC12-JSDNXR07-CHP | SR34-508       | T-7F   | ORSS-0454.5X1.0NBR70 |

## INSERT SELECTION

for Swiss lathes

| P                  | Application areas | Finish cutting | Medium to finish cutting | M    | Application areas | Finish cutting | Medium to finish cutting |
|--------------------|-------------------|----------------|--------------------------|------|-------------------|----------------|--------------------------|
|                    | Grade             | JSS            | SH725                    |      | JS                | SH725          | SH725                    |
| Breaker Shape      |                   |                |                          |      |                   |                |                          |
| Cutting conditions | G114              |                |                          | G114 |                   |                |                          |

for Small CNC lathes

| P                  | Application areas | Finish cutting | Medium cutting | M    | Application areas | Finish cutting | Medium cutting | N | Application areas | Medium to finish cutting |
|--------------------|-------------------|----------------|----------------|------|-------------------|----------------|----------------|---|-------------------|--------------------------|
|                    | Grade             | SS             | AH725          |      | TS                | AH8015         | AH8015         |   | TS                | AH8015                   |
| Breaker Shape      |                   |                |                |      |                   |                |                |   |                   |                          |
| Cutting conditions | G114              |                |                | G114 |                   |                | B022           |   |                   |                          |

Reference pages : QC12-JSDNXR-CHP: Inserts → **B126 -**, Shank, Accessory → **G115, G116**  
 Standard cutting conditions → **G114**



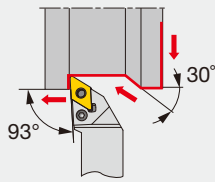
# DN

# FN

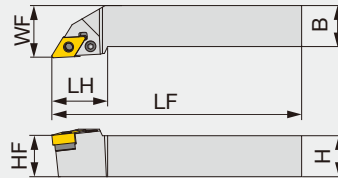


## PDJNR/L

Lever-lock toolholder with 93° approach angle, for negative 55°/45° rhombic inserts



Cutting edge style J



Right hand (R) shown.

| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert           | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|------------------|---------|
| PDJNR/L1033      | 0.625 | 0.625 | 4.000 | 1.125 | 0.625 | 0.875 | 0.031 | DN**/FNMG 33...  | 1.48    |
| PDJNR/L1233      | 0.750 | 0.750 | 4.500 | 1.125 | 0.750 | 1.000 | 0.031 | DN**/FNMG 33...  | 1.48    |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert           | Torque* |
| PDJNR/L1616H1104 | 16    | 16    | 100   | 27    | 16    | 20    | 0.8   | DN**/FNMG1104... | 2       |
| PDJNR/L2020K1104 | 20    | 20    | 125   | 27    | 20    | 25    | 0.8   | DN**/FNMG1104... | 2       |
| PDJNR2020H15     | 20    | 20    | 100   | 32    | 20    | 25    | 0.8   | DN**/FNGA1504... | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

RE\*\*: Standard corner radius

### SPARE PARTS

| Designation                   | Shim   | Clamping screw | Lever  | Spring pin | Wrench |
|-------------------------------|--------|----------------|--------|------------|--------|
| PDJNR/L**33,<br>PDJNR/L**1104 | ELSD32 | LCS3           | LCL33L | LSP3       | P-2.5  |
| PDJNR2020H15                  | LSD42  | LCS4           | LCL4   | LSP4       | P-3    |

## INSERT SELECTION

| Application areas       | Precision finishing | Finish cutting | Medium cutting | Medium to heavy cutting |
|-------------------------|---------------------|----------------|----------------|-------------------------|
|                         | Grade               | NS9530         | GT9530         | T9215                   |
| Breaker Shape           | TF                  | TSF            | TM             | TH                      |
| Cutting conditions B004 |                     |                |                |                         |

| Application areas       | Finish cutting | Medium cutting | Medium to heavy cutting |
|-------------------------|----------------|----------------|-------------------------|
|                         | Grade          | T6215          | AH6225                  |
| Breaker Shape           | SF             | SM             | SH                      |
| Cutting conditions B006 |                |                |                         |

| Application areas       | Finish cutting | Medium cutting | Medium to heavy cutting |
|-------------------------|----------------|----------------|-------------------------|
|                         | Grade          | T515           | T515                    |
| Breaker Shape           | All-round      | All-round      | All-round               |
| Cutting conditions B008 |                |                |                         |

| Application areas       | Precision finishing | Finish cutting | Medium cutting |
|-------------------------|---------------------|----------------|----------------|
|                         | Grade               | DX110          | DX140          |
| Breaker Shape           | DIA                 | with rake DIA  | P, 28          |
| Cutting conditions B010 |                     |                |                |

| Application areas       | Precision finishing | Finish cutting | Medium cutting |
|-------------------------|---------------------|----------------|----------------|
|                         | Grade               | BX950          | AH8005         |
| Breaker Shape           | CBN                 | HRF            | HRM            |
| Cutting conditions B012 |                     |                |                |

| Application areas       | Precision finishing | Finish cutting |
|-------------------------|---------------------|----------------|
|                         | Grade               | BXA10          |
| Breaker Shape           | HP                  | HS             |
| Cutting conditions B014 |                     |                |

Reference pages : PDJNR/L: Inserts → B066 -, CBN → B172 -, PCD → B211

# SC



Square with hole  
Positive 7°

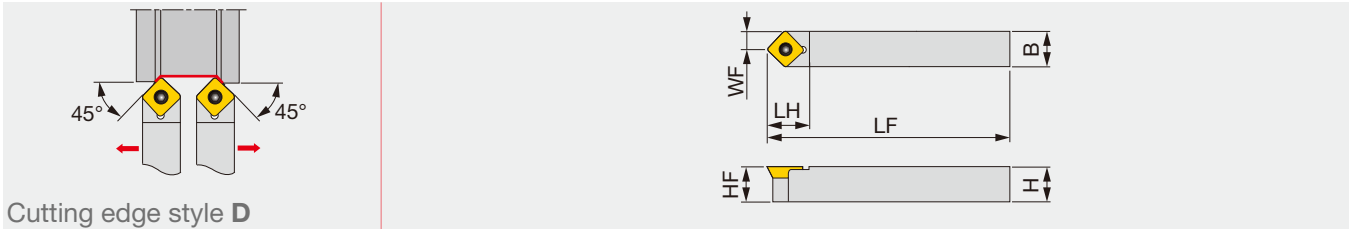
# SP



Square with hole  
Positive 11°

## SSDC/PN

Screw-on toolholder with 45° approach angle, for positive square inserts



| Metric       | H  | B  | LF  | LH | HF | WF | RE** | Insert      |
|--------------|----|----|-----|----|----|----|------|-------------|
| SSDCN1010K07 | 10 | 10 | 125 | 12 | 10 | 5  | 0.4  | SC**0702... |
| SSDPN1010H   | 10 | 10 | 100 | 12 | 10 | 5  | 0.4  | SP*P042...  |
| SSDCN1212K09 | 12 | 12 | 125 | 15 | 12 | 6  | 0.8  | SC**09T3... |
| SSDPN1212H   | 12 | 12 | 100 | 12 | 12 | 6  | 0.4  | SP*P042...  |
| SSDCN1616H09 | 16 | 16 | 100 | 15 | 16 | 8  | 0.8  | SC**09T3... |
| SSDPN1616H   | 16 | 16 | 100 | 14 | 16 | 8  | 0.8  | SP*M322...  |

RE\*\*: Standard corner radius

### SPARE PARTS

| Designation  | Clamping screw | Shim screw | Shim  | Wrench 1 | Wrench 2 |
|--------------|----------------|------------|-------|----------|----------|
| SSDCN1010K07 | CSTB-3         | -          | -     | -        | T-9F     |
| SSDPN1010H   | CSTA-NO3       | -          | -     | -        | T-9F     |
| SSDCN1212K09 | CSTB-4         | -          | -     | -        | T-15F    |
| SSDPN1212H   | CSTA-NO3       | -          | -     | -        | T-9F     |
| SSDCN1616H09 | CSTB-3.5L      | DTS5-3.5   | SSS32 | P-3.5    | T-15F    |
| SSDPN1616H   | CSTA-NO5       | -          | -     | -        | T-9F     |

## INSERT SELECTION

**P** Application areas: Medium to finish cutting, Medium cutting  
 Grade: AH725, AH725  
 Breaker Shape: PS, PM  
 Cutting conditions: B016

**M** Application areas: Medium cutting  
 Grade: AH725  
 Breaker Shape: PM  
 Cutting conditions: B018

**K** Application areas: Medium to finish cutting  
 Grade: T515  
 Breaker Shape: CM  
 Cutting conditions: B020

Reference pages : SSDC/PN: Inserts → **B134 -**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
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A  
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I  
J  
K  
L  
M



# TC

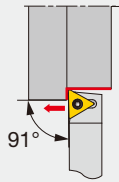


Triangular  
with hole  
Positive 7°

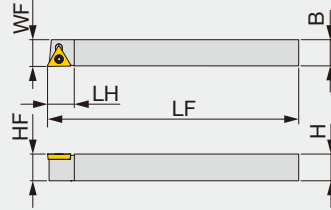
## J-SERIES

JSTACR/L

Screw-on toolholder with 91° approach angle, for positive 60° triangular inserts



Cutting edge style A



Without offset

Right hand (R) shown.

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JSTACR/L0808K08 | 8  | 8  | 125 | 10 | 8  | 8  | 0.2  | TC**0802... | 0.6     |
| JSTACR/L1010K08 | 10 | 10 | 125 | 10 | 10 | 10 | 0.2  | TC**0802... | 0.6     |
| JSTACR/L1212K11 | 12 | 12 | 125 | 12 | 12 | 12 | 0.4  | TC**1102... | 1.2     |
| JSTACR/L1616H11 | 16 | 16 | 100 | 12 | 16 | 16 | 0.4  | TC**1102... | 1.2     |

Torque\*: Recommended clamping torque (N·m) RE\*\*: Standard corner radius

### SPARE PARTS



| Designation   | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|---------------|----------------|----------|---------------------|
| JSTACR/L**K08 | CSTB-2L        | T-6F     | (T-6L)              |
| JSTACR/L**11  | CSTB-2.5       | T-8F     | (T-8L)              |

### INSERT SELECTION

| Application areas  | Precision finishing |       | Finish cutting | Medium to finish cutting |
|--------------------|---------------------|-------|----------------|--------------------------|
|                    | SH725               | SH725 | SH725          | SH725                    |
| Grade              | 01                  | JP    | JS             | JS                       |
| Breaker Shape      |                     |       |                |                          |
| Cutting conditions | G114                |       |                |                          |

| Application areas  | Precision finishing |       | Finish cutting | Medium to finish cutting |
|--------------------|---------------------|-------|----------------|--------------------------|
|                    | SH725               | SH725 | SH725          | SH725                    |
| Grade              | 01                  | JP    | JS             | JS                       |
| Breaker Shape      |                     |       |                |                          |
| Cutting conditions | G114                |       |                |                          |

| Application areas  | Medium to finish cutting |
|--------------------|--------------------------|
| Grade              | SH725                    |
| Breaker Shape      | J10                      |
| Cutting conditions | G114                     |

| Application areas  | Medium to finish cutting |
|--------------------|--------------------------|
| Grade              | SH725                    |
| Breaker Shape      | J10                      |
| Cutting conditions | G114                     |

| Application areas  | Medium to finish cutting |
|--------------------|--------------------------|
| Grade              | T515                     |
| Breaker Shape      | CM                       |
| Cutting conditions | B020                     |

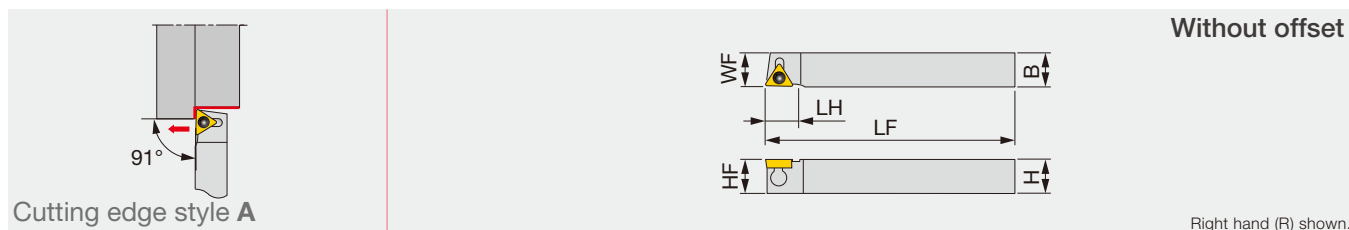
| Application areas  | Precision finishing | Medium cutting |
|--------------------|---------------------|----------------|
| Grade              | DX120               | KS05F          |
| Breaker Shape      | DIA                 | with rake AL   |
| Cutting conditions | B022                |                |

| Application areas  | Finish cutting |
|--------------------|----------------|
| Grade              | BXA10          |
| Breaker Shape      | CBN            |
| Cutting conditions | B026           |

Reference pages : JSTACR/L: Inserts → B138 -, CBN → B198, PCD → B215 -

## JTTACR/L

Back-clamp toolholder with 91° approach angle, for positive 60° triangular inserts



| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JTTACL0810K08   | 8  | 10 | 125 | 10 | 8  | 10 | 0.2  | TC**0802... | 0.9     |
| JTTACR/L1212M11 | 12 | 12 | 150 | 12 | 12 | 12 | 0.4  | TC**1102... | 0.9     |
| JTTACR/L1616M11 | 16 | 16 | 150 | 12 | 16 | 16 | 0.4  | TC**1102... | 0.9     |

Torque\*: Recommended clamping torque (N·m) RE\*\*: Standard corner radius

### SPARE PARTS

| Designation   | Clamp | Clamping screw | Wrench |
|---------------|-------|----------------|--------|
| JTTACL0810K08 | JCP-1 | JDS-3525       | P-2F   |
| JTTACR/L**M11 | JCP-2 | JDS-3525       | P-2F   |

## INSERT SELECTION

**P** Application areas: Precision finishing, Finish cutting, Medium to finish cutting  
 Grade: SH725, SH725, SH725, SH725  
 Breaker Shape: 01, JP, JS, JS  
 Cutting conditions: G114

**M** Application areas: Precision finishing, Finish cutting, Medium to finish cutting  
 Grade: SH725, SH725, SH725, SH725  
 Breaker Shape: 01, JP, JS, JS  
 Cutting conditions: G114

**P** Application areas: Medium to finish cutting  
 Grade: SH725  
 Breaker Shape: J10  
 Cutting conditions: G114

**M** Application areas: Medium to finish cutting  
 Grade: SH725  
 Breaker Shape: J10  
 Cutting conditions: G114

**K** Application areas: Medium to finish cutting  
 Grade: T515  
 Breaker Shape: CM  
 Cutting conditions: B020

**N** Application areas: Precision finishing, Medium cutting  
 Grade: DX120, KS05F  
 Breaker Shape: DIA, with rake AL  
 Cutting conditions: B022

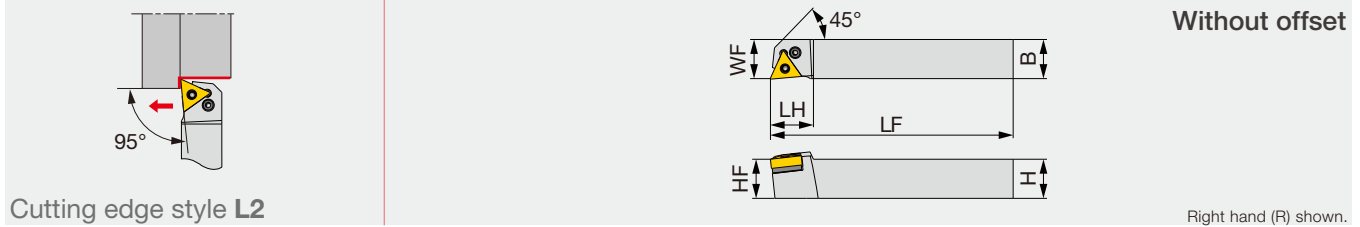
**H** Application areas: Finish cutting  
 Grade: BXA10  
 Breaker Shape: CBN  
 Cutting conditions: B026

Reference pages : JTTACR/L: Inserts → **B138 -**, CBN → **B198**, PCD → **B215 -**



## PTL2NR/L

Lever-lock toolholder with 95° approach angle, for negative 60° triangular inserts



Right hand (R) shown.

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| PTL2NR/L2020H16 | 20 | 20 | 100 | 22 | 20 | 20 | 0.4  | TN**1604... | 2       |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

C

## JTTLNR/L

Back-clamp toolholder with 95° approach angle, for negative 60° triangular inserts

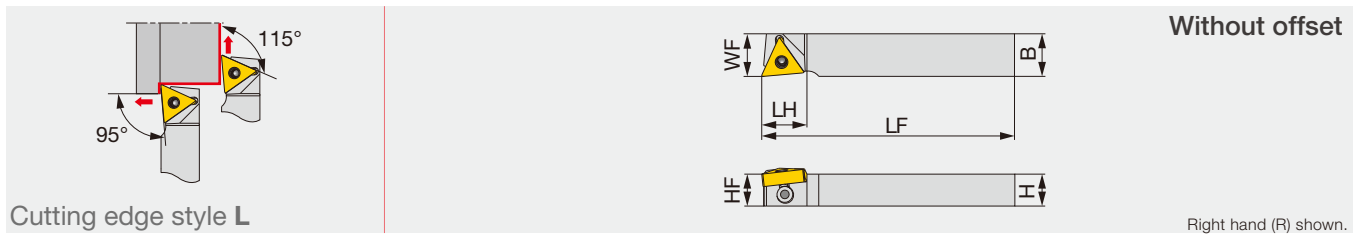
D

F

G

S

T



Right hand (R) shown.

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JTTLNR/L1216F16 | 12 | 16 | 85  | 17 | 12 | 16 | 0.4  | TN**1604... | 1       |
| JTTLNR/L1216X16 | 12 | 16 | 120 | 17 | 12 | 16 | 0.4  | TN**1604... | 1       |
| JTTLNR/L1616X16 | 16 | 16 | 120 | 17 | 16 | 16 | 0.4  | TN**1604... | 1       |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

V

W

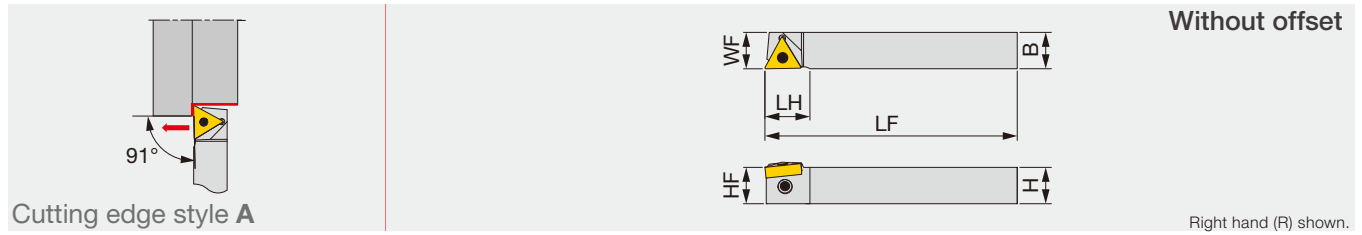
### SPARE PARTS



| Designation | Clamp  | Shim       | Clamping screw | Clamping screw 1 | Wrench | Wrench 1 | Spring pin | Lever |
|-------------|--------|------------|----------------|------------------|--------|----------|------------|-------|
| PTL2NR/L... | -      | LST317 D30 | -              | LCS3             | -      | P-2.5    | LSP3       | LCL3  |
| JTTLNR/L... | JCP-3N | -          | JDS-5040       | -                | P-2.5F | -        | -          | -     |

# JTTANR/L

Back-clamp toolholder with 91° approach angle, for negative 60° triangular inserts



| Metric          | H  | B  | LF  | LH   | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|------|----|----|------|-------------|---------|
| JTTANR/L1216K16 | 12 | 16 | 125 | 19.8 | 12 | 16 | 0.4  | TN**1604... | 1.2     |
| JTTANR/L1616K16 | 16 | 16 | 125 | 19.8 | 16 | 16 | 0.4  | TN**1604... | 1.2     |

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

## SPARE PARTS

| Designation | Clamp  | Clamping screw | Wrench |
|-------------|--------|----------------|--------|
| JTTANR/L... | JCP-3N | JDS-5040       | P-2.5F |

## INSERT SELECTION

|          |                    |                         |                |                |                    |                     |                    |                         |                |                |
|----------|--------------------|-------------------------|----------------|----------------|--------------------|---------------------|--------------------|-------------------------|----------------|----------------|
| <b>P</b> | Application areas  | Precision finishing     | Finish cutting |                | Medium cutting     | <b>M</b>            | Application areas  | Precision finishing     | Finish cutting | Medium cutting |
|          | Grade              | SH725                   | SH725          | GT9530         | T9215              |                     | Grade              | SH725                   | SH725          | AH6225         |
|          | Breaker Shape      |                         |                |                |                    |                     | Breaker Shape      |                         |                |                |
|          | Cutting conditions | G114                    |                |                | B004               |                     | Cutting conditions | G114                    |                | B006           |
| <b>P</b> | Application areas  | Medium to heavy cutting |                | <b>K</b>       | Application areas  | Finish cutting      | Medium cutting     | Medium to heavy cutting |                |                |
|          | Grade              | T9215                   |                |                | Grade              | T515                | T515               | T515                    |                |                |
|          | Breaker Shape      |                         |                |                | Breaker Shape      |                     |                    |                         |                |                |
|          | Cutting conditions | B004                    |                |                | Cutting conditions | B008                |                    |                         |                |                |
| <b>N</b> | Application areas  | Precision finishing     | Finish cutting | Medium cutting |                    | <b>S</b>            | Application areas  | Precision finishing     | Finish cutting | Medium cutting |
|          | Grade              | DX110                   | DX140          | TH10           | KS05F              |                     | Grade              | BX950                   | AH8005         | AH8005         |
|          | Breaker Shape      |                         |                |                |                    |                     | Breaker Shape      |                         |                |                |
|          | Cutting conditions | B010                    |                |                |                    |                     | Cutting conditions | B012                    |                |                |
| <b>H</b> | Application areas  | Precision finishing     | Finish cutting | <b>L</b>       | Application areas  | Precision finishing | Finish cutting     | Medium cutting          |                |                |
|          | Grade              | BXA10                   | BXA10          |                | Grade              | BXA10               | BXA10              | BXA10                   |                |                |
|          | Breaker Shape      |                         |                |                | Breaker Shape      |                     |                    |                         |                |                |
|          | Cutting conditions | B014                    |                |                | Cutting conditions | B014                |                    |                         |                |                |

Reference pages : JTTANR/L: Inserts → **B087** -, CBN → **B182** -, PCD → **B212**



# VB

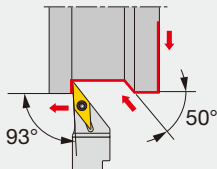


**Rhombic, 35°  
with hole  
Positive 5°**

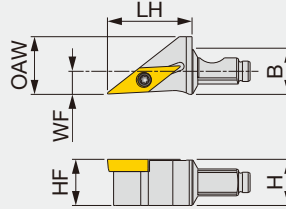
## MODUM<sup>INI</sup>TURN

### QC12-JSVJ2BR

Screw-on modular head with 93° approach angle, for positive 35° rhombic inserts



Cutting edge style **J2**



Without offset

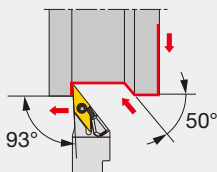
Right hand (R) shown.

| Metric         | H              | B              | LH             | HF             | WF            | OAW            | RE**            | Insert                     | Torque*       |
|----------------|----------------|----------------|----------------|----------------|---------------|----------------|-----------------|----------------------------|---------------|
| QC12-JSVJ2BR11 | 12<br>(0.750") | 12<br>(0.750") | 22<br>(0.866") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | VB**1103...<br>(VB**22...) | 1.2<br>(0.89) |

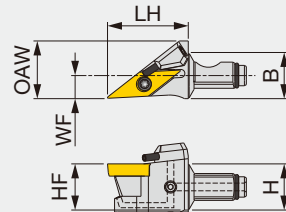
Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius

### QC12-JSVJ2BR-CHP

Screw-on modular head with 93° approach angle, for positive 35° rhombic inserts, with high pressure coolant capability



Cutting edge style **J2**



Without offset

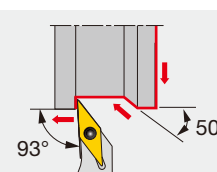
Right hand (R) shown.

| Metric             | H              | B              | LH             | HF             | WF            | OAW            | RE**            | Insert                      | Torque*       |
|--------------------|----------------|----------------|----------------|----------------|---------------|----------------|-----------------|-----------------------------|---------------|
| QC12-JSVJ2BR11-CHP | 12<br>(0.750") | 12<br>(0.750") | 21<br>(0.827") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | VB**1103...<br>(VB** 22...) | 1.2<br>(0.89) |

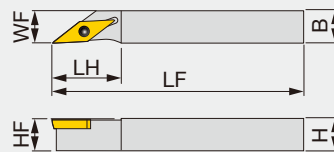
Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius

### JSVJ2BR/L

Screw-on toolholder with 93° approach angle, for positive 35° rhombic inserts



Cutting edge style **J2**



Without offset

Right hand (R) shown.

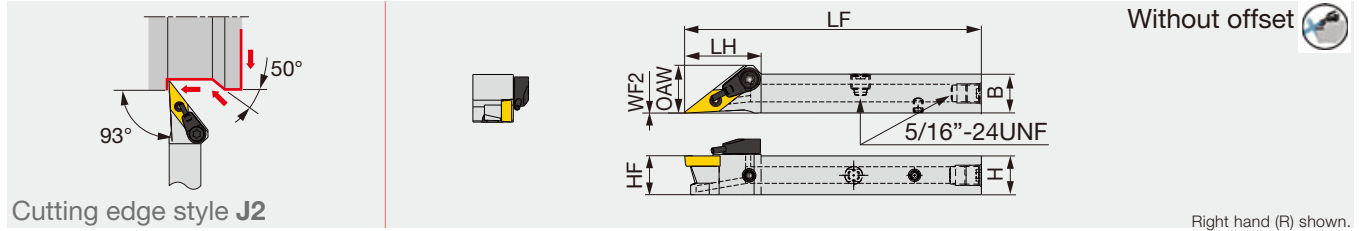
| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| JSVJ2BR/L062     | 0.375 | 0.375 | 5.000 | 0.813 | 0.375 | 0.375 | 0.008 | VB** 22...  | 0.89    |
| JSVJ2BR/L082     | 0.500 | 0.500 | 5.000 | 0.813 | 0.500 | 0.500 | 0.008 | VB** 22...  | 0.89    |
| JSVJ2BR/L102     | 0.625 | 0.625 | 5.000 | 0.813 | 0.625 | 0.625 | 0.008 | VB** 22...  | 0.89    |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| JSVJ2BR/L1010X11 | 10    | 10    | 120   | 21    | 10    | 10    | 0.2   | VB**1103... | 1.2     |
| JSVJ2BR/L1212F11 | 12    | 12    | 85    | 21    | 12    | 12    | 0.2   | VB**1103... | 1.2     |
| JSVJ2BR/L1212X11 | 12    | 12    | 120   | 21    | 12    | 12    | 0.2   | VB**1103... | 1.2     |
| JSVJ2BR/L1616X11 | 16    | 16    | 120   | 21    | 16    | 16    | 0.2   | VB**1103... | 1.2     |

Torque: Recommended clamping torque: lbs·ft (\*N·m)  
RE\*\*: Standard corner radius

### SPARE PARTS

| Designation                  | Clamping screw | Wrench 1 | O-ring               | Coolant nozzle | Screw      | Wrench 2 |
|------------------------------|----------------|----------|----------------------|----------------|------------|----------|
| QC12-JSVJ2BR11, JSVJ2BR/L... | CSTB-2.5       | T-8F     | -                    | -              | -          | -        |
| QC12-JSVJ2BR11-CHP           | CSTB-2.5       | T-8F     | ORSS-0454.5X1.0NBR70 | NZ-1.10-7-CHP  | SSHM4-4-TB | P-2      |

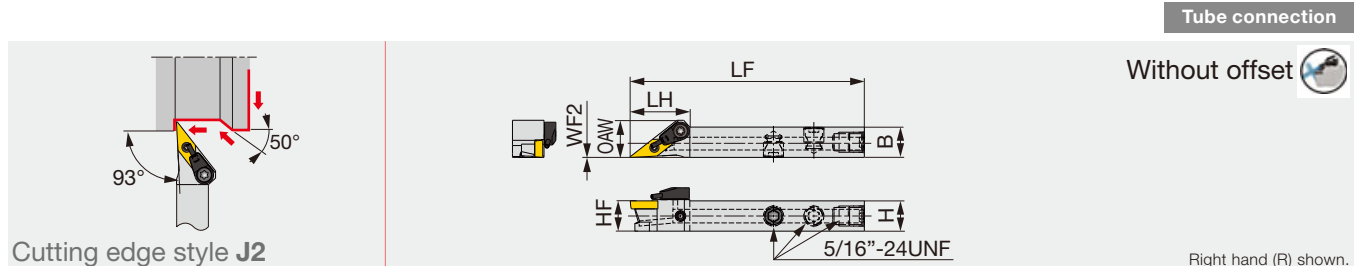
Screw-on toolholder without offset, 93° approach angle for positive 35° rhombic inserts, high pressure coolant compatible



Cutting edge style J2

| Metric             | H  | B  | LF  | LH   | HF | WF2 | OAW  | RE  | Insert   | Torque* |
|--------------------|----|----|-----|------|----|-----|------|-----|----------|---------|
| JSVJ2BR1212X11-CHP | 12 | 12 | 120 | 23.6 | 12 | 0   | 14.7 | 0.2 | VB**1103 | 1.2     |
| JSVJ2BR1616X11-CHP | 16 | 16 | 120 | 23.6 | 16 | 0   | 16   | 0.2 | VB**1103 | 1.2     |

Right hand (R) shown.



Cutting edge style J2

| Inch                 | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert      | Torque  |
|----------------------|-------|-------|-------|-------|-------|-----|-------|-------|-------------|---------|
| JSVJ2BR/L082-CHP     | 0.500 | 0.500 | 3.344 | 0.930 | 0.500 | 0   | 0.610 | 0.008 | VB** 22...  | 0.89    |
| Metric               | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert      | Torque* |
| JSVJ2BR/L1212F11-CHP | 12    | 12    | 85    | 23.6  | 12    | 0   | 14.7  | 0.2   | VB**1103... | 1.2     |

Right hand (R) shown.

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
RE\*\*: Standard corner radius

| SPARE PARTS                       | Clamping screw | Coolant unit | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench |
|-----------------------------------|----------------|--------------|--------|----------------|--------|----------------|--------|
| JSVJ2B**X11-CHP                   | CSTB-2.5       | S-CU-CHP     | T-8F   | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| JSVJ2BR/L082-CHP, JSVJ2B**F11-CHP | CSTB-2.5       | S-CU-CHP     | T-8F   | SR5/16UNFTL360 | P-4    | -              | -      |

### INSERT SELECTION

|                    |                   |                          |                |                          |                          |          |                   |                     |                |                          |                          |  |
|--------------------|-------------------|--------------------------|----------------|--------------------------|--------------------------|----------|-------------------|---------------------|----------------|--------------------------|--------------------------|--|
| <b>P</b>           | Application areas | Precision finishing      | Finish cutting | Medium to finish cutting | Medium to finish cutting | <b>M</b> | Application areas | Precision finishing | Finish cutting | Medium to finish cutting | Medium to finish cutting |  |
|                    | Grade             | SH725                    | SH725          | SH725                    | SH725                    |          | Grade             | SH725               | SH725          | SH725                    | SH725                    |  |
|                    | Breaker Shape     | JP                       | JS             | JS                       | J10                      |          | Breaker Shape     | JP                  | JS             | JS                       | J10                      |  |
| Cutting conditions |                   |                          |                |                          |                          | G114     |                   |                     |                |                          |                          |  |
| <b>K</b>           | Application areas | Medium to finish cutting |                |                          |                          |          | <b>S</b>          | Application areas   | Finish cutting | Medium to finish cutting |                          |  |
|                    | Grade             | T515                     |                |                          |                          |          |                   | Grade               | SH725          | SH725                    |                          |  |
|                    | Breaker Shape     | CM                       |                |                          |                          |          |                   | Breaker Shape       | JS             | JS                       |                          |  |
| Cutting conditions |                   |                          |                |                          |                          | B020     |                   |                     |                |                          |                          |  |
| <b>H</b>           | Application areas | Precision finishing      | Finish cutting |                          |                          |          |                   |                     |                |                          |                          |  |
|                    | Grade             | BXA10                    | BXA10          |                          |                          |          |                   |                     |                |                          |                          |  |
|                    | Breaker Shape     | HP                       | CBN            |                          |                          |          |                   |                     |                |                          |                          |  |
| Cutting conditions |                   |                          |                |                          |                          | B026     |                   |                     |                |                          |                          |  |

Reference pages : QC12-JSVJ2BR, QC12-JSVJ2BR-CHP, JSVJ2BR/L, JSVJ2BR/L-CHP:  
Inserts → B150 -, CBN → B207 -, Shank, Accessory → G115, G116

# VB

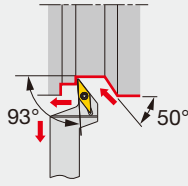


**Rhombic, 35°  
with hole  
Positive 5°**

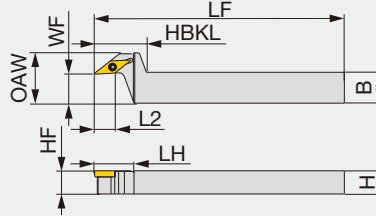
## J-SERIES

### JSVJBR-F

Screw-on stepped-head toolholder with 93° approach angle, for positive 35° rhombic inserts



Cutting edge style J



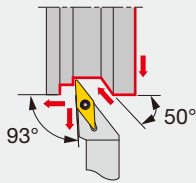
Right hand (R) shown.

| Metric            | H  | B  | LF  | L2   | HBKL | LH | HF | WF | OAW | RE** | Insert      | Torque* |
|-------------------|----|----|-----|------|------|----|----|----|-----|------|-------------|---------|
| JSVJBR1216F11-F15 | 12 | 16 | 85  | 12.6 | 27   | 21 | 12 | 15 | 26  | 0.2  | VB**1103... | 1.2     |
| JSVJBR1216X11-F15 | 12 | 16 | 120 | 12.6 | 27   | 21 | 12 | 15 | 26  | 0.2  | VB**1103... | 1.2     |
| JSVJBR1620X11-F15 | 16 | 20 | 120 | 12.6 | 27   | 21 | 16 | 15 | 26  | 0.2  | VB**1103... | 1.2     |

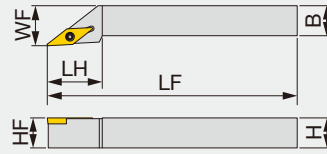
Torque\*: Recommended clamping torque (N-m) RE\*\*: Standard corner radius

### JSVJBR/L

Screw-on toolholder with 93° approach angle, for positive 35° rhombic inserts



Cutting edge style J



Right hand (R) shown.

| Inch       | H     | B     | LF    | LH    | HF    | WF    | RE**   | Insert    | Torque* |
|------------|-------|-------|-------|-------|-------|-------|--------|-----------|---------|
| SVJBR/L122 | 0.750 | 0.750 | 4.500 | 1.063 | 0.750 | 1.000 | 0.0160 | VB**22... | 0.89    |
| SVJBR/L123 | 0.750 | 0.750 | 4.500 | 1.181 | 0.750 | 1.000 | 0.0320 | VB**33... | 0.89    |
| SVJBR/L163 | 1.000 | 1.000 | 6.000 | 1.575 | 1.000 | 1.250 | 0.0320 | VB**33... | 0.89    |

| Metric          | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|-----------------|----|----|-----|----|----|----|------|-------------|---------|
| JSVJBR/L1010H11 | 10 | 10 | 100 | 20 | 10 | 12 | 0.4  | VB**1103... | 1.2     |
| JSVJBR/L1212H11 | 12 | 12 | 100 | 22 | 12 | 16 | 0.4  | VB**1103... | 1.2     |
| JSVJBR/L1616H11 | 16 | 16 | 100 | 22 | 16 | 20 | 0.4  | VB**1103... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius

### SPARE PARTS

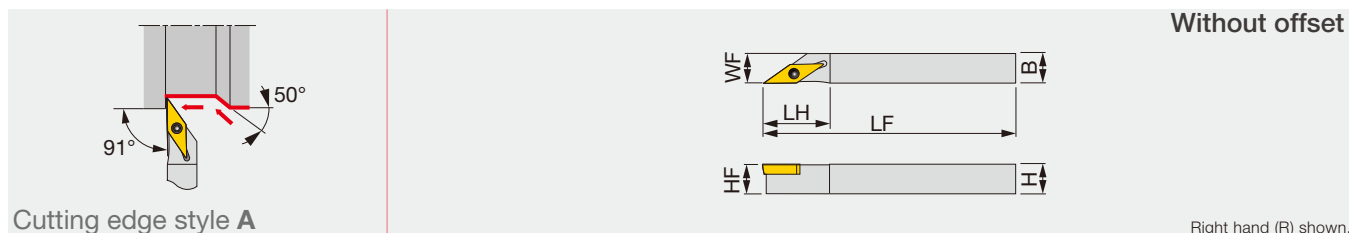


| Designation               | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|---------------------------|----------------|----------|---------------------|
| JSVJBR**-F15, JSVJBR/L... | CSTB-2.5       | T-8F     | (T-8L)              |

Reference pages : JSVJBR-F, JSVJBR/L: Inserts → **B150** -, CBN → **B207** -

## JSVABL

Screw-on toolholder with 91° approach angle, for positive 35° rhombic inserts

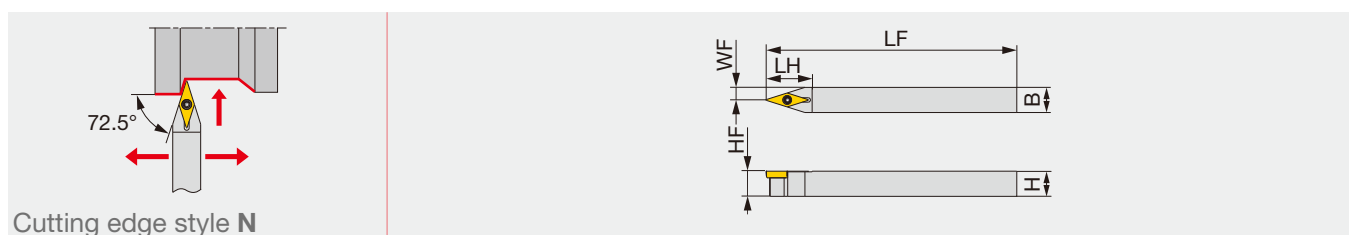


| Metric        | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|---------------|----|----|-----|----|----|----|------|-------------|---------|
| JSVABL1010K11 | 10 | 10 | 125 | 21 | 10 | 10 | 0.2  | VB**1103... | 1.2     |
| JSVABL1212K11 | 12 | 12 | 125 | 21 | 12 | 12 | 0.2  | VB**1103... | 1.2     |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

## JSVNBN

Screw-on toolholder with 72.5° approach angle, for positive 35° rhombic inserts



| Metric        | H  | B  | LF  | LH | HF | WF | RE** | Insert      | Torque* |
|---------------|----|----|-----|----|----|----|------|-------------|---------|
| JSVNBN1010X11 | 10 | 10 | 120 | 22 | 10 | 5  | 0.2  | VB**1103... | 1.2     |
| JSVNBN1212F11 | 12 | 12 | 85  | 22 | 12 | 6  | 0.2  | VB**1103... | 1.2     |
| JSVNBN1212X11 | 12 | 12 | 120 | 22 | 12 | 6  | 0.2  | VB**1103... | 1.2     |
| JSVNBN1616X11 | 16 | 16 | 120 | 22 | 16 | 8  | 0.2  | VB**1103... | 1.2     |

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSVNB...    | CSTB-2.5       | T-8F     | (T-8L)              |

### INSERT SELECTION

|          |                    |                          |                          |                          |                          |
|----------|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>P</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | Medium to finish cutting |
|          | Grade              | SH725                    | SH725                    | SH725                    | SH725                    |
|          | Breaker Shape      | JP                       | JS                       | JS                       | J10                      |
|          | Cutting conditions | G114                     |                          |                          |                          |
| <b>K</b> | Application areas  | Medium to finish cutting |                          |                          |                          |
|          | Grade              | T515                     |                          |                          |                          |
|          | Breaker Shape      | CM                       |                          |                          |                          |
|          | Cutting conditions | B020                     |                          |                          |                          |
| <b>M</b> | Application areas  | Precision finishing      | Finish cutting           | Medium to finish cutting | Medium to finish cutting |
|          | Grade              | SH725                    | SH725                    | SH725                    | SH725                    |
|          | Breaker Shape      | JP                       | JS                       | JS                       | J10                      |
|          | Cutting conditions | G114                     |                          |                          |                          |
| <b>S</b> | Application areas  | Finish cutting           | Medium to finish cutting |                          |                          |
|          | Grade              | SH725                    | SH725                    |                          |                          |
|          | Breaker Shape      | JS                       | JS                       |                          |                          |
|          | Cutting conditions | G114                     |                          |                          |                          |
| <b>H</b> | Application areas  | Precision finishing      | Finish cutting           |                          |                          |
|          | Grade              | BXA10                    | BXA10                    |                          |                          |
|          | Breaker Shape      | HP                       | CBN                      |                          |                          |
|          | Cutting conditions | B026                     |                          |                          |                          |

Reference pages : JSVABL, JSVNBN: Inserts → B150 -, CBN → B207 -

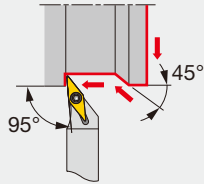


# VP

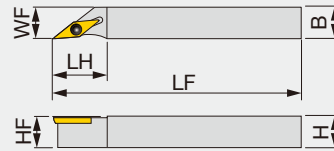
Rhombic, 35°  
with hole  
Positive 11°

## J-SERIES JSVL2PR/L

Screw-on toolholder with 95° approach angle, for positive 35° rhombic inserts



Cutting edge style L2



Without offset

Right hand (R) shown.

| Inch             | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|
| JSVL2PR/L082     | 0.500 | 0.500 | 5.000 | 0.813 | 0.500 | 0.500 | 0.008 | VP**63...   | 0.89    |
| JSVL2PR/L102     | 0.625 | 0.625 | 5.000 | 0.813 | 0.625 | 0.625 | 0.008 | VP**63...   | 0.89    |
| Metric           | H     | B     | LF    | LH    | HF    | WF    | RE**  | Insert      | Torque* |
| JSVL2PR/L1010X08 | 10    | 10    | 120   | 16    | 10    | 10    | 0.2   | VP**0802... | 0.6     |
| JSVL2PR/L1010K08 | 10    | 10    | 125   | 16    | 10    | 10    | 0.2   | VP**0802... | 0.6     |
| JSVL2PR/L1212F08 | 12    | 12    | 85    | 16    | 12    | 12    | 0.2   | VP**0802... | 0.6     |
| JSVL2PR/L1212F11 | 12    | 12    | 85    | 21    | 12    | 12    | 0.2   | VP**1103... | 1.2     |
| JSVL2PR/L1212X08 | 12    | 12    | 120   | 16    | 12    | 12    | 0.2   | VP**0802... | 0.6     |
| JSVL2PR/L1212X11 | 12    | 12    | 120   | 21    | 12    | 12    | 0.2   | VP**1103... | 1.2     |
| JSVL2PR/L1212K08 | 12    | 12    | 125   | 16    | 12    | 12    | 0.2   | VP**0802... | 0.6     |
| JSVL2PR/L1616X08 | 16    | 16    | 120   | 16    | 16    | 16    | 0.2   | VP**0802... | 0.6     |
| JSVL2PL1616K08   | 16    | 16    | 125   | 16    | 16    | 16    | 0.2   | VP**0802... | 0.6     |
| JSVL2PR/L1616X11 | 16    | 16    | 120   | 21    | 16    | 16    | 0.2   | VP**1103... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
RE\*\*: Standard corner radius

### SPARE PARTS

| Designation      | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|------------------|----------------|----------|---------------------|
| JSVL2PR/L082/102 | CSTB-2.5       | T-8F     | (T-8L)              |
| JSVL2PR/L**08    | CSTB-2L        | T-6F     | (T-6L)              |
| JSVL2PR/L**11    | CSTB-2.5       | T-8F     | (T-8L)              |

### INSERT SELECTION

**P**

| Application areas  | Finish cutting | Finish cutting |
|--------------------|----------------|----------------|
| Grade              | SH725          | SH725          |
| Breaker Shape      | JRP            | JSP            |
| Breaking Shape     |                |                |
| Cutting conditions | G114           |                |

**M**

| Application areas  | Finish cutting | Finish cutting |
|--------------------|----------------|----------------|
| Grade              | SH725          | SH725          |
| Breaker Shape      | JRP            | JSP            |
| Breaking Shape     |                |                |
| Cutting conditions | G114           |                |

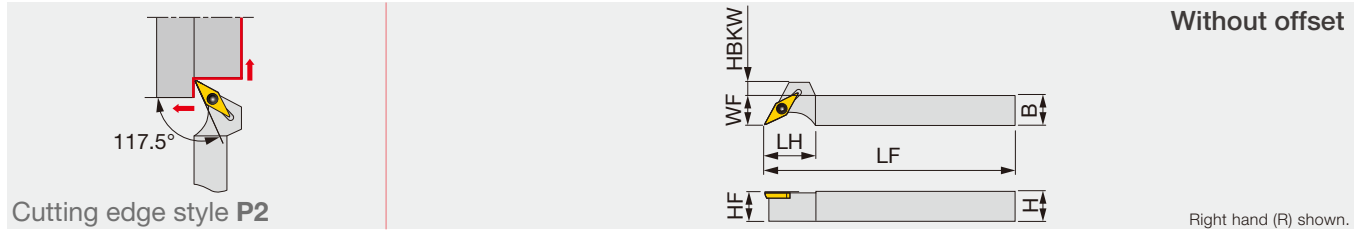
**S**

| Application areas  | Finish cutting | Finish cutting |
|--------------------|----------------|----------------|
| Grade              | SH725          | SH725          |
| Breaker Shape      | JRP            | JSP            |
| Breaking Shape     |                |                |
| Cutting conditions | G114           |                |

Reference pages : JSVL2PR/L: Inserts → **B154**

# JSVP2PR/L

Screw-on toolholder with 117.5° approach angle, for positive 35° rhombic inserts



Cutting edge style **P2**

| Metric           | H  | B  | LF  | LH | HF | WF | HBKW | RE** | Insert      | Torque* |
|------------------|----|----|-----|----|----|----|------|------|-------------|---------|
| JSVP2PR/L1010K08 | 10 | 10 | 125 | 16 | 10 | 10 | 4    | 0.2  | VP**0802... | 0.6     |
| JSVP2PR/L1010K11 | 10 | 10 | 125 | 20 | 10 | 10 | 8    | 0.2  | VP**1103... | 1.2     |
| JSVP2PR/L1212K08 | 12 | 12 | 125 | 16 | 12 | 12 | 2    | 0.2  | VP**0802... | 0.6     |
| JSVP2PR/L1212K11 | 12 | 12 | 125 | 20 | 12 | 12 | 6    | 0.2  | VP**1103... | 1.2     |
| JSVP2PR/L1616K08 | 16 | 16 | 125 | 16 | 16 | 16 | 2    | 0.2  | VP**0802... | 0.6     |
| JSVP2PR/L1616K11 | 16 | 16 | 125 | 20 | 16 | 16 | 6    | 0.2  | VP**1103... | 1.2     |

Torque\*: Recommended clamping torque (N-m)

RE\*\*: Standard corner radius

## SPARE PARTS



| Designation   | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|---------------|----------------|----------|---------------------|
| JSVP2PR/L**08 | CSTB-2L        | T-6F     | (T-6L)              |
| JSVP2PR/L**11 | CSTB-2.5       | T-8F     | (T-8L)              |

## INSERT SELECTION

**P**

| Application areas  | Finish cutting | Finish cutting |
|--------------------|----------------|----------------|
| Grade              | SH725          | SH725          |
| Breaker Shape      | JRP            | JSP            |
| Images             |                |                |
| Cutting conditions | G114           |                |

**M**

| Application areas  | Finish cutting | Finish cutting |
|--------------------|----------------|----------------|
| Grade              | SH725          | SH725          |
| Breaker Shape      | JRP            | JSP            |
| Images             |                |                |
| Cutting conditions | G114           |                |

**S**

| Application areas  | Finish cutting | Finish cutting |
|--------------------|----------------|----------------|
| Grade              | SH725          | SH725          |
| Breaker Shape      | JRP            | JSP            |
| Images             |                |                |
| Cutting conditions | G114           |                |

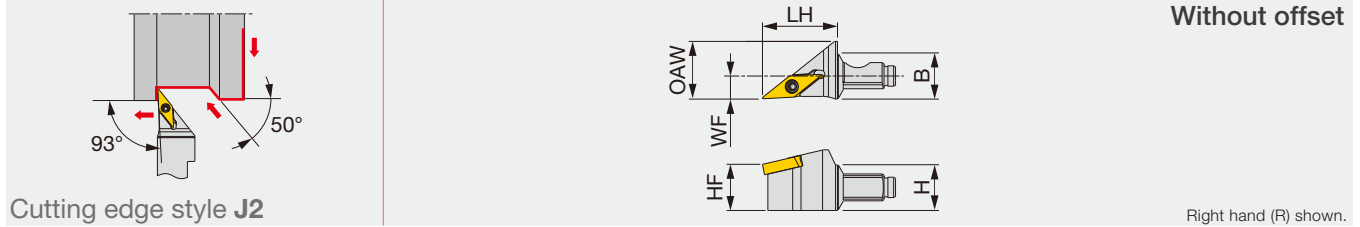
Reference pages : JSVP2PR/L: Inserts → **B154**

# VX

 **Rhombic, 35° with hole**

## MINIFORCE QC12-JSVJ2XR

Screw-on modular head with 93° approach angle, for VXGU inserts



| Metric         | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                             | Torque*       |
|----------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|------------------------------------|---------------|
| QC12-JSVJ2XR09 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | VXGU09T2**L...<br>(VXGU73.5**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

C

## QC12-JSVJ2XR-CHP

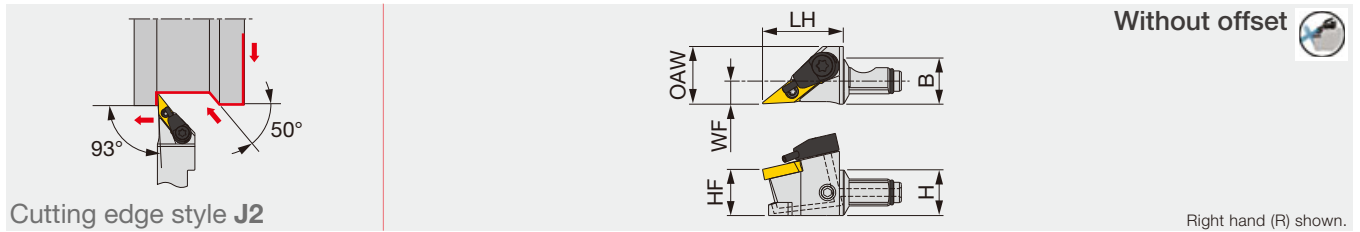
Screw-on modular head with 93° approach angle, for VXGU inserts, with high pressure coolant capability

D

F

G

S



| Metric             | H              | B              | LH             | HF             | WF            | OAW            | RE**            | Insert                             | Torque*       |
|--------------------|----------------|----------------|----------------|----------------|---------------|----------------|-----------------|------------------------------------|---------------|
| QC12-JSVJ2XR09-CHP | 12<br>(0.750") | 12<br>(0.750") | 21<br>(0.827") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | VXGU09T2**L...<br>(VXGU73.5**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

V

W

OTHERS

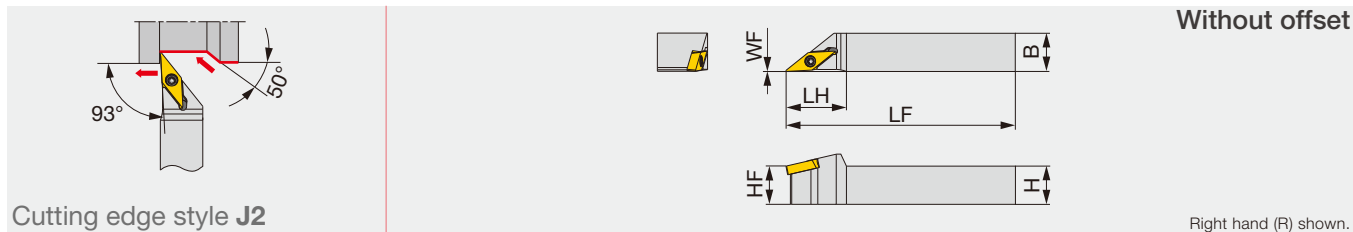
### SPARE PARTS

| Designation        | Clamping screw | Coolant unit | Wrench | O-ring               | Lever  | Pin     | Clamping screw | Wrench     |
|--------------------|----------------|--------------|--------|----------------------|--------|---------|----------------|------------|
| QC12-JSVJ2XR09     | SR34-508       | -            | T-7F   | -                    | SLLV-1 | SL-PI-2 | SR10400611     | HW2.0/5RED |
| QC12-JSVJ2XR09-CHP | SR34-508       | S-CU-CHP     | T-7F   | ORSS-0454.5X1.0NBR70 | -      | -       | -              | -          |

Reference pages : QC12-JSVJ2XR, QC12-JSVJ2XR-CHP: Inserts → **B155**, Shank, Accessory → **G115**, **G116**  
Standard cutting conditions → **G114**

## JSVJ2XR/L

Screw-on toolholder with 93° approach angle, for VXGU inserts

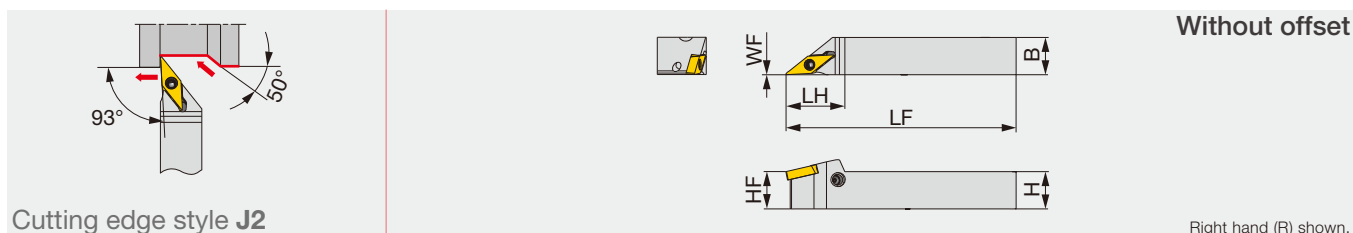


| Inch             | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert           | Torque  |
|------------------|-------|-------|-------|-------|-------|----|-------|------------------|---------|
| JSVJ2XR/L067     | 0.375 | 0.375 | 4.750 | 0.669 | 0.375 | 0  | 0.008 | VXGU73*L/R...    | 0.66    |
| JSVJ2XR/L087     | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0  | 0.008 | VXGU73*L/R...    | 0.66    |
| JSVJ2XR/L107     | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0  | 0.008 | VXGU73*L/R...    | 0.66    |
| Metric           | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert           | Torque* |
| JSVJ2XR/L1010X09 | 10    | 10    | 120   | 17    | 10    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JSVJ2XR/L1212F09 | 12    | 12    | 85    | 19    | 12    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JSVJ2XR/L1212X09 | 12    | 12    | 120   | 19    | 12    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JSVJ2XR/L1616X09 | 16    | 16    | 120   | 19    | 16    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JSVJ2XR/L2020H09 | 20    | 20    | 100   | 19    | 20    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
 Use right-hand toolholders (R) with left-hand inserts (L).  
 Use left-hand toolholders (L) with right-hand inserts (R).

## JPVJ2XR/L

Lever-lock toolholder with 93° approach angle, for VXGU inserts



| Inch             | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert           | Torque  |
|------------------|-------|-------|-------|-------|-------|----|-------|------------------|---------|
| JPVJ2XR/L067     | 0.375 | 0.375 | 4.750 | 0.669 | 0.375 | 0  | 0.008 | VXGU73*L/R...    | 0.66    |
| JPVJ2XR/L087     | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0  | 0.008 | VXGU73*L/R...    | 0.66    |
| JPVJ2XR/L107     | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0  | 0.008 | VXGU73*L/R...    | 0.66    |
| Metric           | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert           | Torque* |
| JPVJ2XR/L1010X09 | 10    | 10    | 120   | 19    | 10    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JPVJ2XR/L1212F09 | 12    | 12    | 85    | 19    | 12    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JPVJ2XR/L1212X09 | 12    | 12    | 120   | 19    | 12    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |
| JPVJ2XR/L1616X09 | 16    | 16    | 120   | 19    | 16    | 0  | 0.2   | VXGU09T2**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
 Use right-hand toolholders (R) with left-hand inserts (L).  
 Use left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation  | Clamping screw | Wrench | Lever  | Pin     | Clamping screw | Wrench     |
|--------------|----------------|--------|--------|---------|----------------|------------|
| JSVJ2XR/L... | SR34-508       | T-7F   | -      | -       | -              | -          |
| JPVJ2XR/L... | -              | -      | SLLV-1 | SL-PI-2 | SR10400611     | HW2.0/5RED |

### INSERT SELECTION

| Application areas  | Finish cutting |       | Medium to finish cutting |       |
|--------------------|----------------|-------|--------------------------|-------|
|                    | Grade          | Grade | Grade                    | Grade |
| Breaker Shape      | JRP            | JS    | JRP                      | JS    |
|                    |                |       |                          |       |
| Cutting conditions | G114           |       | G114                     |       |

Reference pages : JSVJ2XR/L, JPVJ2XR/L: Inserts → B155, Standard cutting conditions → G114

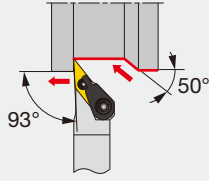
# VX

 Rhombic, 35° with hole

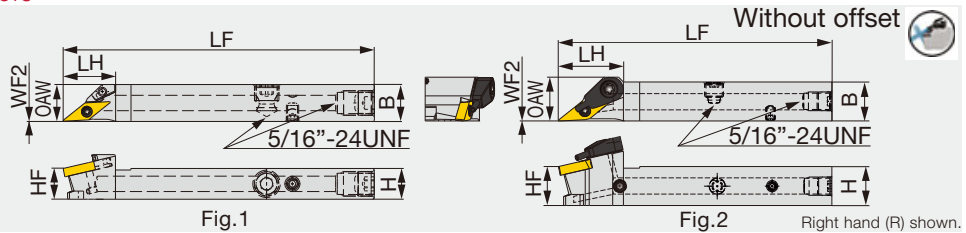
## MINIFORCE JSVJ2XR/L-CHP

Direct connection

Screw-on toolholder without offset, 93° approach angle, for VXGU inserts, high pressure coolant compatible

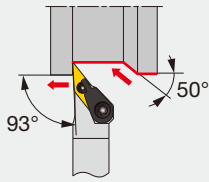


Cutting edge style J2

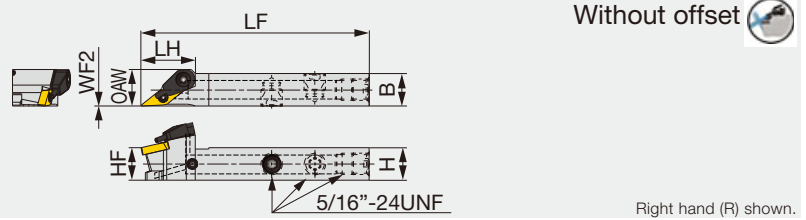


| Inch               | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert      | Torque  | Fig. |
|--------------------|-------|-------|-------|-------|-------|-----|-------|-------|-------------|---------|------|
| JSVJ2XR087X-CHP    | 0.500 | 0.500 | 4.750 | 0.768 | 0.500 | 0   | 0.528 | 0.008 | VXGU73*L... | 0.66    | -    |
| JSVJ2XR107X-CHP    | 0.625 | 0.625 | 4.750 | 0.768 | 0.625 | 0   | 0.625 | 0.008 | VXGU73*L... | 0.66    | -    |
| Metric             | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert      | Torque* | Fig. |
| JSVJ2XR1012H09-CHP | 10    | 12    | 100   | 17    | 10    | 0   | 12    | 0.2   | VXGU09T2**L | 0.9     | 1    |
| JSVJ2XR1212X09-CHP | 12    | 12    | 120   | 19.5  | 12    | 0   | 13.4  | 0.2   | VXGU09T2**L | 0.9     | 2    |
| JSVJ2XR1616X09-CHP | 16    | 16    | 120   | 19.5  | 16    | 0   | 16    | 0.2   | VXGU09T2**L | 0.9     | 2    |

Tube connection



Cutting edge style J2



| Inch                 | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert           | Torque  |
|----------------------|-------|-------|-------|-------|-------|-----|-------|-------|------------------|---------|
| JSVJ2XR/L087-CHP     | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0   | 0.020 | 0.008 | VXGU73*L...      | 0.66    |
| Metric               | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert           | Torque* |
| JSVJ2XR/L1212F09-CHP | 12    | 12    | 85    | 20    | 12    | 0   | 13.5  | 0.2   | VXGU09T2**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Right-hand toolholders (R) are used with left-hand inserts (L). Left-hand toolholders (L) are used with right-hand inserts (R).

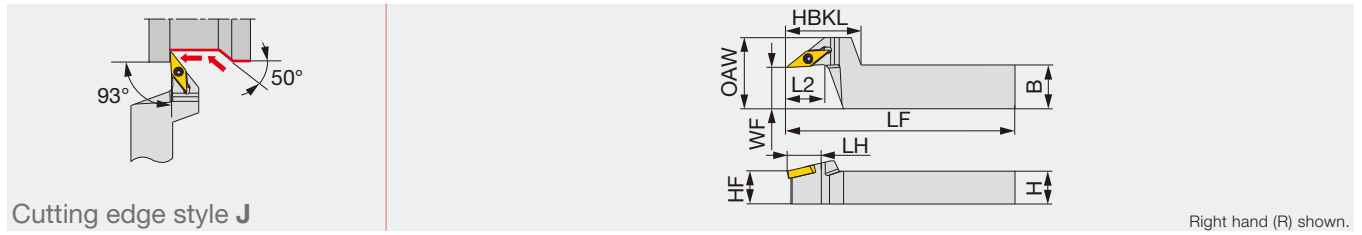
### SPARE PARTS

| Designation                              | Clamping screw | Coolant unit | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench |
|--|----------------|--------------|--------|----------------|--------|----------------|--------|
| JSVJ2XR1012H09-CHP                       | SR34-508       | -            | T-7F   | SR5/16UNFTL360 | P-4    | SSH4-6-TB      | P-2    |
| JSVJ2XR**X-CHP,<br>JSVJ2XR**X09-CHP      | SR34-508       | S-CU-CHP     | T-7F   | SR5/16UNFTL360 | P-4    | SSH4-6-TB      | P-2    |
| JSVJ2XR/L087-CHP<br>JSVJ2XR/L1212F09-CHP | SR34-508       | S-CU-CHP     | T-7F   | SR5/16UNFTL360 | P-4    | -              | -      |

Reference pages : JSVJ2XR/L-CHP: Inserts → **B155**, Standard cutting conditions → **G114**

## JSVJXR-F

Screw-on stepped-head toolholder with 93° approach angle, for VXGU inserts



Cutting edge style J

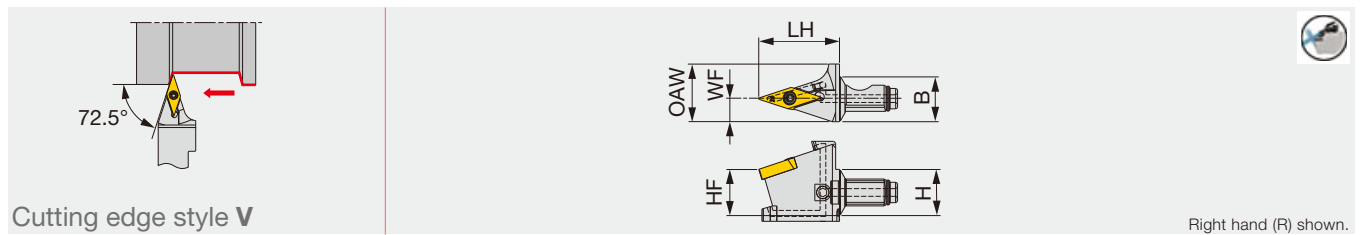
Right hand (R) shown.

| Inch              | H     | B     | LF    | L2    | HBKL  | LH    | HF    | WF    | OAW   | RE**  | Insert         | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|---------|
| JSVJXR087-F10     | 0.500 | 0.625 | 4.750 | 0.500 | 1.130 | 0.750 | 0.500 | 0.625 | 1.000 | 0.008 | VXGU73**L...   | 0.66    |
| JSVJXR107-F10     | 0.625 | 0.750 | 4.750 | 0.500 | 1.130 | 0.750 | 0.625 | 0.625 | 1.000 | 0.008 | VXGU73**L...   | 0.66    |
| Metric            | H     | B     | LF    | L2    | HBKL  | LH    | HF    | WF    | OAW   | RE**  | Insert         | Torque* |
| JSVJXR1016X09-F15 | 10    | 16    | 120   | 12    | 27    | 19    | 10    | 15    | 26    | 0.2   | VXGU09T2**L... | 0.9     |
| JSVJXR1216F09-F15 | 12    | 16    | 85    | 12    | 27    | 19    | 12    | 15    | 26    | 0.2   | VXGU09T2**L... | 0.9     |
| JSVJXR1216X09-F15 | 12    | 16    | 120   | 12    | 27    | 19    | 12    | 15    | 26    | 0.2   | VXGU09T2**L... | 0.9     |
| JSVJXR1620X09-F15 | 16    | 20    | 120   | 12    | 27    | 19    | 16    | 15    | 26    | 0.2   | VXGU09T2**L... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

## QC12-JSVVXR-CHP

Screw-on modular head with 72.5° approach angle, for VXGU inserts, with high pressure coolant capability



Cutting edge style V

Right hand (R) shown.

| Metric            | H              | B              | LH            | HF            | WF           | OAW           | RE**           | Insert                           | Torque*       |
|-------------------|----------------|----------------|---------------|---------------|--------------|---------------|----------------|----------------------------------|---------------|
| QC12-JSVVXR09-CHP | 12<br>(0.750") | 12<br>(0.750") | 21<br>(0.827) | 12<br>(0.472) | 6<br>(0.236) | 15<br>(0.591) | 0.2<br>(0.008) | VXGU09T2**L...<br>(VXGU73**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

### SPARE PARTS

| Designation       | Clamping screw | Wrench | O-ring               |
|-------------------|----------------|--------|----------------------|
| JSVJXR**-F...     | SR34-508       | T-7F   | -                    |
| QC12-JSVVXR09-CHP | SR34-508       | T-7F   | ORSS-0454.5X1.0NBR70 |

### INSERT SELECTION

| P                  | Application areas | Finish cutting | Medium to finish cutting | M                  | Application areas | Finish cutting | Medium to finish cutting |
|--------------------|-------------------|----------------|--------------------------|--------------------|-------------------|----------------|--------------------------|
|                    | Grade             | SH725          | SH725                    |                    | SH725             | Grade          | SH725                    |
| Breaker Shape      | JRP               | JS             | JS                       | Breaker Shape      | JRP               | JS             | JS                       |
| Cutting conditions | G114              |                |                          | Cutting conditions | G114              |                |                          |

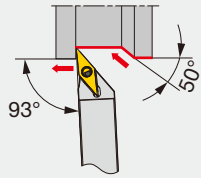
Reference pages : JSVJXR-F, QC12-JSVVXR-CHP: Inserts → **B155**,  
Shank, Accessory → **G115**, **G116**, Standard cutting conditions → **G114**

# VN

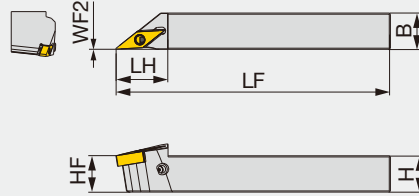
 **Rhombic, 35° with hole**

**ISO RETURN**  
JPVJ2NR/L

Back-clamp toolholder with 93° approach angle, for negative 35° rhombic inserts



Cutting edge style J



Without offset

Right hand (R) shown.

| Inch               | H     | B     | LF   | LH    | HF    | WF  | RE**   | Insert      | Torque  |
|--------------------|-------|-------|------|-------|-------|-----|--------|-------------|---------|
| JPVJ2NR082.33      | 0.500 | 0.500 | 4.75 | 0.900 | 0.500 | 0   | 0.0078 | VN**2.33... | 0.66    |
| JPVJ2NR102.33      | 0.625 | 0.625 | 4.75 | 0.900 | 0.625 | 0   | 0.0078 | VN**2.33... | 0.66    |
| Metric             | H     | B     | LF   | LH    | HF    | WF2 | RE**   | Insert      | Torque* |
| JPVJ2NR/L1212X1204 | 12    | 12    | 120  | 23    | 12    | 0   | 0.2    | VN**1204... | 0.9     |
| JPVJ2NR/L1616X1204 | 16    | 16    | 120  | 23    | 16    | 0   | 0.2    | VN**1204... | 0.9     |



Torque: Recommended clamping torque: lbs-ft (\*N·m)



RE\*\*: The holder measurements are true with this insert radius

**SPARE PARTS**

| Designation     | Lever  | Pin     | Clamping screw | Wrench     |
|-----------------|--------|---------|----------------|------------|
| JPVJ2NR/L***.33 | SLLV-4 | SL-PI-2 | SR10400611     | HW2.0/5RED |
| JPVJ2NR/L**1204 |        |         |                |            |

**INSERT SELECTION**

| Application        | Finishing   | Medium cutting  |
|--------------------|---|---|
|                    | T9215   | T9215   |
| Grade              | T9215   | T9215   |
| Chipbreaker shape  |  |  |
| Cutting conditions | B004  |   |

| Application        | Finishing   | Medium cutting  |
|--------------------|---|---|
|                    | AH6225  | AH6225  |
| Grade              | AH6225  | AH6225  |
| Chipbreaker shape  |  |  |
| Cutting conditions | B006  |   |

Reference pages : JPVJ2NR/L: Inserts → **B098** -

# WX



Trigon, 80°  
with hole

## MINIFORCE TURN QC12-JSWL2XR-Y

Screw-on Y-axis turning modular head with 95° approach angle, for WXGU inserts

Cutting edge style L2

Without offset

Right hand (R) shown.

| Metric           | H              | B              | LH               | HF        | WF            | LB               | H2             | DISTX          | RE**            | Insert                           | Torque        |
|------------------|----------------|----------------|------------------|-----------|---------------|------------------|----------------|----------------|-----------------|----------------------------------|---------------|
| QC12-JSWL2XR04-Y | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 22.3<br>(0.878") | 12<br>(0.472") | 2.8<br>(0.11") | 0.2<br>(0.008") | WXGU0403**L...<br>(WXGU22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

## QC12-JSWL2XR-Y-CHP

Screw-on Y-axis turning modular head with 95° approach angle, for WXGU inserts, with high pressure coolant capability

Cutting edge style L2

Without offset

Right hand (R) shown.

| Metric               | H              | B              | LH               | HF        | WF            | LB               | H2             | DISTX          | RE**            | Insert                           | Torque        |
|----------------------|----------------|----------------|------------------|-----------|---------------|------------------|----------------|----------------|-----------------|----------------------------------|---------------|
| QC12-JSWL2XR04-Y-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 22.3<br>(0.878") | 12<br>(0.472") | 2.8<br>(0.11") | 0.2<br>(0.008") | WXGU0403**L...<br>(WXGU22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N-m (lbs-ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

### SPARE PARTS

| Designation          | Clamping screw | Wrench | O-ring               |
|----------------------|----------------|--------|----------------------|
| QC12-JSWL2XR04-Y     | SR34-514       | T-7F   | -                    |
| QC12-JSWL2XR04-Y-CHP | SR34-514       | T-7F   | ORSS-0454.5X1.0NBR70 |

## INSERT SELECTION

For Swiss lathes

|                    |                   |                |                          |                    |                   |                |                          |                    |                   |                     |
|--------------------|-------------------|----------------|--------------------------|--------------------|-------------------|----------------|--------------------------|--------------------|-------------------|---------------------|
| <b>P</b>           | Application areas | Finish cutting | Medium to finish cutting | <b>M</b>           | Application areas | Finish cutting | Medium to finish cutting | <b>H</b>           | Application areas | Precision finishing |
|                    | Grade             | SH725          | SH725                    |                    | Grade             | SH725          | SH725                    |                    | Grade             | BXA10               |
|                    | Breaker Shape     | JSS            | JS                       |                    | Breaker Shape     | JSS            | JS                       |                    | Breaker Shape     | HP                  |
| Cutting conditions |                   | G114           |                          | Cutting conditions |                   | G114           |                          | Cutting conditions |                   | B026                |

For Small CNC lathes

|                    |                   |                |                |                    |                   |                |                |                    |                   |                          |       |
|--------------------|-------------------|----------------|----------------|--------------------|-------------------|----------------|----------------|--------------------|-------------------|--------------------------|-------|
| <b>P</b>           | Application areas | Finish cutting | Medium cutting | <b>M</b>           | Application areas | Finish cutting | Medium cutting | <b>N</b>           | Application areas | Medium to finish cutting |       |
|                    | Grade             | AH725          | AH725          |                    | Grade             | AH8015         | AH8015         |                    | Grade             | KS05F                    | KS05F |
|                    | Breaker Shape     | SS             | TS             |                    | Breaker Shape     | SS             | TS             |                    | Breaker Shape     | SS                       | TS    |
| Cutting conditions |                   | G114           |                | Cutting conditions |                   | G114           |                | Cutting conditions |                   | B022                     |       |

Reference pages : QC12-JSWL2XR-Y, QC12-JSWL2XR-Y-CHP: Inserts → **B157 -**, CBN → **B210**  
Shank, Accessory → **G115, G116**, Standard cutting conditions → **G114**

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



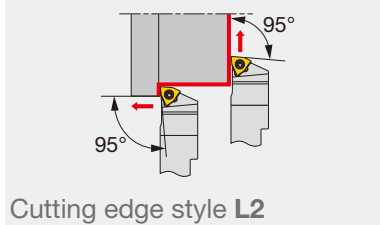


# WX

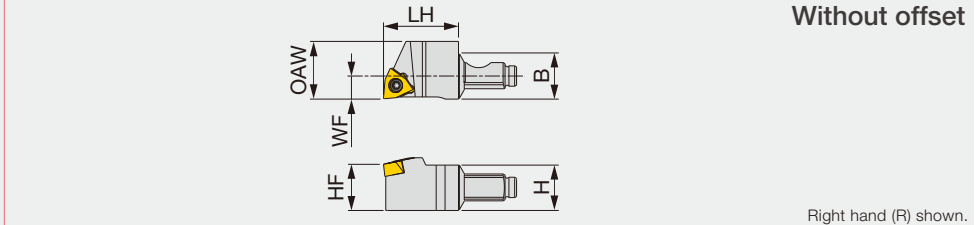
Trigon, 80°  
with hole

## MINIFORCE QC12-JSWL2XR

Screw-on modular head with 95° approach angle, for WXGU inserts



Cutting edge style L2



Without offset

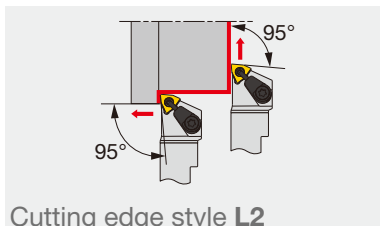
Right hand (R) shown.

| Metric         | H              | B              | LH               | HF             | WF            | OAW            | RE**            | Insert                           | Torque        |
|----------------|----------------|----------------|------------------|----------------|---------------|----------------|-----------------|----------------------------------|---------------|
| QC12-JSWL2XR04 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 15<br>(0.591") | 0.2<br>(0.008") | WXGU0403**L...<br>(WXGU22**L...) | 0.9<br>(0.66) |

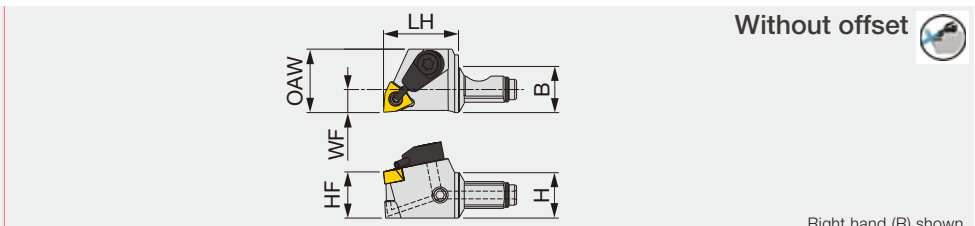
Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

## QC12-JSWL2XR-CHP

Screw-on modular head with 95° approach angle, for WXGU inserts, with high pressure coolant capability



Cutting edge style L2



Without offset

Right hand (R) shown.

| Metric             | H              | B              | LH               | HF             | WF            | OAW              | RE**            | Insert                           | Torque        |
|--------------------|----------------|----------------|------------------|----------------|---------------|------------------|-----------------|----------------------------------|---------------|
| QC12-JSWL2XR04-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 6<br>(0.236") | 16.5<br>(0.650") | 0.2<br>(0.008") | WXGU0403**L...<br>(WXGU22**L...) | 0.9<br>(0.66) |

Torque: Recommended clamping torque: N·m (lbs·ft)  
RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

### SPARE PARTS

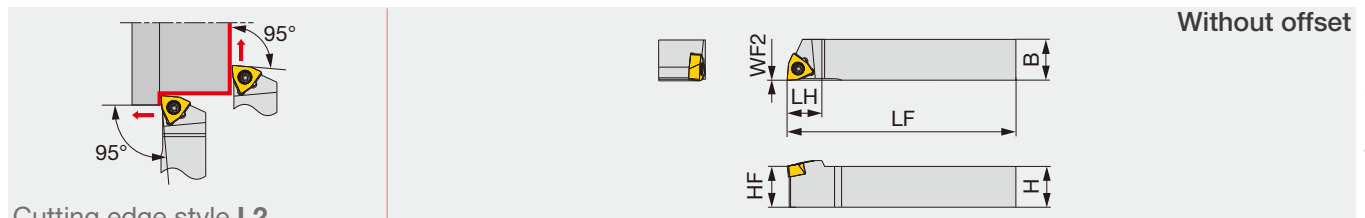


| Designation        | Clamping screw 1 | Coolant unit | Wrench 1 | O-ring               |
|--------------------|------------------|--------------|----------|----------------------|
| QC12-JSWL2XR04     | SR34-514         | -            | T-7F     | -                    |
| QC12-JSWL2XR04-CHP | SR34-514         | S-CU-CHP     | T-7F     | ORSS-0454.5X1.0NBR70 |

Reference pages : QC12-JSWL2XR, QC12-JSWL2XR-CHP: Inserts → **B157** -, CBN → **B210**  
Shank, Accessory → **G115**, **G116**, Standard cutting conditions → **G114**

## JSWL2XR/L

Screw-on toolholder with 95° approach angle, for WXGU inserts



Cutting edge style L2

Right hand (R) shown.

| Inch         | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert         | Torque |
|--------------|-------|-------|-------|-------|-------|----|-------|----------------|--------|
| JSWL2XR/L062 | 0.375 | 0.375 | 4.750 | 0.500 | 0.375 | 0  | 0.008 | WXGU22**L/R... | 0.66   |
| JSWL2XR/L082 | 0.500 | 0.500 | 4.750 | 0.500 | 0.500 | 0  | 0.008 | WXGU22**L/R... | 0.66   |
| JSWL2XR/L102 | 0.625 | 0.625 | 4.750 | 0.500 | 0.625 | 0  | 0.008 | WXGU22**L/R... | 0.66   |

| Metric           | H  | B  | LF  | LH | HF | WF2 | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|-----|------|------------------|---------|
| JSWL2XR/L1010X04 | 10 | 10 | 120 | 11 | 10 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L1212F04 | 12 | 12 | 85  | 11 | 12 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L1212X04 | 12 | 12 | 120 | 11 | 12 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L1616X04 | 16 | 16 | 120 | 13 | 16 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JSWL2XR/L2020H04 | 20 | 20 | 100 | 13 | 20 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |

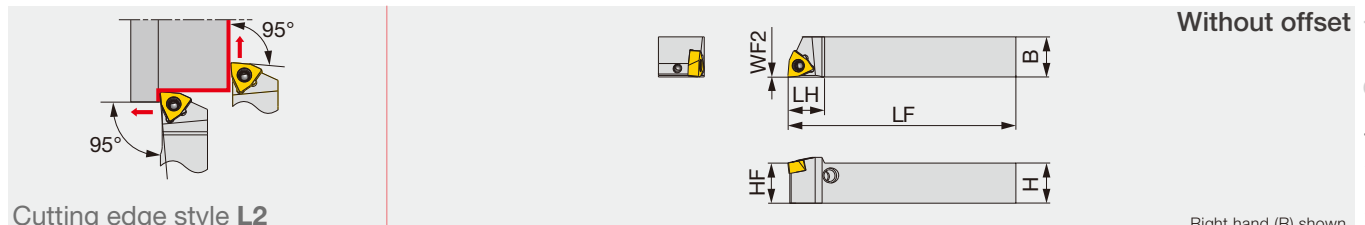
Torque: Recommended clamping torque: lbs-ft (\*N·m)

RE\*\*: Standard corner radius

Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

## JPWL2XR/L

Lever-lock toolholder with 95° approach angle, for WXGU inserts



Cutting edge style L2

Right hand (R) shown.

| Inch         | H     | B     | LF    | LH    | HF    | WF | RE**  | Insert         | Torque |
|--------------|-------|-------|-------|-------|-------|----|-------|----------------|--------|
| JPWL2XR/L062 | 0.375 | 0.375 | 4.750 | 0.500 | 0.375 | 0  | 0.008 | WXGU22**L/R... | 0.66   |
| JPWL2XR/L082 | 0.500 | 0.500 | 4.750 | 0.500 | 0.500 | 0  | 0.008 | WXGU22**L/R... | 0.66   |
| JPWL2XR/L102 | 0.625 | 0.625 | 4.750 | 0.500 | 0.625 | 0  | 0.008 | WXGU22**L/R... | 0.66   |

| Metric           | H  | B  | LF  | LH | HF | WF2 | RE** | Insert           | Torque* |
|------------------|----|----|-----|----|----|-----|------|------------------|---------|
| JPWL2XR/L1010X04 | 10 | 10 | 120 | 11 | 10 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JPWL2XR/L1212F04 | 12 | 12 | 85  | 11 | 12 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JPWL2XR/L1212X04 | 12 | 12 | 120 | 11 | 12 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |
| JPWL2XR/L1616X04 | 16 | 16 | 120 | 13 | 16 | 0   | 0.2  | WXGU0403**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

RE\*\*: Standard corner radius

Use right-hand toolholders (R) with left-hand inserts (L); and left-hand toolholders (L) with right-hand inserts (R).

### SPARE PARTS

| Designation  | Clamping screw 1 | Lever  | Pin     | Clamping screw 2 | Wrench 1 | Wrench 2   |
|--------------|------------------|--------|---------|------------------|----------|------------|
| JSWL2XR/L... | SR34-514         | -      | -       | -                | T-7F     | -          |
| JPWL2XR/L... | -                | SLLV-2 | SL-PI-2 | SR10400611       | -        | HW2.0/5RED |

### INSERT SELECTION

For Swiss lathes

| P | Application areas  | Finish cutting | Medium to finish cutting | M | Application areas  | Finish cutting | Medium to finish cutting | H | Application areas  | Precision finishing |
|---|--------------------|----------------|--------------------------|---|--------------------|----------------|--------------------------|---|--------------------|---------------------|
|   | Grade              | SH725          | SH725                    |   | Grade              | SH725          | SH725                    |   | Grade              | BXA10               |
|   | Breaker Shape      | JSS            | JS                       |   | Breaker Shape      | JSS            | JS                       |   | Breaker Shape      | HP                  |
|   | Cutting conditions | G114           |                          |   | Cutting conditions | G114           |                          |   | Cutting conditions | B026                |

For Small CNC lathes

| P | Application areas  | Finish cutting | Medium cutting | M | Application areas  | Finish cutting | Medium cutting | N | Application areas  | Medium to finish cutting |       |
|---|--------------------|----------------|----------------|---|--------------------|----------------|----------------|---|--------------------|--------------------------|-------|
|   | Grade              | AH725          | AH725          |   | Grade              | AH8015         | AH8015         |   | Grade              | KS05F                    | KS05F |
|   | Breaker Shape      | SS             | TS             |   | Breaker Shape      | SS             | TS             |   | Breaker Shape      | SS                       | TS    |
|   | Cutting conditions | G114           |                |   | Cutting conditions | G114           |                |   | Cutting conditions | B022                     |       |

Reference pages : JSWL2XR/L, JPWL2XR/L: Inserts → B157 -, CBN → B210  
Standard cutting conditions → G114

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
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L  
M

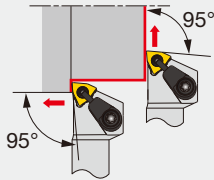
# WX

Trigon, 80°  
with hole

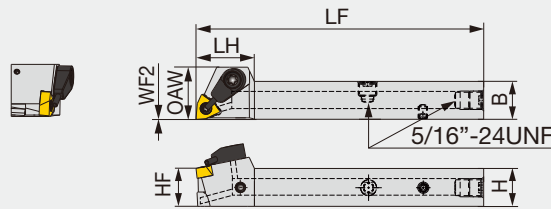
## MINIFORCE JSWL2XR/L-CHP

Direct connection

Screw-on toolholder without offset, 95° approach angle, for WXGU inserts, high pressure coolant compatible



Without offset

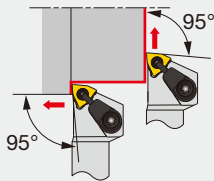


Right hand (R) shown.

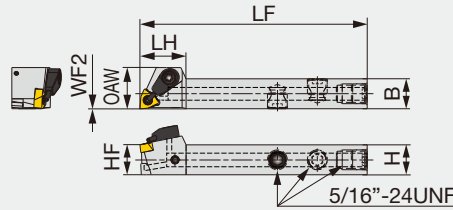
Cutting edge style L2

| Inch               | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert       | Torque  |
|--------------------|-------|-------|-------|-------|-------|-----|-------|-------|--------------|---------|
| JSWL2XR082X-CHP    | 0.500 | 0.500 | 4.750 | 0.728 | 0.500 | 0   | 0.650 | 0.008 | WXGU22**L... | 0.66    |
| JSWL2XR102X-CHP    | 0.625 | 0.625 | 4.750 | 0.728 | 0.625 | 0   | 0.650 | 0.008 | WXGU22**L... | 0.66    |
| Metric             | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert       | Torque* |
| JSWL2XR1212X04-CHP | 12    | 12    | 120   | 18.5  | 12    | 0   | 16.5  | 0.2   | WXGU0403**L  | 0.9     |
| JSWL2XR1616X04-CHP | 16    | 16    | 120   | 18.5  | 16    | 0   | 16.5  | 0.2   | WXGU0403**L  | 0.9     |

Tube connection



Without offset



Right hand (R) shown.

Cutting edge style L2

| Inch                 | H     | B     | LF    | LH    | HF    | WF  | OAW   | RE**  | Insert           | Torque  |
|----------------------|-------|-------|-------|-------|-------|-----|-------|-------|------------------|---------|
| JSWL2XR/L082-CHP     | 0.500 | 0.500 | 3.344 | 0.750 | 0.500 | 0   | 0.650 | 0.008 | WXGU22**L/R...   | 0.66    |
| Metric               | H     | B     | LF    | LH    | HF    | WF2 | OAW   | RE**  | Insert           | Torque* |
| JSWL2XR/L1212F04-CHP | 12    | 12    | 85    | 18    | 12    | 0   | 16.5  | 0.2   | WXGU0403**L/R... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*\*N·m)

RE\*\*: Standard corner radius

Note: Right-hand toolholders (R) are used with left-hand inserts (L). Left-hand toolholders (L) are used with right-hand inserts (R).

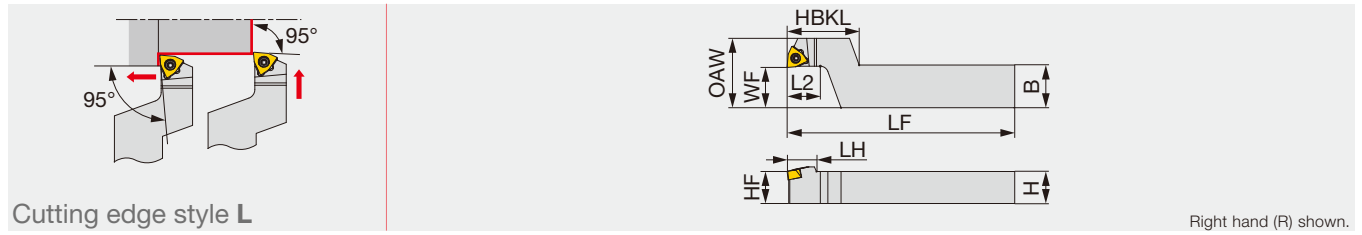
### SPARE PARTS

| Designation     | Clamping screw | Coolant unit | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench |
|-----------------|----------------|--------------|--------|----------------|--------|----------------|--------|
| JSWL2XR**-CHP   | SR34-514       | S-CU-CHP     | T-7F   | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| JSWL2XR/L**-CHP | SR34-514       | S-CU-CHP     | T-7F   | SR5/16UNFTL360 | P-4    | -              | -      |

Reference pages : JSWL2XR/L-CHP: Inserts → **B157 -**, CBN → **B210**  
Standard cutting conditions → **G114**

# JSWLXR-F

Screw-on stepped-head toolholder with 95° approach angle, for WXGU inserts



Cutting edge style L

Right hand (R) shown.

| Inch              | H     | B     | LF    | L2    | HBKL  | LH    | HF    | WF    | OAW   | RE**  | Insert         | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|---------|
| JSWLXR082-F10     | 0.500 | 0.625 | 4.750 | 0.500 | 1.100 | 0.500 | 0.500 | 0.625 | 1.000 | 0.008 | WXGU22**L...   | 0.66    |
| JSWLXR102-F10     | 0.625 | 0.750 | 4.750 | 0.500 | 1.100 | 0.500 | 0.625 | 0.625 | 1.000 | 0.008 | WXGU22**L...   | 0.66    |
| Metric            | H     | B     | LF    | L2    | HBKL  | LH    | HF    | WF    | OAW   | RE**  | Insert         | Torque* |
| JSWLXR1016X04-F15 | 10    | 16    | 120   | 12    | 27    | 11    | 10    | 15    | 26    | 0.2   | WXGU0403**L... | 0.9     |
| JSWLXR1216F04-F15 | 12    | 16    | 85    | 12    | 27    | 11    | 12    | 15    | 26    | 0.2   | WXGU0403**L... | 0.9     |
| JSWLXR1216X04-F15 | 12    | 16    | 120   | 12    | 27    | 11    | 12    | 15    | 26    | 0.2   | WXGU0403**L... | 0.9     |
| JSWLXR1620X04-F15 | 16    | 20    | 120   | 12    | 27    | 11    | 16    | 15    | 26    | 0.2   | WXGU0403**L... | 0.9     |

Torque: Recommended clamping torque: lbs-ft (\*N-m) RE\*\*: Standard corner radius  
Use right-hand toolholders (R) with left-hand inserts (L).

| SPARE PARTS                   |                |        |
|-------------------------------|----------------|--------|
| Designation                   | Clamping screw | Wrench |
| JSWLXR**-F10,<br>JSWLXR**-F15 | SR34-514       | T-7F   |

## INSERT SELECTION

For Swiss lathes

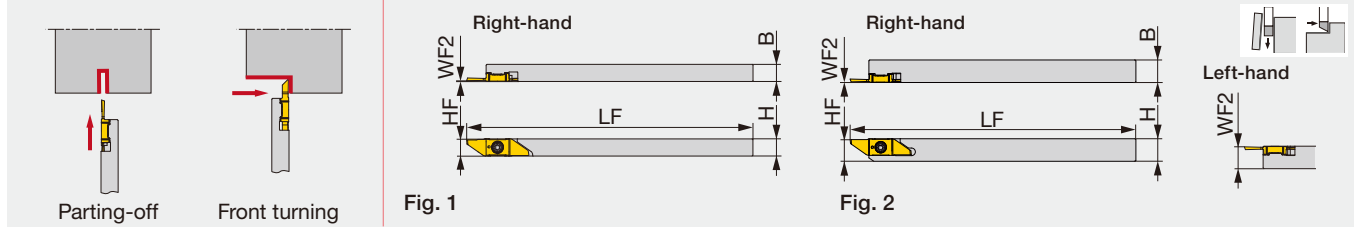
| P | Application areas  | Finish cutting | Medium to finish cutting | M | Application areas  | Finish cutting | Medium to finish cutting | H | Application areas  | Precision finishing |
|---|--------------------|----------------|--------------------------|---|--------------------|----------------|--------------------------|---|--------------------|---------------------|
|   | Grade              | SH725          | SH725                    |   | Grade              | SH725          | SH725                    |   | Grade              | BXA10               |
|   | Breaker Shape      | JSS            | JS                       |   | Breaker Shape      | JSS            | JS                       |   | Breaker Shape      | HP                  |
|   | Cutting conditions | G114           |                          |   | Cutting conditions | G114           |                          |   | Cutting conditions | B026                |

For Small CNC lathes

| P | Application areas  | Finish cutting | Medium cutting | M | Application areas  | Finish cutting | Medium cutting | N | Application areas  | Medium to finish cutting |       |
|---|--------------------|----------------|----------------|---|--------------------|----------------|----------------|---|--------------------|--------------------------|-------|
|   | Grade              | AH725          | AH725          |   | Grade              | AH8015         | AH8015         |   | Grade              | KS05F                    | KS05F |
|   | Breaker Shape      | SS             | TS             |   | Breaker Shape      | SS             | TS             |   | Breaker Shape      | SS                       | TS    |
|   | Cutting conditions | G114           |                |   | Cutting conditions | G114           |                |   | Cutting conditions | B022                     |       |

Reference pages : JSWLXR-F: Inserts → B157 -, CBN → B210, Standard cutting conditions → G114

## Parting-off and front turning toolholders



| Metric         | H  | B  | LF  | HF  | WF2 <sup>(1)</sup> | Insert          | Torque* | Fig. |
|----------------|----|----|-----|-----|--------------------|-----------------|---------|------|
| JSXXL0606X05   | 6  | 6  | 120 | 5.6 | 5.8                | JV*N..., JVN... | 1.3     | 1    |
| JSXXR/L0707X05 | 7  | 7  | 120 | 6.6 | 0.2/6.8            | JV*N..., JVN... | 1.3     | 1    |
| JSXXR/L0808F05 | 8  | 8  | 85  | 7.7 | 0.2/7.8            | JV*N..., JVN... | 1.3     | 2    |
| JSXXR/L0808H05 | 8  | 8  | 100 | 7.7 | 0.2/7.8            | JV*N..., JVN... | 1.3     | 2    |
| JSXXR/L1010H05 | 10 | 10 | 100 | 9.7 | 0.2/9.8            | JV*N..., JVN... | 1.3     | 2    |

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| JSXXR...05  | CSTB-2.5L054DL | T-7F   |
| JSXXL...05  | CSTB-2.5L054DR | T-7F   |

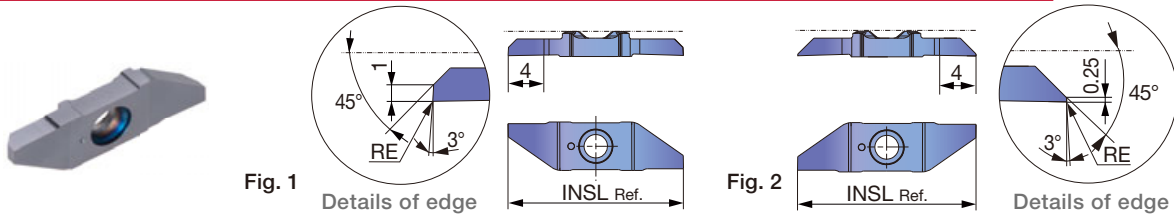
Torque\*: Recommended clamping torque (N·m)

(1) The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

Use the right-hand insert (JV\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JV\*\*L...) for a left-hand holder (JSXXL...).

### INSERT

#### JVFN45R/L (For front turning)



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   |   |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   |   |   |   |   |
| Non-ferrous    | ★ |   |   |   |   |   |
| Superalloys    | ★ |   |   |   |   |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice

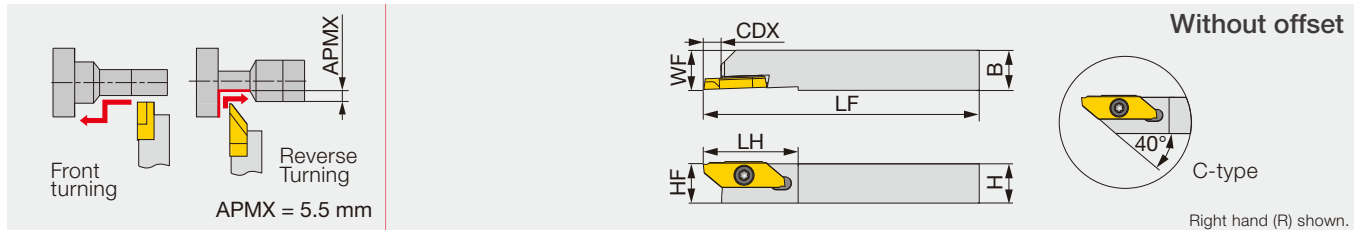
| Designation   | HAND | RE | Coated |  |  |  | INSL (in) | Fig. |
|---------------|------|----|--------|--|--|--|-----------|------|
|               |      |    | SH725  |  |  |  |           |      |
| JVFN45R0310F  | R    | 0  | ●      |  |  |  | 0.827     | 1    |
| JVFN45L0302FL | L    | 0  | ●      |  |  |  | 0.827     | 2    |

● : Line up

### STANDARD CUTTING CONDITIONS

| ISO | Workpiece materials                    | Grade | Cutting speed Vc (sfm) | Feed f (ipr)     |
|-----|--|-------|------------------------|------------------|
| P   | Low carbon steels 1015, etc.           | SH725 | 164 - 591              | 0.00039 - 0.0012 |
|     | Carbon steels, Alloy steels 1055, etc. | SH725 | 164 - 591              | 0.00039 - 0.0012 |
|     | Free cutting steels SUH22, SUH23, etc. | SH725 | 164 - 591              | 0.00039 - 0.0012 |
| M   | Stainless steels 304, etc.             | SH725 | 164 - 394              | 0.00039 - 0.0012 |
| N   | Aluminum alloys 5056, 6061, etc.       | SH725 | 492 - 656              | 0.00039 - 0.0012 |
|     | Copper alloys C2600, C280C, etc.       | SH725 | 328 - 656              | 0.00039 - 0.0012 |
| S   | Titanium alloys Ti-6Al-4V, etc.        | SH725 | 98 - 262               | 0.00039 - 0.0012 |
|     | Superalloys Inconel718, etc.           | SH725 | 98 - 262               | 0.00039 - 0.0012 |

Screw-on toolholder for front/reverse turning and external grooving



| Metric          | H  | B  | LF  | LH | CDX | HF | WF | Insert                 |
|-----------------|----|----|-----|----|-----|----|----|------------------------|
| JSXGR/L1010K8-C | 10 | 10 | 125 | 29 | 6.7 | 10 | 10 | JXFR/L8..., JXRR/L8... |
| JSXGR/L1212K8-C | 12 | 12 | 125 | 29 | 6.7 | 12 | 12 | JXFR/L8..., JXRR/L8... |
| JSXGR/L1616K8   | 16 | 16 | 125 | 29 | 6.5 | 16 | 16 | JXFR/L8..., JXRR/L8... |
| JSXGR/L2020K8   | 20 | 20 | 125 | 29 | 6.5 | 20 | 20 | JXFR/L8..., JXRR/L8... |
| JSXGR/L2525K8   | 25 | 25 | 125 | 29 | 6.5 | 25 | 25 | JXFR/L8..., JXRR/L8... |

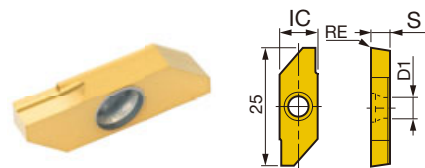
Can be used with JXG insert for parting and grooving.  
Can be wrenched also from the back with a double-head screw.

### SPARE PARTS

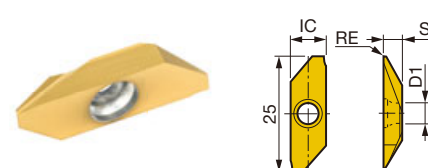
| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSXGR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |

### INSERT

#### JXF (For front turning)



#### JXR (For reverse turning)



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   |   |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   |   |   |   |   |
| Non-ferrous    | ★ |   |   |   |   |   |
| Superalloys    | ★ |   |   |   |   |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice

| Designation | HAND | RE    | Coated |      | Uncoated |      | IC    | S     | D1    |
|-------------|------|-------|--------|------|----------|------|-------|-------|-------|
|             |      |       | J740   | TH10 | J740     | TH10 |       |       |       |
| JXFR8000F   | R    | 0.001 | ●      |      | ●        |      | 0.315 | 0.156 | 0.173 |
| JXFR8010F   | R    | 0.004 | ●      |      | ●        |      | 0.315 | 0.156 | 0.173 |

● : Line up

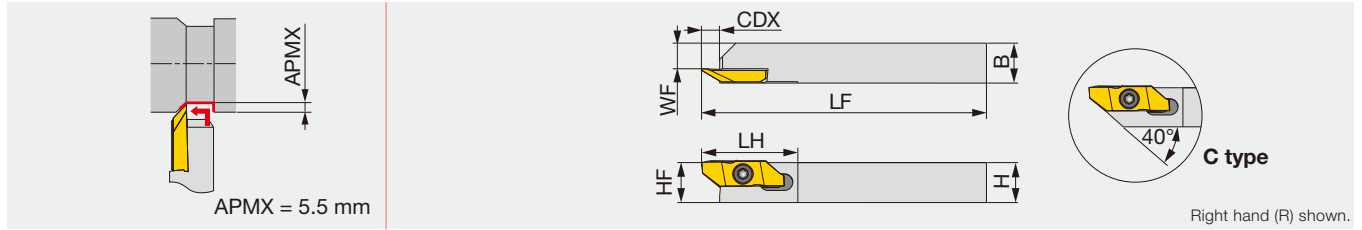
|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   |   |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   |   |   |   |   |
| Non-ferrous    | ★ |   |   |   |   |   |
| Superalloys    | ★ |   |   |   |   |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice

| Designation | HAND | RE    | Coated |      | Uncoated |      | IC    | S     | D1    |
|-------------|------|-------|--------|------|----------|------|-------|-------|-------|
|             |      |       | J740   | TH10 | J740     | TH10 |       |       |       |
| JXRR8000F   | R    | 0.001 | ●      |      | ●        |      | 0.315 | 0.156 | 0.173 |
| JXRR8010F   | R    | 0.004 | ●      |      | ●        |      | 0.315 | 0.156 | 0.173 |

● : Line up

### Screw-on toolholder for back turning and threading



| Metric          | H  | B  | LF  | LH | CDX | HF | WF   | Insert               |
|-----------------|----|----|-----|----|-----|----|------|----------------------|
| JSXBR/L1010K8-C | 10 | 10 | 125 | 29 | 6.7 | 10 | 5.7  | JXBR/L8..., JXT*R... |
| JSXBR/L1212K8-C | 12 | 12 | 125 | 29 | 6.7 | 12 | 7.7  | JXBR/L8..., JXT*R... |
| JSXBR/L1616K8   | 16 | 16 | 125 | 29 | 6.4 | 16 | 11.7 | JXBR/L8..., JXT*R... |
| JSXBR/L2020K8   | 20 | 20 | 125 | 29 | 6.4 | 20 | 15.7 | JXBR/L8..., JXT*R... |
| JSXBR/L2525K8   | 25 | 25 | 125 | 29 | 6.4 | 25 | 20.7 | JXBR/L8..., JXT*R... |

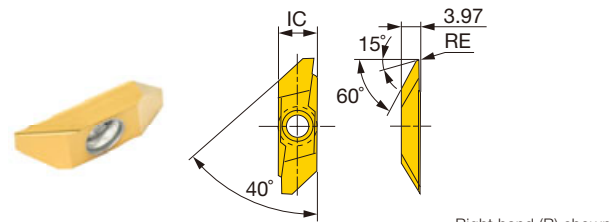
Can be used with JXT insert for threading.  
Can be wrenched also from the back with a double-head screw.

#### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSXBR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |

#### INSERT

##### JXB (Sharp edge)



|                         |   |  |   |  |  |  |  |  |
|-------------------------|---|--|---|--|--|--|--|--|
| <b>P</b> Steel          | ★ |  |   |  |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |   |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ |  | ☆ |  |  |  |  |  |
| <b>N</b> Non-ferrous    |   |  | ★ |  |  |  |  |  |
| <b>S</b> Superalloys    | ☆ |  | ★ |  |  |  |  |  |
| <b>H</b> Hard materials |   |  | ★ |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | RE (mm) | Coated |      | Uncoated |  | IC (mm) | Max. depth of cut (mm) |
|-------------|------|---------|--------|------|----------|--|---------|------------------------|
|             |      |         | J740   | TH10 |          |  |         |                        |
| JXBR8000F   | R    | 0.03    | ●      | ●    |          |  | 8       | 5.5                    |
| JXBL8000F   | L    | 0.03    | ●      | ●    |          |  | 8       | 5.5                    |
| JXBR8005F   | R    | 0.05    | ●      | ●    |          |  | 8       | 5.5                    |
| JXBL8005F   | L    | 0.05    | ●      | ●    |          |  | 8       | 5.5                    |
| JXBR8010F   | R    | 0.1     | ●      | ●    |          |  | 8       | 5.5                    |
| JXBL8010F   | L    | 0.1     | ●      | ●    |          |  | 8       | 5.5                    |
| JXBR8015F   | R    | 0.15    | ●      | ●    |          |  | 8       | 5.5                    |
| JXBL8015F   | L    | 0.15    | ●      | ●    |          |  | 8       | 5.5                    |

● : Line up

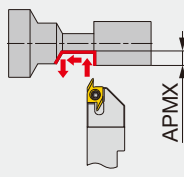




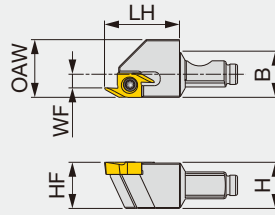
# J-SERIES

## QC12-JSEGR

Screw-on modular head for back turning



APMX = 0.118"



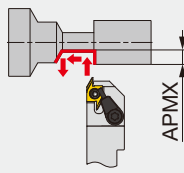
Right hand (R) shown.

| Metric       | H              | B              | LH               | HF             | WF              | OAW            | Insert   | Torque*       |
|--------------|----------------|----------------|------------------|----------------|-----------------|----------------|----------|---------------|
| QC12-JSEGR10 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 3.5<br>(0.138") | 15<br>(0.591") | J10ER... | 1.2<br>(0.89) |

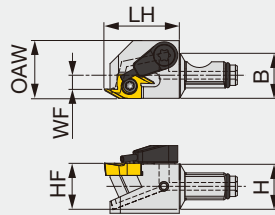
Torque\* : Recommended clamping torque: N-m (lbs-ft)

## QC12-JSEGR-CHP

Screw-on modular head for back turning, with high pressure coolant capability



APMX = 0.118"



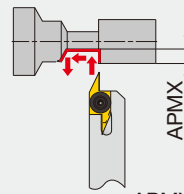
Right hand (R) shown.

| Metric           | H              | B              | LH               | HF             | WF              | OAW            | Insert   | Torque*       |
|------------------|----------------|----------------|------------------|----------------|-----------------|----------------|----------|---------------|
| QC12-JSEGR10-CHP | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 3.5<br>(0.138") | 15<br>(0.591") | J10ER... | 1.2<br>(0.89) |

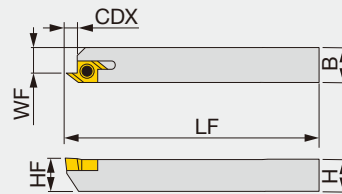
Torque\* : Recommended clamping torque: N-m (lbs-ft)

## JSEGR/L

Screw-on toolholder for back turning



APMX = 3 mm



| Metric         | H  | B  | LF  | CDX | HF | WF   | Insert     | Torque* |
|----------------|----|----|-----|-----|----|------|------------|---------|
| JSEGR/L1010K10 | 10 | 10 | 125 | 3.3 | 10 | 7.5  | J10ER/L... | 1.2     |
| JSEGR/L1212K10 | 12 | 12 | 125 | 3.3 | 12 | 9.5  | J10ER/L... | 1.2     |
| JSEGR/L1616K10 | 16 | 16 | 125 | 3.3 | 16 | 13.5 | J10ER/L... | 1.2     |

Torque\* : Recommended clamping torque (N-m)

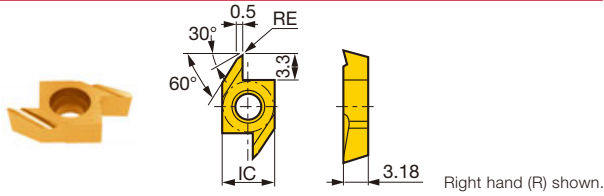
## SPARE PARTS

| Designation      | Clamping screw | Coolant unit | Wrench | Wrench 2 (Optional) | O-ring               |
|------------------|----------------|--------------|--------|---------------------|----------------------|
| QC12-JSEGR10     | CSTB-2.5       |              | T-8F   |                     |                      |
| QC12-JSEGR10-CHP | CSTB-2.5       | S-CU-CHP     | T-8F   |                     | ORSS-0454.5X1.0NBR70 |
| JSEGR/L...       | CSTB-2.5       |              | T-8F   | (T-8L)              |                      |

Reference pages : QC12-JSEGR, QC12-JSEGR-CHP, JSEGR/L: Inserts → **G079**  
Shank, Accessory → **G115, G116**, Standard cutting conditions → **G080**

# INSERT

## J10E (Sharp edge)



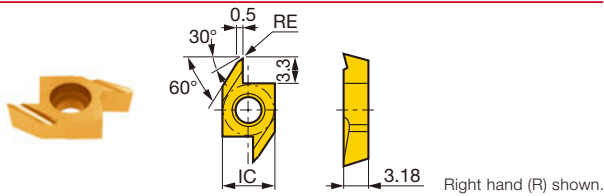
|          |                |   |   |  |   |  |  |   |  |   |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|---|--|---|--|--|---|--|---|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ | ☆ |  | ★ |  |  |   |  |   |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ | ☆ |  |   |  |  |   |  |   |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |   |  | ☆ |  |  | ☆ |  | ☆ |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |   |  |  |   |  | ★ |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |   |  |   |  |  |   |  | ★ |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |   |  |   |  |  |   |  | ★ |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation  | HAND | RE (mm) | Coated |      | Cermet | Uncoated |   | IC (mm) | Max. depth of cut (mm) |
|--------------|------|---------|--------|------|--------|----------|---|---------|------------------------|
|              |      |         | SH725  | J740 | NS9530 | TH10     |   |         |                        |
| J10ER/L005BF | R    | 0.05    | ●      | ●    |        |          | ● | 6.35    | 3                      |
| J10ER/L005BF | L    | 0.05    | ●      | ●    |        |          | ● | 6.35    | 3                      |
| J10ER/L010BF | R    | 0.1     | ●      | ●    |        |          | ● | 6.35    | 3                      |
| J10ER/L010BF | L    | 0.1     | ●      | ●    |        |          | ● | 6.35    | 3                      |
| J10ER/L015BF | R    | 0.15    | ●      |      | ●      |          |   | 6.35    | 3                      |
| J10ER/L015BF | L    | 0.15    | ●      |      | ●      |          |   | 6.35    | 3                      |

● : Line up

## J10E (Honed edge)



|          |                |   |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  | ★ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | RE (mm) | Coated | Coated cermet |  |  | IC (mm) | Max. depth of cut (mm) |
|-------------|------|---------|--------|---------------|--|--|---------|------------------------|
|             |      |         | J740   | J9530         |  |  |         |                        |
| J10ER005B   | R    | 0.05    | ●      | ●             |  |  | 6.35    | 3                      |
| J10EL005B   | L    | 0.05    | ●      |               |  |  | 6.35    | 3                      |
| J10ER010B   | R    | 0.1     | ●      | ●             |  |  | 6.35    | 3                      |
| J10EL010B   | L    | 0.1     | ●      |               |  |  | 6.35    | 3                      |

● : Line up

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

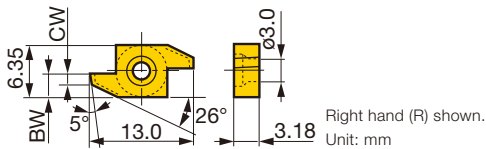
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M

## STANDARD CUTTING CONDITIONS (J10E type insert)

| ISO      | Workpiece material  | Grade  | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|--------|---------------------------|-----------------|
| <b>P</b> | Steel<br>1045, etc.   | SH725  | 164 - 656                 | 0.0004 - 0.004  |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.004  |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.004  |
|          |   | J9530  | 164 - 492                 | 0.0004 - 0.004  |
|          | Free-cutting steel  | SH725  | 164 - 656                 | 0.0004 - 0.004  |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.004  |
| <b>M</b> | Stainless steel<br>303, etc.                                      | SH725  | 164 - 656                 | 0.0004 - 0.004  |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.004  |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.004  |
|          |   | J9530  | 164 - 492                 | 0.0004 - 0.004  |
| <b>N</b> | Aluminum alloys, Brass<br>Si < 12%, 5056, 6061, etc.              | TH10   | 33 - 656                  | 0.0004 - 0.004  |
| <b>S</b> | Difficult-to-machine material, Titanium alloys<br>Ti-6Al-4V, etc. | TH10   | 33 - 98                   | 0.0004 - 0.004  |

## INSERT

### 10E (Insert blank)

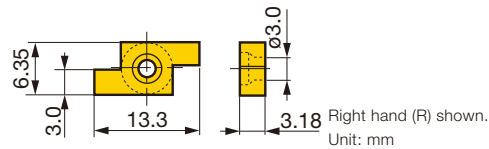


| Designation | HAND | Uncoated |  |  |
|-------------|------|----------|--|--|
|             |      | TH10     |  |  |
| 10ER100B    | R    | ●        |  |  |
| 10EL100B    | L    | ●        |  |  |
| 10ER150B    | R    | ●        |  |  |
| 10EL150B    | L    | ●        |  |  |

● : Line up

Note: Right hand holder (JSEGR...) use right hand insert (10ER...) and left hand holder (JSEGL...) use left hand insert (10EL...)

### 10E (Insert blank)

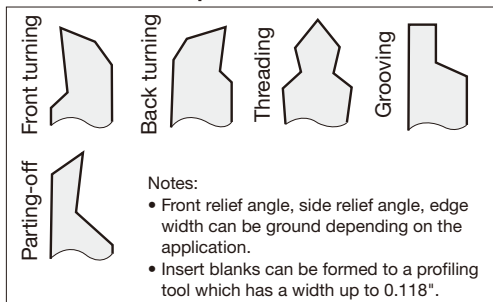


| Designation | HAND | Uncoated |  |  |
|-------------|------|----------|--|--|
|             |      | TH10     |  |  |
| 10ER300     | R    | ●        |  |  |
| 10EL300     | L    | ●        |  |  |

● : Line up

Note: Right hand holder (JSEGR...) use right hand insert (10ER...) and left hand holder (JSEGL...) use left hand insert (10EL...)

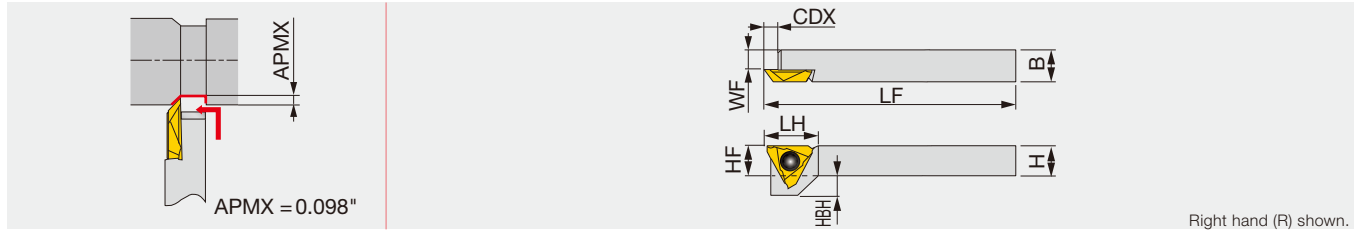
## Formed examples of insert blanks



## Standard cutting conditions

| Operations                         |                     | Workpiece material | Carbon steel | Stainless steel | Brass    |
|------------------------------------|---------------------|--------------------|--------------|-----------------|----------|
| Lateral feed<br>(external turning) | Cutting speed (sfm) |                    | ~ 330        | ~ 160           | ~ 650    |
|                                    | Feed (ipr)          | Roughing           | ~ 0.002      | ~ 0.001         | ~ 0.004  |
|                                    |                     | Medium             | ~ 0.001      | ~ 0.001         | ~ 0.002  |
|                                    |                     | Finishing          | ~ 0.0007     | ~ 0.0006        | ~ 0.0016 |
| Parting-off<br>Grooving<br>Forming | Cutting speed (sfm) |                    | ~ 260        | ~ 100           | ~ 500    |
|                                    | Feed (ipr)          | Roughing           | ~ 0.0007     | ~ 0.0006        | ~ 0.002  |
|                                    |                     | Medium             | ~ 0.0006     | ~ 0.0004        | ~ 0.001  |
|                                    |                     | Finishing          | ~ 0.0004     | ~ 0.0003        | ~ 0.0006 |

### Screw-on toolholder for back turning



| Inch       | H     | B     | LF    | LH    | CDX   | HF    | WF    | HBH   | Insert     | Torque |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|------------|--------|
| JSTBR/L063 | 0.375 | 0.375 | 5.000 | 0.625 | 0.197 | 0.375 | 0.219 | 0.250 | JTBR/L3... | 0.89   |
| JSTBR/L083 | 0.500 | 0.500 | 5.000 | 0.625 | 0.197 | 0.500 | 0.313 | 0.125 | JTBR/L3... | 0.89   |
| JSTBR/L103 | 0.625 | 0.625 | 5.000 | 0.625 | 0.197 | 0.625 | 0.469 | -     | JTBR/L3... | 0.89   |

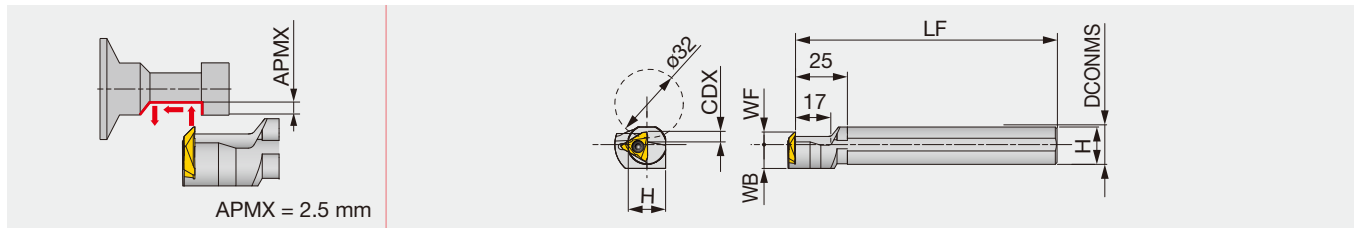
  

| Metric        | H  | B  | LF  | LH | CDX | HF | WF | HBH | Insert     | Torque* |
|---------------|----|----|-----|----|-----|----|----|-----|------------|---------|
| JSTBR/L1010X3 | 10 | 10 | 120 | 15 | 5   | 10 | 6  | 5   | JTBR/L3... | 1.2     |
| JSTBL1010K3   | 10 | 10 | 125 | 15 | 5   | 10 | 6  | 5   | JTBR/L3... | 1.2     |
| JSTBR/L1212F3 | 12 | 12 | 85  | 15 | 5   | 12 | 8  | 3   | JTBR/L3... | 1.2     |
| JSTBR/L1212X3 | 12 | 12 | 120 | 15 | 5   | 12 | 8  | 3   | JTBR/L3... | 1.2     |
| JSTBR/L1616X3 | 16 | 16 | 120 | 15 | 5   | 16 | 12 | -   | JTBR/L3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

### JS-TBL3

### Screw-on toolholder for back turning



| Metric     | H     | H  | LF  | CDX | WF | WB   | Insert   | Torque* |
|------------|-------|----|-----|-----|----|------|----------|---------|
| JS19K-TBL3 | 19.05 | 18 | 125 | 4.5 | 6  | 11.5 | JTBR3... | 3       |
| JS20K-TBL3 | 20    | 19 | 125 | 4.5 | 6  | 11.5 | JTBR3... | 3       |
| JS22K-TBL3 | 22    | 21 | 125 | 4.5 | 6  | 11.5 | JTBR3... | 3       |
| JS25K-TBL3 | 25.4  | 24 | 125 | 4.5 | 10 | 12.7 | JTBR3... | 3       |

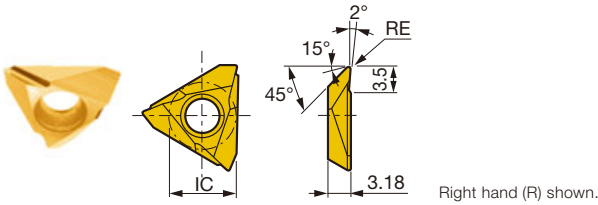
Torque\*: Recommended clamping torque (N-m)

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSTBR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |
| JS**-TBL3   | CSTB-4S        | T-15F    | -                   |

**INSERT**

**JTB (Sharp edge)**



Right hand (R) shown.

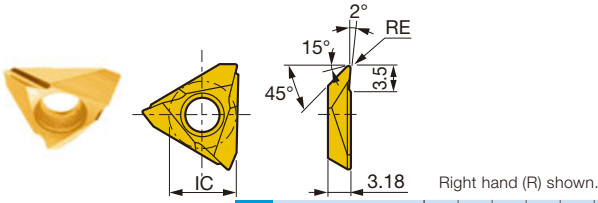
|          |                |   |   |  |   |  |  |   |  |  |
|----------|----------------|---|---|--|---|--|--|---|--|--|
| <b>P</b> | Steel          | ★ | ☆ |  | ★ |  |  |   |  |  |
| <b>M</b> | Stainless      | ★ | ☆ |  |   |  |  |   |  |  |
| <b>K</b> | Cast iron      | ★ |   |  | ☆ |  |  | ☆ |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |   |  |  | ★ |  |  |
| <b>S</b> | Superalloys    | ☆ | ☆ |  |   |  |  | ★ |  |  |
| <b>H</b> | Hard materials |   |   |  |   |  |  | ★ |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | RE (in) | Coated |      | Cermet | Uncoated |  | IC (mm) | Max. depth of cut (mm) |
|-------------|------|---------|--------|------|--------|----------|--|---------|------------------------|
|             |      |         | SH725  | J740 | NS9530 | TH10     |  |         |                        |
| JTBR3000F   | R    | 0.001   | ●      | ●    |        | ●        |  | 9.438   | 2.5                    |
| JTBL3000F   | L    | 0.001   | ●      | ●    |        | ●        |  | 9.438   | 2.5                    |
| JTBR3005F   | R    | 0.002   | ●      | ●    |        | ●        |  | 9.438   | 2.5                    |
| JTBL3005F   | L    | 0.002   | ●      | ●    |        | ●        |  | 9.438   | 2.5                    |
| JTBR3010F   | R    | 0.004   | ●      | ●    | ●      | ●        |  | 9.438   | 2.5                    |
| JTBL3010F   | L    | 0.004   | ●      | ●    | ●      | ●        |  | 9.438   | 2.5                    |
| JTBR3015F   | R    | 0.006   | ●      | ●    |        |          |  | 9.438   | 2.5                    |
| JTBL3015F   | L    | 0.006   | ●      | ●    |        |          |  | 9.438   | 2.5                    |

● : Line up

**JTBR/L (Honed edge)**



Right hand (R) shown.

|          |                |   |  |   |  |  |  |  |  |
|----------|----------------|---|--|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |   |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  | ☆ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ☆ |  |   |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

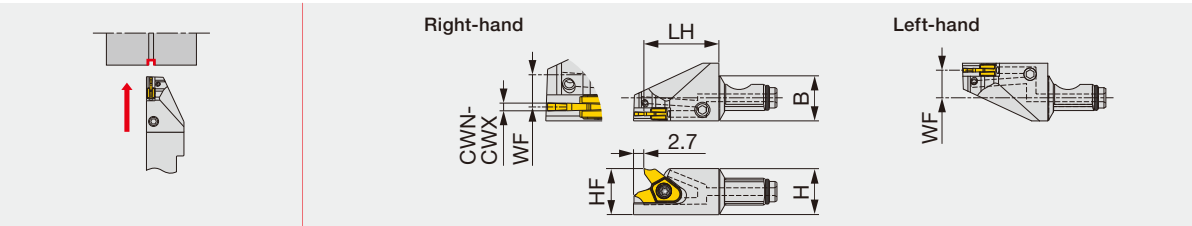
| Designation | HAND | RE (in) | Coated | Coated cermet |  |  | IC (mm) | Max. depth of cut (mm) |
|-------------|------|---------|--------|---------------|--|--|---------|------------------------|
|             |      |         | J740   | J9530         |  |  |         |                        |
| JTBR3005    | R    | 0.002   | ●      | ●             |  |  | 9.438   | 2.5                    |
| JTBL3005    | L    | 0.002   | ●      |               |  |  | 9.438   | 2.5                    |
| JTBR3010    | R    | 0.004   | ●      | ●             |  |  | 9.438   | 2.5                    |
| JTBL3010    | L    | 0.004   | ●      |               |  |  | 9.438   | 2.5                    |

● : Line up

**STANDARD CUTTING CONDITIONS (JTB type insert)**

| ISO      | Workpiece material  | Grade  | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|--------|---------------------------|-----------------|
| <b>P</b> | Steel<br>1045, etc.   | SH725  | 164 - 656                 | 0.0004 - 0.004  |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.004  |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.004  |
|          | Free-cutting steel  | J9530  | 164 - 492                 | 0.0004 - 0.004  |
|          |   | SH725  | 164 - 656                 | 0.0004 - 0.004  |
| <b>M</b> | Stainless steel<br>303, etc.                                      | J740   | 33 - 328                  | 0.0004 - 0.004  |
|          |   | SH725  | 164 - 656                 | 0.0004 - 0.004  |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.004  |
|          |   | J9530  | 164 - 492                 | 0.0004 - 0.004  |
| <b>N</b> | Aluminum alloys, Brass<br>Si < 12%, 5056, 6061, etc.              | TH10   | 33 - 656                  | 0.0004 - 0.004  |
| <b>S</b> | Difficult-to-machine material, Titanium alloys<br>Ti-6Al-4V, etc. | TH10   | 33 - 98                   | 0.0004 - 0.004  |

Modular head for external grooving and threading, with high pressure coolant capability



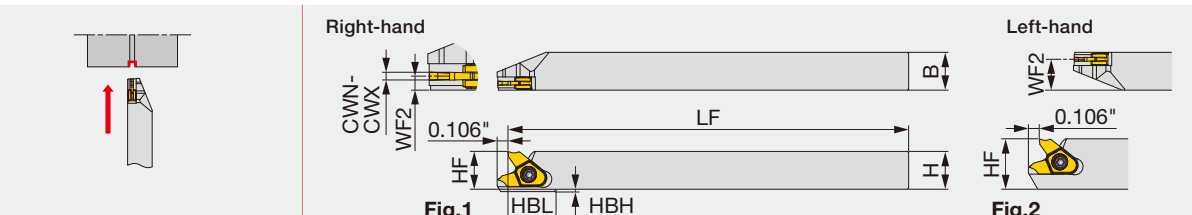
| Metric            | CWN             | CWX           | H              | B              | LH               | HF             | WF <sup>(1)</sup>            | Insert   | Torque        |
|-------------------|-----------------|---------------|----------------|----------------|------------------|----------------|------------------------------|----------|---------------|
| QC12-SVER/L10-CHP | 0.5<br>(0.020") | 1<br>(0.039") | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 4.19/7.19<br>(0.165"/0.283") | VG*10... | 1.3<br>(0.96) |

Torque: Recommended clamping torque: N-m (lbs-ft)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

### SVER/L

External grooving and threading toolholder



| Inch        | CWN   | CWX   | H     | B     | LF    | HF    | WF2 <sup>(1)</sup> | HBL   | HBH   | Insert   | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|--------------------|-------|-------|----------|--------|------|
| SVER/L06-10 | 0.020 | 0.039 | 0.375 | 0.375 | 4.750 | 0.375 | 0.070/0.304        | 0.472 | 0.024 | VG*10... | 0.96   | 1    |
| SVER/L08-10 | 0.020 | 0.039 | 0.500 | 0.500 | 4.750 | 0.500 | 0.070/0.430        | -     | -     | VG*10... | 0.96   | 2    |

| Metric        | CWN  | CWX | H  | B  | LF  | HF | WF2 <sup>(1)</sup> | HBL | HBH | Insert   | Torque* | Fig. |
|---------------|------|-----|----|----|-----|----|--------------------|-----|-----|----------|---------|------|
| SVER/L0808H08 | 0.33 | 1   | 8  | 8  | 100 | 8  | 1.23/6.78          | -   | -   | VGP08... | 1.1     | 2    |
| SVER/L1010H10 | 0.5  | 1   | 10 | 10 | 100 | 10 | 1.78/8.23          | -   | -   | VG*10... | 1.3     | 1    |
| SVER/L1212X10 | 0.5  | 1   | 12 | 12 | 120 | 12 | 1.78/10.23         | -   | -   | VG*10... | 1.3     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

### SPARE PARTS

| Designation                       | Clamping screw | Wrench | O-ring               |
|-----------------------------------|----------------|--------|----------------------|
| QC12-SVER10-CHP                   | CSTB-2.5L054DL | T-7F   | ORSS-0454.5X1.0NBR70 |
| QC12-SVEL10-CHP                   | CSTB-2.5L054DR | T-7F   | ORSS-0454.5X1.0NBR70 |
| SVER0808...                       | CSTB-2.2L053DL | T-7F   | -                    |
| SVEL0808...                       | CSTB-2.2L053DR | T-7F   | -                    |
| SVER06/08-10,<br>SVER1010/1212... | CSTB-2.5L054DL | T-7F   | -                    |
| SVEL06/08-10,<br>SVEL1010/1212... | CSTB-2.5L054DR | T-7F   | -                    |

Reference pages : QC12-SVER/L-CHP, SVER/L: Inserts → **G084**

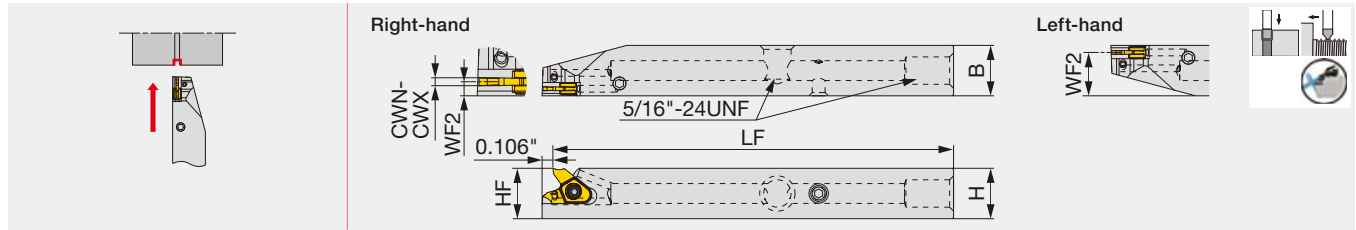
Shank, Accessory → **G115, G116**, Standard cutting conditions → **G085**



# MINI V<sup>LOCK</sup> GROOVE

## SVER/L-CHP

External grooving and threading toolholder, with high pressure coolant capability



| Inch              | CWN   | CWX   | H     | B     | LF    | HF    | WF2 <sup>(1)</sup> | Insert   | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|--------------------|----------|---------|
| SVER/L08-10-CHP   | 0.020 | 0.039 | 0.500 | 0.500 | 4.750 | 0.500 | 0.070/0.430        | VG*10... | 0.96    |
| Metric            | CWN   | CWX   | H     | B     | LF    | HF    | WF2 <sup>(1)</sup> | Insert   | Torque* |
| SVER/L1012H10-CHP | 0.5   | 1     | 10    | 12    | 100   | 10    | 1.78/10.23         | VG*10... | 1.3     |
| SVER/L1212X10-CHP | 0.5   | 1     | 12    | 12    | 120   | 12    | 1.78/10.23         | VG*10... | 1.3     |

Compatible to the direct internal coolant supply system without the use of external coolant hose.

Torque: Recommended clamping torque: lbs-ft (\*N·m)

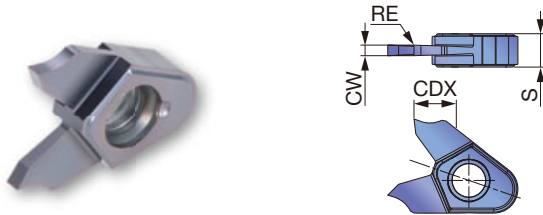
(1) "WF" indicates the distance from the reference position to the center of the cutting edge width. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

### SPARE PARTS

| Designation | Clamping screw | Coolant plug   | DirectJet plug | Wrench | Wrench 1 | Wrench 2 |
|-------------|----------------|----------------|----------------|--------|----------|----------|
| SVER...     | CSTB-2.5L054DL | SR5/16UNFTL360 | SSHM4-6-TB     | T-7F   | P-4      | P-2      |
| SVEL...     | CSTB-2.5L054DR | SR5/16UNFTL360 | SSHM4-6-TB     | T-7F   | P-4      | P-2      |

## INSERTS

### VGP08/10 (For grooving / sharp edge)



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   |   |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   |   |   |   |   |
| Non-ferrous    | ★ |   |   |   |   |   |
| Superalloys    | ★ |   |   |   |   |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice

| Designation    | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CDX* (in) | CUTDIA (in) | S (in) |
|----------------|---------------|---------------|---------|--------|--|--|--|--|-----------|-------------|--------|
|                |               |               |         | SH725  |  |  |  |  |           |             |        |
| VGP08-033F-000 | 0.33          | 0.013         | 0       | ●      |  |  |  |  | 0.079     | 0.157       | 0.087  |
| VGP08-050F-000 | 0.5           | 0.020         | 0       | ●      |  |  |  |  | 0.079     | 0.157       | 0.087  |
| VGP08-075F-000 | 0.75          | 0.030         | 0       | ●      |  |  |  |  | 0.098     | 0.197       | 0.087  |
| VGP08-100F-000 | 1             | 0.039         | 0       | ●      |  |  |  |  | 0.098     | 0.197       | 0.087  |
| VGP10-050F-000 | 0.5           | 0.020         | 0       | ●      |  |  |  |  | 0.098     | 0.197       | 0.124  |
| VGP10-050F-005 | 0.5           | 0.020         | 0.002   | ●      |  |  |  |  | 0.098     | 0.197       | 0.124  |
| VGP10-075F-000 | 0.75          | 0.030         | 0       | ●      |  |  |  |  | 0.118     | 0.236       | 0.124  |
| VGP10-075F-005 | 0.75          | 0.030         | 0.002   | ●      |  |  |  |  | 0.118     | 0.236       | 0.124  |
| VGP10-100F-000 | 1             | 0.039         | 0       | ●      |  |  |  |  | 0.157     | 0.315       | 0.124  |
| VGP10-100F-005 | 1             | 0.039         | 0.002   | ●      |  |  |  |  | 0.157     | 0.315       | 0.124  |

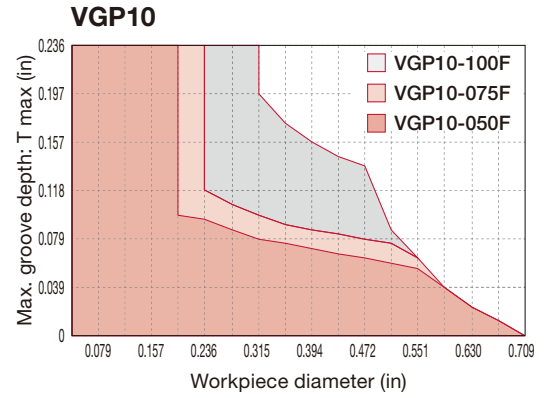
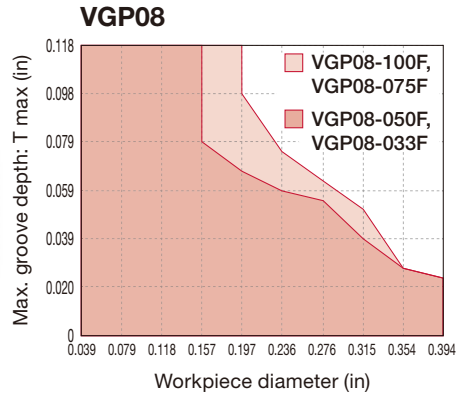
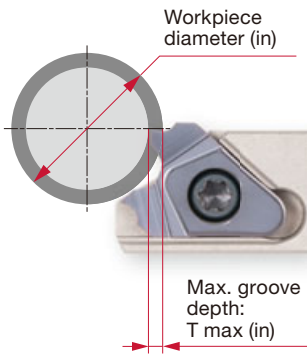
\*Max grooving depth varies depending on workpiece diameters. See below for details.

● : Line up

Reference pages : Toolholders → **G083 - G084**

**Note: Max grooving depths vs workpiece diameters**

To avoid tool interference with the workpiece, max grooving depths (T max) for the insert used may be smaller than the CDX values listed above depending on the workpiece diameter.



**STANDARD CUTTING CONDITIONS**

**Grooving**

| ISO      | Workpiece materials                             | Grade | Cutting speed Vc (sfm) | Feed f (ipr)   |
|----------|---|-------|------------------------|----------------|
| <b>P</b> | Low carbon steels<br>1015, 1020, etc.           | SH725 | 164 - 492              | 0.0002 - 0.004 |
|          | Carbon steels, Alloy steels<br>1055, 4140, etc. | SH725 | 164 - 492              | 0.0002 - 0.004 |
|          | Free cutting steels<br>SUH22, SUH23, etc.       | SH725 | 164 - 492              | 0.0002 - 0.004 |
| <b>M</b> | Stainless steels<br>304, etc.                   | SH725 | 164 - 328              | 0.0002 - 0.004 |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.             | SH725 | 492 - 722              | 0.0002 - 0.004 |
|          | Copper alloy<br>C2600, C280C, etc.              | SH725 | 328 - 656              | 0.0002 - 0.004 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.              | SH725 | 98 - 262               | 0.0002 - 0.004 |
|          | Superalloys<br>Inconel718, etc.                 | SH725 | 98 - 262               | 0.0002 - 0.004 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index

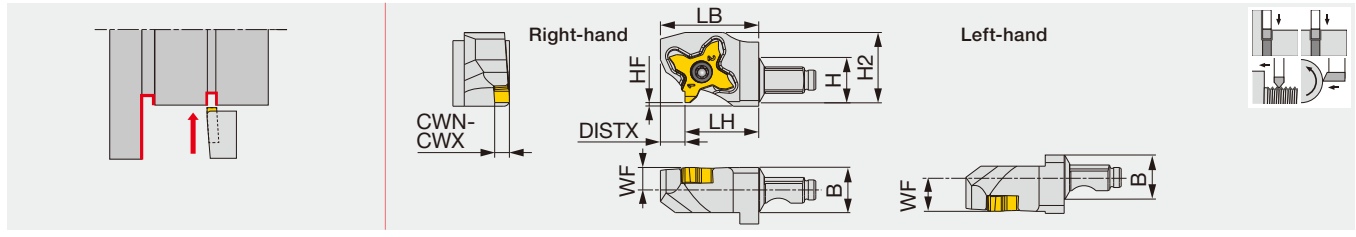




# TETRAMCUT

## QC12-STCR/L-Y

Y-axis turning modular head for external grooving and threading



| Metric          | CWN              | CWX              | H              | B              | LH               | HF        | WF**                     | LB             | H2               | DISTX           | Insert   | Torque*       |
|-----------------|------------------|------------------|----------------|----------------|------------------|-----------|--------------------------|----------------|------------------|-----------------|----------|---------------|
| QC12-STCR/L18-Y | 0.33<br>(0.013") | 3.18<br>(0.125") | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 0<br>(0") | 6/9<br>(0.236" / 0.354") | 26<br>(1.024") | 18.6<br>(0.732") | 6.5<br>(0.256") | TC*18... | 1.2<br>(0.89) |

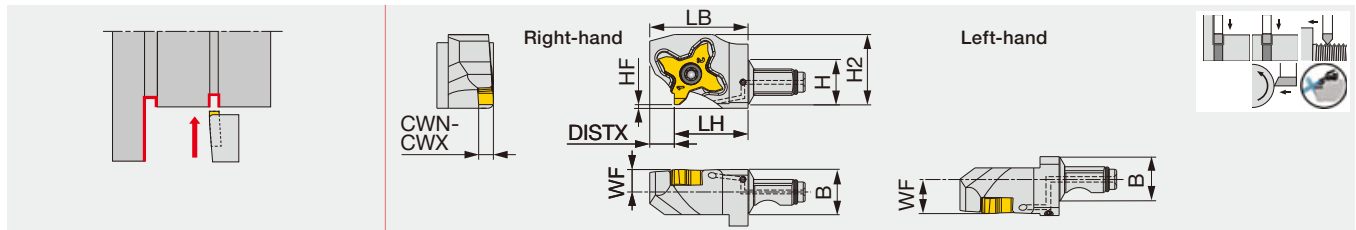
Torque\* : Recommended clamping torque: N·m (lbs·ft)

WF\*\* : The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

### QC12-STCR/L-Y-CHP

Y-axis turning modular head for external grooving and threading, with high pressure coolant capability



| Metric              | CWN              | CWX              | H              | B              | LH               | HF        | WF**          | LB             | H2               | DISTX           | Insert   | Torque*       |
|---------------------|------------------|------------------|----------------|----------------|------------------|-----------|---------------|----------------|------------------|-----------------|----------|---------------|
| QC12-STCR/L18-Y-CHP | 0.33<br>(0.013") | 3.18<br>(0.125") | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 26<br>(1.024") | 18.6<br>(0.732") | 6.5<br>(0.256") | TC*18... | 1.2<br>(0.89) |

Torque\* : Recommended clamping torque: N·m (lbs·ft)

WF\*\* : The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

Through-coolant head

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

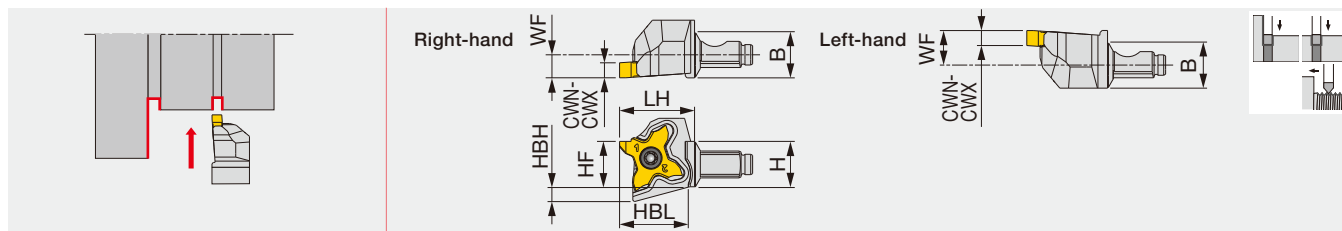
### SPARE PARTS

| Designation                | Clamping screw | Wrench   | O-ring               |
|----------------------------|----------------|----------|----------------------|
| QC12-STCR18-Y, QC12-STCR18 | CSTC-4L100DL   | T-1008/5 | -                    |
| QC12-STCL18-Y, QC12-STCL18 | CSTC-4L100DR   | T-1008/5 | -                    |
| QC12-STCR18-Y-CHP          | CSTC-4L100DL   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCL18-Y-CHP          | CSTC-4L100DR   | T-1008/5 | ORSS-0454.5X1.0NBR70 |

Reference pages : QC12-STCR/L-Y, QC12-STCR/L-Y-CHP: Inserts → **G091** -  
Shank, Accessory → **G115, G116**, Standard cutting conditions → **G097**

## QC12-STCR/L

Modular head for external grooving and threading



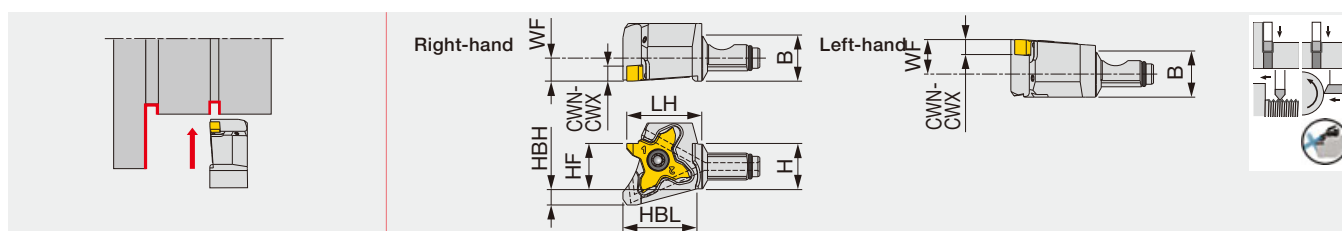
| Metric      | CWN              | CWX              | H              | B              | LH               | HF             | HBH             | HBL              | WF            | Insert    | Torque*       |
|-------------|------------------|------------------|----------------|----------------|------------------|----------------|-----------------|------------------|---------------|-----------|---------------|
| QC12-STCR18 | 0.33<br>(0.013") | 3.18<br>(0.125") | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 12<br>(0.472") | 3.9<br>(0.154") | 17.9<br>(0.705") | 6<br>(0.236") | TC*18R... | 1.2<br>(0.89) |
| QC12-STCL18 | 0.33<br>(0.013") | 3.18<br>(0.125") | 12<br>(0.472") | 12<br>(0.472") | 21<br>(0.827")   | 12<br>(0.472") | 3.9<br>(0.154") | 18.3<br>(0.720") | 9<br>(0.354") | TC*18L... | 1.2<br>(0.89) |

Torque\* : Recommended clamping torque: N-m (lbs-ft)

The right hand insert (R) is used for the right hand toolholders (R), and the left hand insert (L) is used for the left hand toolholders (L).

## QC12-STCR/L-CHP

Modular head for external grooving and threading, with high pressure coolant capability



| Metric          | CWN              | CWX              | H              | B              | LH               | HF             | HBH             | HBL              | WF            | Insert    | Torque*       |
|-----------------|------------------|------------------|----------------|----------------|------------------|----------------|-----------------|------------------|---------------|-----------|---------------|
| QC12-STCR18-CHP | 0.33<br>(0.013") | 3.18<br>(0.125") | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 12<br>(0.472") | 4.2<br>(0.165") | 19.3<br>(0.760") | 6<br>(0.236") | TC*18R... | 1.2<br>(0.89) |
| QC12-STCL18-CHP | 0.33<br>(0.013") | 3.18<br>(0.125") | 12<br>(0.472") | 12<br>(0.472") | 21<br>(0.827")   | 12<br>(0.472") | 4.2<br>(0.165") | 19.3<br>(0.760") | 9<br>(0.354") | TC*18L... | 1.2<br>(0.89) |

Torque\* : Recommended clamping torque: N-m (lbs-ft)

Through-coolant head

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

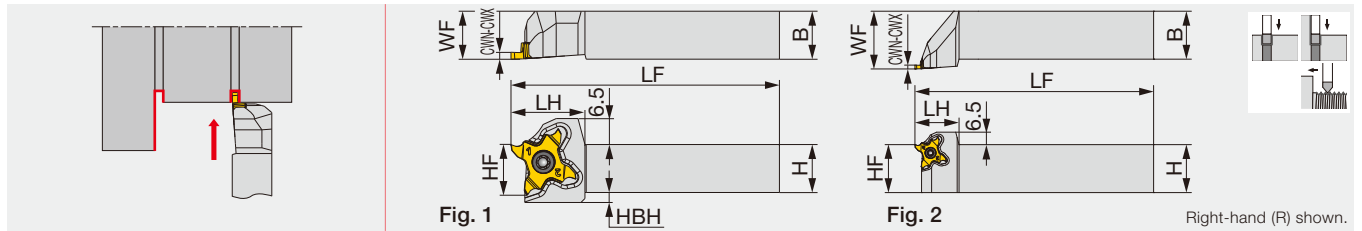
### SPARE PARTS

| Designation     | Clamping screw | Wrench   | O-ring               |
|-----------------|----------------|----------|----------------------|
| QC12-STCR18     | CSTC-4L100DL   | T-1008/5 | -                    |
| QC12-STCL18     | CSTC-4L100DR   | T-1008/5 | -                    |
| QC12-STCR18-CHP | CSTC-4L100DL   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCL18-CHP | CSTC-4L100DR   | T-1008/5 | ORSS-0454.5X1.0NBR70 |

# TETRAMCUT

## STCR/L-18

### External grooving and threading toolholder



| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert   | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|------|
| STCR/L06-18 | 0.013 | 0.125 | 0.375 | 0.375 | 4.750 | 0.730 | 0.375 | 0.375 | 0.177 | TC*18... | 0.89   | 1    |
| STCR/L08-18 | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.730 | 0.500 | 0.500 | 0.098 | TC*18... | 0.89   | 1    |
| STCR/L10-18 | 0.013 | 0.125 | 0.625 | 0.625 | 4.750 | 0.730 | 0.625 | 0.625 | -     | TC*18... | 0.89   | 1    |
| STCR/L12-18 | 0.013 | 0.125 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC*18... | 0.89   | 2    |
| STCR/L16-18 | 0.013 | 0.125 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC*18... | 0.89   | 2    |

| Metric        | CWN  | CWX  | H  | B  | LF  | LH   | HF | WF | HBH | Insert   | Torque* | Fig. |
|---------------|------|------|----|----|-----|------|----|----|-----|----------|---------|------|
| STCR/L1010X18 | 0.33 | 3.18 | 10 | 10 | 120 | 18.5 | 10 | 10 | 4.5 | TC*18... | 1.2     | 1    |
| STCR/L1212F18 | 0.33 | 3.18 | 12 | 12 | 85  | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1212X18 | 0.33 | 3.18 | 12 | 12 | 120 | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1616X18 | 0.33 | 3.18 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020H18 | 0.33 | 3.18 | 20 | 20 | 100 | 18.5 | 20 | 20 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020X18 | 0.33 | 3.18 | 20 | 20 | 120 | 23   | 20 | 25 | -   | TC*18... | 1.2     | 2    |

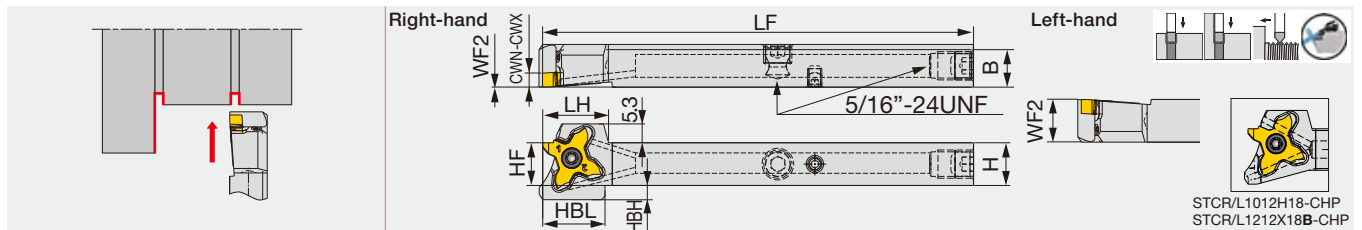
Torque: Recommended clamping torque: lbs-ft (\*N·m)

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (STCL...).

### STCR/L-H/X18-CHP

Direct connection

### External grooving and threading toolholder, with high pressure coolant capability



| Inch               | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2   | HBH   | Insert    | Torque  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|---------|
| STCR/L08X18-CHP    | 0.013 | 0.125 | 0.500 | 0.500 | 4.750 | 0.728 | 0.689 | 0.500 | 0.500 | 0.130 | TC**18... | 0.89    |
| STCR/L10X18-CHP    | 0.013 | 0.125 | 0.625 | 0.625 | 4.75  | 0.728 | -     | 0.625 | -     | 0     | TC**18... | 0.89    |
| Metric             | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2   | HBH   | Insert    | Torque* |
| STCR/L1012H18-CHP  | 0.33  | 3.18  | 10    | 12    | 100   | 17.1  | 17.1  | 10    | 0/12  | 4     | TC**18... | 1.2     |
| STCR/L1212X18B-CHP | 0.33  | 3.18  | 12    | 12    | 120   | 18.5  | 17.5  | 12    | 0/12  | 4     | TC**18... | 1.2     |
| STCR/L1616X18-CHP  | 0.33  | 3.18  | 16    | 16    | 120   | 18.5  | -     | 16    | 0/16  | 0     | TC**18... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

The right hand insert (TC\*18R...) is used for the right hand toolholders (STCR...), and the left hand insert (TC\*18L...) is used for the left hand toolholders (STCL...).

### SPARE PARTS

| Designation  | Clamping screw | Wrench   | Coolant plug   | Wrench | DirectJet plug | Wrench |
|--------------|----------------|----------|----------------|--------|----------------|--------|
| STCR**18     | CSTC-4L100DL   | T-1008/5 | -              | -      | -              | -      |
| STCL**18     | CSTC-4L100DR   | T-1008/5 | -              | -      | -              | -      |
| STCL**18-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| STCR**18-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |

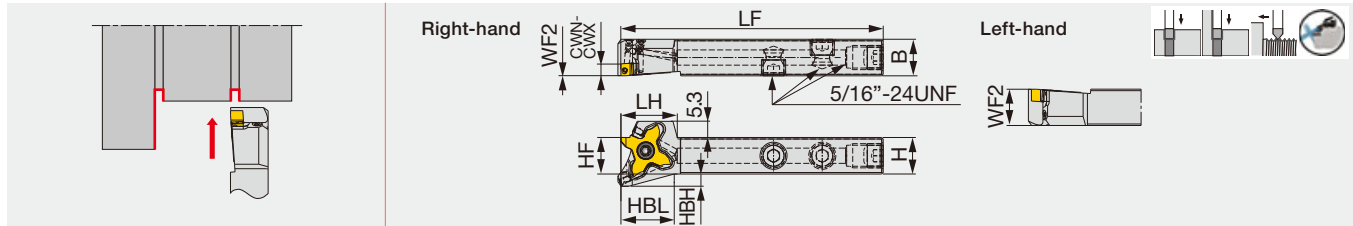
Threading pitch range: 0.8 - 3.0 mm

Reference pages : STCR/L-18, STCR/L-H/X18-CHP: Inserts → G091 -, Standard cutting conditions → G097

# STCR/L-18-CHP

Tube connection

External grooving and threading toolholder, with high pressure coolant capability

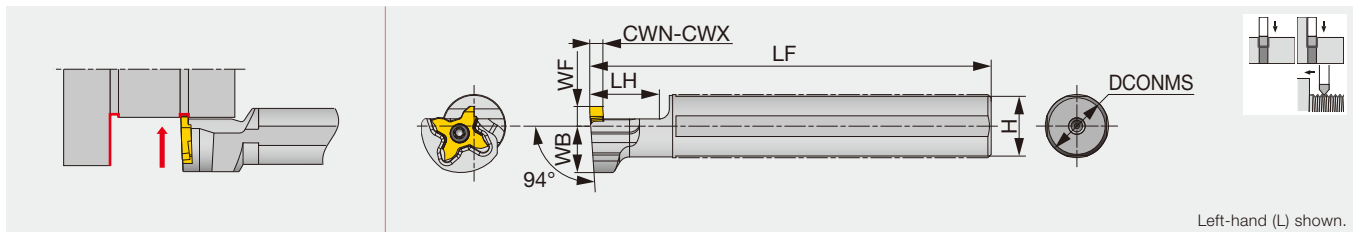


| Inch               | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2 <sup>(1)</sup> | HBH   | Insert | Torque* |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|--------|---------|
| STCR/L08F18-CHP    | 0.013 | 0.125 | 0.500 | 0.500 | 3.344 | 0.728 | 0.689 | 0.500 | 0/0.5              | 0.130 | TC**18 | 0.89    |
| Metric             | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2 <sup>(1)</sup> | HBH   | Insert | Torque* |
| STCR/L1212F18B-CHP | 0.33  | 3.18  | 12    | 12    | 85    | 18.5  | 17.5  | 12    | 0/12               | 4     | TC**18 | 1.2     |

The right hand insert (TC\*18R\*\*) is used for the right hand toolholders (STCR\*\*), and the left hand insert (TC\*18L\*\*) is used for the left hand toolholders (STCL\*\*).  
 WF2(1) : The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

# JS-STCL18

External grooving and threading toolholder with round shank, for Swiss lathes



| Metric        | CWN  | CWX  | DCONMS | LF  | LH | H  | WB    | WF | Insert    | Torque* |
|---------------|------|------|--------|-----|----|----|-------|----|-----------|---------|
| JS14H-STCL18  | 0.33 | 3.18 | 14     | 100 | 20 | 13 | 14    | 6  | TC*18R... | 1.2     |
| JS159F-STCL18 | 0.33 | 3.18 | 15.875 | 85  | 20 | 15 | 14    | 6  | TC*18R... | 1.2     |
| JS16F-STCL18  | 0.33 | 3.18 | 16     | 85  | 20 | 15 | 14    | 6  | TC*18R... | 1.2     |
| JS19G-STCL18  | 0.33 | 3.18 | 19.05  | 90  | 20 | 18 | 14    | 6  | TC*18R... | 1.2     |
| JS19X-STCL18  | 0.33 | 3.18 | 19.05  | 120 | 20 | 18 | 14    | 6  | TC*18R... | 1.2     |
| JS20G-STCL18  | 0.33 | 3.18 | 20     | 90  | 20 | 19 | 14    | 6  | TC*18R... | 1.2     |
| JS20X-STCL18  | 0.33 | 3.18 | 20     | 120 | 20 | 19 | 14    | 6  | TC*18R... | 1.2     |
| JS22X-STCL18  | 0.33 | 3.18 | 22     | 120 | 20 | 21 | 12.25 | 10 | TC*18R... | 1.2     |
| JS25H-STCL18  | 0.33 | 3.18 | 25     | 100 | 20 | 24 | 12.25 | 10 | TC*18R... | 1.2     |
| JS254X-STCL18 | 0.33 | 3.18 | 25.4   | 120 | 20 | 24 | 12.25 | 10 | TC*18R... | 1.2     |

The left hand toolholder (STCL...) is used with the right hand inserts (TC\*18R...)  
 \*Torque: Recommended clamping torque: N·m

## SPARE PARTS

| Designation    | Clamping screw | Wrench   | Coolant plug   | Wrench |
|----------------|----------------|----------|----------------|--------|
| STCL**F18B-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    |
| STCR**F18B-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    |
| JS...STCL18    | CSTC-4L100DL   | T-1008/5 | -              | -      |

Threading pitch range: 0.8 - 3.0 mm

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



## Selection guide for TetraMini-Cut inserts

| Groove width |         | Corner rad. |         | TCL18R/L<br>(G091 page) | TCS18R/L<br>(G091 page -) | TCG18R/L<br>(G093 page -) | TCP18R/L<br>(G095 page) | TCP18R/L-F<br>(G096 page) |
|--------------|---------|-------------|---------|-------------------------|---------------------------|---------------------------|-------------------------|---------------------------|
| CW (in)      | CW (mm) | RE (in)     | RE (mm) | AH7025                  | AH7025                    | AH7025                    | AH725                   | SH725                     |
| 0.013        | 0.33    | 0.002       | 0.05    |                         |                           |                           | ●                       | ●                         |
| 0.017        | 0.43    | 0.002       | 0.05    |                         |                           |                           | ●                       | ●                         |
| 0.020        | 0.50    | 0.002       | 0.05    |                         |                           |                           | ●                       | ●                         |
| 0.030        | 0.75    | 0.002       | 0.05    |                         |                           |                           | ●                       | ●                         |
| 0.037        | 0.95    | 0.002       | 0.05    |                         |                           |                           | ●                       | ●                         |
| 0.039        | 1.00    | 0.002       | 0.05    |                         |                           |                           |                         | ●                         |
|              |         | 0.004       | 0.1     |                         | ●                         |                           | ●                       | ●                         |
| 0.047        | 1.20    | 0.020       | 0.5     |                         |                           | ●                         |                         |                           |
|              |         | 0.002       | 0.05    |                         |                           |                           |                         | ●                         |
| 0.049        | 1.25    | 0.004       | 0.1     |                         | ●                         | ●                         | ●                       | ●                         |
|              |         | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.051        | 1.30    | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.055        | 1.40    | 0.004       | 0.1     |                         | ●                         | ●                         | ●                       | ●                         |
|              |         | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.057        | 1.45    | 0.002       | 0.05    |                         |                           |                           |                         | ●                         |
|              |         | 0.004       | 0.1     |                         | ●                         | ●                         | ●                       | ●                         |
|              |         | 0.008       | 0.2     |                         |                           | ●                         |                         |                           |
| 0.059        | 1.50    | 0.002       | 0.05    |                         |                           |                           |                         | ●                         |
|              |         | 0.004       | 0.1     | ●                       | ●                         | ●                         | ●                       | ●                         |
| 0.062        | 1.58    | 0.008       | 0.2     | ●                       | ●                         | ●                         |                         |                           |
|              |         | 0.031       | 0.79    |                         |                           | ●                         |                         |                           |
| 0.063        | 1.60    | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.067        | 1.70    | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.069        | 1.75    | 0.002       | 0.05    |                         |                           |                           |                         | ●                         |
|              |         | 0.004       | 0.1     |                         | ●                         | ●                         | ●                       | ●                         |
| 0.073        | 1.85    | 0.008       | 0.2     | ●                       | ●                         | ●                         |                         |                           |
|              |         | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.077        | 1.95    | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.079        | 2.00    | 0.002       | 0.05    |                         |                           |                           |                         | ●                         |
|              |         | 0.004       | 0.1     | ●                       | ●                         | ●                         | ●                       | ●                         |
|              |         | 0.008       | 0.2     | ●                       | ●                         | ●                         |                         |                           |
| 0.089        | 2.25    | 0.039       | 1.0     |                         |                           | ●                         |                         |                           |
|              |         | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.091        | 2.30    | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.094        | 2.39    | 0.047       | 1.2     |                         |                           | ●                         |                         |                           |
| 0.098        | 2.50    | 0.004       | 0.1     |                         | ●                         | ●                         | ●                       | ●                         |
|              |         | 0.008       | 0.2     |                         | ●                         | ●                         |                         |                           |
| 0.104        | 2.65    | 0.012       | 0.3     | ●                       | ●                         | ●                         |                         |                           |
|              |         | 0.012       | 0.3     |                         | ●                         | ●                         |                         |                           |
| 0.110        | 2.80    | 0.012       | 0.3     |                         | ●                         | ●                         |                         |                           |
| 0.118        | 3.00    | 0.004       | 0.1     | ●                       | ●                         | ●                         | ●                       | ●                         |
|              |         | 0.008       | 0.2     | ●                       | ●                         | ●                         |                         |                           |
|              |         | 0.012       | 0.3     | ●                       | ●                         | ●                         |                         |                           |
| 0.125        | 3.18    | 0.059       | 1.5     |                         |                           | ●                         |                         |                           |
|              |         | 0.063       | 1.59    |                         |                           | ●                         |                         |                           |

● : Line up



|   |                |   |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CDX<br>(in) |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|-------------|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |             |       |
| TCS18R125-020 | R    | 1.25            | 0.049            | 0.008      | ●      |  |  |  |  |             | 0.079 |
| TCS18L125-020 | L    | 1.25            | 0.049            | 0.008      | ●      |  |  |  |  |             | 0.079 |
| TCS18R130-020 | R    | 1.3             | 0.051            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L130-020 | L    | 1.3             | 0.051            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R140-010 | R    | 1.4             | 0.055            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L140-010 | L    | 1.4             | 0.055            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R140-020 | R    | 1.4             | 0.055            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L140-020 | L    | 1.4             | 0.055            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R145-010 | R    | 1.45            | 0.057            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L145-010 | L    | 1.45            | 0.057            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R150-010 | R    | 1.5             | 0.059            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L150-010 | L    | 1.5             | 0.059            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R150-020 | R    | 1.5             | 0.059            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L150-020 | L    | 1.5             | 0.059            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R160-020 | R    | 1.6             | 0.063            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L160-020 | L    | 1.6             | 0.063            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R170-020 | R    | 1.7             | 0.067            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L170-020 | L    | 1.7             | 0.067            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R175-010 | R    | 1.75            | 0.069            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L175-010 | L    | 1.75            | 0.069            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R175-020 | R    | 1.75            | 0.069            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L175-020 | L    | 1.75            | 0.069            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R185-020 | R    | 1.85            | 0.073            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L185-020 | L    | 1.85            | 0.073            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R195-020 | R    | 1.95            | 0.077            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L195-020 | L    | 1.95            | 0.077            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R200-010 | R    | 2               | 0.079            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L200-010 | L    | 2               | 0.079            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R200-020 | R    | 2               | 0.079            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L200-020 | L    | 2               | 0.079            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R225-020 | R    | 2.25            | 0.089            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L225-020 | L    | 2.25            | 0.089            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R230-020 | R    | 2.3             | 0.091            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L230-020 | L    | 2.3             | 0.091            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R250-010 | R    | 2.5             | 0.098            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L250-010 | L    | 2.5             | 0.098            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R250-020 | R    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L250-020 | L    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R250-030 | R    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18L250-030 | L    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18R265-030 | R    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18L265-030 | L    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18R280-030 | R    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18L280-030 | L    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18R300-010 | R    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18L300-010 | L    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |             | 0.138 |
| TCS18R300-020 | R    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18L300-020 | L    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |             | 0.138 |
| TCS18R300-030 | R    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |             | 0.138 |
| TCS18L300-030 | L    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |             | 0.138 |

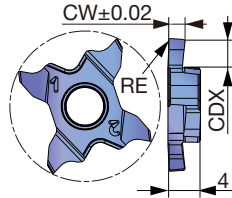
Please see page G098 for precautions of processing.

5 pieces per package

● : Line up

Reference pages : Toolholders → G086 - G089, Standard cutting conditions → G097

# TCG18R/L (honed edge)



|          |                |   |  |  |  |  |
|----------|----------------|---|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  |  |  |  |  |  | CDX (in) |  |  |       |
|---------------|------|--------------|---------------|---------|--------|--|--|--|--|--|--|--|--|--|----------|--|--|-------|
|               |      |              |               |         | AH7025 |  |  |  |  |  |  |  |  |  |          |  |  |       |
| TCG18R100-010 | R    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18L100-010 | L    | 1            | 0.039         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18R120-010 | R    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18L120-010 | L    | 1.2          | 0.047         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18R125-010 | R    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18L125-010 | L    | 1.25         | 0.049         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18R125-020 | R    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18L125-020 | L    | 1.25         | 0.049         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18R130-020 | R    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18L130-020 | L    | 1.3          | 0.051         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.079 |
| TCG18R140-010 | R    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L140-010 | L    | 1.4          | 0.055         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R140-020 | R    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L140-020 | L    | 1.4          | 0.055         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R145-010 | R    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L145-010 | L    | 1.45         | 0.057         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R145-020 | R    | 1.45         | 0.057         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L145-020 | L    | 1.45         | 0.057         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R150-010 | R    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L150-010 | L    | 1.5          | 0.059         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R150-020 | R    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L150-020 | L    | 1.5          | 0.059         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R160-020 | R    | 1.6          | 0.063         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L160-020 | L    | 1.6          | 0.063         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R170-020 | R    | 1.7          | 0.067         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L170-020 | L    | 1.7          | 0.067         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R175-010 | R    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L175-010 | L    | 1.75         | 0.069         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R175-020 | R    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L175-020 | L    | 1.75         | 0.069         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R185-020 | R    | 1.85         | 0.073         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L185-020 | L    | 1.85         | 0.073         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R195-020 | R    | 1.95         | 0.077         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L195-020 | L    | 1.95         | 0.077         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R200-010 | R    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L200-010 | L    | 2            | 0.079         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R200-020 | R    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L200-020 | L    | 2            | 0.079         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R225-020 | R    | 2.25         | 0.089         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L225-020 | L    | 2.25         | 0.089         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R230-020 | R    | 2.3          | 0.091         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L230-020 | L    | 2.3          | 0.091         | 0.008   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18R250-010 | R    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |
| TCG18L250-010 | L    | 2.5          | 0.098         | 0.004   | ●      |  |  |  |  |  |  |  |  |  |          |  |  | 0.138 |

Please see page G098 for precautions of processing.

5 pieces per package  
● : Line up

Reference pages : Toolholders → G086 - G089, Standard cutting conditions → G097

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index





|   |                |   |  |  |  |  |
|---|----------------|---|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |
| H | Hard materials |   |  |  |  |  |

★ : First choice  
☆ : Second choice

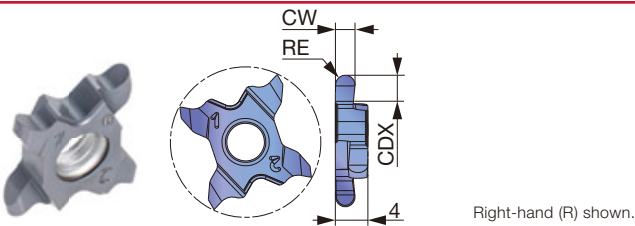
| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  |  | CDX<br>(in) |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|--|-------------|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |  |             |       |
| TCG18R250-020 | R    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L250-020 | L    | 2.5             | 0.098            | 0.008      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R250-030 | R    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L250-030 | L    | 2.5             | 0.098            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R265-030 | R    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L265-030 | L    | 2.65            | 0.104            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R280-030 | R    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L280-030 | L    | 2.8             | 0.110            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R300-010 | R    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L300-010 | L    | 3               | 0.118            | 0.004      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R300-020 | R    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L300-020 | L    | 3               | 0.118            | 0.008      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R300-030 | R    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L300-030 | L    | 3               | 0.118            | 0.012      | ●      |  |  |  |  |  |             | 0.138 |

Please see page G098 for precautions of processing.

5 pieces per package

● : Line up

### TCG18R/L (Full R, honed edge)



|   |                |   |  |  |  |  |
|---|----------------|---|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |
| H | Hard materials |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  |  | CDX<br>(in) |       |
|---------------|------|-----------------|------------------|------------|--------|--|--|--|--|--|-------------|-------|
|               |      |                 |                  |            | AH7025 |  |  |  |  |  |             |       |
| TCG18R100-050 | R    | 1               | 0.039            | 0.020      | ●      |  |  |  |  |  |             | 0.079 |
| TCG18L100-050 | L    | 1               | 0.039            | 0.020      | ●      |  |  |  |  |  |             | 0.079 |
| TCG18R158-079 | R    | 1.58            | 0.062            | 0.031      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L158-079 | L    | 1.58            | 0.062            | 0.031      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R200-100 | R    | 2               | 0.079            | 0.039      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L200-100 | L    | 2               | 0.079            | 0.039      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R239-120 | R    | 2.39            | 0.094            | 0.047      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L239-120 | L    | 2.39            | 0.094            | 0.047      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R300-150 | R    | 3               | 0.118            | 0.059      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L300-150 | L    | 3               | 0.118            | 0.059      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18R318-159 | R    | 3.18            | 0.125            | 0.063      | ●      |  |  |  |  |  |             | 0.138 |
| TCG18L318-159 | L    | 3.18            | 0.125            | 0.063      | ●      |  |  |  |  |  |             | 0.138 |

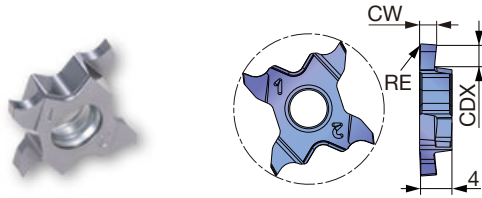
Please see page G098 for precautions of processing.

5 pieces per package

● : Line up

Reference pages : Toolholders → G086 - G089, Standard cutting conditions → G097

# TCP18R/L (lightly honed edge)



|   |                |   |
|---|----------------|---|
| P | Steel          | ★ |
| M | Stainless      | ★ |
| K | Cast iron      | ★ |
| N | Non-ferrous    |   |
| S | Superalloys    | ★ |
| H | Hard materials |   |

★ : First choice  
☆ : Second choice

| Designation      | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) |
|------------------|------|-----------------|------------------|------------|--------|--|-------------|
|                  |      |                 |                  |            | AH725  |  |             |
| TCP18R033-005    | R    | 0.33            | 0.013            | 0.002      | ●      |  | 0.031       |
| TCP18L033-005    | L    | 0.33            | 0.013            | 0.002      | ●      |  | 0.031       |
| TCP18R043-005    | R    | 0.43            | 0.017            | 0.002      | ●      |  | 0.047       |
| TCP18L043-005    | L    | 0.43            | 0.017            | 0.002      | ●      |  | 0.047       |
| TCP18R050-005    | R    | 0.50            | 0.020            | 0.002      | ●      |  | 0.047       |
| TCP18L050-005    | L    | 0.50            | 0.020            | 0.002      | ●      |  | 0.047       |
| TCP18R075-005    | R    | 0.75            | 0.030            | 0.002      | ●      |  | 0.079       |
| TCP18L075-005    | L    | 0.75            | 0.030            | 0.002      | ●      |  | 0.079       |
| TCP18R095-005    | R    | 0.95            | 0.037            | 0.002      | ●      |  | 0.079       |
| TCP18L095-005    | L    | 0.95            | 0.037            | 0.002      | ●      |  | 0.079       |
| TCP18R100-010    | R    | 1               | 0.039            | 0.004      | ●      |  | 0.079       |
| TCP18L100-010    | L    | 1               | 0.039            | 0.004      | ●      |  | 0.079       |
| TCP18R120-010    | R    | 1.2             | 0.047            | 0.004      | ●      |  | 0.079       |
| TCP18L120-010    | L    | 1.2             | 0.047            | 0.004      | ●      |  | 0.079       |
| TCP18R125-010    | R    | 1.25            | 0.049            | 0.004      | ●      |  | 0.079       |
| TCP18L125-010    | L    | 1.25            | 0.049            | 0.004      | ●      |  | 0.079       |
| TCP18R140-010-35 | R    | 1.4             | 0.055            | 0.004      | ●      |  | 0.138       |
| TCP18L140-010-35 | L    | 1.4             | 0.055            | 0.004      | ●      |  | 0.138       |
| TCP18R145-010    | R    | 1.45            | 0.057            | 0.004      | ●      |  | 0.079       |
| TCP18L145-010    | L    | 1.45            | 0.057            | 0.004      | ●      |  | 0.079       |
| TCP18R145-010-35 | R    | 1.45            | 0.057            | 0.004      | ●      |  | 0.138       |
| TCP18L145-010-35 | L    | 1.45            | 0.057            | 0.004      | ●      |  | 0.138       |
| TCP18R150-010    | R    | 1.5             | 0.059            | 0.004      | ●      |  | 0.079       |
| TCP18L150-010    | L    | 1.5             | 0.059            | 0.004      | ●      |  | 0.079       |
| TCP18R150-010-35 | R    | 1.5             | 0.059            | 0.004      | ●      |  | 0.138       |
| TCP18L150-010-35 | L    | 1.5             | 0.059            | 0.004      | ●      |  | 0.138       |
| TCP18R175-010    | R    | 1.75            | 0.069            | 0.004      | ●      |  | 0.079       |
| TCP18L175-010    | L    | 1.75            | 0.069            | 0.004      | ●      |  | 0.079       |
| TCP18R175-010-35 | R    | 1.75            | 0.069            | 0.004      | ●      |  | 0.138       |
| TCP18L175-010-35 | L    | 1.75            | 0.069            | 0.004      | ●      |  | 0.138       |
| TCP18R200-010    | R    | 2               | 0.079            | 0.004      | ●      |  | 0.098       |
| TCP18L200-010    | L    | 2               | 0.079            | 0.004      | ●      |  | 0.098       |
| TCP18R200-010-35 | R    | 2               | 0.079            | 0.004      | ●      |  | 0.138       |
| TCP18L200-010-35 | L    | 2               | 0.079            | 0.004      | ●      |  | 0.138       |
| TCP18R250-010    | R    | 2.5             | 0.098            | 0.004      | ●      |  | 0.098       |
| TCP18L250-010    | L    | 2.5             | 0.098            | 0.004      | ●      |  | 0.098       |
| TCP18R250-010-35 | R    | 2.5             | 0.098            | 0.004      | ●      |  | 0.138       |
| TCP18L250-010-35 | L    | 2.5             | 0.098            | 0.004      | ●      |  | 0.138       |
| TCP18R300-010    | R    | 3               | 0.118            | 0.004      | ●      |  | 0.098       |
| TCP18L300-010    | L    | 3               | 0.118            | 0.004      | ●      |  | 0.098       |
| TCP18R300-010-35 | R    | 3               | 0.118            | 0.004      | ●      |  | 0.138       |
| TCP18L300-010-35 | L    | 3               | 0.118            | 0.004      | ●      |  | 0.138       |

Please see page G098 for precautions of processing.

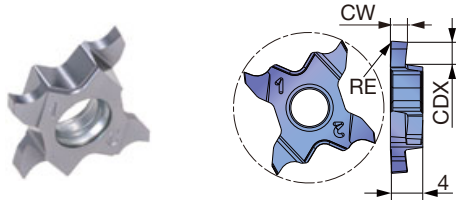
5 pieces per package

● : Line up

Reference pages : Toolholders → G086 - G089, Standard cutting conditions → G097



# TCP18R/L-F (sharp edge)



|   |                |   |
|---|----------------|---|
| P | Steel          | ★ |
| M | Stainless      | ★ |
| K | Cast iron      | ★ |
| N | Non-ferrous    |   |
| S | Superalloys    | ★ |
| H | Hard materials |   |

★ : First choice  
☆ : Second choice

| Designation       | HAND | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) |
|-------------------|------|-----------------|------------------|------------|--------|--|-------------|
|                   |      |                 |                  |            | SH725  |  |             |
| TCP18R033F-005    | R    | 0.33            | 0.013            | 0.002      | ●      |  | 0.031       |
| TCP18L033F-005    | L    | 0.33            | 0.013            | 0.002      | ●      |  | 0.031       |
| TCP18R043F-005    | R    | 0.43            | 0.017            | 0.002      | ●      |  | 0.047       |
| TCP18L043F-005    | L    | 0.43            | 0.017            | 0.002      | ●      |  | 0.047       |
| TCP18R050F-005    | R    | 0.5             | 0.020            | 0.002      | ●      |  | 0.047       |
| TCP18L050F-005    | L    | 0.5             | 0.020            | 0.002      | ●      |  | 0.047       |
| TCP18R075F-005    | R    | 0.75            | 0.030            | 0.002      | ●      |  | 0.079       |
| TCP18L075F-005    | L    | 0.75            | 0.030            | 0.002      | ●      |  | 0.079       |
| TCP18R095F-005    | R    | 0.95            | 0.037            | 0.002      | ●      |  | 0.079       |
| TCP18L095F-005    | L    | 0.95            | 0.037            | 0.002      | ●      |  | 0.079       |
| TCP18R100F-005    | R    | 1               | 0.039            | 0.002      | ●      |  | 0.079       |
| TCP18R100F-010    | R    | 1               | 0.039            | 0.004      | ●      |  | 0.079       |
| TCP18L100F-010    | L    | 1               | 0.039            | 0.004      | ●      |  | 0.079       |
| TCP18R120F-005    | R    | 1.2             | 0.047            | 0.002      | ●      |  | 0.079       |
| TCP18R120F-010    | R    | 1.2             | 0.047            | 0.004      | ●      |  | 0.079       |
| TCP18L120F-010    | L    | 1.2             | 0.047            | 0.004      | ●      |  | 0.079       |
| TCP18R125F-005    | R    | 1.25            | 0.049            | 0.002      | ●      |  | 0.079       |
| TCP18R125F-010    | R    | 1.25            | 0.049            | 0.004      | ●      |  | 0.079       |
| TCP18L125F-010    | L    | 1.25            | 0.049            | 0.004      | ●      |  | 0.079       |
| TCP18R140F-010-35 | R    | 1.4             | 0.055            | 0.004      | ●      |  | 0.138       |
| TCP18R145F-005-35 | R    | 1.45            | 0.057            | 0.002      | ●      |  | 0.138       |
| TCP18R145F-010    | R    | 1.45            | 0.057            | 0.004      | ●      |  | 0.079       |
| TCP18L145F-010    | L    | 1.45            | 0.057            | 0.004      | ●      |  | 0.079       |
| TCP18R145F-010-35 | R    | 1.45            | 0.057            | 0.004      | ●      |  | 0.138       |
| TCP18L145F-010-35 | L    | 1.45            | 0.057            | 0.004      | ●      |  | 0.138       |
| TCP18R150F-005-35 | R    | 1.5             | 0.059            | 0.002      | ●      |  | 0.138       |
| TCP18R150F-010    | R    | 1.5             | 0.059            | 0.004      | ●      |  | 0.079       |
| TCP18L150F-010    | L    | 1.5             | 0.059            | 0.004      | ●      |  | 0.079       |
| TCP18R150F-010-35 | R    | 1.5             | 0.059            | 0.004      | ●      |  | 0.138       |
| TCP18L150F-010-35 | L    | 1.5             | 0.059            | 0.004      | ●      |  | 0.138       |
| TCP18R175F-005-35 | R    | 1.75            | 0.069            | 0.002      | ●      |  | 0.138       |
| TCP18R175F-010    | R    | 1.75            | 0.069            | 0.004      | ●      |  | 0.079       |
| TCP18L175F-010    | L    | 1.75            | 0.069            | 0.004      | ●      |  | 0.079       |
| TCP18R175F-010-35 | R    | 1.75            | 0.069            | 0.004      | ●      |  | 0.138       |
| TCP18L175F-010-35 | L    | 1.75            | 0.069            | 0.004      | ●      |  | 0.138       |
| TCP18R200F-005-35 | R    | 2               | 0.079            | 0.002      | ●      |  | 0.138       |
| TCP18R200F-010    | R    | 2               | 0.079            | 0.004      | ●      |  | 0.098       |
| TCP18L200F-010    | L    | 2               | 0.079            | 0.004      | ●      |  | 0.098       |
| TCP18R200F-010-35 | R    | 2               | 0.079            | 0.004      | ●      |  | 0.138       |
| TCP18L200F-010-35 | L    | 2               | 0.079            | 0.004      | ●      |  | 0.138       |
| TCP18R250F-010    | R    | 2.5             | 0.098            | 0.004      | ●      |  | 0.098       |
| TCP18L250F-010    | L    | 2.5             | 0.098            | 0.004      | ●      |  | 0.098       |
| TCP18R250F-010-35 | R    | 2.5             | 0.098            | 0.004      | ●      |  | 0.138       |
| TCP18L250F-010-35 | L    | 2.5             | 0.098            | 0.004      | ●      |  | 0.138       |
| TCP18R300F-010    | R    | 3               | 0.118            | 0.004      | ●      |  | 0.098       |
| TCP18L300F-010    | L    | 3               | 0.118            | 0.004      | ●      |  | 0.098       |
| TCP18R300F-010-35 | R    | 3               | 0.118            | 0.004      | ●      |  | 0.138       |
| TCP18L300F-010-35 | L    | 3               | 0.118            | 0.004      | ●      |  | 0.138       |

Please see page G098 for precautions of processing.

5 pieces per package

● : Line up

Reference pages : Toolholders → G086 - G089, Standard cutting conditions → G097

**STANDARD CUTTING CONDITIONS**

**TCS18R (3D chipbreaker) , TCG18R/L (honed edge)**

| ISO | Workpiece materials                            | Grades | Cutting speed<br>Vc (sfm) | Feed: f (ipr) |               |
|-----|--|--------|---------------------------|---------------|---------------|
|     |  |        |                           | TCG           | TCS           |
| P   | Low carbon steel<br>1015, 1020, etc.           | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.001 - 0.006 |
|     | Carbon steels, Alloy steel<br>1055, 4140, etc. | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.001 - 0.006 |
|     | Prehardened steel<br>NAK80, PX5, etc.          | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.001 - 0.006 |
| M   | Stainless steel<br>304SS, 316SS, etc.          | AH7025 | 164 - 394                 | 0.001 - 0.005 | 0.001 - 0.006 |
| K   | Gray cast iron<br>Class 25, Class 30, etc.     | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.001 - 0.006 |
|     | Ductile cast iron<br>60-40-18, 80-55-06, etc.  | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.001 - 0.006 |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.             | AH7025 | 98 - 262                  | 0.001 - 0.005 | 0.001 - 0.006 |
|     | Superalloys<br>Inconel718, etc.                | AH7025 | 66 - 197                  | 0.001 - 0.005 | 0.001 - 0.006 |

**TCL18R (3D chipbreaker), TCG18R/L (Full R, honed edge)**

| ISO | Workpiece materials                            | Grades | Cutting speed<br>Vc (sfm) | Feed: f (ipr) |               |
|-----|--|--------|---------------------------|---------------|---------------|
|     |  |        |                           | TCL18         | TCG18         |
| P   | Low carbon steel<br>1015, 1020, etc.           | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 |
|     | Carbon steels, Alloy steel<br>1055, 4140, etc. | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 |
|     | Prehardened steel<br>NAK80, PX5, etc.          | AH7025 | 262 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 |
| M   | Stainless steel<br>304SS, 316SS, etc.          | AH7025 | 164 - 394                 | 0.001 - 0.005 | 0.002 - 0.006 |
| K   | Gray cast iron<br>Class 25, Class 30, etc.     | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 |
|     | Ductile cast iron<br>60-40-18, 80-55-06, etc.  | AH7025 | 164 - 591                 | 0.001 - 0.005 | 0.002 - 0.006 |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.             | AH7025 | 98 - 262                  | 0.001 - 0.005 | 0.002 - 0.006 |
|     | Superalloys<br>Inconel718, etc.                | AH7025 | 66 - 197                  | 0.001 - 0.005 | 0.002 - 0.006 |

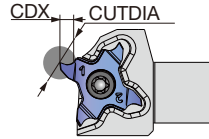
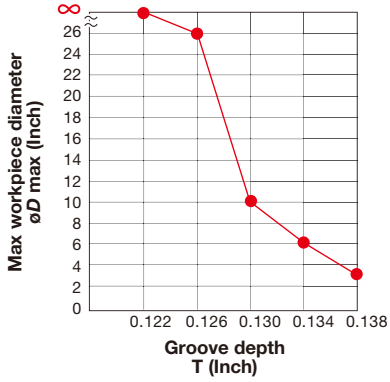
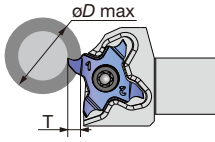
**TCP18R/L (lightly honed edge) / TCP18R/L-F (sharp edge)**

| ISO | Workpiece materials                            | Priority     | Grades | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|-----|--|--------------|--------|---------------------------|-----------------|
|     |  |              |        |                           |                 |
| P   | Low carbon steel<br>1015, 1020, etc.           | First choice | SH725  | 262 - 591                 | 0.001 - 0.004   |
|     |  | Toughness    | AH725  | 262 - 591                 | 0.001 - 0.004   |
|     | Carbon steels, Alloy steel<br>1055, 4140, etc. | First choice | SH725  | 262 - 591                 | 0.001 - 0.004   |
|     |  | Toughness    | AH725  | 262 - 591                 | 0.001 - 0.004   |
|     | Prehardened steel<br>NAK80, PX5, etc.          | First choice | SH725  | 262 - 591                 | 0.001 - 0.004   |
|     |  | Toughness    | AH725  | 262 - 591                 | 0.001 - 0.004   |
| M   | Stainless steel<br>304SS, 316SS, etc.          | First choice | SH725  | 164 - 394                 | 0.001 - 0.004   |
|     |  | Toughness    | AH725  | 164 - 394                 | 0.001 - 0.004   |
| K   | Gray cast iron<br>Class 25, Class 30, etc.     | First choice | AH725  | 164 - 591                 | 0.001 - 0.004   |
|     |  | Sharpness    | SH725  | 164 - 591                 | 0.001 - 0.004   |
|     | Ductile cast iron<br>60-40-18, 80-55-06, etc.  | First choice | AH725  | 164 - 591                 | 0.001 - 0.004   |
|     |  | Sharpness    | SH725  | 164 - 591                 | 0.001 - 0.004   |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.             | First choice | SH725  | 98 - 262                  | 0.001 - 0.004   |
|     |  | Toughness    | AH725  | 98 - 262                  | 0.001 - 0.004   |
|     | Superalloys<br>Inconel718, etc.                | First choice | SH725  | 66 - 197                  | 0.001 - 0.004   |
|     |  | Toughness    | AH725  | 66 - 197                  | 0.001 - 0.004   |

Grade  
Insert  
Toolholder  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
System  
Tooling System  
User's Guide  
Index



# PRECAUTIONS OF PROCESSING

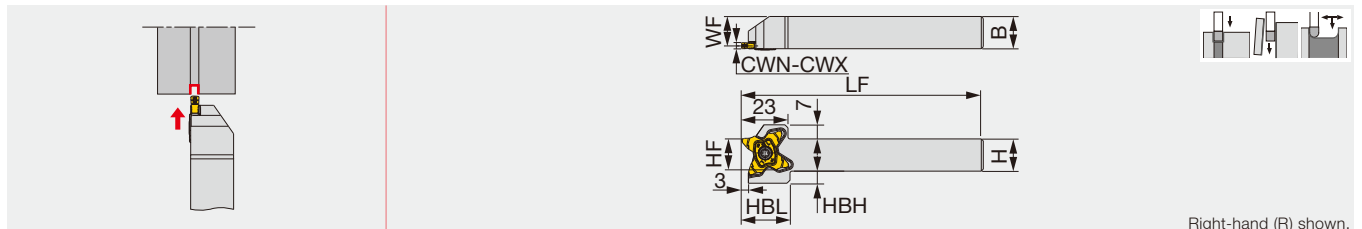


Max workpiece diameter  
CUTDIA (Inch)  
0.276

\*Groove depth and  
max workpiece diameter ( $\phi D_{max}$ )

Maximum workpiece diameter is limited relative  
to depth of cut in order to avoid collision between  
insert and workpiece.





Right-hand (R) shown.

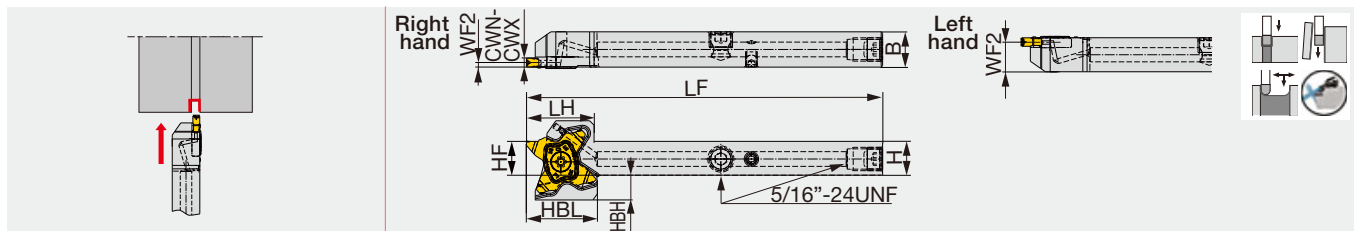
| Inch          | CWN   | CWX   | H     | B     | LF    | HF    | WF    | HBH   | HBL   | Insert   | Torque  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---------|
| STCR/L06-27   | 0.020 | 0.125 | 0.375 | 0.375 | 5.000 | 0.375 | 0.315 | 0.374 | 0.945 | TC*27... | 1.84    |
| STCR/L08-27   | 0.020 | 0.125 | 0.500 | 0.500 | 5.000 | 0.500 | 0.440 | 0.287 | 0.945 | TC*27... | 1.84    |
| STCR/L10-27   | 0.020 | 0.125 | 0.625 | 0.625 | 5.000 | 0.625 | 0.570 | 0.236 | 0.945 | TC*27... | 1.84    |
| STCR/L12-27   | 0.020 | 0.125 | 0.750 | 0.750 | 5.000 | 0.75  | 0.690 | 0.118 | 0.945 | TC*27... | 1.84    |
| STCR/L16-27   | 0.020 | 0.125 | 1.000 | 1.000 | 5.500 | 1.000 | 0.940 | -     | -     | TC*27... | 1.84    |
| Metric        | CWN   | CWX   | H     | B     | LF    | HF    | WF    | HBH   | HBL   | Insert   | Torque* |
| STCR/L1010-27 | 0.5   | 3.18  | 10    | 10    | 120   | 10    | 8.5   | 9.5   | 24    | TC*27... | 2.5     |
| STCR/L1212-27 | 0.5   | 3.18  | 12    | 12    | 120   | 12    | 10.5  | 8     | 24    | TC*27... | 2.5     |
| STCR/L1616-27 | 0.5   | 3.18  | 16    | 16    | 120   | 16    | 14.5  | 6     | 24    | TC*27... | 2.5     |
| STCR/L2020-27 | 0.5   | 3.18  | 20    | 20    | 120   | 20    | 18.5  | 2     | 24    | TC*27... | 2.5     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

## STCR/L1212-27-CHP

Direct connection

Grooving and parting-off toolholder. High pressure coolant capability.



| Inch              | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF2 <sup>(1)</sup> | HBH   | HBL   | Insert   | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|-------|----------|---------|
| STCR/L08-27-CHP   | 0.020 | 0.125 | 0.500 | 0.500 | 4.750 | 0.906 | 0.500 | 0.059/0.413        | 0.287 | 0.945 | TC*27... | 1.84    |
| Metric            | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF2 <sup>(1)</sup> | HBH   | HBL   | insert   | Torque* |
| STCR/L1212-27-CHP | 0.5   | 3.18  | 12    | 12    | 120   | 23    | 12    | 1.5/10.5           | 8     | 24    | TC*27... | 2.5     |

(1) The above WF value is valid when an insert width of CW = 0.118" is mounted.

Torque: Recommended clamping torque: lbs-ft (\*N·m)

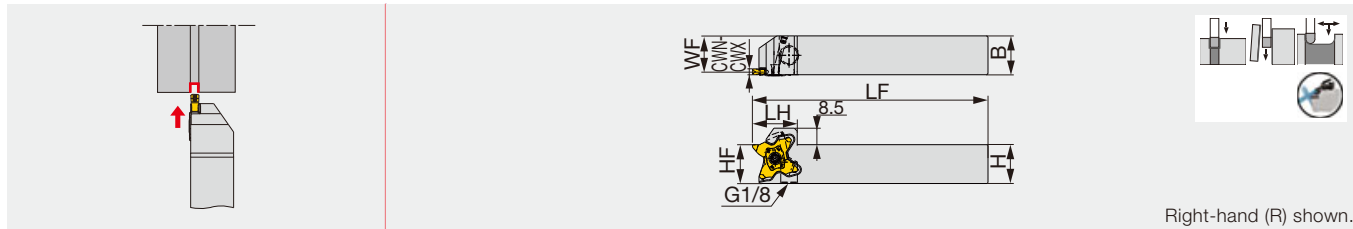
Make sure to avoid tool interferences when used on Swiss machines

### SPARE PARTS



| Designation                 | Screw           | Wrench   |
|-----------------------------|-----------------|----------|
| STCR****-27, STCR...-27-CHP | SR16-212-01397L | T-2010/5 |
| STCL****-27, STCL...-27-CHP | SR16-212-01397  | T-2010/5 |

External grooving and parting-off toolholder with high pressure coolant supply



Right-hand (R) shown.

| Inch              | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | Insert   | Torque  |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---------|
| STCR/L12-27-CHP   | 0.020 | 0.125 | 0.750 | 0.750 | 5.000 | 0.906 | 0.750 | 0.690 | TC*27... | 1.84    |
| Metric            | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | Insert   | Torque* |
| STCR/L2020-27-CHP | 0.5   | 3.18  | 20    | 20    | 120   | 23    | 20    | 18.5  | TC*27... | 2.5     |

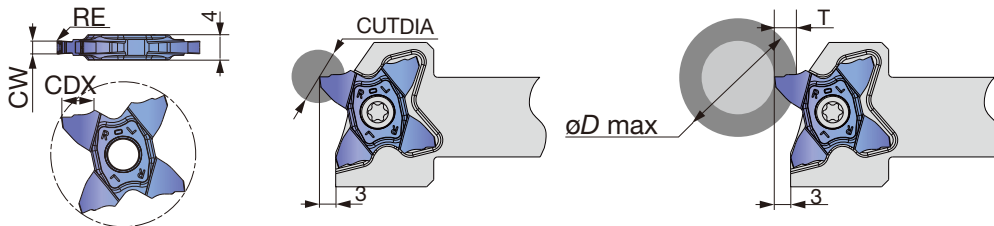
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation    | Screw           | Wrench   |
|----------------|-----------------|----------|
| STCR...-27-CHP | SR16-212-01397L | T-2010/5 |
| STCL...-27-CHP | SR16-212-01397  | T-2010/5 |

## INSERT - FOR GROOVING AND PARTING OFF

### TCL27



|   |                |   |  |  |
|---|----------------|---|--|--|
| P | Steel          | ★ |  |  |
| M | Stainless      | ★ |  |  |
| K | Cast iron      | ★ |  |  |
| N | Non-ferrous    |   |  |  |
| S | Superalloys    | ★ |  |  |
| H | Hard materials |   |  |  |

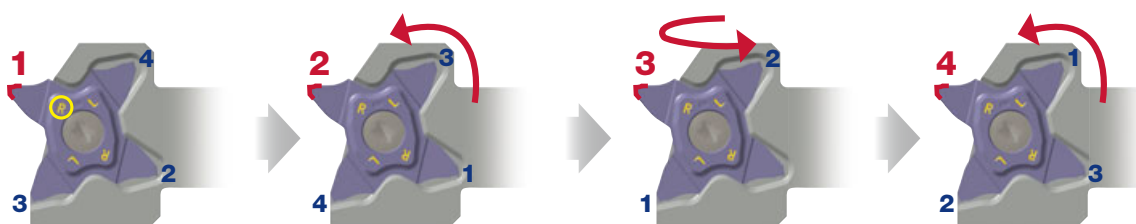
★ : First choice  
☆ : Second choice

| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | CUTDIA (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |
|---------------|--------------|---------------|---------|--------|--|----------|-------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|               |              |               |         | AH725  |  |          |             | T≤0.118  | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |
|               |              |               |         |        |  |          |             | ●  | ●       | ●       | ●       | ●       | ●       | ●       | ●       | ●       | ●       |
| TCL27-150-015 | 1.5          | 0.059         | 0.006   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCL27-200-020 | 2            | 0.079         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCL27-250-020 | 2.5          | 0.098         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCL27-300-020 | 3            | 0.118         | 0.008   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |

5 pieces per package

● : Line up

## HOW TO INDEX INSERTS



1. Right-hand edge (R) is used for the right-hand toolholders.

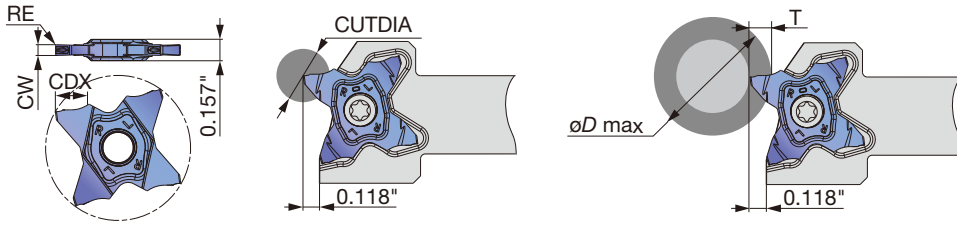
2. Rotate the insert

3. Flip over the insert

4. Rotate the insert

# INSERT - FOR GROOVING AND PARTING OFF

## TCS27



|   |                |   |
|---|----------------|---|
| P | Steel          | ★ |
| M | Stainless      | ★ |
| K | Cast iron      | ★ |
| N | Non-ferrous    | ★ |
| S | Superalloys    | ★ |
| H | Hard materials | ★ |

★ : First choice  
☆ : Second choice

| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated<br>AH725 | CDX (in) | CUTDIA (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |         |         |
|---------------|--------------|---------------|---------|-----------------|----------|-------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|               |              |               |         |                 |          |             | T≤0.039  | T≤0.079 | T≤0.118 | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |
|               |              |               |         |                 |          |             | TCS27-050-000  | 0.5     | 0.020   | 0       | ●       | 0.039   | 0.079   | ∞       | -       | -       | -       | -       |
| TCS27-050-004 | 0.5          | 0.020         | 0.0016  | ●               | 0.098    | 0.197       | ∞  | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-075-010 | 0.75         | 0.030         | 0.004   | ●               | 0.098    | 0.197       | ∞  | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-080-000 | 0.8          | 0.031         | 0       | ●               | 0.063    | 0.126       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-100-006 | 1            | 0.039         | 0.0024  | ●               | 0.138    | 0.276       | ∞  | ∞       | ∞       | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-100-010 | 1            | 0.039         | 0.004   | ●               | 0.138    | 0.276       | ∞  | ∞       | ∞       | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-104-000 | 1.04         | 0.041         | 0       | ●               | 0.079    | 0.157       | ∞  | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-120-000 | 1.2          | 0.047         | 0       | ●               | 0.079    | 0.157       | ∞  | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-125-010 | 1.25         | 0.049         | 0.004   | ●               | 0.138    | 0.276       | ∞  | ∞       | ∞       | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-125-020 | 1.25         | 0.049         | 0.008   | ●               | 0.138    | 0.276       | ∞  | ∞       | ∞       | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-140-000 | 1.4          | 0.055         | 0       | ●               | 0.079    | 0.157       | ∞  | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-147-000 | 1.47         | 0.058         | 0       | ●               | 0.098    | 0.197       | ∞  | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-150-010 | 1.5          | 0.059         | 0.004   | ●               | 0.224    | 0.449       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCS27-150-020 | 1.5          | 0.059         | 0.008   | ●               | 0.224    | 0.449       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCS27-157-015 | 1.57         | 0.062         | 0.006   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-170-010 | 1.7          | 0.067         | 0.004   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-175-010 | 1.75         | 0.069         | 0.004   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-175-020 | 1.75         | 0.069         | 0.008   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-178-018 | 1.78         | 0.070         | 0.007   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-185-020 | 1.85         | 0.073         | 0.008   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-196-015 | 1.96         | 0.077         | 0.006   | ●               | 0.118    | 0.236       | ∞  | ∞       | ∞       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-200-010 | 2            | 0.079         | 0.004   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCS27-200-020 | 2            | 0.079         | 0.008   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCS27-222-015 | 2.22         | 0.087         | 0.006   | ●               | 0.138    | 0.276       | ∞  | ∞       | ∞       | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-230-020 | 2.3          | 0.091         | 0.008   | ●               | 0.138    | 0.276       | ∞  | ∞       | ∞       | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCS27-239-015 | 2.39         | 0.094         | 0.006   | ●               | 0.224    | 0.449       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCS27-247-020 | 2.47         | 0.097         | 0.008   | ●               | 0.224    | 0.449       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCS27-250-010 | 2.5          | 0.098         | 0.004   | ●               | 0.224    | 0.449       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCS27-250-030 | 2.5          | 0.098         | 0.012   | ●               | 0.224    | 0.449       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCS27-270-010 | 2.7          | 0.106         | 0.004   | ●               | 0.244    | 0.488       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       |
| TCS27-287-020 | 2.87         | 0.113         | 0.008   | ●               | 0.244    | 0.488       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       |
| TCS27-300-000 | 3            | 0.118         | 0       | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCS27-300-020 | 3            | 0.118         | 0.008   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCS27-300-030 | 3            | 0.118         | 0.012   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCS27-300-040 | 3            | 0.118         | 0.016   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCS27-315-015 | 3.15         | 0.124         | 0.006   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   |
| TCS27-318-020 | 3.18         | 0.125         | 0.008   | ●               | 0.252    | 0.504       | ∞  | ∞       | ∞       | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   |

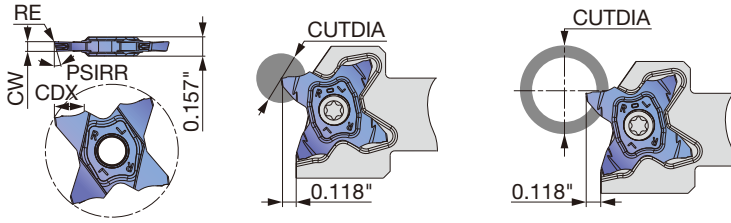
5 pieces per package  
● : Line up

Reference pages : Toolholders → G099 - G100, Standard cutting conditions → G104



# INSERT- FOR PARTING OFF

## TCS27-R/L



Right hand (R) shown.

|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice  
☆ : Second choice

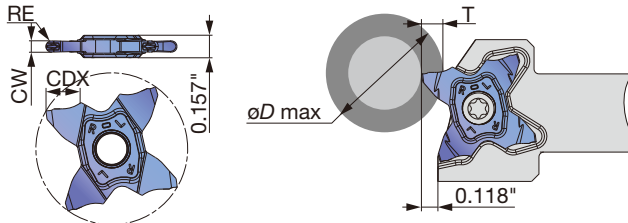
| Designation   | HAND | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | PSIRL | PSIRR | Max. parting off dia. CUTDIA (in) |        |
|---------------|------|--------------|---------------|---------|--------|--|----------|-------|-------|-----------------------------------|--------|
|               |      |              |               |         | AH725  |  |          |       |       | Solid bar                         | Tube   |
| TCS27-100-15R | R    | 1            | 0.039         | 0.0024  | ●      |  | 0.138    | 0°    | 15°   | 0.276                             | 23.622 |
| TCS27-100-15L | L    | 1            | 0.039         | 0.0024  | ●      |  | 0.138    | 15°   | 0°    | 0.276                             | 23.622 |
| TCS27-150-6R  | R    | 1.5          | 0.059         | 0.0024  | ●      |  | 0.224    | 0°    | 6°    | 0.449                             | 1.378  |
| TCS27-150-6L  | L    | 1.5          | 0.059         | 0.0024  | ●      |  | 0.224    | 6°    | 0°    | 0.449                             | 1.378  |
| TCS27-150-15R | R    | 1.5          | 0.059         | 0.0024  | ●      |  | 0.224    | 0°    | 15°   | 0.449                             | 1.378  |
| TCS27-150-15L | L    | 1.5          | 0.059         | 0.0024  | ●      |  | 0.224    | 15°   | 0°    | 0.449                             | 1.378  |
| TCS27-200-6R  | R    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 0°    | 6°    | 0.504                             | 1.181  |
| TCS27-200-6L  | L    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 6°    | 0°    | 0.504                             | 1.181  |
| TCS27-200-15R | R    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 0°    | 15°   | 0.504                             | 1.181  |
| TCS27-200-15L | L    | 2            | 0.079         | 0.004   | ●      |  | 0.252    | 15°   | 0°    | 0.504                             | 1.181  |

5 pieces per package

● : Line up

# INSERT- FOR GROOVING AND PROFILING

## TCS27 (Full R)



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice  
☆ : Second choice

| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |   |
|---------------|--------------|---------------|---------|--------|--|----------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
|               |              |               |         | AH725  |  |          | T≤0.039<br>T≤0.079<br>T≤0.118                                | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |   |
| TCS27-157-079 | 1.57         | 0.062         | 0.031   | ●      |  | 0.118    | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-200-100 | 2            | 0.079         | 0.039   | ●      |  | 0.118    | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | - |
| TCS27-239-120 | 2.39         | 0.094         | 0.047   | ●      |  | 0.224    | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | - |
| TCS27-300-150 | 3            | 0.118         | 0.059   | ●      |  | 0.252    | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | - |

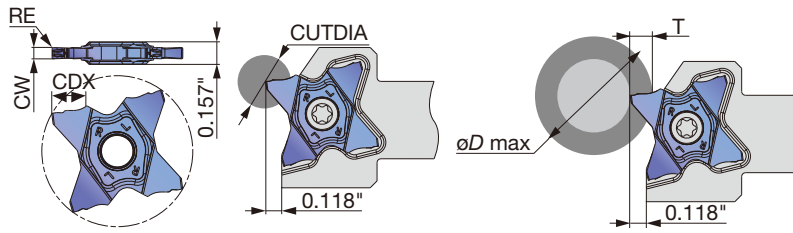
5 pieces per package

● : Line up

Reference pages : Toolholders → **G099 - G100**, Standard cutting conditions → **G104**

# INSERT- FOR GROOVING AND PARTING OFF

TCM27



|   |                |   |  |
|---|----------------|---|--|
| P | Steel          | ★ |  |
| M | Stainless      | ★ |  |
| K | Cast iron      | ★ |  |
| N | Non-ferrous    |   |  |
| S | Superalloys    | ★ |  |
| H | Hard materials |   |  |

★ : First choice  
☆ : Second choice

| Designation   | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) | CUTDIA<br>(in) | Relation of groove depth (T) and Max. diameter (øD max)<br>(in) |         |         |         |         |         |         |         |         |         |
|---------------|-----------------|------------------|------------|--------|--|-------------|----------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|               |                 |                  |            | AH725  |  |             |                | T   |         |         |         |         |         |         |         |         |         |
|               |                 |                  |            |        |  |             |                | T≤0.039<br>T≤0.079<br>T≤0.118                                   | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |
| TCM27-150-010 | 1.5             | 0.059            | 0.004      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-150-020 | 1.5             | 0.059            | 0.008      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-157-015 | 1.57            | 0.062            | 0.006      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-170-010 | 1.7             | 0.067            | 0.004      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-175-010 | 1.75            | 0.069            | 0.004      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-175-020 | 1.75            | 0.069            | 0.008      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-178-018 | 1.78            | 0.070            | 0.007      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-185-020 | 1.85            | 0.073            | 0.008      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-196-015 | 1.96            | 0.077            | 0.006      | ●      |  | 0.118       | 0.236          | ∞   | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-200-010 | 2               | 0.079            | 0.004      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCM27-200-020 | 2               | 0.079            | 0.008      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 4.134   | 3.346   | 2.362   | 1.969   | 1.181   |
| TCM27-222-015 | 2.22            | 0.087            | 0.006      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-230-020 | 2.3             | 0.091            | 0.008      | ●      |  | 0.138       | 0.276          | ∞   | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-239-015 | 2.39            | 0.094            | 0.006      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-247-020 | 2.47            | 0.097            | 0.008      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-250-010 | 2.5             | 0.098            | 0.004      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-250-030 | 2.5             | 0.098            | 0.012      | ●      |  | 0.224       | 0.449          | ∞   | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       |
| TCM27-270-010 | 2.7             | 0.106            | 0.004      | ●      |  | 0.244       | 0.488          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       |
| TCM27-287-020 | 2.87            | 0.113            | 0.008      | ●      |  | 0.244       | 0.488          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | -       |
| TCM27-300-000 | 3               | 0.118            | 0          | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-300-020 | 3               | 0.118            | 0.008      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-300-030 | 3               | 0.118            | 0.012      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-300-040 | 3               | 0.118            | 0.016      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   |
| TCM27-315-015 | 3.15            | 0.124            | 0.006      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   |
| TCM27-318-020 | 3.18            | 0.125            | 0.008      | ●      |  | 0.252       | 0.504          | ∞   | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.677   |

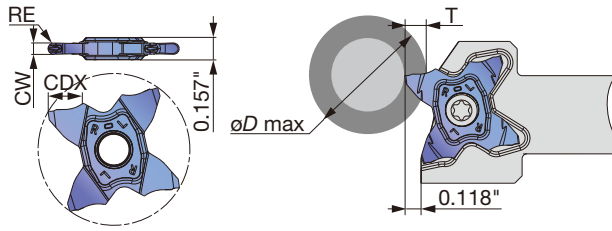
5 pieces per package  
● : Line up

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



# INSERT - FOR GROOVING AND PROFILING

## TCM27 (Full R)



|   |                |   |  |  |
|---|----------------|---|--|--|
| P | Steel          | ★ |  |  |
| M | Stainless      | ★ |  |  |
| K | Cast iron      | ★ |  |  |
| N | Non-ferrous    |   |  |  |
| S | Superalloys    | ★ |  |  |
| H | Hard materials |   |  |  |

★ : First choice  
☆ : Second choice

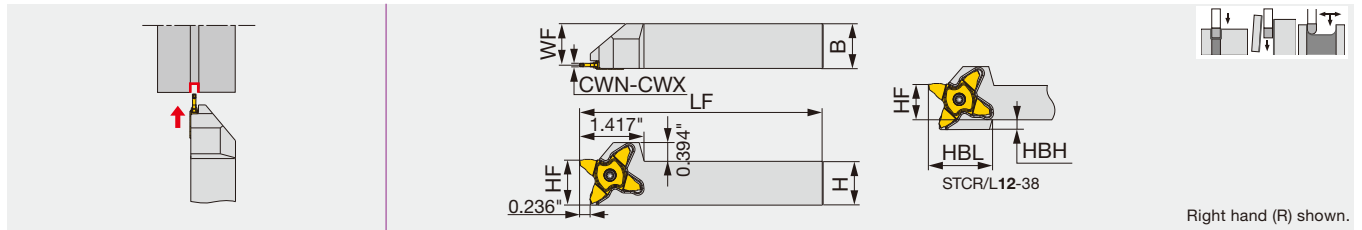
| Designation   | CW±0.02 (mm) | CW±0.001 (in) | RE (in) | Coated |  | CDX (in) | CUTDIA (in) | Relation of groove depth (T) and Max. diameter (øD max) (in) |         |         |         |         |         |         |         |         |         |         |         |
|---------------|--------------|---------------|---------|--------|--|----------|-------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|               |              |               |         | AH725  |  |          |             | T≤0.039  | T≤0.079 | T≤0.118 | T≤0.138 | T≤0.157 | T≤0.177 | T≤0.197 | T≤0.217 | T≤0.224 | T≤0.236 | T≤0.244 | T≤0.252 |
|               |              |               |         |        |  |          |             | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TCM27-157-079 | 1.57         | 0.059         | 0.031   | ●      |  | 0.118    | 0.236       | ∞  | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |
| TCM27-200-100 | 2            | 0.059         | 0.039   | ●      |  | 0.118    | 0.236       | ∞  | 23.622  | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |
| TCM27-239-120 | 2.39         | 0.062         | 0.047   | ●      |  | 0.224    | 0.449       | ∞  | 23.622  | 11.024  | 7.087   | 5.118   | 1.969   | 1.378   | -       | -       | -       | -       |         |
| TCM27-300-150 | 3            | 0.125         | 0.059   | ●      |  | 0.252    | 0.504       | ∞  | 23.622  | 11.024  | 7.087   | 5.315   | 4.134   | 3.740   | 3.346   | 3.071   | 2.165   | -       |         |

5 pieces per package  
● : Line up

## STANDARD CUTTING CONDITIONS

| ISO | Workpiece material               | Grades | Cutting speed Vc (sfm) | Feed: f (ipr)         |               |                         |               |                                     |               | Depth of cut for profiling (with full radius insert) |
|-----|----------------------------------|--------|------------------------|-----------------------|---------------|-------------------------|---------------|-------------------------------------|---------------|--|
|     |                                  |        |                        | Grooving, parting-off |               | Parting-off (with hand) |               | Profiling (with full radius insert) |               |  |
|     |                                  |        |                        | TCL27                 | TCS27         | TCM27                   | TCS27         | TCS27                               | TCM27         |  |
| P   | Steel 1045, etc.                 | AH725  | 328 - 656              | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.010           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.006 | 0.020  |
|     | Alloy steel 4137, etc.           | AH725  | 164 - 591              | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.010           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.006 | 0.020  |
| M   | Stainless steel 304, etc.        | AH725  | 328 - 492              | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.008           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.006 | 0.020  |
| K   | Gray cast iron No.250, etc.      | AH725  | 164 - 591              | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.010           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.006 | 0.020  |
|     | Ductile cast iron 60-40-18, etc. | AH725  | 164 - 394              | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.008           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.006 | 0.020  |
| S   | Titanium alloys Ti-6Al-4V, etc.  | AH725  | 98 - 197               | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.006           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.004 | 0.020  |
|     | Superalloys Inconel718, etc.     | AH725  | 66 - 164               | 0.001 - 0.005         | 0.002 - 0.006 | 0.002 - 0.006           | 0.002 - 0.005 | 0.002 - 0.004                       | 0.002 - 0.004 | 0.020  |

Reference pages : Toolholders → **G099 - G100**



| Inch        | CWN   | CWX   | H     | B     | LF    | HF    | WF    | HBH   | HBL   | Insert   | Torque |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|
| STCR/L12-38 | 0.059 | 0.157 | 0.750 | 0.750 | 5.000 | 0.750 | 0.670 | 0.234 | 1.378 | TCL38... | 1.84   |
| STCR/L16-38 | 0.059 | 0.157 | 1.000 | 1.000 | 5.500 | 1.000 | 0.920 | -     | -     | TCL38... | 1.84   |
| STCR/L20-38 | 0.059 | 0.157 | 1.250 | 1.250 | 5.500 | 1.250 | 1.170 | -     | -     | TCL38... | 1.84   |

| Metric        | CWN | CWX | H  | B  | LF  | HF | WF   | HBH | HBL | Insert   | Torque* |
|---------------|-----|-----|----|----|-----|----|------|-----|-----|----------|---------|
| STCR/L2020-38 | 1.5 | 4   | 20 | 20 | 120 | 20 | 18.1 | 5   | 35  | TCL38... | 2.5     |
| STCR/L2525-38 | 1.5 | 4   | 25 | 25 | 135 | 25 | 23.1 | -   | -   | TCL38... | 2.5     |
| STCR/L3232-38 | 1.5 | 4   | 32 | 32 | 135 | 32 | 30.1 | -   | -   | TCL38... | 2.5     |

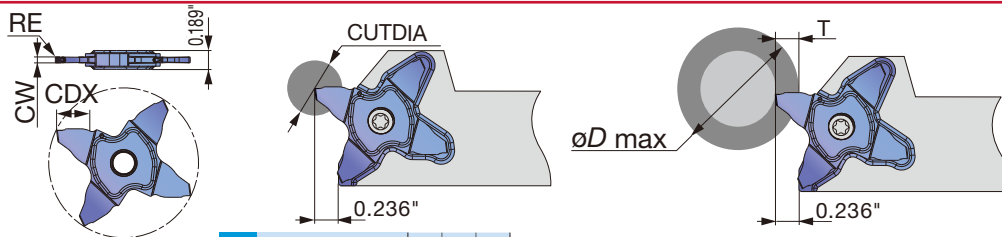
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation        | Screw           | Wrench   |
|--------------------|-----------------|----------|
| STCR****-38 (-CHP) | SR16-212-01397L | T-2010/5 |
| STCL****-38 (-CHP) | SR16-212-01397  | T-2010/5 |

## INSERT - FOR GROOVING AND PARTING OFF

### TCL38



|   |                |   |  |  |
|---|----------------|---|--|--|
| P | Steel          | ★ |  |  |
| M | Stainless      | ★ |  |  |
| K | Cast iron      | ★ |  |  |
| N | Non-ferrous    |   |  |  |
| S | Superalloys    | ★ |  |  |
| H | Hard materials |   |  |  |

★ : First choice

| Designation   | CW±0.02<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  | CDX<br>(in) | CUTDIA<br>(in) | Relation of groove depth (T) and Max. diameter (øD max) |            |            |            |            |            |
|---------------|-----------------|------------------|------------|--------|--|-------------|----------------|---|------------|------------|------------|------------|------------|
|               |                 |                  |            | AH7025 |  |             |                | T ≤ 0.197"  | T ≤ 0.236" | T ≤ 0.276" | T ≤ 0.315" | T ≤ 0.354" | T ≤ 0.394" |
|               |                 |                  |            |        |  |             |                |   |            |            |            |            |            |
| TCL38-150-020 | 1.5             | 0.059            | 0.008      | ●      |  | 0.354       | 0.709          | ∞   | 37.402     | 12.402     | 7.480      | 1.772      | -          |
| TCL38-200-020 | 2               | 0.079            | 0.008      | ●      |  | 0.354       | 0.709          | ∞   | 37.402     | 12.402     | 7.480      | 1.772      | -          |
| TCL38-300-020 | 3               | 0.118            | 0.008      | ●      |  | 0.394       | 0.787          | ∞   | 37.402     | 12.402     | 7.480      | 5.118      | 1.969      |
| TCL38-400-030 | 4               | 0.157            | 0.012      | ●      |  | 0.394       | 0.787          | ∞   | 37.402     | 12.402     | 7.480      | 5.118      | 1.969      |

5 pieces per package  
● : Line up

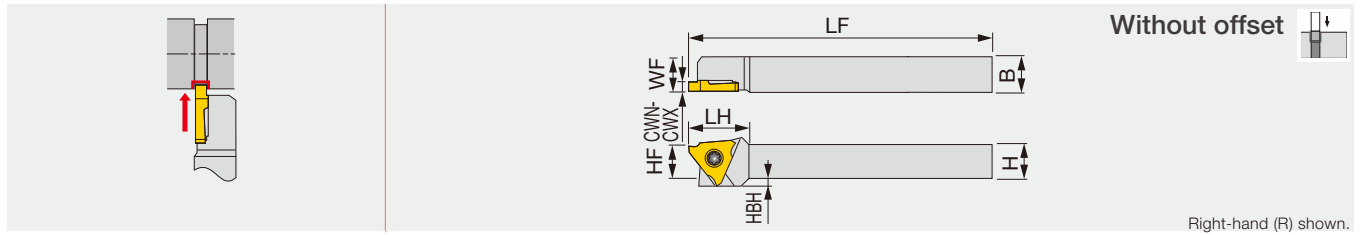
## STANDARD CUTTING CONDITIONS

| ISO | Workpiece materials                | Grades | Cutting speed<br>Vc<br>(sfm) | Feed: f (ipr)     |  |
|-----|------------------------------------|--------|------------------------------|-------------------|--|
|     |                                    |        |                              | Grooving, Parting |  |
|     |                                    |        |                              | TCL38             |  |
| P   | Carbon steel (1045, etc.)          | AH7025 | 262 - 591                    | 0.001 - 0.007     |  |
|     | Alloy steel (4140, etc.)           | AH7025 | 164 - 591                    | 0.001 - 0.007     |  |
| M   | Alloy steel (304SS, etc.)          | AH7025 | 164 - 492                    | 0.001 - 0.006     |  |
| K   | Grey cast iron (Class 25, etc.)    | AH7025 | 164 - 591                    | 0.001 - 0.006     |  |
|     | Ductile cast iron (60-40-18, etc.) | AH7025 | 164 - 394                    | 0.001 - 0.006     |  |
| S   | Titanium alloys (Ti-6Al-4V, etc.)  | AH7025 | 98 - 197                     | 0.001 - 0.006     |  |
|     | Superalloys (Inconel718, etc.)     | AH7025 | 66 - 164                     | 0.001 - 0.006     |  |

# J-SERIES

## JSTGR/L

Screw-on external grooving toolholder, for Swiss lathes



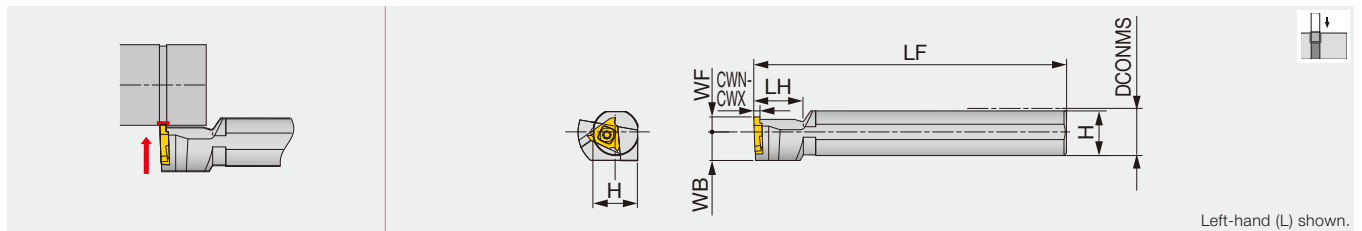
| Inch       | CWN   | CWX   | H     | B     | LF | LH   | HF    | WF    | HBH   | Insert     | Torque |
|------------|-------|-------|-------|-------|----|------|-------|-------|-------|------------|--------|
| JSTGR/L063 | 0.013 | 0.118 | 0.375 | 0.375 | 5  | 0.75 | 0.375 | 0.375 | 0.100 | JTGR/L3... | 0.89   |
| JSTGR/L083 | 0.013 | 0.118 | 0.500 | 0.500 | 5  | 0.75 | 0.500 | 0.500 | -     | JTGR/L3... | 0.89   |
| JSTGR/L103 | 0.013 | 0.118 | 0.625 | 0.625 | 5  | 0.75 | 0.625 | 0.625 | -     | JTGR/L3... | 0.89   |

| Metric        | CWN  | CWX | H  | B  | LF  | LH   | HF | WF | HBH | Insert     | Torque* |
|---------------|------|-----|----|----|-----|------|----|----|-----|------------|---------|
| JSTGR/L1010X3 | 0.33 | 3   | 10 | 10 | 120 | 18.5 | 10 | 10 | 2   | JTGR/L3... | 1.2     |
| JSTGR/L1212F3 | 0.33 | 3   | 12 | 12 | 85  | 18.5 | 12 | 12 | -   | JTGR/L3... | 1.2     |
| JSTGR/L1212X3 | 0.33 | 3   | 12 | 12 | 120 | 18.5 | 12 | 12 | -   | JTGR/L3... | 1.2     |
| JSTGR/L1616X3 | 0.33 | 3   | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | JTGR/L3... | 1.2     |
| JSTGL1616K3   | 0.33 | 3   | 16 | 16 | 125 | 18.5 | 16 | 16 | -   | JTGR/L3... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N-m)

## JS-TGL3

Screw-on external grooving toolholder, for Swiss lathes



| Metric     | CWN  | CWX | DCONMS | WF | LF  | LH | H  | WB   | Insert   | Torque* |
|------------|------|-----|--------|----|-----|----|----|------|----------|---------|
| JS19K-TGL3 | 0.33 | 3   | 19.05  | 6  | 125 | 20 | 18 | 11.5 | JTGR3... | 3.0     |
| JS20K-TGL3 | 0.33 | 3   | 20     | 6  | 125 | 20 | 19 | 11.5 | JTGR3... | 3.0     |
| JS22K-TGL3 | 0.33 | 3   | 22     | 6  | 125 | 20 | 21 | 11.5 | JTGR3... | 3.0     |
| JS25K-TGL3 | 0.33 | 3   | 25.4   | 10 | 125 | 20 | 24 | 12.7 | JTGR3... | 3.0     |

Torque\*: Recommended clamping torque (N-m)  
Use left-hand toolholders (L) with right-hand inserts (R).

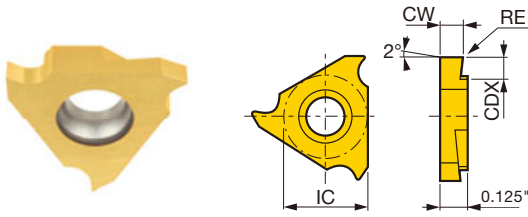
## SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSTGR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |
| JS**-TGL3   | CSTB-4S        | T-15F    | -                   |

Reference pages : JSTGR/L, JS-TGL3: Inserts → **G107 - G108**  
Standard cutting conditions → **G108**

# INSERT

## JTG (Sharp edge)



Right hand (R) shown.

|   |                |   |   |   |   |  |  |  |
|---|----------------|---|---|---|---|--|--|--|
| P | Steel          | ★ | ★ | ★ | ☆ |  |  |  |
| M | Stainless      | ★ | ★ |   |   |  |  |  |
| K | Cast iron      |   |   | ☆ | ★ |  |  |  |
| N | Non-ferrous    |   |   |   | ★ |  |  |  |
| S | Superalloys    |   |   |   | ★ |  |  |  |
| H | Hard materials |   |   |   |   |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW <sub>0</sub> <sup>+0.05</sup><br>(mm) | CW <sub>0</sub> <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated        |        | Cermet | Uncoated |  | CDX<br>(in) | IC<br>(mm) | Max.<br>groove<br>depth |
|---------------|------|--|---|------------|---------------|--------|--------|----------|--|-------------|------------|-------------------------|
|               |      |  |   |            | SH725<br>J740 | NS9530 | TH10   |          |  |             |            |                         |
| JTGR3033F     | R    | 0.33                                     | 0.013                                     | 0.001      | ●             | ●      |        | ●        |  | 0.028       | 9.53       | 0.028                   |
| JTGL3033F     | L    | 0.33                                     | 0.013                                     | 0.001      | ●             | ●      |        | ●        |  | 0.028       | 9.53       | 0.028                   |
| JTGR3033F-005 | R    | 0.33                                     | 0.013                                     | 0.002      | ●             | ●      |        |          |  | 0.028       | 9.53       | 0.028                   |
| JTGR3043F     | R    | 0.43                                     | 0.017                                     | 0.001      | ●             | ●      |        |          |  | 0.043       | 9.53       | 0.028                   |
| JTGR3050F     | R    | 0.5                                      | 0.020                                     | 0.001      | ●             | ●      | ●      | ●        |  | 0.043       | 9.53       | 0.043                   |
| JTGL3050F     | L    | 0.5                                      | 0.020                                     | 0.001      | ●             | ●      |        | ●        |  | 0.043       | 9.53       | 0.043                   |
| JTGR3050F-005 | R    | 0.5                                      | 0.020                                     | 0.002      | ●             | ●      |        |          |  | 0.043       | 9.53       | 0.043                   |
| JTGL3050F-005 | L    | 0.5                                      | 0.020                                     | 0.002      | ●             | ●      |        |          |  | 0.043       | 9.53       | 0.043                   |
| JTGR3065F     | R    | 0.65                                     | 0.026                                     | 0.001      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.043                   |
| JTGR3065F-010 | R    | 0.65                                     | 0.026                                     | 0.004      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.043                   |
| JTGR3075F     | R    | 0.75                                     | 0.030                                     | 0.001      | ●             | ●      | ●      | ●        |  | 0.075       | 9.53       | 0.075                   |
| JTGL3075F     | L    | 0.75                                     | 0.030                                     | 0.001      | ●             | ●      | ●      | ●        |  | 0.075       | 9.53       | 0.075                   |
| JTGR3075F-010 | R    | 0.75                                     | 0.030                                     | 0.004      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGL3075F-010 | L    | 0.75                                     | 0.030                                     | 0.004      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGR3080F     | R    | 0.8                                      | 0.031                                     | 0.001      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGR3080F-010 | R    | 0.8                                      | 0.031                                     | 0.004      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGR3085F     | R    | 0.85                                     | 0.033                                     | 0.001      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGR3095F     | R    | 0.95                                     | 0.037                                     | 0.001      | ●             | ●      | ●      | ●        |  | 0.075       | 9.53       | 0.075                   |
| JTGL3095F     | L    | 0.95                                     | 0.037                                     | 0.001      | ●             | ●      |        | ●        |  | 0.075       | 9.53       | 0.075                   |
| JTGR3095F-010 | R    | 0.95                                     | 0.037                                     | 0.004      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGL3095F-010 | L    | 0.95                                     | 0.037                                     | 0.004      | ●             | ●      |        |          |  | 0.075       | 9.53       | 0.075                   |
| JTGR3100F     | R    | 1  | 0.039                                     | 0.002      | ●             | ●      | ●      | ●        |  | 0.083       | 9.53       | 0.075                   |
| JTGL3100F     | L    | 1  | 0.039                                     | 0.002      | ●             | ●      |        | ●        |  | 0.083       | 9.53       | 0.075                   |
| JTGR3100F-010 | R    | 1  | 0.039                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.075                   |
| JTGL3100F-010 | L    | 1  | 0.039                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.075                   |
| JTGR3110F     | R    | 1.1                                      | 0.043                                     | 0.002      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.075                   |
| JTGR3120F     | R    | 1.2                                      | 0.047                                     | 0.002      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.075                   |
| JTGR3120F-010 | R    | 1.2                                      | 0.047                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.075                   |
| JTGR3125F     | R    | 1.25                                     | 0.049                                     | 0.002      | ●             | ●      | ●      | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGL3125F     | L    | 1.25                                     | 0.049                                     | 0.002      | ●             | ●      |        | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGR3125F-010 | R    | 1.25                                     | 0.049                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGL3125F-010 | L    | 1.25                                     | 0.049                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGR3130F     | R    | 1.3                                      | 0.051                                     | 0.002      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGR3140F     | R    | 1.4                                      | 0.055                                     | 0.002      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGR3140F-010 | R    | 1.4                                      | 0.055                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGR3145F     | R    | 1.45                                     | 0.057                                     | 0.002      | ●             | ●      | ●      | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGL3145F     | L    | 1.45                                     | 0.057                                     | 0.002      | ●             | ●      |        | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGR3145F-010 | R    | 1.45                                     | 0.057                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGR3150F     | R    | 1.5                                      | 0.059                                     | 0.002      | ●             | ●      | ●      | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGL3150F     | L    | 1.5                                      | 0.059                                     | 0.002      | ●             | ●      |        | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGR3150F-010 | R    | 1.5                                      | 0.059                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGL3150F-010 | L    | 1.5                                      | 0.059                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |
| JTGR3175F     | R    | 1.75                                     | 0.069                                     | 0.002      | ●             | ●      | ●      | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGL3175F     | L    | 1.75                                     | 0.069                                     | 0.002      | ●             | ●      | ●      | ●        |  | 0.083       | 9.53       | 0.083                   |
| JTGR3175F-010 | R    | 1.75                                     | 0.069                                     | 0.004      | ●             | ●      |        |          |  | 0.083       | 9.53       | 0.083                   |

●: Line up



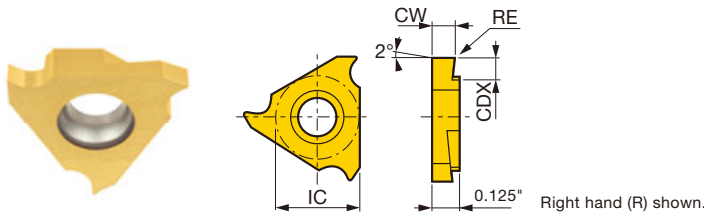
|   |                |   |   |  |   |  |   |   |   |  |  |
|---|----------------|---|---|--|---|--|---|---|---|--|--|
| P | Steel          | ★ | ★ |  | ★ |  |   | ☆ |   |  |  |
| M | Stainless      | ★ | ★ |  |   |  |   |   |   |  |  |
| K | Cast iron      |   |   |  |   |  | ☆ |   | ★ |  |  |
| N | Non-ferrous    |   |   |  |   |  |   |   | ★ |  |  |
| S | Superalloys    |   |   |  |   |  |   |   | ★ |  |  |
| H | Hard materials |   |   |  |   |  |   |   |   |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW <sub>0</sub> <sup>+0.05</sup><br>(mm) | CW <sub>0</sub> <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated        |        | Cermet | Uncoated |   | CDX<br>(in) | IC<br>(mm) | Max.<br>groove<br>depth |
|---------------|------|--|---|------------|---------------|--------|--------|----------|---|-------------|------------|-------------------------|
|               |      |  |   |            | SH725<br>J740 | NS9530 | TH10   |          |   |             |            |                         |
| JTGR3180F     | R    | 1.8                                      | 0.071                                     | 0.002      | ●             | ●      |        |          |   | 0.083       | 9.53       | 0.083                   |
| JTGR3200F     | R    | 2  | 0.079                                     | 0.002      | ●             | ●      | ●      |          | ● | 0.102       | 9.53       | 0.102                   |
| JTGL3200F     | L    | 2  | 0.079                                     | 0.002      | ●             | ●      |        |          | ● | 0.102       | 9.53       | 0.102                   |
| JTGR3200F-010 | R    | 2  | 0.079                                     | 0.004      | ●             |        |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGL3200F-010 | L    | 2  | 0.079                                     | 0.004      | ●             |        |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGR3225F     | R    | 2.25                                     | 0.089                                     | 0.002      | ●             | ●      |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGR3250F     | R    | 2.5                                      | 0.098                                     | 0.002      | ●             | ●      | ●      |          | ● | 0.102       | 9.53       | 0.102                   |
| JTGL3250F     | L    | 2.5                                      | 0.098                                     | 0.002      | ●             | ●      |        |          | ● | 0.102       | 9.53       | 0.102                   |
| JTGR3250F-010 | R    | 2.5                                      | 0.098                                     | 0.004      | ●             |        |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGL3250F-010 | L    | 2.5                                      | 0.098                                     | 0.004      | ●             |        |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGR3275F     | R    | 2.75                                     | 0.108                                     | 0.002      |               | ●      |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGR3300F     | R    | 3  | 0.118                                     | 0.002      | ●             | ●      |        |          |   | 0.102       | 9.53       | 0.102                   |
| JTGR3300F-010 | R    | 3  | 0.118                                     | 0.004      | ●             |        |        |          |   | 0.102       | 9.53       | 0.102                   |

● : Line up

### JTG (honed edge)



|   |                |   |  |  |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |  |  |
| M | Stainless      |   |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ☆ |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |
| S | Superalloys    | ☆ |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

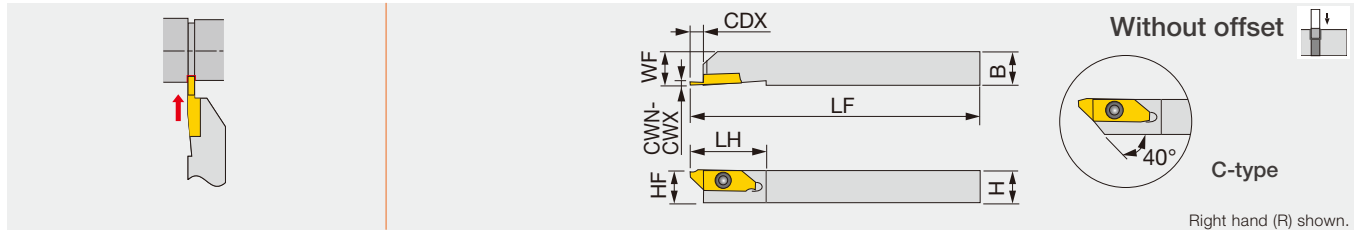
| Designation | HAND | CW <sub>0</sub> <sup>+0.05</sup><br>(mm) | CW <sub>0</sub> <sup>+0.002</sup><br>(in) | RE<br>(in) | Coated |  |  |  | CDX<br>(in) | IC<br>(mm) | Max.<br>groove<br>depth |
|-------------|------|--|---|------------|--------|--|--|--|-------------|------------|-------------------------|
|             |      |  |   |            | J9530  |  |  |  |             |            |                         |
| JTGR3100    | R    | 1  | 0.039                                     | 0.002      | ●      |  |  |  | 0.087       | 9.525      | 0.083                   |
| JTGL3100    | L    | 1  | 0.039                                     | 0.002      | ●      |  |  |  | 0.087       | 9.525      | 0.083                   |
| JTGR3125    | R    | 1.25                                     | 0.049                                     | 0.002      | ●      |  |  |  | 0.087       | 9.525      | 0.083                   |
| JTGL3125    | L    | 1.25                                     | 0.049                                     | 0.002      | ●      |  |  |  | 0.087       | 9.525      | 0.083                   |
| JTGR3150    | R    | 1.5                                      | 0.059                                     | 0.002      | ●      |  |  |  | 0.087       | 9.525      | 0.083                   |
| JTGL3150    | L    | 1.5                                      | 0.059                                     | 0.002      | ●      |  |  |  | 0.087       | 9.525      | 0.083                   |
| JTGR3200    | R    | 2  | 0.079                                     | 0.002      | ●      |  |  |  | 0.106       | 9.525      | 0.102                   |
| JTGL3200    | L    | 2  | 0.079                                     | 0.002      | ●      |  |  |  | 0.106       | 9.525      | 0.102                   |

● : Line up

### STANDARD CUTTING CONDITIONS (J-Series grooving tool)

| ISO   | Workpiece material   | Grade     | Cutting Speed<br>Vc (sfm) | Feed<br>f (ipr) |
|-------|--|-----------|---------------------------|-----------------|
| P     | General steels<br>1045, etc.                                   | SH725     | 164 - 656                 | 0.0004 - 0.0039 |
|       |  | J740      | 33 - 328                  | 0.0004 - 0.0039 |
|       |  | NS9530    | 164 - 492                 | 0.0004 - 0.0039 |
|       | Free-cutting steel   | J9530     | 164 - 492                 | 0.0012 - 0.0051 |
| SH725 |  | 164 - 656 | 0.0004 - 0.0039           |                 |
| J740  |  | 33 - 328  | 0.0004 - 0.0039           |                 |
| M     | Stainless steels<br>303SS, 304SS, etc.                         | SH725     | 164 - 656                 | 0.0004 - 0.0039 |
|       |  | J740      | 33 - 328                  | 0.0004 - 0.0039 |
|       |  | NS9530    | 164 - 492                 | 0.0004 - 0.0039 |
| N     | Aluminum alloys, copper alloys<br>Si < 12%, etc.               | J9530     | 164 - 492                 | 0.0012 - 0.0051 |
|       |  | TH10      | 33 - 656                  | 0.0004 - 0.0039 |
| S     | Difficult-to-cut materials, titanium alloys<br>Ti-6Al-4V, etc. | TH10      | 33 - 98                   | 0.0004 - 0.0039 |





| Metric          | CWN | CWX | CDX | H  | B  | LF  | LH | HF | WF | Insert     |
|-----------------|-----|-----|-----|----|----|-----|----|----|----|------------|
| JSXGR/L1010K8-C | 0.7 | 2   | 6.7 | 10 | 10 | 125 | 29 | 10 | 10 | JX*R/L8... |
| JSXGR/L1212K8-C | 0.7 | 2   | 6.7 | 12 | 12 | 125 | 29 | 12 | 12 | JX*R/L8... |
| JSXGR/L1616K8   | 0.7 | 2   | 6.5 | 16 | 16 | 125 | 29 | 16 | 16 | JX*R/L8... |
| JSXGR/L2020K8   | 0.7 | 2   | 6.5 | 20 | 20 | 125 | 29 | 20 | 20 | JX*R/L8... |

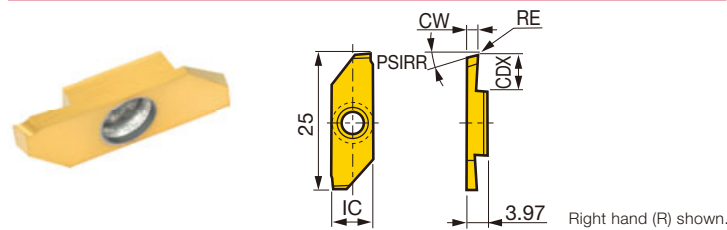
Can be wrenched also from the back with a double-head screw.  
This toolholders can be used for JXG insert (grooving), JFX insert (front-turning), JXK insert (reverse-turning)

### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSXGR/L     | CSTB-4SD       | T-8F     | (T-8L)              |

### INSERT

#### JXG (handed insert with sharp edge)



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ |   |   |   |   | ☆ |
| Stainless      | ★ |   |   |   |   |   |
| Cast iron      |   |   | ★ |   |   |   |
| Non-ferrous    |   |   |   | ★ |   |   |
| Superalloys    | ☆ |   |   |   | ★ |   |
| Hard materials |   |   |   |   |   |   |

★ : First choice  
☆ : Second choice

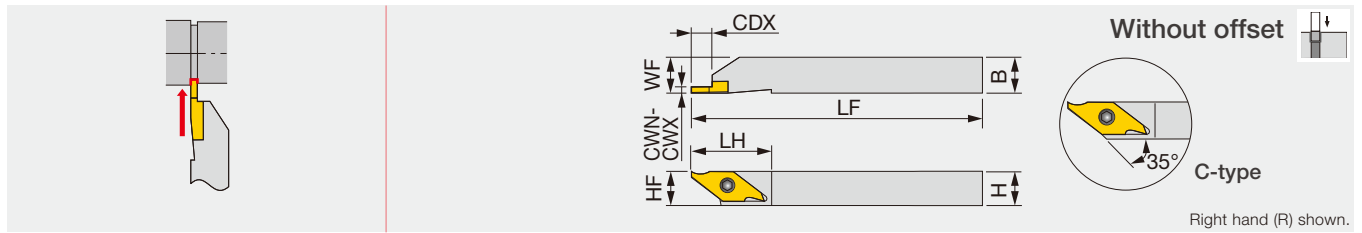
| Designation      | HAND | CW±0.001<br>(in) | CW±0.025<br>(mm) | RE<br>(mm) | Coated |      | Uncoated |  | CDX<br>(mm) | IC<br>(mm) | PSIRR<br>(mm) |
|------------------|------|------------------|------------------|------------|--------|------|----------|--|-------------|------------|---------------|
|                  |      |                  |                  |            | J740   | TH10 |          |  |             |            |               |
| JXGR8070FA       | R    | 0.028            | 0.7              | 0          | ●      |      |          |  | 4.5         | 8          | 15            |
| JXGL8070FA       | L    | 0.028            | 0.7              | 0          | ●      |      |          |  | 4.5         | 8          | 15            |
| JXGR8070FA-005   | R    | 0.028            | 0.7              | 0.05       | ●      | ●    |          |  | 4.5         | 8          | 15            |
| JXGR8100FA       | R    | 0.039            | 1                | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGL8100FA       | L    | 0.039            | 1                | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGR8100FA-005   | R    | 0.039            | 1                | 0.05       | ●      | ●    |          |  | 6           | 8          | 15            |
| JXGR8100FA45     | R    | 0.039            | 1                | 0          | ●      |      |          |  | 4.5         | 8          | 15            |
| JXGR8100FA45-005 | R    | 0.039            | 1                | 0.05       | ●      | ●    |          |  | 4.5         | 8          | 15            |
| JXGR8150FA       | R    | 0.059            | 1.5              | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGL8150FA       | L    | 0.059            | 1.5              | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGR8150FA-005   | R    | 0.059            | 1.5              | 0.05       | ●      | ●    |          |  | 6           | 8          | 15            |
| JXGR8150FA50     | R    | 0.059            | 1.5              | 0          | ●      |      |          |  | 5           | 8          | 15            |
| JXGR8150FA50-005 | R    | 0.059            | 1.5              | 0.05       | ●      | ●    |          |  | 5           | 8          | 15            |
| JXGR8180FA       | R    | 0.071            | 1.8              | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGR8180FA-005   | R    | 0.071            | 1.8              | 0.05       | ●      | ●    |          |  | 6           | 8          | 15            |
| JXGR8200FA       | R    | 0.079            | 2                | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGL8200FA       | L    | 0.079            | 2                | 0          | ●      |      |          |  | 6           | 8          | 15            |
| JXGR8200FA-005   | R    | 0.079            | 2                | 0.05       | ●      | ●    |          |  | 6           | 8          | 0             |
| JXGR8200FN       | R    | 0.079            | 2                | 0          | ●      |      |          |  | 6           | 8          | 0             |
| JXGL8200FN       | L    | 0.079            | 2                | 0          | ●      |      |          |  | 6           | 8          | 0             |
| JXGR8200FN-005   | R    | 0.079            | 2                | 0.05       | ●      | ●    |          |  | 6           | 8          | 0             |

●: Line up

Reference pages: JSXGR/L: Standard cutting conditions → G111



Screw-on external grooving toolholder, for Swiss lathes



| Inch        | CWN   | CWX   | CDX           | H     | B     | LF | LH    | HF    | WF    | Insert    | Torque |
|-------------|-------|-------|---------------|-------|-------|----|-------|-------|-------|-----------|--------|
| JSVGRL062.5 | 0.013 | 0.079 | 0.028 - 0.217 | 0.375 | 0.375 | 5  | 0.875 | 0.375 | 0.375 | JVGR/L... | 1.70   |
| JSVGRL082.5 | 0.013 | 0.079 | 0.028 - 0.217 | 0.500 | 0.500 | 5  | 0.875 | 0.500 | 0.500 | JVGR/L... | 1.70   |
| JSVGRL102.5 | 0.013 | 0.079 | 0.028 - 0.217 | 0.625 | 0.625 | 5  | 0.875 | 0.625 | 0.625 | JVGR/L... | 1.70   |

| Metric        | CWN  | CWX | CDX | H  | B  | LF  | LH | HF | WF | Insert    | Torque* |
|---------------|------|-----|-----|----|----|-----|----|----|----|-----------|---------|
| JSVGRL1010K-C | 0.33 | 2   | 6.2 | 10 | 10 | 125 | 23 | 10 | 10 | JVGR/L... | 2.3     |
| JSVGRL1212K-C | 0.33 | 2   | 6.2 | 12 | 12 | 125 | 23 | 12 | 12 | JVGR/L... | 2.3     |
| JSVGRL1616K   | 0.33 | 2   | 6.2 | 16 | 16 | 125 | 23 | 16 | 16 | JVGR/L... | 2.3     |

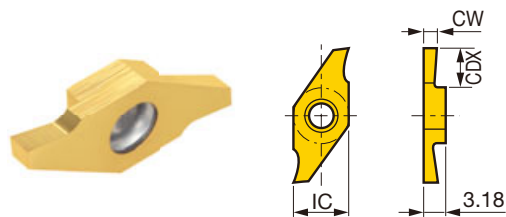
Torque: Recommended clamping torque: lbs-ft (\*N·m)

**SPARE PARTS**

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSVGRL      | CSTB-3S        | T-9F     | (T-9L)              |

### INSERT

JVG (with hand, sharp edge)



Right hand (R) shown.

|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ★ | ★ |   |   |   |   |
| Stainless      | ★ | ★ |   |   |   |   |
| Cast iron      |   |   | ☆ |   |   |   |
| Non-ferrous    |   |   |   | ★ |   |   |
| Superalloys    |   |   |   |   | ★ |   |
| Hard materials |   |   |   |   |   | ☆ |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW <sup>+0.05</sup> <sub>0</sub><br>(mm) | CW <sup>+0.002</sup> <sub>0</sub><br>(in) | RE<br>(in) | Coated |      | Cermet | Uncoated |  | CDX<br>(in) | IC<br>(mm) |
|-------------|------|--|---|------------|--------|------|--------|----------|--|-------------|------------|
|             |      |  |   |            | SH725  | J740 | NS9530 | TH10     |  |             |            |
| JVGR033F    | R    | 0.33                                     | 0.013                                     | 0          | ●      | ●    |        |          |  | 0.7         | 7.94       |
| JVGL033F    | L    | 0.33                                     | 0.013                                     | 0          | ●      |      |        | ●        |  | 0.7         | 7.94       |
| JVGR050F    | R    | 0.5                                      | 0.020                                     | 0          | ●      | ●    |        |          |  | 1.1         | 7.94       |
| JVGL050F    | L    | 0.5                                      | 0.020                                     | 0          | ●      |      |        | ●        |  | 1.1         | 7.94       |
| JVGR075F    | R    | 0.75                                     | 0.030                                     | 0          | ●      | ●    |        |          |  | 1.9         | 7.94       |
| JVGL075F    | L    | 0.75                                     | 0.030                                     | 0          | ●      |      |        | ●        |  | 1.9         | 7.94       |
| JVGR095F    | R    | 0.95                                     | 0.037                                     | 0          | ●      | ●    |        |          |  | 1.9         | 7.94       |
| JVGL095F    | L    | 0.95                                     | 0.037                                     | 0          | ●      |      |        | ●        |  | 1.9         | 7.94       |
| JVGR100F    | R    | 1  | 0.039                                     | 0          | ●      | ●    | ●      |          |  | 5.5         | 7.94       |
| JVGL100F    | L    | 1  | 0.039                                     | 0          | ●      |      | ●      | ●        |  | 5.5         | 7.94       |
| JVGR125F    | R    | 1.25                                     | 0.049                                     | 0          | ●      | ●    |        |          |  | 5           | 7.94       |
| JVGL125F    | L    | 1.25                                     | 0.049                                     | 0          | ●      |      |        | ●        |  | 5           | 7.94       |
| JVGR150F    | R    | 1.5                                      | 0.059                                     | 0          | ●      | ●    | ●      |          |  | 5.5         | 7.94       |
| JVGL150F    | L    | 1.5                                      | 0.059                                     | 0          | ●      |      | ●      | ●        |  | 5.5         | 7.94       |
| JVGR200F    | R    | 2  | 0.079                                     | 0          | ●      | ●    | ●      | ●        |  | 5.5         | 7.94       |
| JVGL200F    | L    | 2  | 0.079                                     | 0          | ●      |      | ●      | ●        |  | 5.5         | 7.94       |

● : Line up

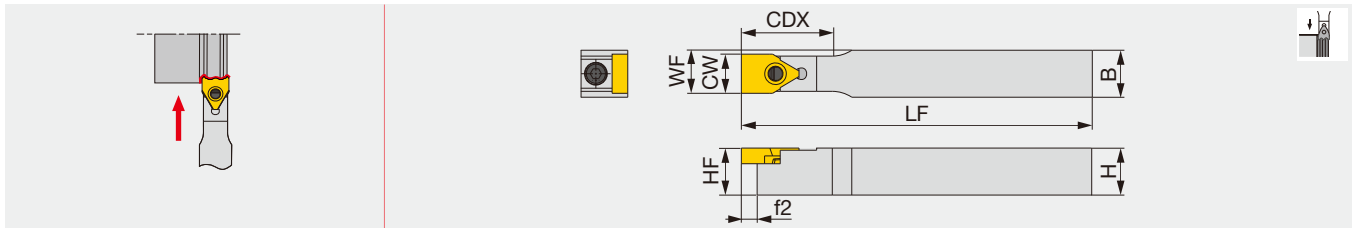
Reference pages: JSVGRL: Standard cutting conditions → G111

## STANDARD CUTTING CONDITIONS (JXG and JVG inserts)

| ISO      | Workpiece material  | Grade  | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|---|--------|---------------------------|-----------------|
| <b>P</b> | Steel<br>1045, etc.   | SH725  | 164 - 656                 | 0.0004 - 0.0039 |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.0039 |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.0039 |
| <b>M</b> | Free-cutting steel  | SH725  | 164 - 656                 | 0.0004 - 0.0039 |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.0039 |
| <b>M</b> | Stainless steel<br>303SS, etc.                                    | SH725  | 164 - 656                 | 0.0004 - 0.0039 |
|          |   | J740   | 33 - 328                  | 0.0004 - 0.0039 |
|          |   | NS9530 | 164 - 492                 | 0.0004 - 0.0039 |
| <b>N</b> | Aluminum alloys, Brass<br>Si < 12%, etc.                          | TH10   | 33 - 656                  | 0.0004 - 0.0039 |
| <b>S</b> | Difficult-to-machine material, Titanium alloys<br>Ti-6Al-4V, etc. | TH10   | 33 - 98                   | 0.0004 - 0.0039 |

## TUNGALOY FPGN

Lever-lock toolholder for external wide grooving and profiling



| Inch            | CW    | CDX   | H     | B     | LF    | HF    | WF    | f2    | Insert    | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|---------|
| FPGN08-10T20    | 0.394 | 0.984 | 0.500 | 0.500 | 4.946 | 0.500 | 0.450 | 0.216 | PSGB10... | 1.62    |
| FPGN10-10T20    | 0.394 | 0.984 | 0.625 | 0.625 | 4.946 | 0.625 | 0.510 | 0.216 | PSGB10... | 1.62    |
| FPGN12-10T20    | 0.394 | 0.984 | 0.750 | 0.750 | 5.196 | 0.750 | 0.570 | 0.216 | PSGB10... | 1.62    |
| FPGN10-15T25    | 0.590 | 1.181 | 0.625 | 0.625 | 4.946 | 0.625 | 0.610 | 0.216 | PSGB15... | 1.62    |
| FPGN12-15T25    | 0.590 | 1.181 | 0.750 | 0.750 | 5.196 | 0.750 | 0.670 | 0.216 | PSGB15... | 1.62    |
| FPGN12-20T32    | 0.787 | 1.456 | 0.750 | 0.750 | 5.196 | 0.750 | 0.770 | 0.216 | PSGB20... | 6.27    |
| Metric          | CW    | CDX   | H     | B     | LF    | HF    | WF    | f2    | Insert    | Torque* |
| FPGN1212X-10T20 | 10    | 25    | 12    | 12    | 125   | 12    | 11    | 5.5   | PSGB10... | 2.2     |
| FPGN1616X-10T20 | 10    | 25    | 16    | 16    | 125   | 16    | 13    | 5.5   | PSGB10... | 2.2     |
| FPGN2020K-10T20 | 10    | 25    | 20    | 20    | 130   | 20    | 15    | 5.5   | PSGB10... | 2.2     |
| FPGN1616X-15T25 | 15    | 30    | 16    | 16    | 125   | 16    | 15.5  | 5.5   | PSGB15... | 2.2     |
| FPGN2020K-15T25 | 15    | 30    | 20    | 20    | 130   | 20    | 17.5  | 5.5   | PSGB15... | 2.2     |
| FPGN2020K-20T32 | 20    | 37    | 20    | 20    | 130   | 20    | 20    | 5.5   | PSGB20... | 8.5     |

PSGB insert blank is available for tailored inserts.

Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

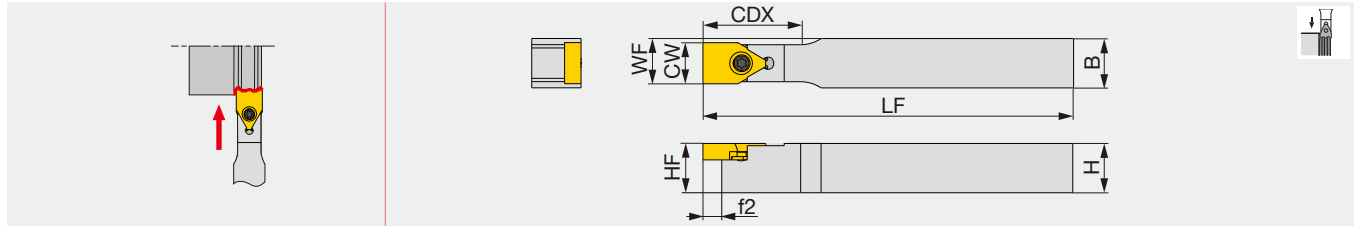
| Designation             | Lever | Clamping screw | Spring | Wrench |
|-------------------------|-------|----------------|--------|--------|
| FPGN****-10T..., 15T... | FCL4  | FCS3           | BP-5   | P-2.5  |
| FPGN****-20T..., 25T... | FCL8  | FCS6           | BP-9   | P-5    |

Reference pages: FPGN: Inserts → **G112**, Standard cutting conditions → **G113**

# TUNG H HEAVY GROOVE

## SPGN

Screw-on toolholder for external wide grooving and profiling



| Inch            | CW    | CDX   | H     | B     | LF    | HF    | WF    | f2    | Insert | Torque  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|
| SPGN08-10T20    | 0.394 | 0.984 | 0.500 | 0.500 | 4.946 | 0.500 | 0.450 | 0.216 | PSGB10 | 0.96    |
| SPGN10-10T20    | 0.394 | 0.984 | 0.625 | 0.625 | 4.946 | 0.625 | 0.510 | 0.216 | PSGB10 | 0.96    |
| SPGN12-10T20    | 0.394 | 0.984 | 0.750 | 0.750 | 5.196 | 0.750 | 0.570 | 0.216 | PSGB10 | 0.96    |
| SPGN10-15T25    | 0.590 | 1.181 | 0.625 | 0.625 | 4.946 | 0.625 | 0.610 | 0.216 | PSGB15 | 2.58    |
| SPGN12-15T25    | 0.590 | 1.181 | 0.750 | 0.750 | 5.196 | 0.750 | 0.670 | 0.216 | PSGB15 | 2.58    |
| SPGN12-20T32    | 0.787 | 1.456 | 0.750 | 0.750 | 5.196 | 0.750 | 0.770 | 0.216 | PSGB20 | 3.69    |
| Metric          | CW    | CDX   | H     | B     | LF    | HF    | WF    | f2    | Insert | Torque* |
| SPGN1212X-10T20 | 10    | 25    | 12    | 12    | 125   | 12    | 11    | 5.5   | PSGB10 | 2.3     |
| SPGN1616X-10T20 | 10    | 25    | 16    | 16    | 125   | 16    | 13    | 5.5   | PSGB10 | 2.3     |
| SPGN2020K-10T20 | 10    | 25    | 20    | 20    | 130   | 20    | 15    | 5.5   | PSGB10 | 2.3     |
| SPGN1616X-15T25 | 15    | 30    | 16    | 16    | 125   | 16    | 15.5  | 5.5   | PSGB15 | 3.5     |
| SPGN2020K-15T25 | 15    | 30    | 20    | 20    | 130   | 20    | 17.5  | 5.5   | PSGB15 | 3.5     |
| SPGN2020K-20T32 | 20    | 37    | 20    | 20    | 130   | 20    | 20    | 5.5   | PSGB20 | 5       |

PSGB insert blank is available for tailored inserts. Can be used with profile grooving inserts, only  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

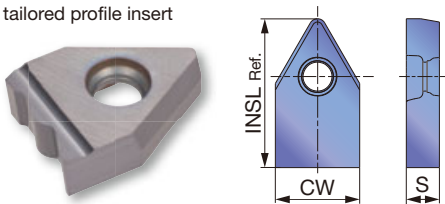
### SPARE PARTS

| Designation            | Clamping screw | Wrench |
|------------------------|----------------|--------|
| SPGN****-10T20         | CSTB-3L081     | T-8F   |
| SPGN****-15T25         | CSTB-4         | T-15F  |
| SPGN****-20T... 25T... | CSTB-5         | T-20F  |

## INSERT

### PSGB (Blank for wide profile grooving inserts\*)

Specially tailored profile insert



|                | P | M | K | N | S | H |
|----------------|---|---|---|---|---|---|
| Steel          | ☆ | ★ |   |   |   |   |
| Stainless      |   | ★ |   |   |   |   |
| Cast iron      | ★ |   |   |   |   |   |
| Non-ferrous    | ★ |   |   |   |   |   |
| Superalloys    | ☆ |   |   |   |   |   |
| Hard materials |   |   |   |   |   |   |

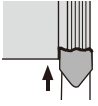
★ : First choice  
☆ : Second choice

| Designation | CW±0.025 (mm) | CW±0.001 (in) | Uncoated |      |  |  | INSL (in) | S (in) |
|-------------|---------------|---------------|----------|------|--|--|-----------|--------|
|             |               |               | TH10     | UX30 |  |  |           |        |
| PSGB10      | 10.2          | 0.402         | ●        | ●    |  |  | 0.709     | 0.157  |
| PSGB15      | 15.2          | 0.598         | ●        | ●    |  |  | 0.787     | 0.197  |
| PSGB20      | 20.2          | 0.795         | ●        | ●    |  |  | 1.063     | 0.256  |
| PSGB25      | 25.2          | 0.992         | ●        | ●    |  |  | 1.063     | 0.256  |

These are blanks (semi-finished products) for wide profile grooving inserts that can be tailored. Package quantity = 5pcs.  
● : Line up

Reference pages : Toolholders → **G111 - G112**

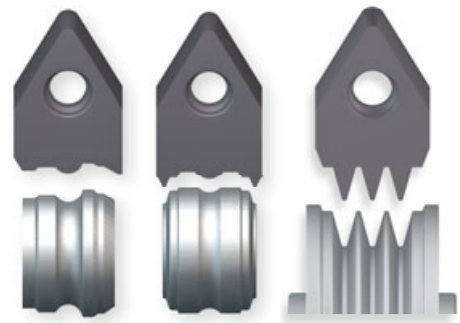
## STANDARD CUTTING CONDITIONS



### Wide profile grooving

| ISO      | Workpiece material                             | Hardness (HB) | Grade | Cutting speed Vc (sfm) |
|----------|--|---------------|-------|------------------------|
| <b>P</b> | Steel<br>1045, 1055, etc.                      | < 200         | UX30  | 165 - 490              |
|          | Alloy steel<br>4140, 8620, etc.                | < 300         | UX30  | 165 - 390              |
| <b>M</b> | Stainless steel<br>304SS, 316SS, 17-4 PH, etc. | < 200         | UX30  | 165 - 390              |
| <b>K</b> | Gray cast iron<br>Class 25, Class 30, etc.     | -             | TH10  | 165 - 490              |
|          | Ductile cast iron<br>60-40-18, 60-55-06, etc.  | -             | TH10  | 165 - 390              |
| <b>N</b> | Aluminum alloys<br>Si < 12%, etc.              | -             | TH10  | 330 - 1640             |

- Custom shaped inserts can be supplied on customer's request, according to the designated final shape on part drawing.
- Semi-finished blanks PSGB types are offered for purchase.



Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
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# Technical Guide

## MINIFORCE STANDARD CUTTING CONDITIONS FOR EXTERNAL TURNING



| Applications                    | ISO  | Workpiece material   | Priority                    | Chip breaker | Grade         | Cutting speed Vc (sfm) | Depth of cut ap (in) | Feed f (ipr)  |
|---------------------------------|--|--|-----------------------------|--------------|---------------|------------------------|----------------------|---------------|
| For swiss type automatic lathes | P  | Low carbon steels<br>Carbon steels 1045, etc.<br>Low alloy steels<br>Alloy steels 4140, etc.   | First choice                | JS           | SH725         | 164 - 591              | 0.004 - 0.118        | 0.001 - 0.004 |
|                                 |  |  | With high sharpness         | JSS          | SH725         | 164 - 591              | 0.004 - 0.059        | 0.001 - 0.004 |
|                                 | M  | Stainless steels (Austenitic)<br>304, etc.<br>Stainless steels (Martensitic and ferritic)<br>430, etc.<br>Stainless steels (Precipitation hardened)<br>174, etc. | First choice                | JS           | SH725         | 164 - 591              | 0.004 - 0.049        | 0.001 - 0.004 |
|                                 |  |  | With high sharpness         | JSS          | SH725         | 164 - 591              | 0.004 - 0.059        | 0.001 - 0.004 |
| For small size CNC lathes       | P  | Low carbon steels<br>Carbon steels 1045, etc.<br>Low alloy steels<br>Alloy steels 4140, etc.   | First choice                | SS           | AH725         | 164 - 591              | 0.006 - 0.059        | 0.002 - 0.008 |
|                                 |  |  |                             | TS           | AH725         | 164 - 591              | 0.012 - 0.079        | 0.003 - 0.012 |
|                                 |  |  | For improved surface finish | SS           | NS9530        | 164 - 656              | 0.006 - 0.059        | 0.002 - 0.008 |
|                                 |  |  |                             | TS           | NS9530        | 164 - 656              | 0.012 - 0.079        | 0.003 - 0.012 |
|                                 | For wear resistance  | SS   | GT9530                      | 164 - 820    | 0.006 - 0.059 | 0.002 - 0.008          |                      |               |
|                                 |  | TS   | GT9530                      | 164 - 820    | 0.012 - 0.079 | 0.003 - 0.012          |                      |               |
| M                               | Stainless steels (Austenitic)<br>304, etc.<br>Stainless steels (Martensitic and ferritic)<br>430, etc.<br>Stainless steels (Precipitation hardened)<br>174, etc. | First choice   | SS                          | AH8015       | 164 - 492     | 0.006 - 0.059          | 0.002 - 0.008        |               |
|                                 |  | For impact resistance  | TS                          | AH8015       | 164 - 492     | 0.012 - 0.079          | 0.003 - 0.012        |               |

## J-SERIES STANDARD CUTTING CONDITIONS

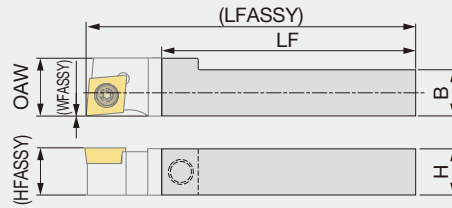
| ISO | Workpiece material   | Priority              | Grade | Cutting speed Vc (sfm) | Feed f (ipr)   |
|-----|--|-----------------------|-------|------------------------|----------------|
| P   | Low carbon steels<br>Carbon steels 1045, etc.<br>Low alloy steels<br>Alloy steels 4140, etc.   | First choice          | SH725 | 164 - 656              | 0.0004 - 0.008 |
|     |  | For impact resistance | AH725 | 164 - 656              | 0.0004 - 0.008 |
| M   | Stainless steels (Austenitic)<br>304, etc.<br>Stainless steels (Martensitic and ferritic)<br>430, etc.<br>Stainless steels (Precipitation hardened)<br>174, etc. | First choice          | SH725 | 164 - 656              | 0.0004 - 0.008 |
|     |  | For impact resistance | AH725 | 164 - 656              | 0.0004 - 0.008 |
| S   | Titanium alloys<br>Ti-6Al-4V, etc.<br>Superalloys<br>Inconel718, etc.  | First choice          | SH725 | 66 - 262               | 0.0004 - 0.008 |
|     |  | For impact resistance | AH725 | 66 - 262               | 0.0004 - 0.008 |

# ACCESSORY

## MODUMTURN<sup>INI</sup>

### QC-08 and QC-1212

Shank for modular heads

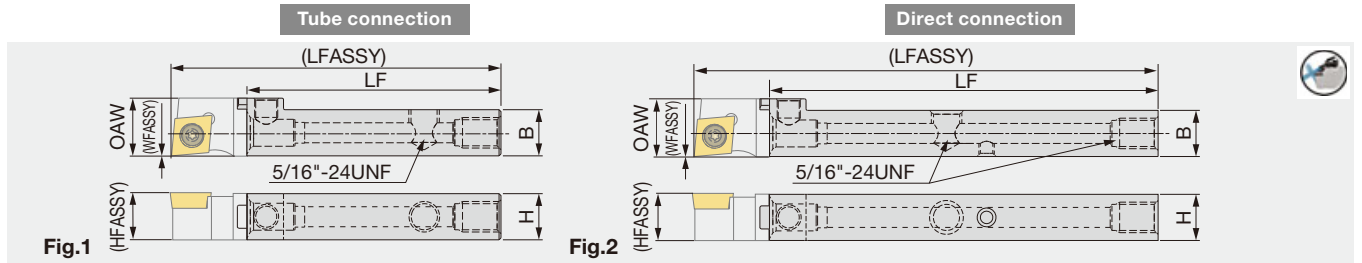


| Inch     | H     | B     | WFASSY | LF    | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque  |
|----------|-------|-------|--------|-------|-------|--------|-----------------------|---------|
| QC-08F   | 0.500 | 0.500 | 0      | 2.560 | 0.590 | 0.500  | 3.346                 | 2.21    |
| QC-08X   | 0.500 | 0.500 | 0      | 3.940 | 0.590 | 0.500  | 4.724                 | 2.21    |
| Metric   | H     | B     | WFASSY | LF    | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque* |
| QC-1212F | 12    | 12    | 0      | 65    | 15    | 12     | 85                    | 3       |
| QC-1212X | 12    | 12    | 0      | 100   | 15    | 12     | 120                   | 3       |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) The size is true when the modular head with LH = 19.5 mm is mounted.

### QC-08-CHP and QC-1212-CHP

Shank for modular heads, with high pressure coolant capability

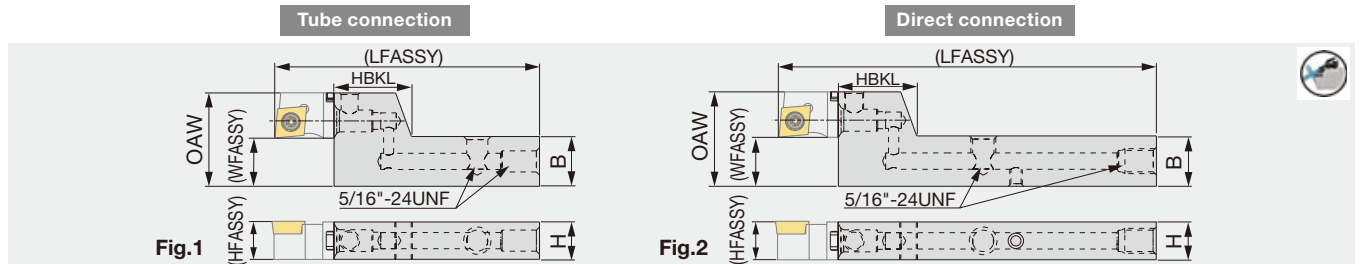


| Inch                        | H     | B     | LF    | WFASSY | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque  | Fig. |
|-----------------------------|-------|-------|-------|--------|-------|--------|-----------------------|---------|------|
| QC-08F-CHP                  | 0.500 | 0.500 | 2.560 | 0      | 0.590 | 0.500  | 3.346                 | 2.21    | 1    |
| QC-08X-CHP <sup>(*)</sup>   | 0.500 | 0.500 | 3.940 | 0      | 0.590 | 0.500  | 4.724                 | 2.21    | 2    |
| Metric                      | H     | B     | LF    | WFASSY | OAW   | HFASSY | LFASSY <sup>(1)</sup> | Torque* | Fig. |
| QC-1212F-CHP                | 12    | 12    | 65    | 0      | 15    | 12     | 85                    | 3       | 1    |
| QC-1212X-CHP <sup>(*)</sup> | 12    | 12    | 100   | 0      | 15    | 12     | 120                   | 3       | 2    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 Through-coolant shank  
 (\*): Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (1) The size is true when the modular head with LH = 19.5 mm is mounted.

### QC-08-F10-CHP and QC-1216-F15-CHP

Stepped-head shank for modular heads, with high pressure coolant capability



| Inch                            | H     | B     | LF    | OAW   | WFASSY | HFASSY | LFASSY <sup>(1)</sup> | HBKL  | Torque  | Fig. |
|---------------------------------|-------|-------|-------|-------|--------|--------|-----------------------|-------|---------|------|
| QC-08F-F10-CHP                  | 0.500 | 0.625 | 2.559 | 1.220 | 0.625  | 0.500  | 3.346                 | 0.980 | 2.21    | 1    |
| QC-08X-F10-CHP <sup>(1)</sup>   | 0.500 | 0.625 | 3.937 | 1.220 | 0.625  | 0.500  | 4.724                 | 0.980 | 2.21    | 2    |
| Metric                          | H     | B     | LF    | OAW   | WFASSY | HFASSY | LFASSY <sup>(1)</sup> | HBKL  | Torque* | Fig. |
| QC-1216F-F15-CHP                | 12    | 16    | 65    | 30    | 15     | 12     | 85                    | 25    | 3       | 1    |
| QC-1216X-F15-CHP <sup>(1)</sup> | 12    | 16    | 100   | 30    | 15     | 12     | 120                   | 25    | 3       | 2    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 QC12 heads only can be mounted on these shanks.  
 (\*): Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (1) The size is true when the modular head with LH = 19.5 mm is mounted.

### SPARE PARTS

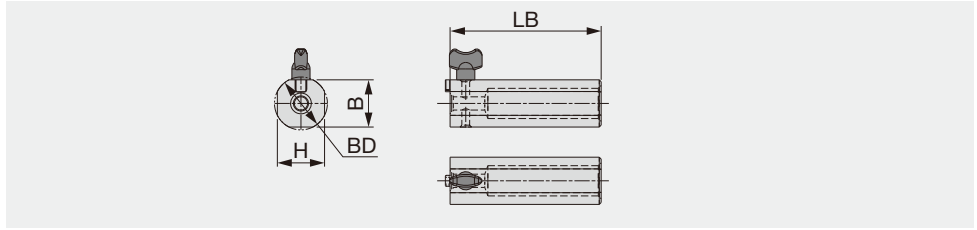
| Designation | Clamping screw | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench |
|-------------|----------------|--------|----------------|--------|----------------|--------|
| QC-**F/X    | SRM6X0.5-26977 | P-3    | -              | -      | -              | -      |
| QC-**F-...  | SRM6X0.5-26977 | P-3    | SR5/16UNFTL360 | P-4    | -              | -      |
| QC-**X-...  | SRM6X0.5-26977 | P-3    | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |



# MODUM<sup>INI</sup>TURN

## QC-12D28EXC

Modular head holder for insert change



### Metric

|             | BD | LB | H  | B  |
|-------------|----|----|----|----|
| QC-12D28EXC | 28 | 80 | 25 | 25 |

Note: This is a dedicated modular-head holder designed to facilitate insert changes. Do not use this holder for machining as it may cause damages to tool, workpiece, machine, and possible human injury.

### SPARE PARTS



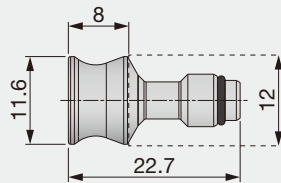
| Designation | Fixing screw |
|-------------|--------------|
| QC-12D28EXC | KNOBM5X10    |



ModuMini-Turn modular heads are small. When it is difficult to change inserts while holding the modular head with fingers, use the dedicated holder to facilitate insert changes.

## QC12-STOPPER

Protective plug for shank



Unit: mm

### Designation

QC12-STOPPER

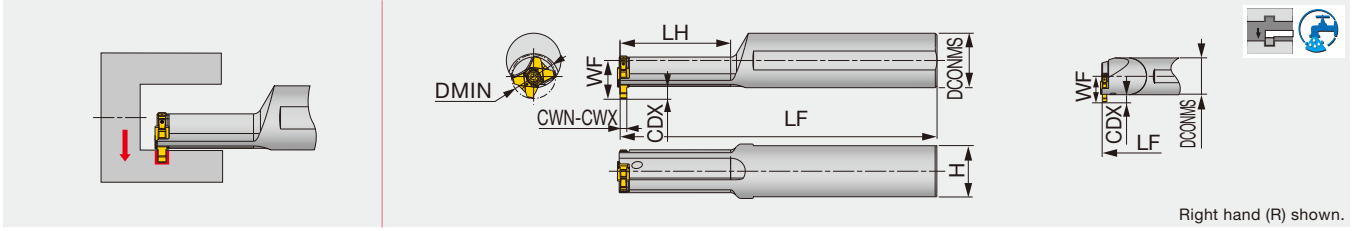
### SPARE PARTS



| Designation  | O-ring               |
|--------------|----------------------|
| QC12-STOPPER | ORSS-0454.5X1.0NBR70 |



The cutting head located in the feed direction of the Y-axis tool can be removed to make room for machining larger-sized barstock. If this is the case, attach the plug to the shank to protect the coupling surface from chips, as well as prevent coolant leakage during machining.



Right hand (R) shown.

| Inch                | Material | CWN   | CWX   | DMIN  | DCONMS | LH    | LF    | WF    | H     | Insert    | Torque* |
|---------------------|----------|-------|-------|-------|--------|-------|-------|-------|-------|-----------|---------|
| A08-STCIR/L10-D07U  | Steel    | 0.059 | 0.118 | 0.438 | 0.500  | 0.984 | 4.000 | 0.339 | 0.475 | TCIG10... | 0.74    |
| A08-STCIR/L10-D08U  | Steel    | 0.059 | 0.118 | 0.500 | 0.500  | 1.220 | 4.000 | 0.339 | 0.475 | TCIG10... | 0.74    |
| E08-STCIR/L10-D10U  | Carbide  | 0.059 | 0.118 | 0.625 | 0.500  | -     | 5.000 | 0.339 | 0.475 | TCIG10... | 0.74    |
| A10-STCIR/L12-D09U  | Steel    | 0.059 | 0.118 | 0.563 | 0.625  | 1.299 | 4.500 | 0.441 | 0.600 | TCIG12... | 0.96    |
| A10-STCIR/L12-D11U  | Steel    | 0.059 | 0.118 | 0.688 | 0.625  | 1.614 | 4.500 | 0.441 | 0.600 | TCIG12... | 0.96    |
| E10-STCIR/L12-D13U  | Carbide  | 0.059 | 0.118 | 0.813 | 0.625  | -     | 6.000 | 0.441 | 0.600 | TCIG12... | 0.96    |
| Metric              | Material | CWN   | CWX   | DMIN  | DCONMS | LH    | LF    | WF    | H     | Insert    | Torque* |
| A12H-STCIR/L10-D105 | Steel    | 1.5   | 3     | 10.5  | 12     | 25    | 100   | 8.3   | 11    | TCIG10... | 1       |
| A12H-STCIR/L10-D120 | Steel    | 1.5   | 3     | 12    | 12     | 31    | 100   | 8.3   | 11    | TCIG10... | 1       |
| E12K-STCIR/L10-D150 | Carbide  | 1.5   | 3     | 15    | 12     | -     | 125   | 8.3   | 11    | TCIG10... | 1       |
| A16J-STCIR/L12-D130 | Steel    | 1.5   | 3     | 13    | 16     | 33    | 110   | 11.3  | 15    | TCIG12... | 1.3     |
| A16J-STCIR/L12-D160 | Steel    | 1.5   | 3     | 16    | 16     | 41    | 110   | 11.3  | 15    | TCIG12... | 1.3     |
| E16M-STCIR/L12-D200 | Carbide  | 1.5   | 3     | 20    | 16     | -     | 150   | 11.3  | 15    | TCIG12... | 1.3     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

#### SPARE PARTS

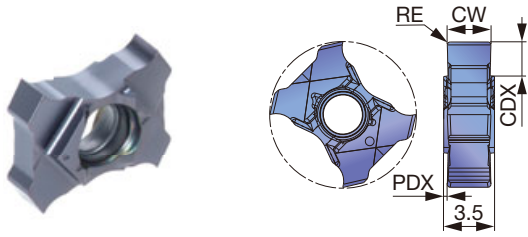


| Designation     | Clamping screw |
|-----------------|----------------|
| A/E-STCIR10-... | CSTB-2.2L053DR |
| A/E-STCIL10-... | CSTB-2.2L053DL |
| A/E-STCIR12-... | CSTB-2.5L054DR |
| A/E-STCIL12-... | CSTB-2.5L054DL |



# INSERTS

## TCIG



|          |                |   |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |

★ : First choice

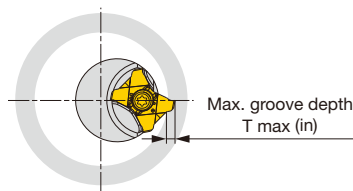
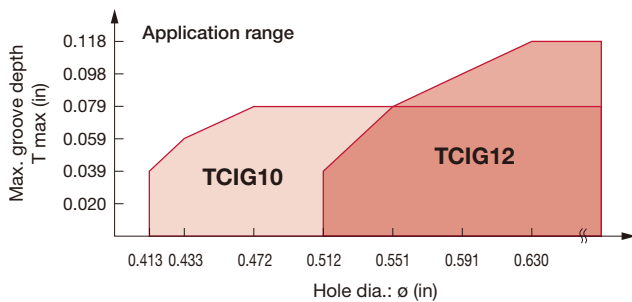
| Designation    | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  | CDX<br>(in) | PDX<br>(in) |
|----------------|------------------|------------------|------------|--------|--|--|--|-------------|-------------|
|                |                  |                  |            | AH725  |  |  |  |             |             |
| TCIG10-050-005 | 0.5              | 0.020            | 0.05       | ●      |  |  |  | 0.039       | 0.059       |
| TCIG10-122-008 | 1.22             | 0.048            | 0.08       | ●      |  |  |  | 0.079       | 0.045       |
| TCIG10-142-008 | 1.42             | 0.056            | 0.08       | ●      |  |  |  | 0.079       | 0.041       |
| TCIG10-150-010 | 1.5              | 0.059            | 0.1        | ●      |  |  |  | 0.079       | 0.039       |
| TCIG10-172-008 | 1.72             | 0.068            | 0.08       | ●      |  |  |  | 0.079       | 0.035       |
| TCIG10-200-010 | 2                | 0.079            | 0.1        | ●      |  |  |  | 0.079       | 0.030       |
| TCIG10-250-020 | 2.5              | 0.098            | 0.2        | ●      |  |  |  | 0.079       | 0.020       |
| TCIG10-300-020 | 3                | 0.118            | 0.2        | ●      |  |  |  | 0.079       | 0.010       |
| TCIG12-100-010 | 1                | 0.039            | 0.1        | ●      |  |  |  | 0.098       | 0.049       |
| TCIG12-150-010 | 1.5              | 0.059            | 0.1        | ●      |  |  |  | 0.118       | 0.039       |
| TCIG12-197-008 | 1.97             | 0.078            | 0.08       | ●      |  |  |  | 0.118       | 0.030       |
| TCIG12-200-020 | 2                | 0.079            | 0.2        | ●      |  |  |  | 0.118       | 0.030       |
| TCIG12-224-008 | 2.24             | 0.088            | 0.08       | ●      |  |  |  | 0.118       | 0.025       |
| TCIG12-250-020 | 2.5              | 0.098            | 0.2        | ●      |  |  |  | 0.118       | 0.020       |
| TCIG12-277-015 | 2.77             | 0.109            | 0.15       | ●      |  |  |  | 0.118       | 0.015       |
| TCIG12-300-020 | 3                | 0.118            | 0.2        | ●      |  |  |  | 0.118       | 0.010       |

● : Line up

### Shallower groove depths (T max) for smaller bores

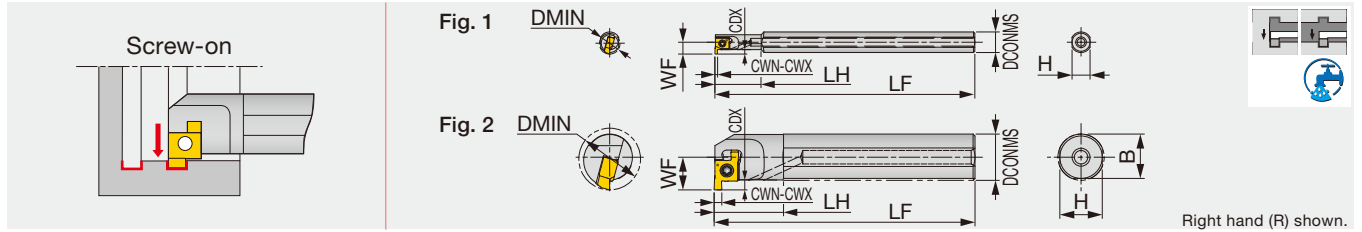
Maximum groove depths (T max) for TCIG10 inserts are smaller than the CDX value shown above when the grooving bore diameter is < 0.472" ; and for TCIG12, when the bore diameter is < 0.63".

See the chart below for T max values in relation to the given bore diameter.



## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                 | Hardness | Priority     | Cutting speed<br>Vc (sfm) | Feed<br>f (ipr) |
|----------|------------------------------------|----------|--------------|---------------------------|-----------------|
| <b>P</b> | Steel<br>1045, 4140, etc.          | < 300 HB | First choice | 98 - 262                  | 0.0004 - 0.002  |
| <b>M</b> | Stainless steel<br>303SS, etc.     | < 200 HB | First choice | 98 - 164                  | 0.0004 - 0.002  |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc. | < HRC 40 | First choice | 33 - 164                  | 0.0004 - 0.002  |

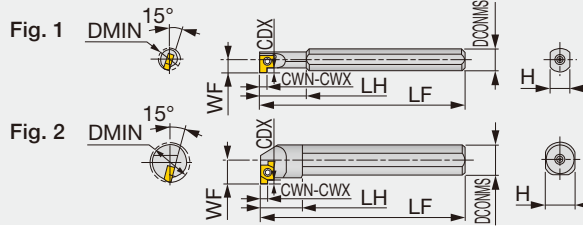
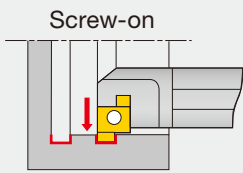


| Metric           | Material | CWN | CWX | DMIN | CDX | DCONMS | H   | B    | LF    | LH | WF   | Insert          | Torque* | Fig. |
|------------------|----------|-----|-----|------|-----|--------|-----|------|-------|----|------|-----------------|---------|------|
| A08H-SNGR06-D080 | Steel    | 1   | 2   | 8    | 1.5 | 8      | 7   | -    | 100   | 18 | 4.73 | 6GMR..., 6GR... | 0.7     | 1    |
| A08H-SNGR07-D100 | Steel    | 1   | 2   | 10   | 1.5 | 8      | 7   | -    | 100   | 23 | 5.8  | 7GMR..., 7GR... | 1.0     | 1    |
| A10K-SNGR07-D120 | Steel    | 1   | 2   | 12   | 1.5 | 10     | 9   | -    | 125   | 29 | 6.8  | 7GMR..., 7GR... | 1.0     | 1    |
| A10K-SNGR08-D140 | Steel    | 1.5 | 3.5 | 14   | 2   | 10     | 9   | -    | 125   | 15 | 7.6  | 8GMR..., 8GR... | 1.0     | 2    |
| A12M-SNGR08-D160 | Steel    | 1.5 | 3.5 | 16   | 2   | 12     | 11  | 11.5 | 150   | 18 | 8.6  | 8GMR..., 8GR... | 1.0     | 2    |
| A16Q-SNGR09-D200 | Steel    | 1.5 | 3.5 | 20   | 3   | 16     | 15  | 15.5 | 180   | 20 | 11.6 | 9GMR..., 9GR... | 1.3     | 2    |
| A20R-SNGR09-D240 | Steel    | 1.5 | 3.5 | 24   | 3   | 20     | 18  | 19   | 200   | 25 | 13.6 | 9GMR..., 9GR... | 1.3     | 2    |
| E08X-SNGR07-D100 | Carbide  | 1   | 2   | 10   | 1.5 | 8      | 7.5 | -    | 120.5 | 35 | 5.8  | 7GMR..., 7GR... | 1.0     | 1    |
| E10X-SNGR07-D120 | Carbide  | 1   | 2   | 12   | 1.5 | 10     | 9   | -    | 143.5 | 45 | 6.8  | 7GMR..., 7GR... | 1.0     | 1    |
| E10X-SNGR08-D140 | Carbide  | 1.5 | 3.5 | 14   | 2   | 10     | 9   | -    | 146   | -  | 7.6  | 8GMR..., 8GR... | 1.0     | 2    |
| E12X-SNGR08-D160 | Carbide  | 1.5 | 3.5 | 16   | 2   | 12     | 11  | -    | 174.8 | -  | 8.6  | 8GMR..., 8GR... | 1.0     | 2    |
| E16X-SNGR09-D200 | Carbide  | 1.5 | 3.5 | 20   | 3   | 16     | 15  | -    | 194.6 | -  | 11.6 | 9GMR..., 9GR... | 1.5     | 2    |

Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR).  
Torque\*: Recommended clamping torque (N·m)

#### SPARE PARTS

| Designation     | Clamping screw | Wrench |
|-----------------|----------------|--------|
| A**-SNGR06-D... | CSTB-2L040     | T-6F   |
| A**-SNGR07-D... | CSTB-2.2S      | T-7F   |
| A**-SNGR08-D... | CSTB-2.2       | T-7F   |
| A**-SNGR09-D... | CSTB-2.5L080   | T-8F   |
| E**-SNGR07-D... | CSTB-2.2S      | T-7F   |
| E**-SNGR08-D... | CSTB-2.2       | T-7F   |
| E**-SNGR09-D... | CSTB-2.5L080   | T-8F   |



Right hand (R) shown.

| Metric        | Material | CWN | CWX | DMIN | CDX | DCONMS | H  | LF  | LH | WF   | Insert            | Torque* | Fig. |
|---------------|----------|-----|-----|------|-----|--------|----|-----|----|------|-------------------|---------|------|
| SNGR/L08H06   | Steel    | 1   | 2   | 8    | 1.5 | 8      | 7  | 100 | 18 | 4.7  | 6GMR..., 6GR/L... | 0.7     | 1    |
| SNGR/L08H07   | Steel    | 1   | 2   | 10   | 1.5 | 8      | 7  | 100 | 23 | 5.8  | 7GMR..., 7GR/L... | 1.0     | 1    |
| SNGR/L10K07   | Steel    | 1   | 2   | 12   | 1.5 | 10     | 9  | 125 | 29 | 6.8  | 7GMR..., 7GR/L... | 1.0     | 1    |
| SNGR/L10K08   | Steel    | 1.5 | 3.5 | 14   | 2   | 10     | 9  | 125 | 15 | 7.6  | 8GMR..., 8GR/L... | 1.0     | 2    |
| SNGR/L12M08   | Steel    | 1.5 | 3.5 | 16   | 2   | 12     | 11 | 150 | 18 | 8.6  | 8GMR..., 8GR/L... | 1.0     | 2    |
| SNGR/L16Q09   | Steel    | 1.5 | 3.5 | 20   | 3   | 16     | 15 | 180 | 20 | 11.6 | 9GMR..., 9GR/L... | 1.3     | 2    |
| SNGR/L20R09   | Steel    | 1.5 | 3.5 | 24   | 3   | 20     | 18 | 200 | 25 | 13.6 | 9GMR..., 9GR/L... | 1.3     | 2    |
| SNGR/L08K06SC | Carbide  | 1   | 2   | 8    | 1.5 | 8      | 7  | 125 | 28 | 4.7  | 6GMR..., 6GR/L... | 0.7     | 1    |
| SNGR/L08K07SC | Carbide  | 1   | 2   | 10   | 1.5 | 8      | 7  | 125 | 35 | 5.8  | 7GMR..., 7GR/L... | 1.0     | 1    |
| SNGR/L10M07SC | Carbide  | 1   | 2   | 12   | 1.5 | 10     | 9  | 150 | 45 | 6.8  | 7GMR..., 7GR/L... | 1.0     | 1    |
| SNGR/L10M08SC | Carbide  | 1.5 | 3.5 | 14   | 2   | 10     | 9  | 150 | 45 | 7.6  | 8GMR..., 8GR/L... | 1.0     | 2    |
| SNGR/L12Q08SC | Carbide  | 1.5 | 3.5 | 16   | 2   | 12     | 11 | 180 | -  | 8.6  | 8GMR..., 8GR/L... | 1.0     | 2    |
| SNGR/L16R09SC | Carbide  | 1.5 | 3.5 | 20   | 3   | 16     | 15 | 200 | -  | 11.6 | 9GMR..., 9GR/L... | 1.5     | 2    |

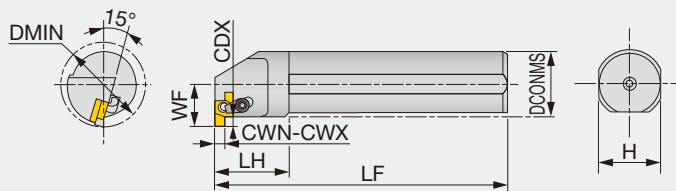
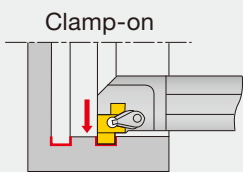
Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR), and use the left-hand insert (□GL) with the left-hand holder (□NGL).  
Torque\*: Recommended clamping torque (N·m)

#### SPARE PARTS

| Designation   | Clamping screw | Wrench |
|---------------|----------------|--------|
| SNGR/L***06   | CSTB-2L040     | T-6F   |
| SNGR/L***07   | CSTB-2.2S      | T-7F   |
| SNGR/L***08   | CSTB-2.2       | T-7F   |
| SNGR/L***09   | CSTB-2.5L080   | T-8F   |
| SNGR/L***06SC | CSTB-2L040     | T-6F   |
| SNGR/L***07SC | CSTB-2.2S      | T-7F   |
| SNGR/L***08SC | CSTB-2.2       | T-7F   |
| SNGR/L***09SC | CSTB-2.5L080   | T-8F   |

## CNGR/L

### Toolholders for internal grooving



Right hand (R) shown.

| Metric      | CWN | CWX | DMIN | CDX | DCONMS | H  | LF  | LH | WF   | Insert    | Torque* |
|-------------|-----|-----|------|-----|--------|----|-----|----|------|-----------|---------|
| CNGR/L25S15 | 2   | 5   | 32   | 5   | 25     | 23 | 250 | 30 | 18.1 | 15GR/L... | 7       |
| CNGR/L32T15 | 2   | 5   | 40   | 5   | 32     | 30 | 300 | 35 | 22.1 | 15GR/L... | 7       |
| CNGR/L40U15 | 2   | 5   | 48   | 5   | 40     | 38 | 350 | 45 | 26.1 | 15GR/L... | 7       |

Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR), and use the left-hand insert (□GL) with the left-hand holder (□NGL).  
Torque\*: Recommended clamping torque (N·m)

#### Optional parts for CNG holders

Use the following parts for screw clamp options.

#### SPARE PARTS

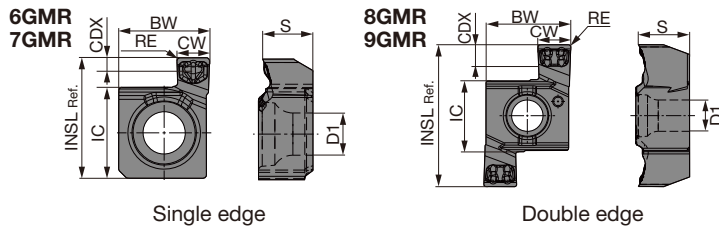
| Designation | Clamp set | Screw    | Shim    | Wrench |
|-------------|-----------|----------|---------|--------|
| CNGR...     | CSP22     | DTS5-3.5 | SGSR151 | T-20F  |
| CNGL...     | CSP22     | DTS5-3.5 | SGSL151 | T-20F  |

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| CNGR/L...   | CSTB-3.5L      | T-15F  |

Reference pages: SNGR/L, CNGR/L: Inserts → **G121, G122**, Standard cutting conditions → **G123**

# INSERTS

\*\*GMR/L



Single edge

Double edge

Right hand (R) shown.

|   |                |   |  |  |  |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

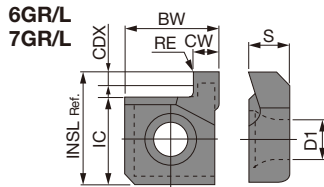
| Designation | HAND | CW±0.001<br>(in) | CW±0.025<br>(mm) | RE<br>(mm) | Coated |  |  |  |  |  | CDX<br>(mm) | BW<br>(in) | S<br>(in) | IC<br>(in) | INSL<br>(in) | D1<br>(in) |       |       |
|-------------|------|------------------|------------------|------------|--------|--|--|--|--|--|-------------|------------|-----------|------------|--------------|------------|-------|-------|
|             |      |                  |                  |            | AH7025 |  |  |  |  |  |             |            |           |            |              |            |       |       |
| 6GMR100-015 | R    | 0.039            | 1                | 0.15       | ●      |  |  |  |  |  |             |            | 1.5       | 0.219      | 0.092        | 0.187      | 0.254 | 0.091 |
| 7GMR200-020 | R    | 0.079            | 2                | 0.2        | ●      |  |  |  |  |  |             |            | 1.5       | 0.219      | 0.121        | 0.219      | 0.290 | 0.102 |
| 8GMR150-020 | R    | 0.059            | 1.5              | 0.2        | ●      |  |  |  |  |  |             |            | 2         | 0.242      | 0.152        | 0.219      | 0.400 | 0.102 |
| 9GMR200-020 | R    | 0.079            | 2                | 0.2        | ●      |  |  |  |  |  |             |            | 3         | 0.305      | 0.183        | 0.250      | 0.510 | 0.113 |
| 9GMR300-020 | R    | 0.118            | 3                | 0.2        | ●      |  |  |  |  |  |             |            | 3         | 0.305      | 0.183        | 0.250      | 0.510 | 0.113 |

● : Line up

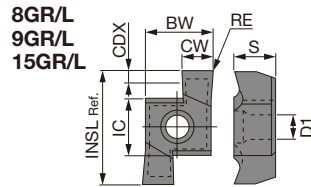
Grade  
Insert  
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Int. Toolholder  
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Miniature tool  
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**\*\*GR/L**



Single edge



Double edge

Right hand (R) shown.

|   |                |   |  |   |   |  |  |  |
|---|----------------|---|--|---|---|--|--|--|
| P | Steel          | ★ |  |   | ★ |  |  |  |
| M | Stainless      |   |  |   | ★ |  |  |  |
| K | Cast iron      | ☆ |  | ★ |   |  |  |  |
| N | Non-ferrous    |   |  | ★ |   |  |  |  |
| S | Superalloys    |   |  | ☆ |   |  |  |  |
| H | Hard materials |   |  |   |   |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | HAND | CW±0.001<br>(in) | CW±0.025<br>(mm) | RE<br>(mm) | Cermet |  | Uncoated |      | CDX<br>(mm) | BW<br>(in) | S<br>(in) | IC<br>(in) | INSL<br>(in) | D1<br>(in) |
|-------------|------|------------------|------------------|------------|--------|--|----------|------|-------------|------------|-----------|------------|--------------|------------|
|             |      |                  |                  |            | NS9530 |  | TH10     | UX30 |             |            |           |            |              |            |
| 6GR100      | R    | 0.039            | 1                | 0.2        | ●      |  | ●        |      | 1.5         | 0.220      | 0.092     | 0.187      | 0.254        | 0.091      |
| 6GL100      | L    | 0.039            | 1                | 0.2        |        |  | ●        |      | 1.5         | 0.220      | 0.092     | 0.187      | 0.254        | 0.091      |
| 6GR150      | R    | 0.059            | 1.5              | 0.2        | ●      |  | ●        | ●    | 1.5         | 0.220      | 0.092     | 0.187      | 0.254        | 0.091      |
| 6GL150      | L    | 0.059            | 1.5              | 0.2        |        |  | ●        | ●    | 1.5         | 0.220      | 0.092     | 0.187      | 0.254        | 0.091      |
| 6GR200      | R    | 0.079            | 2                | 0.2        | ●      |  | ●        | ●    | 1.5         | 0.220      | 0.092     | 0.187      | 0.254        | 0.091      |
| 6GL200      | L    | 0.079            | 2                | 0.2        |        |  | ●        | ●    | 1.5         | 0.220      | 0.092     | 0.187      | 0.254        | 0.091      |
| 7GR100      | R    | 0.039            | 1                | 0.2        | ●      |  | ●        | ●    | 1.5         | 0.220      | 0.121     | 0.219      | 0.290        | 0.102      |
| 7GR150      | R    | 0.059            | 1.5              | 0.2        | ●      |  | ●        | ●    | 1.5         | 0.220      | 0.121     | 0.219      | 0.290        | 0.102      |
| 7GR200      | R    | 0.079            | 2                | 0.2        | ●      |  | ●        | ●    | 1.5         | 0.220      | 0.121     | 0.219      | 0.290        | 0.102      |
| 7GL200      | L    | 0.079            | 2                | 0.2        |        |  | ●        | ●    | 1.5         | 0.220      | 0.121     | 0.219      | 0.290        | 0.102      |
| 8GR150      | R    | 0.059            | 1.5              | 0.2        | ●      |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GR200      | R    | 0.079            | 2                | 0.2        | ●      |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GL200      | L    | 0.079            | 2                | 0.2        |        |  | ●        |      | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GR250      | R    | 0.098            | 2.5              | 0.2        | ●      |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GL250      | L    | 0.098            | 2.5              | 0.2        |        |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GR300      | R    | 0.118            | 3                | 0.2        | ●      |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GL300      | L    | 0.118            | 3                | 0.2        |        |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 8GR350      | R    | 0.138            | 3.5              | 0.2        | ●      |  | ●        | ●    | 2           | 0.244      | 0.152     | 0.219      | 0.400        | 0.102      |
| 9GR150      | R    | 0.059            | 1.5              | 0.2        | ●      |  | ●        | ●    | 2           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GL150      | L    | 0.059            | 1.5              | 0.2        | ●      |  |          | ●    | 2           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GR200      | R    | 0.079            | 2                | 0.2        | ●      |  | ●        | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GL200      | L    | 0.079            | 2                | 0.2        | ●      |  | ●        | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GR250      | R    | 0.098            | 2.5              | 0.2        | ●      |  | ●        | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GL250      | L    | 0.098            | 2.5              | 0.2        | ●      |  |          | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GR300      | R    | 0.118            | 3                | 0.2        | ●      |  | ●        | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GL300      | L    | 0.118            | 3                | 0.2        | ●      |  | ●        | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GR350      | R    | 0.138            | 3.5              | 0.2        | ●      |  | ●        | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 9GL350      | L    | 0.138            | 3.5              | 0.2        | ●      |  |          | ●    | 3           | 0.303      | 0.183     | 0.250      | 0.510        | 0.113      |
| 15GR200     | R    | 0.079            | 2                | 0.2        | ●      |  | ●        | ●    | 3           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GR250     | R    | 0.098            | 2.5              | 0.2        | ●      |  | ●        | ●    | 3           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GR300     | R    | 0.118            | 3                | 0.2        | ●      |  | ●        | ●    | 3           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GL300     | L    | 0.118            | 3                | 0.2        |        |  |          | ●    | 3           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GR350     | R    | 0.138            | 3.5              | 0.2        | ●      |  | ●        | ●    | 3           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GR400     | R    | 0.157            | 4                | 0.2        | ●      |  | ●        | ●    | 4           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GR450     | R    | 0.177            | 4.5              | 0.2        |        |  | ●        | ●    | 4           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GL450     | L    | 0.177            | 4.5              | 0.2        |        |  | ●        |      | 4           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |
| 15GR500     | R    | 0.197            | 5                | 0.2        |        |  | ●        | ●    | 5           | 0.425      | 0.201     | 0.362      | 0.819        | 0.189      |

Note: Use the right-hand insert (□GR) with the right-hand holder (□NGR), and use the left-hand insert (□GL) with the left-hand holder (□NGL).

● : Line up

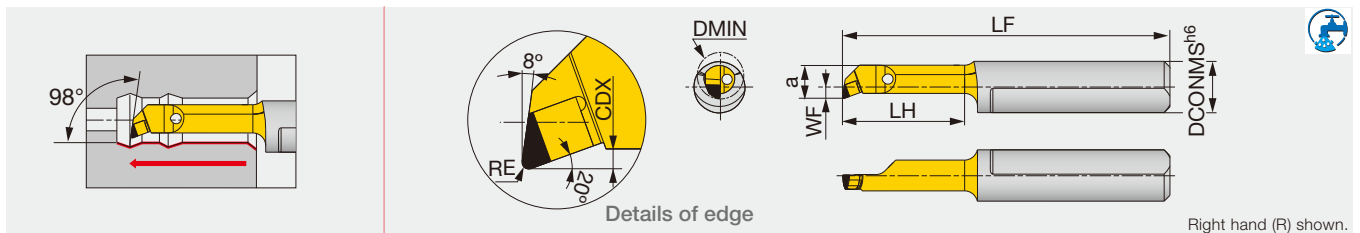
Reference pages: Toolholder → **G119, G120**, Standard cutting conditions → **G123**

# STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                   | Grade  | Cutting speed<br>Vc (sfm) | Feed rate: f (ipr) |                 |
|----------|--------------------------------------|--------|---------------------------|--------------------|-----------------|
|          |                                      |        |                           | **GMR...           | **GR/L...       |
| <b>P</b> | Carbon steel<br>1045, etc.           | AH7025 | 262 - 591                 | 0.0012 - 0.0047    | -               |
|          |                                      | NS9530 | 262 - 656                 | -                  | 0.002 - 0.0059  |
|          |                                      | UX30   | 131 - 492                 | -                  | 0.002 - 0.0059  |
|          | Alloy steel<br>4137, etc.            | AH7025 | 262 - 591                 | 0.0012 - 0.0047    | -               |
|          |                                      | NS9530 | 262 - 656                 | -                  | 0.002 - 0.0059  |
|          |                                      | UX30   | 131 - 492                 | -                  | 0.002 - 0.0059  |
| <b>M</b> | Stainless steel<br>304SS, etc.       | AH7025 | 164 - 394                 | 0.0012 - 0.0047    | -               |
|          |                                      | UX30   | 131 - 328                 | -                  | 0.0012 - 0.0039 |
| <b>K</b> | Gray cast irons<br>Class 25, etc.    | AH7025 | 164 - 722                 | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 197 - 656                 | -                  | 0.002 - 0.0059  |
|          | Ductile cast irons<br>60-40-18, etc. | AH7025 | 164 - 591                 | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 131 - 525                 | -                  | 0.002 - 0.0059  |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.   | AH7025 | 98 - 262                  | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 66 - 164                  | -                  | 0.002 - 0.0031  |
|          | Superalloys<br>Inconel718, etc.      | AH7025 | 66 - 197                  | 0.0012 - 0.0047    | -               |
|          |                                      | TH10   | 33 - 98                   | -                  | 0.0012 - 0.0031 |

## TINY<sup>INI</sup>TURN JBTR

For boring, profiling, and chamfering

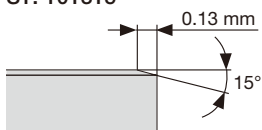


| Metric              | BX310 | DMIN | DCONMS | WF  | a    | LF   | LH  | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|---------------------|-------|------|--------|-----|------|------|-----|-----|----------------------------------|
| JBTR04060010-D028ST | ●     | 2.8  | 4      | 0.9 | 2.6  | 22   | 6   | 0.3 | 0.1                              |
| JBTR04095010-D028ST | ●     | 2.8  | 4      | 0.9 | 2.6  | 25.5 | 9.5 | 0.3 | 0.1                              |
| JBTR04070015-D040ST | ●     | 4    | 4      | 1.5 | 3.5  | 23   | 7   | 0.5 | 0.15                             |
| JBTR04110015-D040ST | ●     | 4    | 4      | 1.5 | 3.5  | 27   | 11  | 0.5 | 0.15                             |
| JBTR07090020-D050ST | ●     | 5    | 7      | 0.6 | 4.15 | 25   | 9   | 0.4 | 0.2                              |
| JBTR07140020-D050ST | ●     | 5    | 7      | 0.6 | 4.15 | 30   | 14  | 0.4 | 0.2                              |

● : Line up

### Edge preparation

ST: T01315



Reference pages : JBTR: Standard cutting conditions → G136

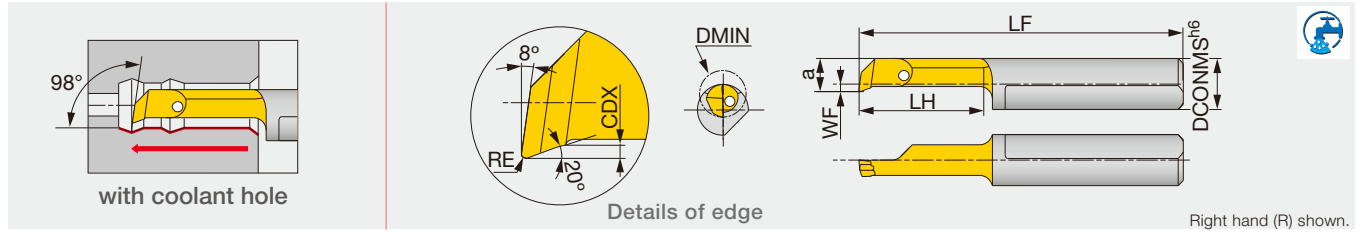
Grade  
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# TINY<sup>INI</sup>TURN

## JBTR/L

Solid boring bar for boring, profiling, and chamfering



Right hand (R) shown.

| Metric              | SH725 | SH730 | DMIN | DCONMS | WF   | a   | LF   | LH  | CDX  | RE <sup>+0.05</sup> <sub>0</sub> |
|---------------------|-------|-------|------|--------|------|-----|------|-----|------|----------------------------------|
| JBTR04020004-D006   | ●     | ▲     | 0.6  | 4      | -1.5 | 0.5 | 18.5 | 2   | 0.08 | 0.04                             |
| JBTR04030004-D006   | ●     | ▲     | 0.6  | 4      | -1.5 | 0.5 | 19.5 | 3   | 0.08 | 0.04                             |
| JBTR04045005-D010   | ●     | ▲     | 1    | 4      | -1.1 | 0.9 | 21   | 4.5 | 0.1  | 0.05                             |
| JBTR04065005-D010   | ●     | ▲     | 1    | 4      | -1.1 | 0.9 | 23   | 6.5 | 0.1  | 0.05                             |
| JBTR04040005-D020   | ●     | ▲     | 2    | 4      | -0.3 | 1.7 | 20.5 | 4   | 0.1  | 0.05                             |
| JBTR04090005-D020   | ●     | ▲     | 2    | 4      | -0.3 | 1.7 | 25.5 | 9   | 0.1  | 0.05                             |
| JBTR04140005-D020   | ●     | ▲     | 2    | 4      | -0.3 | 1.7 | 30.5 | 14  | 0.1  | 0.05                             |
| JBTR/L04090010-D028 | ●     | ▲     | 2.8  | 4      | 0.9  | 2.6 | 25.5 | 9   | 0.2  | 0.1                              |
| JBTR/L04150010-D028 | ●     | ▲     | 2.8  | 4      | 0.9  | 2.6 | 31.5 | 15  | 0.2  | 0.1                              |
| JBTR/L04190010-D028 | ●     | ▲     | 2.8  | 4      | 0.9  | 2.6 | 35.5 | 19  | 0.2  | 0.1                              |
| JBTR/L04090010-D040 | ●     | ▲     | 4    | 4      | 1.5  | 3.5 | 25.5 | 9   | 0.3  | 0.1                              |
| JBTR/L04150010-D040 | ●     | ▲     | 4    | 4      | 1.5  | 3.5 | 31.5 | 15  | 0.3  | 0.1                              |
| JBTR/L04190010-D040 | ●     | ▲     | 4    | 4      | 1.5  | 3.5 | 35.5 | 19  | 0.3  | 0.1                              |
| JBTR04230010-D040   | ●     | ▲     | 4    | 4      | 1.5  | 3.5 | 39.5 | 23  | 0.3  | 0.1                              |
| JBTR04270010-D040   | ●     | ▲     | 4    | 4      | 1.5  | 3.5 | 43.5 | 27  | 0.3  | 0.1                              |
| JBTR/L07090015-D050 | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 25   | 9   | 0.5  | 0.15                             |
| JBTR/L07140015-D050 | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 30   | 14  | 0.5  | 0.15                             |
| JBTR/L07190015-D050 | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 35   | 19  | 0.5  | 0.15                             |
| JBTR/L07240015-D050 | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 40   | 24  | 0.5  | 0.15                             |
| JBTR07290015-D050   | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 45   | 29  | 0.5  | 0.15                             |
| JBTL07290015-D050   | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 45   | 29  | 0.5  | 0.15                             |
| JBTR07340015-D050   | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 50   | 34  | 0.5  | 0.15                             |
| JBTL07340015-D050   | ●     | ▲     | 5    | 7      | 0.9  | 4.4 | 50   | 34  | 0.5  | 0.15                             |
| JBTR/L07140015-D060 | ●     | ▲     | 6    | 7      | 1.8  | 5.3 | 30   | 14  | 0.5  | 0.15                             |
| JBTR/L07210015-D060 | ●     | ▲     | 6    | 7      | 1.8  | 5.3 | 37   | 21  | 0.5  | 0.15                             |
| JBTR/L07240015-D060 | ●     | ▲     | 6    | 7      | 1.8  | 5.3 | 40   | 24  | 0.5  | 0.15                             |
| JBTR/L07290015-D060 | ●     | ▲     | 6    | 7      | 1.8  | 5.3 | 45   | 29  | 0.5  | 0.15                             |
| JBTR07340015-D060   | ●     | ▲     | 6    | 7      | 1.8  | 5.3 | 50   | 34  | 0.5  | 0.15                             |
| JBTR07410015-D060   | ●     | ▲     | 6    | 7      | 1.8  | 5.3 | 57   | 41  | 0.5  | 0.15                             |
| JBTR/L07190015-D068 | ●     | ▲     | 6.8  | 7      | 2.8  | 6.3 | 35   | 19  | 0.6  | 0.15                             |
| JBTR07240015-D068   | ●     | ▲     | 6.8  | 7      | 2.8  | 6.3 | 40   | 24  | 0.6  | 0.15                             |
| JBTR/L07290015-D068 | ●     | ▲     | 6.8  | 7      | 2.8  | 6.3 | 45   | 29  | 0.6  | 0.15                             |
| JBTR/L07340015-D070 | ●     | ▲     | 7    | 7      | 2.8  | 6.3 | 50   | 34  | 0.6  | 0.15                             |
| JBTR07390015-D070   | ●     | ▲     | 7    | 7      | 2.8  | 6.3 | 55   | 39  | 0.6  | 0.15                             |
| JBTR07440015-D070   | ●     | ▲     | 7    | 7      | 2.8  | 6.3 | 60   | 44  | 0.6  | 0.15                             |
| JBTR07490015-D070   | ●     | ▲     | 7    | 7      | 2.8  | 6.3 | 65   | 49  | 0.6  | 0.15                             |

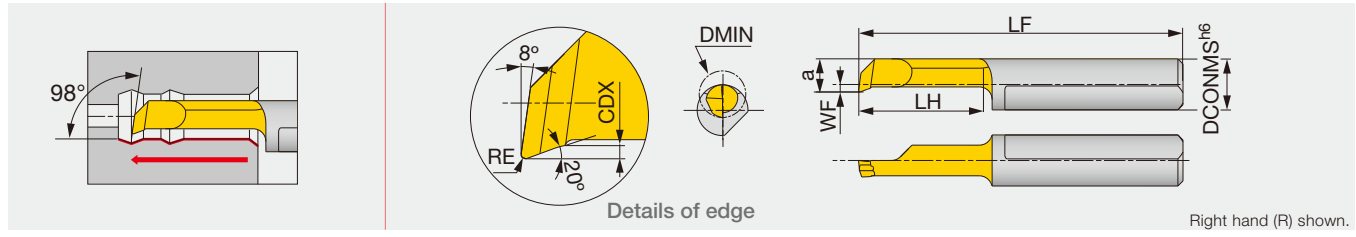
● : Line up

▲ : To be discontinued in April 2025

Reference pages : JBTR/L: Standard cutting conditions → **G136**

# TBTR/L

Solid boring bar for boring, profiling, and chamfering



| Metric              | SH725 | DMIN | DCONMS | WF   | a   | LF   | LH  | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|---------------------|-------|------|--------|------|-----|------|-----|-----|----------------------------------|
| TBTR04045005-D010   | ●     | 1    | 4      | -1.1 | 0.9 | 21   | 4.5 | 0.1 | 0.05                             |
| TBTR04065005-D010   | ●     | 1    | 4      | -1.1 | 0.9 | 23   | 6.5 | 0.1 | 0.05                             |
| TBTR04040005-D020   | ●     | 2    | 4      | -0.3 | 1.7 | 20.5 | 4   | 0.1 | 0.05                             |
| TBTR04090005-D020   | ●     | 2    | 4      | -0.3 | 1.7 | 25.5 | 9   | 0.1 | 0.05                             |
| TBTR04140005-D020   | ●     | 2    | 4      | -0.3 | 1.7 | 30.5 | 14  | 0.1 | 0.05                             |
| TBTR/L04090010-D028 | ●     | 2.8  | 4      | 0.9  | 2.6 | 25.5 | 9   | 0.2 | 0.1                              |
| TBTR04150010-D028   | ●     | 2.8  | 4      | 0.9  | 2.6 | 31.5 | 15  | 0.2 | 0.1                              |
| TBTR04190010-D028   | ●     | 2.8  | 4      | 0.9  | 2.6 | 35.5 | 19  | 0.2 | 0.1                              |
| TBTR04090010-D040   | ●     | 4    | 4      | 1.5  | 3.5 | 25.5 | 9   | 0.3 | 0.1                              |
| TBTR04150010-D040   | ●     | 4    | 4      | 1.5  | 3.5 | 31.5 | 15  | 0.3 | 0.1                              |
| TBTR04190010-D040   | ●     | 4    | 4      | 1.5  | 3.5 | 35.5 | 19  | 0.3 | 0.1                              |
| TBTR04230010-D040   | ●     | 4    | 4      | 1.5  | 3.5 | 39.5 | 23  | 0.3 | 0.1                              |
| TBTR04270010-D040   | ●     | 4    | 4      | 1.5  | 3.5 | 43.5 | 27  | 0.3 | 0.1                              |
| TBTR07090015-D050   | ●     | 5    | 7      | 0.9  | 4.4 | 25   | 9   | 0.5 | 0.15                             |
| TBTR07140015-D050   | ●     | 5    | 7      | 0.9  | 4.4 | 30   | 14  | 0.5 | 0.15                             |
| TBTR07190015-D050   | ●     | 5    | 7      | 0.9  | 4.4 | 35   | 19  | 0.5 | 0.15                             |
| TBTR07240015-D050   | ●     | 5    | 7      | 0.9  | 4.4 | 40   | 24  | 0.5 | 0.15                             |
| TBTR07290015-D050   | ●     | 5    | 7      | 0.9  | 4.4 | 45   | 29  | 0.5 | 0.15                             |
| TBTR07340015-D050   | ●     | 5    | 7      | 0.9  | 4.4 | 50   | 34  | 0.5 | 0.15                             |
| TBTR07140015-D060   | ●     | 6    | 7      | 1.8  | 5.3 | 30   | 14  | 0.5 | 0.15                             |
| TBTR/L07210015-D060 | ●     | 6    | 7      | 1.8  | 5.3 | 37   | 21  | 0.5 | 0.15                             |
| TBTR07240015-D060   | ●     | 6    | 7      | 1.8  | 5.3 | 40   | 24  | 0.5 | 0.15                             |
| TBTR07290015-D060   | ●     | 6    | 7      | 1.8  | 5.3 | 45   | 29  | 0.5 | 0.15                             |
| TBTR07340015-D060   | ●     | 6    | 7      | 1.8  | 5.3 | 50   | 34  | 0.5 | 0.15                             |
| TBTR07410015-D060   | ●     | 6    | 7      | 1.8  | 5.3 | 57   | 41  | 0.5 | 0.15                             |
| TBTR07190015-D068   | ●     | 6.8  | 7      | 2.8  | 6.3 | 35   | 19  | 0.6 | 0.15                             |
| TBTR07240015-D068   | ●     | 6.8  | 7      | 2.8  | 6.3 | 40   | 24  | 0.6 | 0.15                             |
| TBTR07290015-D068   | ●     | 6.8  | 7      | 2.8  | 6.3 | 45   | 29  | 0.6 | 0.15                             |
| TBTR07340015-D070   | ●     | 7    | 7      | 2.8  | 6.3 | 50   | 34  | 0.6 | 0.15                             |
| TBTR07390015-D070   | ●     | 7    | 7      | 2.8  | 6.3 | 55   | 39  | 0.6 | 0.15                             |
| TBTR07440015-D070   | ●     | 7    | 7      | 2.8  | 6.3 | 60   | 44  | 0.6 | 0.15                             |
| TBTR07490015-D070   | ●     | 7    | 7      | 2.8  | 6.3 | 65   | 49  | 0.6 | 0.15                             |

● : Line up

Reference pages : TBTR/L: Standard cutting conditions → G136

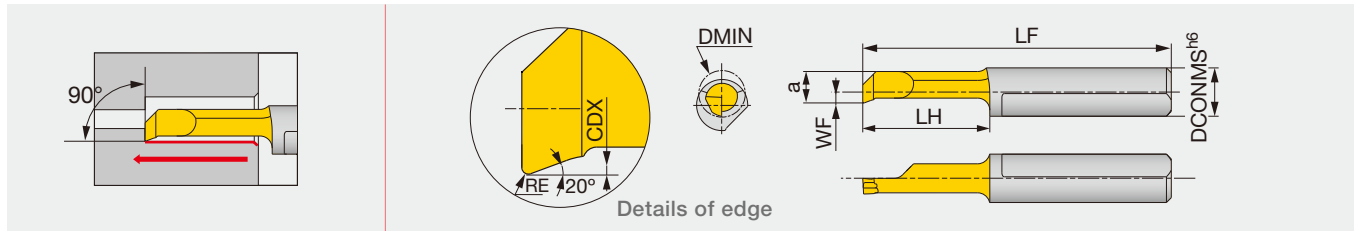
Grade  
 A  
 Insert  
 B  
 Ext. Toolholder  
 C  
 Int. Toolholder  
 D  
 Threading  
 E  
 Grooving  
 F  
 Miniature tool  
 G  
 Milling cutter  
 H  
 Endmill  
 I  
 Drilling tool  
 J  
 Tooling System  
 K  
 User's Guide  
 L  
 Index  
 M



# TINY<sup>INI</sup>TURN

## TBPR

Solid boring bar for boring and chamfering



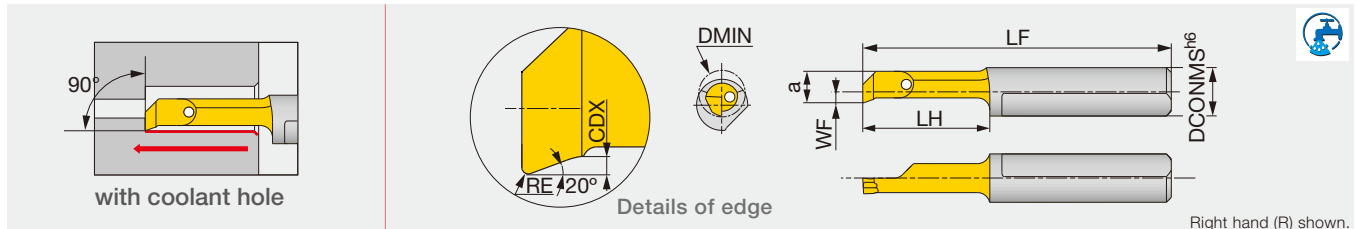
| Metric            | SH725 | DMIN | DCONMS | WF  | a   | LF   | LH | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|-------------------|-------|------|--------|-----|-----|------|----|-----|----------------------------------|
| TBPR04090010-D028 | ●     | 2.8  | 4      | 0.9 | 2.6 | 25.5 | 9  | 0.2 | 0.1                              |
| TBPR04150010-D040 | ●     | 4    | 4      | 1.5 | 3.5 | 31.5 | 15 | 0.3 | 0.1                              |
| TBPR07140015-D050 | ●     | 5    | 7      | 0.9 | 4.4 | 30   | 14 | 0.5 | 0.15                             |
| TBPR07190015-D050 | ●     | 5    | 7      | 0.9 | 4.4 | 35   | 19 | 0.5 | 0.15                             |

● : Line up



## JBPR

Solid boring bar for boring and chamfering



| Metric            | SH725 | SH730 | DMIN | DCONMS | WF  | a   | LF   | LH | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|-------------------|-------|-------|------|--------|-----|-----|------|----|-----|----------------------------------|
| JBPR04090010-D028 | ●     | ▲     | 2.8  | 4      | 0.9 | 2.6 | 25.5 | 9  | 0.2 | 0.1                              |
| JBPR04150010-D028 | ●     | ▲     | 2.8  | 4      | 0.9 | 2.6 | 31.5 | 15 | 0.2 | 0.1                              |
| JBPR04090010-D040 | ●     | ▲     | 4    | 4      | 1.5 | 3.5 | 25.5 | 9  | 0.3 | 0.1                              |
| JBPR04150010-D040 | ●     | ▲     | 4    | 4      | 1.5 | 3.5 | 31.5 | 15 | 0.3 | 0.1                              |
| JBPR07140015-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 30   | 14 | 0.5 | 0.15                             |
| JBPR07190015-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 35   | 19 | 0.5 | 0.15                             |

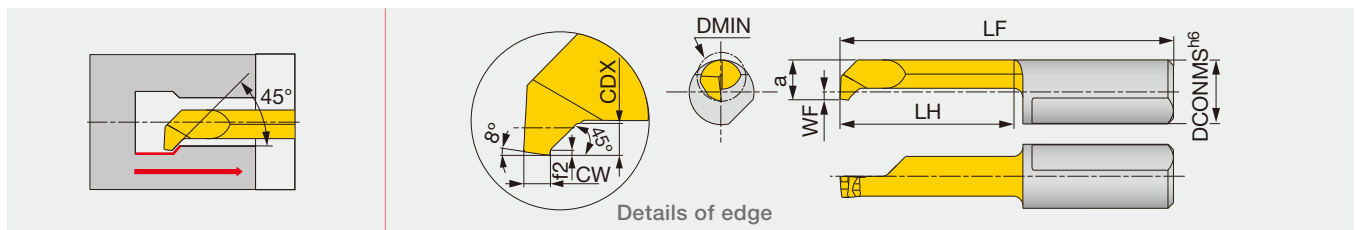
Right hand (R) shown.

● : Line up

▲ : To be discontinued in April 2025

## TBUR

Solid boring bar for back boring and chamfering



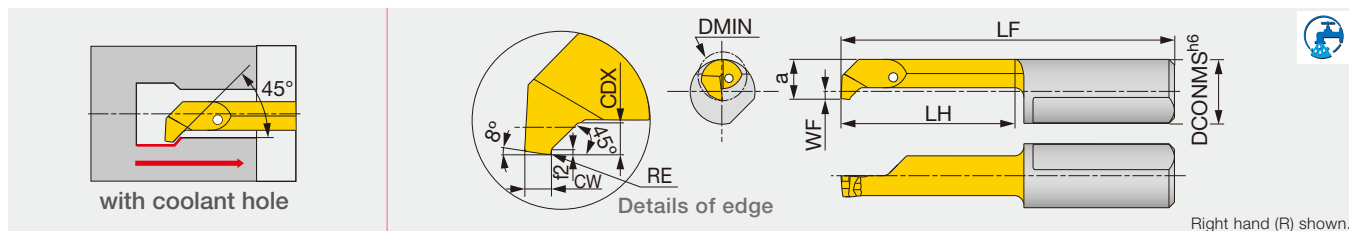
| Metric            | SH725 | DMIN | DCONMS | WF  | a   | LF | LH | f2  | CDX | CW <sup>+0.05</sup> <sub>0</sub> |
|-------------------|-------|------|--------|-----|-----|----|----|-----|-----|----------------------------------|
| TBUR07140010-D050 | ●     | 5    | 7      | 0.9 | 4.4 | 30 | 14 | 0.2 | 1   | 1                                |
| TBUR07190010-D050 | ●     | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 0.2 | 1   | 1                                |

● : Line up

Reference pages : TBPR, JBPR, TBUR: Standard cutting conditions → **G136**

## JBUR

Solid boring bar for back boring and chamfering

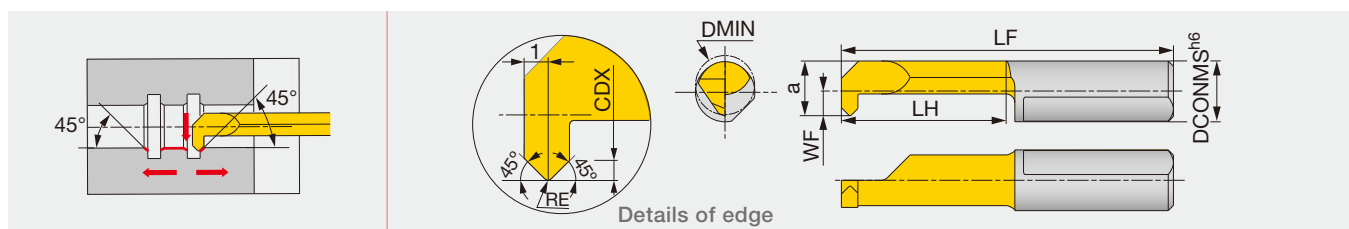


| Metric            | SH725 | SH730 | DMIN | DCONMS | WF  | a   | LF | LH | f2  | CDX | CW <sup>+0.05</sup> <sub>0</sub> | RE  |
|-------------------|-------|-------|------|--------|-----|-----|----|----|-----|-----|----------------------------------|-----|
| JBUR07140010-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 30 | 14 | 0.2 | 1   | 1                                | 0.1 |
| JBUR07190010-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 0.2 | 1   | 1                                | 0.1 |

● : Line up  
 ▲ : To be discontinued in April 2025

## TBCR

Solid boring bar for boring and 45° chamfering

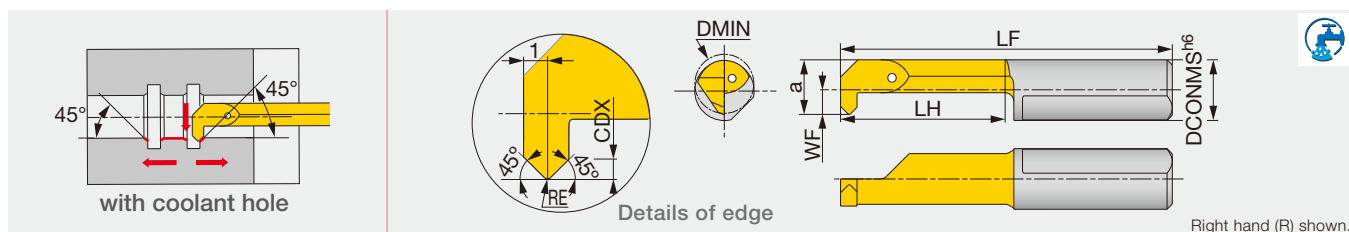


| Metric            | SH725 | DMIN | DCONMS | WF  | a   | LF | LH | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|-------------------|-------|------|--------|-----|-----|----|----|-----|----------------------------------|
| TBCR07140020-D050 | ●     | 5    | 7      | 0.9 | 4.4 | 30 | 14 | 0.7 | 0.2                              |
| TBCR07190020-D068 | ●     | 6.8  | 7      | 2.8 | 6.3 | 35 | 19 | 0.7 | 0.2                              |

● : Line up

## JBCR

Solid boring bar for boring and 45° chamfering



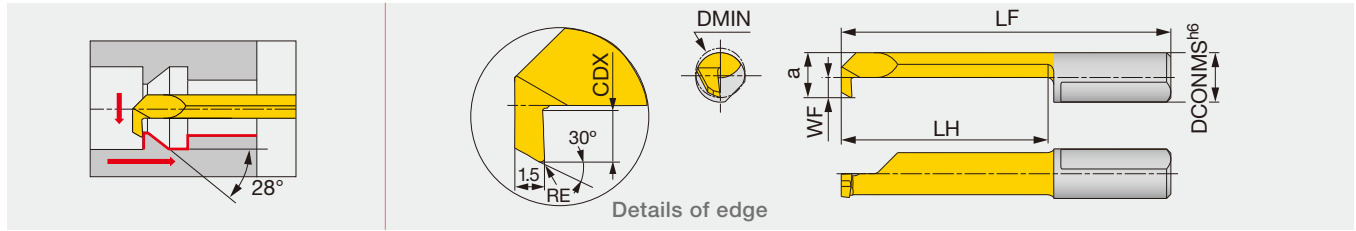
| Metric            | SH725 | SH730 | DMIN | DCONMS | WF  | a   | LF | LH | CDX | RE <sup>±0.05</sup> |
|-------------------|-------|-------|------|--------|-----|-----|----|----|-----|---------------------|
| JBCR07140020-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 30 | 14 | 0.7 | 0.2                 |
| JBCR07190020-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 0.7 | 0.2                 |
| JBCR07190020-D068 | ●     | ▲     | 6.8  | 7      | 2.8 | 6.3 | 35 | 19 | 0.7 | 0.2                 |

● : Line up  
 ▲ : To be discontinued in April 2025

# TINY<sup>INI</sup>TURN

## TBBR

Solid boring bar for back boring

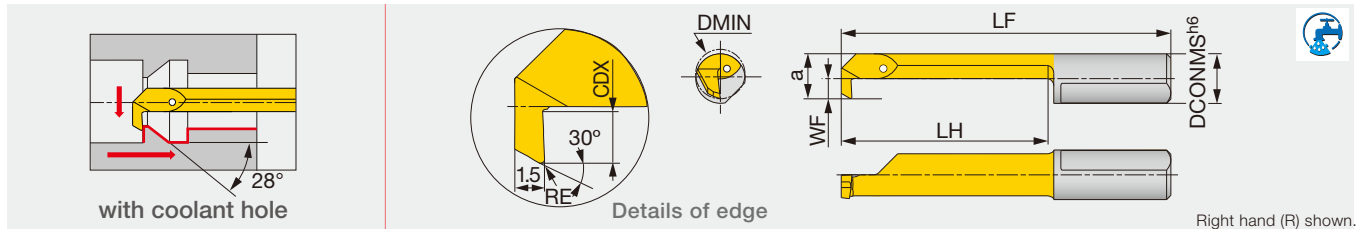


| Metric            | SH725 | DMIN | DCONMS | WF  | a   | LF | LH | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|-------------------|-------|------|--------|-----|-----|----|----|-----|----------------------------------|
| TBBR04140020-D030 | ●     | 3    | 4      | 0.6 | 2.6 | 30 | 14 | 0.5 | 0.2                              |
| TBBR04140015-D040 | ●     | 4    | 4      | 1.5 | 3.5 | 30 | 14 | 0.8 | 0.15                             |
| TBBR07190020-D050 | ●     | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 1   | 0.2                              |

● : Line up

## JBBR

Solid boring bar for back boring



Right hand (R) shown.

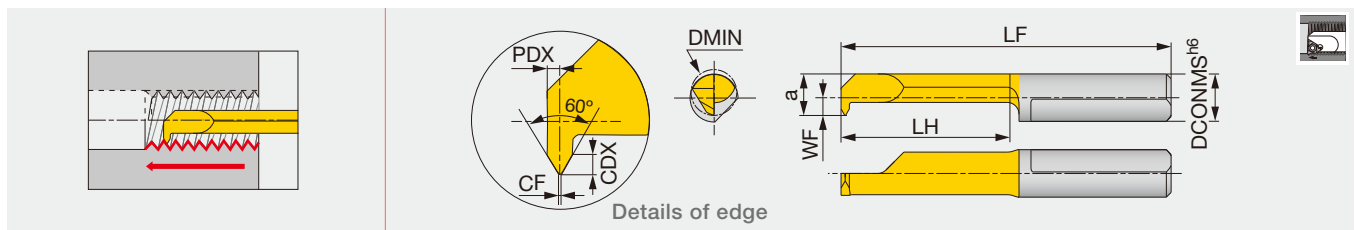
| Metric            | SH725 | SH730 | DMIN | DCONMS | WF  | a   | LF | LH | CDX | RE <sup>+0.05</sup> <sub>0</sub> |
|-------------------|-------|-------|------|--------|-----|-----|----|----|-----|----------------------------------|
| JBBR04140020-D030 | ●     | ▲     | 3    | 4      | 0.6 | 2.6 | 30 | 14 | 0.5 | 0.2                              |
| JBBR04190020-D030 | ●     | ▲     | 3    | 4      | 0.6 | 2.6 | 35 | 19 | 0.5 | 0.2                              |
| JBBR04140015-D040 | ●     | ▲     | 4    | 4      | 1.5 | 3.5 | 30 | 14 | 0.8 | 0.15                             |
| JBBR04240015-D040 | ●     | ▲     | 4    | 4      | 1.5 | 3.5 | 40 | 24 | 0.8 | 0.15                             |
| JBBR07190020-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 1   | 0.2                              |
| JBBR07290020-D050 | ●     | ▲     | 5    | 7      | 0.9 | 4.4 | 45 | 29 | 1   | 0.2                              |
| JBBR07190020-D060 | ●     | ▲     | 6    | 7      | 1.8 | 5.3 | 35 | 19 | 1.8 | 0.2                              |
| JBBR07290020-D060 | ●     | ▲     | 6    | 7      | 1.8 | 5.3 | 45 | 29 | 1.8 | 0.2                              |
| JBBR07190020-D070 | ●     | ▲     | 7    | 7      | 2.8 | 6.3 | 35 | 19 | 2.5 | 0.2                              |
| JBBR07290020-D070 | ●     | ▲     | 7    | 7      | 2.8 | 6.3 | 45 | 29 | 2.5 | 0.2                              |

● : Line up

▲ : To be discontinued in April 2025

## TBIR

Solid boring bar for threading (metric)



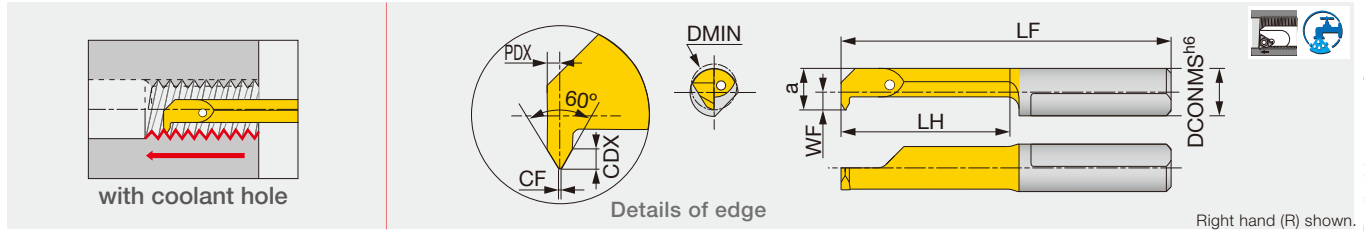
| Metric            | SH725 | Pitch | DMIN | CF <sup>0</sup> <sub>-0.02</sub> | DCONMS | WF  | a   | LF | LH | CDX | PDX  |
|-------------------|-------|-------|------|----------------------------------|--------|-----|-----|----|----|-----|------|
| TBIR04140050-D040 | ●     | 0.5   | 4    | 0.06                             | 4      | 1.5 | 3.5 | 30 | 14 | 0.3 | 0.35 |
| TBIR07140050-D050 | ●     | 0.5   | 5    | 0.06                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.3 | 0.35 |
| TBIR07140075-D050 | ●     | 0.75  | 5    | 0.09                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.4 | 0.45 |
| TBIR07140100-D048 | ●     | 1     | 4.8  | 0.12                             | 7      | 0.9 | 4.4 | 30 | 14 | 0.6 | 0.55 |
| TBIR07140100-D060 | ●     | 1     | 6    | 0.12                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.6 | 0.55 |
| TBIR07140150-D060 | ●     | 1.5   | 6    | 0.18                             | 7      | 1.8 | 5.3 | 30 | 14 | 0.8 | 0.75 |

● : Line up

Reference pages : TBBR, JBBR, TBIR: Standard cutting conditions → **G136**

## JBIR

Solid boring bar for threading (metric)

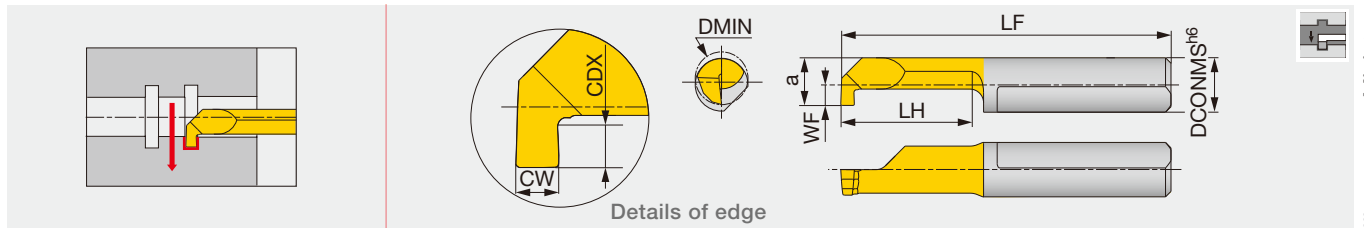


| Metric            | SH725 | SH730 | Pitch | DMIN | CF <sub>0.02</sub> | DCONMS | WF  | a   | LF | LH | CDX | PDX  |
|-------------------|-------|-------|-------|------|--------------------|--------|-----|-----|----|----|-----|------|
| JBIR04140050-D040 | ●     | ▲     | 0.5   | 4    | 0.06               | 4      | 1.5 | 3.5 | 30 | 14 | 0.3 | 0.35 |
| JBIR07140050-D050 | ●     | ▲     | 0.5   | 5    | 0.06               | 7      | 0.9 | 4.4 | 30 | 14 | 0.3 | 0.35 |
| JBIR07140075-D050 | ●     | ▲     | 0.75  | 5    | 0.09               | 7      | 0.9 | 4.4 | 30 | 14 | 0.4 | 0.45 |
| JBIR07140100-D048 | ●     | ▲     | 1     | 4.8  | 0.12               | 7      | 0.9 | 4.4 | 30 | 14 | 0.6 | 0.55 |
| JBIR07140100-D060 | ●     | ▲     | 1     | 6    | 0.12               | 7      | 1.8 | 5.3 | 30 | 14 | 0.6 | 0.55 |
| JBIR07140125-D060 | ●     | ▲     | 1.25  | 6    | 0.15               | 7      | 1.8 | 5.3 | 30 | 14 | 0.7 | 0.65 |
| JBIR07140150-D060 | ●     | ▲     | 1.5   | 6    | 0.18               | 7      | 1.8 | 5.3 | 30 | 14 | 0.8 | 0.75 |
| JBIR07140150-D070 | ●     | ▲     | 1.5   | 7    | 0.18               | 7      | 2.8 | 6.3 | 30 | 14 | 0.8 | 0.75 |

● : Line up  
▲ : To be discontinued in April 2025

## TBGR

Solid boring bar for internal grooving



| Metric            | SH725 | CW <sub>0</sub> <sup>+0.05</sup> | DMIN | DCONMS | WF   | a   | LF   | LH | CDX |
|-------------------|-------|----------------------------------|------|--------|------|-----|------|----|-----|
| TBGR04100050-D020 | ●     | 0.5                              | 2    | 4      | -0.2 | 1.8 | 26   | 10 | 0.4 |
| TBGR04090100-D040 | ●     | 1                                | 4    | 4      | 1.5  | 3.5 | 25.5 | 9  | 0.8 |
| TBGR04150100-D040 | ●     | 1                                | 4    | 4      | 1.5  | 3.5 | 31.5 | 15 | 0.8 |
| TBGR07090200-D050 | ●     | 2                                | 5    | 7      | 0.9  | 4.4 | 25   | 9  | 1   |
| TBGR07090100-D060 | ●     | 1                                | 6    | 7      | 1.8  | 5.3 | 25   | 9  | 1.8 |
| TBGR07140100-D060 | ●     | 1                                | 6    | 7      | 1.8  | 5.3 | 30   | 14 | 1.8 |
| TBGR07090150-D060 | ●     | 1.5                              | 6    | 7      | 1.8  | 5.3 | 25   | 9  | 1.8 |
| TBGR07090200-D060 | ●     | 2                                | 6    | 7      | 1.8  | 5.3 | 25   | 9  | 1.8 |
| TBGR07140200-D060 | ●     | 2                                | 6    | 7      | 1.8  | 5.3 | 30   | 14 | 1.8 |
| TBGR07090100-D068 | ●     | 1                                | 6.8  | 7      | 2.7  | 6.2 | 25   | 9  | 2.5 |
| TBGR07090150-D068 | ●     | 1.5                              | 6.8  | 7      | 2.7  | 6.2 | 25   | 9  | 2.5 |
| TBGR07140150-D068 | ●     | 1.5                              | 6.8  | 7      | 2.7  | 6.2 | 30   | 14 | 2.5 |
| TBGR07090200-D068 | ●     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 25   | 9  | 2.5 |
| TBGR07140200-D068 | ●     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 30   | 14 | 2.5 |
| TBGR07210200-D068 | ●     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 37   | 21 | 2.5 |
| TBGR07290200-D068 | ●     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 45   | 29 | 2.5 |

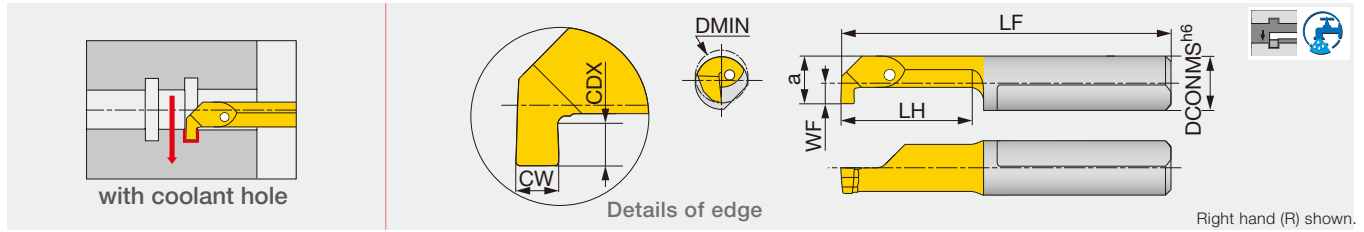
Corner radius : less than 0.1 mm.

● : Line up

# TINY<sup>INI</sup>TURN

## JBGR/L

Solid boring bar for internal grooving



Right hand (R) shown.

| Metric              | SH725 | SH730 | CW <sup>+0.05</sup> <sub>0</sub> | DMIN | DCONMS | WF   | a   | LF   | LH | CDX |
|---------------------|-------|-------|----------------------------------|------|--------|------|-----|------|----|-----|
| JBGR04050050-D020   | ●     | ▲     | 0.5                              | 2    | 4      | -0.2 | 1.8 | 21   | 5  | 0.4 |
| JBGR04100050-D020   | ●     | ▲     | 0.5                              | 2    | 4      | -0.2 | 1.8 | 26   | 10 | 0.4 |
| JBGR04050070-D030   | ●     | ▲     | 0.7                              | 3    | 4      | 0.7  | 2.7 | 21   | 5  | 0.6 |
| JBGR04100070-D030   | ●     | ▲     | 0.7                              | 3    | 4      | 0.7  | 2.7 | 26   | 10 | 0.6 |
| JBGR04090100-D040   | ●     | ▲     | 1                                | 4    | 4      | 1.5  | 3.5 | 25.5 | 9  | 0.8 |
| JBGR04150100-D040   | ●     | ▲     | 1                                | 4    | 4      | 1.5  | 3.5 | 31.5 | 15 | 0.8 |
| JBGR07090100-D050   | ●     | ▲     | 1                                | 5    | 7      | 0.9  | 4.4 | 25   | 9  | 1   |
| JBGR07140100-D050   | ●     | ▲     | 1                                | 5    | 7      | 0.9  | 4.4 | 30   | 14 | 1   |
| JBGR07090150-D050   | ●     | ▲     | 1.5                              | 5    | 7      | 0.9  | 4.4 | 25   | 9  | 1   |
| JBGR07140150-D050   | ●     | ▲     | 1.5                              | 5    | 7      | 0.9  | 4.4 | 30   | 14 | 1   |
| JBGR07090200-D050   | ●     | ▲     | 2                                | 5    | 7      | 0.9  | 4.4 | 25   | 9  | 1   |
| JBGR07190200-D050   | ●     | ▲     | 2                                | 5    | 7      | 0.9  | 4.4 | 35   | 19 | 1   |
| JBGR/L07090100-D060 | ●     | ▲     | 1                                | 6    | 7      | 1.8  | 5.3 | 25   | 9  | 1.8 |
| JBGR07140100-D060   | ●     | ▲     | 1                                | 6    | 7      | 1.8  | 5.3 | 30   | 14 | 1.8 |
| JBGR07210100-D060   | ●     | ▲     | 1                                | 6    | 7      | 1.8  | 5.3 | 37   | 21 | 1.8 |
| JBGR07290100-D060   | ●     | ▲     | 1                                | 6    | 7      | 1.8  | 5.3 | 45   | 29 | 1.8 |
| JBGR/L07090150-D060 | ●     | ▲     | 1.5                              | 6    | 7      | 1.8  | 5.3 | 25   | 9  | 1.8 |
| JBGR07140150-D060   | ●     | ▲     | 1.5                              | 6    | 7      | 1.8  | 5.3 | 30   | 14 | 1.8 |
| JBGR07210150-D060   | ●     | ▲     | 1.5                              | 6    | 7      | 1.8  | 5.3 | 37   | 21 | 1.8 |
| JBGR07240150-D060   | ●     | ▲     | 1.5                              | 6    | 7      | 1.8  | 5.3 | 40   | 24 | 1.8 |
| JBGR07290150-D060   | ●     | ▲     | 1.5                              | 6    | 7      | 1.8  | 5.3 | 45   | 29 | 1.8 |
| JBGR07090200-D060   | ●     | ▲     | 2                                | 6    | 7      | 1.8  | 5.3 | 25   | 9  | 1.8 |
| JBGR07140200-D060   | ●     | ▲     | 2                                | 6    | 7      | 1.8  | 5.3 | 30   | 14 | 1.8 |
| JBGR07210200-D060   | ●     | ▲     | 2                                | 6    | 7      | 1.8  | 5.3 | 37   | 21 | 1.8 |
| JBGR07240200-D060   | ●     | ▲     | 2                                | 6    | 7      | 1.8  | 5.3 | 40   | 24 | 1.8 |
| JBGR07290200-D060   | ●     | ▲     | 2                                | 6    | 7      | 1.8  | 5.3 | 45   | 29 | 1.8 |
| JBGR07090100-D068   | ●     | ▲     | 1                                | 6.8  | 7      | 2.7  | 6.2 | 25   | 9  | 2.5 |
| JBGR07140100-D068   | ●     | ▲     | 1                                | 6.8  | 7      | 2.7  | 6.2 | 30   | 14 | 2.5 |
| JBGR07210100-D068   | ●     | ▲     | 1                                | 6.8  | 7      | 2.7  | 6.2 | 37   | 21 | 2.5 |
| JBGR07090150-D068   | ●     | ▲     | 1.5                              | 6.8  | 7      | 2.7  | 6.2 | 25   | 9  | 2.5 |
| JBGR07140150-D068   | ●     | ▲     | 1.5                              | 6.8  | 7      | 2.7  | 6.2 | 30   | 14 | 2.5 |
| JBGR07210150-D068   | ●     | ▲     | 1.5                              | 6.8  | 7      | 2.7  | 6.2 | 37   | 21 | 2.5 |
| JBGR07290150-D068   | ●     | ▲     | 1.5                              | 6.8  | 7      | 2.7  | 6.2 | 45   | 29 | 2.5 |
| JBGR07090200-D068   | ●     | ▲     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 25   | 9  | 2.5 |
| JBGR/L07140200-D068 | ●     | ▲     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 30   | 14 | 2.5 |
| JBGR07210200-D068   | ●     | ▲     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 37   | 21 | 2.5 |
| JBGR07250200-D068   | ●     | ▲     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 40   | 24 | 2.5 |
| JBGR07290200-D068   | ●     | ▲     | 2                                | 6.8  | 7      | 2.7  | 6.2 | 45   | 29 | 2.5 |

Corner radius: less than 0.1 mm

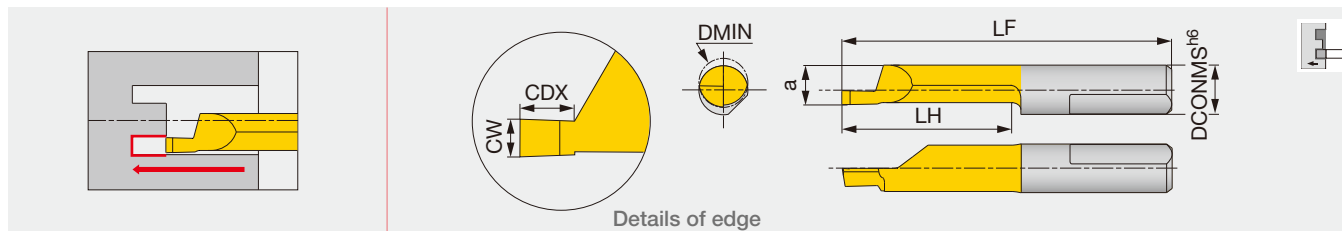
● : Line up

▲ : To be discontinued in April 2025

Reference pages : JBGR/L: Standard cutting conditions → **G136**

## TBFR

### Solid boring bar for face grooving



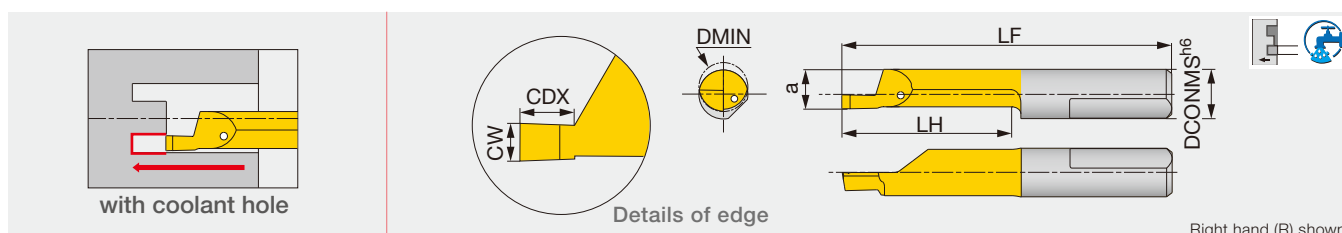
| Metric            | SH725 | CW <sup>+0.05</sup> <sub>0</sub> | DMIN | DCONMS | a   | LF | LH | CDX |
|-------------------|-------|----------------------------------|------|--------|-----|----|----|-----|
| TBFR07110100-D060 | ●     | 1                                | 6    | 7      | 5.2 | 26 | 10 | 1.5 |
| TBFR07110200-D060 | ●     | 2                                | 6    | 7      | 5.2 | 26 | 10 | 3   |
| TBFR07110100-D080 | ●     | 1                                | 8    | 7      | 5.9 | 27 | 11 | 1.5 |
| TBFR07110250-D080 | ●     | 2.5                              | 8    | 7      | 5.9 | 27 | 11 | 3.5 |
| TBFR07300300-D080 | ●     | 3                                | 8    | 7      | 5.9 | 46 | 30 | 3.5 |
| TBFR07200250-D150 | ●     | 2.5                              | 15   | 7      | 5.9 | 36 | 20 | 20  |
| TBFR07200300-D150 | ●     | 3                                | 15   | 7      | 5.9 | 36 | 20 | 20  |
| TBFR07300300-D150 | ●     | 3                                | 15   | 7      | 5.9 | 46 | 30 | 30  |

Corner radius : less than 0.1 mm.

● : Line up

## JBFR/L

### Solid boring bar for face grooving



Right hand (R) shown.

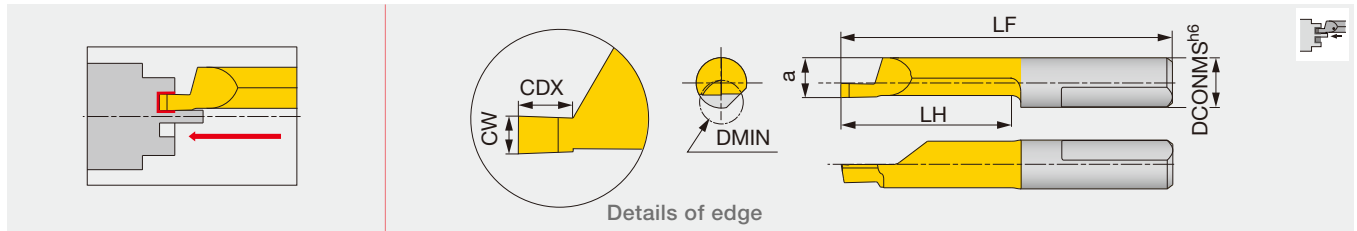
| Metric              | SH725 | SH730 | CW <sup>+0.05</sup> <sub>0</sub> | DMIN | DCONMS | a   | LF | LH | CDX |
|---------------------|-------|-------|----------------------------------|------|--------|-----|----|----|-----|
| JBFR07110100-D060   | ●     | ▲     | 1                                | 6    | 7      | 5.2 | 27 | 10 | 1.5 |
| JBFR07110150-D060   | ●     | ▲     | 1.5                              | 6    | 7      | 5.2 | 27 | 10 | 2   |
| JBFR07110200-D060   | ●     | ▲     | 2                                | 6    | 7      | 5.2 | 27 | 10 | 3   |
| JBFR07110100-D080   | ●     | ▲     | 1                                | 8    | 7      | 5.9 | 27 | 11 | 1.5 |
| JBFR07110150-D080   | ●     | ▲     | 1.5                              | 8    | 7      | 5.9 | 27 | 11 | 2.5 |
| JBFR07110200-D080   | ●     | ▲     | 2                                | 8    | 7      | 5.9 | 27 | 11 | 3   |
| JBFR07110250-D080   | ●     | ▲     | 2.5                              | 8    | 7      | 5.9 | 27 | 11 | 3.5 |
| JBFR07110300-D080   | ●     | ▲     | 3                                | 8    | 7      | 5.9 | 27 | 11 | 3.5 |
| JBFR/L07210150-D080 | ●     | ▲     | 1.5                              | 8    | 7      | 5.9 | 36 | 21 | 2.5 |
| JBFR07210200-D080   | ●     | ▲     | 2                                | 8    | 7      | 5.9 | 36 | 21 | 3   |
| JBFR07210250-D080   | ●     | ▲     | 2.5                              | 8    | 7      | 5.9 | 36 | 21 | 3.5 |
| JBFR07210300-D080   | ●     | ▲     | 3                                | 8    | 7      | 5.9 | 36 | 21 | 3.5 |
| JBFR/L07300200-D080 | ●     | ▲     | 2                                | 8    | 7      | 5.9 | 46 | 30 | 3   |
| JBFR07300300-D080   | ●     | ▲     | 3                                | 8    | 7      | 5.9 | 46 | 30 | 3.5 |
| JBFR07200200-D080   | ●     | ▲     | 2                                | 8    | 7      | 5.9 | 36 | 20 | 3   |
| JBFR07200250-D150   | ●     | ▲     | 2.5                              | 15   | 7      | 5.9 | 36 | 20 | 20  |
| JBFR07200300-D150   | ●     | ▲     | 3                                | 15   | 7      | 5.9 | 36 | 20 | 20  |
| JBFR07300300-D150   | ●     | ▲     | 3                                | 15   | 7      | 5.9 | 46 | 30 | 30  |

Corner radius : less than 0.1 mm

● : Line up

▲ : To be discontinued in April 2025

Solid boring bar for face grooving (for shaft)



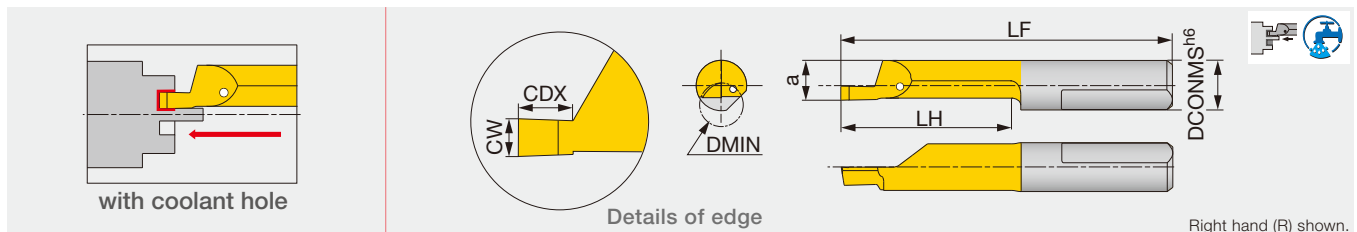
| Metric            | SH725 | $CW^{+0.05}_0$ | DMIN | DCONMS | a   | LF | LH | CDX |
|-------------------|-------|----------------|------|--------|-----|----|----|-----|
| TBSR07200200-D060 | ●     | 2              | 6    | 7      | 5.2 | 36 | 20 | 4   |

Corner radius : less than 0.1 mm.

● : Line up

## JBSR

Solid boring bar for face grooving (for shaft)



| Metric            | SH725 | SH730 | $CW^{+0.05}_0$ | DMIN | DCONMS | a   | LF | LH | CDX |
|-------------------|-------|-------|----------------|------|--------|-----|----|----|-----|
| JBSR07200200-D060 | ●     | ▲     | 2              | 6    | 7      | 5.2 | 36 | 20 | 4   |

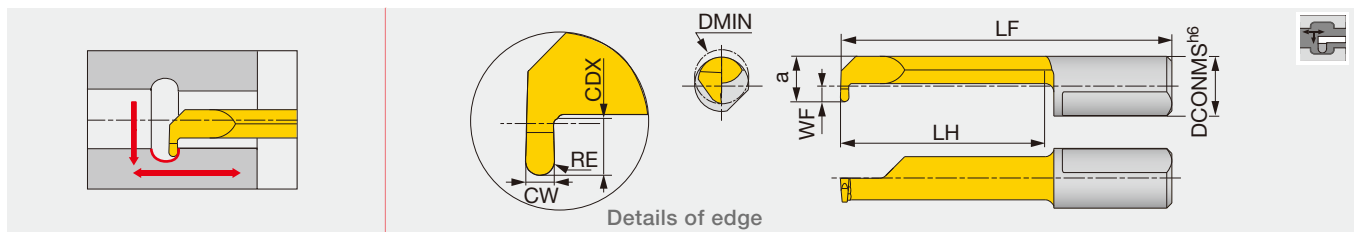
Corner radius: less than 0.1 mm

● : Line up

▲ : To be discontinued in April 2025

## TBRR

Solid boring bar for boring and profiling

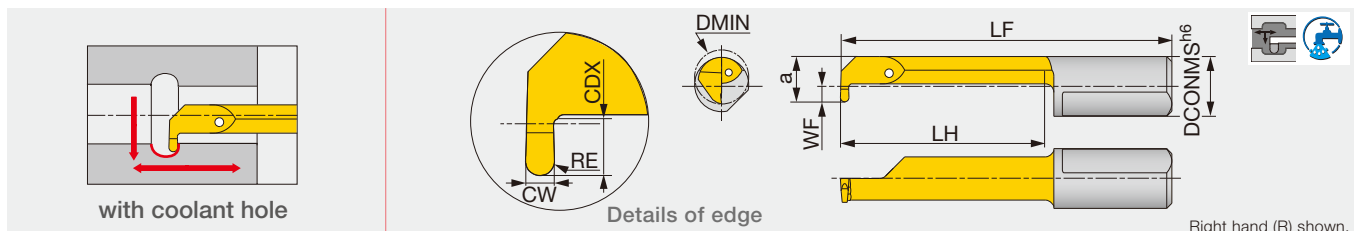


| Metric            | SH725 | $CW^{+0.05}_0$ | DMIN | DCONMS | WF  | a   | LF | LH | CDX | RE  |
|-------------------|-------|----------------|------|--------|-----|-----|----|----|-----|-----|
| TBRR07190050-D050 | ●     | 1              | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 1   | 0.5 |
| TBRR07240050-D060 | ●     | 1              | 6    | 7      | 1.8 | 5.3 | 40 | 24 | 1.8 | 0.5 |
| TBRR07290050-D068 | ●     | 1              | 6.8  | 7      | 2.8 | 6.3 | 45 | 29 | 2.5 | 0.5 |

● : Line up

## JBRR

Solid boring bar for boring and profiling



| Metric            | SH725 | SH730 | $CW^{+0.05}_0$ | DMIN | DCONMS | WF  | a   | LF | LH | CDX | RE  |
|-------------------|-------|-------|----------------|------|--------|-----|-----|----|----|-----|-----|
| JBRR07190050-D050 | ●     | ▲     | 1              | 5    | 7      | 0.9 | 4.4 | 35 | 19 | 1   | 0.5 |
| JBRR07240050-D060 | ●     | ▲     | 1              | 6    | 7      | 1.8 | 5.3 | 40 | 24 | 1.8 | 0.5 |
| JBRR07290050-D068 | ●     | ▲     | 1              | 6.8  | 7      | 2.8 | 6.3 | 45 | 29 | 2.5 | 0.5 |

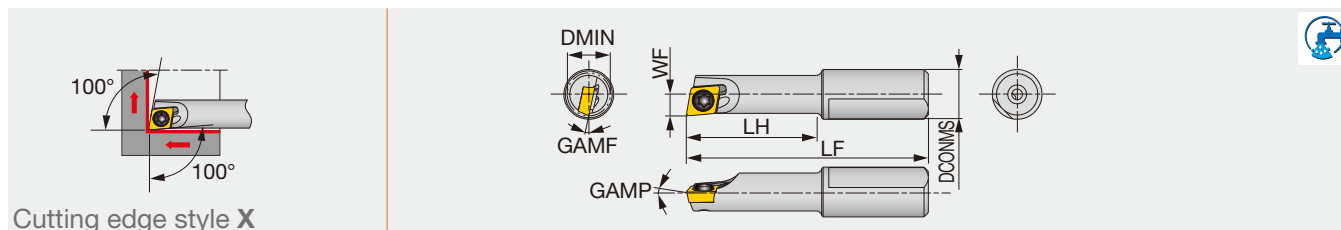
● : Line up

▲ : To be discontinued in April 2025

Reference pages : TBSR, JBSR, TBRR, JBRR: Standard cutting conditions → **G136**

## A/E-SEXPR

Screw-on boring bar, for positive 75° rhombic inserts

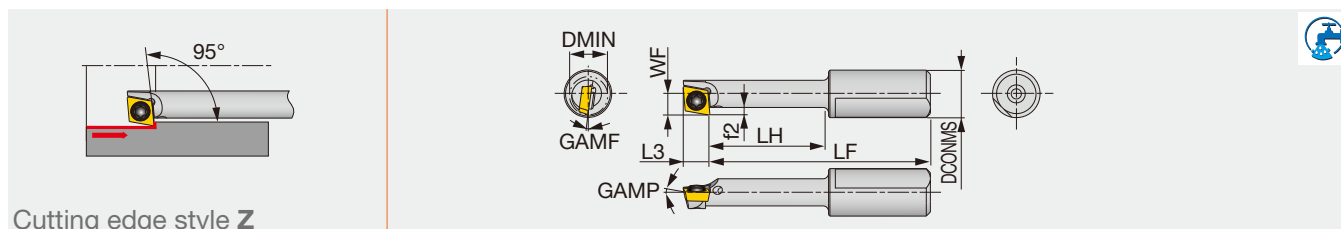


| Metric           | Material | DMIN | DCONMS | WF  | LF | LH | GAMP | GAMF | RE** | Insert      | Torque* |
|------------------|----------|------|--------|-----|----|----|------|------|------|-------------|---------|
| A07050-SEXPR03-3 | Steel    | 5    | 7      | 2.5 | 31 | 15 | 0°   | -13° | 0.2  | EPGT03X1... | 0.6     |
| A07060-SEXPR04-3 | Steel    | 6    | 7      | 3.1 | 34 | 18 | 0°   | -12° | 0.2  | EPGT0401... | 0.6     |
| E07050-SEXPR03-4 | Carbide  | 5    | 7      | 2.5 | 37 | 20 | 0°   | -13° | 0.2  | EPGT03X1... | 0.6     |
| E07050-SEXPR03-5 | Carbide  | 5    | 7      | 2.5 | 42 | 25 | 0°   | -13° | 0.2  | EPGT03X1... | 0.6     |
| E07060-SEXPR04-5 | Carbide  | 6    | 7      | 3.1 | 46 | 30 | 0°   | -12° | 0.2  | EPGT0401... | 0.6     |

\*Torque: Recommended clamping torque (N·m)  
 \*\*RE : Standard corner radius  
 Note: Use right-hand toolholders (SEXPR\*\*) with left-hand inserts (L).

## A/E-SEZPR

Screw-on boring bar, for positive 75° rhombic inserts



| Metric           | Material | DMIN | DCONMS | WF  | LF   | LH   | f2  | L3  | GAMP | GAMF | RE** | Insert      | Torque* |
|------------------|----------|------|--------|-----|------|------|-----|-----|------|------|------|-------------|---------|
| A07055-SEZPR03-3 | Steel    | 5.5  | 7      | 3.2 | 32.5 | 16.5 | 1.2 | 3.9 | 0°   | -8°  | 0.2  | EPGT03X1... | 0.6     |
| E07055-SEZPR03-5 | Carbide  | 5.5  | 7      | 3.2 | 44.7 | 27.5 | 1.2 | 3.9 | 0°   | -8°  | 0.2  | EPGT03X1... | 0.6     |

\*Torque: Recommended clamping torque (N·m)  
 \*\*RE : Standard corner radius  
 Note: Use right-hand toolholders (SEZPR\*\*) with right-hand inserts (R).

| SPARE PARTS    |                |        |
|----------------|----------------|--------|
| Designation    | Clamping screw | Wrench |
| A/E070**03-... | CSTA-1.6       | T-6F   |
| A/E070**04-... | CSTB-2         | T-6F   |

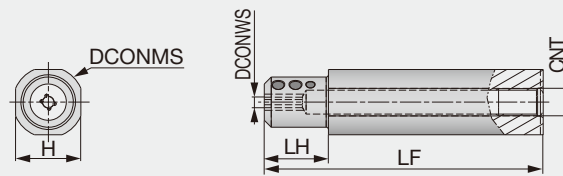
## INSERT SELECTION

|          |                    |                     |           |                    |                    |                     |                    |           |          |                    |           |
|----------|--------------------|---------------------|-----------|--------------------|--------------------|---------------------|--------------------|-----------|----------|--------------------|-----------|
| <b>P</b> | Application        | Finishing           | <b>M</b>  | Application        | Finishing          | <b>K</b>            | Application        | Finishing | <b>S</b> | Application        | Finishing |
|          | Grade              | SH725               |           | Grade              | SH725              |                     | Grade              | SH725     |          | Grade              | SH725     |
|          | Breaker Shape      | JS                  |           | Breaker Shape      | JS                 |                     | Breaker Shape      | JS        |          | Breaker Shape      | JS        |
|          | Cutting conditions | B016                |           | Cutting conditions | B018               |                     | Cutting conditions | B020      |          | Cutting conditions | B024      |
| <b>N</b> | Application        | Precision finishing | Finishing | <b>H</b>           | Application        | Precision finishing |                    |           |          |                    |           |
|          | Grade              | DX140               | SH725     |                    | Grade              | CBN                 | BX310              |           |          |                    |           |
|          | Breaker Shape      | DIA                 | JS        |                    | Breaker Shape      | CBN                 |                    |           |          |                    |           |
|          | Cutting conditions | B022                |           |                    | Cutting conditions | B026                |                    |           |          |                    |           |

Reference pages: A/E-SEXPR, A/E-SEZPR: Insert → **B128 -**, CBN → **B195**, PCD → **B214**



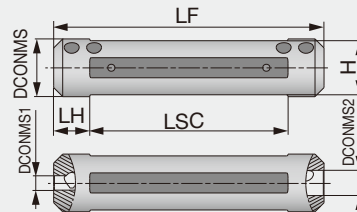
Sleeve for internal coolant supply with 4 coolant holes



| Metric             | DCONMS | DCONWS | LF  | LH | H     | CNT    |
|--------------------|--------|--------|-----|----|-------|--------|
| JBBS12-4-L80C-4N   | 12     | 4      | 80  | 10 | 10.3  | Rc1/16 |
| JBBS127-4-L80C-4N  | 12.7   | 4      | 80  | 10 | 11.6  | Rc1/16 |
| JBBS14-4-L80C-4N   | 14     | 4      | 80  | 10 | 12    | Rc1/8  |
| JBBS159-4-L100C-4N | 15.875 | 4      | 100 | 10 | 14.58 | Rc1/8  |
| JBBS159-7-L100C-4N | 15.875 | 7      | 100 | 10 | 14.58 | Rc1/8  |
| JBBS16-4-L100C-4N  | 16     | 4      | 100 | 10 | 15    | Rc1/8  |
| JBBS16-7-L100C-4N  | 16     | 7      | 100 | 10 | 15    | Rc1/8  |
| JBBS19-4-L100C-4N  | 19.05  | 4      | 100 | 20 | 17.2  | Rc1/8  |
| JBBS19-7-L100C-4N  | 19.05  | 7      | 100 | 20 | 17.2  | Rc1/8  |
| JBBS20-4-L100C-4N  | 20     | 4      | 100 | 20 | 18    | Rc1/8  |
| JBBS20-7-L100C-4N  | 20     | 7      | 100 | 20 | 18    | Rc1/8  |
| JBBS22-4-L100C-4N  | 22     | 4      | 100 | 20 | 20    | Rc1/8  |
| JBBS22-7-L100C-4N  | 22     | 7      | 100 | 20 | 20    | Rc1/8  |
| JBBS25-4-L100C-4N  | 25     | 4      | 100 | 23 | 23    | Rc1/8  |
| JBBS25-7-L100C-4N  | 25     | 7      | 100 | 23 | 23    | Rc1/8  |
| JBBS254-4-L100C-4N | 25.4   | 4      | 100 | 23 | 23.4  | Rc1/8  |
| JBBS254-7-L100C-4N | 25.4   | 7      | 100 | 23 | 23.4  | Rc1/8  |

## JBBS

Sleeve for external coolant supply



| Metric      | DCONMS | DCONWS1 | DCONWS2 | LF   | LH | LSC  | H    |
|-------------|--------|---------|---------|------|----|------|------|
| JBBS12-4-4  | 12     | 4       | 4       | 75   | 10 | 55   | 10.3 |
| JBBS127-4-4 | 12.7   | 4       | 4       | 76.2 | 10 | 56.2 | 11.6 |
| JBBS14-4-4  | 14     | 4       | 4       | 75   | 10 | 55   | 12   |
| JBBS159-4-7 | 15.875 | 4       | 7       | 76.2 | 10 | 56.2 | 14   |
| JBBS16-4-7  | 16     | 4       | 7       | 75   | 10 | 55   | 15   |
| JBBS19-4-7  | 19.05  | 4       | 7       | 89   | 10 | 69   | 17.2 |
| JBBS20-4-7  | 20     | 4       | 7       | 90   | 10 | 70   | 18   |
| JBBS22-4-7  | 22     | 4       | 7       | 90   | 10 | 70   | 20   |
| JBBS25-4-7  | 25     | 4       | 7       | 100  | 10 | 80   | 23   |
| JBBS254-4-7 | 25.4   | 4       | 7       | 90   | 10 | 70   | 23.4 |

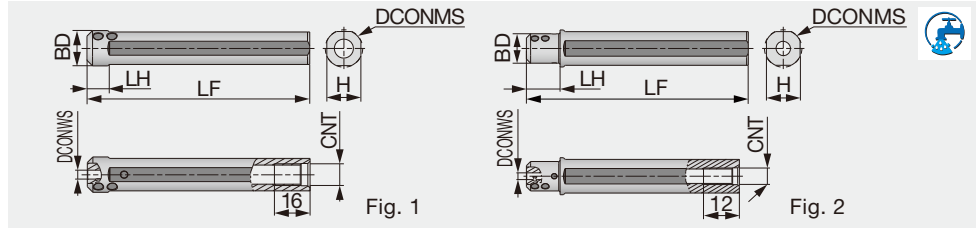
## SPARE PARTS



| Designation                                  | Clamping screw | Wrench |
|--|----------------|--------|
| JBBS**-4-L**C-4N,<br>JBBS127-4-4, JBBS**-4-7 | SSHM5-6PF-S    | P-2.5  |
| JBBS**-7-L**C-4N,<br>JBBS12-4-4, JBBS14-4-4  | SSHM5-4PF-S    | P-2.5  |

## JBBS-C

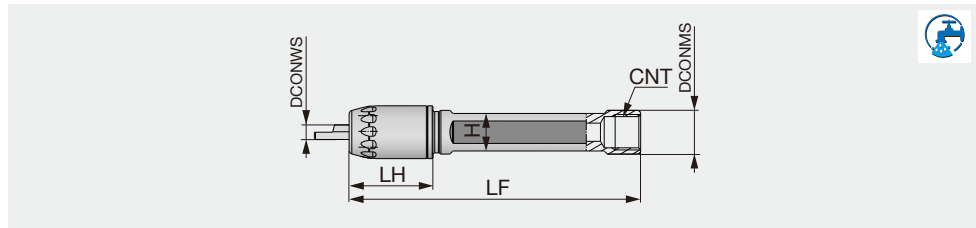
Sleeve for internal coolant supply



| Metric          | DCONMS | BD     | DCONWS | LF  | LH | H     | CNT   | Fig. |
|-----------------|--------|--------|--------|-----|----|-------|-------|------|
| JBBS159-4-L100C | 15.875 | 15.875 | 4      | 100 | 10 | 14.58 | Rc1/8 | 1    |
| JBBS159-7-L100C | 15.875 | 15.875 | 7      | 100 | 10 | 14.58 | Rc1/8 | 1    |
| JBBS16-4-L100C  | 16     | 16     | 4      | 100 | 10 | 15    | Rc1/8 | 1    |
| JBBS16-7-L100C  | 16     | 16     | 7      | 100 | 10 | 15    | Rc1/8 | 1    |
| JBBS19-4-L100C  | 19.05  | 17.5   | 4      | 100 | 20 | 17.2  | Rc1/8 | 2    |
| JBBS19-7-L100C  | 19.05  | 17.5   | 7      | 100 | 20 | 17.2  | Rc1/8 | 2    |
| JBBS20-4-L100C  | 20     | 17.5   | 4      | 100 | 20 | 18    | Rc1/8 | 2    |
| JBBS20-7-L100C  | 20     | 17.5   | 7      | 100 | 20 | 18    | Rc1/8 | 2    |
| JBBS22-4-L100C  | 22     | 17.5   | 4      | 100 | 20 | 20    | Rc1/8 | 2    |
| JBBS22-7-L100C  | 22     | 17.5   | 7      | 100 | 20 | 20    | Rc1/8 | 2    |
| JBBS25-4-L100C  | 25     | 18     | 4      | 100 | 23 | 23    | Rc1/8 | 2    |
| JBBS25-7-L100C  | 25     | 18     | 7      | 100 | 23 | 23    | Rc1/8 | 2    |
| JBBS254-4-L100C | 25.4   | 18     | 4      | 100 | 23 | 23.4  | Rc1/8 | 2    |
| JBBS254-7-L100C | 25.4   | 18     | 7      | 100 | 23 | 23.4  | Rc1/8 | 2    |

## JBBSA-C

Collet chuck sleeve for solid carbide bars



| Metric          | DCONMS | DCONWS | LF  | LH | H  | CNT   |
|-----------------|--------|--------|-----|----|----|-------|
| JBBSA16-4-L100C | 16     | 4      | 100 | 23 | 14 | Rc1/8 |
| JBBSA16-7-L100C | 16     | 7      | 100 | 23 | 14 | Rc1/8 |
| JBBSA20-4-L120C | 20     | 4      | 120 | 23 | 18 | Rc1/8 |
| JBBSA20-7-L120C | 20     | 7      | 120 | 23 | 18 | Rc1/8 |

### SPARE PARTS

| Designation     | Clamping screw | Cap     | Wrench | Wrench 1   |
|-----------------|----------------|---------|--------|------------|
| JBBS**-4-L100C  | SSHM5-6PF-S    |         | P-2.5  | -          |
| JBBS**-7-L100C  | SSHM5-4PF-S    |         | P-2.5  | -          |
| JBBSA**-4-L100C | -              | CAP-A-4 | -      | WRENCH-A-4 |
| JBBSA**-7-L100C | -              | CAP-A-7 | -      | WRENCH-A-7 |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
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# TINYTURN

## STANDARD CUTTING CONDITIONS

Boring, profiling, chamfering, back boring

| ISO      | Workpiece material                         | Grade        | Cutting speed Vc (m/min) | Cutting speed Vc (sfm) | Feed f (mm/rev) | Feed f (ipr)     |
|----------|--|--------------|--------------------------|------------------------|-----------------|------------------|
| <b>P</b> | Low carbon steel 1015, 1025, etc.          | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
|          | Carbon steel, Alloy steel 1055, 4140, etc. | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
|          | Prehardened steels NAK80, PX5, etc.        | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
| <b>M</b> | Stainless steel 304, 316, etc.             | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
| <b>K</b> | Gray cast iron No.250B, No.300B, etc.      | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
|          | Ductile cast iron 65-45-12, 80-55-06, etc. | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
| <b>N</b> | Aluminum alloys, Copper alloys Si < 12%    | SH730, SH725 | 90 - 200                 | 295 - 656              | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
| <b>S</b> | Titanium alloys Ti-6Al-4V, etc.            | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.08 *   | 0.0004 - 0.003 * |
|          | Superalloys Inconel718, etc.               | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.08 *   | 0.0004 - 0.003 * |

\* JBTR/L04020004-D006, JBTR/L04030004-D006 : Max. f = 0.0004 ipr (0.01 mm/rev)

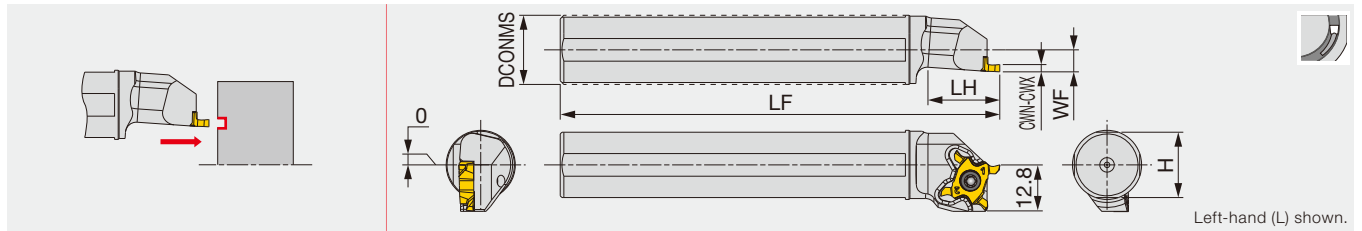
### Threading (metric thread)

| ISO      | Workpiece material                         | Grade        | Cutting speed Vc (m/min) | Cutting speed Vc (sfm) | Number of passes Pitch (mm) |               |            |               |              |
|----------|--|--------------|--------------------------|------------------------|-----------------------------|---------------|------------|---------------|--------------|
|          |  |              |                          |                        | 0.5 (0.020")                | 0.75 (0.030") | 1 (0.039") | 1.25 (0.049") | 1.5 (0.059") |
| <b>P</b> | Low carbon steel 1015, 1025, etc.          | SH730, SH725 | 40 - 140                 | 131 - 459              | 6 - 8                       | 8 - 10        | 10 - 12    | 12 - 15       | 15 - 18      |
|          | Carbon steel, Alloy steel 1055, 4140, etc. | SH730, SH725 | 40 - 140                 | 131 - 459              | 6 - 8                       | 8 - 10        | 10 - 12    | 12 - 15       | 15 - 18      |
|          | Prehardened steels NAK80, PX5, etc.        | SH730, SH725 | 40 - 140                 | 131 - 459              | 6 - 8                       | 8 - 10        | 10 - 12    | 12 - 15       | 15 - 18      |
| <b>M</b> | Stainless steel 304, 316, etc.             | SH730, SH725 | 40 - 140                 | 131 - 459              | 8                           | 10            | 12         | 15            | 18           |
| <b>K</b> | Gray cast iron No.250B, No.300B, etc.      | SH730, SH725 | 30 - 100                 | 98 - 328               | 7                           | 9             | 12         | 14            | 17           |
|          | Ductile cast iron 65-45-12, 80-55-06, etc. | SH730, SH725 | 30 - 100                 | 98 - 328               | 7                           | 9             | 12         | 14            | 17           |
| <b>N</b> | Aluminum alloys, Copper alloys Si < 12%    | SH730, SH725 | 90 - 200                 | 295 - 656              | 6                           | 8             | 10         | 12            | 15           |

### Internal and face grooving

| ISO      | Workpiece material                         | Grade        | Cutting speed Vc (m/min) | Cutting speed Vc (sfm) | Internal grooving |                | Face grooving    |                |
|----------|--|--------------|--------------------------|------------------------|-------------------|----------------|------------------|----------------|
|          |  |              |                          |                        | Feed: f (mm/rev)  | Feed: f (ipr)  | Feed: f (mm/rev) | Feed: f (ipr)  |
| <b>P</b> | Low carbon steel 1015, 1025, etc.          | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
|          | Carbon steel, Alloy steel 1055, 4140, etc. | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
|          | Prehardened steels NAK80, PX5, etc.        | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
| <b>M</b> | Stainless steel 304, 316, etc.             | SH730, SH725 | 40 - 140                 | 131 - 459              | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
| <b>K</b> | Gray cast iron No.250B, No.300B, etc.      | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
|          | Ductile cast iron 65-45-12, 80-55-06, etc. | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
| <b>N</b> | Aluminum alloys, Copper alloys Si < 12%    | SH730, SH725 | 90 - 200                 | 295 - 656              | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
| <b>S</b> | Titanium alloys Ti-6Al-4V, etc.            | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |
|          | Superalloys Inconel718, etc.               | SH730, SH725 | 30 - 100                 | 98 - 328               | 0.01 - 0.03       | 0.0004 - 0.001 | 0.01 - 0.05      | 0.0004 - 0.002 |

### Face grooving toolholder with round shank

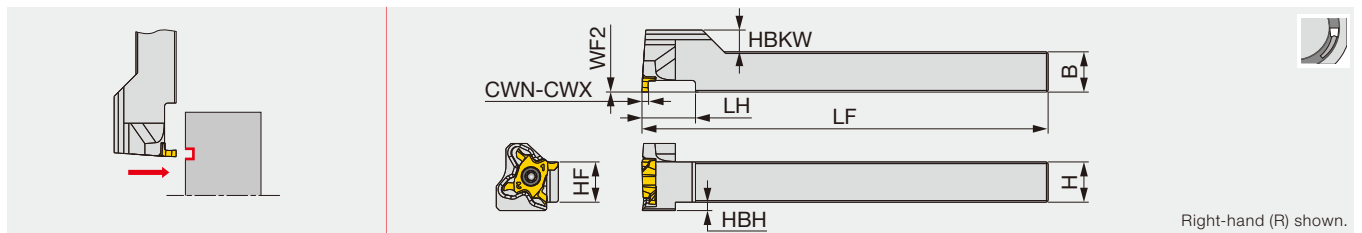


| Metric         | CWN | CWX | DCONMS | LF  | LH | H    | WF | Insert    | Torque* |
|----------------|-----|-----|--------|-----|----|------|----|-----------|---------|
| JS16F-STCFL18  | 0.5 | 2.5 | 16     | 85  | 20 | 15   | 6  | TCF18L... | 1.2     |
| JS19G-STCFL18  | 0.5 | 2.5 | 19.05  | 90  | 20 | 18   | 6  | TCF18L... | 1.2     |
| JS19X-STCFL18  | 0.5 | 2.5 | 19.05  | 120 | 20 | 18   | 6  | TCF18L... | 1.2     |
| JS20G-STCFL18  | 0.5 | 2.5 | 20     | 90  | 20 | 19   | 6  | TCF18L... | 1.2     |
| JS20X-STCFL18  | 0.5 | 2.5 | 20     | 120 | 20 | 19   | 6  | TCF18L... | 1.2     |
| JS22X-STCFL18  | 0.5 | 2.5 | 22     | 120 | 20 | 21   | 6  | TCF18L... | 1.2     |
| JS25H-STCFL18  | 0.5 | 2.5 | 25     | 100 | 20 | 24   | 6  | TCF18L... | 1.2     |
| JS254X-STCFL18 | 0.5 | 2.5 | 25.4   | 120 | 20 | 24.5 | 6  | TCF18L... | 1.2     |

Note: The left hand insert (L) is used for the left hand toolholders (L).  
Torque\*: Recommended clamping torque (N·m)

### STCFVR-18

#### Face grooving toolholder with square shank, for Swiss lathes



| Inch          | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF  | HBKW  | HBH   | Insert    | Torque  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-----------|---------|
| STCFVR06-18   | 0.020 | 0.098 | 0.375 | 0.375 | 4.016 | 0.472 | 0.375 | 0   | 0.354 | 0.177 | TCF18L... | 0.89    |
| STCFVR08-18   | 0.020 | 0.098 | 0.500 | 0.500 | 4.764 | 0.630 | 0.500 | 0   | 0.228 | 0.098 | TCF18L... | 0.89    |
| STCFVR10-18   | 0.020 | 0.098 | 0.625 | 0.625 | 4.764 | 0.787 | 0.625 | 0   | 0.106 | -     | TCF18L... | 0.89    |
| Metric        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF2 | HBKW  | HBH   | Insert    | Torque* |
| STCFVR1010H18 | 0.5   | 2.5   | 10    | 10    | 100   | 12    | 10    | 0   | 8.5   | 4.5   | TCF18L... | 1.2     |
| STCFVR1212F18 | 0.5   | 2.5   | 12    | 12    | 85    | 16    | 12    | 0   | 6.5   | 2.5   | TCF18L... | 1.2     |
| STCFVR1212X18 | 0.5   | 2.5   | 12    | 12    | 120   | 16    | 12    | 0   | 6.5   | 2.5   | TCF18L... | 1.2     |
| STCFVR1616X18 | 0.5   | 2.5   | 16    | 16    | 120   | 20    | 16    | 0   | 2.5   | 0     | TCF18L... | 1.2     |

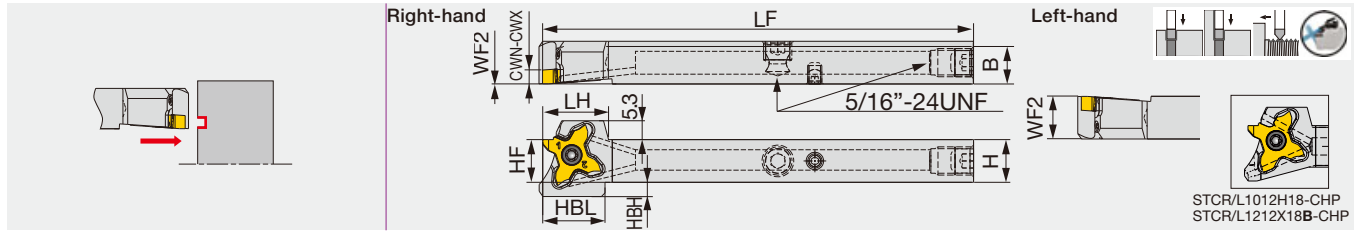
Note: The left hand insert (L) is used for the left hand toolholders (L).  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

#### SPARE PARTS

| Designation              | Clamping screw | Wrench   |
|--------------------------|----------------|----------|
| JS**-STCFL18, STCFVR**18 | CSTC-4L100DR   | T-1008/5 |

Threading pitch range: 0.8 ~ 3 mm

External grooving and threading toolholder, high pressure coolant compatible



| Inch                           | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque  |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|----------|---------|
| STCR/L08X18-CHP <sup>(1)</sup> | 0.013 | 0.118 | 0.500 | 0.500 | 4.750 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | TC*18... | 0.89    |
| STCR/L10X18-CHP <sup>(1)</sup> | 0.013 | 0.118 | 0.625 | 0.625 | 4.750 | 0.728 | -     | 0.625 | 0/0.625 | -     | TC*18... | 0.89    |
| Metric                         | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque* |
| STCR/L1012H18-CHP              | 0.33  | 3.18  | 10    | 12    | 100   | 17.1  | 17.1  | 10    | 0/12    | 4     | TC**18   | 1.2     |
| STCR/L1212X18B-CHP             | 0.33  | 3.18  | 12    | 12    | 120   | 18.5  | 17.5  | 12    | 0/12    | 4     | TC**18   | 1.2     |
| STCR/L1616X18-CHP              | 0.33  | 3.18  | 16    | 16    | 120   | 18.5  | -     | 16    | 0/16    | 0     | TC**18   | 1.2     |

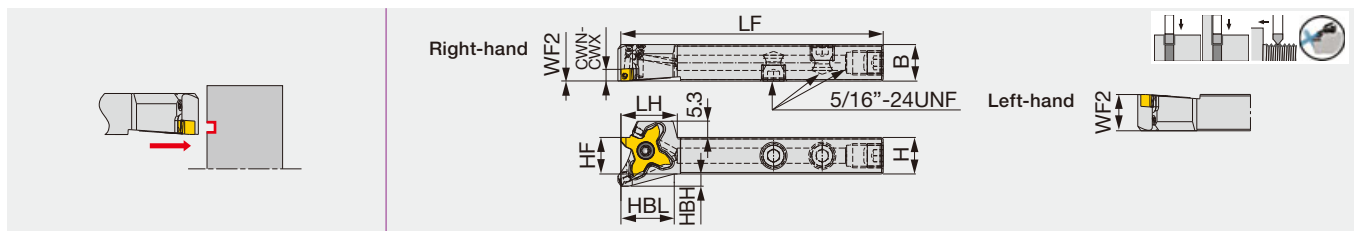
The right hand insert (TC\*18R\*\*) is used for the right hand toolholders (STCR\*\*), and the left hand insert (TC\*18L\*\*) is used for the left hand toolholders (STCL\*\*).  
 WF2\*\* : The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)



### STCR/L-18-CHP

Tube connection

External grooving and threading toolholder. High pressure coolant capability.



| Inch               | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque  |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|----------|---------|
| STCR/L08F18-CHP    | 0.013 | 0.118 | 0.500 | 0.500 | 3.344 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | TC*18... | 0.89    |
| Metric             | CWN   | CWX   | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque* |
| STCR/L1212F18B-CHP | 0.33  | 3.18  | 12    | 12    | 85    | 18.5  | 17.5  | 12    | 0/12    | 4     | TC**18   | 1.2     |

The right hand insert (TC\*18R\*\*) is used for the right hand toolholders (STCR\*\*), and the left hand insert (TC\*18L\*\*) is used for the left hand toolholders (STCL\*\*).  
 WF2\*\* : The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 Torque: Recommended clamping torque: lbs-ft (\*N·m)

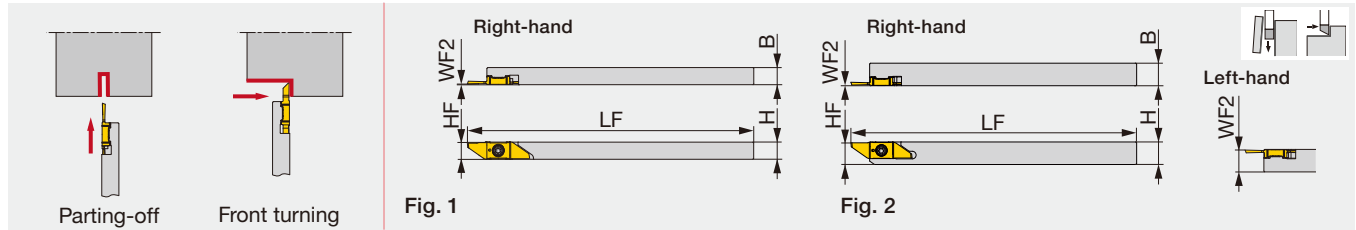
#### SPARE PARTS

| Designation    | Clamping screw | Wrench   | Coolant plug   | Wrench | DirectJet plug | Wrench |
|----------------|----------------|----------|----------------|--------|----------------|--------|
| STCL**18-CHP   | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| STCR**18-CHP   | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| STCL**F18B-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    | -              | -      |
| STCR**F18B-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    | -              | -      |

Threading pitch range: 0.8 ~ 3.0 mm 0.8 ~ 3.0 mm



## Parting-off and front turning toolholders



| Metric         | H  | B  | LF  | HF  | WF2 <sup>(1)</sup> | Insert          | Torque* | Fig. |
|----------------|----|----|-----|-----|--------------------|-----------------|---------|------|
| JSXXL0606X05   | 6  | 6  | 120 | 5.6 | 5.8                | JV*N..., JVN... | 1.3     | 1    |
| JSXXR/L0707X05 | 7  | 7  | 120 | 6.6 | 0.2/6.8            | JV*N..., JVN... | 1.3     | 1    |
| JSXXR/L0808F05 | 8  | 8  | 85  | 7.7 | 0.2/7.8            | JV*N..., JVN... | 1.3     | 2    |
| JSXXR/L0808H05 | 8  | 8  | 100 | 7.7 | 0.2/7.8            | JV*N..., JVN... | 1.3     | 2    |
| JSXXR/L1010H05 | 10 | 10 | 100 | 9.7 | 0.2/9.8            | JV*N..., JVN... | 1.3     | 2    |

Torque\*: Recommended clamping torque (N-m)

(1) The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

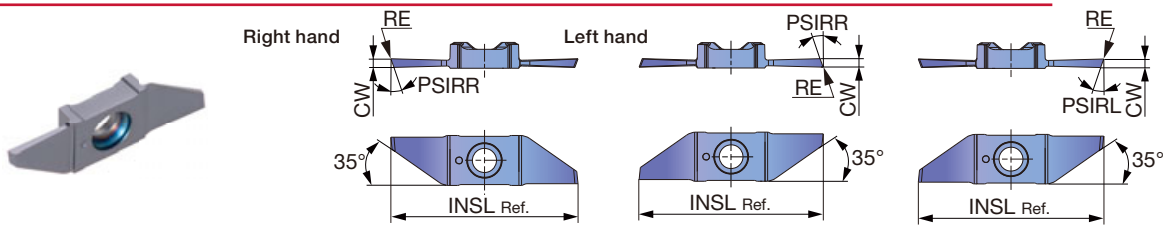
Use the right-hand insert (JV\*\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JV\*\*\*\*L...) for a left-hand holder (JSXXL...).

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|-------------|----------------|--------|
| JSXXR...05  | CSTB-2.5L054DL | T-7F   |
| JSXXL...05  | CSTB-2.5L054DR | T-7F   |

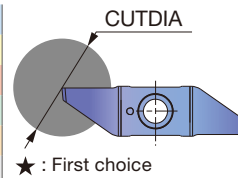
## INSERTS

### JVPN\*\*R/L (For parting-off)



JVPN12L10F000-20L

|   |                |   |  |  |  |  |
|---|----------------|---|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |
| K | Cast iron      |   |  |  |  |  |
| N | Non-ferrous    | ★ |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |
| H | Hard materials |   |  |  |  |  |



| Designation       | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  | CUTDIA (in) | INSL (in) | PSIRR | PSIRL |
|-------------------|------|---------------|---------------|---------|--------|--|--|-------------|-----------|-------|-------|
|                   |      |               |               |         | SH725  |  |  |             |           |       |       |
| JVPN04R05F000-20  | R    | 0.5           | 0.020         | 0       | ●      |  |  | 0.157       | 1.685     | 20°   | -     |
| JVPN04L05F000-20  | L    | 0.5           | 0.020         | 0       | ●      |  |  | 0.157       | 1.685     | 20°   | -     |
| JVPN04R05F005-20  | R    | 0.5           | 0.020         | 0.002   | ●      |  |  | 0.157       | 1.677     | 20°   | -     |
| JVPN04L05F005-20  | L    | 0.5           | 0.020         | 0.002   | ●      |  |  | 0.157       | 1.677     | 20°   | -     |
| JVPN07R06F000-20  | R    | 0.6           | 0.024         | 0       | ●      |  |  | 0.276       | 1.685     | 20°   | -     |
| JVPN07L06F000-20  | L    | 0.6           | 0.024         | 0       | ●      |  |  | 0.276       | 1.685     | 20°   | -     |
| JVPN07R06F005-20  | R    | 0.6           | 0.024         | 0.002   | ●      |  |  | 0.276       | 1.685     | 20°   | -     |
| JVPN07L06F005-20  | L    | 0.6           | 0.024         | 0.002   | ●      |  |  | 0.276       | 1.685     | 20°   | -     |
| JVPN12R08F000-20  | R    | 0.8           | 0.031         | 0       | ●      |  |  | 0.472       | 1.701     | 20°   | -     |
| JVPN12L08F000-20  | L    | 0.8           | 0.031         | 0       | ●      |  |  | 0.472       | 1.701     | 20°   | -     |
| JVPN12R08F005-20  | R    | 0.8           | 0.031         | 0.002   | ●      |  |  | 0.472       | 1.693     | 20°   | -     |
| JVPN12L08F005-20  | L    | 0.8           | 0.031         | 0.002   | ●      |  |  | 0.472       | 1.693     | 20°   | -     |
| JVPN12R10F000-20  | R    | 1             | 0.039         | 0       | ●      |  |  | 0.472       | 1.709     | 20°   | -     |
| JVPN12L10F000-20  | L    | 1             | 0.039         | 0       | ●      |  |  | 0.472       | 1.709     | 20°   | -     |
| JVPN12R10F005-20  | R    | 1             | 0.039         | 0.002   | ●      |  |  | 0.472       | 1.709     | 20°   | -     |
| JVPN12L10F005-20  | L    | 1             | 0.039         | 0.002   | ●      |  |  | 0.472       | 1.709     | 20°   | -     |
| JVPN12L10F000-20L | L    | 1             | 0.039         | 0       | ●      |  |  | 0.472       | 1.709     | -     | 20°   |

● : Line up

# STANDARD CUTTING CONDITIONS

## Parting-off

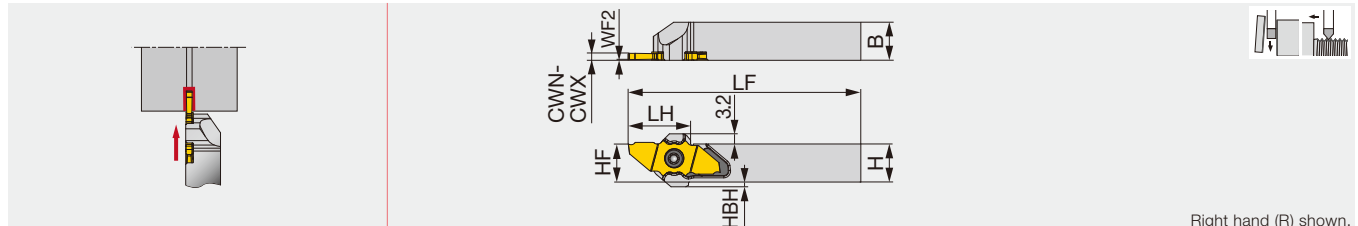
| ISO      | Workpiece materials                       | Grade | Cutting speed<br>Vc (m/min) | Feed<br>f (mm/rev) |
|----------|---|-------|-----------------------------|--------------------|
| <b>P</b> | Low carbon steels<br>1015, etc.           | SH725 | 164 - 591                   | 0.00039 - 0.0020   |
|          | Carbon steels, Alloy steels<br>1055, etc. | SH725 | 164 - 591                   | 0.00039 - 0.0020   |
|          | Free cutting steels<br>SUH22, SUH23, etc. | SH725 | 164 - 591                   | 0.00039 - 0.0020   |
| <b>M</b> | Stainless steels<br>304, etc.             | SH725 | 164 - 394                   | 0.00039 - 0.0020   |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.       | SH725 | 492 - 656                   | 0.00039 - 0.0020   |
|          | Copper alloys<br>C2600, C280C, etc.       | SH725 | 328 - 656                   | 0.00039 - 0.0020   |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.        | SH725 | 98 - 262                    | 0.00039 - 0.0020   |
|          | Superalloys<br>Inconel718, etc.           | SH725 | 98 - 262                    | 0.00039 - 0.0020   |

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index





### Parting toolholder, for Swiss lathes



Right hand (R) shown.

| Inch       | CWN   | CWX   | H     | B     | LF**  | LH**  | HF    | WF2 <sup>(1)</sup> | HBL   | HBH  | Insert | Torque | Fig. |
|------------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|------|--------|--------|------|
| JSXXR/L063 | 0.024 | 0.098 | 0.375 | 0.375 | 4.646 | 0.774 | 0.375 | 0.008 / 0.386      | 0.748 | 0.12 | JX...  | 0.89   | 1    |
| JSXXR/L083 | 0.024 | 0.098 | 0.500 | 0.500 | 3.268 | 0.774 | 0.500 | 0.008 / 0.386      | 0.748 | 0.06 | JX...  | 0.89   | 1    |
| JSXXR/L103 | 0.024 | 0.098 | 0.625 | 0.625 | 4.646 | 0.774 | 0.625 | 0.008 / 0.386      | -     | 0.06 | JX...  | 0.89   | 1    |
| JSXXR/L123 | 0.024 | 0.098 | 0.750 | 0.750 | 3.950 | 0.886 | 0.750 | 0.008 / 0.742      | -     | -    | JX...  | 0.89   | 1    |
| JSXXR/L163 | 0.024 | 0.098 | 1.000 | 1.000 | 5.350 | 1.339 | 1.000 | 1.250 / 1.250      | -     | -    | JX...  | 0.89   | 2    |

| Metric         | CWN | CWX | H  | B  | LF** | LH**  | HF | WF2 <sup>(1)</sup> | HBL** | HBH | Insert | Torque* | Fig. |
|----------------|-----|-----|----|----|------|-------|----|--------------------|-------|-----|--------|---------|------|
| JSXXR/L1010X09 | 0.6 | 2.5 | 10 | 10 | 120  | 19.65 | 10 | 0.2/9.8            | 19    | 3   | JX...  | 1.2     | 1    |
| JSXXR/L1212F09 | 0.6 | 2.5 | 12 | 12 | 85   | 19.65 | 12 | 0.2/11.8           | 19    | 1.5 | JX...  | 1.2     | 1    |
| JSXXR/L1212X09 | 0.6 | 2.5 | 12 | 12 | 120  | 19.65 | 12 | 0.2/11.8           | 19    | 1.5 | JX...  | 1.2     | 1    |
| JSXXR/L1616X09 | 0.6 | 2.5 | 16 | 16 | 120  | 19.65 | 16 | 0.2/15.8           | -     | -   | JX...  | 1.2     | 1    |
| JSXXR/L2020H09 | 0.6 | 2.5 | 20 | 20 | 100  | 22.5  | 20 | 0.2/19.8           | -     | -   | JX...  | 1.2     | 1    |

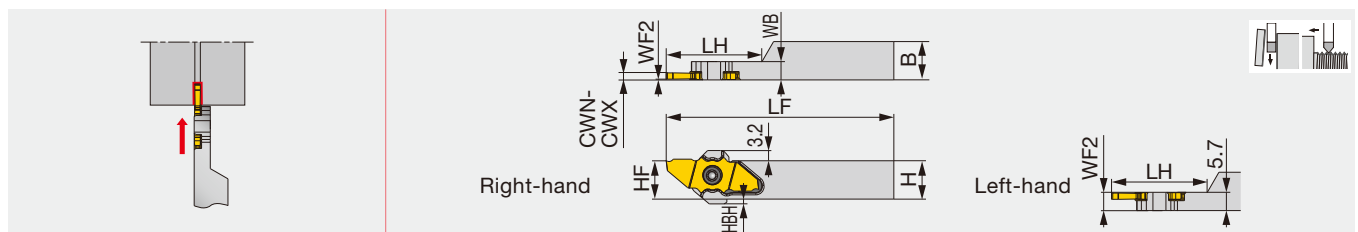
Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JXPG16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*G12... and JXPG20... inserts, and 0.157" (4 mm) shorter for JXPG06... insert.

Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

### JSXXR/L-S

#### Parting toolholder, for Swiss lathes (for sub spindle)



| Inch         | CWN   | CWX   | H     | B     | LF**  | LH**  | HF    | WF          | HBH   | Insert                      | Torque* |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|-----------------------------|---------|
| JSXXR/L063-S | 0.024 | 0.098 | 0.375 | 0.375 | 4.750 | 1.030 | 0.383 | 0.008/0.217 | 0.120 | JX*G06...,12...,16...,20... | 0.890   |
| JSXXR/L083-S | 0.024 | 0.098 | 0.500 | 0.500 | 4.750 | 1.030 | 0.500 | 0.008/0.217 | 0.060 | JX*G06...,12...,16...,20... | 0.890   |

| Metric           | CWN | CWX | H  | B  | LF** | LH** | HF | WF2     | HBH | Insert                      | Torque* |
|------------------|-----|-----|----|----|------|------|----|---------|-----|-----------------------------|---------|
| JSXXR/L1010X09-S | 0.6 | 2.5 | 10 | 10 | 120  | 26   | 10 | 0.2/5.5 | 3   | JX**06...,12...,16...       | 1.2     |
| JSXXR/L1212F09-S | 0.6 | 2.5 | 12 | 12 | 85   | 26   | 12 | 0.2/5.5 | 1.5 | JX**06...,12...,16...       | 1.2     |
| JSXXR/L1212X09-S | 0.6 | 2.5 | 12 | 12 | 120  | 30   | 12 | 0.2/5.5 | 1.5 | JX**06...,12...,16...       | 1.2     |
| JSXXR/L1616X09-S | 0.6 | 2.5 | 16 | 16 | 120  | 30   | 16 | 0.2/5.5 | -   | JX**06...,12...,16...,20... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*LF (Functional Length) and LH (Head Length) values shown above are true with JXPG16... insert. LF and LH will be 2 mm shorter than the above values with JX\*G12... insert, and 0.157" (4 mm) shorter for JXPG06... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter with JXPG20... insert.

\*\*\*JXPG20... insert will not fit.

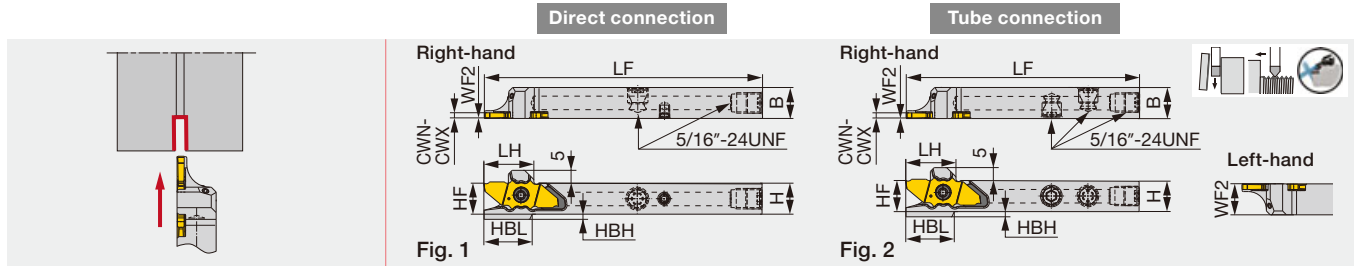
Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

#### SPARE PARTS

| Designation           | Clamping screw | Wrench   |
|-----------------------|----------------|----------|
| JSXXR..., JSXXR****-S | CSTC-4L055DL   | T-1008/5 |
| JSXXL..., JSXXL****-S | CSTC-4L055DR   | T-1008/5 |

# JSXXR/L-F/H/X-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes



| Inch            | CWN   | CWX   | H     | B     | WF          | LF**  | HF    | HBH   | LH**    | HBL** | Insert                       | Torque | Fig. |
|-----------------|-------|-------|-------|-------|-------------|-------|-------|-------|---------|-------|------------------------------|--------|------|
| JSXXR/L083X-CHP | 0.024 | 0.098 | 0.500 | 0.500 | 0.008/0.492 | 4.750 | 0.500 | 0.051 | 0.764   | 0.736 | JX**G06...,12...,16...,20... | 0.890  | 1    |
| JSXXR/L103X-CHP | 0.024 | 0.098 | 0.625 | 0.625 | 0.008/0.617 | 4.750 | 0.625 | -     | 0.764   | -     | JX**G06...,12...,16...,20... | 0.890  | 1    |
| JSXXR/L083F-CHP | 0.024 | 0.098 | 0.500 | 0.500 | 0.008/0.492 | 3.344 | 0.500 | 0.051 | ≤ 0.764 | 0.736 | JX**G06...,12...,16...,20... | 0.890  | 1    |

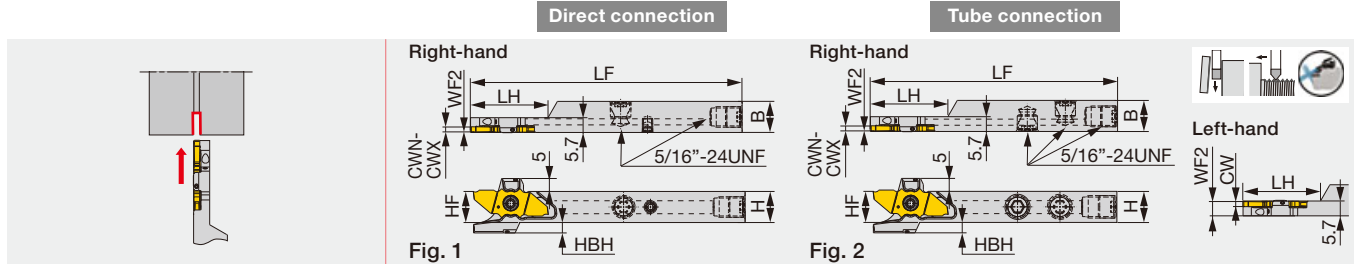
  

| Metric                             | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH | Insert                      | Torque* | Fig. |
|------------------------------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|--------------------|-----|-----------------------------|---------|------|
| JSXXR/L1012H09-CHP <sup>(3)</sup>  | 0.6 | 2.5 | 10 | 12 | 102               | 19.2              | 10 | 0.2/11.8           | 18.7               | 3   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1212F09-CHP                 | 0.6 | 2.5 | 12 | 12 | 85                | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16...,20... | 1.2     | 2    |
| JSXXR/L1212X09-CHP <sup>(3)</sup>  | 0.6 | 2.5 | 12 | 12 | 120               | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1616X09B-CHP <sup>(3)</sup> | 0.6 | 2.5 | 16 | 16 | 120               | 19.4              | 16 | 0.2/15.8           | 18.7               | -   | JX**06...,12...,16...,20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 (1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 4 mm shorter for JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

# JSXXR/L-F/X-S-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes (for sub spindle)



| Inch              | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                      | Torque* | Fig. |
|-------------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|-------|-----------------------------|---------|------|
| JSXXR/L083F-S-CHP | 0.024 | 0.098 | 0.5   | 0.5   | 3.344             | 1.024             | 0.5   | 0.008/0.217        | 0.051 | JX**06...,12...,16...,20... | 0.89    | 2    |
| JSXXR/L083X-S-CHP | 0.024 | 0.098 | 0.5   | 0.5   | 4.75              | 1.181             | 0.5   | 0.008/0.217        | 0.051 | JX**06...,12...,16...,20... | 0.89    | 1    |
| JSXXR/L103X-S-CHP | 0.024 | 0.098 | 0.625 | 0.625 | 4.75              | 1.181             | 0.625 | 0.008/0.217        | -     | JX**06...,12...,16...,20... | 0.89    | 1    |

| Metric                                  | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBH | Insert                      | Torque* | Fig. |
|---|-----|-----|----|----|-------------------|-------------------|----|--------------------|-----|-----------------------------|---------|------|
| JSXXR/L1212F09-S-CHP <sup>(4)</sup>     | 0.6 | 2.5 | 12 | 12 | 85                | 26                | 12 | 0.2                | 4   | JX**06...,12...,16...,20... | 1.2     | 2    |
| JSXXR/L1212F09B-S-CHP                   | 0.6 | 2.5 | 12 | 12 | 85                | 30                | 12 | 0.2/5.5            | 2   | JX**06...,12...,16...,20... | 1.2     | 2    |
| JSXXR/L1212X09-S-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 4   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1212X09B-S-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 2   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1616X09-S-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2                | 1.5 | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1616X09B-S-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2/5.5            | -   | JX**06...,12...,16...,20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N-m)  
 (1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 4 mm shorter for JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (4) To be replaced with the new design  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

## SPARE PARTS

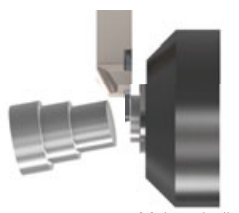
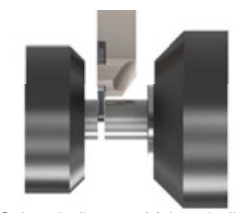
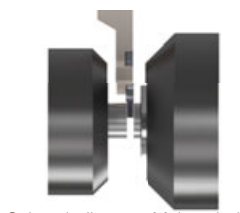
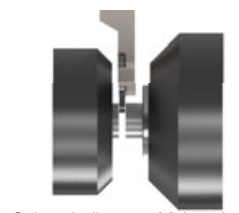
| Designation   | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|---------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR**F...   | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F...   | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**H/X... | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**H/X... | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: JSXXR/L-F/H/X-CHP, JSXXR/L-F/X-S-CHP:  
 Inserts → **G145 - G147**, Standard cutting conditions → **G148**

Grade  
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Ext. Toolholder  
Int. Toolholder  
Threading  
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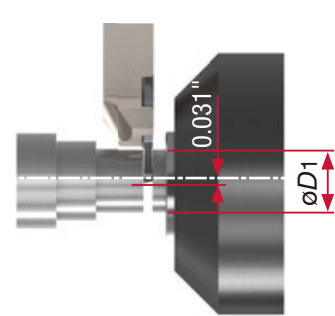
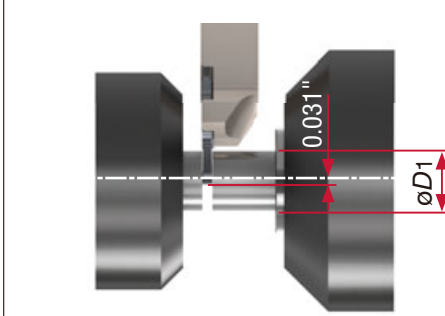
## HOW TO SELECT TOOLS

| Application   | Large-diameter machining of workpiece with rigidity  |  | Small-diameter machining of workpiece with short overhang  |                                    |
|---|--|--|--|------------------------------------|
|   | Main-spindle tooling   | Sub-spindle tooling  | Sub-spindle tooling  |                                    |
|   |  |  | Workpiece with long overhang at the side of sub-spindle for the process after parting-off  | Short workpiece with low rigidity  |
|  <p>Main spindle</p> <p>Position of parting-off is at the side of the main spindle</p> |  <p>Sub-spindle Main spindle</p> <p>Position of parting-off is at the side of the sub-spindle</p> |  <p>Sub-spindle Main spindle</p> <p>Position of parting-off is at the side of the main spindle</p> |  <p>Sub-spindle Main spindle</p> <p>Position of parting-off is at the side of the sub-spindle</p> |                                    |
| Toolholder  | R-hand (JSXXR type)  | L-hand (JSXXL type)  | R-hand (JSXXR-S type)  | L-hand (JSXXL-S type)              |
| Insert  | Right-hand insert with lead angle to remove center core (JXPG**R***-15 type)   | Left-hand insert (JXPG**L*** type)   | Right-hand insert (JXPG**R*** type)  | Left-hand insert (JXPG**L*** type) |

## HOW TO SELECT TOOLHOLDERS FOR SUB-SPINDLE

| Sub-spindle dia. | Parting-off dia. | B     | LF    | Insert  | Toolholder        |
|------------------|------------------|-------|-------|---------|-------------------|
| ø1.575           | - ø0.236         | 0.375 | 4.514 | JXPG06* | JSXXR/L063-S      |
| ø1.575           | - ø0.236         | 0.500 | 4.514 | JXPG06* | JSXXR/L083-S      |
| ø1.575           | - ø0.472         | 0.375 | 4.593 | JXPG12* | JSXXR/L063-S      |
| ø1.575           | - ø0.472         | 0.500 | 4.593 | JXPG12* | JSXXR/L083-S      |
| ø1.575           | - ø0.630         | 0.375 | 4.750 | JXPG16* | JSXXR/L063-S      |
| ø1.575           | - ø0.630         | 0.500 | 4.750 | JXPG16* | JSXXR/L083-S      |
| ø1.575           | - ø0.787         | 0.500 | 3.423 | JXPG20* | JSXXR/L083F-S-CHP |
| ø1.969           | - ø0.236         | 0.500 | 4.514 | JXPG06* | JSXXR/L083-S      |
| ø1.969           | - ø0.236         | 0.625 | 4.514 | JXPG06* | JSXXR/L103X-S-CHP |
| ø1.969           | - ø0.472         | 0.500 | 4.593 | JXPG12* | JSXXR/L083-S      |
| ø1.969           | - ø0.472         | 0.625 | 4.593 | JXPG12* | JSXXR/L103X-S-CHP |
| ø1.969           | - ø0.630         | 0.500 | 4.750 | JXPG16* | JSXXR/L083-S      |
| ø1.969           | - ø0.630         | 0.500 | 4.750 | JXPG16* | JSXXR/L083-S      |
| ø1.969           | - ø0.630         | 0.625 | 4.750 | JXPG16* | JSXXR/L103X-S-CHP |
| ø1.969           | - ø0.787         | 0.500 | 3.423 | JXPG20* | JSXXR/L083F-S-CHP |
| ø1.969           | - ø0.787         | 0.500 | 4.829 | JXPG20* | JSXXR/L083X-S-CHP |
| ø1.969           | - ø0.787         | 0.625 | 4.829 | JXPG20* | JSXXR/L103X-S-CHP |

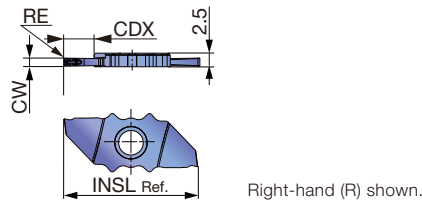
## MAX. PARTING-OFF DIA. & DEPTH

| Main-spindle tooling  | Sub-spindle tooling  |
|---|--|
|  <p>Main spindle</p> |  <p>Sub-spindle Main spindle</p> |

There will be no tool-workpiece interference when parting off the workpiece with the cutting edge position apart from the workpiece center by 0.031" or more.

# INSERT

## JXPS\*\*R/L-F (with 3D chipbreaker, sharp edge)



|   |                |   |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |
| N | Non-ferrous    |   |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |

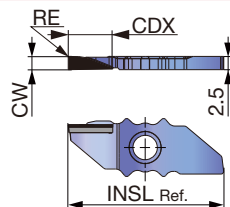
★ : First choice

| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | Coated |  |  |  |  | CUTDIA (in) | CDX* (in) | INSL (in) |
|-------------|------|---------------|---------------|---------|--------|--|--|--|--|-------------|-----------|-----------|
|             |      |               |               |         | SH725  |  |  |  |  |             |           |           |
| JXPS06R06F  | R    | 0.6           | 0.024         | 0.002   | ●      |  |  |  |  | 0.236       | 0.138     | 0.827     |
| JXPS06L06F  | L    | 0.6           | 0.024         | 0.002   | ●      |  |  |  |  | 0.236       | 0.138     | 0.827     |
| JXPS12R08F  | R    | 0.8           | 0.031         | 0.002   | ●      |  |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12L08F  | L    | 0.8           | 0.031         | 0.002   | ●      |  |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12R10F  | R    | 1             | 0.039         | 0.002   | ●      |  |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12L10F  | L    | 1             | 0.039         | 0.002   | ●      |  |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12R15F  | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS12L15F  | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  | 0.472       | 0.256     | 0.984     |
| JXPS16R15F  | R    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  | 0.630       | 0.335     | 1.142     |
| JXPS16L15F  | L    | 1.5           | 0.059         | 0.002   | ●      |  |  |  |  | 0.630       | 0.335     | 1.142     |
| JXPS20R20F  | R    | 2             | 0.079         | 0.002   | ●      |  |  |  |  | 0.787       | 0.413     | 1.299     |
| JXPS20L20F  | L    | 2             | 0.079         | 0.002   | ●      |  |  |  |  | 0.787       | 0.413     | 1.299     |

\*Max grooving depth (CDX) varies depending on workpiece diameters.

● : Line up

## JXDX\*\*R-F (PCD insert)



|   |                |   |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|
| P | Steel          |   |  |  |  |  |  |
| M | Stainless      |   |  |  |  |  |  |
| K | Cast iron      |   |  |  |  |  |  |
| N | Non-ferrous    | ★ |  |  |  |  |  |
| S | Superalloys    |   |  |  |  |  |  |
| H | Hard materials |   |  |  |  |  |  |

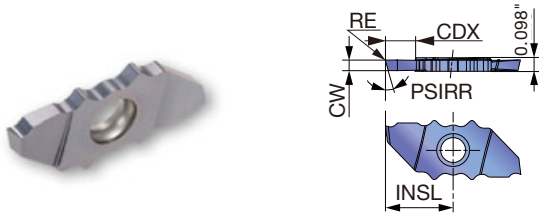
★ : First choice

| Designation | HAND | CW±0.025 (mm) | CW±0.001 (in) | RE (in) | PCD   |  |  |  |  | CDX (in) | INSL (in) |
|-------------|------|---------------|---------------|---------|-------|--|--|--|--|----------|-----------|
|             |      |               |               |         | DX110 |  |  |  |  |          |           |
| JXDX12R20F  | R    | 2             | 0.079         | < 0.004 | ●     |  |  |  |  | 0.236    | 0.492     |
| JXDX12R25F  | R    | 2.5           | 0.098         | < 0.004 | ●     |  |  |  |  | 0.256    | 0.492     |
| JXDX16R25F  | R    | 2.5           | 0.098         | < 0.004 | ●     |  |  |  |  | 0.276    | 0.571     |

● : Line up

Reference pages: Toolholders → [G142 - G143](#), Standard cutting conditions → [G148](#)

# JXPG\*\*R/L-F (sharp edge)



Right hand (R) shown.

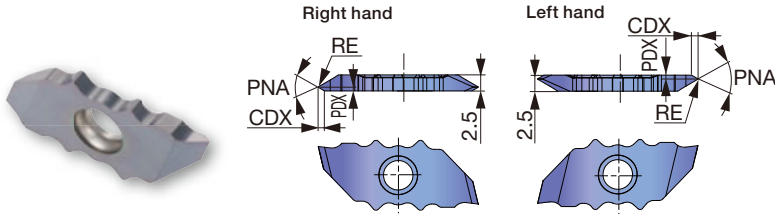
|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials | ★ |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation   | HAND | CW±0.025<br>(mm) | CW±0.001<br>(in) | RE<br>(in) | Coated |  |  |  |  | CUTDIA<br>(in) | CDX*<br>(in) | INSL<br>(in) | PSIRR/L |
|---------------|------|------------------|------------------|------------|--------|--|--|--|--|----------------|--------------|--------------|---------|
|               |      |                  |                  |            | SH725  |  |  |  |  |                |              |              |         |
| JXPG06R10F    | R    | 1                | 0.039            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 0°      |
| JXPG06L10F    | L    | 1                | 0.039            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 0°      |
| JXPG06R15F    | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 0°      |
| JXPG06L15F    | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 0°      |
| JXPG06R10F-15 | R    | 1                | 0.039            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 15°     |
| JXPG06L10F-15 | L    | 1                | 0.039            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 15°     |
| JXPG06R15F-15 | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 15°     |
| JXPG06L15F-15 | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 6              | 0.138        | 0.827        | 15°     |
| JXPG12R15F    | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 0°      |
| JXPG12L15F    | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 0°      |
| JXPG12R20F    | R    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 0°      |
| JXPG12L20F    | L    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 0°      |
| JXPG12R15F-15 | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 15°     |
| JXPG12L15F-15 | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 15°     |
| JXPG12R20F-15 | R    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 15°     |
| JXPG12L20F-15 | L    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 12             | 0.256        | 0.984        | 15°     |
| JXPG16R15F    | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 0°      |
| JXPG16L15F    | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 0°      |
| JXPG16R20F    | R    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 0°      |
| JXPG16L20F    | L    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 0°      |
| JXPG16R15F-15 | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 15°     |
| JXPG16L15F-15 | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 15°     |
| JXPG16R20F-15 | R    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 15°     |
| JXPG16L20F-15 | L    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 16             | 0.335        | 1.142        | 15°     |
| JXPG20R15F    | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 0°      |
| JXPG20L15F    | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 0°      |
| JXPG20R20F    | R    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 0°      |
| JXPG20L20F    | L    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 0°      |
| JXPG20R15F-15 | R    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 15°     |
| JXPG20L15F-15 | L    | 1.5              | 0.059            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 15°     |
| JXPG20R20F-15 | R    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 15°     |
| JXPG20L20F-15 | L    | 2                | 0.079            | 0.05       | ●      |  |  |  |  | 20             | 0.413        | 1.299        | 15°     |

● : Line-up  
CUTDIA: Max. parting-off dia.  
Packing quantity = 5 pcs.

# JXTG12FR/L-60 (For Threading / Sharp edge)



|   |                |   |  |  |  |  |  |  |
|---|----------------|---|--|--|--|--|--|--|
| P | Steel          | ★ |  |  |  |  |  |  |
| M | Stainless      | ★ |  |  |  |  |  |  |
| K | Cast iron      | ★ |  |  |  |  |  |  |
| N | Non-ferrous    | ★ |  |  |  |  |  |  |
| S | Superalloys    | ★ |  |  |  |  |  |  |
| H | Hard materials | ★ |  |  |  |  |  |  |

★ : First choice

| Designation      | HAND | RE (in)        | Coated |  |  |  |  | TPI Thread per inch | PDX (in) | CDX (in) | PNA |
|------------------|------|----------------|--------|--|--|--|--|---------------------|----------|----------|-----|
|                  |      |                | SH725  |  |  |  |  |                     |          |          |     |
| JXTG12FR-60A-000 | R    | Flat 0.002 max | ●      |  |  |  |  | 64 - 127            | 0.010    | 0.016    | 60° |
| JXTG12FL-60A-000 | L    | Flat 0.002 max | ●      |  |  |  |  | 64 - 127            | 0.010    | 0.016    | 60° |
| JXTG12FR-60B-000 | R    | Flat 0.002 max | ●      |  |  |  |  | 64 - 127            | 0.089    | 0.016    | 60° |
| JXTG12FL-60B-000 | L    | Flat 0.002 max | ●      |  |  |  |  | 64 - 127            | 0.089    | 0.016    | 60° |
| JXTG12FR-60A-005 | R    | R 0.002        | ●      |  |  |  |  | 25 - 64             | 0.024    | 0.039    | 60° |
| JXTG12FL-60A-005 | L    | R 0.002        | ●      |  |  |  |  | 25 - 64             | 0.024    | 0.039    | 60° |
| JXTG12FR-60B-005 | R    | R 0.002        | ●      |  |  |  |  | 25 - 64             | 0.075    | 0.039    | 60° |
| JXTG12FL-60B-005 | L    | R 0.002        | ●      |  |  |  |  | 25 - 64             | 0.075    | 0.039    | 60° |
| JXTG12FR-60N-010 | R    | R 0.004        | ●      |  |  |  |  | 16 - 25             | 0.049    | 0.081    | 60° |
| JXTG12FL-60N-010 | L    | R 0.004        | ●      |  |  |  |  | 16 - 25             | 0.049    | 0.081    | 60° |

● : Line-up  
Packing quantity = 5 pcs.

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



### Parting, Grooving

| ISO | Workpiece materials                       | Grades | Cutting speed Vc (sfm) | Feed f (ipr)     |
|-----|---|--------|------------------------|------------------|
| P   | Low carbon steels<br>1015, etc.           | SH725  | 164 - 656              | 0.00039 - 0.0020 |
|     | Carbon steels, Alloy steels<br>1055, etc. | SH725  | 164 - 656              | 0.00039 - 0.0020 |
|     | Free cutting steels<br>SUH22, SUH23, etc. | SH725  | 164 - 656              | 0.00039 - 0.0020 |
| M   | Stainless steels<br>304, etc.             | SH725  | 164 - 656              | 0.00039 - 0.0020 |
| N   | Aluminum alloys<br>5056, 6061, etc.       | SH725  | 492 - 656              | 0.00039 - 0.0020 |
| S   | Copper alloy<br>C2600, C280C, etc.        | SH725  | 328 - 656              | 0.00039 - 0.0020 |
|     | Titanium alloys<br>Ti-6Al-4V, etc.        | SH725  | 98 - 262               | 0.00039 - 0.0020 |
| S   | Superalloys<br>Inconel718, etc.           | SH725  | 98 - 262               | 0.00039 - 0.0020 |

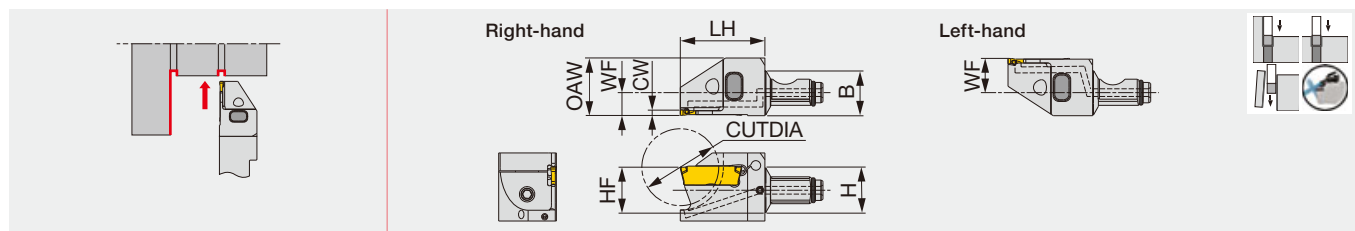
### For aluminium and non-ferrous metal PCD insert

| ISO | Workpiece materials                 | Grades | Operation | Cutting speed Vc (sfm) | Feed f (ipr)    | Depth of cut ap (in) |
|-----|-------------------------------------|--------|-----------|------------------------|-----------------|----------------------|
| N   | Aluminum alloys<br>5056, 6061, etc. | DX110  | Grooving  | 328 - 984              | 0.0012 - 0.0059 | -                    |
|     |                                     | DX110  | Turning   | 328 - 984              | 0.0012 - 0.0059 | < 0.236"             |

## TUNG CUT

### QC12-JTTER/L-CHP

Modular head for external grooving and parting, with high pressure coolant capability



| Metric                 | CW              | Seat size | CUTDIA         | H              | B              | LH             | HF             | WF <sup>(1)</sup>     | OAW            | Torque*       |
|------------------------|-----------------|-----------|----------------|----------------|----------------|----------------|----------------|-----------------------|----------------|---------------|
| QC12-JTTER/L1.2D20-CHP | 1.2<br>(0.047") | 0.9       | 20<br>(0.787") | 12<br>(0.472") | 12<br>(0.472") | 22<br>(0.866") | 12<br>(0.472") | 6/9<br>(0.236/0.354") | 15<br>(0.591") | 1.5<br>(1.11) |
| QC12-JTTER/L1.4D20-CHP | 1.4<br>(0.055") | 1         | 20<br>(0.787") | 12<br>(0.472") | 12<br>(0.472") | 22<br>(0.866") | 12<br>(0.472") | 6/9<br>(0.236/0.354") | 15<br>(0.591") | 1.5<br>(1.11) |
| QC12-JTTER/L2D20-CHP   | 2<br>(0.079")   | 2         | 20<br>(0.787") | 12<br>(0.472") | 12<br>(0.472") | 22<br>(0.866") | 12<br>(0.472") | 6/9<br>(0.236/0.354") | 15<br>(0.591") | 1.5<br>(1.11) |

(1) "WF" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

Torque\*: Recommended clamping torque: N·m (lbs·ft)

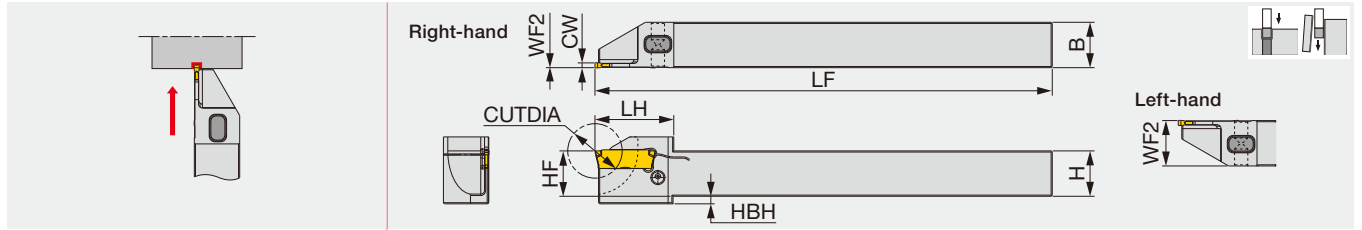
### SPARE PARTS

| Designation     | Clamping screw | Clamping pin | Wrench | O-ring               |
|-----------------|----------------|--------------|--------|----------------------|
| QC12-JTTER/L... | SSM3.5x0.35    | PIN-SL-TC    | P-2F   | ORSS-0454.5X1.0NBR70 |

Reference pages: QC12-JTTER/L-CHP: Inserts → [G154 - G161](#)

Shank, Accessory → [G115 - G116](#), Standard cutting conditions → [G162](#)

### External grooving and parting toolholder, for Swiss lathes



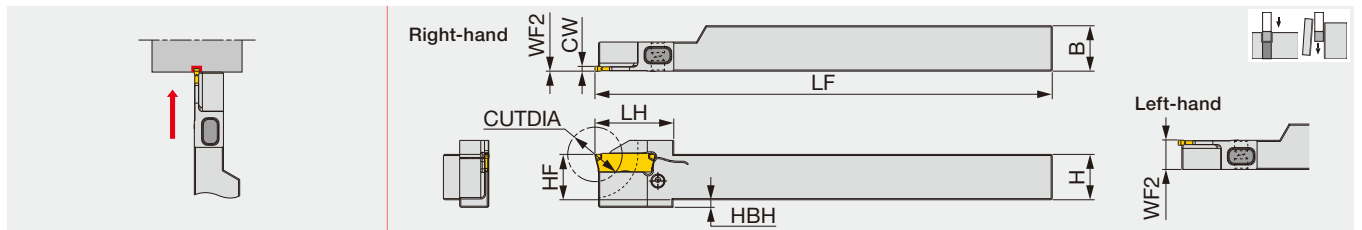
| Metric             | CW  | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | HBH | Torque* |
|--------------------|-----|-----------|--------|----|----|-----|----|----|--------------------|-----|---------|
| JTTER/L1010H1.2D12 | 1.2 | 0.9       | 12     | 10 | 10 | 100 | 17 | 10 | 0/10               | -   | 1.5     |
| JTTER/L1212F1.2D16 | 1.2 | 0.9       | 16     | 12 | 12 | 85  | 19 | 12 | 0/12               | -   | 1.5     |
| JTTER/L1212X1.2D16 | 1.2 | 0.9       | 16     | 12 | 12 | 120 | 19 | 12 | 0/12               | -   | 1.5     |
| JTTER/L1212X1.2D20 | 1.2 | 0.9       | 20     | 12 | 12 | 120 | 21 | 12 | 0/12               | 2   | 1.5     |
| JTTER/L1616X1.2D20 | 1.2 | 0.9       | 20     | 16 | 16 | 120 | 21 | 16 | 0/16               | -   | 2       |

(1) "WF" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

Torque\*: Recommended clamping torque (N-m)

### JTTER/L-S

### External grooving and parting toolholder, for Swiss lathes (for sub spindle)



| Metric                            | CW  | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | HBH | Torque* |
|-----------------------------------|-----|-----------|--------|----|----|-----|----|----|--------------------|-----|---------|
| JTTER/L1010H1.2D12-S              | 1.2 | 0.9       | 12     | 10 | 10 | 100 | 17 | 10 | 0/7.7              | -   | 1.5     |
| JTTER1212F1.2D16-S <sup>(2)</sup> | 1.2 | 0.9       | 16     | 12 | 12 | 85  | 19 | 12 | 0                  | -   | 1.5     |
| JTTER/L1212X1.2D16-S              | 1.2 | 0.9       | 16     | 12 | 12 | 120 | 21 | 12 | 0/7.7              | -   | 1.5     |
| JTTER/L1212X1.2D20-S              | 1.2 | 0.9       | 20     | 12 | 12 | 120 | 21 | 12 | 0/7.7              | 2   | 1.5     |
| JTTER/L1616X1.2D20-S              | 1.2 | 0.9       | 20     | 16 | 16 | 120 | 21 | 16 | 0/7.7              | -   | 1.5     |

(1) "WF" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

(2) No clamping screw from the insert side.

Torque\*: Recommended clamping torque (N-m)

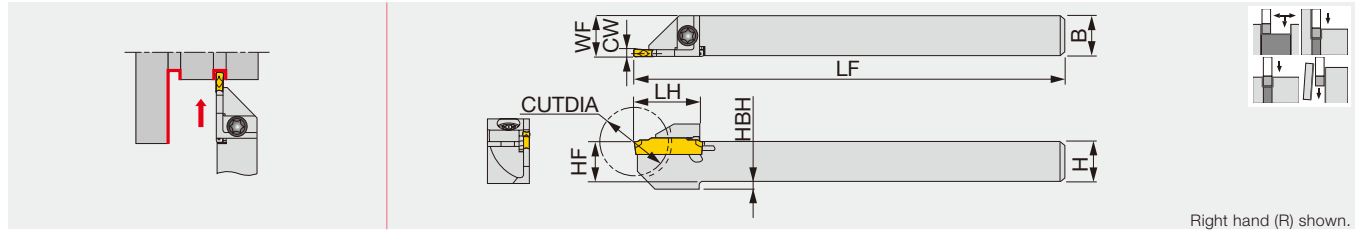
#### SPARE PARTS

| Designation                      | Clamping screw | Clamping pin | Wrench |
|----------------------------------|----------------|--------------|--------|
| JTTER/L1010, 1212..., JTTER/L*-S | SSM3.5x0.35    | PIN-SL-TC    | P-2F   |
| JTTER/L1616...                   | SRM5-24145-RL  | PIN-32121    | P-2.5F |





### External grooving and parting toolholder, for Swiss lathes



| Inch           | CW (in) | CW (mm) | Seat size | CUTDIA | H     | B     | LF    | LH    | HF    | WF <sup>(1)</sup> | HBH   | Torque |
|----------------|---------|---------|-----------|--------|-------|-------|-------|-------|-------|-------------------|-------|--------|
| JCTER/L08-2T12 | 0.079   | 2       | 2         | 0.945  | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.504             | 0.079 | 2.21   |
| JCTER/L08-3T12 | 0.118   | 3       | 3         | 0.945  | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.512             | 0.079 | 2.21   |
| JCTER/L10-2T16 | 0.079   | 2       | 2         | 1.260  | 0.625 | 0.625 | 4.750 | 0.945 | 0.625 | 0.629             | -     | 2.21   |
| JCTER/L10-3T16 | 0.118   | 3       | 3         | 1.260  | 0.625 | 0.625 | 4.750 | 0.945 | 0.625 | 0.637             | -     | 2.21   |

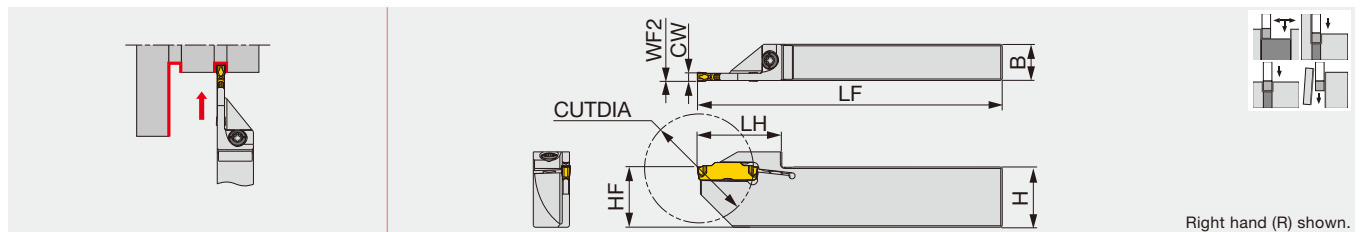
  

| Metric             | CW  | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF <sup>(1)</sup> | HBH | Torque* |
|--------------------|-----|-----------|--------|----|----|-----|------|----|-------------------|-----|---------|
| JCTER/L1010X1.4T10 | 1.4 | 1         | 20     | 10 | 10 | 120 | 18   | 10 | 10.2              | -   | 3       |
| JCTER/L1212F1.4T12 | 1.4 | 1         | 24     | 12 | 12 | 85  | 19.5 | 12 | 12.2              | -   | 3       |
| JCTER/L1212X1.4T12 | 1.4 | 1         | 24     | 12 | 12 | 120 | 19.5 | 12 | 12.2              | -   | 3       |
| JCTER/L1414-1.4T12 | 1.4 | 1         | 24     | 14 | 14 | 125 | 19.5 | 14 | 14.2              | -   | 3       |
| JCTER/L1616X1.4T16 | 1.4 | 1         | 32     | 16 | 16 | 120 | 24   | 16 | 16.2              | -   | 3       |
| JCTER/L1010X2T10   | 2   | 2         | 20     | 10 | 10 | 120 | 19   | 10 | 10.1              | 2   | 3       |
| JCTER/L1212F2T12   | 2   | 2         | 24     | 12 | 12 | 85  | 19   | 12 | 12.1              | 2   | 3       |
| JCTER/L1212X2T12   | 2   | 2         | 24     | 12 | 12 | 120 | 19   | 12 | 12.1              | 2   | 3       |
| JCTER/L1414-2T12   | 2   | 2         | 24     | 14 | 14 | 125 | 19   | 14 | 14.1              | -   | 3       |
| JCTER/L1616X2T16   | 2   | 2         | 32     | 16 | 16 | 120 | 24   | 16 | 16.1              | -   | 3       |
| JCTER/L1212F3T12   | 3   | 3         | 24     | 12 | 12 | 85  | 19   | 12 | 12.3              | 2   | 3       |
| JCTER/L1212X3T12   | 3   | 3         | 24     | 12 | 12 | 120 | 19   | 12 | 12.3              | 2   | 3       |
| JCTER/L1616X3T16   | 3   | 3         | 32     | 16 | 16 | 120 | 24   | 16 | 16.3              | -   | 3       |
| JCTER/L2020H3T16   | 3   | 3         | 32     | 20 | 20 | 100 | 24   | 20 | 20.3              | -   | 3       |

(1) The value for "WF" is true when the insert with the width, indicated in "CW" in the table is mounted. • CUTDIA: Maximum parting-off diameter  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### JCTER/L2012

#### External grooving and parting toolholder, for Swiss lathes



| Metric           | CW | Seat size | CUTDIA | H  | B  | LF  | LH | HF | WF2 <sup>(1)</sup> | Torque* |
|------------------|----|-----------|--------|----|----|-----|----|----|--------------------|---------|
| JCTER/L2012H2T18 | 2  | 2         | 36     | 20 | 12 | 100 | 25 | 20 | 0.1                | 3       |
| JCTER/L2012H3T21 | 3  | 3         | 42     | 20 | 12 | 100 | 28 | 20 | 0.3                | 3       |

(1) "WF" value is calculated with groove width "CW" shown in the table. • CUTDIA: Max. parting diameter  
Torque\*: Recommended clamping torque (N·m)

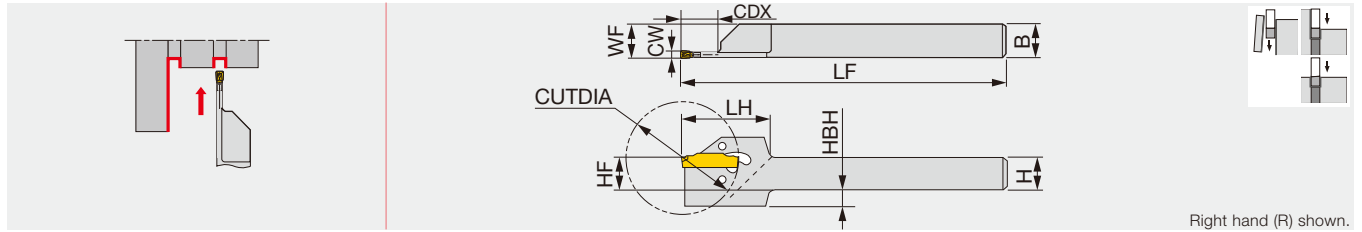
#### SPARE PARTS

| Designation              | Clamping screw | Wrench |
|--------------------------|----------------|--------|
| JCTER/L...JCTER/L2012... | CSHB-4-A       | T-15F  |

Reference pages: JCTER/L, JCTER/L2012: Inserts → **G154 - G161**, Standard cutting conditions → **G162**

## CGER/L

External deep grooving and parting toolholder, for Swiss lathes



Right hand (R) shown.

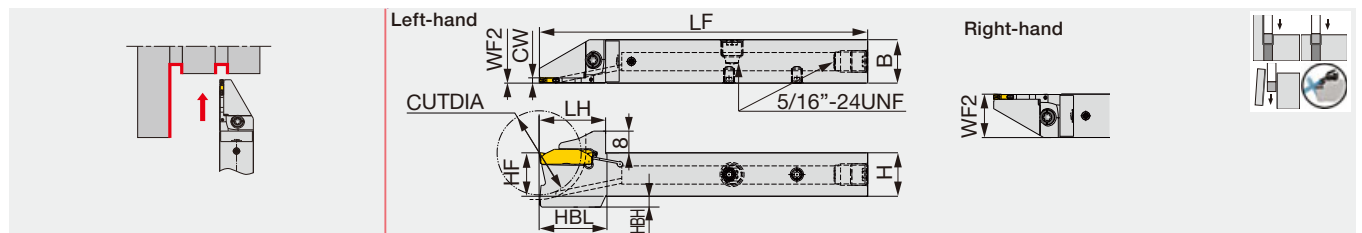
| Metric            | CW  | Seat size | CUTDIA <sup>(1)</sup> | CDX  | H  | B  | LF  | LH | HF | WF <sup>(2)</sup> | HBH |
|-------------------|-----|-----------|-----------------------|------|----|----|-----|----|----|-------------------|-----|
| CGER/L2020-1.4T14 | 1.4 | 1         | 29/29                 | 9.7  | 20 | 20 | 125 | 31 | 20 | 20.2              | -   |
| CGER/L1212-2T17   | 2   | 2         | 35/35                 | 11.8 | 12 | 12 | 150 | 31 | 12 | 12.1              | 6   |
| CGER/L1616-2T17   | 2   | 2         | 35/35                 | 11.8 | 16 | 16 | 150 | 31 | 16 | 16.1              | 2   |
| CGER/L2020-2T17   | 2   | 2         | 35/35                 | 9.8  | 20 | 20 | 125 | 31 | 20 | 20.1              | -   |
| CGER/L1212-3T19   | 3   | 3         | 38/40                 | 12   | 12 | 12 | 150 | 31 | 12 | 12.3              | 6   |
| CGER/L1616-3T19   | 3   | 3         | 38/45                 | 14.9 | 16 | 16 | 150 | 31 | 16 | 16.3              | 2   |
| CGER/L2020-3T19   | 3   | 3         | 38/45                 | 13.2 | 20 | 20 | 125 | 31 | 20 | 20.3              | -   |
| CGER/L2020-4T19   | 4   | 4         | 38/55                 | 20.3 | 20 | 20 | 125 | 33 | 20 | 20.4              | -   |

(1) DG\*/SG\* Maximum diameter of parting off Dmax, can be increased by using SG\* insert for some toolholders. (2) "WF" value is calculated with groove width "CW" shown in the table. Wrench, CRW\*\*, should be ordered separately. Insert is clamped by the elastic deformation of upper jaw.

## JCTER/L-CHP

Direct connection

External grooving and parting-off toolholder, high pressure coolant compatible



| Inch               | CW    | Seat size | CUTDIA | H     | B     | LF    | LH    | HF    | WF2 <sup>(1)</sup> | HBH   | HBL   | Torque |
|--------------------|-------|-----------|--------|-------|-------|-------|-------|-------|--------------------|-------|-------|--------|
| JCTER/L08X2T12-CHP | 0.079 | 2         | 0.980  | 0.500 | 0.500 | 4.750 | 0.972 | 0.500 | 0 / 0.500          | 0.169 | 0.965 | 2.21   |
| JCTER/L10X2T12-CHP | 0.079 | 2         | 0.980  | 0.625 | 0.625 | 4.750 | 0.972 | 0.625 | 0 / 0.625          | 0.039 | 0.965 | 2.21   |
| JCTER/L10X2T16-CHP | 0.079 | 2         | 1.260  | 0.625 | 0.625 | 4.750 | 0.972 | 0.625 | 0 / 0.625          | 0.157 | 0.965 | 2.21   |
| JCTER/L12X2T16-CHP | 0.079 | 2         | 1.260  | 0.750 | 0.750 | 4.750 | 0.972 | 0.750 | 0 / 0.750          | 0.037 | 0.965 | 2.21   |

| Metric               | CW | Seat size | CUTDIA | H  | B  | LF  | LH   | HF | WF2 <sup>(1)</sup> | HBH | HBL  | Torque* |
|----------------------|----|-----------|--------|----|----|-----|------|----|--------------------|-----|------|---------|
| JCTER/L1212X2T12-CHP | 2  | 2         | 25     | 12 | 12 | 120 | 24.7 | 12 | 0/12               | 5   | 24.7 | 3       |
| JCTER/L1616X2T12-CHP | 2  | 2         | 25     | 16 | 16 | 120 | 24.7 | 16 | 0/16               | 1   | 24.5 | 3       |
| JCTER/L1616X2T16-CHP | 2  | 2         | 32     | 16 | 16 | 120 | 24.7 | 16 | 0/16               | 4   | 24.7 | 3       |
| JCTER/L2020X2T16-CHP | 2  | 2         | 32     | 20 | 20 | 120 | 24.7 | 20 | 0/20               | -   | -    | 3       |

(1) "WF2" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.

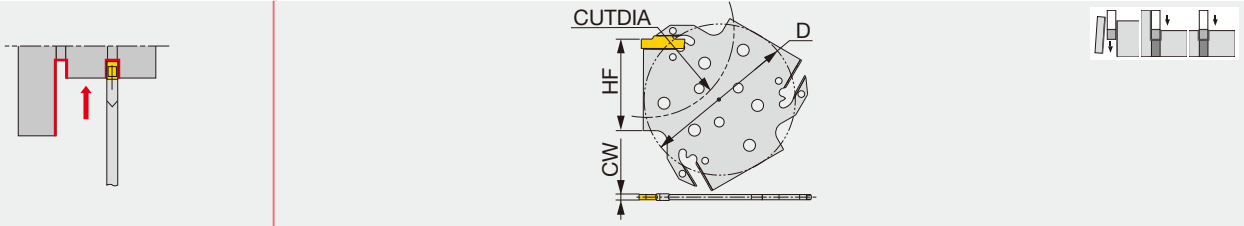
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation           | Clamping screw | Wrench | Coolant plug   | Wrench | DirectJet plug | Wrench | Wrench (Option) |
|-----------------------|----------------|--------|----------------|--------|----------------|--------|-----------------|
| CGER/L2020-1.4T14     | -              | -      | -              | -      | -              | -      | CRW23           |
| CGER/L***-2T17 - 4T19 | -              | -      | -              | -      | -              | -      | CRW33           |
| JCTER/L...            | CSHB-4-A       | T-15F  | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    | -               |

Reference pages: CGER/L, JCTER/L-CHP: Inserts → **G154 - G161**, Standard cutting conditions → **G162**

### Parting-off and external grooving blade



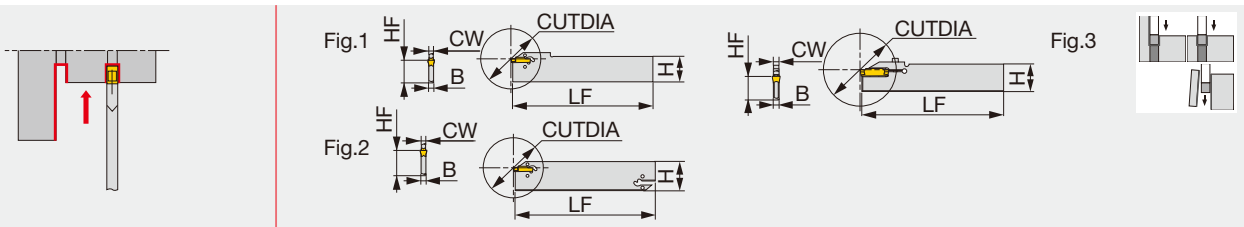
| Metric    | CW | Seat size | CUTDIA | HF | D    |
|-----------|----|-----------|--------|----|------|
| CHGP52-2T | 2  | 2         | 52     | 27 | 48.3 |
| CHGP52-3T | 3  | 3         | 52     | 27 | 48.3 |
| CHGP82-3T | 3  | 3         | 82     | 42 | 69.3 |
| CHGP82-4T | 4  | 4         | 82     | 42 | 69.3 |

.When depth is deeper than insert length - 1.5mm, 1 corner type is recommended



### CGP

### External deep grooving and parting blade



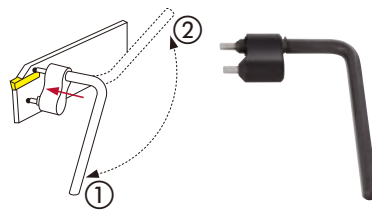
| Metric      | CW  | Seat size | CUTDIA | H  | B   | LF  | HF   | Fig. | Torque* |
|-------------|-----|-----------|--------|----|-----|-----|------|------|---------|
| CGP26-1.4S  | 1.4 | 1         | 26     | 26 | 1   | 150 | 21.4 | 1    | -       |
| CGP32-1.4D  | 1.4 | 1         | 26     | 32 | 1   | 150 | 24.8 | 2    | -       |
| CGP26-2S    | 2   | 2         | 40     | 26 | 1.8 | 150 | 21.4 | 1    | -       |
| CGP32-2D    | 2   | 2         | 50     | 32 | 1.8 | 150 | 24.8 | 2    | -       |
| CGP26-3S    | 3   | 3         | 50     | 26 | 2.4 | 150 | 21.4 | 1    | -       |
| CGP32-3D    | 3   | 3         | 100    | 32 | 2.4 | 150 | 24.8 | 2    | -       |
| CGP26-4S    | 4   | 4         | 80     | 26 | 3.2 | 150 | 21.4 | 1    | -       |
| CGP32-4D    | 4   | 4         | 100    | 32 | 3.2 | 150 | 24.9 | 2    | -       |
| CGP45-4D    | 4   | 4         | 120    | 45 | 3.2 | 150 | 38.1 | 2    | -       |
| CGP32-5D    | 5   | 5         | 120    | 32 | 4   | 150 | 24.9 | 2    | -       |
| CGP32-6D    | 6   | 6         | 120    | 32 | 5.2 | 150 | 24.9 | 2    | -       |
| CGP32-8S-CL | 8   | 8         | 80     | 32 | 6.2 | 150 | 24.9 | 3    | 3       |

When depth is deeper than (insert length - 1.5mm), 1 corner type is recommended.  
Wrench (CRW...) is not included. Please order it separately.  
\*Torque: Recommended clamping torque (N·m)

### Caution

#### Newly developed clamp

Insert is clamped by the elastic deformation of upper jaw.  
Low clamping stress increases the stability and tool life.



unclamp : ① → ②  
clamp : ② → ①

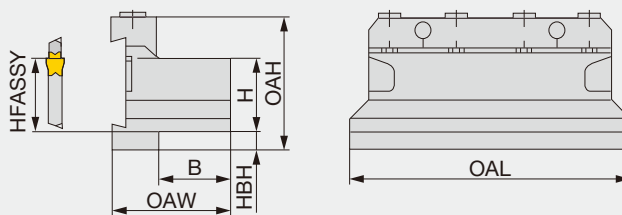
#### SPARE PARTS

| Designation              | Clamp | Clamping screw  | Wrench | Wrench (Optional) |
|--------------------------|-------|-----------------|--------|-------------------|
| CGP**-1.4*               | -     | -               | -      | CRW23             |
| CHGP..., CGP**-2/3/4/5/6 | -     | -               | -      | CRW33             |
| CGP32-8S-CL              | -     | CM4X0.7X20-M0-A | P-3    | -                 |

Reference pages: CHGP: Inserts → **G154 - G161**, Toolblock → **G165**  
CGP: Inserts → **G154 - G161**, Toolblock → **F252 - F253, G153**  
Standard cutting conditions → **G162**

## CTBU

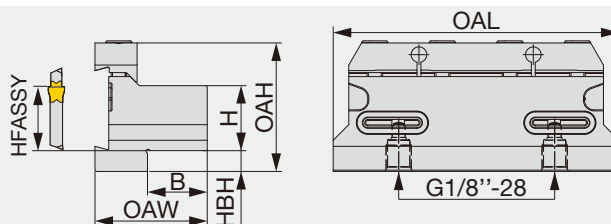
Tool blocks for CGP blade



| Inch        | H     | B     | OAL   | HFASSY | HBH   | OAH   | OAW   | Blade (Optional) |
|-------------|-------|-------|-------|--------|-------|-------|-------|------------------|
| CTBU12-26-U | 0.750 | 0.827 | 3.386 | 0.750  | 0.354 | 1.693 | 1.496 | CGP26...         |
| CTBU16-26-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.197 | 1.772 | 1.654 | CGP26...         |
| CTBU12-32-U | 0.750 | 0.748 | 3.937 | 0.750  | 0.512 | 1.969 | 1.496 | CGP32...         |
| CTBU16-32-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.315 | 1.969 | 1.654 | CGP32...         |
| CTBU20-32-U | 1.250 | 1.142 | 4.331 | 1.250  | 0.197 | 2.126 | 1.890 | CGP32...         |
| Metric      | H     | B     | OAL   | HFASSY | HBH   | OAH   | OAW   | Blade (Optional) |
| CTBU20-26   | 20    | 21    | 86    | 20     | 9     | 43    | 38    | CGP26...         |
| CTBU25-26   | 25    | 23    | 110   | 25     | 5     | 45    | 43    | CGP26...         |
| CTBU20-32   | 20    | 19    | 100   | 20     | 13    | 50    | 38    | CGP32...         |
| CTBU25-32   | 25    | 23    | 110   | 25     | 8     | 50    | 42    | CGP32...         |
| CTBU32-32   | 32    | 29    | 110   | 32     | 5     | 54    | 48    | CGP32...         |





## CTBU-CHP

Tool block for CGP-CHP blade with high pressure internal coolant capacity



| Inch            | H     | B     | OAL   | HFASSY | HBH   | OAH  | OAW   | Blade (Optional)         |
|-----------------|-------|-------|-------|--------|-------|------|-------|--------------------------|
| CTBU16-32-U-CHP | 1.000 | 0.906 | 4.331 | 1.000  | 0.315 | 1.97 | 1.654 | CGP32- <sup>D</sup> -CHP |
| Metric          | H     | B     | OAL   | HFASSY | HBH   | OAH  | OAW   | Blade (Optional)         |
| CTBU25-32-CHP   | 25    | 23    | 110   | 25     | 8     | 50   | 43.2  | CGP32- <sup>D</sup> -CHP |


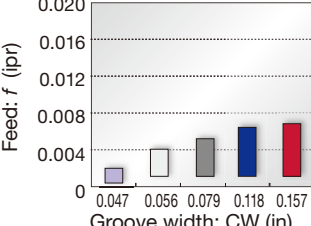
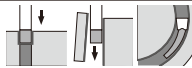

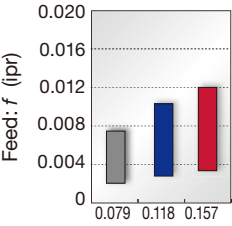
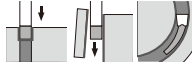

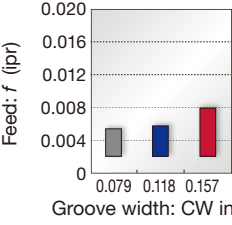
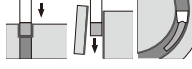
Applicable for 14 MPa coolant

| SPARE PARTS                                     |  |  |  |  |
|---|---|---|---|---|
| Designation                                     | Clamping screw  | Clamp   | Wrench  | O-ring  |
| CTBU12-26-U , CTBU20-26                         | CM6X30-S  | CT-86   | P-5   | -   |
| CTBU12-32-U, CTBU25-26                          | CM6X30-S  | CT-105  | P-5   | -   |
| CTBU16-26-U, CTBU20-32                          | CM6X30-S  | CT-100  | P-5   | -   |
| CTBU16-32-U, CTBU20-32-U , CTBU25-32, CTBU32-32 | CM6X30-S  | CT-110  | P-5   | -   |
| CTBU16-32-U-CHP, CTBU25-32-CHP                  | SRM6X16DIN912-12.9  | CT-110  | P-5   | OR14X2.5NN  |

Reference pages: CTBU: Blade → **G152**, CTBU-CHP: Blade → **F254**

### External grooving and parting




| <p><b>DGS type (2 corners)</b><br/><b>SGS type (1 corner)</b></p>  <p>G156, G159</p> | <p><b>For Swiss lathes</b></p> <p>Unique-designed edge and chipbreaker</p> <p>Handed insert available</p> <p>CW = 0.047" - 0.157"</p>   | <p>■ Standard feed</p>  <table border="1"> <caption>Standard feed data for DGS/SGS</caption> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr> <td>0.047</td> <td>~0.002</td> </tr> <tr> <td>0.056</td> <td>~0.004</td> </tr> <tr> <td>0.079</td> <td>~0.006</td> </tr> <tr> <td>0.118</td> <td>~0.007</td> </tr> <tr> <td>0.157</td> <td>~0.008</td> </tr> </tbody> </table> | Groove width: CW (in) | Feed: f (ipr) | 0.047 | ~0.002 | 0.056 | ~0.004 | 0.079 | ~0.006 | 0.118   | ~0.007 | 0.157 | ~0.008 |  |
|---|---|--|-----------------------|---------------|-------|--------|-------|--------|-------|--------|---|--------|-------|--------|---|
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.047   | ~0.002  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.056   | ~0.004  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.079   | ~0.006  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.118   | ~0.007  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.157   | ~0.008  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| <p><b>DGM type (2 corners)</b><br/><b>SGM type (1 corner)</b></p>  <p>G157, G158</p> | <p><b>High fracture resistance</b></p> <p>Smooth chip evacuation</p> <p>Well-designed edge with high strength</p> <p>Handed insert available</p> <p>CW = 0.079" - 0.157"</p>                              | <p>■ Standard feed</p>  <table border="1"> <caption>Standard feed data for DGM/SGM</caption> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr> <td>0.079</td> <td>~0.007</td> </tr> <tr> <td>0.118</td> <td>~0.010</td> </tr> <tr> <td>0.157</td> <td>~0.012</td> </tr> </tbody> </table>   | Groove width: CW (in) | Feed: f (ipr) | 0.079 | ~0.007 | 0.118 | ~0.010 | 0.157 | ~0.012 |  |        |       |        |   |
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.079   | ~0.007  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.118   | ~0.010  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.157   | ~0.012  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| <p><b>DGL type (2 corners)</b></p>  <p>G161</p>                                    | <p><b>1st choice for mild steel</b></p> <p>Chipbreaker with excellent chip control at low feed</p> <p>Suitable for mild steel that often has difficulties in chip control</p> <p>CW = 0.079" - 0.157"</p> | <p>■ Standard feed</p>  <table border="1"> <caption>Standard feed data for DGL</caption> <thead> <tr> <th>Groove width: CW (in)</th> <th>Feed: f (ipr)</th> </tr> </thead> <tbody> <tr> <td>0.079</td> <td>~0.005</td> </tr> <tr> <td>0.118</td> <td>~0.006</td> </tr> <tr> <td>0.157</td> <td>~0.008</td> </tr> </tbody> </table>  | Groove width: CW (in) | Feed: f (ipr) | 0.079 | ~0.005 | 0.118 | ~0.006 | 0.157 | ~0.008 |  |        |       |        |   |
| Groove width: CW (in)   | Feed: f (ipr)   |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.079   | ~0.005  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.118   | ~0.006  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |
| 0.157   | ~0.008  |  |                       |               |       |        |       |        |       |        |   |        |       |        |   |

Please see page G\*\*\* for the product details.

## External grooving

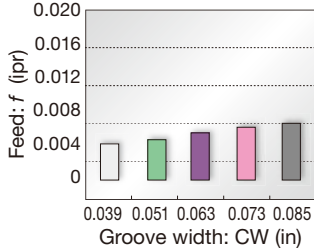

**DGE type (2 corners)**



**For shallow grooves with high accuracy**


Excellent chip control  
 CW = 1 - 2.15 mm  
 (0.039" - 0.085")

Standard feed

G160

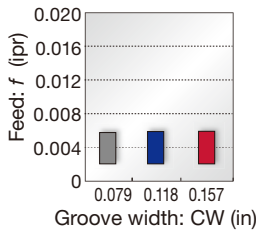

**DGG type (2 corners)**



**For non-ferrous materials and titanium alloys**

Chipbreaker with low cutting force  
 Sharp cutting edge that prevents vibration and delivers fine surface finish  
 CW = 0.079" - 0.157"

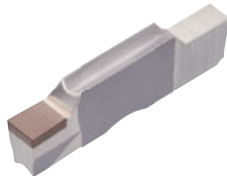
Standard feed

G160

## External grooving of hardened steels

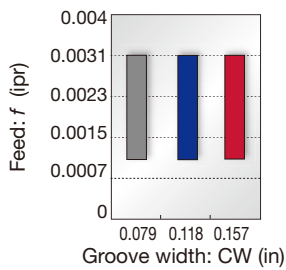

**SGN-CBN type (1 corner)**



**For hardened steel cutting**

Optimum cutting edge shape for grooving of hardened steels  
 Close tolerance width for finishing (W = ±0.001")  
 CW = 0.079" - 0.157"

Standard feed

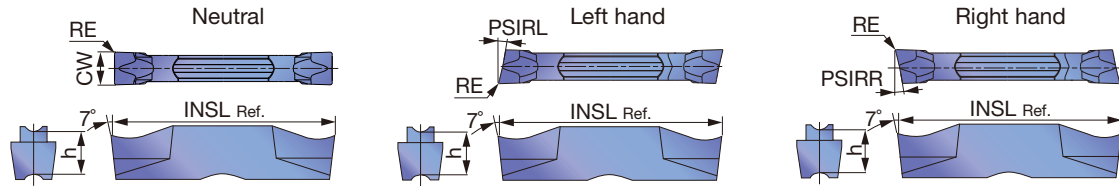
G161

Please see page G\*\*\* for the product details.

# INSERT

## DGS

External grooving and parting



|   |                |   |   |   |   |   |   |   |   |  |  |   |  |
|---|----------------|---|---|---|---|---|---|---|---|--|--|---|--|
| P | Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ | ★ |   |  |  |   |  |
| M | Stainless      |   | ★ | ☆ | ★ | ★ | ★ |   |   |  |  |   |  |
| K | Cast iron      |   | ★ |   | ★ | ☆ | ★ |   | ☆ |  |  | ☆ |  |
| N | Non-ferrous    |   |   |   |   |   |   |   |   |  |  | ☆ |  |
| S | Superalloys    |   | ★ | ☆ | ★ |   |   |   |   |  |  | ★ |  |
| H | Hard materials |   |   |   |   |   |   |   |   |  |  |   |  |

★ : First choice  
☆ : Second choice

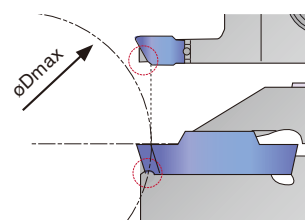
| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       | Cermet | Uncoated | INSL (in) | h (in) | PSIRL | PSIRR |
|--------------|-----------|------|--------------|---------------|---------|--------|--------|-------|--------|-------|--------|----------|-----------|--------|-------|-------|
|              |           |      |              |               |         | T9225  | AH7025 | AH725 | AH8005 | GH130 | AH6235 | NS9530   |           |        |       |       |
| DGS1.2-003   | 0.9       | N    | 1.2          | 0.047         | 0.001   |        |        | ●     |        |       |        |          | 0.630     | 0.185  | 0°    | 0°    |
| DGS1.4-005   | 1         | N    | 1.4          | 0.055         | 0.002   |        |        | ●     |        |       |        |          | 0.630     | 0.169  | 0°    | 0°    |
| DGS1.4-010   | 1         | N    | 1.4          | 0.055         | 0.004   |        |        | ●     |        |       |        |          | 0.630     | 0.169  | 0°    | 0°    |
| DGS1.4-016   | 1         | N    | 1.4          | 0.055         | 0.006   |        | ●      | ●     |        | ●     |        |          | 0.630     | 0.169  | 0°    | 0°    |
| DGS2-005     | 2         | N    | 2            | 0.079         | 0.002   |        |        | ●     |        |       |        |          | 0.787     | 0.197  | 0°    | 0°    |
| DGS2-010     | 2         | N    | 2            | 0.079         | 0.004   |        |        | ●     |        |       |        |          | 0.787     | 0.197  | 0°    | 0°    |
| DGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●      | ●        | 0.787     | 0.197  | 0°    | 0°    |
| DGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 0°    | 6°    |
| DGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 6°    | 0°    |
| DGS2-002-6R  | 2         | R    | 2            | 0.079         | 0.001   |        |        | ●     |        | ●     |        |          | 0.768     | 0.197  | 0°    | 6°    |
| DGS2-002-6L  | 2         | L    | 2            | 0.079         | 0.001   |        |        | ●     |        | ●     |        |          | 0.768     | 0.197  | 6°    | 0°    |
| DGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 0°    | 15°   |
| DGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 15°   | 0°    |
| DGS2-002-15R | 2         | R    | 2            | 0.079         | 0.001   |        |        | ●     |        | ●     |        |          | 0.768     | 0.197  | 0°    | 15°   |
| DGS2-002-15L | 2         | L    | 2            | 0.079         | 0.001   |        |        | ●     |        | ●     |        |          | 0.768     | 0.197  | 15°   | 0°    |
| DGS2.39-020  | 2         | N    | 2.39         | 0.094         | 0.008   |        | ●      | ●     | ●      | ●     |        |          | 0.787     | 0.197  | 0°    | 0°    |
| DGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●      | ●        | 0.787     | 0.197  | 0°    | 0°    |
| DGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 0°    | 6°    |
| DGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 6°    | 0°    |
| DGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.001   |        |        | ●     |        | ●     |        |          | 0.766     | 0.197  | 0°    | 6°    |
| DGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.001   |        |        | ●     |        | ●     |        |          | 0.766     | 0.197  | 6°    | 0°    |
| DGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 0°    | 15°   |
| DGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 15°   | 0°    |
| DGS3-002-15R | 3         | R    | 3            | 0.118         | 0.001   |        |        | ●     |        | ●     |        |          | 0.766     | 0.197  | 0°    | 15°   |
| DGS3-002-15L | 3         | L    | 3            | 0.118         | 0.001   |        |        | ●     |        | ●     |        |          | 0.766     | 0.197  | 15°   | 0°    |
| DGS3.18-020  | 3         | N    | 3.18         | 0.125         | 0.008   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 0°    | 0°    |
| DGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●        | 0.787     | 0.197  | 0°    | 0°    |
| DGS4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 0°    | 4°    |
| DGS4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        | ●     |        |          | 0.787     | 0.197  | 4°    | 0°    |
| DGS4.76-040  | 5         | N    | 4.76         | 0.187         | 0.016   |        | ●      | ●     |        | ●     |        |          | 0.984     | 0.217  | 0°    | 0°    |
| DGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●        | 0.984     | 0.217  | 0°    | 0°    |
| DGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●      | ●        | 0.984     | 0.217  | 0°    | 0°    |
| DGS6.35-040  | 6         | N    | 6.35         | 0.250         | 0.016   |        | ●      | ●     |        | ●     |        |          | 0.984     | 0.217  | 0°    | 0°    |
| DGS8-040     | 8         | N    | 8            | 0.315         | 0.016   |        | ●      | ●     |        | ●     |        |          | 1.181     | 0.264  | 0°    | 0°    |

● : Line up

### Caution

The tool will interfere with the workpiece when grooving larger diameters than  $\phi D_{max}$ .

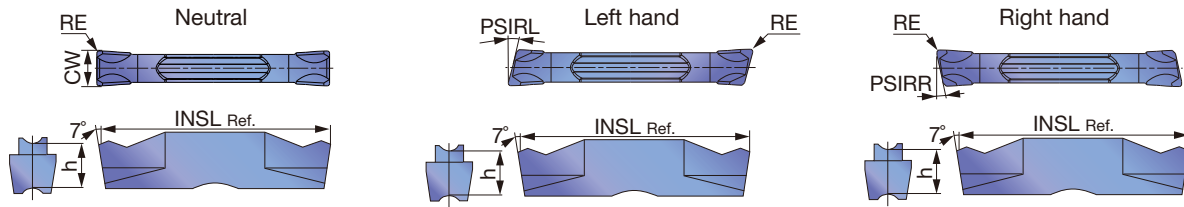
| Designation    | $\phi D_{max}$ (in) | Designation    | $\phi D_{max}$ (in) |
|----------------|---------------------|----------------|---------------------|
| DGM2-002-15R/L | 1.102               | DGS2-002-15R/L | 1.102               |
| DGM3-002-15R/L | 1.142               | DGS3-002-15R/L | 1.142               |
| DGM4-030-15R/L | 1.181               | SGS3-020-15R/L | 4.055               |
| SGM3-020-15R/L | 4.055               | SGS3-002-15R/L | 1.339               |



Reference pages: Toolholders → [G149 - G153](#), Standard cutting conditions → [G162](#)

# DGM

## External grooving and parting



|                         |   |   |   |   |   |   |   |   |  |  |  |   |  |
|-------------------------|---|---|---|---|---|---|---|---|--|--|--|---|--|
| <b>P</b> Steel          | ★ | ★ | ☆ | ★ | ☆ | ★ | ★ |   |  |  |  |   |  |
| <b>M</b> Stainless      |   | ★ | ☆ | ★ | ★ | ★ | ★ |   |  |  |  |   |  |
| <b>K</b> Cast iron      |   | ★ |   | ★ | ☆ | ☆ | ★ | ☆ |  |  |  | ☆ |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |   |   |   |  |  |  | ☆ |  |
| <b>S</b> Superalloys    |   | ★ | ☆ | ★ | ★ |   |   |   |  |  |  | ★ |  |
| <b>H</b> Hard materials |   |   |   |   |   |   |   |   |  |  |  |   |  |

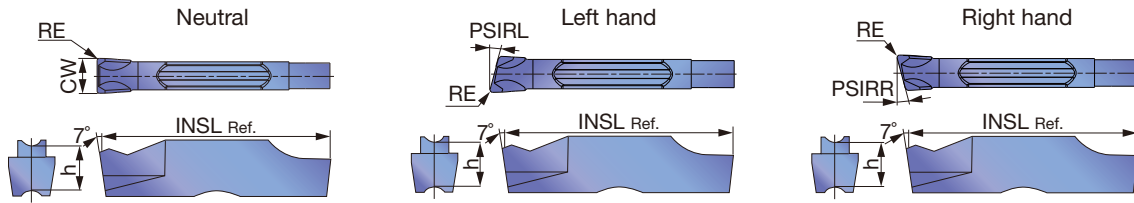
★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |        |       |        |       |       | Cermet | Uncoated | INSL (in) | h (in) | PSIRL | PSIRR |       |
|--------------|-----------|------|--------------|---------------|---------|--------|--------|-------|--------|-------|-------|--------|----------|-----------|--------|-------|-------|-------|
|              |           |      |              |               |         | T9225  | AH7025 | AH725 | AH8005 | AH905 | GH130 | AH6235 | NS9530   |           |        |       |       | KS05F |
| DGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●         | 0.787  | 0.197 | 0°    | 0°    |
| DGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 6°    |
| DGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 6°    | 0°    |
| DGM2-020-8R  | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 8°    |
| DGM2-020-8L  | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 8°    | 0°    |
| DGM2-020-15R | 2         | R    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 15°   |
| DGM2-020-15L | 2         | L    | 2            | 0.079         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 15°   | 0°    |
| DGM2-002-15R | 2         | R    | 2            | 0.079         | 0.001   |        |        | ●     |        |       | ●     |        |          |           | 0.762  | 0.197 | 0°    | 15°   |
| DGM2-002-15L | 2         | L    | 2            | 0.079         | 0.001   |        |        | ●     |        |       | ●     |        |          |           | 0.762  | 0.197 | 15°   | 0°    |
| DGM2.39-020  | 2         | N    | 2.39         | 0.094         | 0.008   |        | ●      | ●     | ●      |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 0°    |
| DGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●         | 0.787  | 0.197 | 0°    | 0°    |
| DGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 6°    |
| DGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 6°    | 0°    |
| DGM3-002-6R  | 3         | R    | 3            | 0.118         | 0.001   |        |        | ●     |        |       | ●     |        |          |           | 0.766  | 0.197 | 0°    | 6°    |
| DGM3-002-6L  | 3         | L    | 3            | 0.118         | 0.001   |        |        | ●     |        |       | ●     |        |          |           | 0.766  | 0.197 | 6°    | 0°    |
| DGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 15°   |
| DGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 15°   | 0°    |
| DGM3.18-020  | 3         | N    | 3.18         | 0.125         | 0.008   |        | ●      | ●     | ●      |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 0°    |
| DGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●         | 0.787  | 0.197 | 0°    | 0°    |
| DGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 4°    |
| DGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 4°    | 0°    |
| DGM4-030-15R | 4         | R    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 0°    | 15°   |
| DGM4-030-15L | 4         | L    | 4            | 0.157         | 0.012   |        | ●      | ●     |        |       | ●     |        |          |           | 0.787  | 0.197 | 15°   | 0°    |
| DGM4.76-040  | 5         | N    | 4.76         | 0.187         | 0.016   |        | ●      | ●     | ●      |       | ●     |        |          |           | 0.984  | 0.217 | 0°    | 0°    |
| DGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●         | 0.984  | 0.217 | 0°    | 0°    |
| DGM5-030-4R  | 5         | R    | 5            | 0.197         | 0.012   |        | ●      | ●     |        |       | ●     |        |          |           | 0.984  | 0.217 | 0°    | 4°    |
| DGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●         | 0.984  | 0.217 | 0°    | 0°    |
| DGM6.35-040  | 6         | N    | 6.35         | 0.250         | 0.016   |        | ●      | ●     | ●      |       | ●     |        |          |           | 0.984  | 0.217 | 0°    | 0°    |
| DGM8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      | ●      | ●     | ●      | ●     | ●     | ●      | ●        | ●         | 1.181  | 0.264 | 0°    | 0°    |

● : Line up



External deep grooving and parting



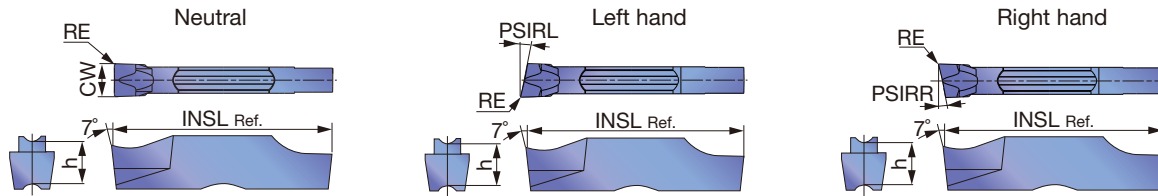
|                         |   |   |   |   |   |  |  |   |   |  |  |  |  |
|-------------------------|---|---|---|---|---|--|--|---|---|--|--|--|--|
| <b>P</b> Steel          | ★ | ☆ | ★ | ☆ | ★ |  |  |   |   |  |  |  |  |
| <b>M</b> Stainless      | ★ | ☆ | ★ | ★ | ★ |  |  |   |   |  |  |  |  |
| <b>K</b> Cast iron      | ★ |   | ★ | ☆ | ★ |  |  | ☆ |   |  |  |  |  |
| <b>N</b> Non-ferrous    |   |   |   |   |   |  |  |   | ☆ |  |  |  |  |
| <b>S</b> Superalloys    | ★ | ☆ | ★ |   |   |  |  |   | ★ |  |  |  |  |
| <b>H</b> Hard materials |   |   |   |   |   |  |  |   |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  | INSL (in) | h (in) | PSIRL | PSIRR |     |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|-----------|--------|-------|-------|-----|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |           |        |       |       |     |
| SGM2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGM2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGM3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGM3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGM3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGM3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGM4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGM4-030-4R  | 4         | R    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 4°  |
| SGM4-030-4L  | 4         | L    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 4°    | 0°  |
| SGM5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGM6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGM8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 1.181  | 0.264 | 0°    | 0°  |

● : Line up

External deep grooving and parting



|   |                |   |   |   |   |   |  |   |  |  |  |  |  |
|---|----------------|---|---|---|---|---|--|---|--|--|--|--|--|
| P | Steel          | ★ | ☆ | ★ | ☆ | ★ |  |   |  |  |  |  |  |
| M | Stainless      | ★ | ☆ | ★ | ★ | ★ |  |   |  |  |  |  |  |
| K | Cast iron      | ★ |   | ★ | ☆ | ★ |  | ☆ |  |  |  |  |  |
| N | Non-ferrous    |   |   |   |   |   |  | ☆ |  |  |  |  |  |
| S | Superalloys    | ★ | ☆ | ★ |   |   |  | ★ |  |  |  |  |  |
| H | Hard materials |   |   |   |   |   |  |   |  |  |  |  |  |

★ : First choice  
☆ : Second choice

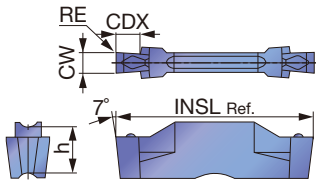
| Designation  | Seat size | HAND | CW±0.05 (mm) | CW±0.002 (in) | RE (in) | Coated |       |        |       |        | Uncoated |  | INSL (in) | h (in) | PSIRL | PSIRR |     |
|--------------|-----------|------|--------------|---------------|---------|--------|-------|--------|-------|--------|----------|--|-----------|--------|-------|-------|-----|
|              |           |      |              |               |         | AH7025 | AH725 | AH8005 | GH130 | AH6235 | KS05F    |  |           |        |       |       |     |
| SGS2-020     | 2         | N    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGS2-020-6R  | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGS2-020-6L  | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGS2-020-15R | 2         | R    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGS2-020-15L | 2         | L    | 2            | 0.079         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGS3-020     | 3         | N    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGS3-020-6R  | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 6°  |
| SGS3-020-6L  | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 6°    | 0°  |
| SGS3-002-6R  | 3         | R    | 3            | 0.118         | 0.001   |        | ●     | ●      | ●     | ●      | ●        |  |           | 0.780  | 0.197 | 0°    | 6°  |
| SGS3-002-6L  | 3         | L    | 3            | 0.118         | 0.001   |        | ●     | ●      | ●     | ●      | ●        |  |           | 0.780  | 0.197 | 6°    | 0°  |
| SGS3-020-15R | 3         | R    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 15° |
| SGS3-020-15L | 3         | L    | 3            | 0.118         | 0.008   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 15°   | 0°  |
| SGS3-002-15R | 3         | R    | 3            | 0.118         | 0.001   |        | ●     | ●      | ●     | ●      | ●        |  |           | 0.780  | 0.197 | 0°    | 15° |
| SGS3-002-15L | 3         | L    | 3            | 0.118         | 0.001   |        | ●     | ●      | ●     | ●      | ●        |  |           | 0.780  | 0.197 | 15°   | 0°  |
| SGS4-030     | 4         | N    | 4            | 0.157         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.787  | 0.197 | 0°    | 0°  |
| SGS5-030     | 5         | N    | 5            | 0.197         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGS6-030     | 6         | N    | 6            | 0.236         | 0.012   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 0.984  | 0.217 | 0°    | 0°  |
| SGS8-040     | 8         | N    | 8            | 0.315         | 0.016   | ●      | ●     | ●      | ●     | ●      | ●        |  |           | 1.181  | 0.264 | 0°    | 0°  |

● : Line up



## DGE

External grooving (for high precision)



|   |                |   |   |   |  |   |   |  |  |  |
|---|----------------|---|---|---|--|---|---|--|--|--|
| P | Steel          | ★ | ☆ | ☆ |  | ★ |   |  |  |  |
| M | Stainless      | ★ | ☆ | ★ |  |   |   |  |  |  |
| K | Cast iron      | ★ |   | ☆ |  |   | ☆ |  |  |  |
| N | Non-ferrous    |   |   |   |  |   |   |  |  |  |
| S | Superalloys    | ★ | ☆ |   |  |   |   |  |  |  |
| H | Hard materials |   |   |   |  |   |   |  |  |  |

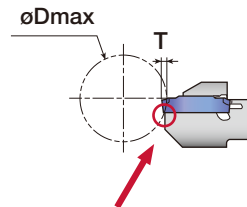
★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.05 (mm) | CW±0.0008 (in) | RE (in) | Coated |       |       | Cermet | CDX (in) | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|-------|-------|--------|----------|-----------|--------|
|             |           |              |                |         | AH7025 | AH725 | GH130 | NS9530 |          |           |        |
| DGE100-000  | 2         | 1            | 0.039          | 0       |        | ●     | ●     | ●      | 0.098    | 0.787     | 0.197  |
| DGE130-000  | 2         | 1.3          | 0.051          | 0       |        | ●     | ●     | ●      | 0.098    | 0.787     | 0.197  |
| DGE160-010  | 2         | 1.6          | 0.063          | 0.004   | ●      | ●     | ●     | ●      | 0.098    | 0.787     | 0.197  |
| DGE185-010  | 2         | 1.85         | 0.073          | 0.004   | ●      | ●     | ●     | ●      | 0.138    | 0.787     | 0.197  |
| DGE215-015  | 2         | 2.15         | 0.085          | 0.006   | ●      | ●     | ●     | ●      | 0.138    | 0.787     | 0.197  |

### Caution

øDmax is limited as shown in the picture to the right according to the groove depth, G.D. Please refer to the following table. G.D = Groove depth

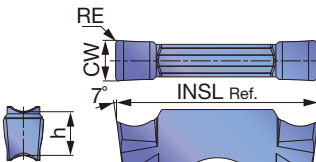
| Designation | Max. groove depth (in) | øDmax (in) |           |           |           |           |
|-------------|------------------------|------------|-----------|-----------|-----------|-----------|
|             |                        | T = 0.039  | T = 0.059 | T = 0.079 | T = 0.098 | T = 0.118 |
| DGE100-000  | 0.079                  | ∞          | 0.73      | 0.45      | -         | -         |
| DGE130-000  |                        |            |           |           |           |           |
| DGE160-010  |                        |            |           |           |           |           |
| DGE185-010  | 0.118                  |            |           |           | 0.35      | 0.28      |
| DGE215-015  |                        |            |           |           |           |           |



Relevant area (Interference)

## DGG

External grooving (for high precision)



|   |                |   |  |   |  |   |  |  |  |  |
|---|----------------|---|--|---|--|---|--|--|--|--|
| P | Steel          | ★ |  | ★ |  |   |  |  |  |  |
| M | Stainless      | ★ |  |   |  |   |  |  |  |  |
| K | Cast iron      | ★ |  | ☆ |  | ☆ |  |  |  |  |
| N | Non-ferrous    |   |  |   |  | ★ |  |  |  |  |
| S | Superalloys    | ★ |  |   |  | ☆ |  |  |  |  |
| H | Hard materials |   |  |   |  |   |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation | Seat size | CW±0.02 (mm) | CW±0.0008 (in) | RE (in) | Coated | Cermet | Uncoated | INSL (in) | h (in) |
|-------------|-----------|--------------|----------------|---------|--------|--------|----------|-----------|--------|
|             |           |              |                |         | AH7025 | NS9530 | KS05F    |           |        |
| DGG200-020  | 2         | 2            | 0.079          | 0.008   | ●      | ●      | ●        | 0.787     | 0.197  |
| DGG300-020  | 3         | 3            | 0.118          | 0.008   | ●      | ●      | ●        | 0.787     | 0.197  |
| DGG400-040  | 4         | 4            | 0.157          | 0.016   | ●      | ●      | ●        | 0.787     | 0.197  |
| DGG500-040  | 5         | 5            | 0.197          | 0.016   | ●      | ●      | ●        | 0.984     | 0.217  |
| DGG600-040  | 6         | 6            | 0.236          | 0.016   | ●      | ●      | ●        | 0.984     | 0.217  |

● : Line up

Reference pages: Toolholders → [G149 - G153](#), Standard cutting conditions → [G162](#)

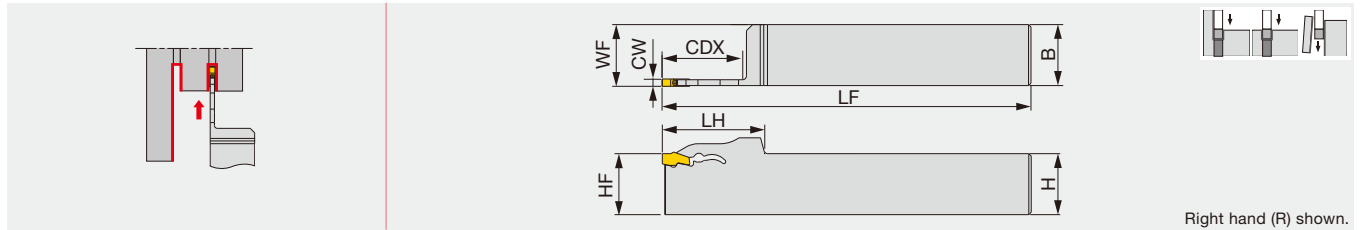


## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                             | Hardness | Priority          | Grade                         | Cutting speed<br>Vc (sfm) |
|----------|--|----------|-------------------|-------------------------------|---------------------------|
| <b>P</b> | Steel<br>1045, 4135, etc.                      | < 300 HB | First choice      | AH7025, AH725                 | 164 - 591                 |
|          |  | < 300 HB | Wear resistance   | T9225, AH8005                 | 262 - 984                 |
|          |  | < 300 HB | Impact resistance | AH6235, GH130                 | 164 - 394                 |
|          |  | < 300 HB | Surface quality   | NS9530                        | 262 - 722                 |
| <b>M</b> | Stainless steel<br>304SS, 316SS, 17-4 PH, etc. | < 200 HB | First choice      | AH7025, AH725                 | 164 - 394                 |
|          |  | < 200 HB | Wear resistance   | AH8005                        | 164 - 394                 |
|          |  | < 200 HB | Impact resistance | AH6235, GH130                 | 164 - 394                 |
| <b>K</b> | Gray cast iron<br>Class 25, Class 30, etc.     | -        | First choice      | T515                          | 492 - 2297                |
|          |  | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 591                 |
|          | Ductile cast iron<br>60-40-18, 80-55-06, etc.  | -        | First choice      | T515                          | 492 - 984                 |
|          |  | -        | Impact resistance | AH8005, AH7025, AH6235, GH130 | 164 - 394                 |
| <b>N</b> | Aluminum alloys<br>Si < 12%                    | -        | First choice      | TH10                          | 328 - 1640                |
|          |  | -        | First choice      | KS05F                         | 328 - 1969                |
| <b>S</b> | Superalloys<br>Inconel718, etc.                | < HRC 40 | First choice      | AH8005                        | 66 - 197                  |
|          |  | < HRC 40 | Impact resistance | AH7025, AH725, AH6235         | 66 - 131                  |
|          | Titanium alloys<br>Ti-6Al-4V, etc.             | < HRC 40 | First choice      | KS05F                         | 66 - 328                  |
|          |  | < HRC 40 | Impact resistance | AH7025, AH725                 | 66 - 262                  |
| <b>H</b> | Hardened steel<br>4137, etc.                   | > HRC 50 | First choice      | BX360                         | 262 - 492                 |

Please see page [G154](#), [G155](#) for feed:  $f$  (mm/rev).

## External toolholders for grooving and parting



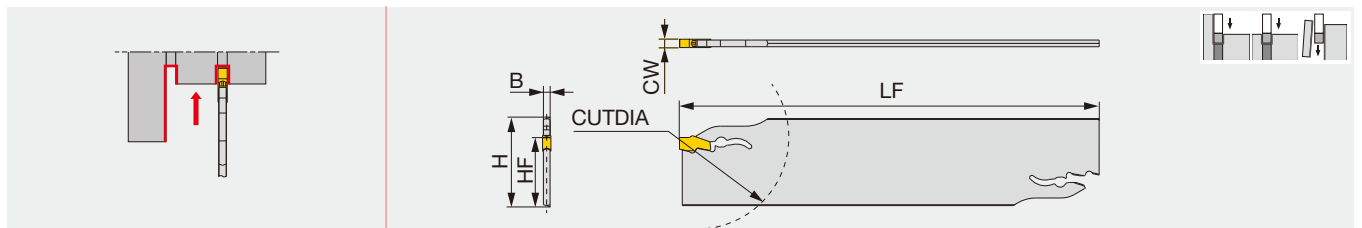
| Inch          | CW    | CDX   | Seat size | H     | B     | LF    | LH    | HF    | WF    |
|---------------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|
| QSER/L12-2T26 | 0.079 | 1.024 | 2         | 0.750 | 0.750 | 5.000 | 1.417 | 0.750 | 0.756 |
| QSER/L12-2T33 | 0.079 | 1.299 | 2         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.756 |
| QSER/L16-2T26 | 0.079 | 1.024 | 2         | 1.000 | 1.000 | 6.000 | 1.417 | 1.000 | 1.004 |
| QSER/L16-2T33 | 0.079 | 1.299 | 2         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.004 |
| QSER/L12-3T26 | 0.118 | 1.024 | 3         | 0.750 | 0.750 | 5.000 | 1.417 | 0.750 | 0.764 |
| QSER/L12-3T33 | 0.118 | 1.299 | 3         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.764 |
| QSER/L16-3T26 | 0.118 | 1.024 | 3         | 1.000 | 1.000 | 6.000 | 1.417 | 1.000 | 1.012 |
| QSER/L16-3T33 | 0.118 | 1.299 | 3         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.012 |
| QSER/L12-4T33 | 0.157 | 1.299 | 4         | 0.750 | 0.750 | 5.000 | 1.654 | 0.750 | 0.768 |
| QSER/L16-4T33 | 0.157 | 1.299 | 4         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.016 |
| QSER/L16-5T33 | 0.197 | 1.299 | 5         | 1.000 | 1.000 | 6.000 | 1.654 | 1.000 | 1.020 |

| Metric          | CW | CDX | Seat size | H  | B  | LF  | LH | HF | WF   |
|-----------------|----|-----|-----------|----|----|-----|----|----|------|
| QSER/L2020-2T26 | 2  | 26  | 2         | 20 | 20 | 125 | 36 | 20 | 20.1 |
| QSER/L2020-2T33 | 2  | 33  | 2         | 20 | 20 | 125 | 42 | 20 | 20.1 |
| QSER/L2020-3T26 | 3  | 26  | 3         | 20 | 20 | 125 | 36 | 20 | 20.3 |
| QSER/L2020-3T33 | 3  | 33  | 3         | 20 | 20 | 125 | 42 | 20 | 20.3 |
| QSER/L2020-4T33 | 4  | 33  | 4         | 20 | 20 | 125 | 42 | 20 | 20.4 |

## QSP

### Blades for external deep grooving and parting



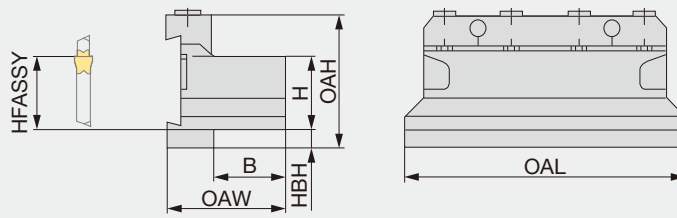
| Metric   | CW | CUTDIA | Seat size | H  | B   | LF  | HF   |
|----------|----|--------|-----------|----|-----|-----|------|
| QSP26-2D | 2  | 50     | 2         | 26 | 1.8 | 150 | 21.4 |
| QSP32-2D | 2  | 66     | 2         | 32 | 1.8 | 150 | 24.8 |
| QSP26-3D | 3  | 75     | 3         | 26 | 2.4 | 150 | 21.4 |
| QSP32-3D | 3  | 120    | 3         | 32 | 2.4 | 150 | 24.8 |
| QSP26-4D | 4  | 80     | 4         | 26 | 3.2 | 150 | 21.4 |
| QSP32-4D | 4  | 120    | 4         | 32 | 3.2 | 150 | 24.9 |
| QSP32-5D | 5  | 120    | 5         | 32 | 4   | 150 | 24.9 |

### SPARE PARTS

| Designation       | Wrench |
|-------------------|--------|
| QSER/L..., QSP... | QL-39  |

Reference pages: QSER/L: Inserts → **G166**  
 QSP: Inserts → **G166**, Toolblock → **G164**  
 Standard cutting conditions → **G167**





| Inch        | H     | B     | OAL   | HFASSY | HBH   | OAH   | OAW   | Blade (Optional) |
|-------------|-------|-------|-------|--------|-------|-------|-------|------------------|
| CTBU12-26-U | 0.750 | 0.827 | 3.386 | 0.750  | 0.354 | 1.690 | 1.496 | QSP26...         |
| CTBU16-26-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.197 | 1.770 | 1.654 | QSP26...         |
| CTBU12-32-U | 0.750 | 0.748 | 3.937 | 0.750  | 0.512 | 1.970 | 1.496 | QSP32...         |
| CTBU16-32-U | 1.000 | 0.906 | 4.331 | 1.000  | 0.315 | 1.970 | 1.654 | QSP32...         |
| CTBU20-32-U | 1.250 | 1.142 | 4.331 | 1.250  | 0.197 | 2.130 | 1.890 | QSP32...         |

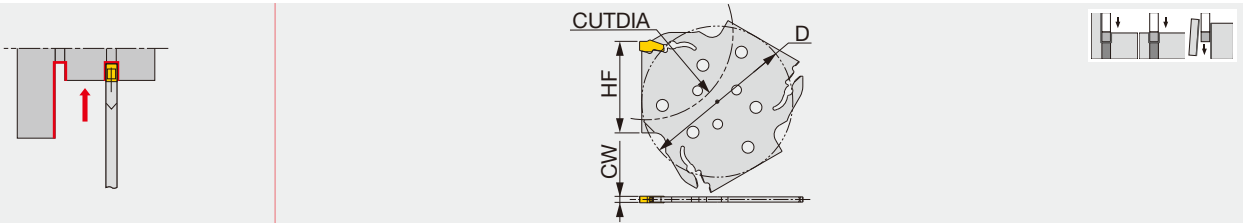
| Metric    | H  | B  | OAL | HFASSY | HBH | OAH | OAW | Blade (Optional) |
|-----------|----|----|-----|--------|-----|-----|-----|------------------|
| CTBU20-26 | 20 | 21 | 86  | 20     | 9   | 43  | 38  | QSP26...         |
| CTBU20-32 | 20 | 19 | 100 | 20     | 13  | 50  | 38  | QSP32...         |

### SPARE PARTS

| Designation                                   | Clamp  | Clamping screw | Wrench |
|---|--------|----------------|--------|
| CTBU12-26-U,CTBU20-26                         | CT-86  | CM6X30-S       | P-5    |
| CTBU16-26-U,CTBU20-32                         | CT-100 | CM6X30-S       | P-5    |
| CTBU12-32-U,CTBU25-26                         | CT-105 | CM6X30-S       | P-5    |
| CTBU16-32-U,CTBU20-32-U, CTBU25-32, CTBU32-32 | CT-110 | CM6X30-S       | P-5    |

### QSG

#### Parting-off and external grooving blade

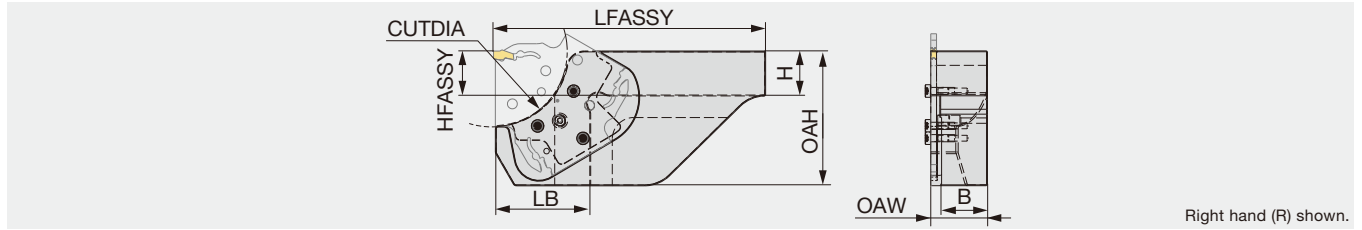


| Metric   | CW | Seat size | CUTDIA | HF | D    |
|----------|----|-----------|--------|----|------|
| QSG52-2T | 2  | 2         | 52     | 27 | 48.3 |
| QSG82-2T | 2  | 2         | 82     | 42 | 69.3 |
| QSG52-3T | 3  | 3         | 52     | 27 | 48.3 |
| QSG82-3T | 3  | 3         | 82     | 42 | 69.3 |
| QSG52-4T | 4  | 4         | 52     | 27 | 69.3 |
| QSG82-4T | 4  | 4         | 82     | 42 | 69.3 |

Reference pages: CTBU: Blade → **G163**  
 QSG: Inserts → **G166**, Toolblock → **G165**  
 Standard cutting conditions → **G167**

# CHTBR/L

## Tool block for QSG blade



| Inch           | CUTDIA | H     | B     | LFASSY | HFASSY | OAH   | OAW   | LB    | Blade          |
|----------------|--------|-------|-------|--------|--------|-------|-------|-------|----------------|
| CHTBR/L12-52   | 2.047  | 0.750 | 0.770 | 4.000  | 0.750  | 1.970 | 1.000 | 1.457 | QSG52 / CHGP52 |
| CHTBR/L12-82   | 3.228  | 0.750 | 0.770 | 5.500  | 0.750  | 2.950 | 1.000 | 2.087 | QSG82 / CHGP82 |
| Metric         | CUTDIA | H     | B     | LFASSY | HFASSY | OAH   | OAW   | LB    | Blade          |
| CHTBR/L2020-52 | 52     | 20    | 20.5  | 100    | 20     | 50    | 26.5  | 37    | QSG52 / CHGP52 |
| CHTBR/L2020-82 | 82     | 20    | 20.5  | 140    | 20     | 75    | 26.5  | 53    | QSG82 / CHGP82 |

The blade clamping screw heads protrude out for as much as 0.122" (3.1 mm) over the insert cutting edge point. Maintain the clearance from the chucking device to avoid interference.

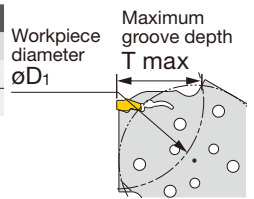
### SPARE PARTS

| Designation | Clamping screw   | Grip   | Torx bit  | Wrench |
|-------------|------------------|--------|-----------|--------|
| CHTBR/L...  | SR-ISO14580M4X10 | SW6-SD | BLDT20/S7 | -      |

### Maximum groove depth (T max) as function of workpiece diameter (øD<sub>1</sub>)

| Designation   | øD <sub>1</sub> (in) |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |        |
|---------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| CHTBR/L***-52 | 2.087                | 2.126 | 2.165 | 2.205 | 2.283 | 2.362 | 2.441 | 2.559 | 2.677 | 2.835 | 3.071 | 3.307 | 3.622 | 4.016 | 4.528  | 5.236  | 6.260  | 7.795  |
| CHTBR/L***-82 | 4.094                | 4.252 | 4.409 | 4.567 | 4.764 | 5.000 | 5.276 | 5.591 | 5.945 | 6.378 | 6.929 | 7.559 | 8.346 | 9.331 | 10.630 | 12.323 | 14.764 | 18.425 |
| T max         | 0.827                | 0.787 | 0.748 | 0.709 | 0.669 | 0.630 | 0.591 | 0.551 | 0.512 | 0.472 | 0.433 | 0.394 | 0.354 | 0.315 | 0.276  | 0.236  | 0.197  | 0.157  |

| Designation   | øD <sub>1</sub> (in) |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CHTBR/L***-82 | 3.268                | 3.307 | 3.307 | 3.346 | 3.386 | 3.425 | 3.504 | 3.543 | 3.622 | 3.701 | 3.780 | 3.858 | 3.976 |
| T max         | 1.339                | 1.299 | 1.260 | 1.220 | 1.181 | 1.142 | 1.102 | 1.063 | 1.024 | 0.984 | 0.945 | 0.906 | 0.866 |



Reference pages: CHTBR/L: Blade → **G164**  
Standard cutting conditions → **G167**





## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                   | Hardness | Grade  | Cutting speed<br>Vc (sfm) |
|----------|--------------------------------------|----------|--------|---------------------------|
| <b>P</b> | Steels<br>1045, 4140, etc.           | < 300 HB | AH7025 | 164 - 591                 |
| <b>M</b> | Stainless steel<br>304, etc.         | < 200 HB | AH7025 | 164 - 394                 |
| <b>K</b> | Gray cast iron<br>No.250B, etc.      | -        | AH7025 | 164 - 591                 |
|          | Ductile cast irons<br>65-45-12, etc. | -        | AH7025 | 164 - 394                 |
| <b>S</b> | Superalloys<br>Inconel718, etc.      | < HRC 40 | AH7025 | 66 - 197                  |
|          | Titanium alloys<br>Ti-6Al-4V, etc.   | < HRC 40 | AH7025 | 66 - 262                  |

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

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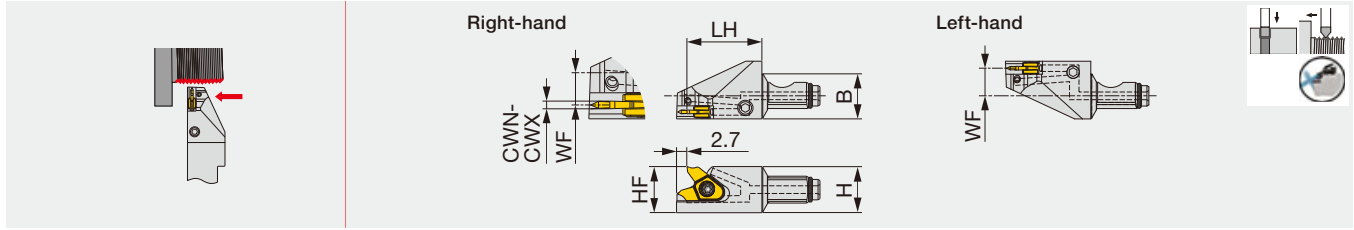
K

L

M

# MINI V LOCK GROOVE QC12-SVER/L-CHP

Modular head for external grooving and threading, with high pressure coolant capability



| Metric            | Pitch (mm) | TPI     | H              | B              | LH               | HF             | WF (1)                       | Insert   | Torque*       |
|-------------------|------------|---------|----------------|----------------|------------------|----------------|------------------------------|----------|---------------|
| QC12-SVER/L10-CHP | 0.4 - 1.5  | 64 - 12 | 12<br>(0.750") | 12<br>(0.750") | 19.5<br>(0.768") | 12<br>(0.472") | 4.19/7.19<br>(0.165"/0.283") | VG*10... | 1.3<br>(0.96) |

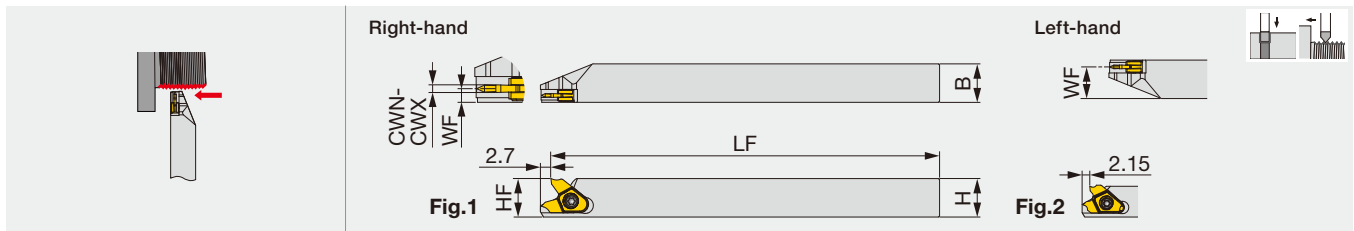
Torque\*: Recommended clamping torque: N-m (lbs-ft)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width.

The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

## SVER/L

External grooving and threading toolholder



| Inch        | Pitch (mm) | TPI     | H     | B     | LF    | HF    | WF (1)      | Insert   | Torque | Fig. |
|-------------|------------|---------|-------|-------|-------|-------|-------------|----------|--------|------|
| SVER/L06-10 | 0.4 - 1.5  | 64 - 12 | 0.375 | 0.375 | 4.750 | 0.375 | 0.070/0.304 | VG*10... | 0.96   | 1    |
| SVER/L08-10 | 0.4 - 1.5  | 64 - 12 | 0.500 | 0.500 | 4.750 | 0.500 | 0.070/0.430 | VG*10... | 0.96   | 2    |

| Metric        | Pitch     | TPI     | H  | B  | LF  | HF | WF (1)     | Insert   | Torque* | Fig. |
|---------------|-----------|---------|----|----|-----|----|------------|----------|---------|------|
| SVER/L1010H10 | 0.4 - 1.5 | 64 - 12 | 10 | 10 | 100 | 10 | 1.78/8.23  | VG*10... | 1.3     | 1    |
| SVER/L1212X10 | 0.4 - 1.5 | 64 - 12 | 12 | 12 | 120 | 12 | 1.78/10.23 | VG*10... | 1.3     | 1    |

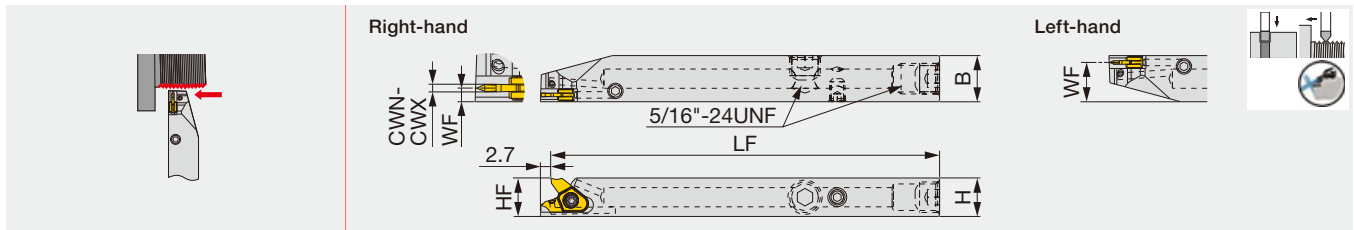
Torque: Recommended clamping torque: lbs-ft (\*N-m)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width.

The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

## SVER/L-CHP

External grooving and threading toolholder, with high pressure coolant capability



| Inch            | Pitch (mm) | TPI     | H     | B     | LF    | HF    | WF (1)      | Insert   | Torque |
|-----------------|------------|---------|-------|-------|-------|-------|-------------|----------|--------|
| SVER/L08-10-CHP | 0.4 - 1.5  | 64 - 12 | 0.500 | 0.500 | 4.750 | 0.500 | 0.070/0.430 | VG*10... | 0.96   |

| Metric            | Pitch     | TPI     | H  | B  | LF  | HF | WF (1)     | Insert   | Torque* |
|-------------------|-----------|---------|----|----|-----|----|------------|----------|---------|
| SVER/L1012H10-CHP | 0.4 - 1.5 | 64 - 12 | 10 | 12 | 100 | 10 | 1.78/10.23 | VG*10... | 1.3     |
| SVER/L1212X10-CHP | 0.4 - 1.5 | 64 - 12 | 12 | 12 | 120 | 12 | 1.78/10.23 | VG*10... | 1.3     |

Compatible to the direct internal coolant supply system without the use of external coolant hose.

Torque: Recommended clamping torque: lbs-ft (\*N-m)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width.

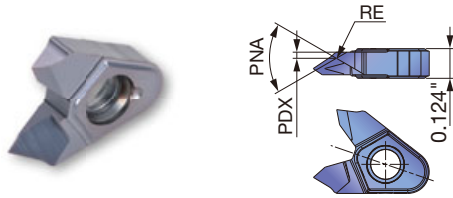
The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

## SPARE PARTS

| Designation                       | Clamping screw | Wrench 1 | O-ring               | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|-----------------------------------|----------------|----------|----------------------|----------------|----------|----------------|----------|
| QC12-SVER...                      | CSTB-2.5L054DL | T-7F     | ORSS-0454.5X1.0NBR70 | -              | -        | -              | -        |
| QC12-SVEL...                      | CSTB-2.5L054DR | T-7F     | ORSS-0454.5X1.0NBR70 | -              | -        | -              | -        |
| SVER08-10-CHP, 1012/1212**-CHP... | CSTB-2.5L054DL | T-7F     | -                    | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| SVEL08-10-CHP, 1012/1212**-CHP... | CSTB-2.5L054DR | T-7F     | -                    | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| SVER06/08-10..., SVER1010/1212... | CSTB-2.5L054DL | T-7F     | -                    | -              | -        | -              | -        |
| SVEL06/08-10..., SVEL1010/1212... | CSTB-2.5L054DR | T-7F     | -                    | -              | -        | -              | -        |

## INSERT

### VGT10 (For threading / sharp edge)



|          |                |   |  |  |  |  |
|----------|----------------|---|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |
| <b>K</b> | Cast iron      |   |  |  |  |  |
| <b>N</b> | Non-ferrous    | ★ |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |

★ : First choice

| Designation    | RE (in) | Coated |  |  |  |  | Pitch (mm) | TPI     | PDX (in) | PNA |
|----------------|---------|--------|--|--|--|--|------------|---------|----------|-----|
|                |         | SH725  |  |  |  |  |            |         |          |     |
| VGT10F-60A-005 | 0.002   | ●      |  |  |  |  | 0.4 - 1    | 64 - 25 | 0.026    | 60° |
| VGT10F-60A-010 | 0.004   | ●      |  |  |  |  | 1 - 2      | 25 - 12 | 0.038    | 60° |
| VGT10F-55A-005 | 0.002   | ●      |  |  |  |  | 0.6 - 1.5  | 40 - 16 | 0.033    | 55° |

● : Line up

## STANDARD CUTTING CONDITIONS

### Threading

| ISO      | Workpiece materials                             | Grade | Cutting speed Vc (sfm) | Pitch (mm) | TPI     |
|----------|---|-------|------------------------|------------|---------|
| <b>P</b> | Low carbon steels<br>1015, 1020, etc.           | SH725 | 164 - 492              | 0.4 - 2    | 64 - 12 |
|          | Carbon steels, Alloy steels<br>1055, 4140, etc. | SH725 | 164 - 492              | 0.4 - 2    | 64 - 12 |
|          | Free cutting steels<br>SUH22, SUH23, etc.       | SH725 | 164 - 492              | 0.4 - 2    | 64 - 12 |
| <b>M</b> | Stainless steels<br>304, etc.                   | SH725 | 164 - 328              | 0.4 - 2    | 64 - 12 |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.             | SH725 | 492 - 656              | 0.4 - 2    | 64 - 12 |
|          | Copper alloy<br>C2600, C280C, etc.              | SH725 | 328 - 656              | 0.4 - 2    | 64 - 12 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.              | SH725 | 98 - 262               | 0.4 - 2    | 64 - 12 |
|          | Superalloys<br>Inconel718, etc.                 | SH725 | 98 - 262               | 0.4 - 2    | 64 - 12 |

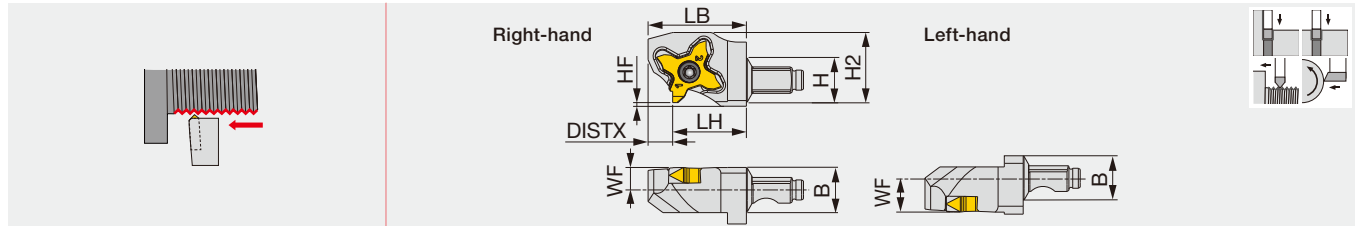
Grade  
Insert  
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# TETRAMCUT

## QC12-STCR/L-Y

Y-axis turning modular head for external grooving and threading



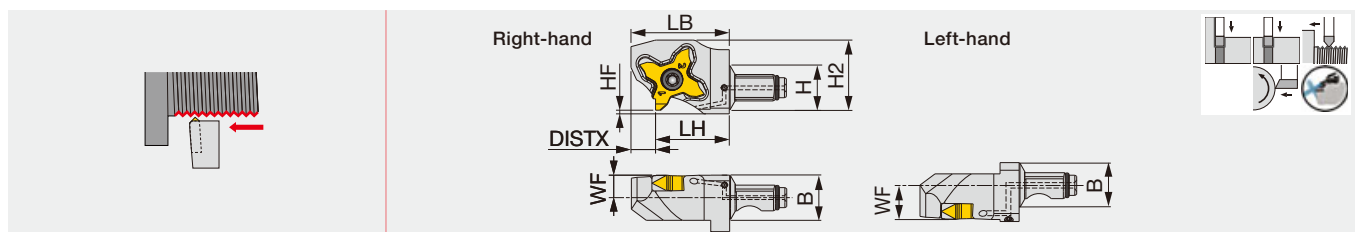
| Metric          | Pitch   | H              | B              | LH               | HF        | WF**                     | LB             | H2               | DISTX           | Insert   | Torque*       |
|-----------------|---------|----------------|----------------|------------------|-----------|--------------------------|----------------|------------------|-----------------|----------|---------------|
| QC12-STCR/L18-Y | 0.4 - 3 | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 0<br>(0") | 6/9<br>(0.236" / 0.354") | 26<br>(1.024") | 18.6<br>(0.732") | 6.5<br>(0.256") | TC*18... | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N-m (lbs-ft)

The right hand insert (R) is used for the right hand toolholders (R), and the left hand insert (L) is used for the left hand toolholders (L).

## QC12-STCR/L-Y-CHP

Y-axis turning modular head for external grooving and threading, with high pressure coolant capability



| Metric              | Pitch   | H              | B              | LH               | HF        | WF            | LB             | H2               | DISTX           | Insert   | Torque*       |
|---------------------|---------|----------------|----------------|------------------|-----------|---------------|----------------|------------------|-----------------|----------|---------------|
| QC12-STCR/L18-Y-CHP | 0.4 - 3 | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 0<br>(0") | 6<br>(0.236") | 26<br>(1.024") | 18.6<br>(0.732") | 6.5<br>(0.256") | TC*18... | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N-m (lbs-ft)

The right hand insert (R) is used for the right hand toolholders (R), and the left hand insert (L) is used for the left hand toolholders (L).

Through-coolant head

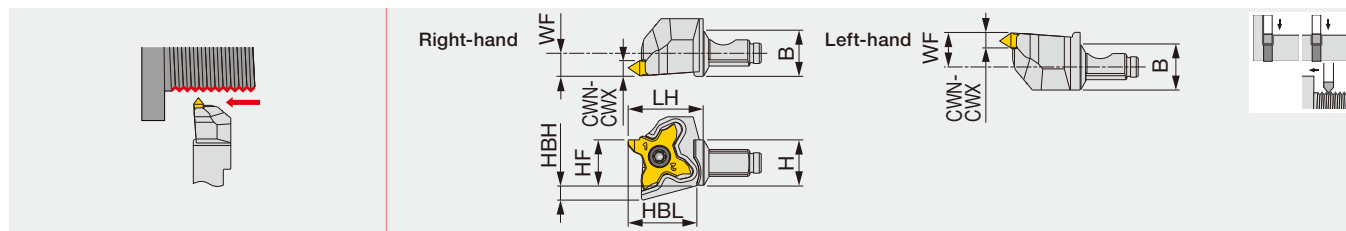
### SPARE PARTS

| Designation       | Clamping screw | Wrench   | O-ring               |
|-------------------|----------------|----------|----------------------|
| QC12-STCR18-Y     | CSTC-4L100DL   | T-1008/5 | -                    |
| QC12-STCL18-Y     | CSTC-4L100DR   | T-1008/5 | -                    |
| QC12-STCR18-Y-CHP | CSTC-4L100DL   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCL18-Y-CHP | CSTC-4L100DR   | T-1008/5 | ORSS-0454.5X1.0NBR70 |

Reference pages: QC12-STCR/L-Y, QC12-STCR/L-Y-CHP: Inserts → [G174](#), [G175](#)  
Shank, Accessory → [G115](#), [G116](#), Standard cutting conditions → [G175](#)

## QC12-STCR/L

Modular head for external grooving and threading



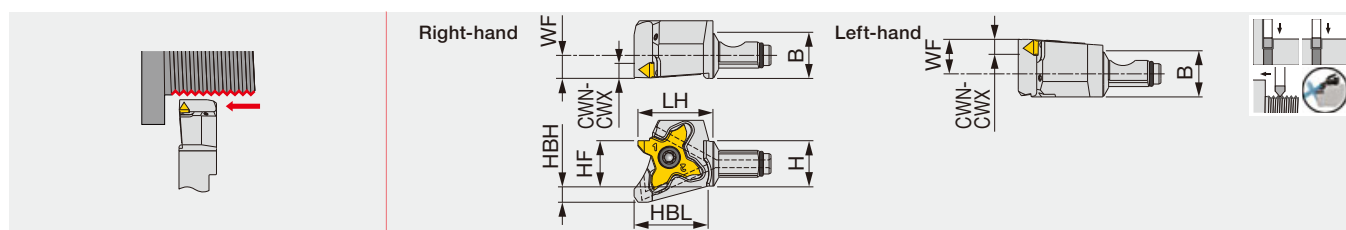
| Metric      | Pitch   | H              | B              | LH               | HF             | HBH             | HBL              | WF            | Insert    | Torque*       |
|-------------|---------|----------------|----------------|------------------|----------------|-----------------|------------------|---------------|-----------|---------------|
| QC12-STCR18 | 0.4 - 3 | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 12<br>(0.472") | 3.9<br>(0.154") | 17.9<br>(0.705") | 6<br>(0.236") | TC*18R... | 1.2<br>(0.89) |
| QC12-STCL18 | 0.4 - 3 | 12<br>(0.472") | 12<br>(0.472") | 21<br>(0.827")   | 12<br>(0.472") | 3.9<br>(0.154") | 18.3<br>(0.720") | 9<br>(0.354") | TC*18L... | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N·m (lbs·ft)

The right hand insert (R) is used for the right hand toolholders (R), and the left hand insert (L) is used for the left hand toolholders (L).

## QC12-STCR/L-CHP

Modular head for external grooving and threading, with high pressure coolant capability



| Metric          | Pitch   | H              | B              | LH               | HF             | HBH             | HBL              | WF            | Insert    | Torque*       |
|-----------------|---------|----------------|----------------|------------------|----------------|-----------------|------------------|---------------|-----------|---------------|
| QC12-STCR18-CHP | 0.4 - 3 | 12<br>(0.472") | 12<br>(0.472") | 19.5<br>(0.768") | 12<br>(0.472") | 4.2<br>(0.165") | 19.3<br>(0.760") | 6<br>(0.236") | TC*18R... | 1.2<br>(0.89) |
| QC12-STCL18-CHP | 0.4 - 3 | 12<br>(0.472") | 12<br>(0.472") | 21<br>(0.827")   | 12<br>(0.472") | 4.2<br>(0.165") | 19.3<br>(0.760") | 9<br>(0.354") | TC*18L... | 1.2<br>(0.89) |

Torque\*: Recommended clamping torque: N·m (lbs·ft)

Through-coolant head

Note: Use the right-hand insert (TC\*18R...) for a right-hand holder (QC12-STCR...); the left-hand insert (TC\*18L...) for a left-hand holder (QC12-STCL...).

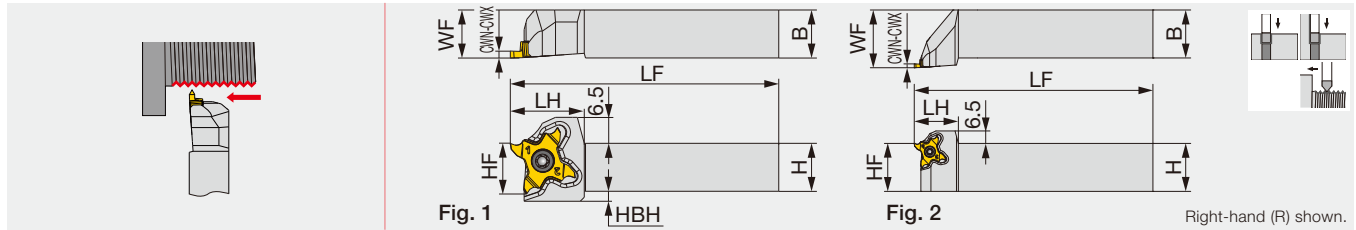
### SPARE PARTS

| Designation     | Clamping screw | Wrench   | O-ring               |
|-----------------|----------------|----------|----------------------|
| QC12-STCR18-CHP | CSTC-4L100DL   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCL18-CHP | CSTC-4L100DR   | T-1008/5 | ORSS-0454.5X1.0NBR70 |
| QC12-STCR18     | CSTC-4L100DL   | T-1008/5 | -                    |
| QC12-STCL18     | CSTC-4L100DR   | T-1008/5 | -                    |

# TETRAMCUT

## STCR/L-18

External grooving and threading toolholder



| Inch        | CWN   | CWX   | H     | B     | LF    | LH    | HF    | WF    | HBH   | Insert   | Torque | Fig. |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|--------|------|
| STCR/L06-18 | 0.013 | 0.118 | 0.375 | 0.375 | 4.750 | 0.740 | 0.375 | 0.375 | 0.177 | TC*18... | 0.89   | 1    |
| STCR/L08-18 | 0.013 | 0.118 | 0.500 | 0.500 | 4.750 | 0.740 | 0.500 | 0.500 | 0.098 | TC*18... | 0.89   | 1    |
| STCR/L10-18 | 0.013 | 0.118 | 0.625 | 0.625 | 4.750 | 0.740 | 0.625 | 0.625 | -     | TC*18... | 0.89   | 1    |
| STCR/L12-18 | 0.013 | 0.118 | 0.750 | 0.750 | 4.750 | 0.900 | 0.750 | 1.000 | -     | TC*18... | 0.89   | 2    |
| STCR/L16-18 | 0.013 | 0.118 | 1.000 | 1.000 | 5.500 | 0.900 | 1.000 | 1.250 | -     | TC*18... | 0.89   | 2    |

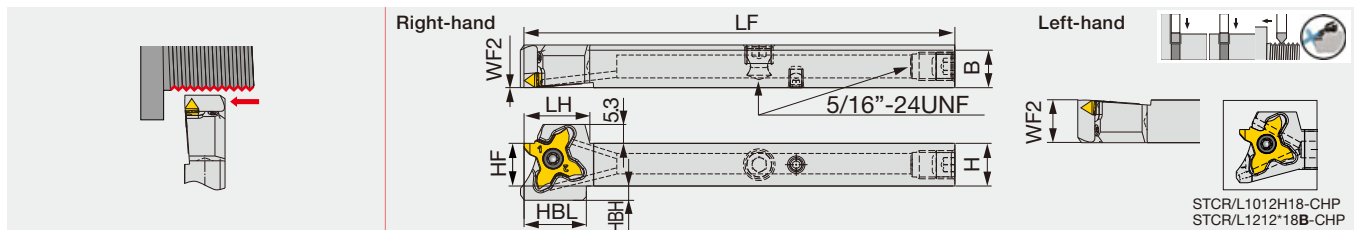
| Metric        | CWN  | CWX  | H  | B  | LF  | LH   | HF | WF | HBH | Insert   | Torque* | Fig. |
|---------------|------|------|----|----|-----|------|----|----|-----|----------|---------|------|
| STCR/L1010X18 | 0.33 | 3.18 | 10 | 10 | 120 | 18.5 | 10 | 10 | 4.5 | TC*18... | 1.2     | 1    |
| STCR/L1212F18 | 0.33 | 3.18 | 12 | 12 | 85  | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1212X18 | 0.33 | 3.18 | 12 | 12 | 120 | 18.5 | 12 | 12 | 2.5 | TC*18... | 1.2     | 1    |
| STCR/L1616X18 | 0.33 | 3.18 | 16 | 16 | 120 | 18.5 | 16 | 16 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020H18 | 0.33 | 3.18 | 20 | 20 | 100 | 18.5 | 20 | 20 | -   | TC*18... | 1.2     | 1    |
| STCR/L2020X18 | 0.33 | 3.18 | 20 | 20 | 120 | 23   | 20 | 25 | -   | TC*18... | 1.2     | 2    |

The right hand insert (TC\*18R...) is used for the right hand toolholders (STCR...), and the left hand insert is used for the left hand toolholders  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

## STCR/L-H/X18-CHP

Direct connection

External grooving and threading toolholder, high pressure coolant compatible



| Inch            | Pitch (mm) | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque |
|-----------------|------------|-------|-------|-------|-------|-------|-------|---------|-------|----------|--------|
| STCR/L08X18-CHP | 0.4 - 3    | 0.500 | 0.500 | 4.750 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | TC*18... | 0.89   |
| STCR/L10X18-CHP | 0.4 - 3    | 0.625 | 0.625 | 4.750 | 0.728 | -     | 0.625 | 0/0.625 | -     | TC*18... | 0.89   |

| Metric             | Pitch   | H  | B  | LF  | LH   | HBL  | HF | WF2** | HBH | Insert | Torque* |
|--------------------|---------|----|----|-----|------|------|----|-------|-----|--------|---------|
| STCR/L1012H18-CHP  | 0.4 - 3 | 10 | 12 | 100 | 17.1 | 17.1 | 10 | 0/12  | 4   | TC**18 | 1.2     |
| STCR/L1212X18B-CHP | 0.4 - 3 | 12 | 12 | 120 | 18.5 | 17.5 | 12 | 0/12  | 4   | TC**18 | 1.2     |
| STCR/L1616X18-CHP  | 0.4 - 3 | 16 | 16 | 120 | 18.5 | -    | 16 | 0/16  | 0   | TC**18 | 1.2     |

The right hand insert (TC\*18R\*\*) is used for the right hand toolholders (STCR\*\*), and the left hand insert (TC\*18L\*\*) is used for the left hand toolholders (STCL\*\*).  
WF2\*\* : The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
Torque: Recommended clamping torque: lbs-ft (\*N·m)

### SPARE PARTS

| Designation         | Clamping screw | Wrench   |
|---------------------|----------------|----------|
| STCFVR**18,STCL**18 | CSTC-4L100DR   | T-1008/5 |
| STCR**18            | CSTC-4L100DL   | T-1008/5 |

Threading pitch range: 0.8 ~ 3 mm

### SPARE PARTS

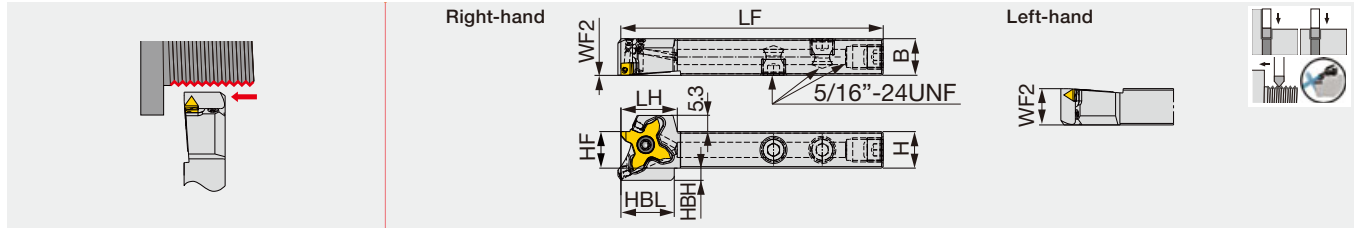
| Designation  | Clamping screw | Wrench   | Coolant plug   | Wrench | DirectJet plug | Wrench |
|--------------|----------------|----------|----------------|--------|----------------|--------|
| STCR...18    | CSTC-4L100DL   | T-1008/5 | -              | -      | -              | -      |
| STCL...18    | CSTC-4L100DR   | T-1008/5 | -              | -      | -              | -      |
| STCL**18-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |
| STCR**18-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    | SSHM4-6-TB     | P-2    |

Reference pages : STCR/L-18, STCR/L-H/X18-CHP: Inserts → G174, G175, Standard cutting conditions → G175

# STCR/L-F18-CHP

Tube connection

External grooving and threading toolholder. High pressure coolant capability.

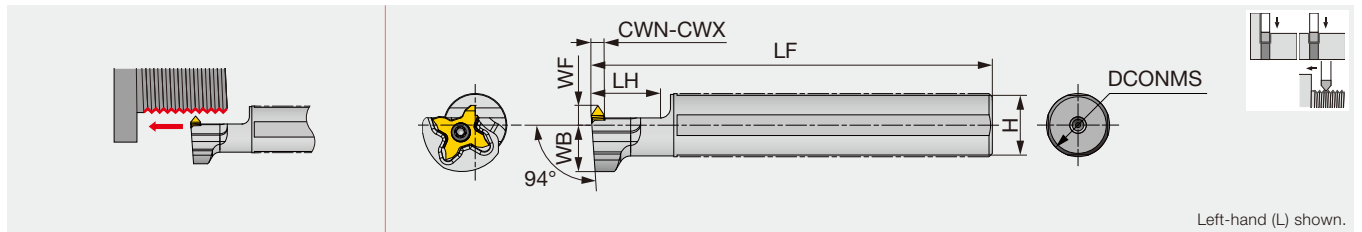


| Inch               | Pitch (mm) | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque  |
|--------------------|------------|-------|-------|-------|-------|-------|-------|---------|-------|----------|---------|
| STCR/L08F18-CHP    | 0.4 - 3    | 0.500 | 0.500 | 3.344 | 0.728 | 0.689 | 0.500 | 0/0.500 | 0.130 | TC*18... | 0.89    |
| Metric             | Pitch      | H     | B     | LF    | LH    | HBL   | HF    | WF2**   | HBH   | Insert   | Torque* |
| STCR/L1212F18B-CHP | 0.4 - 3    | 12    | 12    | 85    | 18.5  | 17.5  | 12    | 0/12    | 4     | TC**18   | 1.2     |

The right hand insert (TC\*18R\*\*) is used for the right hand toolholders (STCR\*\*), and the left hand insert (TC\*18L\*\*) is used for the left hand toolholders (STCL\*\*).  
 WF2\*\* : The first value before "/" indicates the WF2 for the right-hand holder and the second value after "/" for the left-hand holder.  
 Torque: Recommended clamping torque: lbs-ft (\*N-m)

# JS-STCL18

External grooving and threading toolholder with round shank, for Swiss lathes



| Metric        | Pitch   | DCONMS | H  | LF  | LH | WB    | WF | Insert    | Torque* |
|---------------|---------|--------|----|-----|----|-------|----|-----------|---------|
| JS14H-STCL18  | 0.4 - 3 | 14     | 13 | 100 | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS159F-STCL18 | 0.4 - 3 | 15.875 | 15 | 85  | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS16F-STCL18  | 0.4 - 3 | 16     | 15 | 85  | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS19G-STCL18  | 0.4 - 3 | 19.05  | 18 | 90  | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS19X-STCL18  | 0.4 - 3 | 19.05  | 18 | 120 | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS20G-STCL18  | 0.4 - 3 | 20     | 19 | 90  | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS20X-STCL18  | 0.4 - 3 | 20     | 19 | 120 | 20 | 14    | 6  | TC*18R... | 1.2     |
| JS22X-STCL18  | 0.4 - 3 | 22     | 21 | 120 | 20 | 12.25 | 10 | TC*18R... | 1.2     |
| JS25H-STCL18  | 0.4 - 3 | 25     | 24 | 100 | 20 | 12.25 | 10 | TC*18R... | 1.2     |
| JS254X-STCL18 | 0.4 - 3 | 25.4   | 24 | 120 | 20 | 12.25 | 10 | TC*18R... | 1.2     |

- The left hand toolholder (STCL...) is used with the right hand inserts (TC\*18R...)  
 Torque\*: Recommended torque (N-m) for clamping

## SPARE PARTS

| Designation  | Clamping screw | Wrench   | Coolant plug   | Wrench |
|--------------|----------------|----------|----------------|--------|
| STCL**18-CHP | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4    |
| STCR**18-CHP | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4    |
| JS...STCL18  | CSTC-4L100DL   | T-1008/5 | -              | -      |

Reference pages : STCR/L-F18-CHP, JS-STCL18: Inserts → G174, G175, Standard cutting conditions → G175

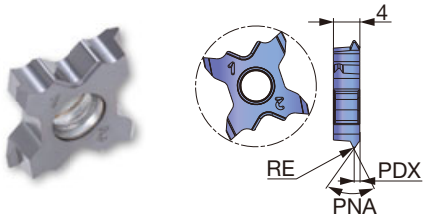
Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
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# INSERT

## TCT18FR/R-ISO (Full profile threading insert)



Right-hand (R) shown.

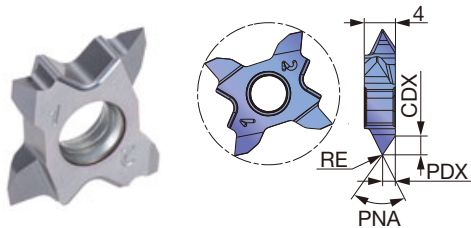
|          |                |   |   |  |  |  |
|----------|----------------|---|---|--|--|--|
| <b>P</b> | Steel          | ★ | ★ |  |  |  |
| <b>M</b> | Stainless      | ★ | ★ |  |  |  |
| <b>K</b> | Cast iron      | ★ | ★ |  |  |  |
| <b>N</b> | Non-ferrous    |   |   |  |  |  |
| <b>S</b> | Superalloys    | ★ | ★ |  |  |  |
| <b>H</b> | Hard materials |   |   |  |  |  |

★ : First choice  
☆ : Second choice

| Designation    | HAND | RE (in) | Coated |       | Pitch (mm) | PDX (in) | PNA |
|----------------|------|---------|--------|-------|------------|----------|-----|
|                |      |         | SH725  | AH725 |            |          |     |
| TCT18FR-05ISO  | R    | 0.002   | ●      |       | 0.5        | 0.014    | 60° |
| TCT18FR-07ISO  | R    | 0.004   | ●      |       | 0.7        | 0.018    | 60° |
| TCT18FR-075ISO | R    | 0.004   | ●      |       | 0.75       | 0.020    | 60° |
| TCT18FR-08ISO  | R    | 0.004   | ●      |       | 0.8        | 0.020    | 60° |
| TCT18R-10ISO   | R    | 0.005   |        | ●     | 1          | 0.024    | 60° |
| TCT18R-125ISO  | R    | 0.007   |        | ●     | 1.25       | 0.028    | 60° |
| TCT18R-15ISO   | R    | 0.008   |        | ●     | 1.5        | 0.031    | 60° |

● : Line up

## TCT18R/L (for threading)



|          |                |   |  |  |  |  |
|----------|----------------|---|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |

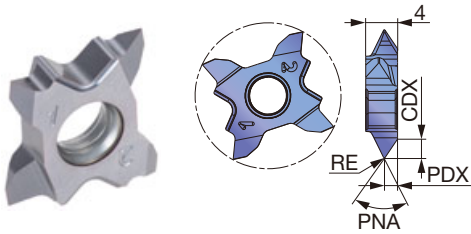
★ : First choice  
☆ : Second choice

| Designation    | HAND | RE (in) | Coated |  | Pitch min (mm) | Pitch max (mm) | PDX (in) | CDX (in) | PNA |
|----------------|------|---------|--------|--|----------------|----------------|----------|----------|-----|
|                |      |         | AH725  |  |                |                |          |          |     |
| TCT18R-60N-010 | R    | 0.004   | ●      |  | 0.8            | 3              | 0.063    | 0.105    | 60° |
| TCT18L-60N-010 | L    | 0.004   | ●      |  | 0.8            | 3              | 0.063    | 0.105    | 60° |
| TCT18R-60N-020 | R    | 0.008   | ●      |  | 0.8            | 3              | 0.063    | 0.101    | 60° |
| TCT18L-60N-020 | L    | 0.008   | ●      |  | 0.8            | 3              | 0.063    | 0.101    | 60° |

● : Line up

Reference pages: Toolholder → **G170 - G173**

## TCT18FR (sharp edge for threading)



Right-hand (R) shown.

|          |                |   |  |  |  |  |  |  |  |
|----------|----------------|---|--|--|--|--|--|--|--|
| <b>P</b> | Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> | Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> | Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> | Non-ferrous    |   |  |  |  |  |  |  |  |
| <b>S</b> | Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> | Hard materials |   |  |  |  |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation     | HAND | RE (in) | Coated |  |  |  |  |  | Pitch min (mm) | Pitch max (mm) | PDX (in) | CDX (in) | PNA |
|-----------------|------|---------|--------|--|--|--|--|--|----------------|----------------|----------|----------|-----|
|                 |      |         | SH725  |  |  |  |  |  |                |                |          |          |     |
| TCT18FR-60A-005 | R    | 0.004   | ●      |  |  |  |  |  | 0.4            | 1              | 0.024    | 0.039    | 60° |
| TCT18FR-60A-010 | R    | 0.004   | ●      |  |  |  |  |  | 1              | 2              | 0.039    | 0.064    | 60° |

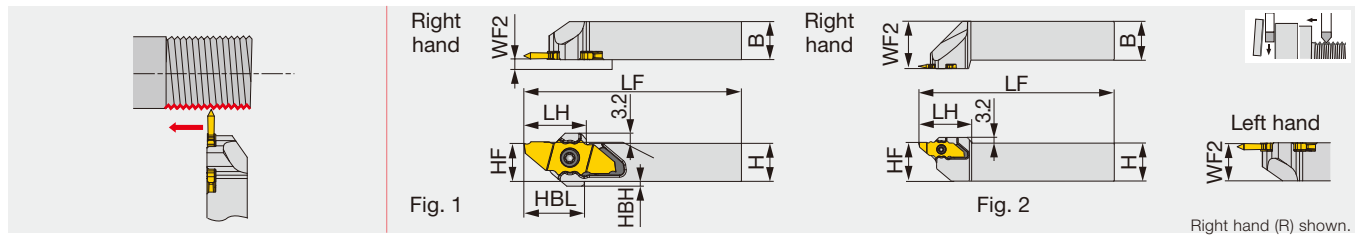
● : Line up

## STANDARD CUTTING CONDITIONS

### TCT18FR/R-ISO (Full profile threading insert) / TCT18FR (Threading insert)

| ISO      | Workpiece materials                           | Priority     | Grades | Cutting speed Vc (sfm) | Pitch (mm) | TPI     |
|----------|---|--------------|--------|------------------------|------------|---------|
| <b>P</b> | Low carbon steel<br>1015, 1020, etc.          | First choice | SH725  | 197 - 492              | 0.4 - 2.0  | 64 - 18 |
|          |   | Toughness    | AH725  | 197 - 492              | 0.8 - 3.0  | 32 - 8  |
|          | Carbon steels, Alloy steel<br>1045, 1055 etc. | First choice | SH725  | 197 - 492              | 0.4 - 2.0  | 64 - 18 |
|          |   | Toughness    | AH725  | 197 - 492              | 0.8 - 3.0  | 32 - 8  |
| <b>M</b> | Prehardened steel<br>NAK80, PX5, etc.         | First choice | SH725  | 197 - 492              | 0.4 - 2.0  | 64 - 18 |
|          |   | Toughness    | AH725  | 197 - 492              | 0.8 - 3.0  | 32 - 8  |
|          | Stainless steel<br>304SS, etc.                | First choice | SH725  | 164 - 262              | 0.4 - 2.0  | 64 - 18 |
|          |   | Toughness    | AH725  | 164 - 262              | 0.8 - 3.0  | 32 - 8  |
| <b>K</b> | Gray cast iron<br>Class 25, etc.              | First choice | AH725  | 164 - 328              | 0.8 - 3.0  | 32 - 8  |
|          |   | Sharpness    | SH725  | 164 - 328              | 0.4 - 2.0  | 64 - 18 |
|          | Ductile cast iron<br>60-40-18, 80-55-06, etc. | First choice | AH725  | 164 - 328              | 0.8 - 3.0  | 32 - 8  |
|          |   | Sharpness    | SH725  | 164 - 328              | 0.4 - 2.0  | 64 - 18 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.            | First choice | SH725  | 98 - 328               | 0.4 - 2.0  | 64 - 18 |
|          |   | Toughness    | AH725  | 98 - 328               | 0.8 - 3.0  | 32 - 8  |
|          | Superalloys<br>Inconel718, etc.               | First choice | SH725  | 98 - 328               | 0.4 - 2.0  | 64 - 18 |
|          |   | Toughness    | AH725  | 98 - 328               | 0.8 - 3.0  | 32 - 8  |

### Parting toolholder, for Swiss lathes



| Inch       | CWN   | CWX   | H     | B     | LF**  | LH**  | HF    | WF2 <sup>(1)</sup> | HBL   | HBH  | Insert | Torque | Fig. |
|------------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|------|--------|--------|------|
| JSXXR/L063 | 0.024 | 0.098 | 0.375 | 0.375 | 4.646 | 0.774 | 0.375 | 0.008 / 0.386      | 0.748 | 0.12 | JX...  | 0.89   | 1    |
| JSXXR/L083 | 0.024 | 0.098 | 0.500 | 0.500 | 3.268 | 0.774 | 0.500 | 0.008 / 0.386      | 0.748 | 0.06 | JX...  | 0.89   | 1    |
| JSXXR/L103 | 0.024 | 0.098 | 0.625 | 0.625 | 4.646 | 0.774 | 0.625 | 0.008 / 0.386      | -     | 0.06 | JX...  | 0.89   | 1    |
| JSXXR/L123 | 0.024 | 0.098 | 0.750 | 0.750 | 3.950 | 0.886 | 0.750 | 0.008 / 0.742      | -     | -    | JX...  | 0.89   | 1    |
| JSXXR/L163 | 0.024 | 0.098 | 1.000 | 1.000 | 5.350 | 1.339 | 1.000 | 1.250 / 1.250      | -     | -    | JX...  | 0.89   | 2    |

| Metric         | CWN | CWX | H  | B  | LF** | LH**  | HF | WF2 <sup>(1)</sup> | HBL** | HBH | Insert | Torque* | Fig. |
|----------------|-----|-----|----|----|------|-------|----|--------------------|-------|-----|--------|---------|------|
| JSXXR/L1010X09 | 0.6 | 2.5 | 10 | 10 | 120  | 19.65 | 10 | 0.2/9.8            | 19    | 3   | JX...  | 1.2     | 1    |
| JSXXR/L1212F09 | 0.6 | 2.5 | 12 | 12 | 85   | 19.65 | 12 | 0.2/11.8           | 19    | 1.5 | JX...  | 1.2     | 1    |
| JSXXR/L1212X09 | 0.6 | 2.5 | 12 | 12 | 120  | 19.65 | 12 | 0.2/11.8           | 19    | 1.5 | JX...  | 1.2     | 1    |
| JSXXR/L1616X09 | 0.6 | 2.5 | 16 | 16 | 120  | 19.65 | 16 | 0.2/15.8           | -     | -   | JX...  | 1.2     | 1    |
| JSXXR/L2020H09 | 0.6 | 2.5 | 20 | 20 | 100  | 22.5  | 20 | 0.2/19.8           | -     | -   | JX...  | 1.2     | 1    |

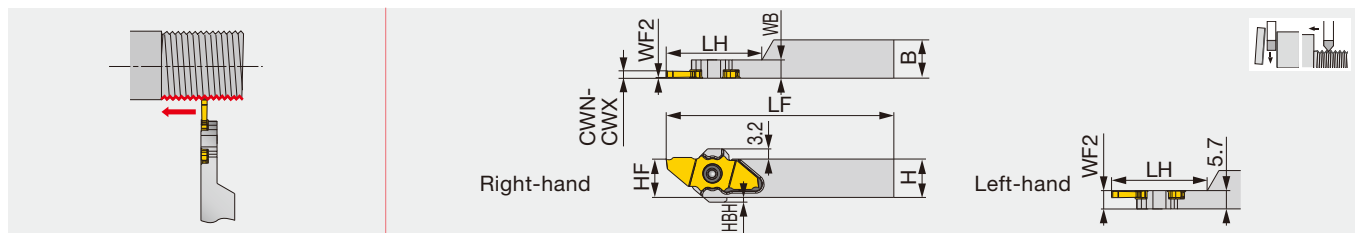
Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JXPG16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*G12... and JXPG20... inserts, and 0.157" (4 mm) shorter for JXPG06... insert.

Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

### JSXXR/L-S

#### Parting toolholder, for Swiss lathes (for sub spindle)



| Inch         | CWN   | CWX   | H     | B     | LF**  | LH**  | HF    | WF          | HBH   | Insert                      | Torque* |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|-----------------------------|---------|
| JSXXR/L063-S | 0.024 | 0.098 | 0.375 | 0.375 | 4.750 | 1.030 | 0.383 | 0.008/0.217 | 0.120 | JX*G06...,12...,16...,20... | 0.890   |
| JSXXR/L083-S | 0.024 | 0.098 | 0.500 | 0.500 | 4.750 | 1.030 | 0.500 | 0.008/0.217 | 0.060 | JX*G06...,12...,16...,20... | 0.890   |

| Metric           | CWN | CWX | H  | B  | LF** | LH** | HF | WF2     | HBH | Insert                      | Torque* |
|------------------|-----|-----|----|----|------|------|----|---------|-----|-----------------------------|---------|
| JSXXR/L1010X09-S | 0.6 | 2.5 | 10 | 10 | 120  | 26   | 10 | 0.2/5.5 | 3   | JX**06...,12...,16...       | 1.2     |
| JSXXR/L1212F09-S | 0.6 | 2.5 | 12 | 12 | 85   | 26   | 12 | 0.2/5.5 | 1.5 | JX**06...,12...,16...       | 1.2     |
| JSXXR/L1212X09-S | 0.6 | 2.5 | 12 | 12 | 120  | 30   | 12 | 0.2/5.5 | 1.5 | JX**06...,12...,16...       | 1.2     |
| JSXXR/L1616X09-S | 0.6 | 2.5 | 16 | 16 | 120  | 30   | 16 | 0.2/5.5 | -   | JX**06...,12...,16...,20... | 1.2     |

Torque: Recommended clamping torque: lbs-ft (\*N·m)

\*\*LF (Functional Length) and LH (Head Length) values shown above are true with JXPG16... insert. LF and LH will be 2 mm shorter than the above values with JX\*G12... insert, and 0.157" (4 mm) shorter for JXPG06... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter with JXPG20... insert.

\*\*\*JXPG20... insert will not fit.

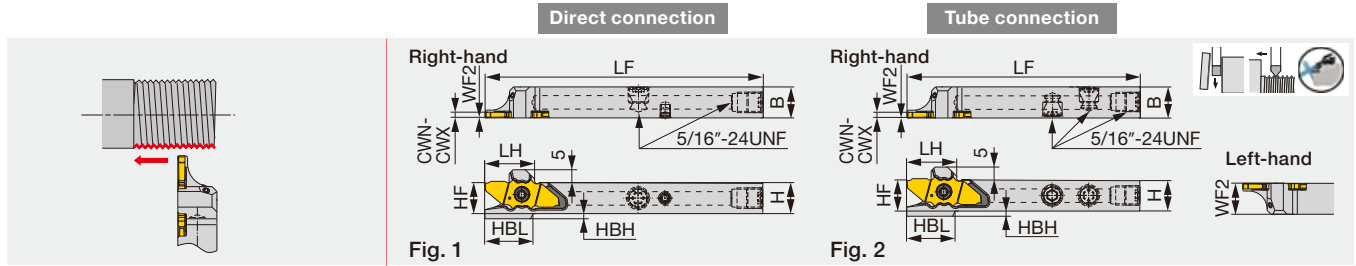
Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

#### SPARE PARTS

| Designation            | Clamping screw | Wrench   |
|------------------------|----------------|----------|
| JSXXR..., JSXXR*****-S | CSTC-4L055DL   | T-1008/5 |
| JSXXL..., JSXXL*****-S | CSTC-4L055DR   | T-1008/5 |

# JSXXR/L-F/H/X-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes



| Inch            | CWN   | CWX   | H     | B     | WF          | LF**  | HF    | HBH   | LH**    | HBL** | Insert                      | Torque | Fig. |
|-----------------|-------|-------|-------|-------|-------------|-------|-------|-------|---------|-------|-----------------------------|--------|------|
| JSXXR/L083X-CHP | 0.024 | 0.098 | 0.500 | 0.500 | 0.008/0.492 | 4.750 | 0.500 | 0.051 | 0.764   | 0.736 | JX*G06...,12...,16...,20... | 0.890  | 1    |
| JSXXR/L103X-CHP | 0.024 | 0.098 | 0.625 | 0.625 | 0.008/0.617 | 4.750 | 0.625 | -     | 0.764   | -     | JX*G06...,12...,16...,20... | 0.890  | 1    |
| JSXXR/L083F-CHP | 0.024 | 0.098 | 0.500 | 0.500 | 0.008/0.492 | 3.344 | 0.500 | 0.051 | ≤ 0.764 | 0.736 | JX*G06...,12...,16...,20... | 0.890  | 1    |

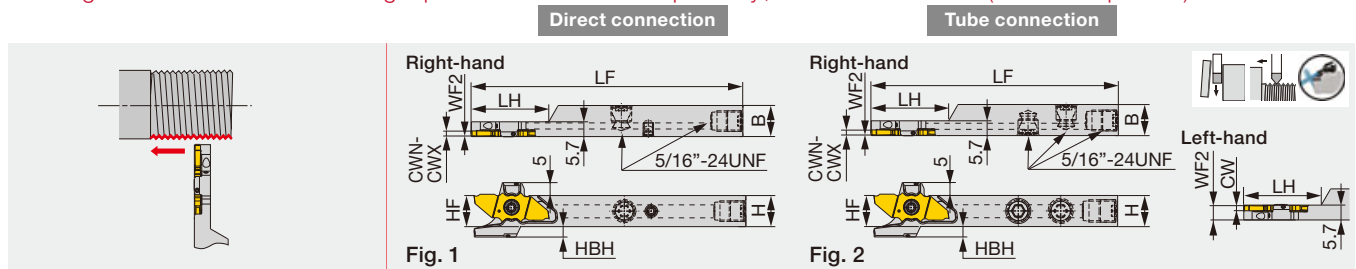
  

| Metric                             | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBL <sup>(1)</sup> | HBH | Insert                      | Torque* | Fig. |
|------------------------------------|-----|-----|----|----|-------------------|-------------------|----|--------------------|--------------------|-----|-----------------------------|---------|------|
| JSXXR/L1012H09-CHP <sup>(3)</sup>  | 0.6 | 2.5 | 10 | 12 | 102               | 19.2              | 10 | 0.2/11.8           | 18.7               | 3   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1212F09-CHP                 | 0.6 | 2.5 | 12 | 12 | 85                | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16...,20... | 1.2     | 2    |
| JSXXR/L1212X09-CHP <sup>(3)</sup>  | 0.6 | 2.5 | 12 | 12 | 120               | 19.4              | 12 | 0.2/11.8           | 18.8               | 2   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1616X09B-CHP <sup>(3)</sup> | 0.6 | 2.5 | 16 | 16 | 120               | 19.4              | 16 | 0.2/15.8           | 18.7               | -   | JX**06...,12...,16...,20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 4 mm shorter for JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

# JSXXR/L-F/X-S-CHP

Parting-off toolholders with high pressure coolant capability, for swiss lathes (for sub spindle)



| Inch              | CWN   | CWX   | H     | B     | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF    | WF2 <sup>(2)</sup> | HBH   | Insert                      | Torque* | Fig. |
|-------------------|-------|-------|-------|-------|-------------------|-------------------|-------|--------------------|-------|-----------------------------|---------|------|
| JSXXR/L083F-S-CHP | 0.024 | 0.098 | 0.5   | 0.5   | 3.344             | 1.024             | 0.5   | 0.008/0.217        | 0.051 | JX**06...,12...,16...,20... | 0.89    | 2    |
| JSXXR/L083X-S-CHP | 0.024 | 0.098 | 0.5   | 0.5   | 4.75              | 1.181             | 0.5   | 0.008/0.217        | 0.051 | JX**06...,12...,16...,20... | 0.89    | 1    |
| JSXXR/L103X-S-CHP | 0.024 | 0.098 | 0.625 | 0.625 | 4.75              | 1.181             | 0.625 | 0.008/0.217        | -     | JX**06...,12...,16...,20... | 0.89    | 1    |

| Metric                                  | CWN | CWX | H  | B  | LF <sup>(1)</sup> | LH <sup>(1)</sup> | HF | WF2 <sup>(2)</sup> | HBH | Insert                      | Torque* | Fig. |
|---|-----|-----|----|----|-------------------|-------------------|----|--------------------|-----|-----------------------------|---------|------|
| JSXXR1212F09-S-CHP <sup>(4)</sup>       | 0.6 | 2.5 | 12 | 12 | 85                | 26                | 12 | 0.2                | 4   | JX**06...,12...,16...,20... | 1.2     | 2    |
| JSXXR/L1212F09B-S-CHP                   | 0.6 | 2.5 | 12 | 12 | 85                | 30                | 12 | 0.2/5.5            | 2   | JX**06...,12...,16...,20... | 1.2     | 2    |
| JSXXR/L1212X09-S-CHP <sup>(3),(4)</sup> | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 4   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1212X09B-S-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 12 | 12 | 120               | 30                | 12 | 0.2/5.5            | 2   | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR1616X09-S-CHP <sup>(3),(4)</sup>   | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2                | 1.5 | JX**06...,12...,16...,20... | 1.2     | 1    |
| JSXXR/L1616X09B-S-CHP <sup>(3)</sup>    | 0.6 | 2.5 | 16 | 16 | 120               | 30                | 16 | 0.2/5.5            | -   | JX**06...,12...,16...,20... | 1.2     | 1    |

Torque: Recommended clamping torque: lbs-ft (\*N·m)  
 (1) LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JX\*\*16... insert. LF, LH, and HBL will all be 0.079" (2 mm) shorter than the above values with JX\*\*12... and JX\*\*20... inserts, and 4 mm shorter for JX\*\*06... insert.  
 (2) The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.  
 (3) Compatible to the direct internal coolant supply system without the use of external coolant hose.  
 (4) To be replaced with the new design  
 Note: Use the right-hand insert (JX\*\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*\*L...) for a left-hand holder (JSXXL...).

## SPARE PARTS

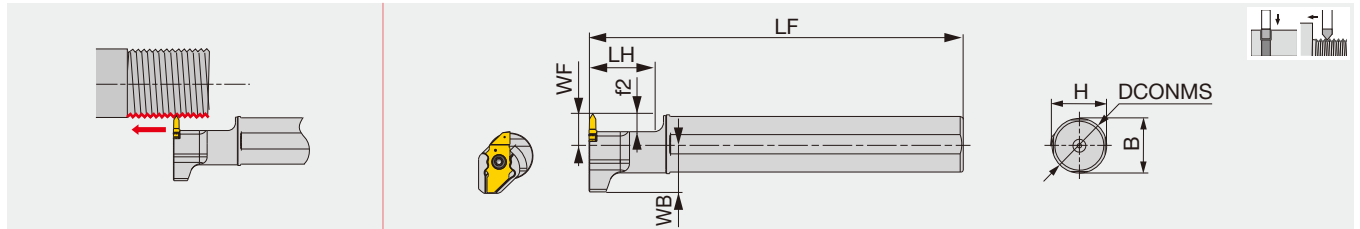
| Designation   | Clamping screw | Wrench 1 | Coolant plug   | Wrench 2 | DirectJet plug | Wrench 3 |
|---------------|----------------|----------|----------------|----------|----------------|----------|
| JSXXR**F...   | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXL**F...   | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | -              | -        |
| JSXXR**H/X... | CSTC-4L100DL   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |
| JSXXL**H/X... | CSTC-4L100DR   | T-1008/5 | SR5/16UNFTL360 | P-4      | SSHM4-6-TB     | P-2      |

Reference pages: JSXXR/L-F/H/X-CHP, JSXXR/L-F/X-S-CHP:  
 Inserts → [G178](#), Standard cutting conditions → [G179](#)

Grade  
Insert  
Ext. Toolholder  
Int. Toolholder  
Threading  
Grooving  
Miniature tool  
Milling cutter  
Endmill  
Drilling tool  
Tooling System  
User's Guide  
Index



Round shanks, for threading



| Metric        | DCONMS | H  | B  | LF  | LH | WB    | WF <sup>(1)</sup> | f2 <sup>(1)</sup> | Insert      | Torque* |
|---------------|--------|----|----|-----|----|-------|-------------------|-------------------|-------------|---------|
| JS19G-SXXL09  | 19.05  | 18 | 18 | 90  | 21 | 15.43 | 10                | 6                 | JX**06,12*R | 1.2     |
| JS19X-SXXL09  | 19.05  | 18 | 18 | 120 | 21 | 15.43 | 10                | 6                 | JX**06,12*R | 1.2     |
| JS20G-SXXL09  | 20     | 19 | 19 | 90  | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2     |
| JS20X-SXXL09  | 20     | 19 | 19 | 120 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2     |
| JS22X-SXXL09  | 22     | 21 | 21 | 120 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2     |
| JS25H-SXXL09  | 25     | 24 | 24 | 100 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2     |
| JS254X-SXXL09 | 25.4   | 24 | 24 | 120 | 21 | 15.4  | 10                | 6                 | JX**06,12*R | 1.2     |

Torque\*: Recommended clamping torque (N·m)

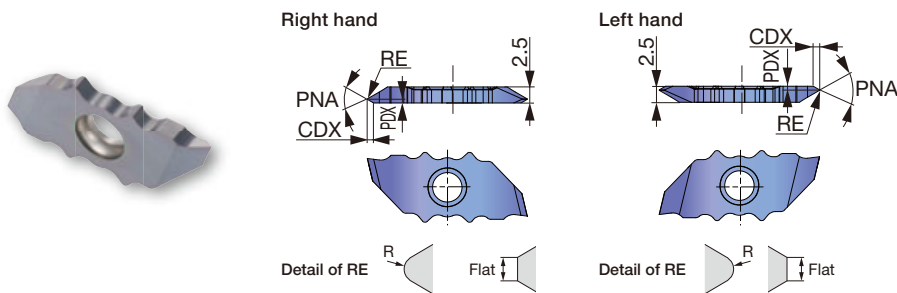
(1) When using JX..06... insert, both WF and f2 sizes will be 2 mm shorter than the values provided above.

### SPARE PARTS

| Designation  | Clamping screw | Wrench   |
|--------------|----------------|----------|
| JS***-SXXL09 | CSTC-4L100DL   | T-1008/5 |

## INSERT

### JXTG12FR/L-60 (For Threading / Sharp edge)



|                         |   |  |  |  |  |  |  |  |
|-------------------------|---|--|--|--|--|--|--|--|
| <b>P</b> Steel          | ★ |  |  |  |  |  |  |  |
| <b>M</b> Stainless      | ★ |  |  |  |  |  |  |  |
| <b>K</b> Cast iron      | ★ |  |  |  |  |  |  |  |
| <b>N</b> Non-ferrous    | ★ |  |  |  |  |  |  |  |
| <b>S</b> Superalloys    | ★ |  |  |  |  |  |  |  |
| <b>H</b> Hard materials | ★ |  |  |  |  |  |  |  |

★ : First choice

| Designation      | HAND | RE (mm)       | Coated |  |  |  |  | Pitches (mm) | PDX (mm) | CDX (mm) | PNA |
|------------------|------|---------------|--------|--|--|--|--|--------------|----------|----------|-----|
|                  |      |               | SH725  |  |  |  |  |              |          |          |     |
| JXTG12FR-60A-000 | R    | Flat 0.05 max | ●      |  |  |  |  | 0.2 - 0.4    | 0.25     | 0.4      | 60° |
| JXTG12FL-60A-000 | L    | Flat 0.05 max | ●      |  |  |  |  | 0.2 - 0.4    | 0.25     | 0.4      | 60° |
| JXTG12FR-60B-000 | R    | Flat 0.05 max | ●      |  |  |  |  | 0.2 - 0.4    | 0.25     | 0.4      | 60° |
| JXTG12FL-60B-000 | L    | Flat 0.05 max | ●      |  |  |  |  | 0.2 - 0.4    | 0.25     | 0.4      | 60° |
| JXTG12FR-60A-005 | R    | R 0.05        | ●      |  |  |  |  | 0.4 - 1      | 0.6      | 0.99     | 60° |
| JXTG12FL-60A-005 | L    | R 0.05        | ●      |  |  |  |  | 0.4 - 1      | 0.6      | 0.99     | 60° |
| JXTG12FR-60B-005 | R    | R 0.05        | ●      |  |  |  |  | 0.4 - 1      | 1.9      | 0.99     | 60° |
| JXTG12FL-60B-005 | L    | R 0.05        | ●      |  |  |  |  | 0.4 - 1      | 1.9      | 0.99     | 60° |
| JXTG12FR-60N-010 | R    | R 0.1         | ●      |  |  |  |  | 1 - 1.5      | 1.25     | 2.07     | 60° |
| JXTG12FL-60N-010 | L    | R 0.1         | ●      |  |  |  |  | 1 - 1.5      | 1.25     | 2.07     | 60° |

● : Line-up

Reference pages: Toolholder → **G176 - G178**

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece materials                       | Grades | Cutting speed<br>Vc (sfm) |
|----------|---|--------|---------------------------|
| <b>P</b> | Low carbon steels<br>1015, etc.           | SH725  | 164 - 656                 |
|          | Carbon steels, Alloy steels<br>1055, etc. | SH725  | 164 - 656                 |
|          | Free cutting steels<br>SUH22, SUH23, etc. | SH725  | 164 - 656                 |
| <b>M</b> | Stainless steels<br>304, etc.             | SH725  | 164 - 656                 |
| <b>N</b> | Aluminum alloys<br>5056, 6061, etc.       | SH725  | 492 - 656                 |
|          | Copper alloy<br>C2600, C280C, etc.        | SH725  | 328 - 656                 |
| <b>S</b> | Titanium alloys<br>Ti-6Al-4V, etc.        | SH725  | 98 - 262                  |
|          | Superalloys<br>Inconel718, etc.           | SH725  | 98 - 262                  |

Grade

Insert

Ext. Toolholder

Int. Toolholder

Threading

Grooving

Miniature tool

Milling cutter

Endmill

Drilling tool

Tooling System

User's Guide

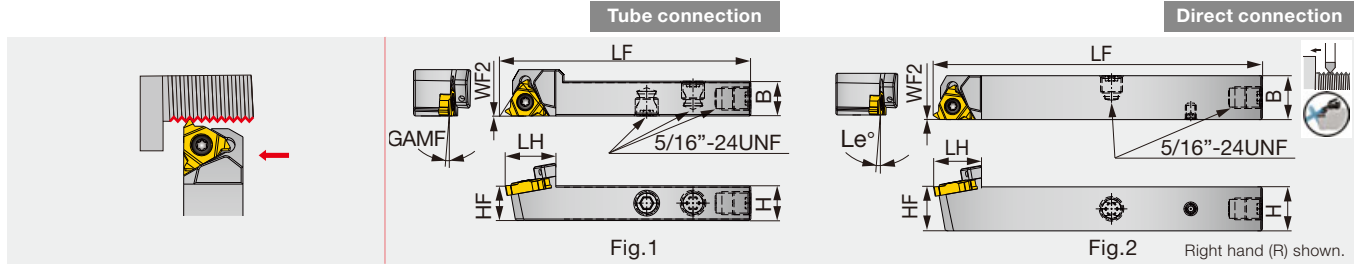
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# TUNGTHREAD

## JSE2R16-CHP

Screw-on external threading toolholders-High-pressure coolant capability with tube and direct connection



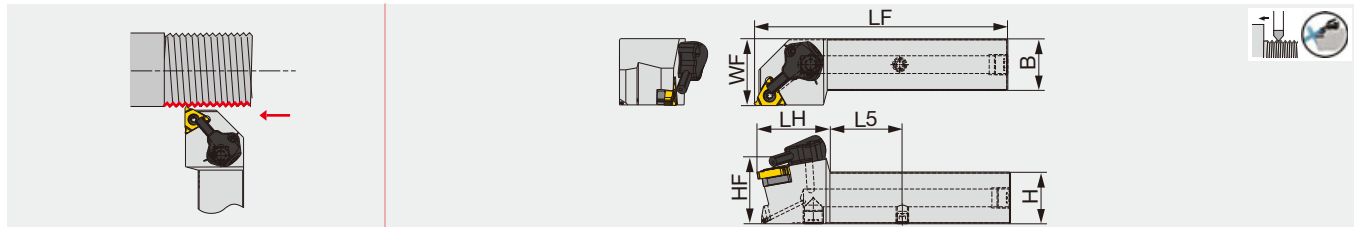
| Inch           | H     | B     | LF    | LH    | HF    | WF    | GAMF | Insert  | Fig. |
|----------------|-------|-------|-------|-------|-------|-------|------|---------|------|
| JSE2R08F16-CHP | 0.500 | 0.500 | 3.344 | 0.748 | 0.500 | 0.000 | 1°   | 16ER... | 1    |
| JSE2R08X16-CHP | 0.500 | 0.500 | 4.750 | 0.748 | 0.500 | 0.000 | 1°   | 16ER... | 2    |
| JSE2R10X16-CHP | 0.625 | 0.625 | 4.750 | 0.748 | 0.625 | 0.000 | 1°   | 16ER... | 2    |

| Metric           | H  | B  | LF  | LH | HF | WF2 | GAMF | Insert  | Fig. |
|------------------|----|----|-----|----|----|-----|------|---------|------|
| JSE2R1212F16-CHP | 12 | 12 | 85  | 19 | 12 | 0   | 1°   | 16ER... | 1    |
| JSE2R1212X16-CHP | 12 | 12 | 120 | 19 | 12 | 0   | 1°   | 16ER... | 2    |
| JSE2R1616X16-CHP | 16 | 16 | 120 | 19 | 16 | 0   | 1°   | 16ER... | 2    |

## SER-X-CHP-MC

Screw-on external threading toolholders-High-pressure coolant capability with tube and direct connection



| Metric            | H  | B  | LF  | LH | HF | WF | L5   | Insert  |
|-------------------|----|----|-----|----|----|----|------|---------|
| SER2020X16-CHP-MC | 20 | 20 | 107 | 36 | 20 | 25 | 27.9 | 16ER... |

### SPARE PARTS

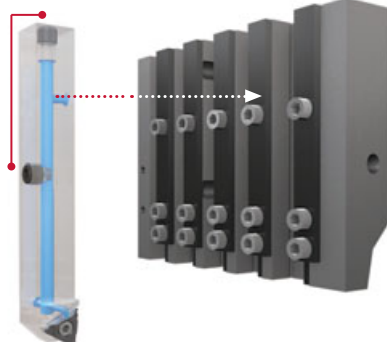
| Designation     | Clamping screw | Wrench | Shim screw | Shim    | Coolant unit | Coolant plug      | Wrench |
|-----------------|----------------|--------|------------|---------|--------------|-------------------|--------|
| JSE2R**16-CHP   | CSTB-3.5       | T-15F  | -          | -       | -            | SR5/16UNFTL360    | P-4    |
| SER**X16-CHP-MC | CSTB-3.5ST     | T-15F  | DTS5-3.5   | A16-1DT | CU-V-CHP     | PLUGG1/8-6.5TL360 | P-3.5  |

No need for coolant tube setup.

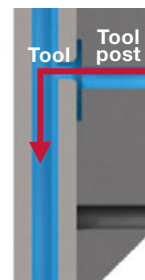
Eliminates chip entanglement on tubes and streamlines tool replacement.

Coolant is supplied from the tool post directly to the tools

Internal thread  
Optional connection with  
external coolant tube



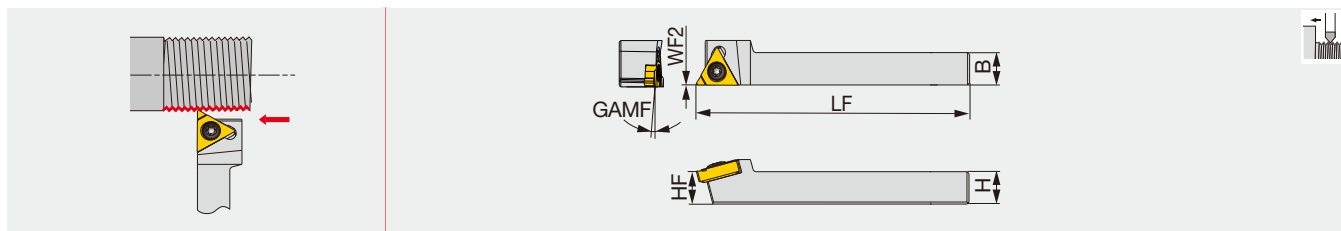
Detailed view of the coolant  
flow after connection



Reference pages: JSE2R16-CHP, SER-X-CHP-MC: Inserts → E010 -, Standard cutting conditions → E068

## SER

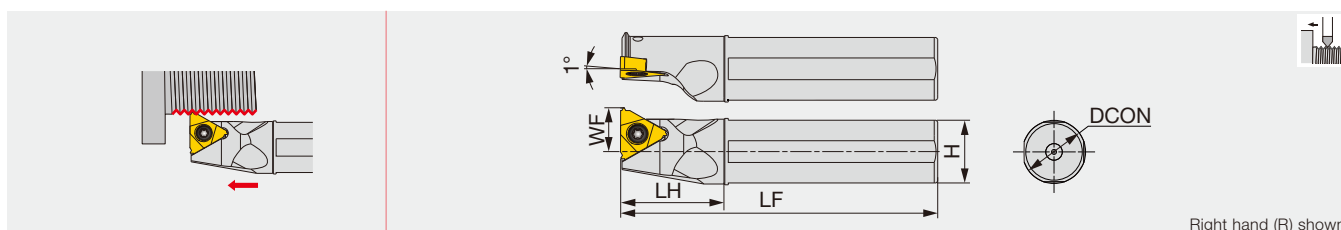
### Screw-on external threading toolholders



| Metric     | H  | B  | LF  | HF | WF2 | GAMF | Insert  |
|------------|----|----|-----|----|-----|------|---------|
| SER0808H11 | 8  | 8  | 100 | 8  | 0   | 1.5° | 11ER... |
| SER1010H11 | 10 | 10 | 100 | 10 | 0   | 1.5° | 11ER... |

## JS-SEL16

### External threading toolholder, for Swiss lathes

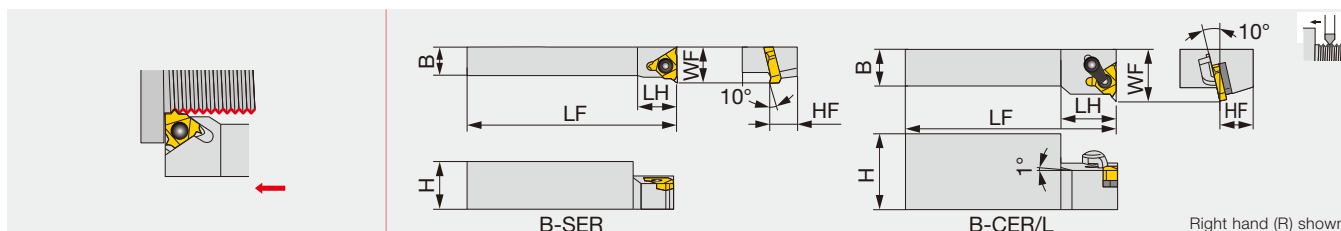


| Metric       | DCON  | H  | LF  | LH | WF   | Insert  |
|--------------|-------|----|-----|----|------|---------|
| JS16F-SEL16  | 16    | 15 | 85  | 25 | 11   | 16ER... |
| JS19G-SEL16  | 19.05 | 18 | 90  | 30 | 12.5 | 16ER... |
| JS19X-SEL16  | 19.05 | 18 | 120 | 30 | 12.5 | 16ER... |
| JS20G-SEL16  | 20    | 19 | 90  | 30 | 13   | 16ER... |
| JS20X-SEL16  | 20    | 19 | 120 | 30 | 13   | 16ER... |
| JS25H-SEL16  | 25    | 24 | 100 | 30 | 15.5 | 16ER... |
| JS254X-SEL16 | 25.4  | 24 | 120 | 30 | 15.7 | 16ER... |

Note: Use left-hand toolholders (L) with right-hand inserts (R).

## B-S/CER/L

### External threading toolholder, for Swiss lathes



| Metric       | H  | B  | LF  | LH | HF | WF | Insert    |
|--------------|----|----|-----|----|----|----|-----------|
| B-SER10H16   | 20 | 10 | 100 | 15 | 10 | 16 | 16ER...   |
| B-SER12K16   | 24 | 12 | 125 | 18 | 12 | 18 | 16ER...   |
| B-CER/L16M16 | 32 | 16 | 150 | 24 | 16 | 22 | 16ER/L... |

### SPARE PARTS

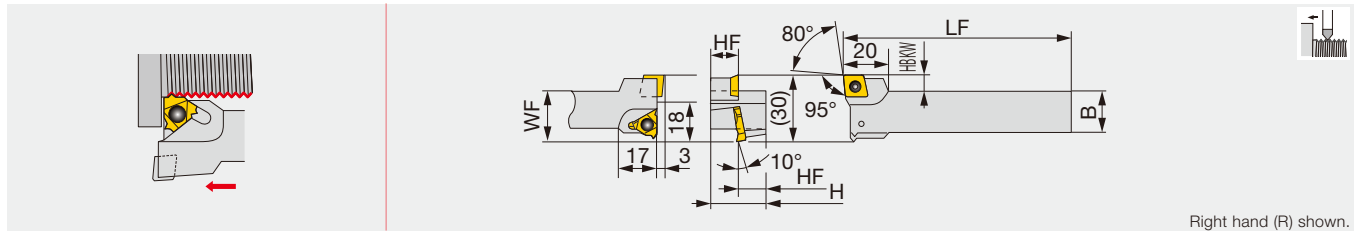
| Designation                            | Clamping screw   | Wrench 1 |
|--|------------------|----------|
| SER**H11                               | SR M2.6-L6.7-S11 | T-8/5    |
| JS***-SEL16, B-SER**16,<br>BC-SER12K16 | CSTB-3.5         | T-15F    |

Reference pages: SER, JS-SEL16, B-S/CER/L:

Inserts → **E010** -, Standard cutting conditions → **E068**



External threading toolholder, for multi-functional Swiss lathes

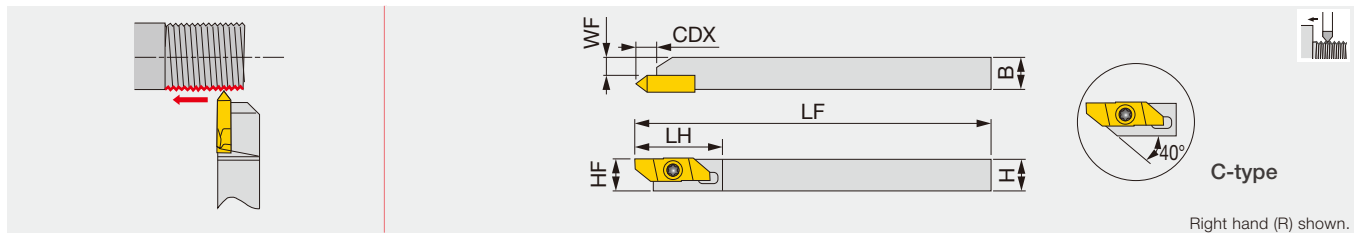


Right hand (R) shown.

| Metric      | H  | B  | LF  | HF | WF | HBKW | Insert               |
|-------------|----|----|-----|----|----|------|----------------------|
| BC-SER12K16 | 24 | 16 | 125 | 12 | 23 | 7    | 16ER..., CC*T09T3... |

## J-SERIES JSXBR/L

Screw-on external threading toolholder, for Swiss lathes



Right hand (R) shown.

| Metric          | H  | B  | LF  | LH | CDX | HF | WF   | Insert   |
|-----------------|----|----|-----|----|-----|----|------|----------|
| JSXBR/L1010K8-C | 10 | 10 | 125 | 29 | 6.7 | 10 | 5.7  | JXT*R... |
| JSXBR/L1212K8-C | 12 | 12 | 125 | 29 | 6.7 | 12 | 7.7  | JXT*R... |
| JSXBR/L1616K8   | 16 | 16 | 125 | 29 | 6.4 | 16 | 11.7 | JXT*R... |
| JSXBR/L2020K8   | 20 | 20 | 125 | 29 | 6.4 | 20 | 15.7 | JXT*R... |
| JSXBR/L2525K8   | 25 | 25 | 125 | 29 | 6.4 | 25 | 20.7 | JXT*R... |

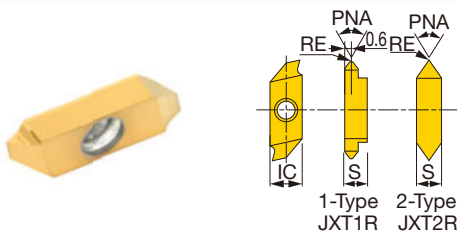
Can be wrenched from back side with both end torx screw.  
This toolholder is compatible with JXB-type inserts and JXT-type inserts.

### SPARE PARTS

| Designation | Clamp set | Shim set | Clamping screw | Wrench | Wrench 2 (Optional) |
|-------------|-----------|----------|----------------|--------|---------------------|
| BC-SER12K16 | -         | -        | CSTB-3.5       | T-15F  | -                   |
| JSXBR...    | CSP16     | A16-1    | CSTB-4SD       | T-8F   | (T-8L)              |

### INSERT

#### JXT (sharp edge)



|                | P | M | K | N | S | H |   |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| Steel          | ★ |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Stainless      | ★ |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Cast iron      |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Non-ferrous    |   |   |   |   |   |   | ☆ |  |  |  |  |  |  |  |  |  |  |  |  |
| Superalloys    |   |   |   |   |   | ☆ |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Hard materials |   |   |   |   |   | ☆ |   |  |  |  |  |  |  |  |  |  |  |  |  |

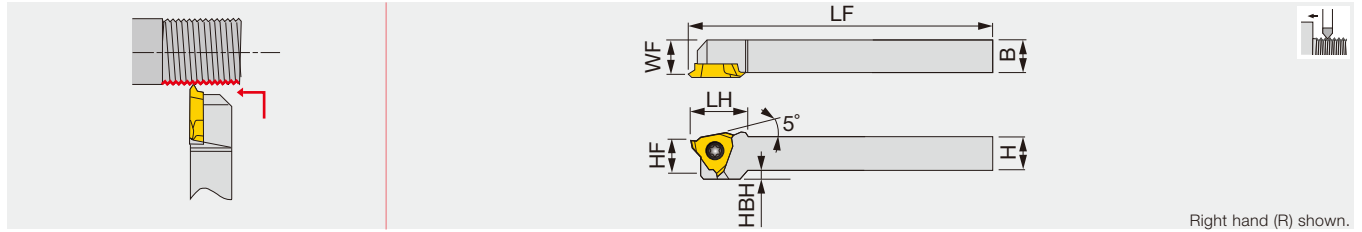
★ : First choice  
☆ : Second choice

| Designation | RE (mm) | Coated |  | Uncoated |  | PNA | IC (mm) | S (mm) |
|-------------|---------|--------|--|----------|--|-----|---------|--------|
|             |         | J740   |  | TH10     |  |     |         |        |
| JXT1R6000F  | 0.03    | ●      |  | ●        |  | 60° | 8       | 3.97   |
| JXT2R6000F  | 0.03    | ●      |  | ●        |  | 60° | 8       | 3.97   |

Machinable pitch range: 0.5 to 1 mm

● : Line up

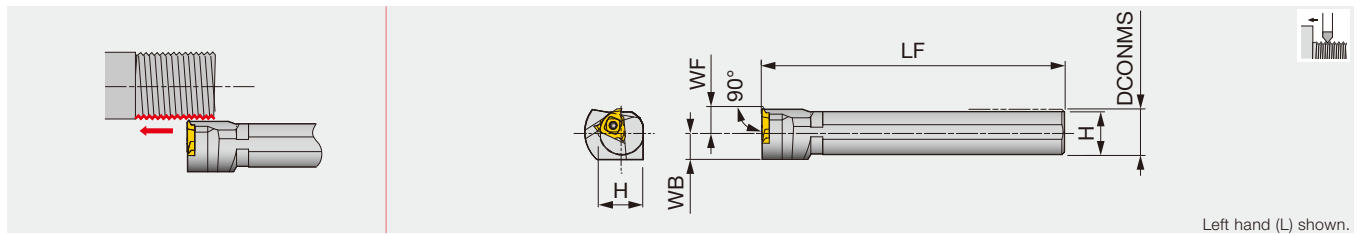
Reference pages: BC-SER/L: Inserts → **B112** - (CC\*T09T3...), **E010** - (16ER...),  
Standard cutting conditions → **E068**



| Inch          | H     | B     | LF    | LH     | HF    | WF    | HBH   | Insert      |
|---------------|-------|-------|-------|--------|-------|-------|-------|-------------|
| JSTTR/L063    | 0.375 | 0.375 | 5.000 | 0.6875 | 0.375 | 0.375 | 0.100 | JTTR/L30... |
| JSTTR/L083    | 0.500 | 0.500 | 5.000 | 0.6875 | 0.500 | 0.500 | -     | JTTR/L30... |
| JSTTR/L103    | 0.625 | 0.625 | 5.000 | 0.6875 | 0.625 | 0.625 | -     | JTTR/L30... |
| Metric        | H     | B     | LF    | LH     | HF    | WF    | HBH   | Insert      |
| JSTTR/L1010X3 | 10    | 10    | 120   | 18.5   | 10    | 9.5   | 2     | JTTR/L3...  |
| JSTTR/L1212F3 | 12    | 12    | 85    | 18.5   | 12    | 11.5  | -     | JTTR/L3...  |
| JSTTR/L1212X3 | 12    | 12    | 120   | 18.5   | 12    | 11.5  | -     | JTTR/L3...  |
| JSTTR/L1616X3 | 16    | 16    | 120   | 18.5   | 16    | 15.5  | -     | JTTR/L3...  |

Recommended clamping torque: 0.89 lbs-ft, 1.2 N-m

### JS-TTL3



| Metric     | DCONMS | WF | LF  | H  | WB   | Insert    |
|------------|--------|----|-----|----|------|-----------|
| JS19K-TTL3 | 19.05  | 10 | 125 | 18 | 11.5 | JTTR30... |
| JS20K-TTL3 | 20     | 10 | 125 | 19 | 11.5 | JTTR30... |
| JS22K-TTL3 | 22     | 10 | 125 | 21 | 11.5 | JTTR30... |
| JS25K-TTL3 | 25.4   | 10 | 125 | 24 | 12.7 | JTTR30... |

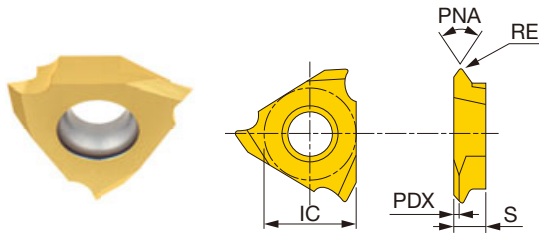
Recommended clamping torque: 3.5 N-m

#### SPARE PARTS

| Designation | Clamping screw | Wrench 1 | Wrench 2 (Optional) |
|-------------|----------------|----------|---------------------|
| JSTTR/L...  | CSTB-4SD       | T-8F     | (T-8L)              |
| JS**-TTL3   | CSTB-4S        | T-15F    | -                   |

# INSERT

## JTT (sharp edge)



Right hand (R) shown.

|                         |     |   |   |  |   |  |  |  |  |
|-------------------------|-----|---|---|--|---|--|--|--|--|
| <b>P</b> Steel          | ★ ☆ | ★ |   |  |   |  |  |  |  |
| <b>M</b> Stainless      | ★ ☆ |   |   |  |   |  |  |  |  |
| <b>K</b> Cast iron      | ★   |   | ☆ |  | ★ |  |  |  |  |
| <b>N</b> Non-ferrous    |     |   |   |  | ★ |  |  |  |  |
| <b>S</b> Superalloys    | ☆   |   |   |  | ★ |  |  |  |  |
| <b>H</b> Hard materials | ☆   |   |   |  | ★ |  |  |  |  |

★ : First choice  
☆ : Second choice

| Designation  | RE (in) | Coated |      | Cermet | Uncoated | PNA | IC (mm) | S (mm) | PDX (mm) |
|--------------|---------|--------|------|--------|----------|-----|---------|--------|----------|
|              |         | SH725  | J740 | NS9530 | TH10     |     |         |        |          |
| JTTR3005F-55 | 0.002   | ●      | ●    |        |          | 55° | 9.525   | 3.18   | 0.6      |
| JTTL3005F-55 | 0.002   |        |      |        |          | 55° | 9.525   | 3.18   | 0.6      |
| JTTR3005F    | 0.002   | ●      | ●    | ●      | ●        | 60° | 9.525   | 3.18   | 0.9      |
| JTTL3005F    | 0.002   | ●      |      |        |          | 60° | 9.525   | 3.18   | 0.9      |
| JTTR3010F    | 0.004   | ●      | ●    | ●      | ●        | 60° | 9.525   | 3.18   | 0.9      |
| JTTL3010F    | 0.004   | ●      |      |        |          | 60° | 9.525   | 3.18   | 0.9      |

Machinable pitch range: 0.020" to 0.039" (0.5 to 1 mm)

● : Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                             | Grade | Cutting speed Vc (sfm) | Pitch (in)    | TPI     |
|----------|--|-------|------------------------|---------------|---------|
| <b>P</b> | Low carbon steel<br>1025, etc.                 | SH725 | 197 - 492              | 0.020 - 0.039 | 50 - 25 |
|          | Carbon steel, Alloy steel<br>1045, 4140, etc.  | SH725 | 197 - 492              | 0.020 - 0.039 | 50 - 25 |
|          | Pre-hardened steel<br>NAK80, PX5, etc.         | SH725 | 197 - 492              | 0.020 - 0.039 | 50 - 25 |
| <b>M</b> | Stainless steel<br>304SS, 316SS, 17-4 PH, etc. | SH725 | 164 - 262              | 0.020 - 0.039 | 50 - 25 |
|          | Gray cast iron<br>Class 25, Class 30, etc.     | TH10  | 164 - 328              | 0.020 - 0.039 | 50 - 25 |
| <b>K</b> | Ductile cast iron<br>60-40-18, etc.            | TH10  | 164 - 328              | 0.020 - 0.039 | 50 - 25 |
|          | Titanium alloy<br>Ti-6Al-4V, etc.              | SH725 | 98 - 328               | 0.020 - 0.039 | 50 - 25 |
| <b>S</b> | Heat resistant alloy<br>Inconel 718, etc.      | SH725 | 98 - 328               | 0.020 - 0.039 | 50 - 25 |

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## Turning Grooving

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| 2QP-VBGW□□□-LF   | CBN insert, 35° rhombic, positive | B207, B208       |
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| 2QP-VNGA□□□□HC    | CBN insert, 35° rhombic, negative             | B186                         | 4QS-CNGA□□□□FW     | CBN insert, 80° rhombic, negative                         | B168       |
| 2QP-VNGA□□□□-L    | CBN insert, 35° rhombic, negative             | B186                         | 4QS-CNGG□□□□-HF    | CBN insert, 80° rhombic, negative                         | B170       |
| 2QP-VNGA□□□□-LC   | CBN insert, 35° rhombic, negative             | B186                         | 4QS-CNGG□□□□-HM    | CBN insert, 80° rhombic, negative                         | B170       |
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| 2QP-VNGM□□□□-HS   | CBN insert, 35° rhombic, negative             | B187                         | 4QS-DNGA□□□□...    | CBN insert, 55° rhombic, negative                         | B172, B173 |
| 2QP-VNGM□□□□-HF   | CBN insert, 35° rhombic, negative             | B187                         | 4QS-DNGA□□□□-H     | CBN insert, 55° rhombic, negative                         | B173       |
| 2QP-VNGM□□□□-HM   | CBN insert, 35° rhombic, negative             | B187                         | 4QS-DNGA□□□□HC     | CBN insert, 55° rhombic, negative                         | B173       |
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| 2QP-YNGA□□□□-LC   | 25° rhombic, negative insert                  | B188                         | 4QS-DNGA□□□□SR     | CBN insert, 55° rhombic, negative                         | B172, B173 |
| 2QP-YNGA□□□□-LF   | 25° rhombic, negative insert                  | B188                         | 4QS-DNGG□□□□-HF    | CBN insert, 55° rhombic, negative                         | B174       |
| 2QP-YNGG□□□□-HP   | 25° rhombic, negative insert                  | B188                         | 4QS-DNGG□□□□-HM    | CBN insert, 55° rhombic, negative                         | B174       |
| 30S□□□□□R/L       | My-T Series face grooving and turning adapter | F238, F239                   | 4QS-DNGG□□□□-HP    | CBN insert, 55° rhombic, negative                         | B174       |
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| 3QP-TCGW□□□□...   | CBN insert, triangular, positive              | B197, B198                   | 4QS-SNGA□□□□...    | CBN insert, square, negative                              | B180       |
| 3QP-TNGA□□□□...   | CBN insert, triangular, negative              | B182, B183                   | 4QS-SNGA□□□□SR     | CBN insert, square, negative                              | B180       |
| 3QP-TNGA□□□□F     | CBN insert, triangular, negative              | B182                         | 4QS-VNGA□□□□...    | CBN insert, 35° rhombic, negative                         | B186       |
| 3QP-TNGA□□□□-H    | CBN insert, triangular, negative              | B183                         | 4QS-VNGA□□□□-H     | CBN insert, 35° rhombic, negative                         | B186       |
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| 3QP-TNGA□□□□-L    | CBN insert, triangular, negative              | B182                         | 4QS-VNGA□□□□-LC    | CBN insert, 35° rhombic, negative                         | B186       |
| 3QP-TNGA□□□□-LC   | CBN insert, triangular, negative              | B182, B183                   | 4QS-VNGA□□□□-LF    | CBN insert, 35° rhombic, negative                         | B186       |
| 3QP-TNGA□□□□-LF   | CBN insert, triangular, negative              | B182                         | 4QS-VNGA□□□□SR     | CBN insert, 35° rhombic, negative                         | B186       |
| 3QP-TNGA□□□□SR    | CBN insert, triangular, negative              | B182, B183                   | 4QS-VNGG□□□□-HP    | CBN insert, 35° rhombic, negative                         | B187       |
| 3QP-TNGA□□□□WG    | CBN insert, triangular, negative              | B182                         | 4QS-VNGG□□□□-HS    | CBN insert, 35° rhombic, negative                         | B187       |
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| 3QP-TNGM□□□□-HP   | CBN insert, triangular, negative              | B184                         | 6C-TOMG□□□□□□M-TM  | AddMultiTurn insert                                       | C102       |
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| 3QP-TPGT□□□□-HS   | CBN insert, triangular, positive              | B200                         | 6IR19PT            | BSPT threading insert                                     | E024       |
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| WNMA□□E         | 80° hexagonal, negative, ISO insert | B109       |                  |  |      |
| WNMG...         | 80° hexagonal, negative, ISO insert | B106       |                  |  |      |
| WNMG□□-11       | 80° hexagonal, negative, ISO insert | B104       |                  |  |      |
| WNMG□□-17       | 80° hexagonal, negative, ISO insert | B104       |                  |  |      |
| WNMG□□-27       | 80° hexagonal, negative, ISO insert | B108       |                  |  |      |
| WNMG□□-33       | 80° hexagonal, negative, ISO insert | B108       |                  |  |      |
| WNMG□□-37       | 80° hexagonal, negative, ISO insert | B108       |                  |  |      |
| WNMG□□-AFW      | 80° hexagonal, negative, ISO insert | B104       |                  |  |      |
| WNMG□□-AM       | 80° hexagonal, negative, ISO insert | B106       |                  |  |      |
| WNMG□□-AS       | 80° hexagonal, negative, ISO insert | B102       |                  |  |      |
| WNMG□□-ASW      | 80° hexagonal, negative, ISO insert | B107       |                  |  |      |
| WNMG□□-CB       | 80° hexagonal, negative, ISO insert | B104       |                  |  |      |
| WNMG□□-CF       | 80° hexagonal, negative, ISO insert | B104       |                  |  |      |
| WNMG□□-CH       | 80° hexagonal, negative, ISO insert | B109       |                  |  |      |
| WNMG□□-CM       | 80° hexagonal, negative, ISO insert | B107       |                  |  |      |
| WNMG□□-DM       | 80° hexagonal, negative, ISO insert | B106       |                  |  |      |
| WNMG□□E-FW      | 80° hexagonal, negative, ISO insert | B104       |                  |  |      |
| WNMG□□E-SM      | 80° hexagonal, negative, ISO insert | B106       |                  |  |      |
| WNMG□□E-SS      | 80° hexagonal, negative, ISO insert | B103       |                  |  |      |
| WNMG□□E-SW      | 80° hexagonal, negative, ISO insert | B107       |                  |  |      |
| WNMG□□E-TF      | 80° hexagonal, negative, ISO insert | B102       |                  |  |      |
| WNMG□□E-TM      | 80° hexagonal, negative, ISO insert | B103       |                  |  |      |

| Designation        | Product name  | Page       |
|--------------------|---|------------|
| WNMG□□E-TS         | 80° hexagonal, negative, ISO insert                       | B103       |
| WNMG□□E-TSF        | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□E-ZF         | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□E-ZM         | 80° hexagonal, negative, ISO insert                       | B105       |
| WNMG□□-FW          | 80° hexagonal, negative, ISO insert                       | B104       |
| WNMG□□-HMM         | 80° hexagonal, negative, ISO insert                       | B108       |
| WNMG□□-HRF         | 80° hexagonal, negative, ISO insert                       | B103       |
| WNMG□□-HRM         | 80° hexagonal, negative, ISO insert                       | B106       |
| WNMG□□-NM          | 80° hexagonal, negative, ISO insert                       | B106       |
| WNMG□□-NS          | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□-PM          | 80° hexagonal, negative, ISO insert                       | B105       |
| WNMG□□-PS          | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□-SA          | 80° hexagonal, negative, ISO insert                       | B108       |
| WNMG□□-SDM         | 80° hexagonal, negative, ISO insert                       | B106       |
| WNMG□□-SF          | 80° hexagonal, negative, ISO insert                       | B103       |
| WNMG□□-SH          | 80° hexagonal, negative, ISO insert                       | B109       |
| WNMG□□-SM          | 80° hexagonal, negative, ISO insert                       | B106       |
| WNMG□□-SS          | 80° hexagonal, negative, ISO insert                       | B103       |
| WNMG□□-SW          | 80° hexagonal, negative, ISO insert                       | B107       |
| WNMG□□-TA          | 80° hexagonal, negative, ISO insert                       | B107       |
| WNMG□□-TF          | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□-TH          | 80° hexagonal, negative, ISO insert                       | B108       |
| WNMG□□-THS         | 80° hexagonal, negative, ISO insert                       | B108       |
| WNMG□□-TM          | 80° hexagonal, negative, ISO insert                       | B105       |
| WNMG□□-TQ          | 80° hexagonal, negative, ISO insert                       | B107       |
| WNMG□□-TS          | 80° hexagonal, negative, ISO insert                       | B103       |
| WNMG□□-TSF         | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□-ZF          | 80° hexagonal, negative, ISO insert                       | B102       |
| WNMG□□-ZM          | 80° hexagonal, negative, ISO insert                       | B105       |
| WPMT090725ZPR/L-ML | TurnFeed insert   | B155, C127 |
| WTJNR/L...         | W-type external toolholder                                | C090       |
| WXGU□□MFR/L-JS     | MiniForce-Turn insert, 80° trigon, positive, double-sided | B157       |
| WXGU□□MFR/L-JSS    | MiniForce-Turn insert, 80° trigon, positive, double-sided | B157       |
| WXGU□□MFR/L-JTS    | MiniForce-Turn insert, 80° trigon, positive, double-sided | B158       |
| WXGU□□MR/L-JSS     | MiniForce-Turn insert, 80° trigon, positive, double-sided | B157       |
| WXGU□□MR/L-JTS     | MiniForce-Turn insert, 80° trigon, positive, double-sided | B158       |
| WXGU□□R/L-SS       | MiniForce-Turn insert, 80° trigon, positive, double-sided | B157       |
| WXGU□□R/L-TS       | MiniForce-Turn insert, 80° trigon, positive, double-sided | B158       |
| WXGU□□R/L-TSW      | MiniForce-Turn insert, 80° trigon, positive, double-sided | B157       |
| <b>X</b>           |   |            |
| XGR/L□□□□-02       | Grooving insert   | F119, F188 |
| XGR/L□□□□S-QBN     | CBN insert for grooving                                   | F120       |
| XNR/L□□□□-...      | Face grooving insert                                      | F246       |
| XOMU□□□□□-PS       | TungBoreMini insert                                       | D087       |
| XWXPR/L□□09        | TurnFeed external toolholder                              | C127       |
| <b>Y</b>           |   |            |
| YNMG□□-ZF          | 25° rhombic, negative insert                              | B110       |
| YNMG□□-ZM          | 25° rhombic, negative insert                              | B110       |
| YWMT□□-ZF          | 25° rhombic, positive insert                              | B159       |
| YWMT□□-ZM          | 25° rhombic, positive insert                              | B159       |



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## **Iwaki Plant**

Products: Cutting Tools

## **Nagoya Plant**

Products: Cutting Tools

## **Kyushu Plant**

Products: CBN  
PCD Tools  
Deep Hole Drills

## **Nirasaki Plant**

Products: Cutting Tools  
Friction Materials (TungFric)  
Wear Resistant Tools  
Civil Engineering Tools



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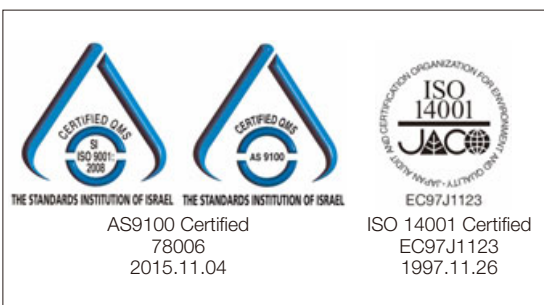
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