

CARBIDE GROOVING TOOLS

AHB

TOOLING & MACHINERY

COMPLETE METALWORKING SOLUTIONS

(800) 991-4225

www.ahbinc.com

ISO Certified

customerservice@ahbinc.com





Dear customer,

We are pleased to introduce our new catalog of **CARBIDE GROOVING TOOLS**.

This catalog represents part of the most comprehensive range of grooving products available from any single manufacturer.

For more than 40 years, HORN has dedicated its resources to the design and manufacture of tooling specifically for grooving applications

As a HORN user, you gain access to this wealth of experience in grooving. Our team of engineers will be pleased to give you the help and assistance necessary to ensure you get the very best performance from our products.

If you require any further assistance or information, please do not hesitate to contact us. We look forward to our continued cooperation.

Yours sincerely

A handwritten signature in black ink that reads 'Lothar Horn'.

Lothar Horn



SUMMARY

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QUALITY AND ENVIRONMENT COMMITMENT

Quality = Satisfied customers

Paul Horn GmbH, as a manufacturer of carbide cutting tools, has a very special responsibility. To exist as a successful company, we must meet the demands for both products and services that are set by the customer as well as those that we set ourselves. To achieve these goals, Paul Horn GmbH has introduced a modern Quality management System according to DIN EN ISO 9001.



The environment - our future!

To ensure the future being a company, it depends not only on turnover and profit but the acceptance of the company by both the public and the society. For the Paul Horn GmbH the environment protection is an important corporate target and indisputable part of the corporate policy. In 1999 we have adjusted our Management System according to the requirements of the ISO 14001. Already in 1997 we have got the validity according to the EG-ÖG-Audit-VO 1836/93. The Management System is certified since July 2000.

SUMMARY

P PARTING OFF

Q TECHNICAL INFORMATION

R BROACHING

S POLISH TURNING

T ADDITIONAL EQUIPMENT / EXAMPLES FOR MACHINING

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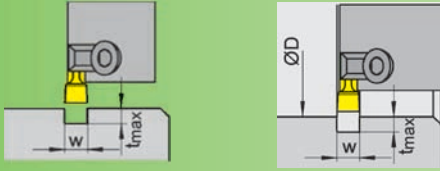
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Q

R

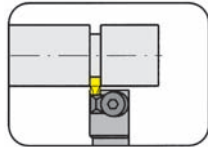
S

T



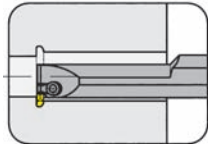
$w = .022-.209'' (0.56-5.3 \text{ mm})$ $w = .022-.209'' (0.56-5.3 \text{ mm})$
 $t_{\text{max}} = .157'' (4 \text{ mm})$ $t_{\text{max}} = .185'' (4.7 \text{ mm})$
 $D = .787'' (20 \text{ mm})$

**Grooving
- external -**

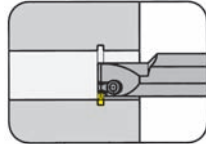


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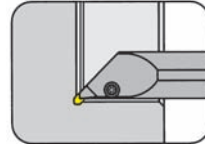
**Grooving
- internal -**



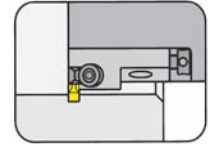
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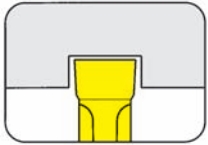


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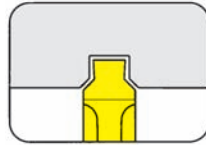


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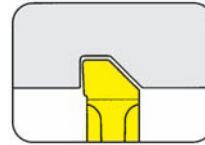
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U217/217**



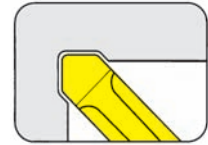
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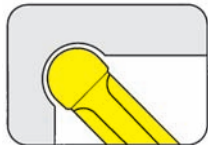
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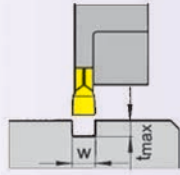
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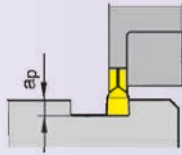
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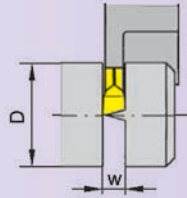
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$w = .059 - .118'' (1.5-3 \text{ mm})$
 $t_{\text{max}} = .630'' (16 \text{ mm})$

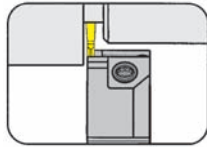


$w = .059'' (1.5 \text{ mm})$
 $a_p = .089'' (2.25 \text{ mm})$



$w = .059 - .118'' (1.5-3 \text{ mm})$
 $D = .787 - 1.260'' (20-32 \text{ mm})$

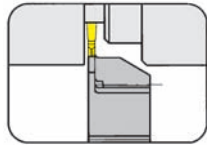
**Toolholder
with screwed clamping**



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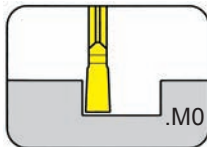
**Toolholder
with self clamping**



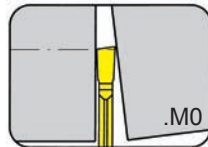
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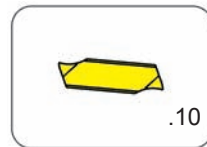
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S264 / 264**



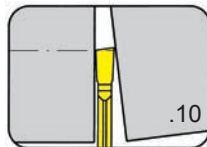
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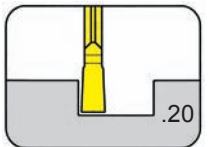
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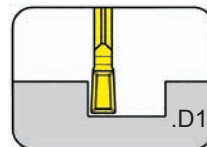
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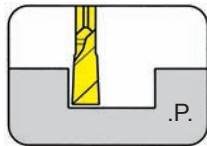
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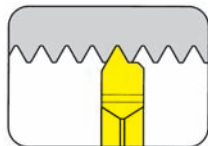
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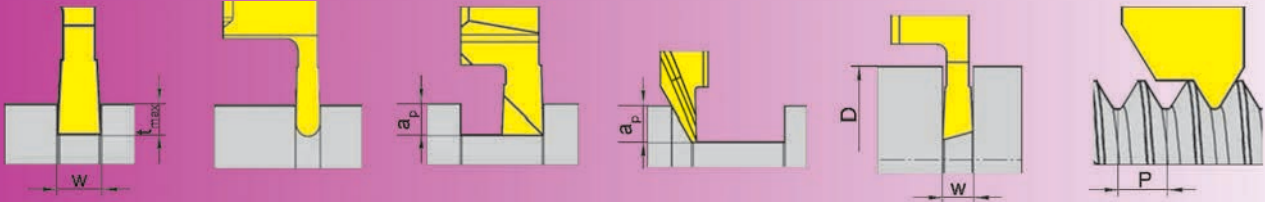
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$w = .020-.079''$ (0.5-2.0 mm)
 $t_{max} = .236''$ (6.0 mm)

$w = .020-.079''$ (0.5-2.0 mm)
 $t_{max} = .157''$ (4.0 mm)

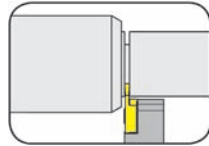
$w = .059-.118''$ (1.5-3.0 mm)
 $t_{max} = .177''$ (4.5 mm)

$a_p = .236''$ (6.0 mm)

$w = .031-.079''$ (0.8-2.0 mm)
 $t_{max} = .236''$ (6.0 mm)

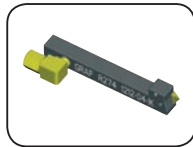
Partial profile
 $P = 0.24 - 0.4$ mm
 Full profile
 $P = 0.5 - 1.5$ mm

Toolholder

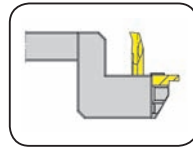


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**Toolholder
 - machine-specific -**



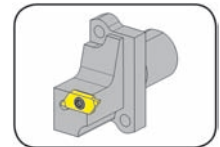
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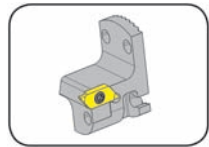
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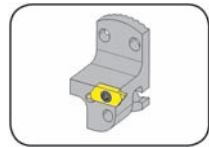
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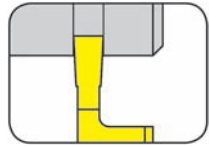


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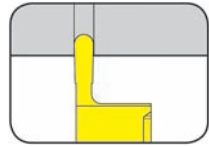


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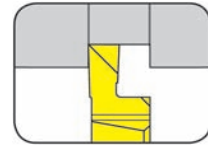
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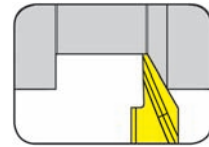
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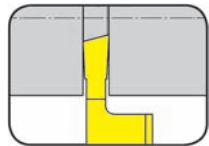
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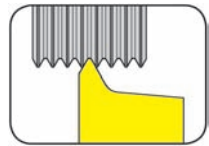
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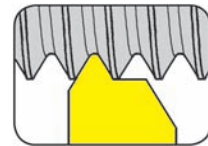
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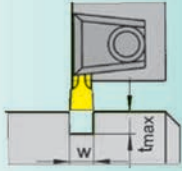
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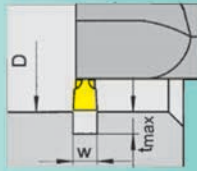
Partial profile
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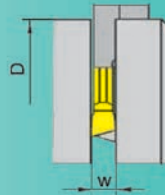
Full profile
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w = .079-.118" (2.0-3.0 mm)
t_{max} = .394" (10 mm)

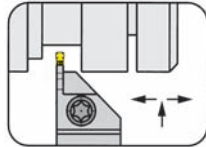


w = .043-.118" (1.1 - 3 mm)
t_{max} = .248" (6.3 mm)
D ≥ .630" (16 mm)

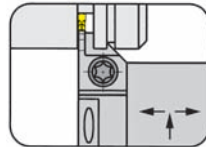


w = .079-.118" (2.0-3.0 mm)
D ≤ 1.969" (50 mm)

Grooving - external -

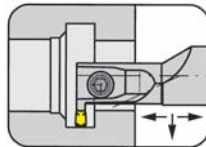


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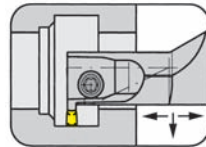


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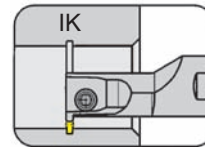
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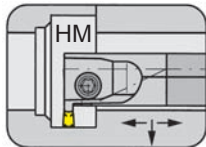
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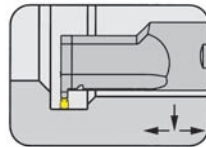
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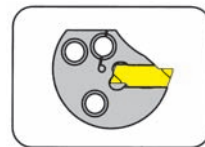
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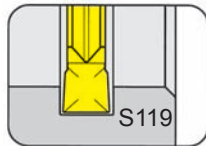
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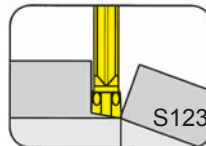


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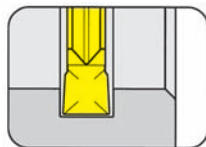


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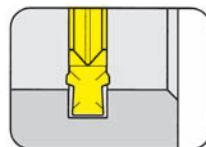


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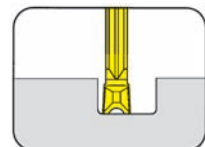
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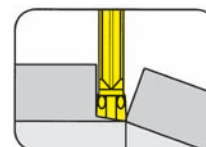
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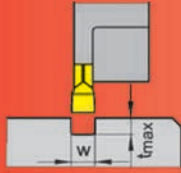
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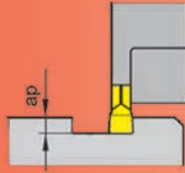
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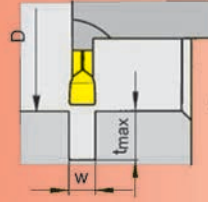
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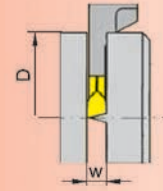
w = .079-.236" (2 - 6 mm)
t_{max} = .709" (18 mm)



w = .118-.236" (3 - 6 mm)
a_{pmax} = .157" (4 mm)

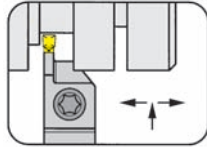


w = .079-.236" (2 - 6 mm)
t_{max} = .512" (13 mm)
D ≥ 1.102" (28 mm)

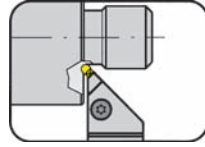


w = .079-.236" (2 - 6 mm)
t_{max} = .709" (18 mm)
D ≥ 2.205" (56 mm)

Grooving - external -

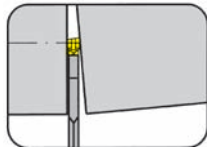


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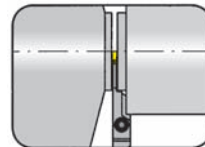


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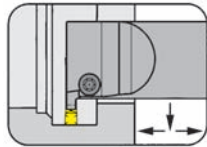


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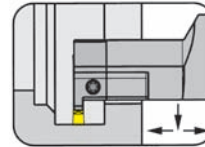


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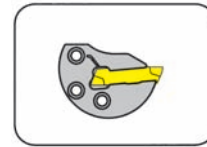
Grooving - internal -



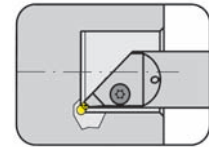
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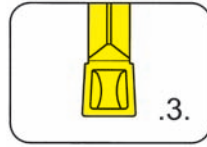


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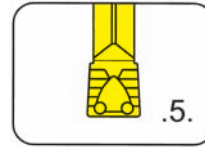


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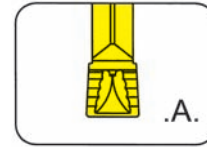
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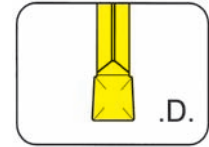
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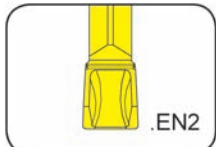
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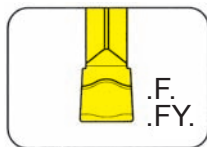
Page E40-E41



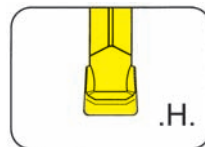
Page E42-E43



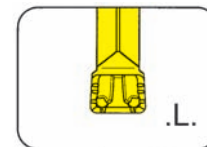
Page E44



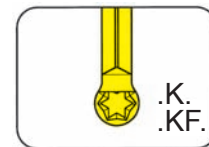
Page E45, E56



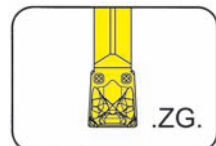
Page E46



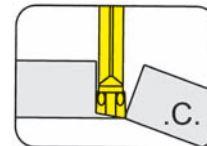
Page E47



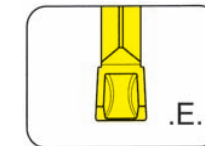
Page E48-E49



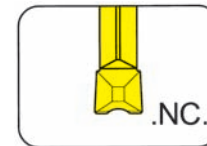
Page E50



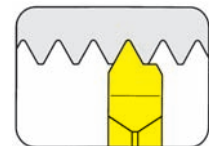
Page E52-E54



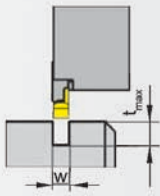
Page E55



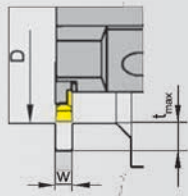
Page E57



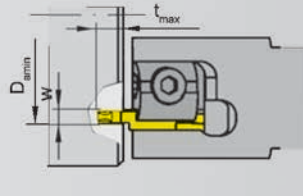
Page E58-E59



$w = .098-.394"$ (2.5 - 10 mm)
 $t_{max} = .433"$ (11 mm)



$w = .157-.394"$ (4 - 10 mm)
 $t_{max} = .354"$ (9 mm)
 $D = 2.953-7.874"$ (75 - 200 mm)

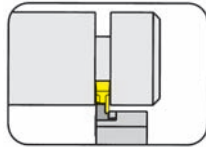


$w = .118-.394"$ (3 - 10 mm)
 $t_{max} = .315"$ (8 mm)
 $D_{a\ min} \geq 1.181"$ (30 mm)



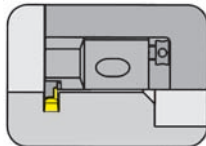
metric trapezoidal thread

**Grooving
- external -**



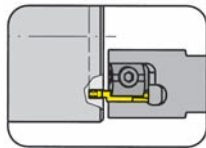
Page F2-F3

**Grooving
- internal -**

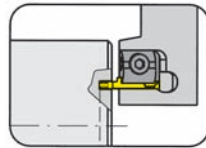


Page F4-F5

Face Grooving

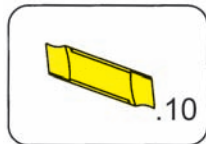


Page F8-F9



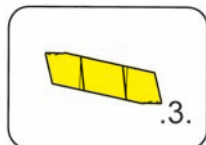
Page F10-F11

**Indexable inserts
type
231**



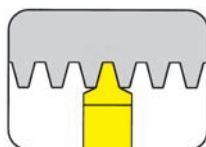
Page F6-F7

Grooving



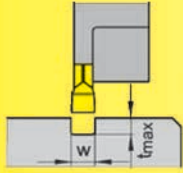
Page F12

Face Grooving

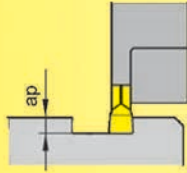


Page F13

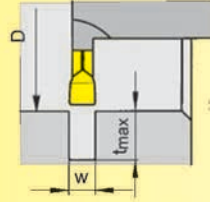
metric trapezoidal thread



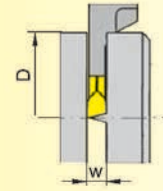
$w = .098-.394"$ (2.5-10 mm)
 $t_{max} = .984"$ (25 mm)



$w = .118-.236"$ (3-6 mm)
 $a_p \leq .157"$ (4 mm)

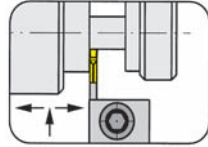


$w = .118-.394"$ (3-10 mm)
 $t_{max} = .591"$ (15 mm)
 $D \geq 1.496"$ (38 mm)

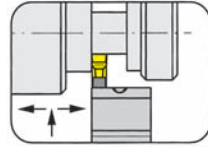


$w = .118-.157"$ (3 - 4 mm)
 $t_{max} = .984"$ (25 mm)

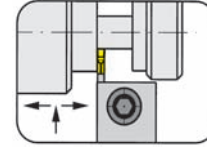
Grooving - external -



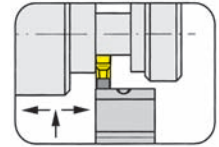
Page G2-G5, G5-G9



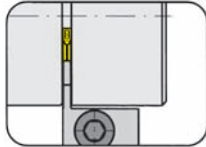
Page G6-G7, G10-G11



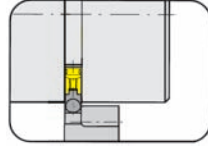
Page G12-G15, G18-G19



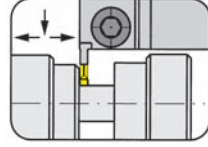
Page G16-G17, G20-G21



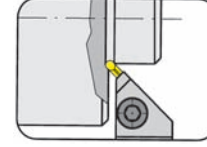
Page G22-G25



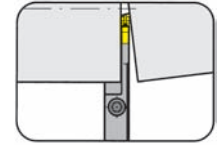
Page G26-G27



Page G28-G31

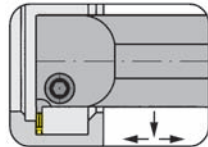


Page G32-G33

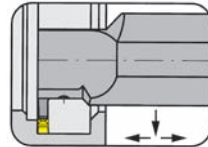


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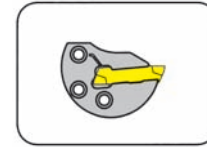
Grooving - internal -



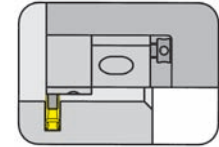
Page G37



Page G40-G49

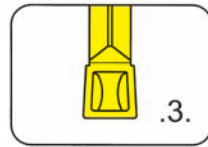


Page G50-G52

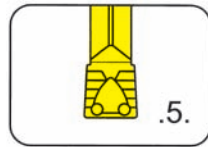


Page G53-G54

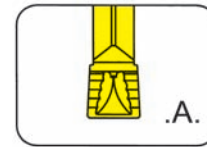
Indexable inserts type 229 / S229



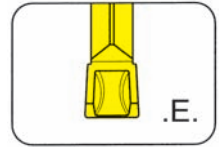
Page G56-G57



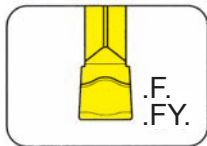
Page G58-G59



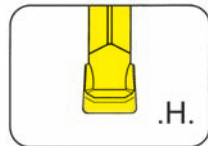
Page G60-G61



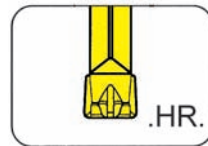
Page G62



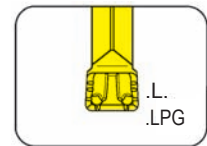
Page G64-G65



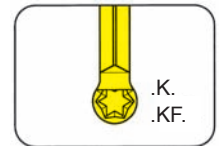
Page G66



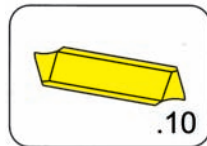
Page G67



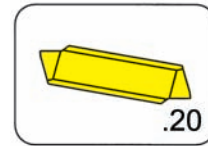
Page G68, G69



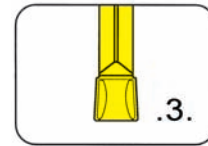
Page G70-G71



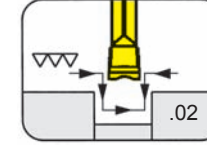
Page G72-G73



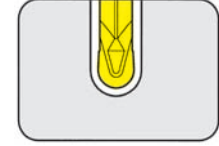
Page G74-G75



Page G76-G77

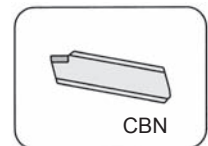


Page G78-G79



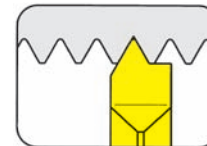
Page G80

Hard Turning Type 229

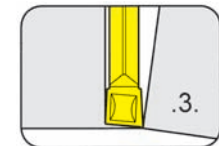


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Indexable inserts Type N229

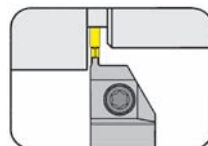


Page G82-G84

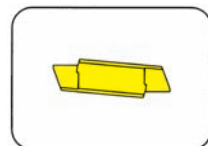


Page G85-G87

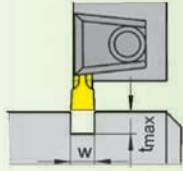
Grooving - external - type H259 / 259



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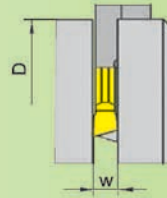
Page G89



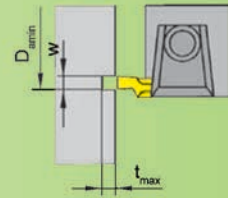
$w = .020-.248"$ (0.5-6.3 mm)
 $t_{max} = .315"$ (8.0 mm)



$w = .020-.248"$ (0.5-6.3 mm)
 $t_{max} = .217"$ (5.5 mm)
 $D \geq 1.811"$ (46 mm)

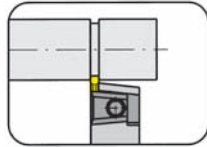


$w = .020-.248"$ (0.5-6.3 mm)
 $D = .472"$ (12 mm)
 $t_{max} = .315"$ (8 mm)

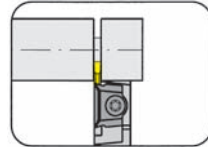


$w = .059-.118"$ (1.5 - 3 mm)
 $t_{max} = .118"$ (3 mm)
 $D_{amin} = .787"$ (20 mm)

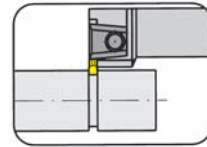
Grooving - external -



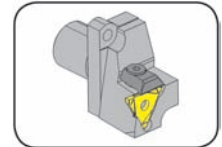
Page H2-H5,
H16-H17



Page H6



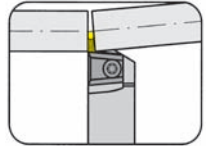
Page H10-H11



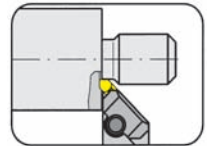
Page H12



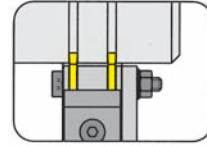
Page H13-H15



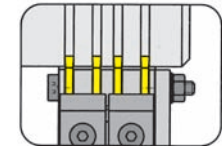
Page H19



Page H20-H21

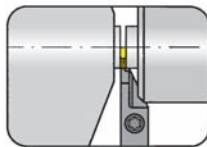


Page H22-H23

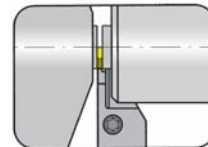


Page H24-H25

Parting off

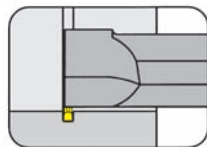


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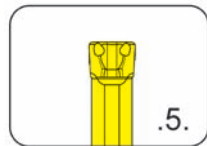
Page H8-H9

Grooving - internal -

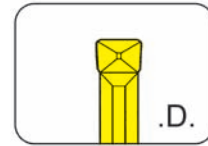


Page H26-H27

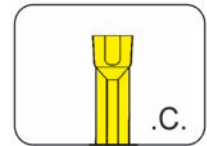
Indexable inserts type S312



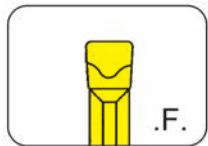
Page H28-H29



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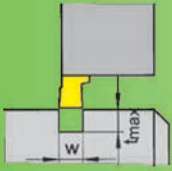


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Indexable inserts type 312



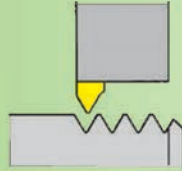
Page H33-H49,
H52-H55



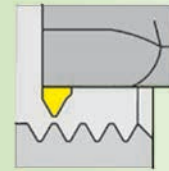
$w = .020-.295"$ (0.5 - 7.5 mm)
 $t_{max} = .197"$ (5 mm)



$w = .020-.138"$ (0.5 - 3.5 mm)
 $t_{max} = .197"$ (5 mm)
 $D \geq 1.693"$ (43 mm)

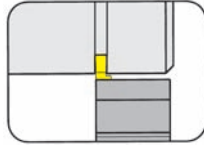


metric trapezoidal thread

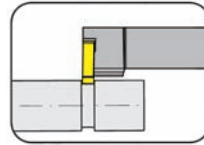


metric trapezoidal thread

**Grooving and
threading
- external -**

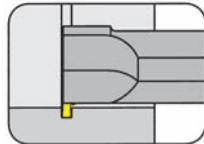


Page J2-J5

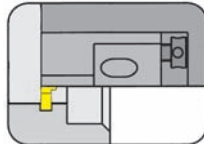


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**Grooving and
threading
- internal -**



Page J8-J9



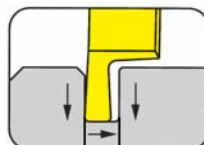
Page J10-J11

**Indexable inserts
type**

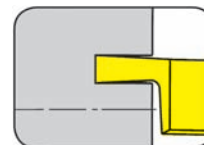
315



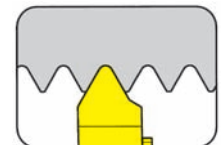
Page J12-J13



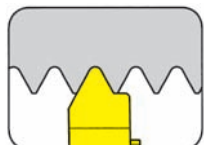
Page J14



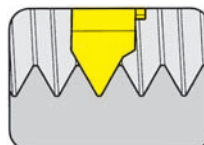
Page J15



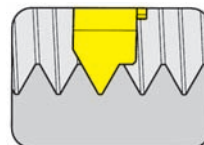
Page J16



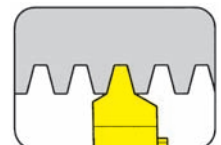
Page J17



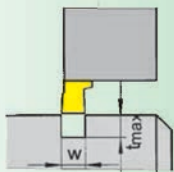
Page J18



Page J19

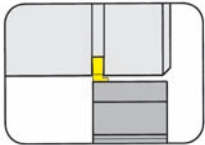


Page J20



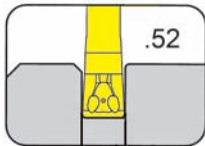
w = .059-.118" (1.5 - 3.0 mm)
t_max = .315" (8.0 mm)

Grooving
- external -

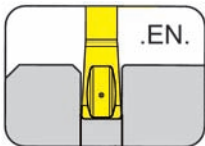


Page K2

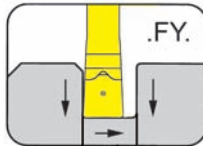
Indexable inserts
type
S316



Page K3



Page K4



Page K5

HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

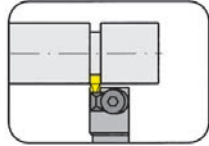
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

Special tools upon request

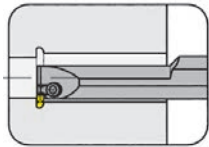
TOOLING SYSTEMS 217 **A**

**Grooving
- external -**

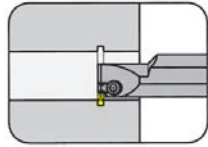


Page A2-A7

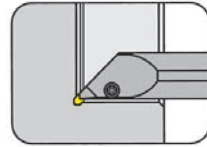
**Grooving
- internal -**



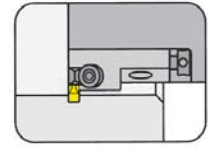
Page A8-A9,
A12-A13



Page A10-A11,
A14-A15

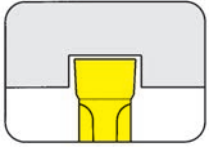


Page A16-A17

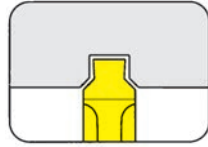


Page A18-A19

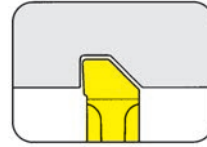
**Indexable inserts
Type
U217/217**



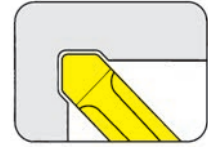
Page A20-A21



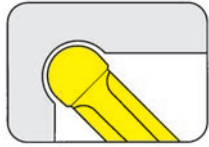
Page A22



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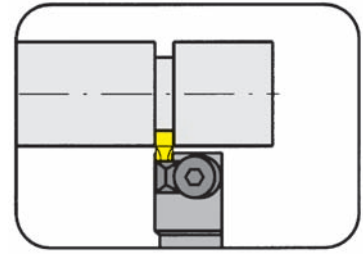
Page A25

For Technical Information please see chapter Q

TOOLHOLDER Type

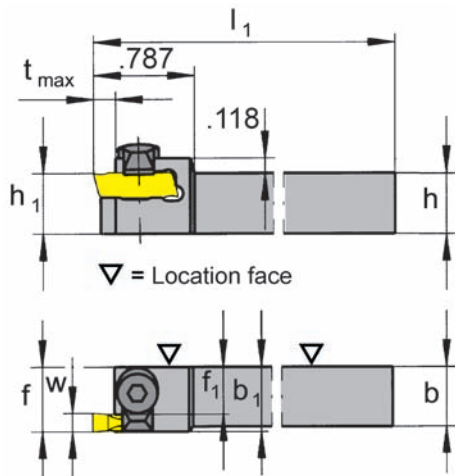
U240

Depth of groove up to .157"
Clamping range up to .106"



for use with Indexable
insert

Type 217
U217



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | b_1 | f_1 | f | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------|-------------|-----------|------|----------------|
| R/LU240.0375.01 | .375 | .375 | 3.000 | .375 | .500 | .441 | f_1+w-a_1 | .157 | 01 | .020 - .067 |
| R/LU240.0500.01 | .500 | .500 | 4.000 | .500 | .500 | .441 | | | | |
| R/LU240.0625.01 | .625 | .625 | 5.000 | .625 | .625 | .566 | | | | |
| R/LU240.0750.01 | .750 | .750 | 5.000 | .750 | .750 | .691 | | | | |
| R/LU240.1000.01 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | .941 | | | | |
| R/LU240.0375.02 | .375 | .375 | 3.000 | .375 | .500 | .402 | f_1+w-a_1 | .157 | 02 | .067 - .106 |
| R/LU240.0500.02 | .500 | .500 | 4.000 | .500 | .500 | .402 | | | | |
| R/LU240.0625.02 | .625 | .625 | 5.000 | .625 | .625 | .527 | | | | |
| R/LU240.0750.02 | .750 | .750 | 5.000 | .750 | .750 | .652 | | | | |
| R/LU240.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | .902 | | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

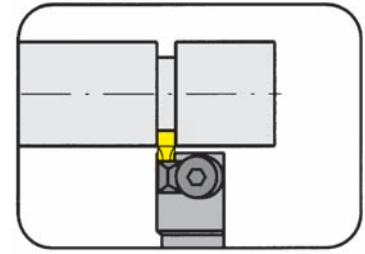
Further sizes upon request

Spare parts

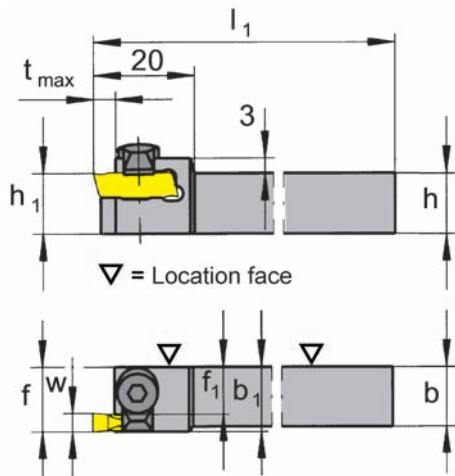
| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-------------|
| R/LU240.... | 8.3 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

240



Depth of groove up to .157" (4.0 mm)
Clamping range up to .106" (2.7 mm)



for use with Indexable insert

Type 217
U217

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------|----------------------------------|------------------|------|----------------|
| R/L240.1010.01 | 10 | 10 | 80 | 10 | 13 | 11.5 | f ₁ +w-a ₁ | 4 | 01 | 0.5 - 1.7 |
| R/L240.1212.01 | 12 | 12 | 100 | 12 | 13 | 11.5 | | | | |
| R/L240.1414.01 | 14 | 14 | 100 | 14 | 14 | 12.5 | | | | |
| R/L240.1616.01 | 16 | 16 | 125 | 16 | 16 | 14.5 | | | | |
| R/L240.2020.01 | 20 | 20 | 125 | 20 | 20 | 18.5 | | | | |
| R/L240.1010.02 | 10 | 10 | 80 | 10 | 13 | 10.5 | f ₁ +w-a ₁ | 4 | 02 | 1.7 - 2.7 |
| R/L240.1212.02 | 12 | 12 | 100 | 12 | 13 | 10.5 | | | | |
| R/L240.1414.02 | 14 | 14 | 100 | 14 | 14 | 11.5 | | | | |
| R/L240.1616.02 | 16 | 16 | 125 | 16 | 16 | 13.5 | | | | |
| R/L240.2020.02 | 20 | 20 | 125 | 20 | 20 | 17.5 | | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

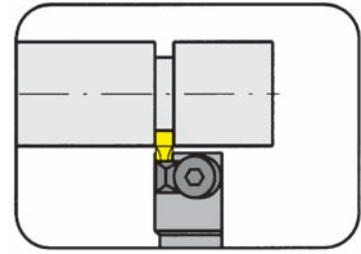
Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|------------|-------|-------|-------------|
| R/L240.... | 8.3 | 5.14 | SW2,5DIN911 |

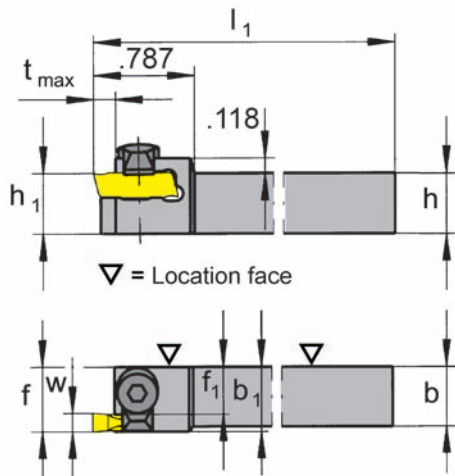
TOOLHOLDER Type

U240



Depth of groove up to
Clamping range up to

.157"
.209"



for use with Indexable
insert

Type 217
U217

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | b_1 | f_1 | f | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------|-------------|-----------|------|----------------|
| R/LU240.0375.03 | .375 | .375 | 3.000 | .375 | .500 | .362 | f_1+w-a_1 | .157 | 03 | .106 - .146 |
| R/LU240.0500.03 | .500 | .500 | 4.000 | .500 | .500 | .362 | | | | |
| R/LU240.0625.03 | .625 | .625 | 5.000 | .625 | .625 | .487 | | | | |
| R/LU240.0750.03 | .750 | .750 | 5.000 | .750 | .750 | .612 | | | | |
| R/LU240.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | .862 | | | | |
| R/LU240.0375.04 | .375 | .375 | 3.000 | .375 | .500 | .374 | f_1+w-a_1 | .157 | 04 | .146 - .209 |
| R/LU240.0500.04 | .500 | .500 | 4.000 | .500 | .500 | .374 | | | | |
| R/LU240.0625.04 | .625 | .625 | 5.000 | .625 | .625 | .420 | | | | |
| R/LU240.0750.04 | .750 | .750 | 5.000 | .750 | .750 | .545 | | | | |
| R/LU240.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | .795 | | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

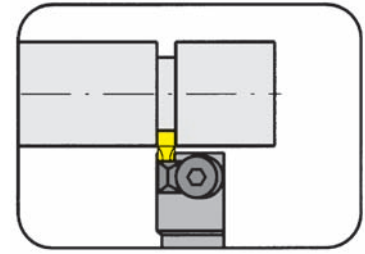
Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|---------------|-------|-------|-------------|
| R/LU240....03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/LU240....04 | 8.4 | 5.14 | SW2,5DIN911 |

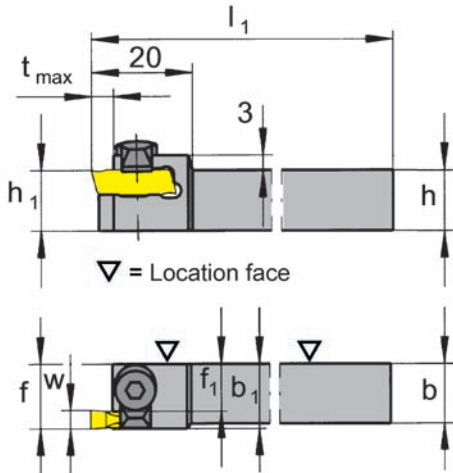
TOOLHOLDER Type

240



Depth of groove up to
Clamping range up to

.157" (4.0 mm)
.209" (5.3 mm)



for use with Indexable insert

Type 217
U217

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------|----------------------------------|------------------|------|----------------|
| R/L240.1010.03 | 10 | 10 | 80 | 10 | 13 | 9.5 | f ₁ +w-a ₁ | 4 | 03 | 2.7 - 3.7 |
| R/L240.1212.03 | 12 | 12 | 100 | 12 | 13 | 9.5 | | | | |
| R/L240.1414.03 | 14 | 14 | 100 | 14 | 14 | 10.5 | | | | |
| R/L240.1616.03 | 16 | 16 | 125 | 16 | 16 | 12.5 | | | | |
| R/L240.2020.03 | 20 | 20 | 125 | 20 | 20 | 16.5 | | | | |
| R/L240.1010.04 | 10 | 10 | 80 | 10 | 15 | 9.8 | f ₁ +w-a ₁ | 4 | 04 | 3.7 - 5.3 |
| R/L240.1212.04 | 12 | 12 | 100 | 12 | 15 | 9.8 | | | | |
| R/L240.1414.04 | 14 | 14 | 100 | 14 | 15 | 9.8 | | | | |
| R/L240.1616.04 | 16 | 16 | 125 | 16 | 16 | 10.8 | | | | |
| R/L240.2020.04 | 20 | 20 | 125 | 20 | 20 | 14.8 | | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

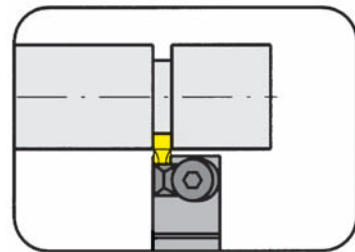
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-------------|
| R/L240...03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/L240...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

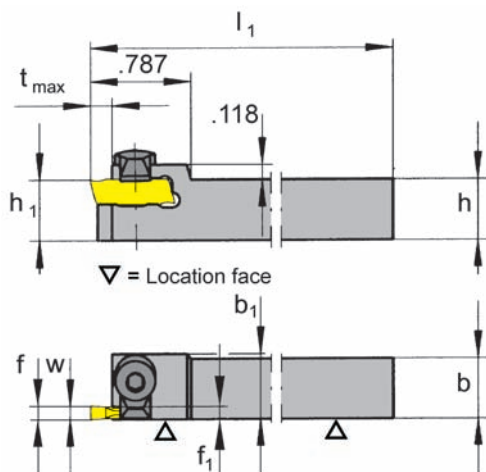
U248

Depth of groove up to .157"
Clamping range up to .106"



for use with Indexable
insert

Type 217
U217



R = right hand version shown

L = left hand version

for Swisstype machines

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | t _{max} | Size | Clamping range |
|-----------------|------|------|----------------|----------------|----------------|----------------|--------------------------------|------------------|------|----------------|
| R/LU248.0500.01 | .500 | .500 | 3.740 | .500 | .539 | .059 | f ₁ +a ₁ | .157 | 01 | .020 - .067 |
| R/LU248.0500.02 | .500 | .500 | 3.740 | .500 | .539 | .098 | f ₁ +a ₁ | .157 | 02 | .067 - .106 |

State R or L version

w, a₁ see indexable inserts

Dimensions in inch

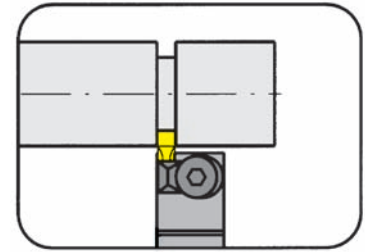
Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------------|-------|-------|-------------|
| R/LU248.0500.0... | 8.3 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

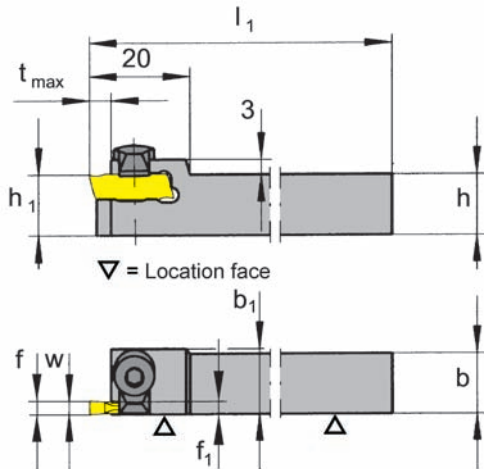
248



Depth of groove up to .157" (4.0 mm)
Clamping range up to .106" (2.7 mm)

for use with Indexable insert

Type 217
U217



R = right hand version shown

L = left hand version

for Swisstype machines

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------|--------------------------------|------------------|------|----------------|
| R/L248.1212.01 | 12 | 12 | 95 | 12 | 13 | 1.5 | f ₁ +a ₁ | 4 | 01 | 0.5 - 1.7 |
| R/L248.1212.02 | 12 | 12 | 95 | 12 | 13 | 2.5 | f ₁ +a ₁ | 4 | 02 | 1.7 - 2.7 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

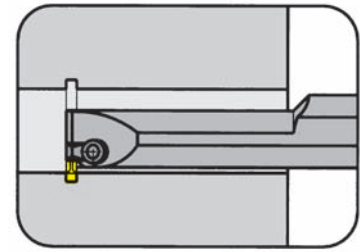
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-------------|
| R/L248.1212.0... | 8.3 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

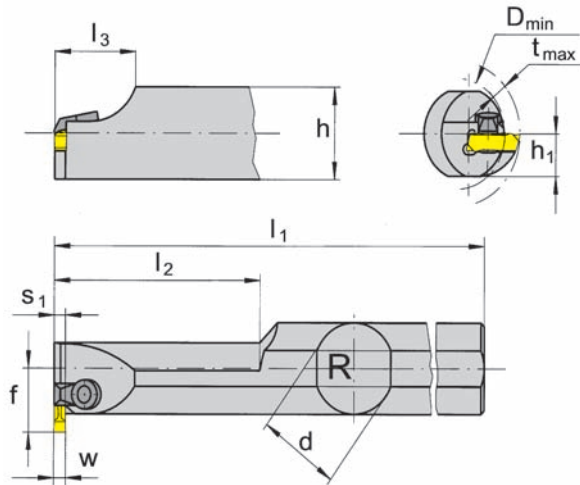
U230/U250

| | |
|-----------------------|-------|
| Bore Ø from | .787" |
| Depth of groove up to | .185" |
| Clamping range up to | .209" |



for use with Indexable insert

Type 217
U217



R = right hand version shown

L = left hand version

long reach

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/LU230.0750.01 | .750 | 7.000 | 2.500 | .673 | .337 | .524 | .787 | .118 | .059 | .750 | 01 | .035 - .067 |
| R/LU250.1000.01 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | .059 | 1.000 | 01 | .035 - .067 |
| R/LU250.1250.01 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | .059 | 1.000 | 01 | .035 - .067 |
| R/LU230.0750.02 | .750 | 7.000 | 2.500 | .673 | .337 | .524 | .787 | .118 | .098 | .750 | 02 | .067 - .106 |
| R/LU250.1000.02 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | .098 | 1.000 | 02 | .067 - .106 |
| R/LU250.1250.02 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | .098 | 1.000 | 02 | .067 - .106 |
| R/LU230.0750.03 | .750 | 7.000 | 2.500 | .673 | .337 | .524 | .787 | .118 | .138 | .750 | 03 | .106 - .146 |
| R/LU250.1000.03 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | .138 | 1.000 | 03 | .106 - .146 |
| R/LU250.1250.03 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | .138 | 1.000 | 03 | .106 - .146 |
| R/LU230.0750.04 | .750 | 7.000 | 2.500 | .673 | .337 | .524 | .787 | .118 | .205 | .750 | 04 | .146 - .209 |
| R/LU250.1000.04 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | .205 | 1.000 | 04 | .146 - .209 |
| R/LU250.1250.04 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | .205 | 1.000 | 04 | .146 - .209 |

State R or L version

w see indexable inserts

Dimensions in inch

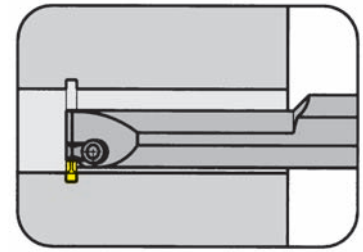
Further sizes upon request

Spare parts

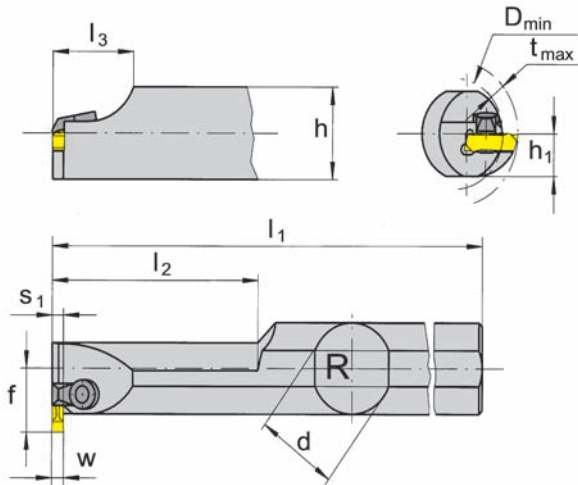
| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-------------|
| R/LU2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/LU2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

230/250



Bore Ø from .787" (20.0 mm)
 Depth of groove up to .185" (4.7 mm)
 Clamping range up to .209" (5.3 mm)

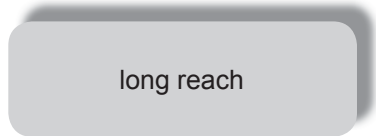


R = right hand version shown

L = left hand version

for use with Indexable insert

Type 217
 U217



| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/L230.0020.01 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L250.0025.01 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 1.5 | 25 | 01 | 0.9 - 1.7 |
| R/L250.0032.01 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L230.0020.02 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L250.0025.02 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 2.5 | 25 | 02 | 1.7 - 2.7 |
| R/L250.0032.02 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L230.0020.03 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L250.0025.03 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 3.5 | 25 | 03 | 2.7 - 3.7 |
| R/L250.0032.03 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L230.0020.04 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L250.0025.04 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 5.2 | 25 | 04 | 3.7 - 5.3 |
| R/L250.0032.04 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

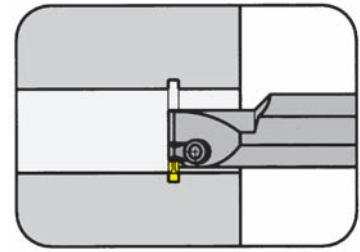
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-----------------|-------|-------|-------------|
| R/L2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/L2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

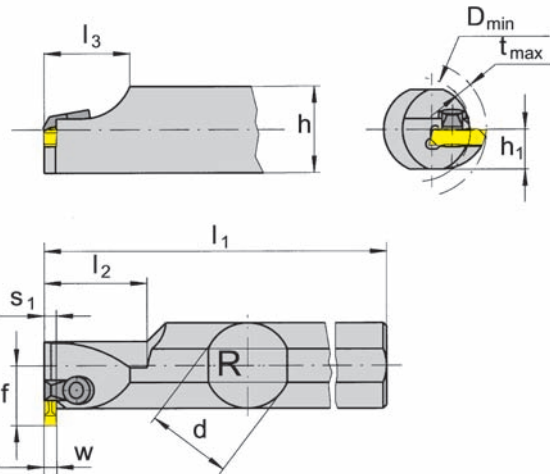
U233/U253

| | |
|-----------------------|-------|
| Bore Ø from | .787" |
| Depth of groove up to | .185" |
| Clamping range up to | .209" |



for use with Indexable insert

Type 217
U217



R = right hand version shown

L = left hand version

short reach

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/LU233.0750.01 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU253.1000.01 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .059 | 1.000 | 01 | .035 - .067 |
| R/LU253.1250.01 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |
| R/LU233.0750.02 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU253.1000.02 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .098 | 1.000 | 02 | .067 - .106 |
| R/LU253.1250.02 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |
| R/LU233.0750.03 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU253.1000.03 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .138 | 1.000 | 03 | .106 - .146 |
| R/LU253.1250.03 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |
| R/LU233.0750.04 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU253.1000.04 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .205 | 1.000 | 04 | .146 - .209 |
| R/LU253.1250.04 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |

State R or L version

w see indexable inserts

Dimensions in inch

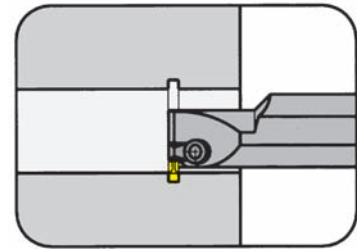
Further sizes upon request

Spare parts

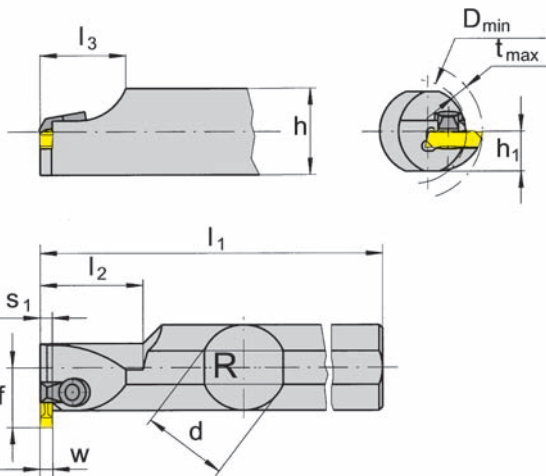
| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-------------|
| R/LU2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/LU2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

233/253



Bore Ø from .787" (20.0 mm)
 Depth of groove up to .185" (4.7 mm)
 Clamping range up to .209" (5.3 mm)



for use with Indexable insert

Type 217
 U217

short reach

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/L233.0020.01 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L253.0025.01 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 1.5 | 25 | 01 | 0.9 - 1.7 |
| R/L253.0032.01 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L233.0020.02 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L253.0025.02 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 2.5 | 25 | 02 | 1.7 - 2.7 |
| R/L253.0032.02 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L233.0020.03 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L253.0025.03 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 3.5 | 25 | 03 | 2.7 - 3.7 |
| R/L253.0032.03 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L233.0020.04 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L253.0025.04 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 5.2 | 25 | 04 | 3.7 - 5.3 |
| R/L253.0032.04 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

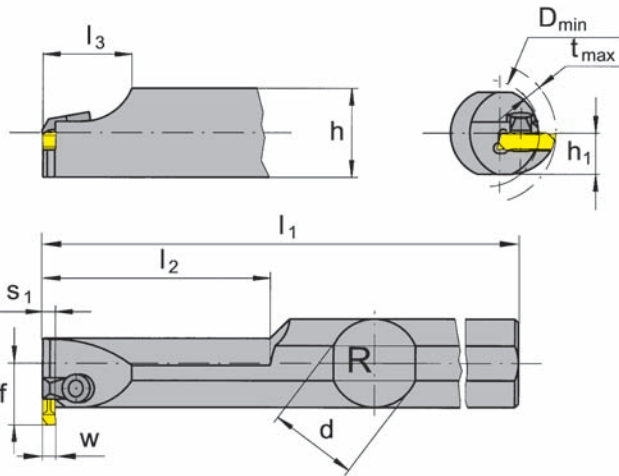
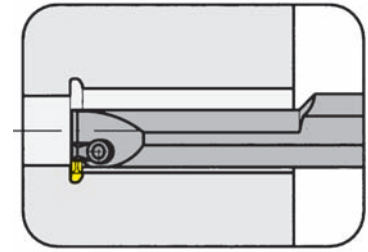
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-----------------|-------|-------|-------------|
| R/L2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/L2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

U254

| | |
|-----------------------|-------|
| Bore Ø from | .984" |
| Depth of groove up to | .185" |
| Clamping range up to | .209" |



R = right hand version shown

L = left hand version

for use with Indexable insert

Type 217
U217long reach for special
insert shapes

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/LU254.1000.01 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | .059 | 1.000 | 01 | .035 - .067 |
| R/LU254.1250.01 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | .098 | 1.000 | 02 | .067 - .106 |
| R/LU254.1000.02 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | .138 | 1.000 | 03 | .106 - .146 |
| R/LU254.1250.02 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | .205 | 1.000 | 04 | .146 - .209 |
| R/LU254.1000.03 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | | | | |
| R/LU254.1250.03 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | | | | |
| R/LU254.1000.04 | 1.000 | 10.000 | 3.250 | .922 | .461 | .689 | .984 | .185 | | | | |
| R/LU254.1250.04 | 1.250 | 10.000 | 3.250 | 1.172 | .586 | .827 | 1.260 | .185 | | | | |

State R or L version

w see indexable inserts

Dimensions in inch

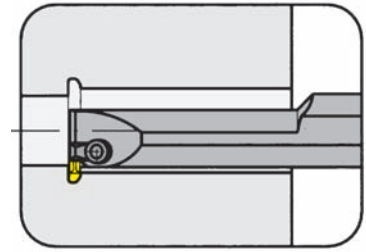
Further sizes upon request

Spare parts

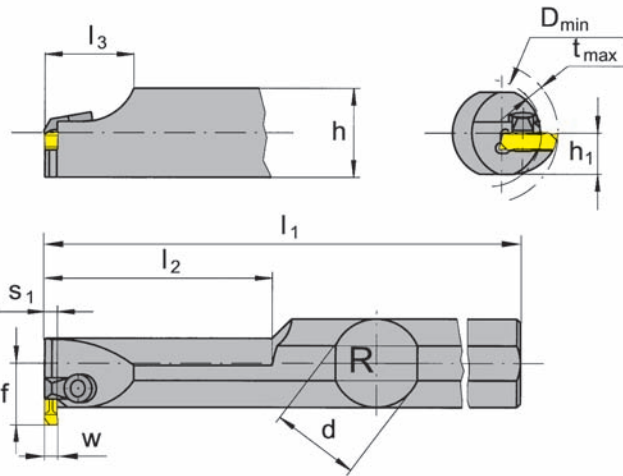
| Toolholder | Clamp | Screw | Wrench |
|----------------------|-------|-------|-------------|
| R/LU254.1...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/LU254.1...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

234/254



Bore Ø from .787" (20.0 mm)
 Depth of groove up to .185" (4.7 mm)
 Clamping range up to .209" (5.3 mm)



R = right hand version shown

L = left hand version

for use with Indexable insert

Type 217
 U217



long reach for special insert shapes

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/L234.0020.01 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L254.0025.01 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 1.5 | 25 | 01 | 0.9 - 1.7 |
| R/L254.0032.01 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L234.0020.02 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L254.0025.02 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 2.5 | 25 | 02 | 1.7 - 2.7 |
| R/L254.0032.02 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L234.0020.03 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L254.0025.03 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 3.5 | 25 | 03 | 2.7 - 3.7 |
| R/L254.0032.03 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L234.0020.04 | 20 | 180 | 60 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L254.0025.04 | 25 | 250 | 80 | 23 | 11.5 | 17.5 | 25 | 4.7 | 5.2 | 25 | 04 | 3.7 - 5.3 |
| R/L254.0032.04 | 32 | 250 | 80 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

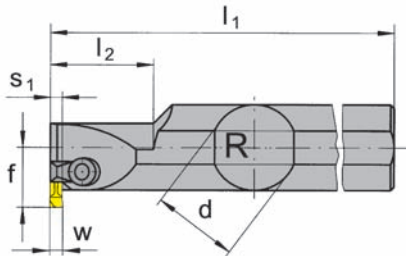
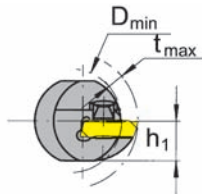
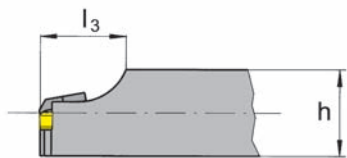
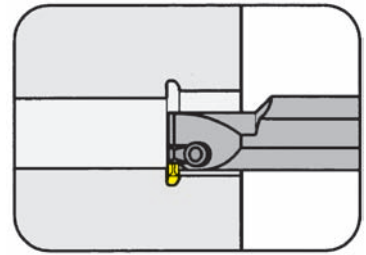
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-----------------|-------|-------|-------------|
| R/L2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/L2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

U235/U255

| | |
|-----------------------|-------|
| Bore Ø from | .787" |
| Depth of groove up to | .185" |
| Clamping range up to | .209" |



for use with Indexable insert

Type 217
U217



short reach for special insert shapes

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/LU235.0750.01 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU255.1000.01 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .059 | 1.000 | 01 | .035 - .067 |
| R/LU255.1250.01 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |
| R/LU235.0750.02 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU255.1000.02 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .098 | 1.000 | 02 | .067 - .106 |
| R/LU255.1250.02 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |
| R/LU235.0750.03 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU255.1000.03 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .138 | 1.000 | 03 | .106 - .146 |
| R/LU255.1250.03 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |
| R/LU235.0750.04 | .750 | 5.000 | 1.000 | .673 | .337 | .524 | .787 | .118 | | .750 | | |
| R/LU255.1000.04 | 1.000 | 6.000 | 1.250 | .922 | .461 | .689 | .984 | .185 | .205 | 1.000 | 04 | .146 - .209 |
| R/LU255.1250.04 | 1.250 | 6.000 | 1.250 | 1.172 | .586 | .827 | 1.260 | .185 | | 1.000 | | |

State R or L version

w see indexable inserts

Dimensions in inch

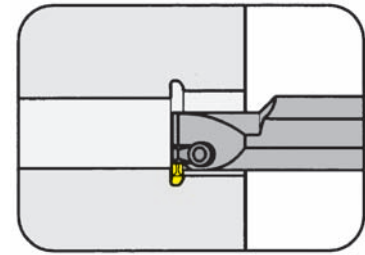
Further sizes upon request

Spare parts

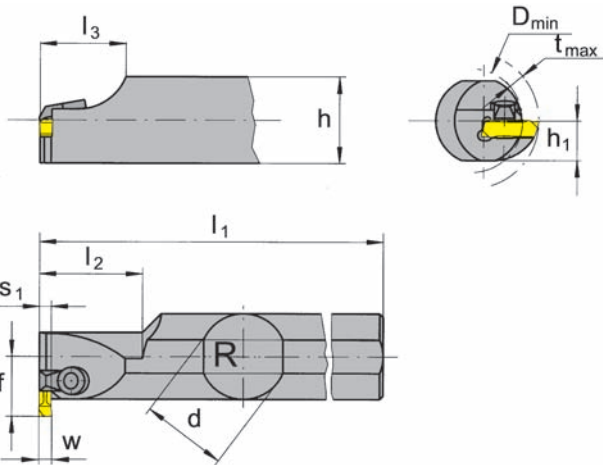
| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-------------|
| R/LU2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/LU2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

235/255



Bore Ø from .787" (20.0 mm)
 Depth of groove up to .185" (4.7 mm)
 Clamping range up to .209" (5.3 mm)



for use with Indexable insert

Type 217
 U217



short reach for special insert shapes

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | s ₁ | l ₃ | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|------|------------------|------------------|----------------|----------------|------|----------------|
| R/L235.0020.01 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L255.0025.01 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 1.5 | 25 | 01 | 0.9 - 1.7 |
| R/L255.0032.01 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L235.0020.02 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L255.0025.02 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 2.5 | 25 | 02 | 1.7 - 2.7 |
| R/L255.0032.02 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L235.0020.03 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L255.0025.03 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 3.5 | 25 | 03 | 2.7 - 3.7 |
| R/L255.0032.03 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |
| R/L235.0020.04 | 20 | 130 | 25 | 18 | 9.0 | 13.3 | 20 | 3.0 | | 18 | | |
| R/L255.0025.04 | 25 | 150 | 30 | 23 | 11.5 | 17.5 | 25 | 4.7 | 5.2 | 25 | 04 | 3.7 - 5.3 |
| R/L255.0032.04 | 32 | 150 | 30 | 30 | 15.0 | 21.0 | 32 | 4.7 | | 25 | | |

State R or L version

w see indexable inserts

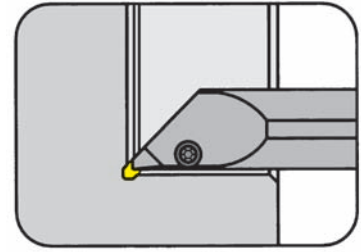
Dimensions in mm

Further sizes upon request

Spare parts

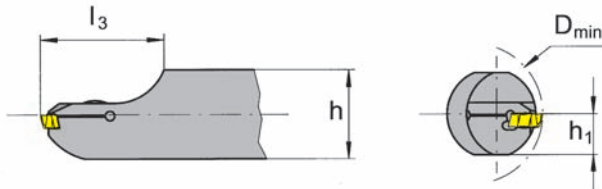
| Toolholder | Clamp | Screw | Wrench |
|-----------------|-------|-------|-------------|
| R/L2...01/02/03 | 8.3 | 5.14 | SW2,5DIN911 |
| R/L2...04 | 8.4 | 5.14 | SW2,5DIN911 |

TOOLHOLDER Type

U245

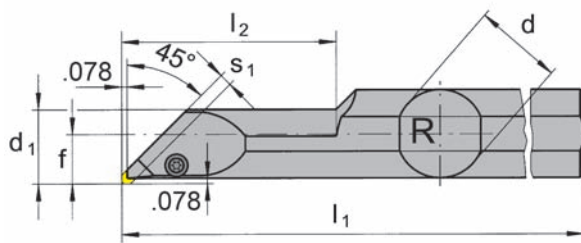
Bore Ø from

.787"



for use with Indexable insert

Type 217



R = right hand version shown

L = left hand version

similar to DIN 509 form "F"

| Part number | d | h | h ₁ | l ₁ | f | d ₁ | s ₁ | l ₂ | l ₃ | D _{min} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|------|----------------|----------------|----------------|----------------|------------------|------|----------------|
| R/LU245.0750.02 | .750 | .672 | .336 | 7.000 | .472 | .677 | | 2.500 | 1.250 | .787 | | |
| R/LU245.1000.02 | 1.000 | .922 | .461 | 10.000 | .570 | .854 | .098 | 3.250 | 1.750 | .984 | 02 | .067 - .106 |
| R/LU245.1250.02 | 1.250 | 1.172 | .586 | 10.000 | .708 | 1.110 | | 3.250 | 1.750 | 1.220 | | |
| R/LU245.0750.03 | .750 | .672 | .336 | 7.000 | .472 | .677 | | 2.500 | 1.250 | .787 | | |
| R/LU245.1000.03 | 1.000 | .922 | .461 | 10.000 | .570 | .854 | .138 | 3.250 | 1.750 | .984 | 03 | .106 - .146 |
| R/LU245.1250.03 | 1.250 | 1.172 | .586 | 10.000 | .708 | 1.110 | | 3.250 | 1.750 | 1.220 | | |
| R/LU245.0750.04 | .750 | .672 | .336 | 7.000 | .472 | .677 | | 2.500 | 1.250 | .787 | | |
| R/LU245.1000.04 | 1.000 | .922 | .461 | 10.000 | .570 | .854 | .205 | 3.250 | 1.750 | .984 | 04 | .146 - .209 |
| R/LU245.1250.04 | 1.250 | 1.172 | .586 | 10.000 | .708 | 1.110 | | 3.250 | 1.750 | 1.220 | | |

State R or L version

Dimensions in inch

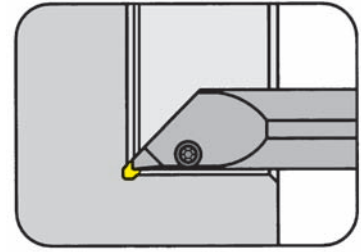
Further sizes upon request

Spare parts

| Toolholder | Cylindrical Screw | TORX PLUS® Wrench |
|-------------|-------------------|-------------------|
| R/LU245.... | 51.27.984P | T15PQ |

TOOLHOLDER Type

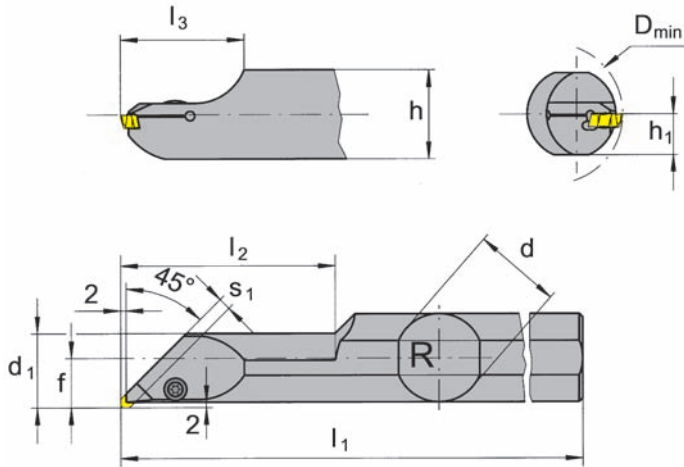
245



Bore Ø from .787" (20.0 mm)

for use with Indexable insert

Type 217



R = right hand version shown

L = left hand version

similar to DIN 509 form "F"

| Part number | d | h | h ₁ | l ₁ | f | d ₁ | s ₁ | l ₂ | l ₃ | D _{min} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----|----------------|----------------|----------------|----------------|------------------|------|----------------|
| R/L245.0020.02 | 20 | 18 | 9 | 180 | 12 | 17.2 | 2.5 | 60.43 | 35.60 | 20 | 02 | 1.7 - 2.7 |
| R/L245.0032.02 | 32 | 30 | 15 | 250 | 18 | 28.2 | 2.5 | 80.00 | 41.60 | 31 | 02 | 1.7 - 2.7 |
| R/L245.0020.03 | 20 | 18 | 9 | 180 | 12 | 17.2 | 3.5 | 60.00 | 35.00 | 20 | 03 | 2.7 - 3.7 |
| R/L245.0032.03 | 32 | 30 | 15 | 250 | 18 | 28.2 | 3.5 | 80.64 | 41.82 | 31 | 03 | 2.7 - 3.7 |
| R/L245.0020.04 | 20 | 18 | 9 | 180 | 12 | 17.2 | 5.2 | 60.99 | 36.17 | 20 | 04 | 3.7 - 5.3 |
| R/L245.0032.04 | 32 | 30 | 15 | 250 | 18 | 28.2 | 5.2 | 80.99 | 42.17 | 31 | 04 | 3.7 - 5.3 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

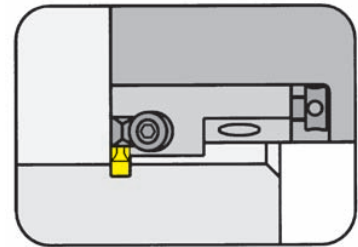
| Toolholder | Cylindrical Screw | TORX PLUS®-Wrench |
|--------------|-------------------|-------------------|
| R/L245.00... | 51.27.984P | T15PQ |

CARTRIDGE Type

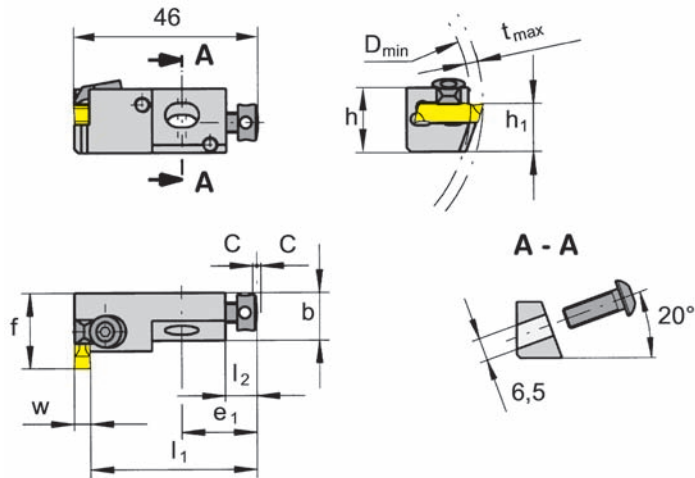
232

Bore Ø from

1.575" (40.0 mm)



for use with Indexable insert

Type 217
U217

R = right hand version shown

L = left hand version

| Part number | h_1 | f | h | b | l_1 | D_{min} | t_{max} | e_1 | l_2 | c | Size | Clamping range |
|----------------|-------|----|----|----|-------|-----------|-----------|-------|-------|---|------|----------------|
| R/L232.1212.01 | 12 | 19 | 16 | 12 | 44.4 | 40 | 3 | 19 | 8 | 1 | 01 | 0.9 - 1.7 |
| R/L232.1212.02 | 12 | 19 | 16 | 12 | 43.4 | 40 | 3 | 19 | 8 | 1 | 02 | 1.7 - 2.7 |
| R/L232.1212.03 | 12 | 19 | 16 | 12 | 42.4 | 40 | 3 | 19 | 8 | 1 | 03 | 2.7 - 3.7 |
| R/L232.1212.04 | 12 | 19 | 16 | 12 | 40.7 | 40 | 3 | 19 | 8 | 1 | 04 | 3.7 - 5.3 |

State R or L version

w see indexable inserts

Dimensions in mm

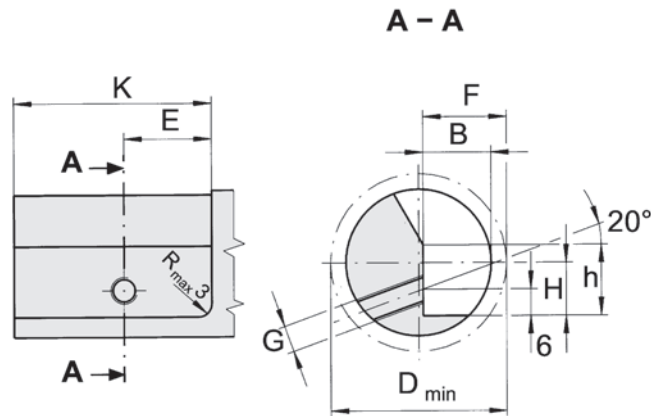
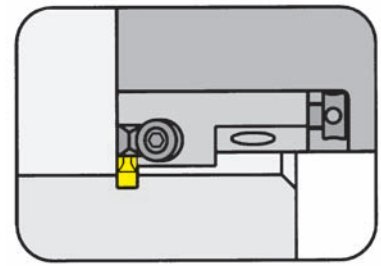
Further sizes upon request

Dimensions of seating see following page

Spare parts

| Cartridge | Clamp | Screw | Screw | Adjust screw axial | Wrench |
|-------------------|-------|----------|-------|--------------------|-------------|
| R/L232.1212.01/03 | 8.3 | 4.08.913 | 5.14 | 5.08.020 | SW2,5DIN911 |
| R/L232.1212.02 | 8.3 | 6.20.232 | 5.14 | 5.08.020 | SW2,5DIN911 |
| R/L232.1212.04 | 8.4 | 6.20.232 | 5.14 | 5.08.020 | SW2,5DIN911 |

SEATING DIMENSIONS CARTRIDGE Type **232**



| Cartridge | F | G | H | K | E | B | h | D _{min} | Fastening screw |
|-------------|----|----|----|----|----|------|----|------------------|-----------------|
| 232.1212... | 19 | M6 | 12 | 45 | 20 | 15,5 | 16 | 40 | 6.20.232 |

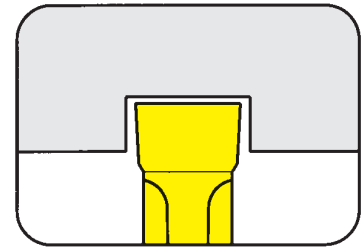
Dimensions in mm

GROOVING (external and internal)



INDEXABLE INSERT Type

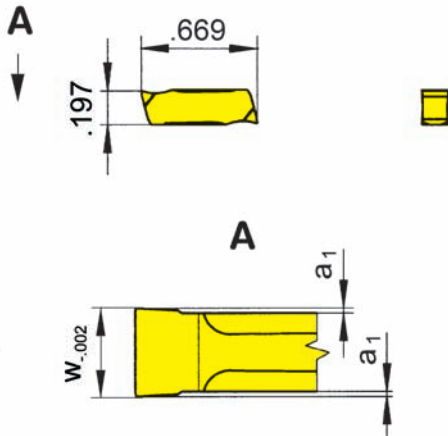
U217



Circlip grooves
Width of groove DIN471/472
.026 - .188"

for use with Toolholder

- Type 230 / U230
232 / U232
233 / U233
240 / U240
248 / U248
250 / U250
253 / U253



Indexability length
± .0008"

| Part number | w | a ₁ | Size | Carbide grades | | | | | | | | | |
|--------------|------|----------------|------|----------------|------|-----|-----|------|------|------|------|------|---|
| | | | | K10 | MG12 | P20 | H54 | TN32 | TN35 | TI25 | TF45 | TF46 | |
| U217.0026.00 | .026 | .002 | 01 | | | | | | | | | | |
| U217.0031.00 | .031 | .002 | | | | | | | | | | | |
| U217.0034.00 | .034 | .002 | | Δ | | | | Δ | | | | | |
| U217.0039.00 | .039 | .002 | | | | | | ▲ | | | | | |
| U217.0040.00 | .040 | .002 | | | | | ▲ | | ▲ | | | | |
| U217.0046.00 | .046 | .004 | | | | | | | ▲ | | | ▲ | ▲ |
| U217.0056.00 | .056 | .004 | | | ▲ | | | | ▲ | | | ▲ | ▲ |
| U217.0062.00 | .062 | .004 | | ▲ | | ▲ | | ▲ | | | ▲ | ▲ | |
| U217.0078.00 | .078 | .004 | 02 | ▲ | | | | ▲ | | | ▲ | ▲ | |
| U217.0094.00 | .094 | | 02 | | | | | ▲ | | | ▲ | ▲ | |
| U217.0125.00 | .125 | .004 | 03 | ▲ | ▲ | | | ▲ | | | ▲ | ▲ | |
| U217.0157.00 | .157 | .004 | 04 | | | | | ▲ | | | ▲ | ▲ | |
| U217.0188.00 | .188 | | | 04 | | | | | ▲ | | | ▲ | ▲ |
| | | | | P | • | ○ | • | • | • | • | • | • | |
| | | | | M | ○ | • | • | • | • | • | • | ○ | |
| | | | | K | • | • | • | • | • | • | • | • | |
| | | | | S | ○ | • | • | • | • | • | • | ○ | |
| | | | | N | • | • | • | • | • | • | • | • | |
| | | | | H | | | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left** hand toolholders.

Max. depth of groove can be reached only with width of cut ≥ .043"
Smaller inserts have a limited depth of groove $t_{max} = .039"$ and deeper depths are depending on Ø of workpiece.

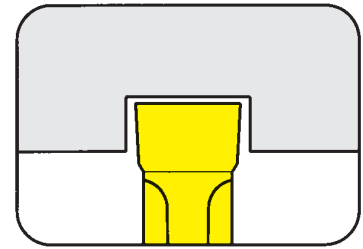
GROOVING (external and internal)



A

INDEXABLE INSERT Type

217

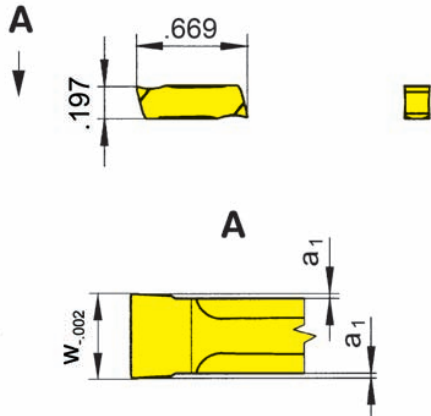


Circlip grooves
Width of circlip Nw

DIN471/472
.020 - .203"

for use with Toolholder

- Type 230 / U230
232 / U232
233 / U233
240 / U240
248 / U248
250 / U250
253 / U253



Indexability length
± .0008"

| Part number | Nw | w | a ₁ | Size | Carbide grades | | | | | | | | | | |
|------------------------------|------|------|----------------|------|----------------|------|-----|-----|------|------|------|------|------|---|---|
| | | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI25 | TF45 | TC92 | | |
| 217.0050.00 | .020 | .022 | .002 | 01 | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0060.00 | .024 | .026 | .002 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0070.00 | .028 | .030 | .002 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0080.00 | .031 | .034 | .002 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0090.00 | .035 | .038 | .002 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0100.00 | .039 | .042 | .002 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0110.00 | .043 | .049 | .004 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0130.00 | .051 | .057 | .004 | | ▲ | | ▲ | | ▲ | | | | | | |
| 217.0160.00 | .063 | .069 | .004 | | ▲ | | ▲ | | ▲ | ▲ | | | | ▲ | |
| 217.0185.00 | .073 | .078 | .004 | | 02 | ▲ | | ▲ | ▲ | ▲ | | | | | ▲ |
| 217.0215.00 | .085 | .090 | | ▲ | | | ▲ | ▲ | ▲ | ▲ | | | | | ▲ |
| 217.0265.00 | .104 | .110 | | ▲ | | | ▲ | ▲ | ▲ | ▲ | | | | | ▲ |
| 217.0315.00 | .124 | .130 | .004 | 03 | ▲ | | ▲ | | ▲ | | | | | ▲ | |
| 217.0415.00 | .163 | .169 | .004 | 04 | ▲ | | ▲ | | ▲ | | | | | ▲ | |
| 217.0515.00 | .203 | .208 | | | ▲ | | ▲ | | ▲ | | ▲ | | | | ▲ |
| ▲ on stock Δ 4 weeks | | | | | P | • | | • | • | • | • | | | • | |
| • main recommendation | | | | | M | ○ | | ○ | | • | | | | | |
| ○ alternative recommendation | | | | | K | • | | | | • | | | | | |
| ■ uncoated grades | | | | | S | ○ | | | | • | | | | | |
| ■ coated grades | | | | | N | • | | | | • | | | | | |
| ■ brazed/Cermet | | | | | H | | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left** hand toolholders.

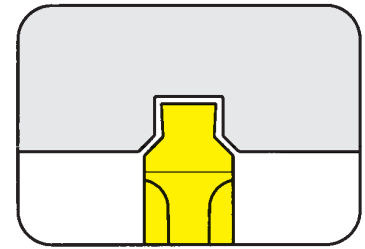
Max. depth of groove can be reached only with width of cut ≥ 1,1 mm

Smaller inserts have a limited depth of groove $t_{max} = 1$ mm and deeper depths are depending on Ø of workpiece.

A21

INDEXABLE INSERT Type

217

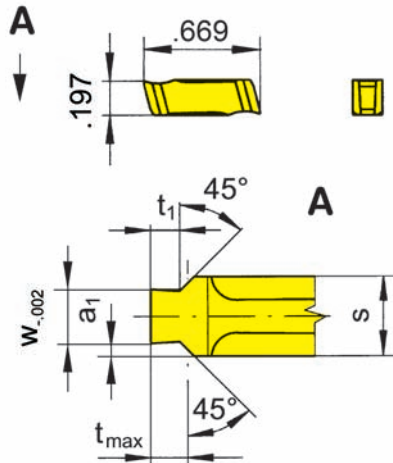


Circlip grooves
Width of circlip Nw DIN471/472
.051 - .163"

with chamfer

for use with Toolholder

- Type 234
235 / U235
240 / U240
248 / U248
254 / U254
255 / U255



| Part number | Nw | w | a ₁ | t ₁ | t _{max} | s | Size | Carbide grades | | | | | | | |
|-------------|------|------|----------------|----------------|------------------|------|------|----------------|-----|------|------|------|------|------|--|
| | | | | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 | |
| 217.1306.25 | .051 | .057 | .021 | .018 | .022 | .098 | 02 | | | ▲ | | | | | |
| 217.1607.33 | .063 | .069 | .031 | .024 | .028 | | 03 | | ▲ | ▲ | | | | | |
| 217.1609.33 | .063 | .069 | .031 | .033 | .039 | .130 | | | ▲ | ▲ | | | | | |
| 217.1812.33 | .073 | .078 | .026 | .043 | .049 | | | | ▲ | ▲ | | | | | |
| 217.2115.43 | .085 | .090 | .040 | .053 | .059 | .169 | 04 | | Δ | ▲ | | | | | |
| 217.2616.43 | .104 | .110 | .030 | .053 | .059 | .169 | | | | ▲ | | | | | |
| 217.2617.43 | .104 | .110 | .030 | .063 | .069 | .169 | | | | ▲ | | | | | |
| 217.3118.53 | .124 | .130 | .040 | .063 | .069 | .209 | | | | ▲ | | | | | |
| 217.4120.53 | .163 | .169 | .020 | .073 | .079 | .209 | | | | ▲ | | | | | |
| | | | | | | | | | | ▲ | ▲ | | | | |

▲ on stock Δ 4 weeks

● main recommendation

○ alternative recommendation

■ uncoated grades

■ coated grades

■ brazed/Cermet

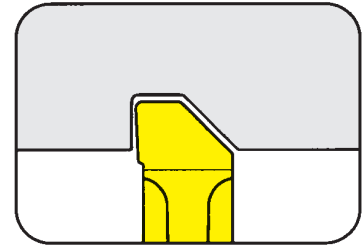
Dimensions in inch

Indexable inserts can be used in **right and left** hand toolholders.

INDEXABLE INSERT Type

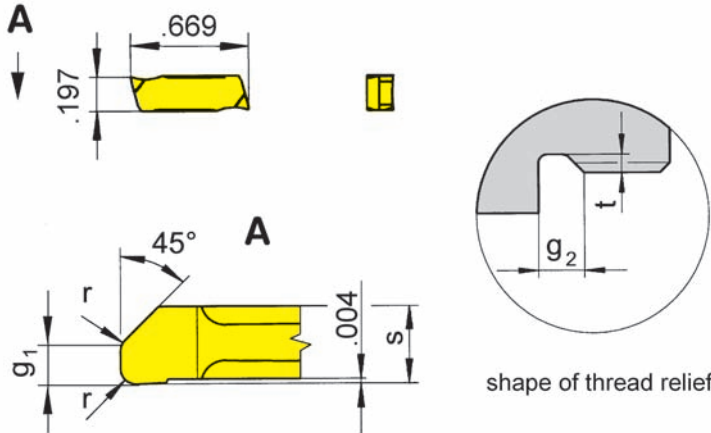
217

Thread relief DIN 76 "Short form"



for use with Toolholder

- Type 234
 235 / U235
 240 / U240
 248 / U248
 254 / U254
 255 / U255



shape of thread relief

R = right hand version shown

L = left hand version

| Part number | P | r | s | g ₁ | g ₂ | t _{max} | Size | MG12 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 |
|--|------|------|------|----------------|----------------|------------------|------|------|-----|------|------|------|------|------|
| R/L217.1060.27 | 0.60 | .016 | .106 | .059 | .081 | .022 | 02 | | ΔΔ | | | | | |
| R/L217.1100.37 | 1.00 | .024 | .146 | .098 | .134 | .035 | 03 | | ▲/Δ | | | | | |
| R/L217.1125.53 | 1.25 | .024 | .209 | .126 | .167 | .041 | 04 | | ΔΔ | | | | | |
| R/L217.1150.53 | 1.50 | .031 | .209 | .150 | .197 | .047 | 04 | | ΔΔ | | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | | P | • | | | | | |
| | | | | | | | | M | | | | | | |
| | | | | | | | | K | | | | | | |
| | | | | | | | | S | | | | | | |
| | | | | | | | | N | | | | | | |
| | | | | | | | | H | | | | | | |

Dimensions in inch

State R or L version

Carbide grades

External machining:

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

Internal machining:

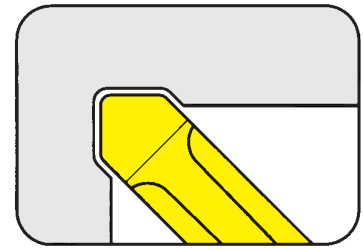
Use right hand inserts in left hand toolholders and left hand inserts in right hand toolholders

P = Pitch of Thread

INDEXABLE INSERT Type

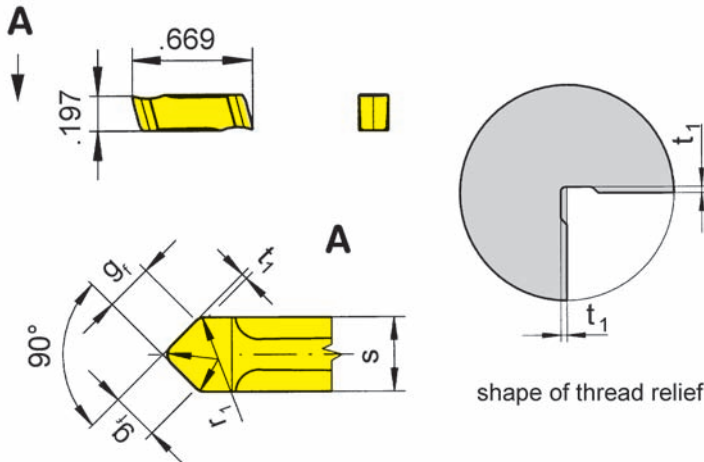
217

Corner reliefs similar to DIN 509 form "F"



for use with Toolholder

Type 245
U245



| Part number | r_1 | g_f | s | t_1 | D_{min} | Size | Carbide grades | | | | | | |
|-------------|-------|-------|------|-------|-----------|------|----------------|-----|------|------|------|------|--|
| | | | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TA45 | |
| 217.0602.24 | .024 | .067 | .094 | .008 | .787 | 02 | | ▲ | ▲ | | | | |
| 217.0603.33 | .024 | .091 | .130 | .012 | .906 | 03 | | ▲ | | | | | |
| | | | | | | | P | • | • | | | | |
| | | | | | | | M | | | | | | |
| | | | | | | | K | | | | | | |
| | | | | | | | S | | | | | | |
| | | | | | | | N | | | | | | |
| | | | | | | | H | | | | | | |

▲ on stock Δ 4 weeks

• main recommendation
o alternative recommendation

■ uncoated grades
■ coated grades
■ brazed/Cermet

Dimensions in inch

Indexable inserts can be used in **right and left** hand toolholders.

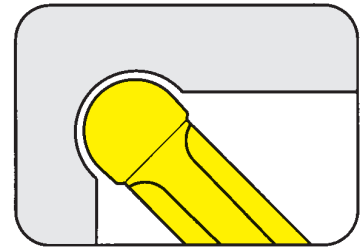
GROOVING CORNER RELIEFS (internal)



A

INDEXABLE INSERT Type

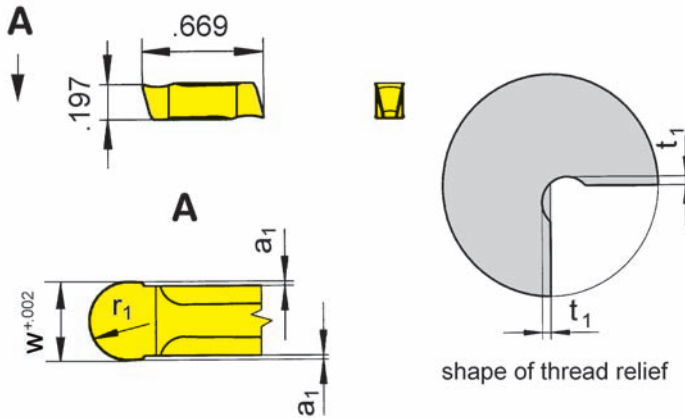
217



Full radius r .039 - .098"

for use with Toolholder

Type 245
U245



| Part number | r_1 | w | a_1 | t_1 | D_{min} | Size | Carbide grades | | | | | | | |
|--|-------|------|-------|-------|-----------|------|----------------|-----|------|------|------|------|------|---|
| | | | | | | | K10 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 | |
| 217.0010.20 | .039 | .079 | .004 | .028 | .787 | 02 | ▲ | ▲ | ▲ | ▲ | | | | ▲ |
| 217.0015.30 | .059 | .118 | .004 | .039 | .787 | 03 | ▲ | ▲ | ▲ | ▲ | | | | |
| 217.0020.40 | .079 | .157 | .004 | .047 | .787 | 04 | | ▲ | | ▲ | | | | |
| 217.0025.50 | .098 | .197 | .004 | .059 | .787 | | ▲ | ▲ | | | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | P | ● | ● | ● | ● | ● | ● | ● |
| | | | | | | | M | ○ | | | ● | | | |
| | | | | | | | K | ● | | | ● | | | |
| | | | | | | | S | ○ | | | ● | | | |
| | | | | | | | N | ● | | | ● | | | |
| | | | | | | | H | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left** hand toolholders.

HCG - HORN Catalog Guide

INTERNAL GROOVING

B

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

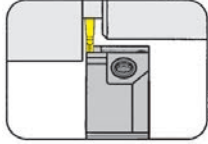
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

Special tools upon request

TOOLING SYSTEMS 264 **B**

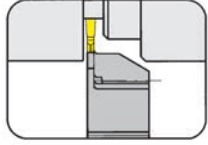
**Toolholder
with screwed clamping**



Page B2-B4



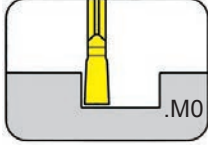
**Toolholder
with self clamping**



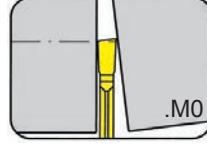
Page B5



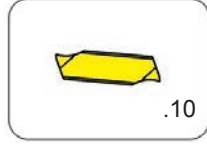
**Indexable inserts
Type
S264 / 264**



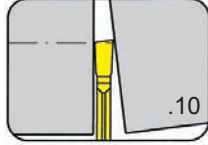
Page B6



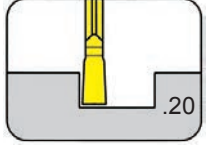
Page B7



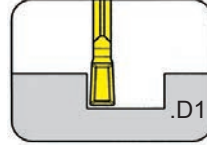
Page B8



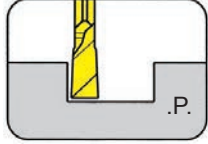
Page B9



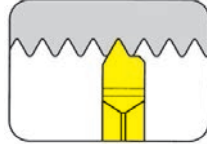
Page B10



Page B11



Page B12



Page B13

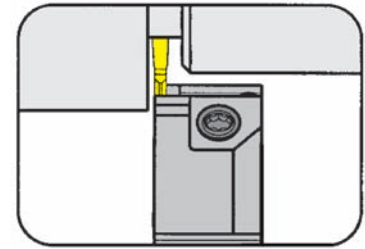
For Technical Information please see chapter Q

B

TOOLHOLDER Type

H264

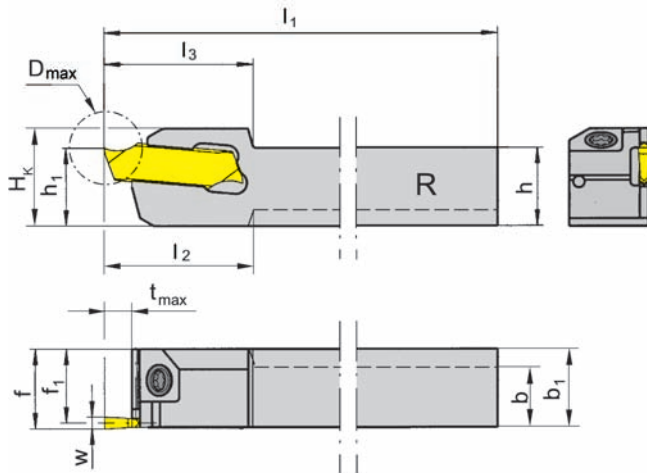
with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove up to .079" (2.0 mm)

for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | l ₂ | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----------------|----|----------------|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.0808.01 | 8 | 8 | | 8 | 10 | 9.25 | 10 | 17.5 | | | 22 | | 12.5 | |
| R/LH264.1010.01 | 10 | 10 | 120 | 10 | - | 9.25 | 10 | - | 4 | 1.5 | 22 | 17.5 | 12.5 | 01 |
| R/LH264.1212.01 | 12 | 12 | | 12 | - | 11.25 | 12 | - | | | 22 | | 14.5 | |
| R/LH264.1616.01 | 16 | 16 | | 16 | - | 15.25 | 16 | - | | | 32 | | 18.5 | |
| R/LH264.1010.11 | 10 | 10 | | 10 | - | 9.25 | 10 | | | | 20 | | 12.5 | |
| R/LH264.1212.11 | 12 | 12 | 120 | 12 | - | 11.25 | 12 | - | 10 | 1.5 | 20 | 19.0 | 14.5 | 01 |
| R/LH264.1616.11 | 16 | 16 | | 16 | | 15.25 | 16 | | | | 32 | | 18.5 | |
| R/LH264.1212.21 | 12 | 12 | 120 | 12 | - | 11.25 | 12 | - | | | 26 | 22.0 | 15.5 | 01 |
| R/LH264.1616.21 | 16 | 16 | | 16 | - | 15.25 | 16 | | 13 | 1.5 | 32 | | 19.5 | |
| R/LH264.1010.02 | 10 | 10 | | 10 | | 9.00 | 10 | | | | | | 12.5 | |
| R/LH264.1212.02 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | 4 | 2.0 | 32 | 17.5 | 14.5 | 02 |
| R/LH264.1616.02 | 16 | 16 | | 16 | | 15.00 | 16 | | | | | | 18.5 | |
| R/LH264.1010.12 | 10 | 10 | | 10 | | 9.00 | 10 | | | | | | 12.5 | |
| R/LH264.1212.12 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | 10 | 2.0 | 32 | 19.0 | 14.5 | 02 |
| R/LH264.1616.12 | 16 | 16 | | 16 | | 15.00 | 16 | | | | | | 18.5 | |
| R/LH264.1212.22 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | | | | | 14.5 | 02 |
| R/LH264.1616.22 | 16 | 16 | | 16 | - | 15.00 | 16 | - | 16 | 2.0 | 32 | 25.0 | 19.5 | |

State R or L version

Further sizes upon request

Dimensions in mm

Spare parts

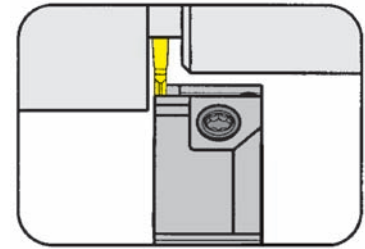
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-------------|-------------------|
| R/LH264.... | 3.5.12T10EP | T10PL |

B2

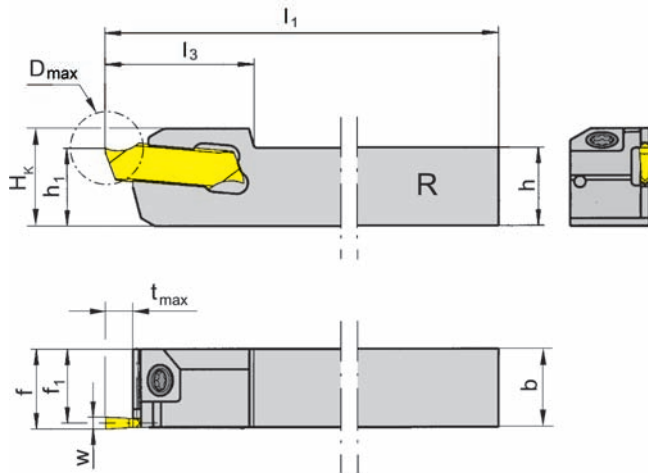
TOOLHOLDER Type

H264

with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove .098" (2.5 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.1212.03 | 12 | 12 | 120 | 12 | 10.75 | 12 | 4 | 2.5 | 32 | 17.5 | 14.5 | 03 |
| R/LH264.1616.03 | 16 | 16 | 120 | 16 | 14.75 | 16 | 4 | 2.5 | 32 | 17.5 | 18.5 | 03 |
| R/LH264.1212.13 | 12 | 12 | 120 | 12 | 10.75 | 12 | 10 | 2.5 | 32 | 19.0 | 14.5 | 03 |
| R/LH264.1616.13 | 16 | 16 | 120 | 16 | 14.75 | 16 | 10 | 2.5 | 32 | 19.0 | 18.5 | 03 |
| R/LH264.1212.23 | 12 | 12 | 120 | 12 | 10.75 | 12 | 16 | 2.5 | 32 | 25.0 | 14.5 | 03 |
| R/LH264.1616.23 | 16 | 16 | 120 | 16 | 14.75 | 16 | 16 | 2.5 | 32 | 25.0 | 18.5 | 03 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-------------|-------------------|
| R/LH264.1... | 3.5.12T10EP | T10PL |

GROOVING and PARTING OFF

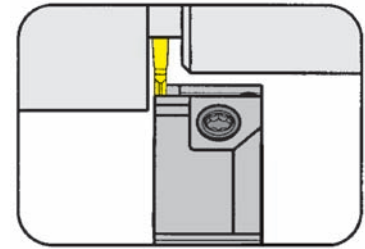


B

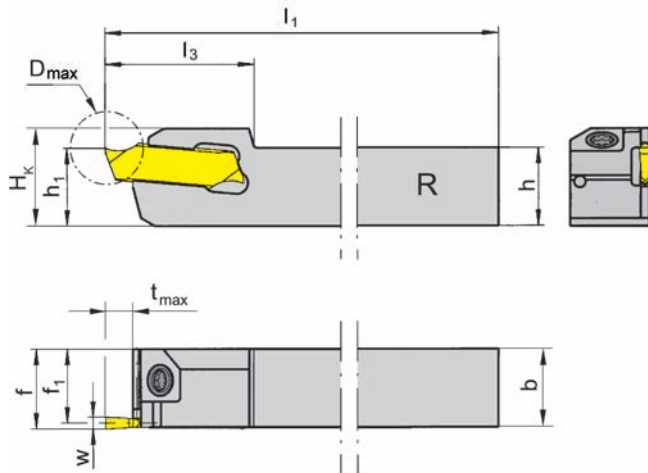
TOOLHOLDER Type

H264

with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove .118" (3.0 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|------------------|---|------------------|----------------|----------------|------|
| R/LH264.1212.04 | 12 | 12 | 120 | 12 | 10.5 | 12 | 5 | 3 | 32 | 17.5 | 15 | 04 |
| R/LH264.1616.04 | 16 | 16 | 120 | 16 | 14.5 | 16 | 5 | 3 | 32 | 17.5 | 19 | 04 |
| R/LH264.1212.14 | 12 | 12 | 120 | 12 | 10.5 | 12 | 10 | 3 | 32 | 19.0 | 15 | 04 |
| R/LH264.1616.14 | 16 | 16 | 120 | 16 | 14.5 | 16 | 10 | 3 | 32 | 19.0 | 19 | 04 |
| R/LH264.1212.24 | 12 | 12 | 120 | 12 | 10.5 | 12 | 16 | 3 | 32 | 25.0 | 15 | 04 |
| R/LH264.1616.24 | 16 | 16 | 120 | 16 | 14.5 | 16 | 16 | 3 | 32 | 25.0 | 19 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-------------|-------------------|
| R/LH264.1... | 3.5.12T10EP | T10PL |

B4

GROOVING and PARTING OFF

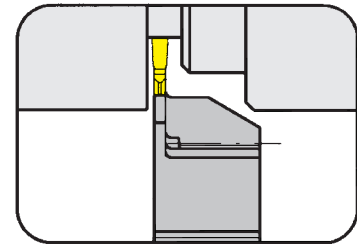


B

TOOLHOLDER Type

H264

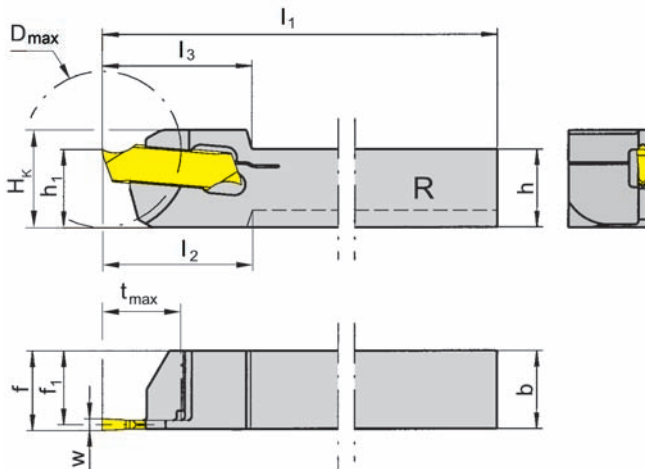
with self clamping



Depth of groove up to .394" (10.0 mm)
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | I ₁ | h ₁ | f ₁ | f | I ₂ | t _{max} | w | D _{max} | I ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|----------------|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.0808.51 | 8 | 8 | 120 | 10 | 7.25 | 8 | 18 | 7 | 1.5 | 20 | 18 | 12.5 | 01 |
| R/LH264.1010.61 | 10 | 10 | 120 | 10 | 9.25 | 10 | - | 10 | 1.5 | 20 | 19 | 12.5 | 01 |
| R/LH264.1010.62 | 10 | 10 | 120 | 10 | 9.00 | 10 | - | 10 | 2.0 | 20 | 19 | 12.5 | 02 |
| R/LH264.1212.62 | 12 | 12 | 120 | 12 | 11.00 | 12 | - | 10 | 2.0 | 20 | 19 | 14.5 | 02 |
| R/LH264.1212.63 | 12 | 12 | 120 | 12 | 10.75 | 12 | - | 10 | 2.5 | 32 | 19 | 14.5 | 03 |
| R/LH264.1212.64 | 12 | 12 | 120 | 12 | 10.50 | 12 | - | 10 | 3.0 | 32 | 19 | 14.5 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Wrench |
|-------------|-------------|
| R/LH264.... | P39L |

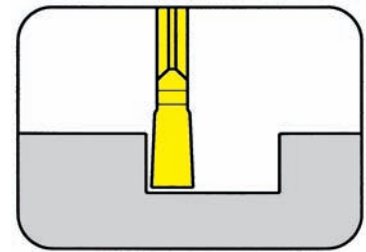
GROOVING and PARTING OFF



B

INDEXABLE INSERT Type

264

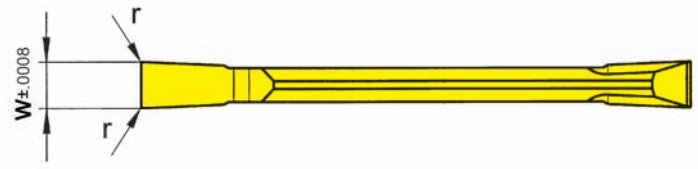
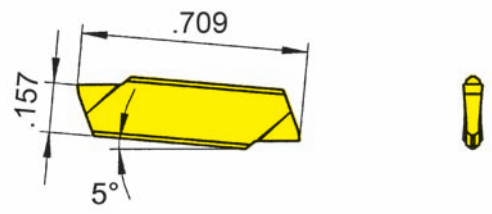


Depth of groove up to .630"
Width of groove .059 - .118"

precision ground

for use with Toolholder

Type H264



Indexability length
± .0006"

| Part number | w | r | Size | MG12 | TN35 | T125 | TA45 |
|-------------|------|------|------|------|------|------|------|
| 264.0150.M0 | .059 | .002 | 01 | ▲ | ▲ | | |
| 264.0200.M0 | .079 | .002 | 02 | ▲ | ▲ | | |
| 264.0250.M0 | .098 | .004 | 03 | ▲ | ▲ | | |
| 264.0300.M0 | .118 | .004 | 04 | ▲ | ▲ | | |
| | | | | P | o | • | |
| | | | | M | • | • | |
| | | | | K | • | • | |
| | | | | S | • | • | |
| | | | | N | • | • | |
| | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

GROOVING and PARTING OFF



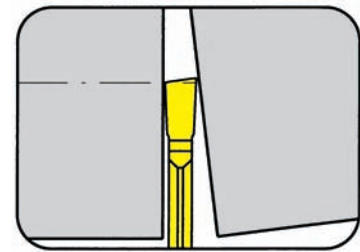
B

INDEXABLE INSERT Type

264

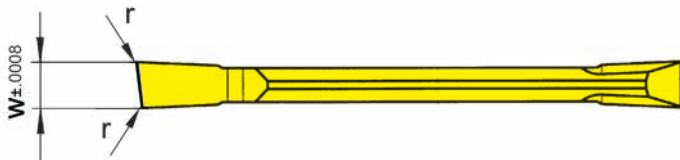
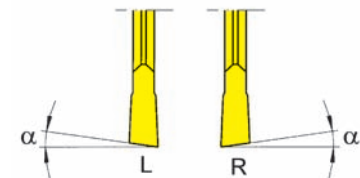
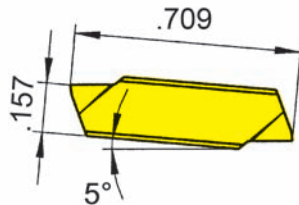
Depth of groove up to .630"
Width of groove .059 - .118"

precision ground



for use with Toolholder

Type H264



Indexability length
± .0006"

R = right hand version shown

L = left hand version

| Part number | w | r | α | Size | Carbide grades | | | |
|---|------|------|-----------|------|----------------|------------|------|------|
| | | | | | MG12 | TN35 | Ti25 | TA45 |
| R/L264.0815.M0 R/L264.1515.M0 | .059 | .002 | 8° 15° | 01 | ▲/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0820.M0 R/L264.1520.M0 | .079 | .002 | 8° 15° | 02 | ▲/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0825.M0 R/L264.1525.M0 | .098 | .004 | 8° 15° | 03 | /▲ ▲/▲ | ▲/▲ ▲/ | | |
| R/L264.0830.M0 R/L264.1530.M0 | .118 | .004 | 8° 15° | 04 | /▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| <ul style="list-style-type: none"> ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ○ | ● | |
| | | | | | M | ● | ● | |
| | | | | | K | ● | ● | |
| | | | | | S | ● | ● | |
| | | | | | N | ● | ● | |
| | | | | | H | | | |

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

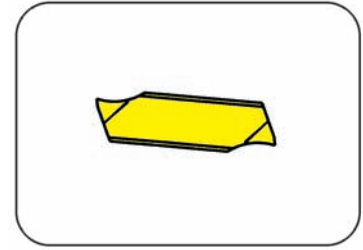
GROOVING and PARTING OFF



B

INDEXABLE INSERT Type

264

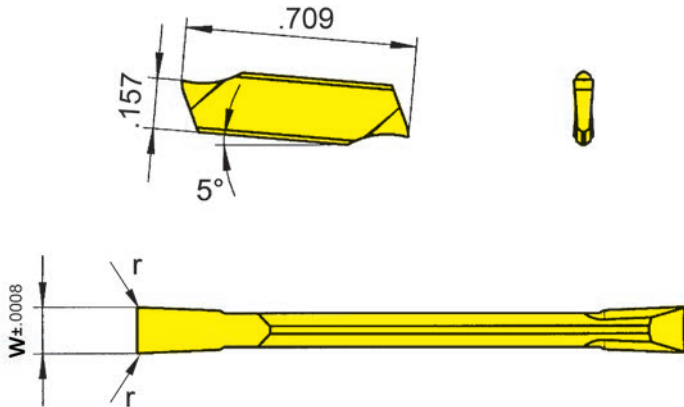


Depth of groove up to .630"
Width of groove .059 - .118"

precision ground

for use with Toolholder

Type H264



Indexability length
± .0006"

| Part number | w | r | Size | Carbide grades | | | |
|-------------|------|------|------|----------------|------|------|------|
| | | | | MG12 | TN35 | T125 | TA45 |
| 264.0150.10 | .059 | .002 | 01 | ▲ | ▲ | | |
| 264.0200.10 | .079 | .002 | 02 | ▲ | ▲ | | |
| 264.0250.10 | .098 | .004 | 03 | △ | ▲ | | |
| 264.0300.10 | .118 | .004 | 04 | ▲ | ▲ | | |
| | | | | P | ○ | ● | |
| | | | | M | ● | ● | |
| | | | | K | ● | ● | |
| | | | | S | ● | ● | |
| | | | | N | ● | ● | |
| | | | | H | | | |

- ▲ on stock △ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Indexable inserts can be used in **right and left hand** toolholders.

GROOVING and PARTING OFF



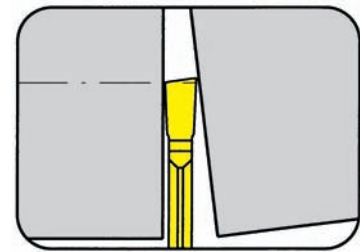
B

INDEXABLE INSERT Type

264

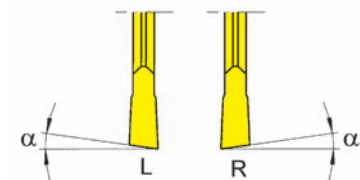
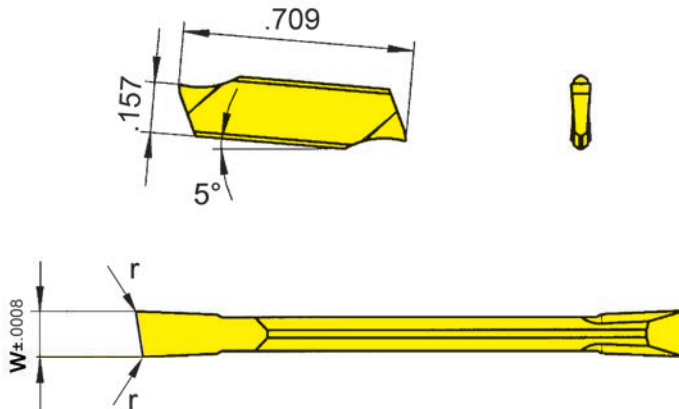
Depth of groove up to .630"
Width of groove .059 - .118"

precision ground



for use with Toolholder

Type H264



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | α | Size | Carbide grades | | | |
|--|------|------|-----------|------|----------------|------------|------|------|
| | | | | | MG12 | TN35 | Ti25 | TA45 |
| R/L264.0815.10 R/L264.1515.10 | .059 | .002 | 15° | 01 | Δ/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0820.10 R/L264.1520.10 | .079 | .002 | 8° 15° | 02 | ▲/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0825.10 R/L264.1525.10 | .098 | .004 | 8° 15° | 03 | | ▲/▲ ▲/▲ | | |
| R/L264.0830.10 R/L264.1530.10 | .118 | .004 | 8° 15° | 04 | | ▲/▲ ▲/▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ○ | ● | |
| | | | | | M | ● | ● | |
| | | | | | K | ● | ● | |
| | | | | | S | ● | ● | |
| | | | | | N | ● | ● | |
| | | | | | H | | | |

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

GROOVING and PARTING OFF



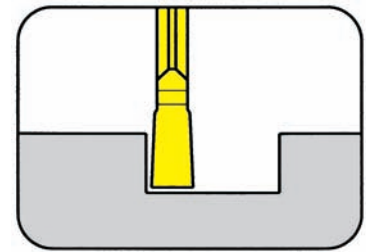
B

INDEXABLE INSERT Type

264

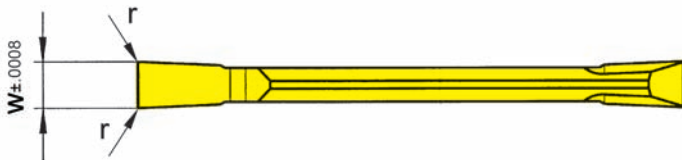
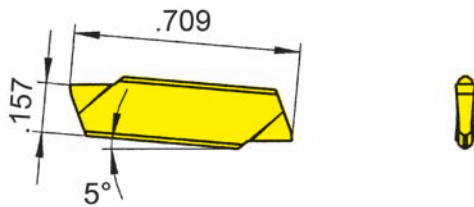
Depth of groove up to .630"
Width of groove .059 - .118"

precision ground



for use with Toolholder

Type H264



Indexability length
± .0006"

| Part number | w | r | Size | MG12 | TN35 | T125 | TA45 |
|-------------|------|------|------|------|------|------|------|
| 264.0150.20 | .059 | .002 | 01 | | ▲ | | |
| 264.0200.20 | .079 | .002 | 02 | | ▲ | | |
| 264.0250.20 | .098 | .004 | 03 | | ▲ | | |
| 264.0300.20 | .118 | .004 | 04 | | ▲ | | |
| | | | | P | • | | |
| | | | | M | • | | |
| | | | | K | • | | |
| | | | | S | • | | |
| | | | | N | • | | |
| | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Indexable inserts can be used in **right and left hand** toolholders.

Carbide grades

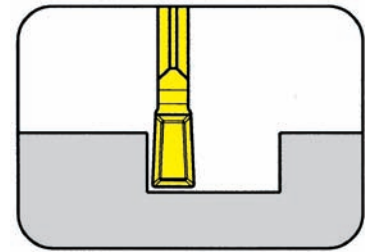
GROOVING and PARTING OFF



B

INDEXABLE INSERT Type

S264

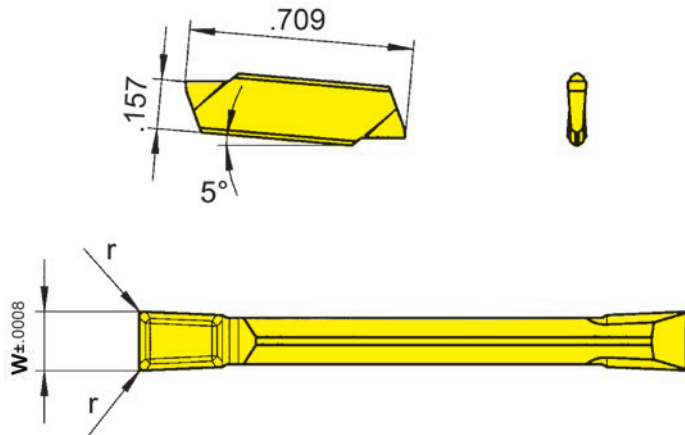


Depth of groove up to .630"
Width of groove .059 - .118"

precision sintered

for use with Toolholder

Type H264



Indexability length
± .0006"

| Part number | w | r | Size | Carbide grades | | | | |
|---|------|------|------|----------------|-----|------|------|------|
| | | | | MG12 | H54 | TN35 | T125 | TA45 |
| S264.0150.D1 | .059 | .002 | 01 | Δ | | ▲ | | |
| S264.0200.D1 | .079 | .002 | 02 | Δ | | ▲ | | |
| S264.0250.D1 | .098 | .004 | 03 | | | ▲ | | |
| S264.0300.D1 | .118 | .004 | 04 | Δ | | ▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation | | | | P | ○ | ● | | |
| ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | M | ● | ● | | |
| | | | | K | ● | ● | | |
| | | | | S | ● | ● | | |
| | | | | N | ● | ● | | |
| | | | | H | | | | |

Dimensions in inch

Indexable inserts can be used in **right and left hand** toolholders.

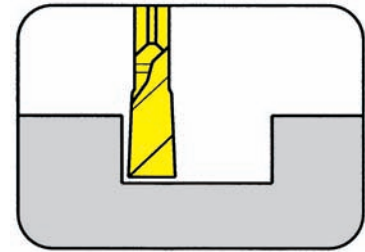
GROOVING and PARTING OFF



B

INDEXABLE INSERT Type

264

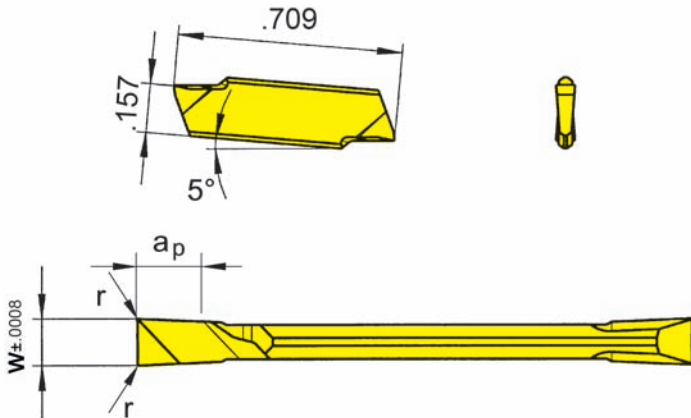


Depth of groove up to .630"
Width of groove .059 - .118"

precision ground

for use with Toolholder

Type H264



L = left hand version shown

R = right hand version

Indexability length
± .0006"

| Part number | w | r | Size | Carbide grades | | | |
|--|------|------|------|----------------|------|------|------|
| | | | | MG12 | TN35 | Ti25 | TA45 |
| R/L264.0150.P0 | .059 | .002 | 01 | | ▲/▲ | ▲/▲ | |
| R/L264.0200.P0 | .079 | .002 | 02 | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/L264.0250.P0 | .098 | .004 | 03 | ▲/ | ▲/▲ | ▲/▲ | |
| R/L264.0300.P0 | .118 | .004 | 04 | ▲/▲ | ▲/▲ | ▲/▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | o | • | • |
| | | | | M | • | • | • |
| | | | | K | • | • | • |
| | | | | S | • | • | • |
| | | | | N | • | • | • |
| | | | | H | | | |

Dimensions in inch

$$a_p = 1.5 \times w$$

Carbide grades

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

THREADING (external) Full profile



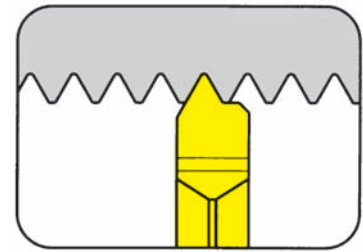
B

INDEXABLE INSERT Type

264

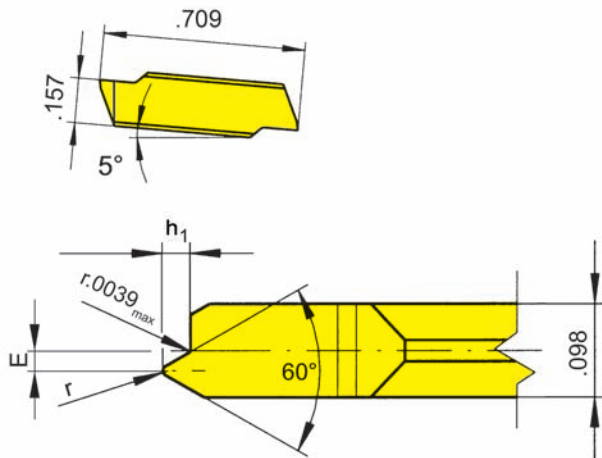
Metric ISO thread

Pitch 0.5 - 1.5 mm



for use with Toolholder

Type H264



Indexability length
± .0006"

| Part number | P | r | E | h ₁ | Size | Carbide grades | | | | |
|----------------|------|------|------|----------------|------|----------------|------|------|------|------|
| | | | | | | MG12 | TN35 | TI25 | TA45 | TF45 |
| R/L264.0305.02 | 0.50 | 0.07 | 0.90 | 0.31 | 03 | | | | | ▲/▲ |
| R/L264.0306.02 | 0.60 | 0.09 | 0.90 | 0.37 | | | | | | ▲/▲ |
| R/L264.0307.02 | 0.70 | 0.10 | 0.80 | 0.43 | | | | | | ▲/▲ |
| R/L264.0407.02 | 0.75 | 0.11 | 0.75 | 0.46 | | | | | | ▲/▲ |
| R/L264.0408.02 | 0.80 | 0.12 | 0.70 | 0.49 | | | | | | ▲/▲ |
| R/L264.0610.02 | 1.00 | 0.12 | 0.60 | 0.61 | | | | | | ▲/▲ |
| R/L264.0712.02 | 1.25 | 0.15 | 0.50 | 0.77 | | | | | | ▲/▲ |
| R/L264.0915.02 | 1.50 | 0.20 | 0.40 | 0.92 | | | | | | ▲/▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | | | | |
|---|--|--|--|--|---|
| P | | | | | ● |
| M | | | | | ● |
| K | | | | | ● |
| S | | | | | ● |
| N | | | | | ● |
| H | | | | | |

Carbide grades

Dimensions in mm

State R or L version

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

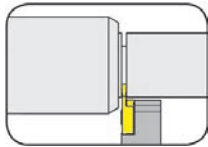
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | • | • | • | • | • | • | | • |
| .394" (10 mm) | | • | • | • | • | • | • | | | |
| .433" (11 mm) | | • | • | • | • | • | • | | | |
| .551" (14 mm) | | • | • | • | • | | • | | | |
| .630" (16 mm) | | • | • | • | • | | • | | | |
| .709" (18 mm) | | | • | • | • | | • | | | |
| .984" (25 mm) | | | • | • | | | • | | | |
| 1.000" (25.4 mm) | | | • | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

Special tools upon request

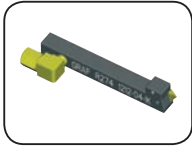
TOOLING SYSTEMS S274 **C**

Toolholder

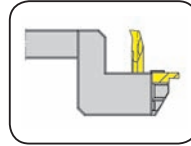


Page C2-C5

Toolholder
- machine-specific -



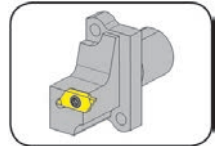
Page C6



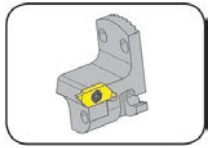
Page C7



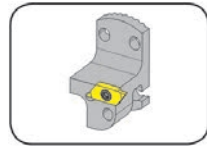
Page C8



Page C9

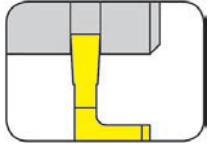


Page C10

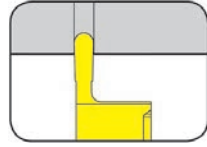


Page C11

Indexable inserts
Type
274



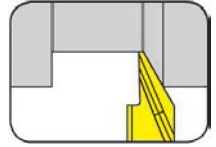
Page C12



Page C13



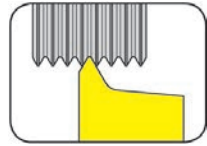
Page C14



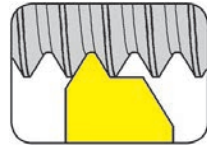
Page C15



Page C16-C17



Partial profile
Page C18



Full profile
Page C19

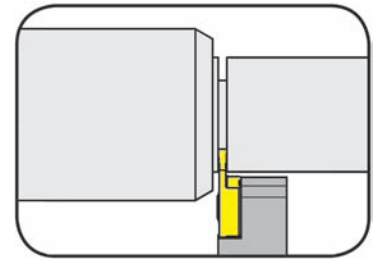
For Technical Information please see chapter Q

C

TOOLHOLDER Type

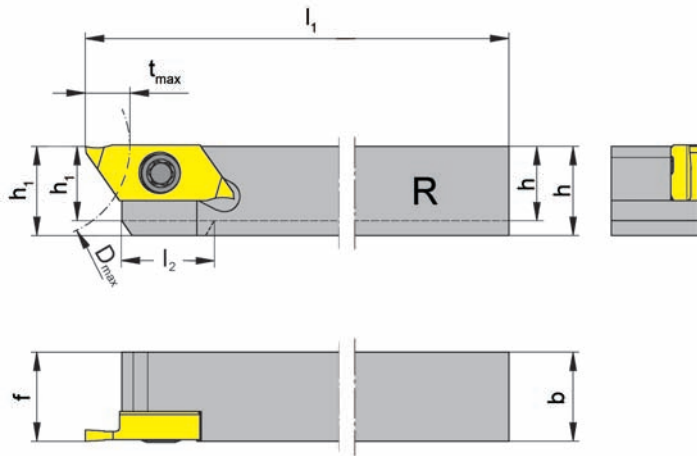
HU274

Depth of groove up to .236"
Width of groove up to .118"



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|------------------|------|------|----------------|----------------|------|------------------|------------------|------|
| R/LHU274.0312.04 | .312 | .312 | 3.996 | .312 | .312 | .236 | .984 | 04 |
| R/LHU274.0375.04 | .375 | .375 | 3.996 | .375 | .375 | | | |
| R/LHU274.0500.04 | .500 | .500 | 3.996 | .500 | .500 | | | |
| R/LHU274.0625.04 | .625 | .625 | 5.118 | .625 | .625 | | | |
| R/LHU274.0750.04 | .750 | .750 | 5.000 | .750 | .750 | | | |

State R or L version

Dimensions in inch

Further sizes upon request

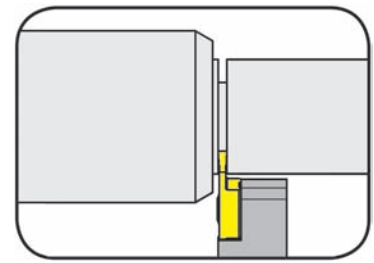
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|---------------|-------------------|
| R/LHU274.0... | 030.3509.T15P | T15PQ |

TOOLHOLDER Type

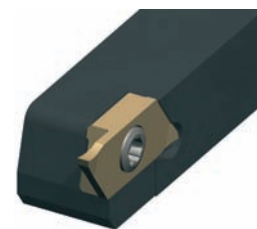
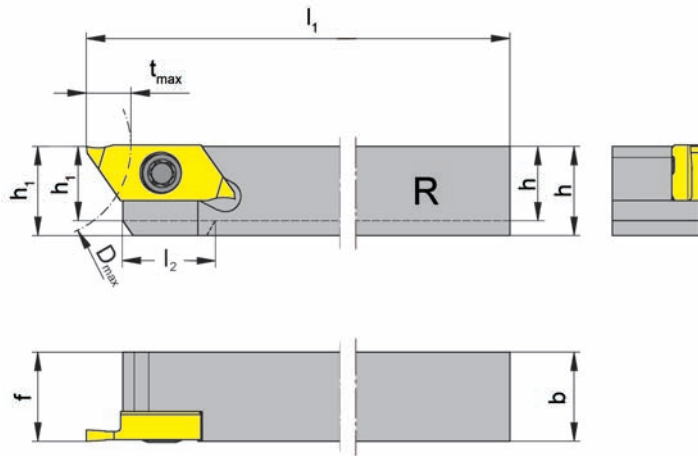
H274

Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|-----------------|----|----|----------------|----------------|----|------------------|------------------|------|
| R/LH274.0808.04 | 8 | 8 | 100 | 8 | 8 | 6 | 25 | 04 |
| R/LH274.1010.04 | 10 | 10 | 100 | 10 | 10 | | | |
| R/LH274.1212.04 | 12 | 12 | 100 | 12 | 12 | | | |
| R/LH274.1414.04 | 14 | 14 | 100 | 14 | 14 | | | |
| R/LH274.1616.04 | 16 | 16 | 125 | 16 | 16 | | | |
| R/LH274.2020.04 | 20 | 20 | 125 | 20 | 20 | | | |

State R or L version

Dimensions in mm

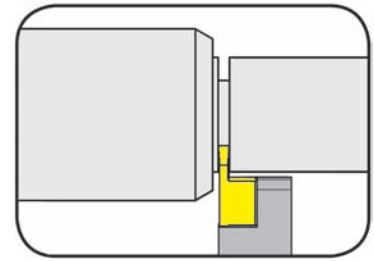
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|---------------|-------------------|
| R/LH274.... | 030.3509.T15P | T15PQ |

TOOLHOLDER Type

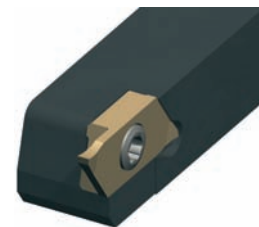
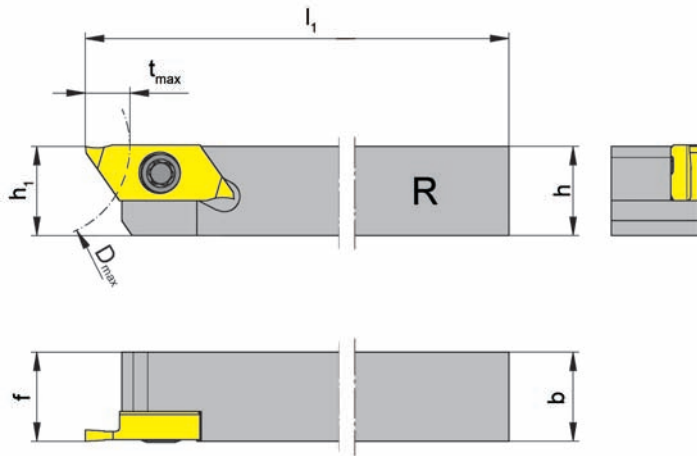
HU274



Depth of groove up to .236"
Width of groove up to .276"

for use with Indexable insert

Type S274



for special widths

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|------------------|------|------|----------------|----------------|------|------------------|------------------|------|
| R/LHU274.0500.07 | .500 | .551 | 3.996 | .500 | .551 | .236 | .984 | 07 |

State R or L version

Dimensions in inch

Further sizes upon request

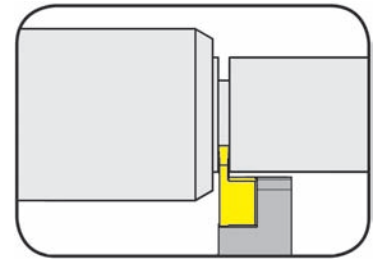
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LHU274.0500.07 | 030.3509.T15P | T15PQ |

TOOLHOLDER Type

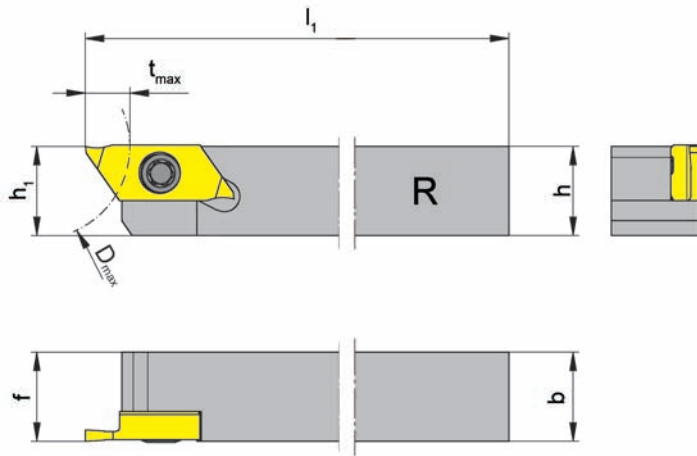
H274

Depth of groove up to .236" (6.0 mm)
Width of groove up to .276" (7.0 mm)



for use with Indexable insert

Type S274



for special widths

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|-----------------|----|----|----------------|----------------|----|------------------|------------------|------|
| R/LH274.1214.07 | 12 | 14 | 100 | 12 | 14 | 6 | 25 | 07 |
| R/LH274.1616.07 | 16 | 16 | 125 | 16 | 16 | 6 | 25 | 07 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|---------------|-------------------|
| R/LH274.1... | 030.3513.T15P | T15PQ |

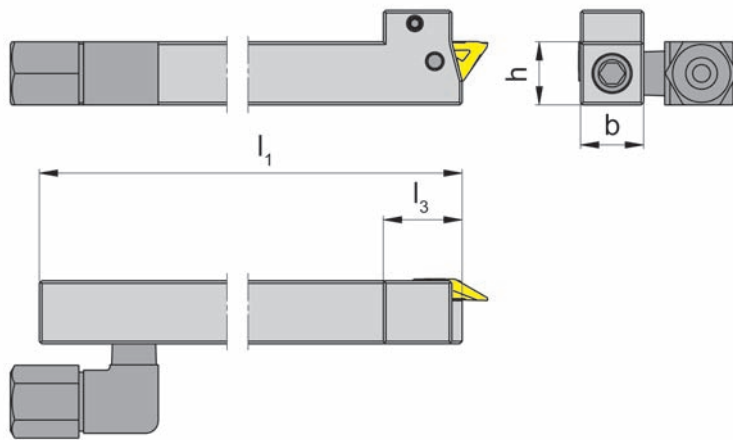
TOOLHOLDER GRAF Type

974

with through coolant supply

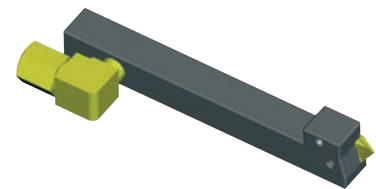


Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | l ₃ | Size |
|------------------|----|----|----------------|----------------|------|
| 974.R/L1010.04IK | 10 | 10 | | | |
| 974.R/L1212.04IK | 12 | 12 | | | |
| 974.R/L1616.04IK | 16 | 16 | 100 | 15 | 04 |
| 974.R/L2020.04IK | 20 | 20 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Cartridge Graf | Screw | TORX PLUS®-Wrench | Coolant supply |
|----------------|---------------|-------------------|----------------|
| 974.R/L... | 030.3509.T15P | T15PQ | 004.00.22 |

TOOLHOLDER Type

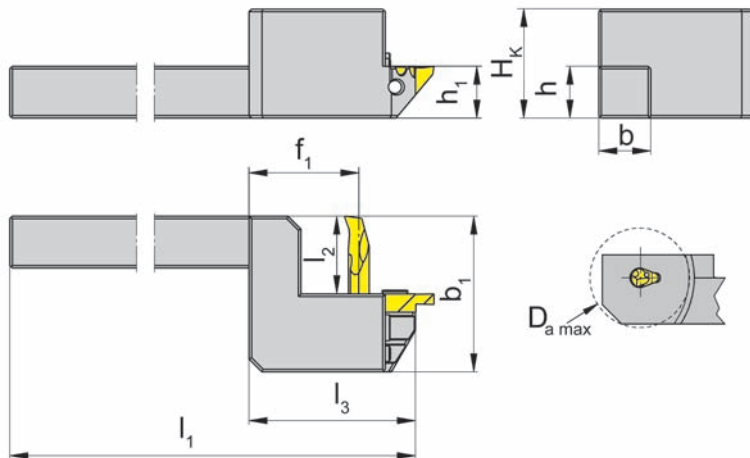
AIH

C

Bore Ø from .008" (0.2 mm)

for use with Insert

Type 105
U105
S274



R = right hand version shown

L = left hand version

| Part number | l_1 | l_2 | h | h_1 | f_1 | l_3 | b | b_1 | $D_{a\ max}$ | H_k | Remark |
|---------------------|-------|-------|-----|-------|-------|-------|-----|-------|--------------|-------|--------|
| AIH.974.R/L1010.K04 | | | 10 | 10 | 23 | 35 | 10 | | 20 | 17 | |
| AIH.974.R/L1212.K04 | 130 | 15 | 12 | 12 | 23 | 35 | 12 | 30 | 20 | 19 | * |
| AIH.974.R/L1616.K04 | | | 16 | 16 | 26 | 38 | 16 | | 26 | 23 | |
| AIH.974.R/L2020.K04 | | | 20 | 20 | 29 | 38 | 20 | | 32 | 23 | |
| AIH.R/L1010.K08 | | | 10 | 10 | 21 | | 10 | | 20 | 17 | |
| AIH.R/L1212.K08 | 130 | 15 | 12 | 12 | 21 | 30 | 12 | 30 | 20 | 19 | ** |
| AIH.R/L1616.K08 | | | 16 | 16 | 24 | | 16 | | 26 | 23 | |
| AIH.R/L2020.K08 | | | 20 | 20 | 27 | | 20 | | 32 | 23 | |

State R or L version

Dimensions in mm

Note:

* These toolholders can be equipped with HORN inserts type 105 and S274

** These toolholders can be equipped with HORN inserts type 105 and Graf inserts CS08

Further sizes upon request

Spare parts

| Toolholder | Screw | Screw | TORX PLUS® Wrench |
|------------|---------------|-----------|-------------------|
| AIH.... | 030.3509.T15P | 6.075T15P | T15PQ |

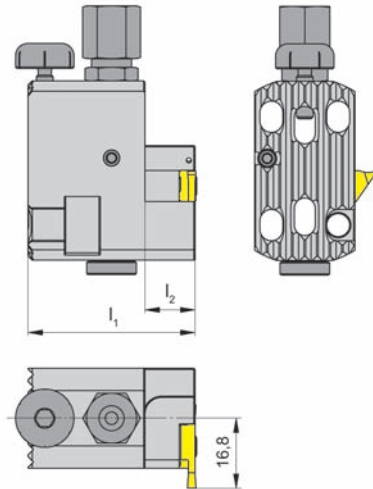
CARTRIDGE GRAF Type

R76

with through coolant supply



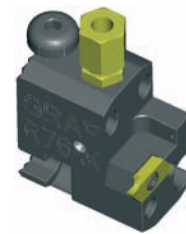
Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)



R = right hand version shown

for use with Indexable insert

Type S274



| Part number | l_1 | l_2 | Size |
|--------------|-------|-------|------|
| R76IK | 40 | 12 | 04 |

Further sizes upon request

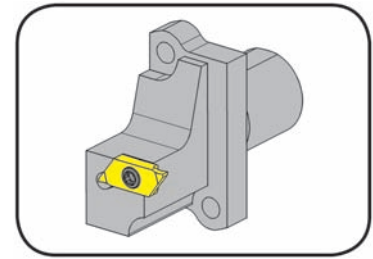
Dimensions in mm

Spare parts

| Cartridge Graf | Screw | TORX PLUS® Wrench | Height adjustment screw | Coolant supply |
|----------------|----------------------|-------------------|-------------------------|------------------|
| R76IK | 030.3509.T15P | T15PQ | 002.00.69 | 004.00.19 |

TOOLHOLDER Type

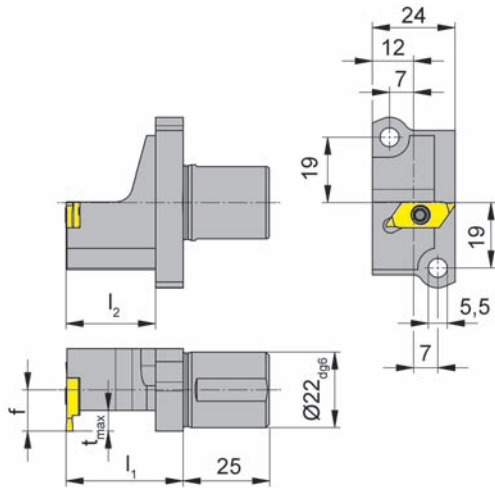
H274



Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

Star SV 12/20/32
SR 10/20/32 and SB 16

| Part number | l_1 | l_2 | f | t_{max} | Size |
|--------------------|-------|-------|----|-----------|------|
| R/LH274.A022.09.04 | | | 9 | | |
| R/LH274.A022.12.04 | 34 | 26 | 12 | 6 | 04 |
| R/LH274.A022.16.04 | | | 16 | | |
| R/LH274.A022.09.07 | 34 | 26 | 9 | 6 | 07 |
| R/LH274.A022.12.07 | | | 12 | | |

State R or L version

Dimensions in mm

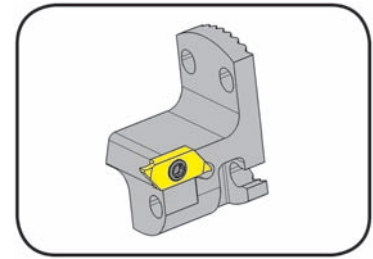
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|------------------|---------------|-------------------|
| R/LH274.A022.... | 030.3513.T15P | T15PQ |

CARTRIDGE Type

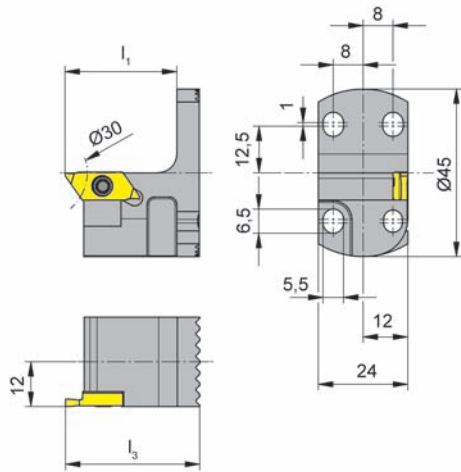
KT274



Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | l_1 | l_3 | Size |
|------------------|-------|-------|------|
| R/LKT274.2445.04 | 30 | 36 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

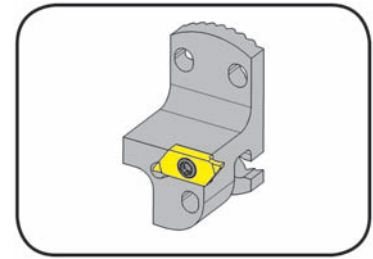
$t_{max} = .236"$ (6.0 mm) can only be reached when $D_{max} \leq 1.181"$ (30 mm)

Spare parts

| Cartridge | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LKT274.2445.04 | 030.3509.T15P | T15PQ |

CARTRIDGE Type

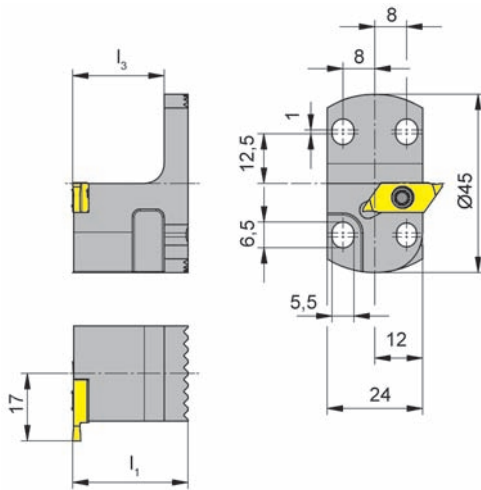
KTC274



Depth of groove up to .236" (6.0 mm)
 Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

| Part number | l_1 | l_3 | Size |
|------------------------|-------|-------|------|
| RKTC274.2445.04 | 29 | 23 | 04 |

Further sizes upon request

Dimensions in mm

$t_{max} = .236"$ (6.0 mm) can only be reached when $D_{max} \leq 1.181"$ (30 mm)

Spare parts

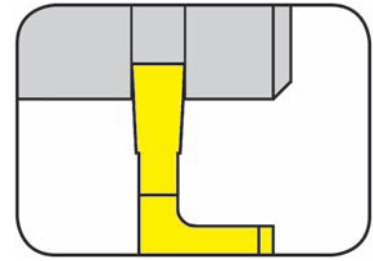
| Cartridge | Screw | TORX PLUS® Wrench |
|-----------------|----------------------|-------------------|
| RKTC274.2445.04 | 030.3509.T15P | T15PQ |

GROOVING and PARTING OFF



INDEXABLE INSERT Type

S274

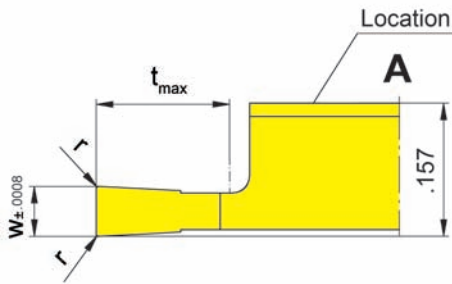
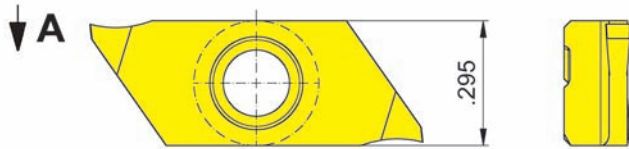


Depth of groove up to .236"
Width of groove .020 - .079"

precision ground

for use with Toolholder

Type H274
HU274



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | t _{max} | Size | Carbide grades | | | | |
|--------------------|------|------|------------------|------|----------------|------|------|------|------|
| | | | | | K10 | MG12 | TN35 | TI25 | TH35 |
| R/LS274.0050.01.10 | .020 | | .059 | 04 | | | | | ▲/▲ |
| R/LS274.0070.02.10 | .028 | | .079 | | | | | | ▲/▲ |
| R/LS274.0080.03.10 | .031 | | .118 | | | | | | ▲/▲ |
| R/LS274.0100.03.10 | .039 | | .118 | | | | | | ▲/▲ |
| R/LS274.0120.03.10 | .047 | .002 | .118 | | | | | | ▲/▲ |
| R/LS274.0150.04.10 | .059 | | .157 | | | | | | ▲/▲ |
| R/LS274.0150.06.10 | .059 | | .236 | | | | | | ▲/▲ |
| R/LS274.0200.04.10 | .079 | | .157 | | | | | | ▲/▲ |
| R/LS274.0200.06.10 | .079 | | .236 | | | | | | ▲/▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | K10 | MG12 | TN35 | TI25 | TH35 |
|---|-----|------|------|------|------|
| P | | | | | ● |
| M | | | | | ● |
| K | | | | | ● |
| S | | | | | ● |
| N | | | | | ● |
| H | | | | | ● |

Dimensions in inch

Carbide grades

State R or L version

Note:

t_{max} = .236" can be reached only with workpiece Ø ≤ .984"

GROOVING and TURNING

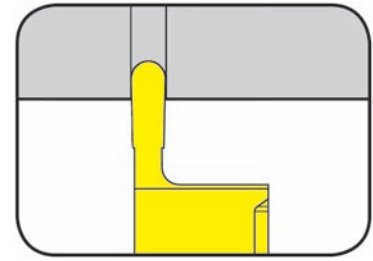


INDEXABLE INSERT Type

S274

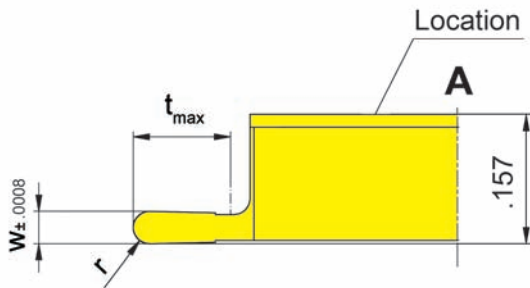
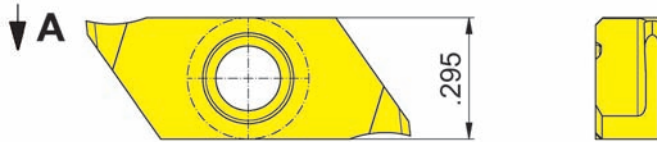
Depth of groove up to .157"
Full radius .010 - .039"

precision ground



for use with Toolholder

Type H274
HU274



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | t _{max} | Size | Carbide grades | | | | |
|--------------------|------|------|------------------|------|----------------|------|------|------|------|
| | | | | | K10 | MG12 | TN35 | TI25 | TH35 |
| R/LS274.0205.01.10 | .020 | .010 | .059 | 04 | | | | | ▲/▲ |
| R/LS274.0510.03.10 | .039 | .020 | .118 | | | | | | ▲/▲ |
| R/LS274.1020.04.10 | .079 | .039 | .157 | | | | | | ▲/▲ |
| | | | | | P | | | | • |
| | | | | | M | | | | • |
| | | | | | K | | | | • |
| | | | | | S | | | | • |
| | | | | | N | | | | • |
| | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

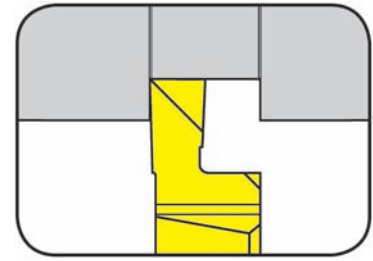
Carbide grades

INDEXABLE INSERT Type

S274

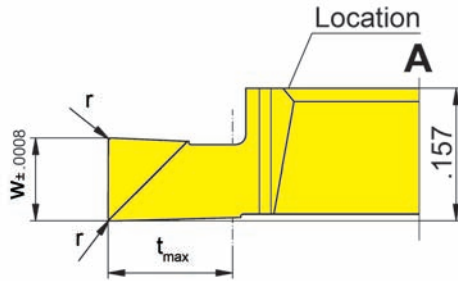
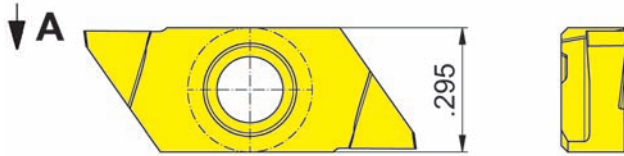
Depth of groove up to .177"
Width of groove .059 - .118"

precision ground



for use with Toolholder

Type H274
HU274



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | t _{max} | Size | | K10 | MG12 | TN35 | T125 | TH35 |
|-----------------|------|------|------------------|------|---|-----|------|------|------|------|
| R/LS274.0150.P0 | .059 | .002 | .089 | 04 | | | | | | ▲/▲ |
| R/LS274.0200.P0 | .079 | .002 | .118 | | | | | | | ▲/▲ |
| R/LS274.0250.P0 | .098 | .004 | .148 | | | | | | | ▲/▲ |
| R/LS274.0300.P0 | .118 | .004 | .177 | | | | | | | ▲/▲ |
| | | | | | P | | | | | • |
| | | | | | M | | | | | • |
| | | | | | K | | | | | • |
| | | | | | S | | | | | • |
| | | | | | N | | | | | • |
| | | | | | H | | | | | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Carbide grades

BACKTURNING (external)

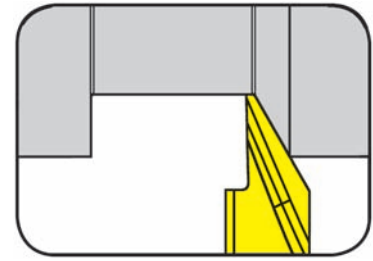


INDEXABLE INSERT Type

S274

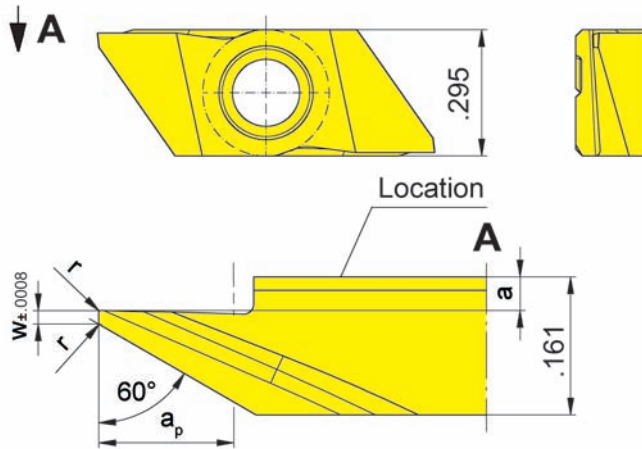
Depth of cut up to **.236"**

precision ground



for use with Toolholder

Type H274
HU274



R = right hand version shown

L = left hand version

Indexability length
 $\pm .0006"$

| Part number | w | r | a _p | a | Size | γ | | K10 | MG12 | TN35 | TI25 | TF45 | TH35 |
|--|------|------|----------------|------|------|-----|-----|-----|------|------|------|------|------|
| R/LS274.0460.04.10 | .016 | .002 | .157 | .039 | 04 | 15° | | | | | | | ▲/▲ |
| R/LS274.0460.04.M0 | | | | | | 0° | ▲/▲ | | | | | | |
| R/LS274.0560.06.11 | .020 | .004 | .236 | .002 | 04 | 15° | | | | | | | ▲/▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | P | ● | ■ | ■ | ■ | ■ | ● |
| | | | | | | | M | ○ | ■ | ■ | ■ | ■ | ● |
| | | | | | | | K | ● | ■ | ■ | ■ | ■ | ● |
| | | | | | | | S | ○ | ■ | ■ | ■ | ■ | ● |
| | | | | | | | N | ● | ■ | ■ | ■ | ■ | ● |
| | | | | | | | H | | ■ | ■ | ■ | ■ | |

Dimensions in inch

State R or L version

γ = rake angle

Depth of cut a_p = .236" can be reached only with workpiece Ø ≤ .984"

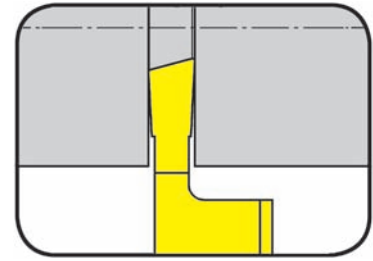
Carbide grades

INDEXABLE INSERT Type

S274

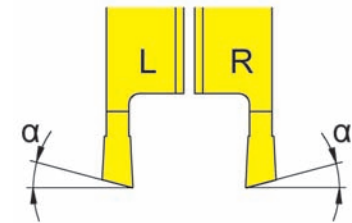
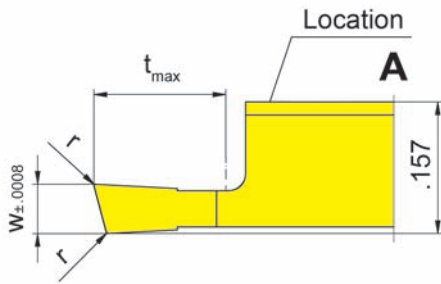
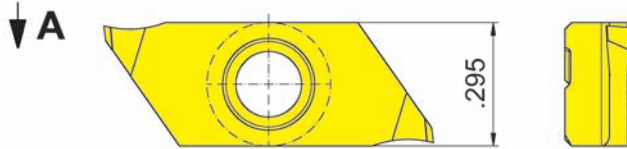
Depth of groove up to .236"
Width of groove .031 - .079"

precision ground



for use with Toolholder

Type H274
HU274



Indexability length
 $\pm .0006''$

R = right hand version shown

L = left hand version

| Part number | w | r | α | t_{max} | Size | Carbide grades | | | | | | |
|--------------------|------|------|----------|-----------|------|----------------|-----|------|------|------|------|-----|
| | | | | | | MG12 | H54 | TN35 | TI25 | TF46 | TH35 | |
| R/LS274.1508.03.10 | .031 | | | .118 | 04 | | | | | | ▲/▲ | |
| R/LS274.1510.03.10 | .039 | .002 | 15° | .118 | | | | | | | | ▲/▲ |
| R/LS274.1515.04.10 | .059 | | | .157 | | | | | | | | ▲/▲ |
| R/LS274.1520.06.10 | .079 | | | .236 | | | | | | | | ▲/▲ |
| | | | | | | P | | | | | • | |
| | | | | | | M | | | | | • | |
| | | | | | | K | | | | | • | |
| | | | | | | S | | | | | • | |
| | | | | | | N | | | | | • | |
| | | | | | | H | | | | | • | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

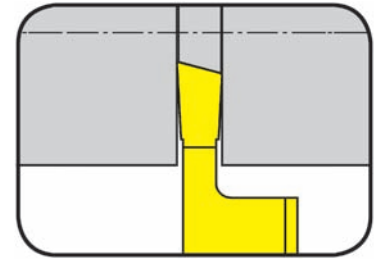
$t_{max} = .236''$ can be reached only with workpiece $\varnothing \leq .984''$

INDEXABLE INSERT Type

S274

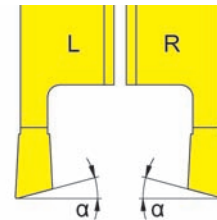
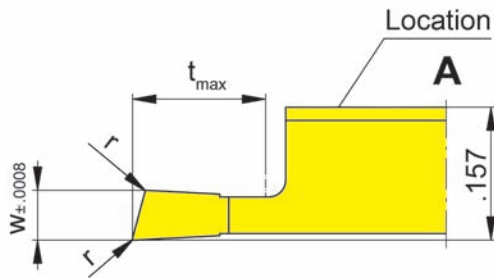
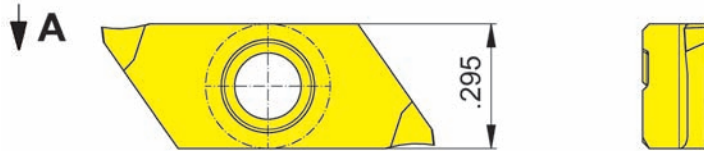
| | |
|-----------------------|--------------|
| Depth of groove up to | .236" |
| Width of groove | .031 - .079" |

precision ground



for use with Toolholder

Type H274
HU274



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | α | t _{max} | Size | Carbide grades | | |
|-------------------|------|------|-----|------------------|------|----------------|------|------|
| | | | | | | TN35 | TI25 | TH35 |
| LS274.1508.03.10R | .031 | | | .118 | 04 | | | ▲ |
| LS274.1510.03.10R | .039 | | | .118 | | | | ▲ |
| LS274.1515.04.10R | .059 | .002 | 15° | .157 | | | | ▲ |
| LS274.1520.06.10R | .079 | | | .236 | | | | ▲ |
| RS274.1508.03.10L | .031 | | | .118 | 04 | | | ▲ |
| RS274.1510.03.10L | .039 | | | .118 | | | | ▲ |
| RS274.1515.04.10L | .059 | .002 | 15° | .157 | | | | ▲ |
| RS274.1520.06.10L | .079 | | | .236 | | | | ▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| Grade | TN35 | TI25 | TH35 |
|-------|------|------|------|
| P | ● | | ● |
| M | ● | | ● |
| K | ● | | ● |
| S | ● | | ● |
| N | ● | | ● |
| H | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

t_{max} = .236" can be reached only with workpiece Ø ≤ .984"

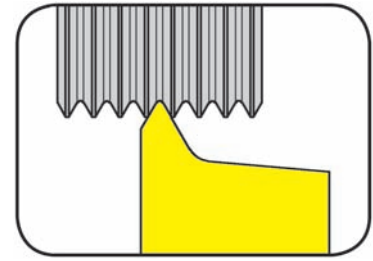
THREADING (external) Partial profile



INDEXABLE INSERT Type

S274

Metric ISO thread

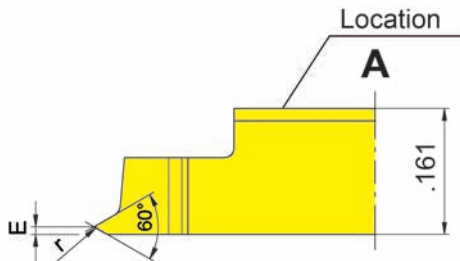
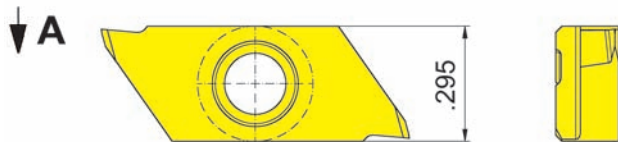


Pitch 0.25 - 0.40 mm

precision ground

for use with Toolholder

Type H274
HU274



R = right hand version shown

Indexability length
± .0006"

| Part number | P | r | E | Size | Carbide grades | | | | | |
|---------------|------|------|------|------|----------------|------|-----|------|------|------|
| | | | | | K10 | MG12 | P20 | TN32 | TI25 | TH35 |
| RS274.0102.01 | 0.25 | 0.04 | 0.20 | 04 | | | | | | ▲ |
| RS274.0203.01 | 0.35 | 0.05 | 0.25 | | | | | | | ▲ |
| RS274.0204.01 | 0.40 | 0.06 | 0.30 | | | | | | | ▲ |
| | | | | | P | | | | | ● |
| | | | | | M | | | | | ● |
| | | | | | K | | | | | ● |
| | | | | | S | | | | | ● |
| | | | | | N | | | | | ● |
| | | | | | H | | | | | ● |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

THREADING (external) Full profile



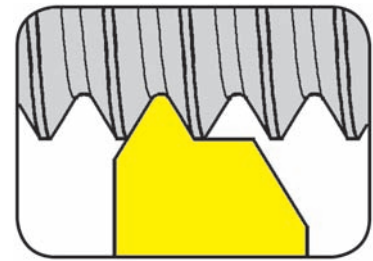
INDEXABLE INSERT Type

S274

Metric ISO thread

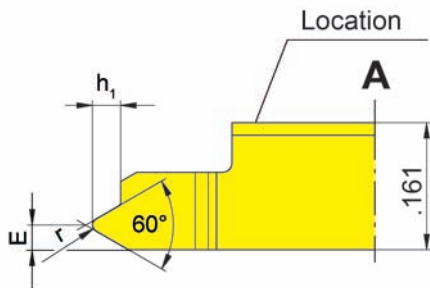
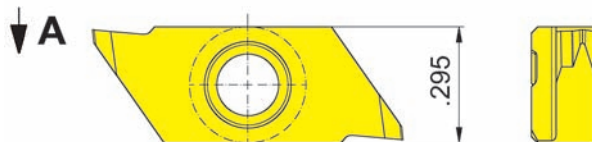
| | |
|-------|----------------|
| Pitch | 0.50 - 1.50 mm |
|-------|----------------|

precision ground



for use with Toolholder

Type H274
HU274



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | P | r | E | h ₁ | Size | Carbide grades | | | | | | |
|-----------------|------|------|------|----------------|------|----------------|------|-----|------|------|------|-----|
| | | | | | | K10 | MG12 | P20 | TN32 | T125 | TH35 | |
| R/LS274.0305.02 | 0.50 | 0.07 | 0.40 | 0.31 | 04 | | | | | | ▲/▲ | |
| R/LS274.0306.02 | 0.60 | 0.09 | 0.45 | 0.37 | | | | | | | | ▲/▲ |
| R/LS274.0307.02 | 0.70 | 0.10 | 0.50 | 0.43 | | | | | | | | ▲/▲ |
| R/LS274.0407.02 | 0.75 | 0.11 | 0.50 | 0.46 | | | | | | | | ▲/▲ |
| R/LS274.0408.02 | 0.80 | 0.12 | 0.55 | 0.49 | | | | | | | | ▲/▲ |
| R/LS274.0610.02 | 1.00 | 0.12 | 0.60 | 0.61 | | | | | | | | ▲/▲ |
| R/LS274.0712.02 | 1.25 | 0.15 | 0.70 | 0.77 | | | | | | | | ▲/▲ |
| R/LS274.0915.02 | 1.50 | 0.20 | 0.80 | 0.92 | | | | | | | | ▲/▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | | | | | |
|---|--|--|--|--|--|---|
| P | | | | | | ● |
| M | | | | | | ● |
| K | | | | | | ● |
| S | | | | | | ● |
| N | | | | | | ● |
| H | | | | | | |

Dimensions in mm

Carbide grades

State R or L version

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

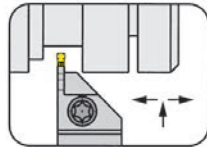
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

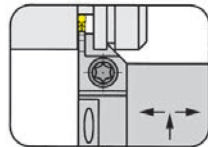
Special tools upon request

TOOLING SYSTEMS S119/S123/S223 **D**

**Grooving
- external -**

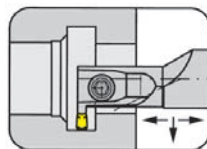


Page D2-D3

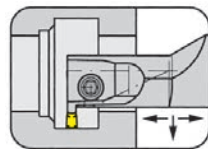


Page D5

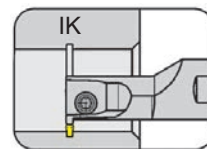
**Grooving
- internal -**



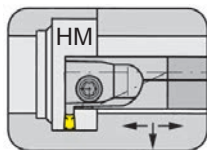
Page D6-D7



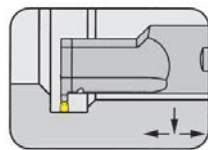
Page D9



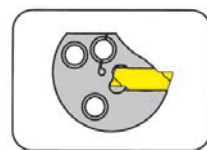
Page D10-D13



Page D14-D15

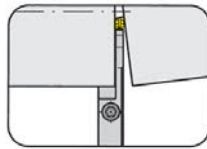


Page D16-D17



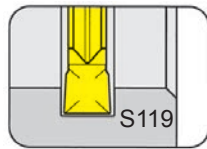
Page D19

Parting off

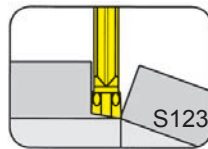


Page D4

**Insert Type
S119 / S123**

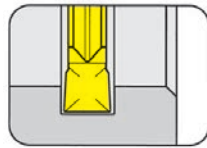


Page D20

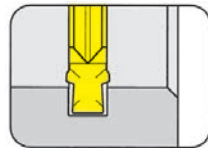


Page D21-D22

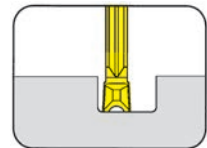
**Indexable inserts
Type
S223**



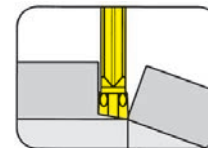
Page D23, D25



Page D24



Page D26

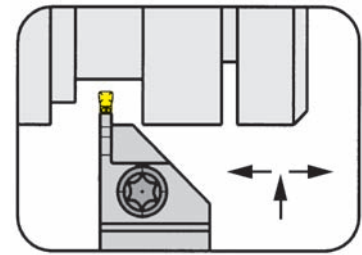


Page D27-D28

For Technical Information please see chapter Q

TOOLHOLDER Type

HU223

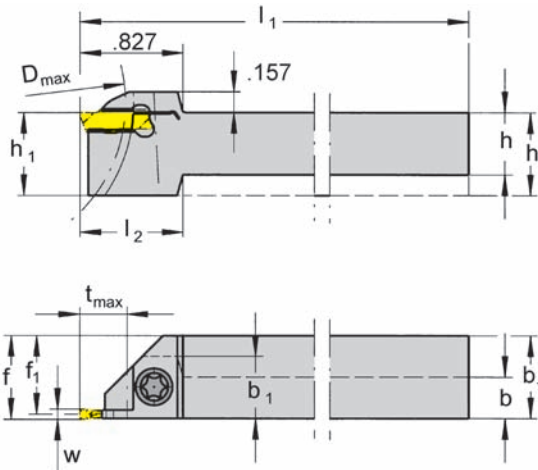


Depth of groove up to
Clamping range up to

.394"
.118"

for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | b ₁ | t _{max} | D _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LHU223.0375.01 | .375 | .375 | 3.125 | .500 | f ₁ +w/2 | .344 | .750 | .500 | .315 | .984 | 01 | .079 |
| R/LHU223.0500.01 | .500 | .500 | 4.000 | .500 | | .469 | - | - | .394 | 1.968 | | |
| R/LHU223.0625.01 | .625 | .625 | 5.000 | .625 | | .594 | - | - | .394 | 1.968 | | |
| R/LHU223.0750.01 | .750 | .750 | 5.000 | .750 | | .719 | - | - | .394 | 1.968 | | |
| R/LHU223.1000.01 | 1.000 | 1.000 | 6.000 | 1.000 | | .969 | - | - | .394 | 1.968 | | |
| R/LHU223.0375.02 | .375 | .375 | 3.125 | .500 | f ₁ +w/2 | .344 | .750 | .500 | .315 | .984 | 02 | .098 |
| R/LHU223.0500.02 | .500 | .500 | 4.000 | .500 | | .469 | - | - | .394 | 1.968 | | |
| R/LHU223.0625.02 | .625 | .625 | 5.000 | .625 | | .594 | - | - | .394 | 1.968 | | |
| R/LHU223.0750.02 | .750 | .750 | 5.000 | .750 | | .719 | - | - | .394 | 1.968 | | |
| R/LHU223.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | | .969 | - | - | .394 | 1.968 | | |
| R/LHU223.0500.03 | .500 | .500 | 4.000 | .500 | f ₁ +w/2 | .469 | - | - | .394 | 1.968 | 03 | .118 |
| R/LHU223.0625.03 | .625 | .625 | 5.000 | .625 | | .594 | | | | | | |
| R/LHU223.0750.03 | .750 | .750 | 5.000 | .750 | | .719 | | | | | | |
| R/LHU223.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .969 | | | | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

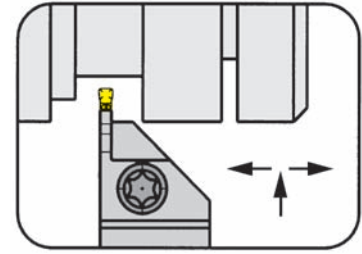
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| R/LHU223.... | 5.11T15P | T15PL |

D2

TOOLHOLDER Type

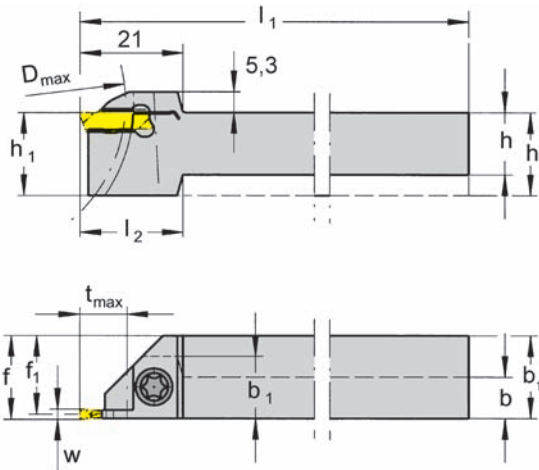
H223

Depth of groove up to .394" (10.0 mm)
Clamping range up to .118" (3.0 mm)



for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | b ₁ | t _{max} | D _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|---------------------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH223.1010.01 | 10 | 10 | 80 | 12 | f ₁ +w/2 | 9.20 | 20 | 12 | 8 | 25 | 01 | 2.0 |
| R/LH223.1212.01 | 12 | 12 | 100 | 16 | | 11.20 | 21 | - | 10 | 50 | | |
| R/LH223.1616.01 | 16 | 16 | 125 | 16 | | 15.20 | - | - | 10 | 50 | | |
| R/LH223.2020.01 | 20 | 20 | 125 | 20 | | 19.20 | - | - | 10 | 50 | | |
| R/LH223.2525.01 | 25 | 25 | 150 | 25 | | 24.20 | - | - | 10 | 50 | | |
| R/LH223.1010.02 | 10 | 10 | 80 | 12 | f ₁ +w/2 | 9.05 | 20 | 12 | 8 | 25 | 02 | 2.5 |
| R/LH223.1212.02 | 12 | 12 | 100 | 16 | | 11.05 | 21 | - | 10 | 50 | | |
| R/LH223.1616.02 | 16 | 16 | 125 | 16 | | 15.05 | - | - | 10 | 50 | | |
| R/LH223.2020.02 | 20 | 20 | 125 | 20 | | 19.05 | - | - | 10 | 50 | | |
| R/LH223.2525.02 | 25 | 25 | 150 | 25 | | 24.05 | - | - | 10 | 50 | | |
| R/LH223.1010.03 | 10 | 10 | 80 | 12 | f ₁ +w/2 | 8.80 | 20 | 12 | 8 | 25 | 03 | 3.0 |
| R/LH223.1212.03 | 12 | 12 | 100 | 16 | | 10.80 | 21 | - | 10 | 50 | | |
| R/LH223.1616.03 | 16 | 16 | 125 | 16 | | 14.80 | - | - | 10 | 50 | | |
| R/LH223.2020.03 | 20 | 20 | 125 | 20 | | 18.80 | - | - | 10 | 50 | | |
| R/LH223.2525.03 | 25 | 25 | 150 | 25 | | 23.80 | - | - | 10 | 50 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

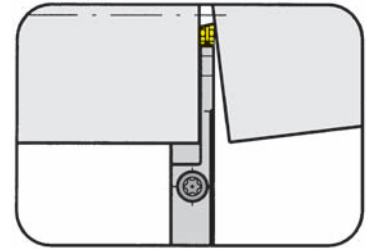
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH223.... | 5.11T15P | T15PL |

TOOLHOLDER Type

H223

reinforced version

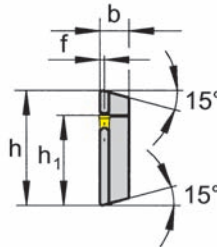
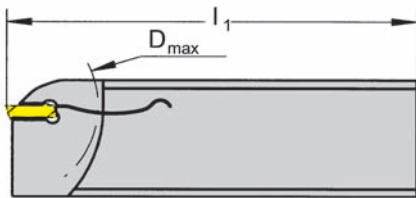


Depth of groove up to
Clamping range up to

.984" (25.0 mm)
.118" (3.0 mm)

for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | D _{max} | Size | Clamping range |
|------------------------------------|----------|-----|----------------|----------------|------|------------------|------|----------------|
| R/LH223.2608.01 R/LH223.3208.01 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.80 | 50 | 01 | 2.0 |
| R/LH223.2608.02 R/LH223.3208.02 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.95 | 50 | 02 | 2.5 |
| R/LH223.2608.03 R/LH223.3208.03 | 26 32 | 7.9 | 110 | 21.4 24.8 | 1.20 | 50 | 03 | 3.0 |

State R or L version

w see indexable inserts

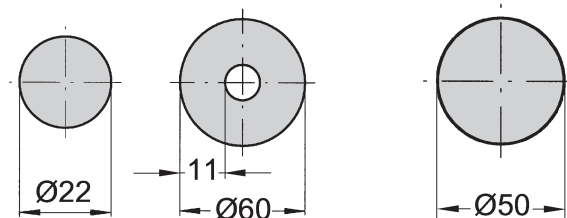
Dimensions in mm

Further sizes upon request

Parting off:

Solid bars or Tubes (S223)

Solid bars (S123)



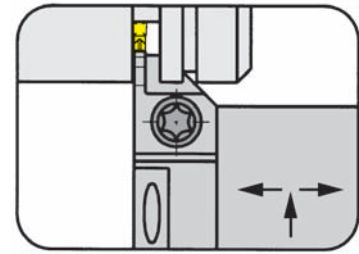
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH223.... | 4.15T15P | T15PL |

CARTRIDGE Type

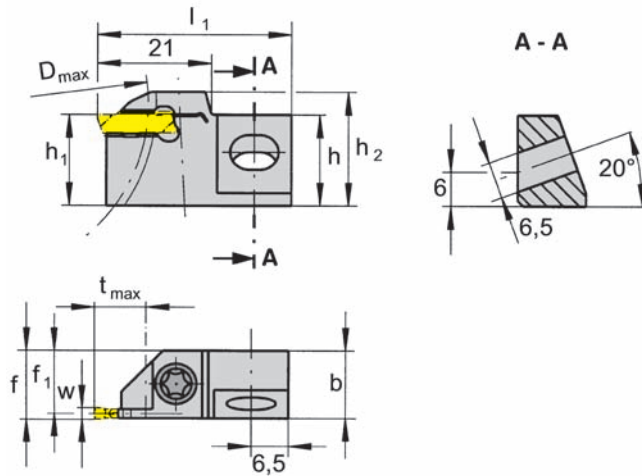
E223

Depth of groove up to .394" (10.0 mm)
Clamping range up to .118" (3.0 mm)



for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | h ₂ | f | b | l ₁ | t _{max} | f ₁ | D _{max} | Size | Clamping range |
|------------------------------------|----|----------------|----------------|---------------------|----|----------------|------------------|----------------|------------------|------|----------------|
| R/LE223.1212.01 R/LE223.1616.01 | 16 | 12 | 17.3 | f ₁ +w/2 | 12 | 34 | 10 | 11.20 | 50 | 01 | 2.0 |
| R/LE223.1212.02 R/LE223.1616.02 | 16 | 12 | 17.3 | f ₁ +w/2 | 12 | 34 | 10 | 11.05 | 50 | 02 | 2.5 |
| R/LE223.1212.03 R/LE223.1616.03 | 16 | 12 | 17.3 | f ₁ +w/2 | 12 | 34 | 10 | 10.80 | 50 | 03 | 3.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

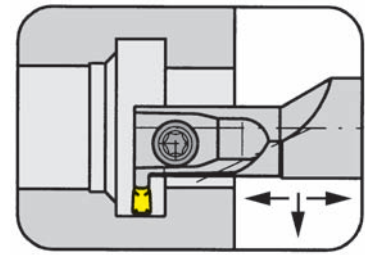
Spare parts

| Cartridge | Screw | Screw | TORX PLUS® Wrench |
|--------------|----------|----------|-------------------|
| R/LE223.1... | 6.20.232 | 5.11T15P | T15PL |

TOOLHOLDER Type

BU119

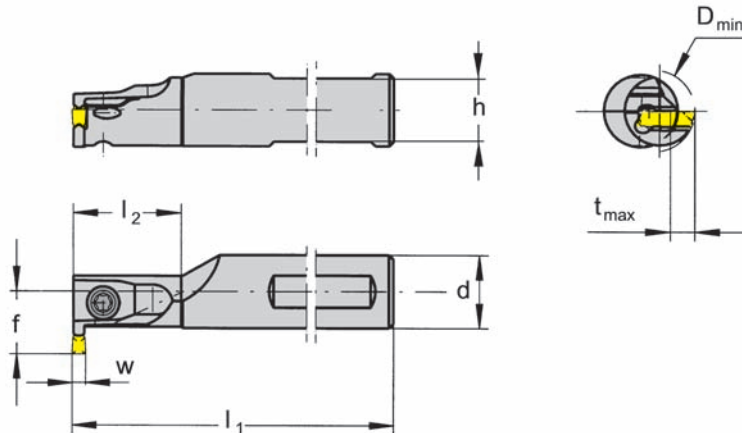
with through coolant supply



| | |
|-----------------------|-------|
| Bore Ø from | .625" |
| Depth of groove up to | .118" |
| Clamping range up to | .118" |

for use with Insert

Type S119



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------------|------|----------------|----------------|------|------|------------------|------------------|------|----------------|
| RBU119.0625.1.32 | .625 | 4.250 | 1.000 | .546 | .465 | .625 | .118 | 02 | .079 - .117 |
| RBU119.0625.1.33 | .625 | 4.250 | 1.000 | .546 | .465 | .625 | .118 | 03 | .118 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

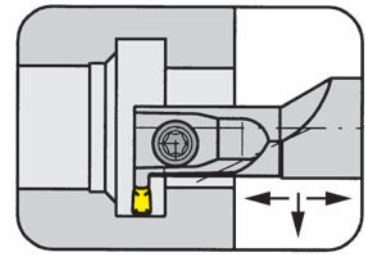
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------------|-----------------|-------------------|
| RBU119.0625.1.3... | 5.11T15P | T15PQ |

TOOLHOLDER Type

B119

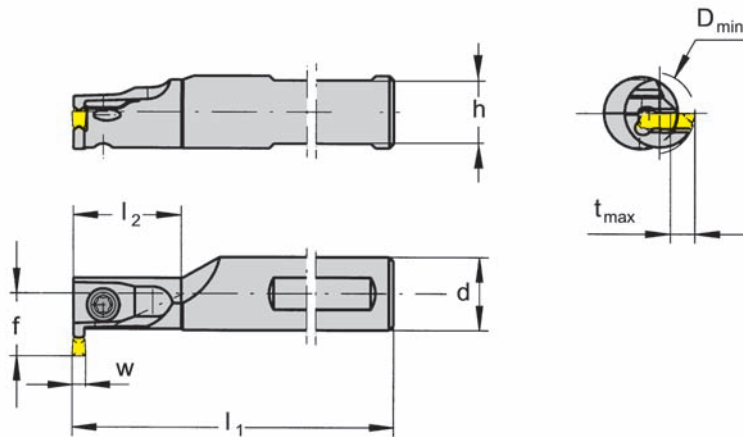
with through coolant supply



| | |
|-----------------------|-----------------|
| Bore Ø from | .630" (16.0 mm) |
| Depth of groove up to | .118" (3.0 mm) |
| Clamping range up to | .118" (3.0 mm) |

for use with Insert

Type S119



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------|----|----------------|----------------|----|------|------------------|------------------|------|----------------|
| R/LB119.0016.1.32 | 16 | 110 | 25 | 14 | 11.8 | 16 | 3 | 02 | 2.0 - 2.99 |
| R/LB119.0016.1.33 | 16 | 110 | 25 | 14 | 11.8 | 16 | 3 | 03 | 3.0 |

State R or L version

w see indexable inserts

Dimensions in mm

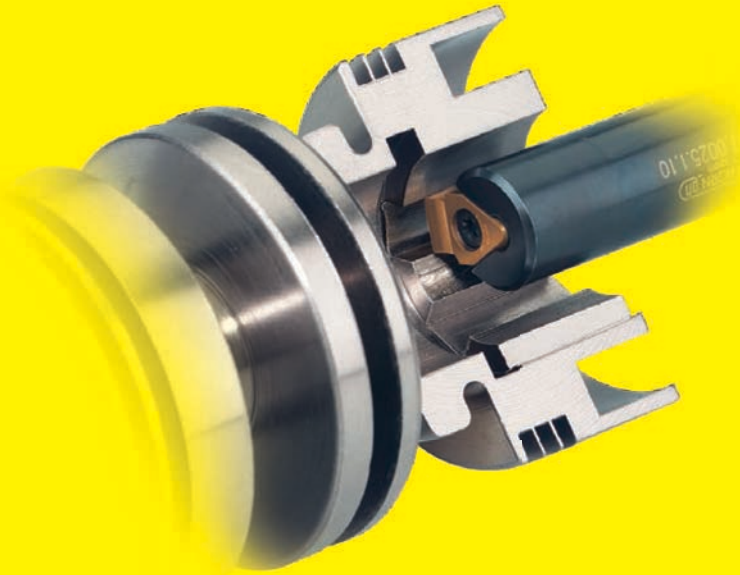
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------------|----------|-------------------|
| R/LB119.0016.1.3... | 5.11T15P | T15PL |

HORN - THE LEADERS IN GROOVING TECHNOLOGY

D



KEY TO IMPROVING PRODUCTIVITY

BROACHING

HORN - INTELLIGENT TOOL DESIGN AT WORK.



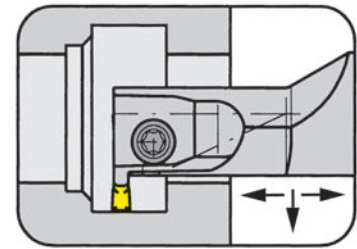
For further broaching tools, please see Chapter "R".

TOOLHOLDER Type

B223

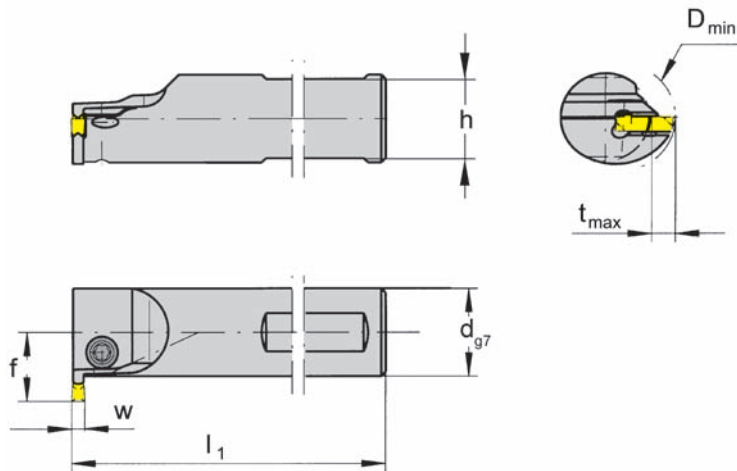
with through coolant supply

| | |
|-----------------------|-----------------|
| Bore Ø from | .866" (22.0 mm) |
| Depth of groove up to | .248" (6.3 mm) |
| Clamping range up to | .118" (3.0 mm) |



for use with Insert

Type S223



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | h | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------|----|----------------|----|------|------------------|------------------|------|----------------|
| R/LB223.0016.0.42 | 16 | 110 | 14 | 13.0 | 22 | 4.5 | 02 | 2.0 - 2.99 |
| R/LB223.0020.0.52 | 20 | 120 | 18 | 15.7 | 27 | 5.3 | | |
| R/LB223.0025.0.62 | 25 | 150 | 23 | 19.3 | 33 | 6.3 | | |
| R/LB223.0016.0.43 | 16 | 110 | 14 | 13.0 | 22 | 4.5 | 03 | 3.0 |
| R/LB223.0020.0.53 | 20 | 120 | 18 | 15.7 | 27 | 5.3 | | |
| R/LB223.0025.0.63 | 25 | 150 | 23 | 19.3 | 33 | 6.3 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

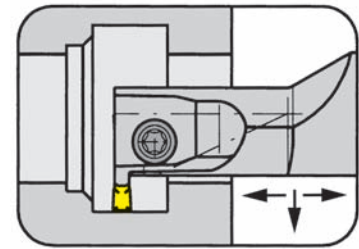
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LB223.00... | 5.11T15P | T15PL |

TOOLHOLDER Type

BU223

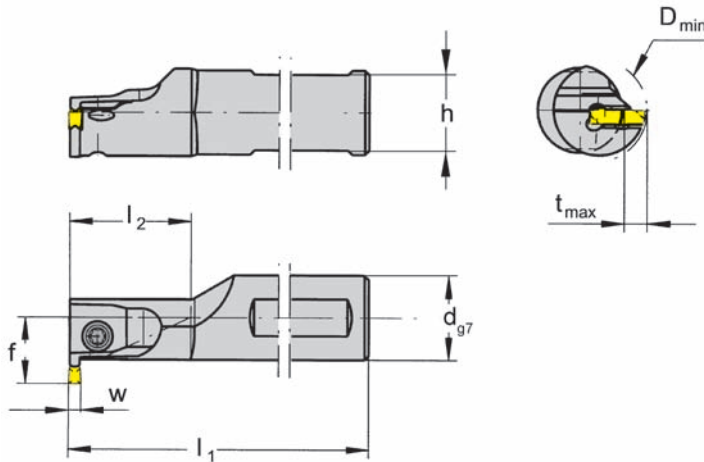
with through coolant supply



| | |
|-----------------------|-------|
| Bore Ø from | .709" |
| Depth of groove up to | .248" |
| Clamping range up to | .118" |

for use with Insert

Type S223



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|--------------------|-------|----------------|----------------|------|------|------------------|------------------|------|----------------|
| R/LBU223.0625.1.42 | .625 | 4.250 | 1.000 | .546 | .512 | .709 | .177 | 02 | .079 - .117 |
| R/LBU223.0750.1.52 | .750 | 4.750 | 1.181 | .671 | .618 | .787 | .209 | | |
| R/LBU223.1000.1.62 | 1.000 | 6.000 | 2.000 | .921 | .740 | .984 | .248 | | |
| R/LBU223.0625.1.43 | .625 | 4.250 | 1.000 | .546 | .512 | .709 | .177 | 03 | .118 |
| R/LBU223.0750.1.53 | .750 | 4.750 | 1.181 | .671 | .618 | .787 | .209 | | |
| R/LBU223.1000.1.63 | 1.000 | 6.000 | 2.000 | .921 | .740 | .984 | .248 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

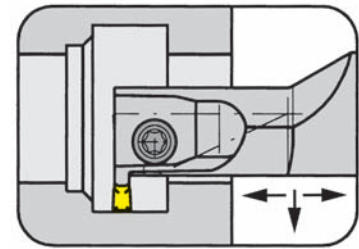
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| R/LBU223.... | 5.11T15P | T15PQ |

TOOLHOLDER Type

B223

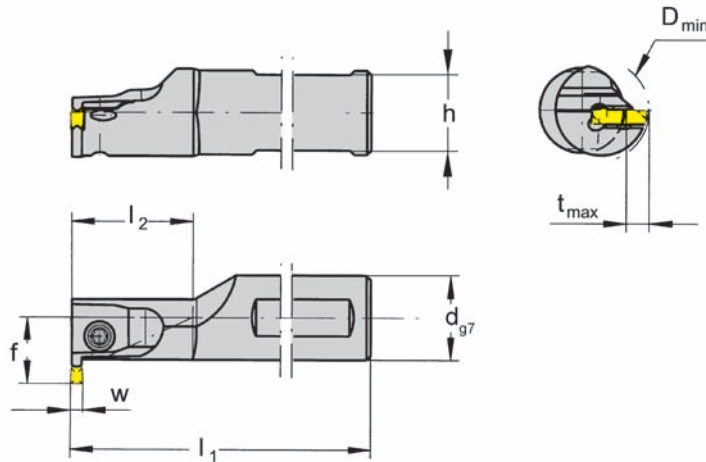
with through coolant supply

| | |
|-----------------------|-----------------|
| Bore Ø from | .709" (18.0 mm) |
| Depth of groove up to | .248" (6.3 mm) |
| Clamping range up to | .118" (3.0 mm) |



for use with Insert

Type S223



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------|----|----------------|----------------|----|------|------------------|------------------|------|----------------|
| R/LB223.0016.1.42 | 16 | 110 | 25 | 14 | 13.0 | 18 | 4.5 | 02 | 2.0 - 2.99 |
| R/LB223.0020.1.52 | 20 | 120 | 30 | 18 | 15.7 | 20 | 5.3 | | |
| R/LB223.0025.1.62 | 25 | 150 | 50 | 23 | 18.8 | 25 | 6.3 | | |
| R/LB223.0016.1.43 | 16 | 110 | 25 | 14 | 13.0 | 18 | 4.5 | 03 | 3.0 |
| R/LB223.0020.1.53 | 20 | 120 | 30 | 18 | 15.7 | 20 | 5.3 | | |
| R/LB223.0025.1.63 | 25 | 150 | 50 | 23 | 18.8 | 25 | 6.3 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LB223.00... | 5.11T15P | T15PL |

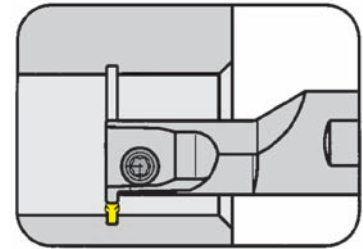
GROOVING (internal)



TOOLHOLDER Type

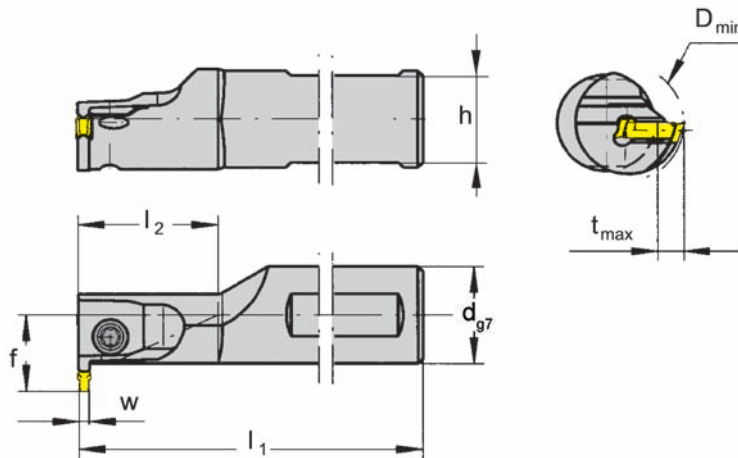
BU223

with through coolant supply



Bore Ø from
Circlip grooves

.709"
DIN471/472



for use with Indexable
insert

Type S223

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|--------------------|------|----------------|----------------|------|------|------------------|------------------|------|----------------|
| R/LBU223.0625.1.22 | .625 | 4.250 | 1.000 | .546 | .512 | .709 | .065 | 02 | .079 - .117 |
| R/LBU223.0750.1.22 | .750 | 4.750 | 1.125 | .671 | .618 | .787 | | | |

State R or L version

w see indexable circlip inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LBU223.0... | 5.11T15P | T15PQ |

D12

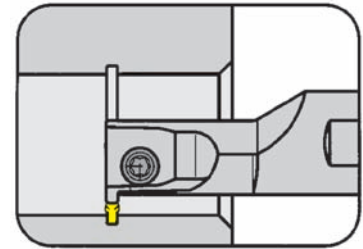
GROOVING (internal)



TOOLHOLDER Type

B223

with through coolant supply



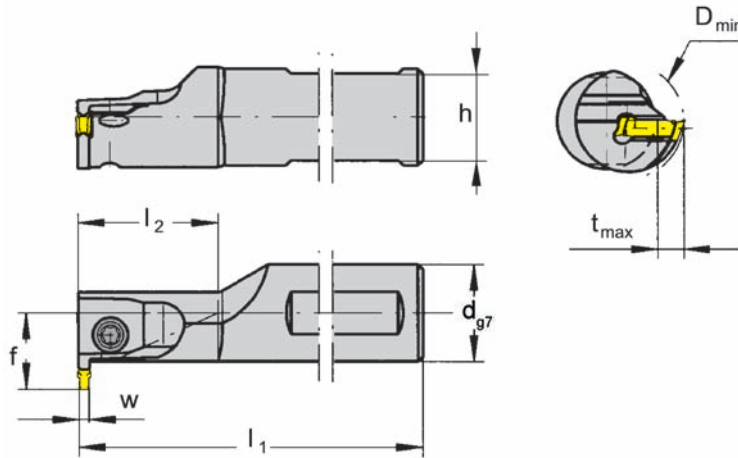
Bore Ø from
Circlip grooves

.709" (18.0 mm)
DIN 471/472

for use with Indexable
insert

Type S223

D



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------|----|----------------|----------------|----|------|------------------|------------------|------|----------------|
| R/LB223.0016.1.22 | 16 | 110 | 25 | 14 | 13.0 | 18 | 1.65 | 02 | 2.0 - 2.99 |
| R/LB223.0020.1.22 | 20 | 120 | 30 | 18 | 15.7 | 20 | | | |

State R or L version

w see indexable circlip inserts

Dimensions in mm

Further sizes upon request

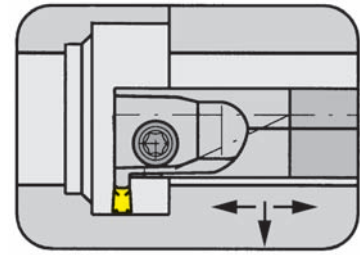
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LB223.00... | 5.11T15P | T15PL |

TOOLHOLDER Type

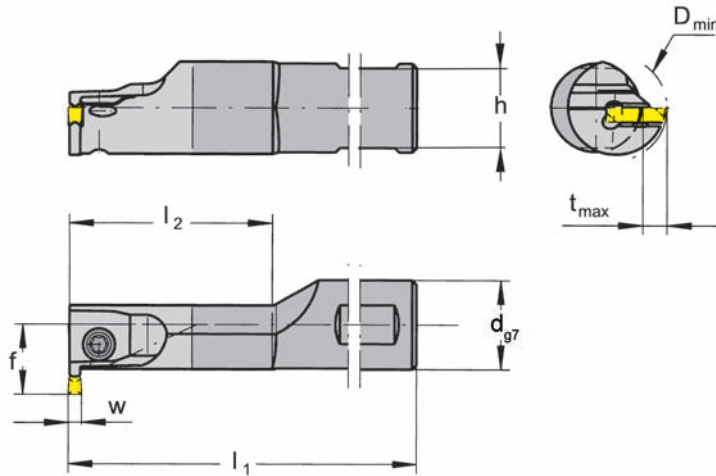
BU223

with through coolant supply



| | |
|-----------------------|-------|
| Bore Ø from | .709" |
| Depth of groove up to | .248" |
| Clamping range up to | .118" |

D



for use with Indexable insert

Type S223

R = right hand version shown

L = left hand version

Carbide shank

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|--------------------|-------|----------------|----------------|------|------|------------------|------------------|------|----------------|
| R/LBU223.HM06.2.42 | .625 | 5.000 | 2.000 | .546 | .512 | .709 | .177 | 02 | .079 - .117 |
| R/LBU223.HM07.2.52 | .750 | 6.000 | 2.500 | .671 | .618 | .787 | .209 | | |
| R/LBU223.HM10.2.62 | 1.000 | 6.250 | 2.750 | .921 | .740 | .984 | .248 | | |
| R/LBU223.HM06.2.43 | .625 | 5.000 | 2.000 | .546 | .512 | .709 | .177 | 03 | .118 |
| R/LBU223.HM07.2.53 | .750 | 6.000 | 2.500 | .671 | .618 | .787 | .209 | | |
| R/LBU223.HM10.2.63 | 1.000 | 6.250 | 2.750 | .921 | .740 | .984 | .248 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

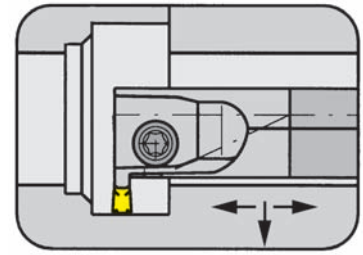
| Toolholder | Screw | TORX PLUS® Wrench |
|----------------|----------|-------------------|
| R/LBU223.HM... | 5.11T15P | T15PL |

TOOLHOLDER Type

B223

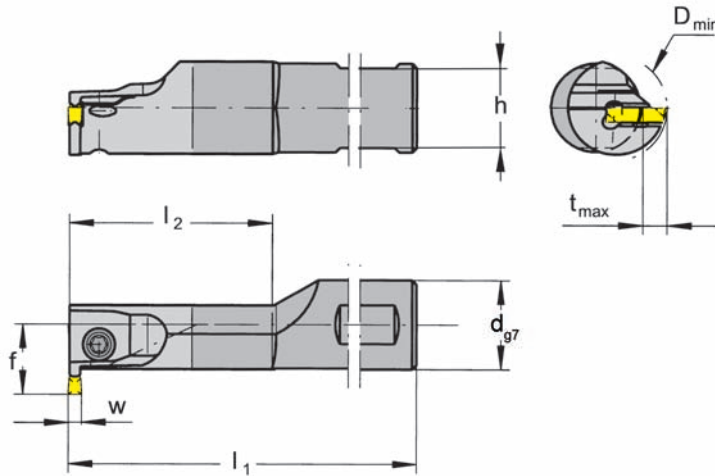
with through coolant supply

Bore Ø from .709" (18.0 mm)
 Depth of groove up to .248" (6.3 mm)
 Clamping range up to .118" (3.0 mm)



for use with Indexable insert

Type S223



R = right hand version shown

L = left hand version

Carbide shank

| Part number | d | l ₁ | l ₂ | h | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------|----|----------------|----------------|----|------|------------------|------------------|------|----------------|
| R/LB223.HM16.2.42 | 16 | 130 | 50 | 14 | 13.0 | 18 | 4.5 | 02 | 2.0 - 2.99 |
| R/LB223.HM20.2.52 | 20 | 150 | 60 | 18 | 15.7 | 20 | 5.3 | | |
| R/LB223.HM25.2.62 | 25 | 160 | 70 | 23 | 18.8 | 25 | 6.3 | | |
| R/LB223.HM16.2.43 | 16 | 130 | 50 | 14 | 13.0 | 18 | 4.5 | 03 | 3.0 |
| R/LB223.HM20.2.53 | 20 | 150 | 60 | 18 | 15.7 | 20 | 5.3 | | |
| R/LB223.HM25.2.63 | 25 | 160 | 70 | 23 | 18.8 | 25 | 6.3 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LB223.HM... | 5.11T15P | T15PL |

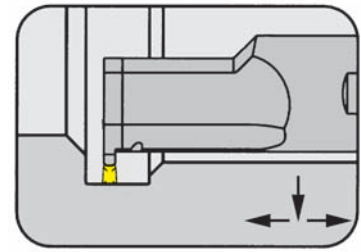


BASIC TOOLHOLDER Type

BU223

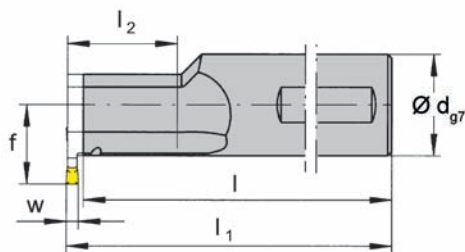
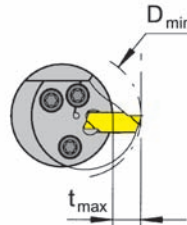
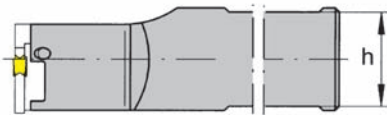
with through coolant supply

| | |
|-----------------------|--------|
| Bore Ø from | 1.102" |
| Depth of groove up to | .248" |
| Width of groove up to | .118" |



for use with Cassette

Type BK223



R = right hand version shown

L = left hand version

| Part number | d | h | l_1 | f | l_2 | l |
|--------------------|-------|-------|-------------|------|-------|-------|
| R/LBU223.1000.1.K2 | 1.000 | .921 | $l+b_1+w/2$ | .768 | 1.181 | 4.846 |
| R/LBU223.1000.2.K2 | | | | | 2.362 | 5.846 |
| R/LBU223.1250.1.K2 | 1.250 | 1.171 | $l+b_1+w/2$ | .906 | 1.181 | 5.846 |
| R/LBU223.1250.2.K2 | | | | | 2.362 | 6.846 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} , w and b_1 see cassettes

Toolholder does not include cassette!

Spare parts

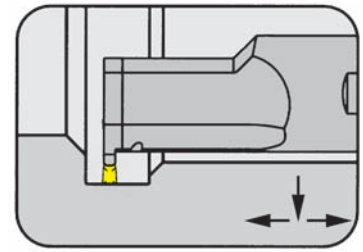
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------|-------------------|
| R/LBU223.1... | 4.09T15P | T15PL |

BASIC TOOLHOLDER Type

B223

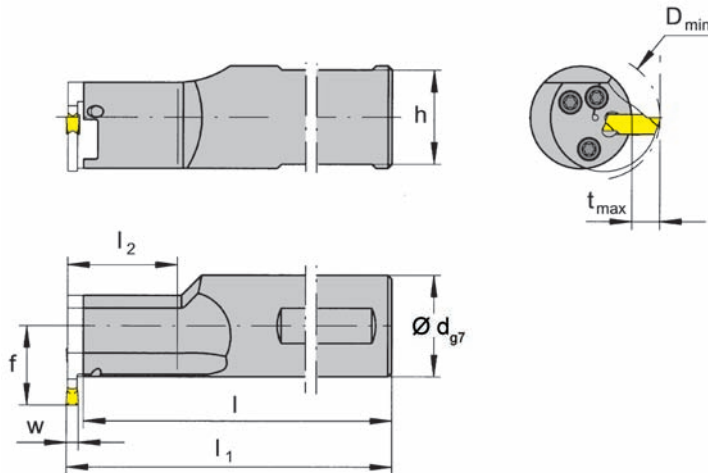
with through coolant supply

Bore \varnothing 1.102" (28.0 mm)
 Depth of groove up to .248" (6.3 mm)
 Width of groove up to .118" (3.0 mm)



for use with Cassette

Type BK223



R = right hand version shown

L = left hand version

| Part number | d | h | l_1 | f | l_2 | l |
|-------------------|----|----|-------------|------|-------|-------|
| R/LB223.0025.1.K2 | 25 | 23 | $l+b_1+w/2$ | 19.5 | 30 | 116.1 |
| R/LB223.0025.2.K2 | | | | | | 146.1 |
| R/LB223.0032.1.K2 | 32 | 30 | $l+b_1+w/2$ | 23.0 | 30 | 146.1 |
| R/LB223.0032.2.K2 | | | | | | 176.1 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} , w and b_1 see cassettes

Toolholder does not include cassette!

Spare parts

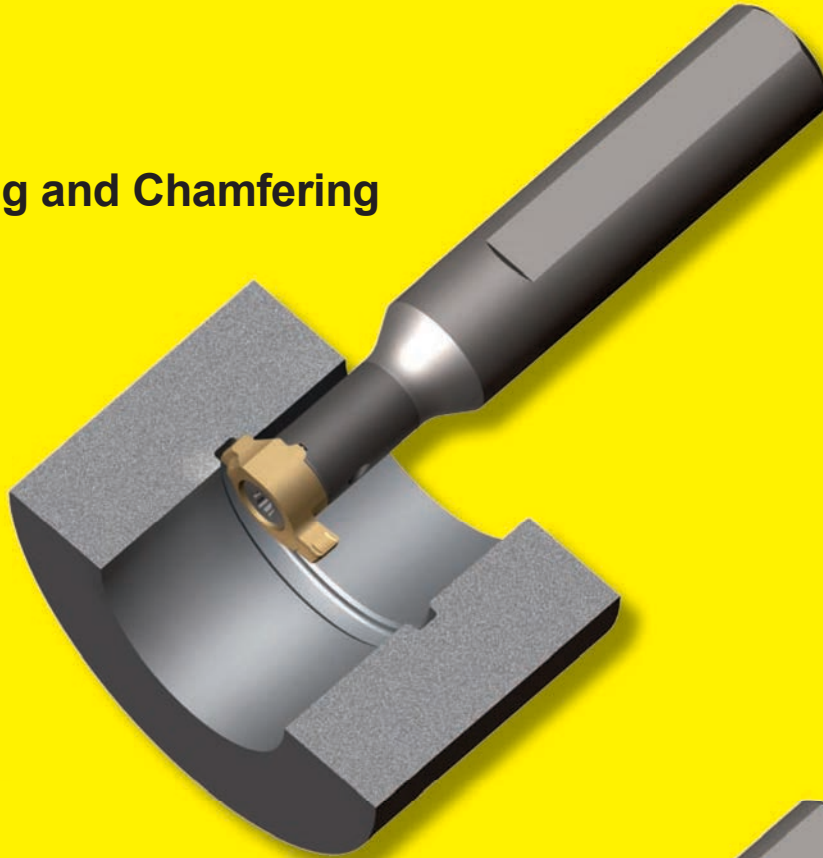
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------|-------------------|
| R/LB223.00... | 4.09T15P | T15PL |



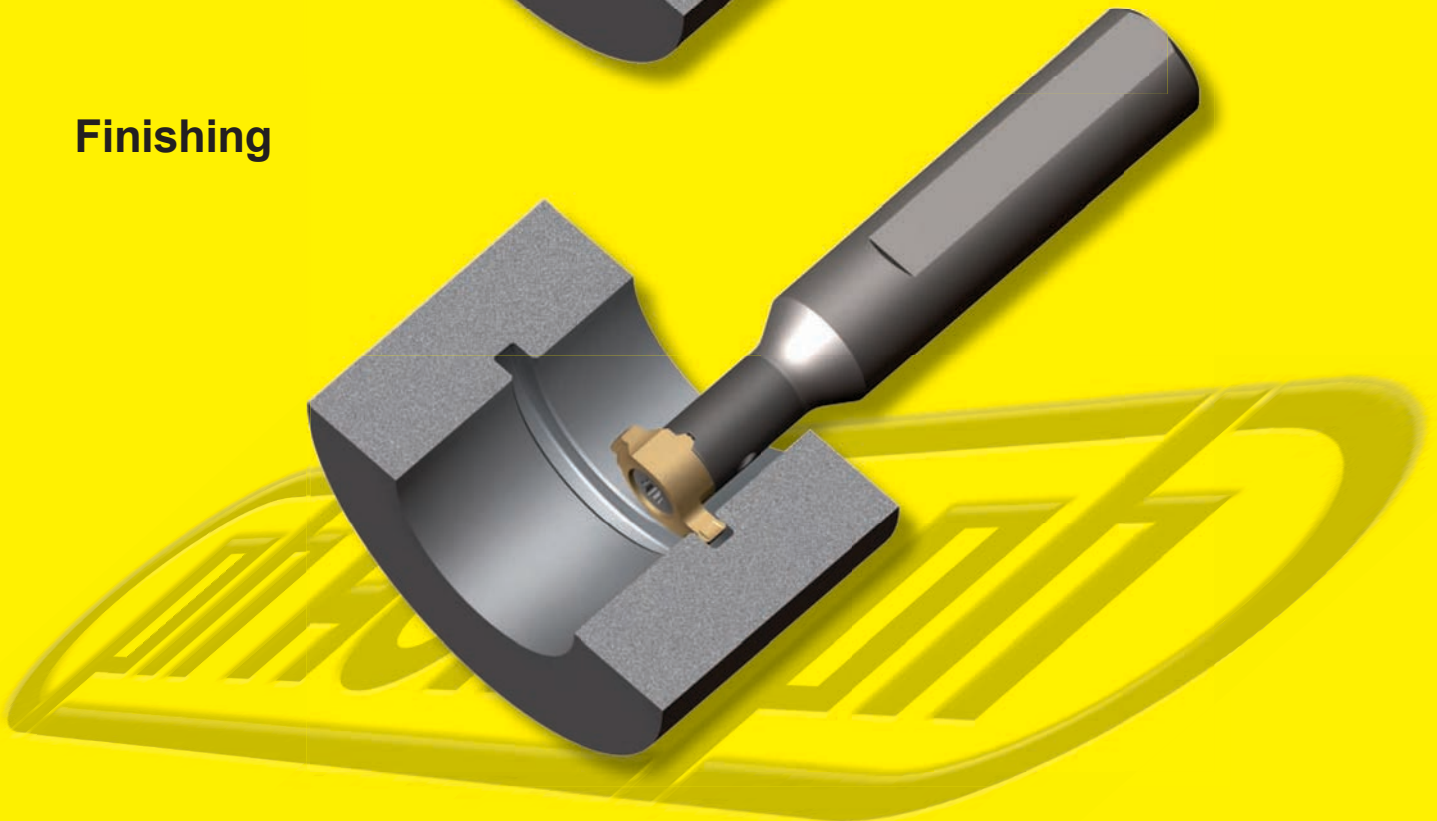
Tool change reduction
from Ø .709" (18 mm)

D

Pregrooving and Chamfering



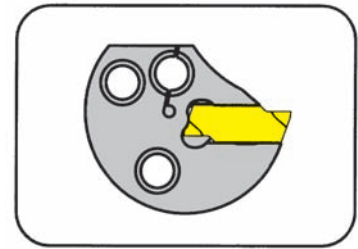
Finishing



For further information, please contact HORN USA.

CASSETTE Type

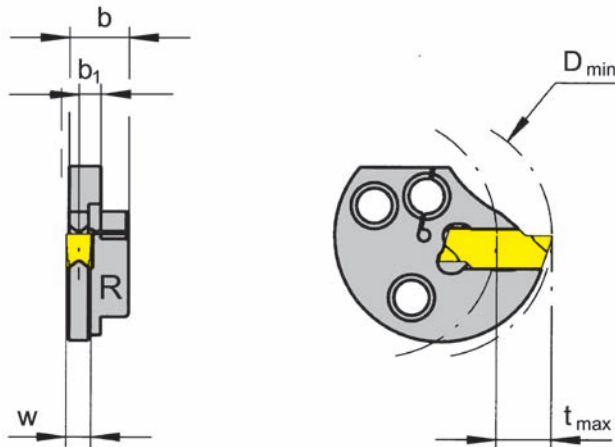
BK223



| | |
|-----------------------|------------------|
| Bore Ø | 1.102" (28.0 mm) |
| Depth of groove up to | .248" (6.3 mm) |
| Clamping range up to | .118" (3.0 mm) |

for use with Indexable insert

Type S223



R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | b ₁ | b | Size | Clamping range |
|------------------|------------------|------------------|----------------|-----|------|----------------|
| R/LBK223.0028.01 | 28 | 6.3 | 3.10 | 7.4 | 01 | 2.0 |
| R/LBK223.0028.02 | 28 | 6.3 | 2.95 | 7.4 | 02 | 2.5 |
| R/LBK223.0028.03 | 28 | 6.3 | 2.70 | 7.4 | 03 | 3.0 |

State R or L version

w see indexable inserts

Dimensions in mm

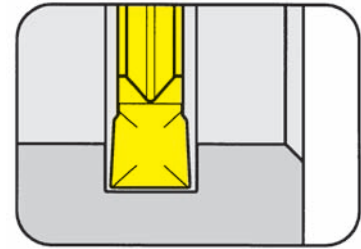
Use right hand cassettes in right hand basic toolholders and left hand cassettes in left hand basic toolholders.

Spare parts

The fastening screw is combined with the basic toolholder - no separate order required.

INSERT Type

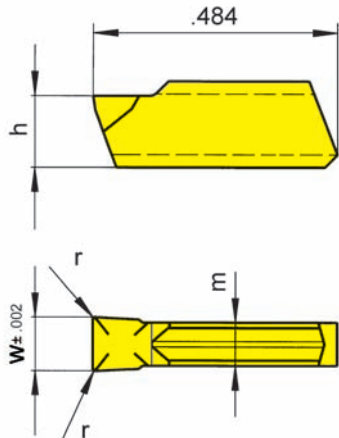
S119



Depth of groove up to .118"
Width of groove .079 - .118"

for use with Toolholder

Type B119
BU119



| Part number | w | r | m | h | Size | Carbide grades | | | | |
|--------------|------|------|------|------|------|----------------|-----|------|------|------|
| | | | | | | MG12 | H54 | TN35 | TI25 | TF45 |
| S119.0200.32 | .079 | .008 | .063 | .144 | 02 | | | ▲ | | |
| S119.0250.32 | .098 | .008 | .079 | .148 | 02 | | | ▲ | | |
| S119.0300.32 | .118 | .008 | .094 | .156 | 03 | | | ▲ | | |
| | | | | | | P | | • | | |
| | | | | | | M | | • | | |
| | | | | | | K | | • | | |
| | | | | | | S | | • | | |
| | | | | | | N | | • | | |
| | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left** hand toolholders.

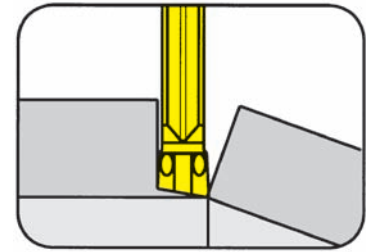
D

GROOVING and PARTING OFF



INSERT Type

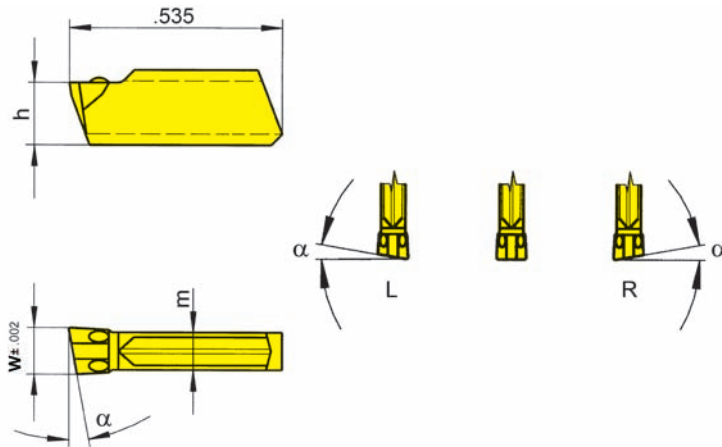
S123



Depth of groove up to .984"
 Width of groove .079 - .118"

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | α | m | h | Size | Carbide grades | | | |
|--|------|-----------------------|------|------|------|----------------|-----------------------|-----------------|---------------------|
| | | | | | | MG12 | TN35 | TI25 | TF45 |
| S123.0020.C0 R/LS123.1520.C0 R/LS123.0420.C0 R/LS123.0820.C0 | .079 | 0° 15° 4° 8° | .063 | .144 | 01 | | Δ Δ/ Δ/Δ Δ/Δ | /Δ Δ/ Δ/Δ | Δ Δ/ Δ/ /Δ |
| S123.0030.C0 R/LS123.0430.C0 | .118 | 0° 4° | .094 | .156 | 03 | | Δ | Δ/ Δ/ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | • | • | • |
| | | | | | | M | • | • | • |
| | | | | | | K | • | • | • |
| | | | | | | S | • | • | • |
| | | | | | | N | • | • | • |
| | | | | | | H | | | |

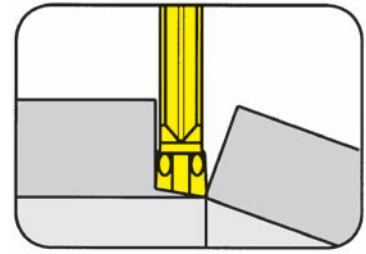
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left** hand toolholders.

INSERT Type

S123

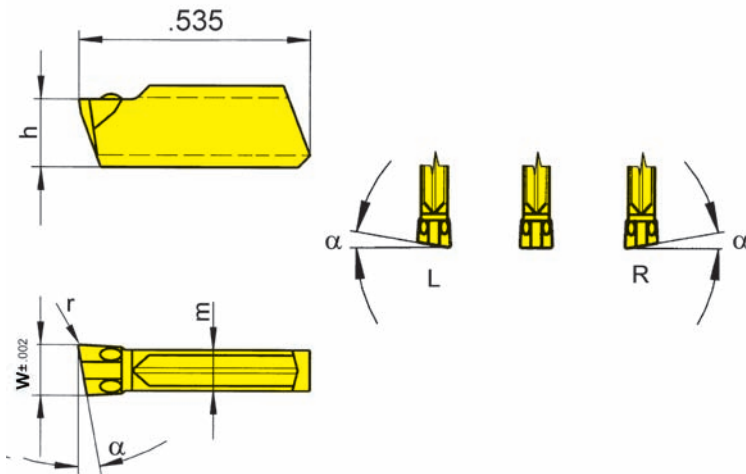


Depth of groove up to $.984''$
 Width of groove $.079 - .118''$

for use with Toolholder

Type H223
 HU223

D



R = right hand version shown

L = left hand version

| Part number | w | r | α | m | h | Size | Carbide grades | | | |
|-----------------|------|------|----------|------|------|------|----------------|------|------|------|
| | | | | | | | MG12 | TN35 | T125 | TF45 |
| S123.0020.C1 | .079 | .006 | 0° | .063 | .144 | 01 | | Δ | Δ | Δ |
| R/LS123.1520.C1 | | | 15° | | | | Δ/ | Δ/ | Δ/ | |
| R/LS123.0420.C1 | | | 4° | | | | Δ/ | ΔΔ | Δ/ | |
| R/LS123.0820.C1 | | | 8° | | | | Δ/ | Δ/ | | |
| S123.0030.C1 | .118 | .006 | 0° | .094 | .156 | 03 | | Δ | | |
| R/LS123.0830.C1 | | | 8° | | | | | Δ/ | | |
| | | | | | | | P | • | • | • |
| | | | | | | | M | • | • | • |
| | | | | | | | K | • | • | • |
| | | | | | | | S | • | • | • |
| | | | | | | | N | • | • | • |
| | | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

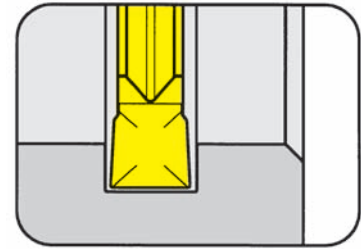
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left** hand toolholders.

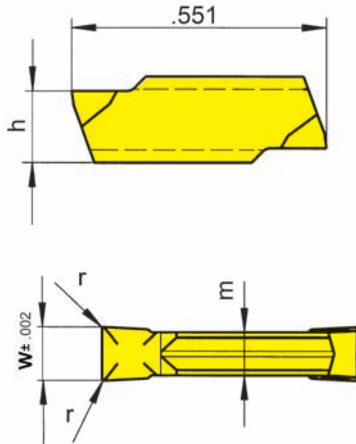
INDEXABLE INSERT Type

S223



for use with Toolholder

Depth of groove up to .433"
Width of groove .079 - .118"



- Type
- B223
 - BK223
 - BU223
 - E223
 - H223
 - HU223

| Part number | w | r | m | h | Size | Carbide grades | | | | |
|--------------|------|------|------|------|------|----------------|-----|------|------|------|
| | | | | | | MG12 | H54 | TN35 | T125 | TF45 |
| S223.0200.32 | .079 | .008 | .063 | .144 | 01 | ▲ | ▲ | ▲ | ▲ | |
| S223.0250.32 | .098 | .008 | .079 | .148 | 02 | ▲ | ▲ | ▲ | ▲ | |
| S223.0300.32 | .118 | .008 | .094 | .156 | 03 | ▲ | ▲ | ▲ | ▲ | |
| | | | | | | P | ○ | ● | ● | ● |
| | | | | | | M | ● | ● | ● | ● |
| | | | | | | K | ● | ● | ● | ● |
| | | | | | | S | ● | ● | ● | ● |
| | | | | | | N | ● | ● | ● | ● |
| | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



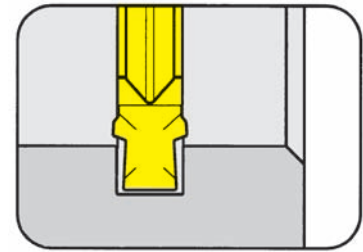
INDEXABLE INSERT Type

S223

limited depth of cut

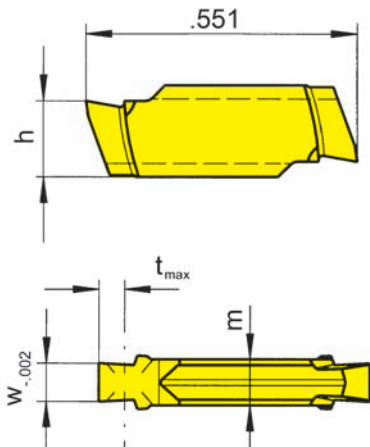
Circlip grooves
Width of circlip Nw

DIN 471/472
.043 - .085"



for use with Toolholder

Type B223...1.22
BU223...1.22
E223
H223
HU223



| Part number | Nw | w | t _{max} | m | h | Size | Carbide grades | | | | |
|--------------|------|------|------------------|------|------|------|----------------|-----|------|------|------|
| | | | | | | | MG12 | H54 | TN35 | TI25 | TF46 |
| S223.0110.32 | .043 | .049 | .024 | .075 | .148 | 02 | | | ▲ | | |
| S223.0130.32 | .051 | .057 | .043 | .075 | .148 | 02 | | | ▲ | | |
| S223.0160.32 | .063 | .069 | .045 | .075 | .148 | 02 | | | ▲ | | |
| S223.0185.32 | .073 | .078 | .055 | .075 | .148 | 02 | | | ▲ | | |
| S223.0215.32 | .085 | .090 | .065 | .075 | .148 | 02 | | | ▲ | | |
| | | | | | | | P | | • | | |
| | | | | | | | M | | • | | |
| | | | | | | | K | | • | | |
| | | | | | | | S | | • | | |
| | | | | | | | N | | • | | |
| | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

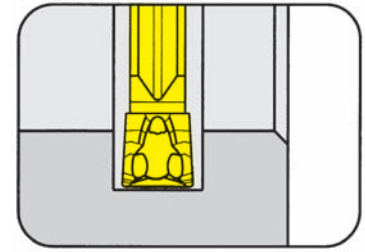
Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

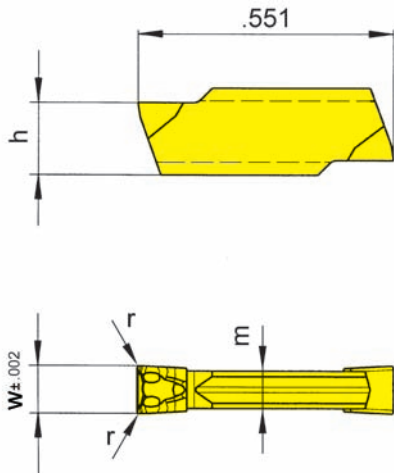
S223



for use with Toolholder

D

Depth of groove up to .433"
Width of groove .079 - .118"



- Type
- B223
 - BK223
 - BU223
 - E223
 - H223
 - HU223

| Part number | w | r | m | h | Size | Carbide grades | | | | | |
|--------------|------|------|------|------|------|----------------|-----|------|------|------|------|
| | | | | | | MG12 | H54 | TN35 | TI25 | TF45 | TH35 |
| S223.0200.52 | .079 | .008 | .063 | .144 | 01 | | | | | | ▲ |
| S223.0250.52 | .098 | .008 | .075 | .148 | 02 | | | | ▲ | | |
| S223.0300.52 | .118 | .008 | .094 | .156 | 03 | | | | | | ▲ |
| | | | | | | P | | | • | | • |
| | | | | | | M | | | • | | • |
| | | | | | | K | | | • | | • |
| | | | | | | S | | | • | | • |
| | | | | | | N | | | • | | • |
| | | | | | | H | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

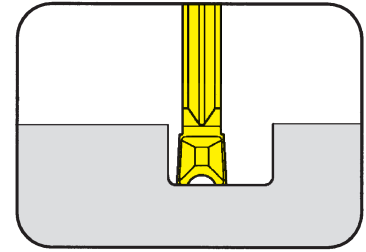
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S223

with chip forming

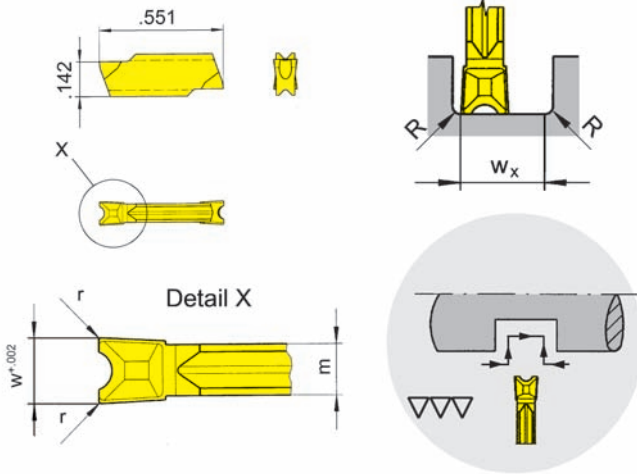


| | |
|-----------------------|-------|
| Depth of groove up to | .394" |
| Width of groove | .079" |

precision ground

for use with Toolholder

- Type
- B223
 - BK223
 - BU223
 - E223
 - H223
 - HU223



| Part number | w | r | w _x | m | Size | Carbide grades | | | | | | |
|---------------------|------|------|----------------|------|------|----------------|-----|------|------|------|------|------|
| | | | | | | K10 | H54 | TN32 | TI25 | TF46 | TC92 | AL96 |
| S223.NC20.D2 | .079 | .008 | .106 | .063 | 01 | | | | ▲ | | | |
| | | | | | | P | | | • | | | |
| | | | | | | M | | | • | | | |
| | | | | | | K | | | • | | | |
| | | | | | | S | | | • | | | |
| | | | | | | N | | | • | | | |
| | | | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

$w_x = \text{width of groove} - R_{(\text{right})} - R_{(\text{left})}$

Indexable inserts can be used in **right and left hand** toolholders.

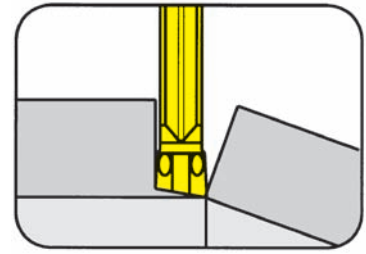
D

GROOVING and PARTING OFF



INDEXABLE INSERT Type

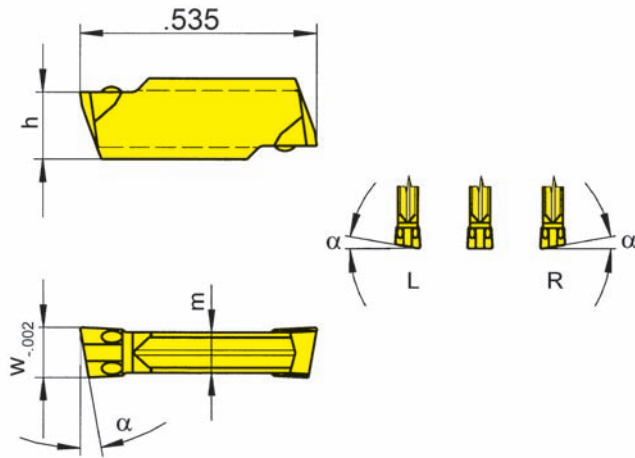
S223



Depth of groove up to $.433''$
 Width of groove $.079 - .118''$

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | α | m | h | Size | Carbide grades | | | |
|---|------|----------|------|------|------|----------------|------|------|------|
| | | | | | | MG12 | TN35 | T125 | TF45 |
| S223.0020.C0 | .079 | 0° | .063 | .144 | 01 | | ▲ | ▲ | ▲ |
| R/LS223.1520.C0 | | 15° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS223.0420.C0 | | 4° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS223.0820.C0 | | 8° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| S223.0025.C0 | .098 | 0° | .075 | .148 | 02 | | | ▲ | |
| R/LS223.0425.C0 | | 4° | | | | ▲/▲ | ▲/ | | |
| R/LS223.0825.C0 | | 8° | | | | ▲/▲ | ▲/ | ▲/▲ | |
| S223.0030.C0 | .118 | 0° | .094 | .156 | 03 | | ▲ | ▲ | ▲ |
| R/LS223.0430.C0 | | 4° | | | | ▲/▲ | | ▲/ | |
| R/LS223.0830.C0 | | 8° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| ▲ on stock ▲ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | ● | ● | ● |
| | | | | | | M | ● | ● | ● |
| | | | | | | K | ● | ● | ● |
| | | | | | | S | ● | ● | ● |
| | | | | | | N | ● | ● | ● |
| | | | | | | H | | | |

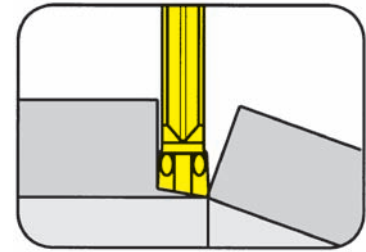
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

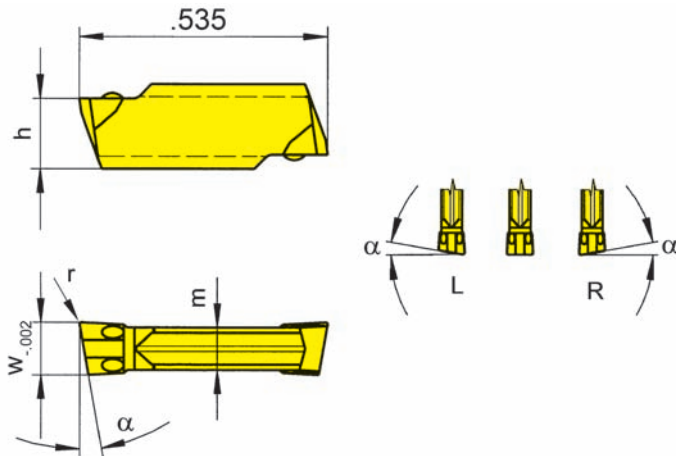
S223



Depth of groove up to $.433''$
 Width of groove $.079 - .118''$

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | r | α | m | h | Size | Carbide grades | | | |
|---|------|------|----------|------|------|------|----------------|------|------|------|
| | | | | | | | MG12 | TN35 | TI25 | TF45 |
| S223.0020.C1 | .079 | .006 | 0° | .063 | .144 | 01 | | ▲ | ▲ | ▲ |
| R/LS223.1520.C1 | | | 15° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS223.0420.C1 | | | 4° | | | | ▲/▲ | ▲/ | ▲/ | |
| R/LS223.0820.C1 | | | 8° | | | | ▲/▲ | ▲/ | ▲/▲ | |
| S223.0025.C1 | .098 | .006 | 0° | .075 | .148 | 02 | | ▲ | ▲ | ▲ |
| R/LS223.0425.C1 | | | 4° | | | | /▲ | ▲/ | | |
| R/LS223.0825.C1 | | | 8° | | | | | ▲/ | ▲/▲ | |
| S223.0030.C1 | .118 | .006 | 0° | .094 | .156 | 03 | | ▲ | ▲ | ▲ |
| R/LS223.0430.C1 | | | 4° | | | | ▲/▲ | ▲/ | | |
| R/LS223.0830.C1 | | | 8° | | | | ▲/ | ▲/ | ▲/ | |
| ▲ on stock ▲ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | P | ● | ● | ● |
| | | | | | | | M | ● | ● | ● |
| | | | | | | | K | ● | ● | ● |
| | | | | | | | S | ● | ● | ● |
| | | | | | | | N | ● | ● | ● |
| | | | | | | | H | | | |

Dimensions in inch

Carbide grades

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

Facing and chamfering

Tools with ABS-attachment for facing operation of a spring seat in a pre-casted groove. The tools are used on various spindles on a transfer line. Process is facing and chamfering.

Because of the high volume of machined material the tool was designed with one cutting edge for a better swarf evacuation.

The coolant pressure used was 15 bar.

Material: GD-AISI9

Cutting data:

$$v_c = 270 \text{ m/min}$$

$$v_f = 0,1 \text{ mm}$$



HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | • | | | | | |
| .709" (18 mm) | | | | • | • | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | • | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

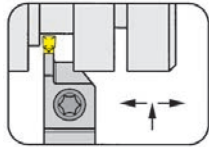
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

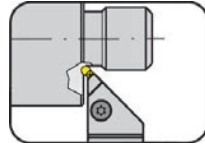
Special tools upon request

TOOLING SYSTEMS 224 **E**

Grooving - external -

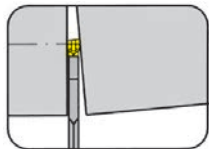


Page E2-E13

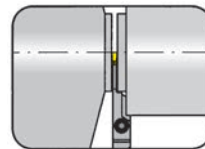


Page E15

Parting off



Page E16

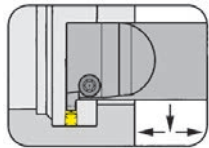


Page E17-E19

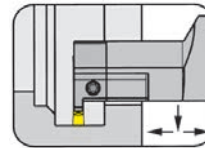


Page E20-E21

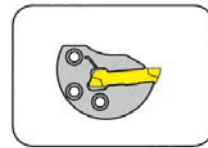
Grooving - internal -



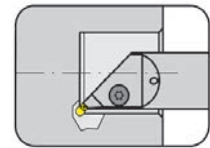
Page E23-E29



Page E30-E31

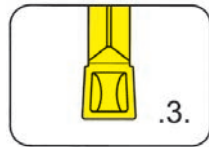


Page E33

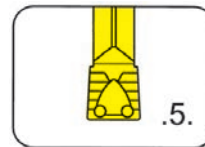


Page E34-E35

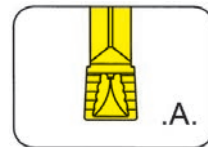
Indexable inserts Type S224



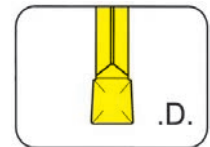
Page E36-E37



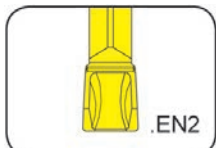
Page E38-E39



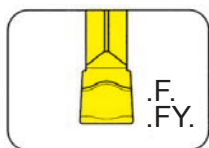
Page E40-E41



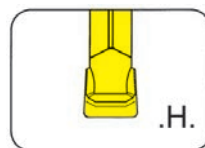
Page E42-E43



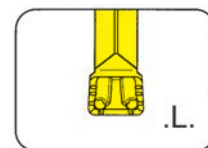
Page E44



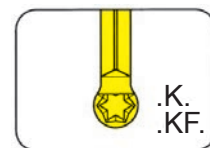
Page E45, E56



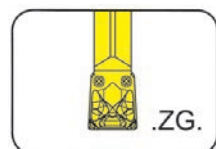
Page E46



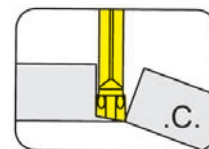
Page E47



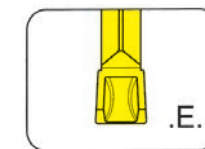
Page E48-E49



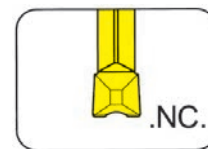
Page E50



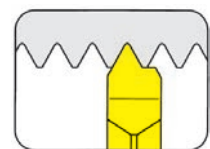
Page E52-E54



Page E55



Page E57



Page E58-E59

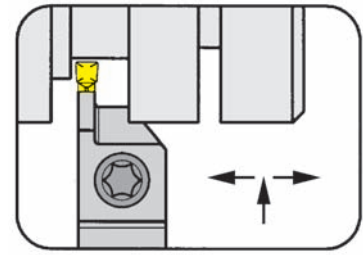
For Technical Information please see chapter Q

E

TOOLHOLDER Type

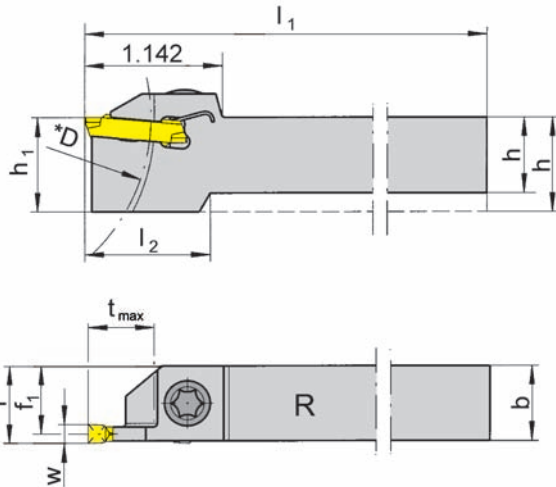
HU224

Depth of groove up to .551"
Clamping range up to .146"



for use with Indexable insert

Type NS224
S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LHU224.0625.01 | .625 | .625 | 5.000 | .750 | | .595 | 1.000 | | | |
| R/LHU224.0750.01 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .720 | - | .551 | 01 | .079 - .094 |
| R/LHU224.1000.01 | 1.000 | 1.000 | 6.000 | 1.000 | | .970 | - | | | |
| R/LHU224.0625.02 | .625 | .625 | 5.000 | .750 | | .588 | 1.000 | | | |
| R/LHU224.0750.02 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .713 | - | .551 | 02 | .094 - .110 |
| R/LHU224.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | | .963 | - | | | |
| R/LHU224.0625.03 | .625 | .625 | 5.000 | .750 | | .580 | 1.000 | | | |
| R/LHU224.0750.03 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .705 | - | .551 | 03 | .110 - .146 |
| R/LHU224.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .955 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

* t_{max} up to D = 3.150"

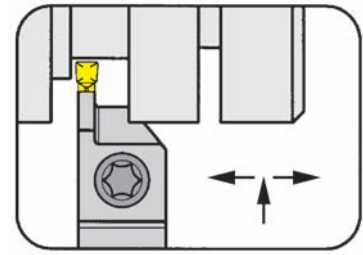
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|----------|-------------------|
| R/LHU224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

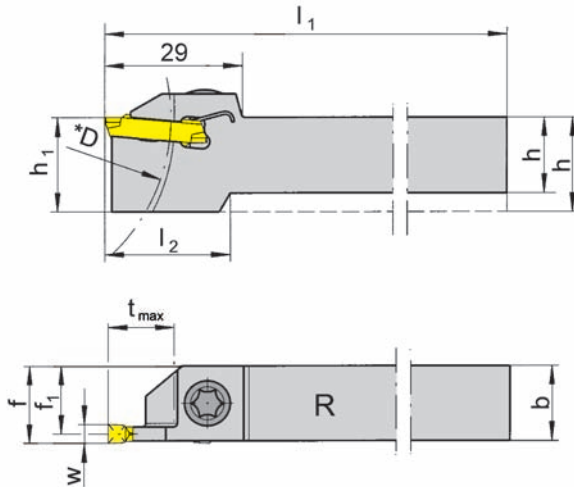
H224

Depth of groove up to .551" (14.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type NS224
S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LH224.1616.01 | 16 | 16 | 125 | 20 | | 15.3 | 25 | | | |
| R/LH224.2020.01 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 19.3 | - | 14 | 01 | 2.0 - 2.4 |
| R/LH224.2525.01 | 25 | 25 | 150 | 25 | | 24.3 | - | | | |
| R/LH224.1608.02 | 16 | 8 | 100 | 20 | | 7.1 | 30 | | | |
| R/LH224.1616.02 | 16 | 16 | 125 | 20 | | 15.1 | 25 | | | |
| R/LH224.2020.02 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 19.1 | - | 14 | 02 | 2.4 - 2.8 |
| R/LH224.2525.02 | 25 | 25 | 150 | 25 | | 24.1 | - | | | |
| R/LH224.1616.03 | 16 | 16 | 125 | 20 | | 14.9 | 25 | | | |
| R/LH224.2020.03 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 18.9 | - | 14 | 03 | 2.8 - 3.7 |
| R/LH224.2525.03 | 25 | 25 | 150 | 25 | | 23.9 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

* t_{max} up to D = 80 mm

Spare parts

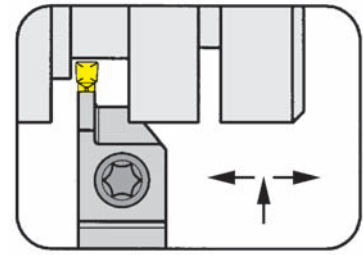
| Toolholder | Screw | TORX PLUS® Wrench |
|---------------------|-----------------|-------------------|
| R/LH224.1608.02 | 4.15T15P | T15PQ |
| R/LH224....01/02/03 | 6.23T25P | T25PQ |



TOOLHOLDER Type

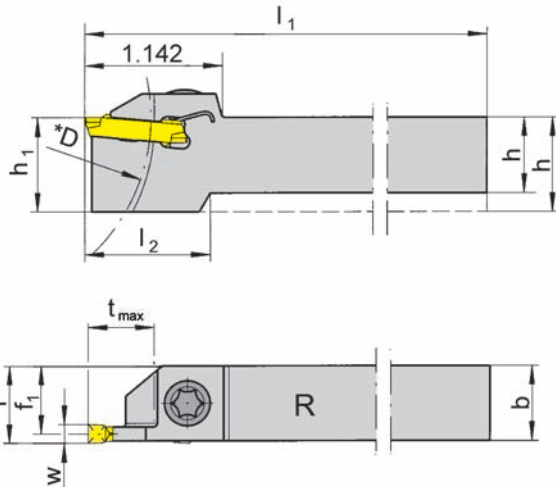
HU224

Depth of groove up to .551"
Clamping range up to .240"



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LHU224.0625.04 | .625 | .625 | 5.000 | .750 | | .565 | 1.000 | | 04 | .146 - .173 |
| R/LHU224.0750.04 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .690 | - | .551 | 04 | .146 - .173 |
| R/LHU224.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | | .940 | - | | | |
| R/LHU224.0625.05 | .625 | .625 | 5.000 | .750 | | .676 | | | 05 | .173 - .201 |
| R/LHU224.0750.05 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .676 | - | .551 | 05 | .173 - .201 |
| R/LHU224.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | | .926 | | | | |
| R/LHU224.0750.06 | .750 | .750 | 5.000 | .750 | | .660 | | | 06 | .201 - .240 |
| R/LHU224.1000.06 | 1.000 | 1.000 | 6.000 | 1.000 | f ₁ +w/2 | .910 | - | .551 | 06 | .201 - .240 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

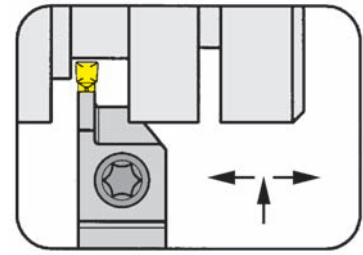
* t_{max} up to D = 3.150"

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|----------|-------------------|
| R/LHU224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

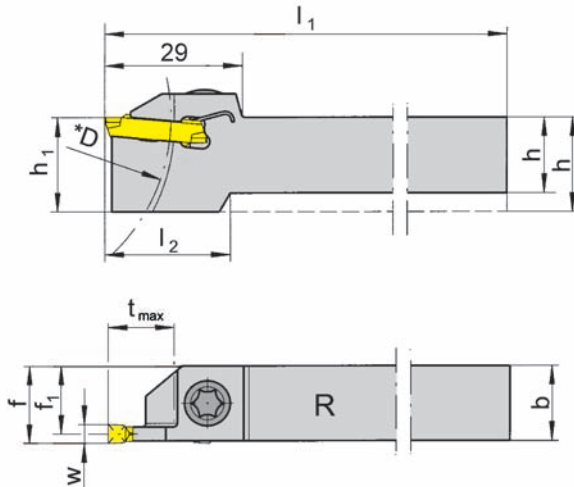
H224



Depth of groove up to .551" (14.0 mm)
Clamping range up to .240" (6.1 mm)

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LH224.1616.04 | 16 | 16 | 125 | 20 | | 14.55 | 25 | | | |
| R/LH224.2020.04 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 18.55 | - | 14 | 04 | 3.7 - 4.4 |
| R/LH224.2525.04 | 25 | 25 | 150 | 25 | | 23.55 | - | | | |
| R/LH224.1616.05 | 16 | 16 | 125 | 20 | | 18.15 | | | | |
| R/LH224.2020.05 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 18.15 | - | 14 | 05 | 4.4 - 5.1 |
| R/LH224.2525.05 | 25 | 25 | 150 | 25 | | 23.15 | | | | |
| R/LH224.2020.06 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 17.75 | - | 14 | 06 | 5.1 - 6.1 |
| R/LH224.2525.06 | 25 | 25 | 150 | 25 | | 22.75 | | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

* t_{max} up to D = 80 mm

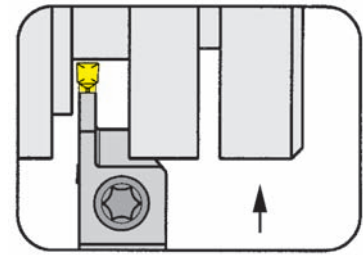
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH224.... | 6.23T25P | T25PQ |



TOOLHOLDER Type

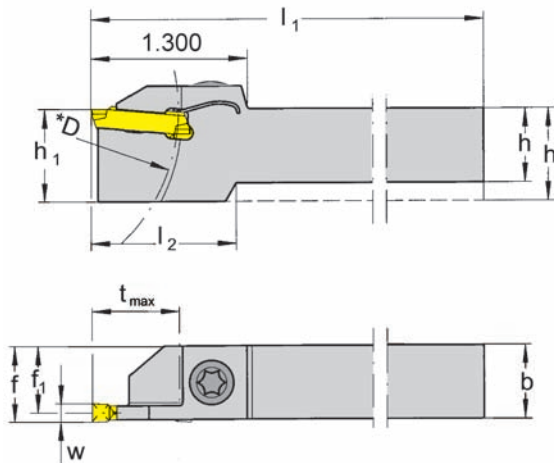
HU224



Depth of groove up to .709"
Clamping range up to .146"

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|----------------|---------------------|----------------|------------------|------|----------------|
| R/LHU224.0625.21 | .625 | .625 | 5.000 | .750 | .595 | | 1.125 | | | |
| R/LHU224.0750.21 | .750 | .750 | 5.000 | .750 | .720 | f ₁ +w/2 | - | .709 | 01 | .079 - .094 |
| R/LHU224.1000.21 | 1.000 | 1.000 | 6.000 | 1.000 | .970 | | - | | | |
| R/LHU224.0625.22 | .625 | .625 | 5.000 | .750 | .588 | | 1.125 | | | |
| R/LHU224.0750.22 | .750 | .750 | 5.000 | .750 | .713 | f ₁ +w/2 | - | .709 | 02 | .094 - .110 |
| R/LHU224.1000.22 | 1.000 | 1.000 | 6.000 | 1.000 | .963 | | - | | | |
| R/LHU224.0625.23 | .625 | .625 | 5.000 | .750 | .580 | | 1.125 | | | |
| R/LHU224.0750.23 | .750 | .750 | 5.000 | .750 | .705 | f ₁ +w/2 | - | .709 | 03 | .110 - .146 |
| R/LHU224.1000.23 | 1.000 | 1.000 | 6.000 | 1.000 | .955 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

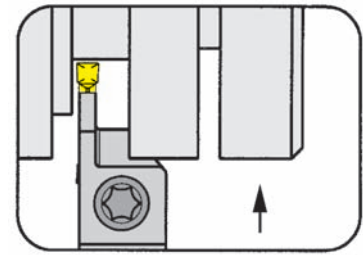
* t_{max} up to D = 3.150"

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|----------|-------------------|
| R/LHU224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

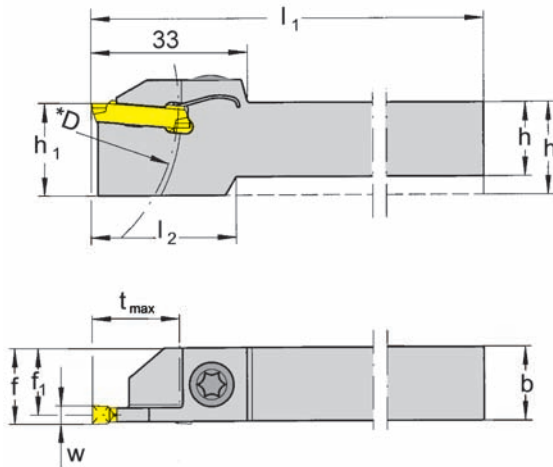
H224



Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|------|----------------|
| R/LH224.1212.21 | 12 | 12 | 125 | 20 | 11.3 | f ₁ +w/2 | 33 | 18 | 01 | 2.0 - 2.4 |
| R/LH224.1616.21 | 16 | 16 | 125 | 20 | 15.3 | | 30 | | | |
| R/LH224.2020.21 | 20 | 20 | 125 | 20 | 19.3 | | - | | | |
| R/LH224.2525.21 | 25 | 25 | 150 | 25 | 24.3 | | - | | | |
| R/LH224.1212.22 | 12 | 12 | 125 | 20 | 11.1 | f ₁ +w/2 | 33 | 18 | 02 | 2.4 - 2.8 |
| R/LH224.1616.22 | 16 | 16 | 125 | 20 | 15.1 | | 30 | | | |
| R/LH224.2020.22 | 20 | 20 | 125 | 20 | 19.1 | | - | | | |
| R/LH224.2525.22 | 25 | 25 | 150 | 25 | 24.1 | | - | | | |
| R/LH224.1212.23 | 12 | 12 | 125 | 20 | 10.9 | f ₁ +w/2 | 33 | 18 | 03 | 2.8 - 3.7 |
| R/LH224.1608.23 | 16 | 8 | 100 | 20 | 6.9 | | - | | | |
| R/LH224.1616.23 | 16 | 16 | 125 | 20 | 14.9 | | 30 | | | |
| R/LH224.2020.23 | 20 | 20 | 125 | 20 | 18.9 | | - | | | |
| R/LH224.2525.23 | 25 | 25 | 150 | 25 | 23.9 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

* t_{max} up to D = 80 mm

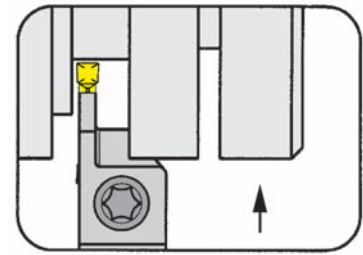
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------------|-----------------|-------------------|
| R/LH224....21/22/23 | 6.23T25P | T25PQ |
| R/LH224.1608.23 | 4.15T15P | T15PQ |



TOOLHOLDER Type

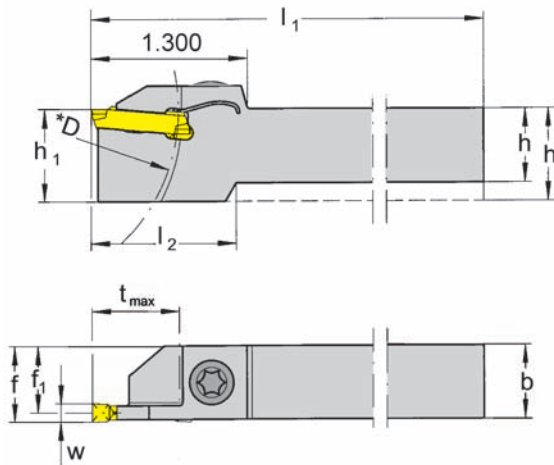
HU224



Depth of groove up to .709"
Clamping range up to .240"

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|----------------|---------------------|----------------|------------------|------|----------------|
| R/LHU224.0625.24 | .625 | .625 | 5.000 | .750 | .565 | | 1.125 | | | |
| R/LHU224.0750.24 | .750 | .750 | 5.000 | .750 | .690 | f ₁ +w/2 | - | .709 | 04 | .146 - .173 |
| R/LHU224.1000.24 | 1.000 | 1.000 | 6.000 | 1.000 | .940 | | - | | | |
| R/LHU224.0625.25 | .625 | .625 | 5.000 | .750 | .550 | | 1.125 | | | |
| R/LHU224.0750.25 | .750 | .750 | 5.000 | .750 | .676 | f ₁ +w/2 | - | .709 | 05 | .173 - .201 |
| R/LHU224.1000.25 | 1.000 | 1.000 | 6.000 | 1.000 | .926 | | - | | | |
| R/LHU224.0625.26 | .625 | .625 | 5.000 | .750 | .534 | | 1.125 | | | |
| R/LHU224.0750.26 | .750 | .750 | 5.000 | .750 | .660 | f ₁ +w/2 | - | .709 | 06 | .201 - .240 |
| R/LHU224.1000.26 | 1.000 | 1.000 | 6.000 | 1.000 | .910 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

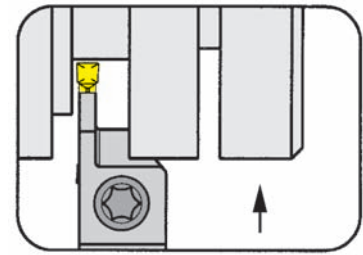
* t_{max} up to D = 3.150"

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|----------|-------------------|
| R/LHU224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

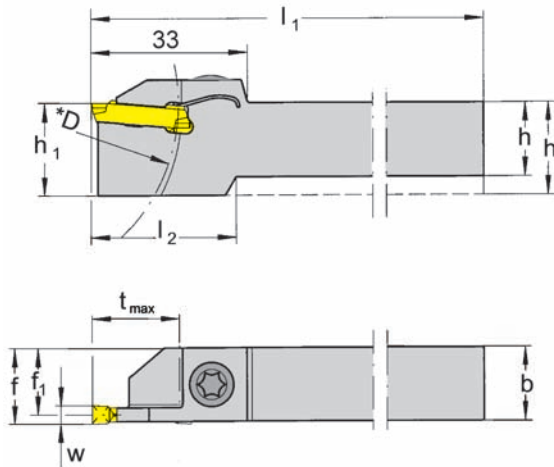
H224



Depth of groove up to .709" (18.0 mm)
Clamping range up to .240" (6.1 mm)

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|------|----------------|
| LH224.1608.24 | 16 | 8 | 100 | 16 | 6.55 | | - | | | |
| R/LH224.1616.24 | 16 | 16 | 125 | 20 | 14.55 | f ₁ +w/2 | 30 | 18 | 04 | 3.7 - 4.4 |
| R/LH224.2020.24 | 20 | 20 | 125 | 20 | 18.55 | | - | | | |
| R/LH224.2525.24 | 25 | 25 | 150 | 25 | 23.55 | | - | | | |
| R/LH224.1616.25 | 16 | 16 | 125 | 20 | 14.15 | | 30 | | | |
| R/LH224.2020.25 | 20 | 20 | 125 | 20 | 18.15 | f ₁ +w/2 | - | 18 | 05 | 4.4 - 5.1 |
| R/LH224.2525.25 | 25 | 25 | 150 | 25 | 23.15 | | - | | | |
| R/LH224.1616.26 | 16 | 16 | 125 | 20 | 13.75 | | 30 | | | |
| R/LH224.2020.26 | 20 | 20 | 125 | 20 | 17.75 | f ₁ +w/2 | - | 18 | 06 | 5.1 - 6.1 |
| R/LH224.2525.26 | 25 | 25 | 150 | 25 | 22.75 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

* t_{max} up to D = 80 mm

Spare parts

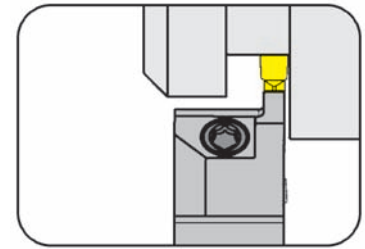
| Toolholder | Screw | TORX PLUS® Wrench |
|----------------------|----------|-------------------|
| LH224.1608.24 | 4.15T15P | T15PQ |
| R/LH224.....24/25/26 | 6.23T25P | T25PQ |



TOOLHOLDER Type

H224

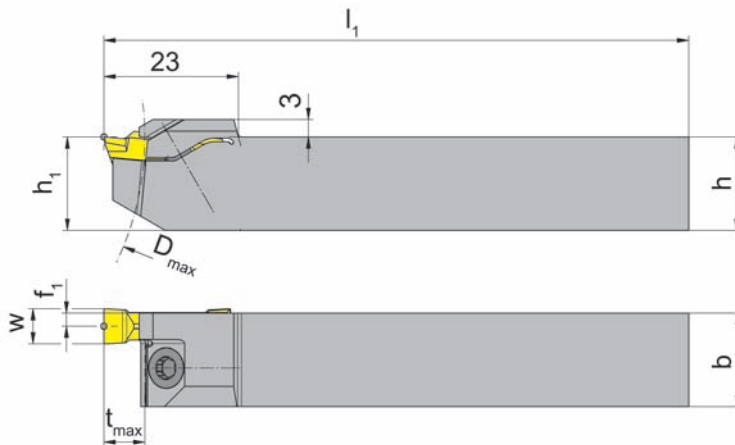
with screwed clamping



Depth of groove up to .276" (7.0 mm)
Clamping range up to .173" (4.4 mm)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH224.1212.61 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.61 | 16 | 16 | 100 | 16 | 0.70 | 7 | 100 | 01 | 2.0 - 2.4 |
| R/LH224.2020.61 | 20 | 20 | | 20 | | | | | |
| R/LH224.1212.62 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.62 | 16 | 16 | 100 | 16 | 0.90 | 7 | 100 | 02 | 2.4 - 2.8 |
| R/LH224.2020.62 | 20 | 20 | | 20 | | | | | |
| R/LH224.1212.63 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.63 | 16 | 16 | 100 | 16 | 1.10 | 7 | 100 | 03 | 2.8 - 3.7 |
| R/LH224.2020.63 | 20 | 20 | | 20 | | | | | |
| R/LH224.1212.64 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.64 | 16 | 16 | 100 | 16 | 1.45 | 7 | 100 | 04 | 3.7 - 4.4 |
| R/LH224.2020.64 | 20 | 20 | | 20 | | | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

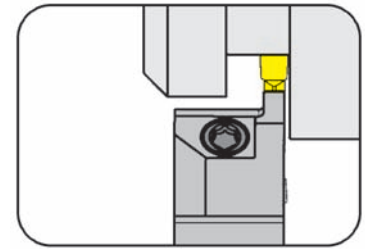
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| R/LH224.... | 4.12T15EP | T15PQ |

TOOLHOLDER Type

H224

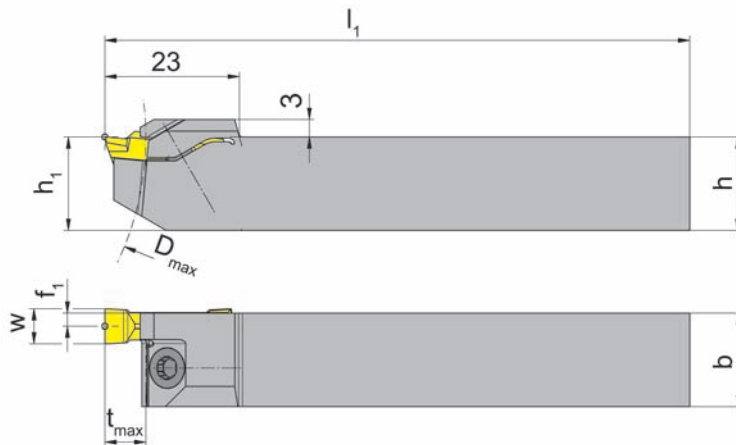
with screwed clamping



Depth of groove up to .276" (7.0 mm)
Clamping range up to .240" (6.1 mm)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH224.1616.65 | 16 | 16 | 100 | 16 | 1.85 | 7 | 100 | 05 | 4.4 - 5.1 |
| R/LH224.2020.65 | 20 | 20 | 100 | 20 | 1.85 | 7 | 100 | 05 | 4.4 - 5.1 |
| R/LH224.1616.66 | 16 | 16 | 100 | 16 | 2.25 | 7 | 100 | 06 | 5.1 - 6.1 |
| R/LH224.2020.66 | 20 | 20 | 100 | 20 | 2.25 | 7 | 100 | 06 | 5.1 - 6.1 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

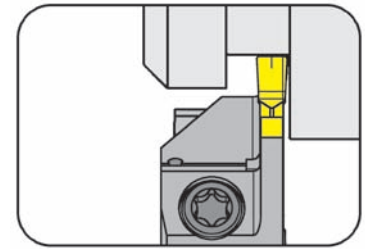
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| R/LH224.... | 5.13T20EP | T20PQ |



TOOLHOLDER Type

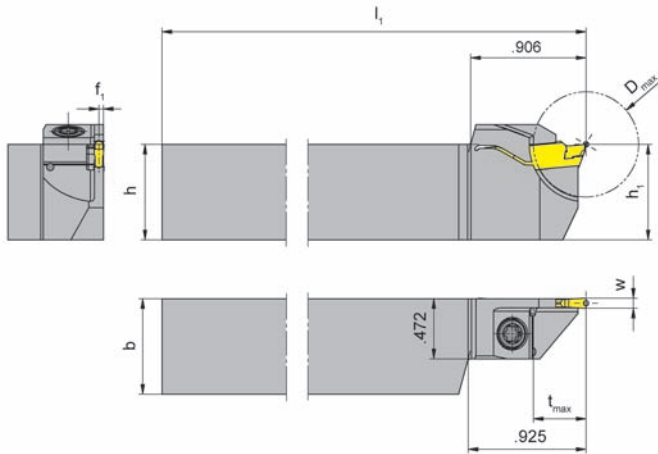
HU224



Depth of groove up to .413"
Clamping range up to .146"

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | Size | Clamping range |
|---------------------|------|------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LHU224.0625.20.61 | .625 | .625 | 3.937 | .625 | .028 | .413 | .827 | 01 | .079 - .094 |
| R/LHU224.0750.20.61 | .750 | .750 | 5.118 | .750 | .028 | .413 | .827 | 01 | .079 - .094 |
| R/LHU224.0625.20.62 | .625 | .625 | 3.937 | .625 | .035 | .413 | .827 | 02 | .094 - .110 |
| R/LHU224.0750.20.62 | .750 | .750 | 5.118 | .750 | .035 | .413 | .827 | 02 | .094 - .110 |
| R/LHU224.0625.20.63 | .625 | .625 | 3.937 | .625 | .043 | .413 | .827 | 03 | .110 - .146 |
| R/LHU224.0750.20.63 | .750 | .750 | 5.118 | .750 | .043 | .413 | .827 | 03 | .110 - .146 |

State R or L version

w see indexable inserts

Dimensions in inch

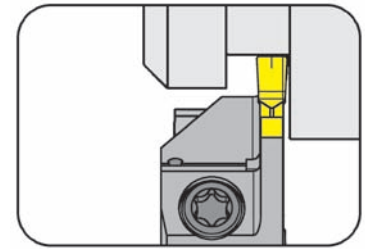
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LHU224.0... | 4.12T15EP | T15PQ |

TOOLHOLDER Type

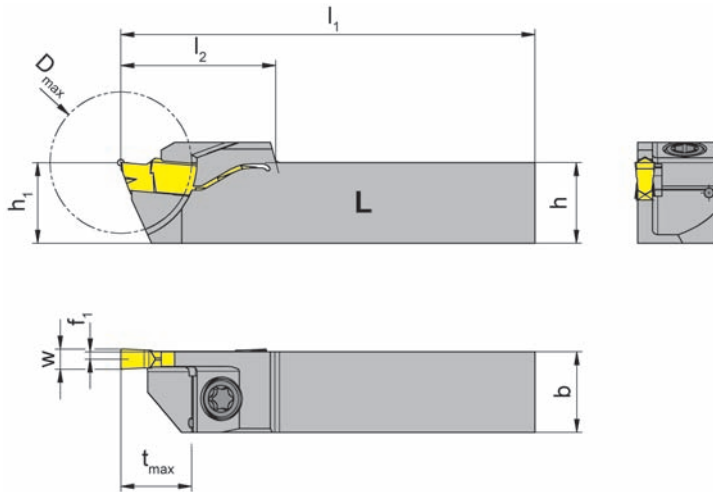
H224



Depth of groove up to .413" (10.5 mm)
Clamping range up to .146" (3.7 mm)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | l ₂ | t _{max} | D _{max} | Size | Clamping range |
|--------------------|----|----|----------------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH224.1212.20.61 | 12 | 12 | 100 | 12 | 0.7 | 23 | 10.5 | 21 | 01 | 2.0 - 2.4 |
| R/LH224.1212.20.62 | 12 | 12 | 100 | 12 | 0.9 | 23 | 10.5 | 21 | 02 | 2.4 - 2.8 |
| R/LH224.1212.20.63 | 12 | 12 | 100 | 12 | 1.1 | 23 | 10.5 | 21 | 03 | 2.8 - 3.7 |

State R or L version

w see indexable inserts

Dimensions in mm

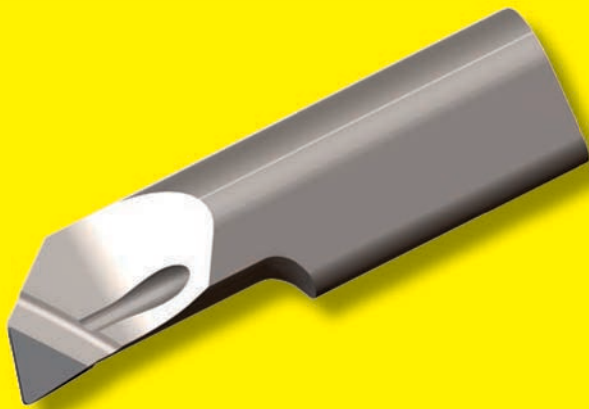
Further sizes upon request

Spare parts

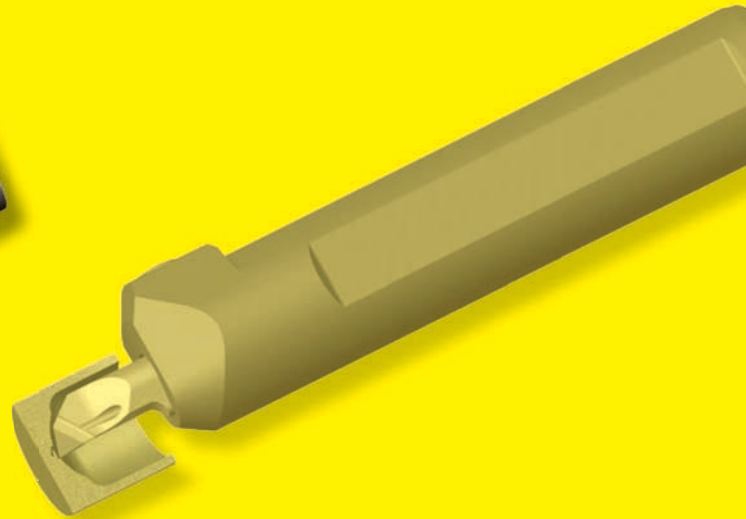
| Toolholder | Screw | TORX PLUS® Wrench |
|----------------------|-----------|-------------------|
| R/LH224.1212.20.6... | 4.12T15EP | T15PQ |



HORN - THE LEADERS IN GROOVING TECHNOLOGY



Supermini®
Turning of hardened parts
from bore $\varnothing > .118''$



Supermini® and Mini Carbide Grooving Tools

PCD- or CBN-tipped inserts



Mini
PCD-tipped insert



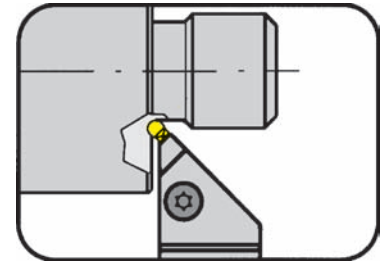
For further information, please contact HORN USA.

GROOVING CORNER RELIEFS (external)



TOOLHOLDER Type

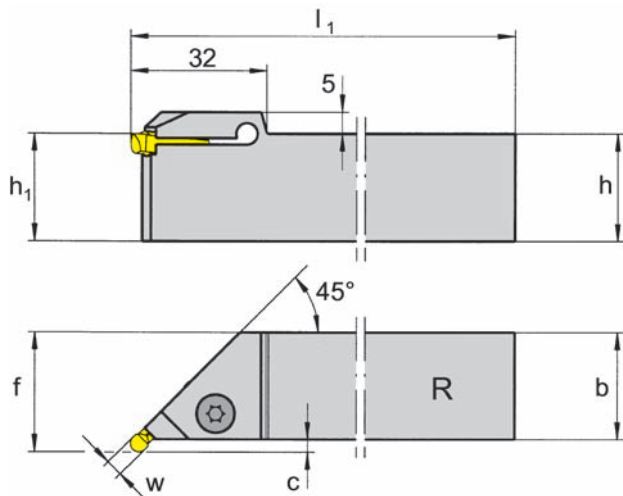
H224



Clamping range up to .240" (6.1 mm)

for use with Indexable insert

Type S224...K



R = right hand version shown

L = left hand version

only for full radius inserts
S224...K

| Part number | h | b | l_1 | h_1 | f | c | Size | Clamping range |
|-----------------|----|----|-------|-------|------|-----|------|----------------|
| R/LH224.4520.02 | 20 | 20 | 125 | 20 | 23.0 | 2.5 | 02 | 2.0-2.8 |
| R/LH224.4525.02 | 25 | 25 | 150 | 25 | 28.0 | | | |
| R/LH224.4520.04 | 20 | 20 | 125 | 20 | 23.0 | 2.5 | 04 | 2.8-4.4 |
| R/LH224.4525.04 | 25 | 25 | 150 | 25 | 28.0 | | | |
| R/LH224.4520.06 | 20 | 20 | 125 | 20 | 23.5 | 3.0 | 06 | 4.4-6.1 |
| R/LH224.4525.06 | 25 | 25 | 150 | 25 | 28.5 | | | |

State R or L version

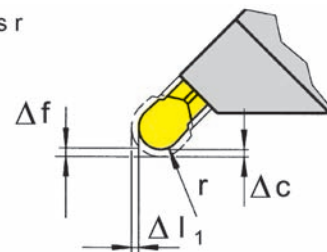
w and D_{min} see indexable inserts

Dimensions in mm

Further sizes upon request

Revision factor Δl_1 , Δc and Δf in relation to radius r

| r | Δl_1 | Δc | Δf |
|-----|--------------|------------|------------|
| 3,0 | 0 | 0 | 0 |
| 2,5 | -0,146 | -0,146 | -0,146 |
| 2,0 | 0 | 0 | 0 |
| 1,5 | -0,146 | -0,146 | -0,146 |
| 1,0 | 0 | 0 | 0 |



Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|----------------|----------|-------------------|
| R/LH224.452... | 6.23T25P | T25PQ |

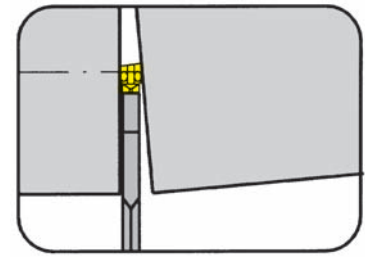
GROOVING and PARTING OFF (external)



TOOLHOLDER Type

H224

with self clamping

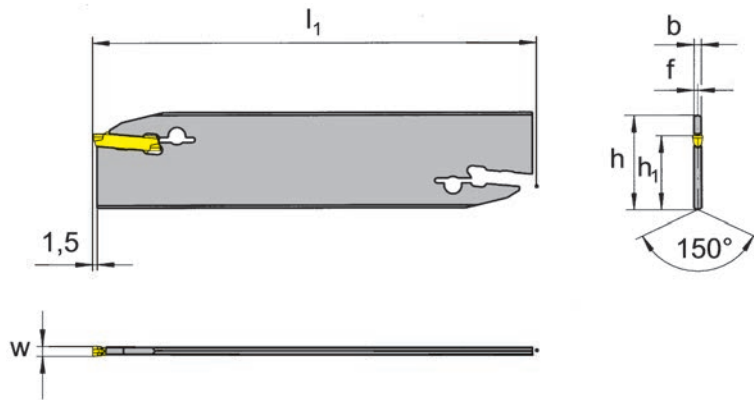


Depth of groove up to
Clamping range up to

.709" (18.0 mm)
.146" (3.7 mm)

for use with Indexable
insert

Type S224



| Part number | h | b | l_1 | h_1 | f | t_{max} | Size | Clamping range |
|--------------|----|-----|-------|-------|------|-----------|------|----------------|
| H224.2602.02 | 26 | 1.9 | 110 | 21.4 | 0.95 | 18 | 02 | 2.4 - 2.8 |
| H224.2603.03 | 26 | 2.3 | 110 | 21.4 | 1.15 | 18 | 03 | 2.8 - 3.7 |
| H224.3203.03 | 32 | 2.3 | 150 | 24.8 | 1.15 | 18 | 03 | 2.8 - 3.7 |

Further sizes upon request

w see indexable inserts

Dimensions in mm

Spare parts

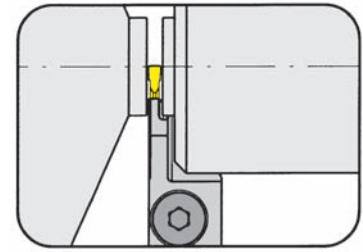
| Toolholder | Wrench |
|------------|--------|
| H224.... | P39L |

E16

E

TOOLHOLDER Type

H224

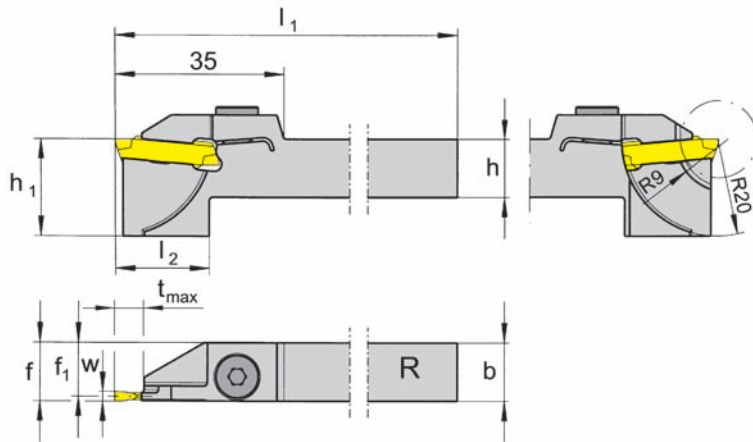


Depth of groove up to .323" (8.2 mm)
Clamping range up to .094" (2.4 mm)

for machines TRAUB (TNL12/7)

for use with Indexable insert

Type S224



R = right hand version shown

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|---------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|------|----------------|
| RH224.1212.81 | 12 | 12 | 95 | 20 | 11.1 | f ₁ +w/2 | 19.5 | 8.2 | 01 | 2.0 - 2.4 |

w see indexable inserts

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| RH224.1212.81 | 6.17T20P | T25PQ |



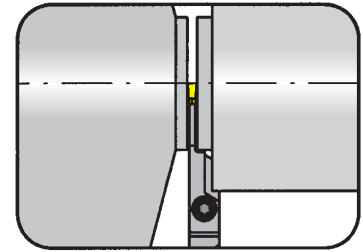
GROOVING and PARTING OFF (external)



TOOLHOLDER Type

H224

reinforced version

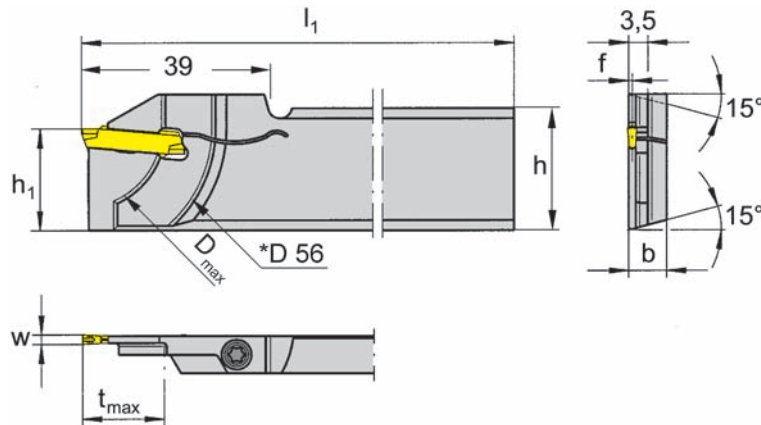


Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)

for machines TRAUB (TNK28/TNK36/TNL26)

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size | Clamping range |
|-----------------|----|-----|----------------|----------------|------|------------------|------------------|------|----------------|
| R/LH224.2608.81 | 26 | 7.9 | 110 | 21.4 | 0.75 | 18 | 36 | 01 | 2.0 - 2.4 |
| R/LH224.2608.82 | 26 | 7.9 | 110 | 21.4 | 0.95 | 18 | 36 | 02 | 2.4 - 2.8 |
| R/LH224.2608.83 | 26 | 7.9 | 110 | 21.4 | 1.10 | 18 | 36 | 03 | 2.8 - 3.7 |

State R or L version

w see indexable inserts

Dimensions in mm

*D 56 = D_{max} of the subspindle

Further sizes upon request

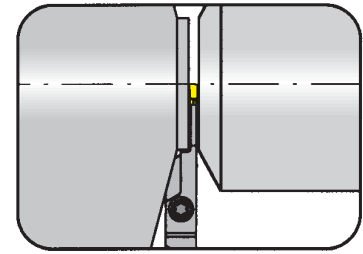
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|----------|-------------------|
| R/LH224.2608.8... | 4.15T15P | T15PL |

TOOLHOLDER Type

H224

reinforced version

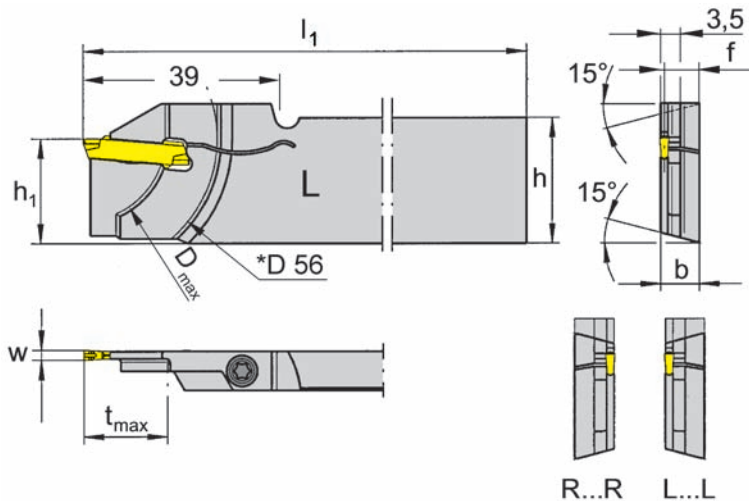


Depth of groove up to .827" (21.0 mm)
Clamping range up to .110" (2.8 mm)

for machines TRAUB (TNK28/TNK36/TNL26)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size | Clamping range |
|--------------------|----|-----|----------------|----------------|------|------------------|------------------|------|----------------|
| R/LH224.2608.81R/L | 26 | 7.9 | 110 | 21.4 | 7.15 | 18 | 36 | 01 | 2.0 - 2.4 |
| R/LH224.2608.82R/L | 26 | 7.9 | 110 | 21.4 | 6.95 | 18 | 36 | 02 | 2.4 - 2.8 |
| R/LH224.2608.83R/L | 26 | 7.9 | 110 | 21.4 | 6.75 | 18 | 36 | 03 | 2.8 - 3.7 |
| RH224.3208.83R | 28 | 7.9 | 110 | 24.8 | 6.80 | 21 | 42 | | |

State R or L version

w see indexable inserts

Dimensions in mm

*D 56 = D_{max} of the subspindle

* For specific clamping device on subspindle (e.g. HAINBUCH Axfixchuck)

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--|----------------------|-------------------|
| R/LH224.2608.81R/L/82R/L/83R/L RH224.3208.83R | 4.15T15P 5.13T20P | T15PL T20PQ |



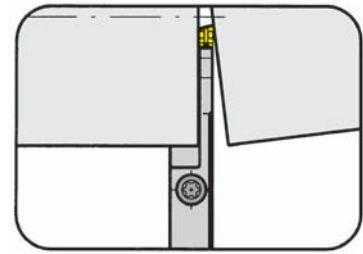
GROOVING and PARTING OFF (external)



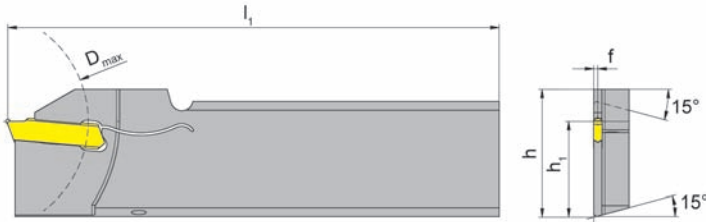
TOOLHOLDER Type

H224

reinforced version



Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size | Clamping range |
|------------------------------------|----------|-----|----------------|----------------|-----|------------------|------------------|------|----------------|
| R/LH224.2608.01 R/LH224.3208.01 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.7 | 18 | 50 | 01 | 2.0 - 2.4 |
| R/LH224.2608.02 R/LH224.3208.02 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.9 | 18 | 50 | 02 | 2.4 - 2.8 |
| R/LH224.2608.03 R/LH224.3208.03 | 26 32 | 7.9 | 110 | 21.4 24.8 | 1.1 | 18 | 50 | 03 | 2.8 - 3.7 |

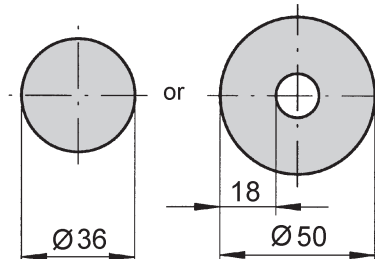
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Parting off solid bars Parting off tubes



Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH224.... | 4.20T15P | T15PL |

E20

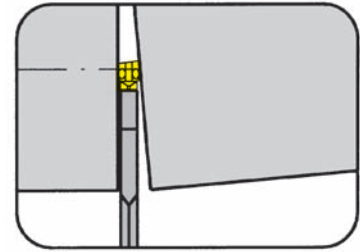
GROOVING and PARTING OFF (external)



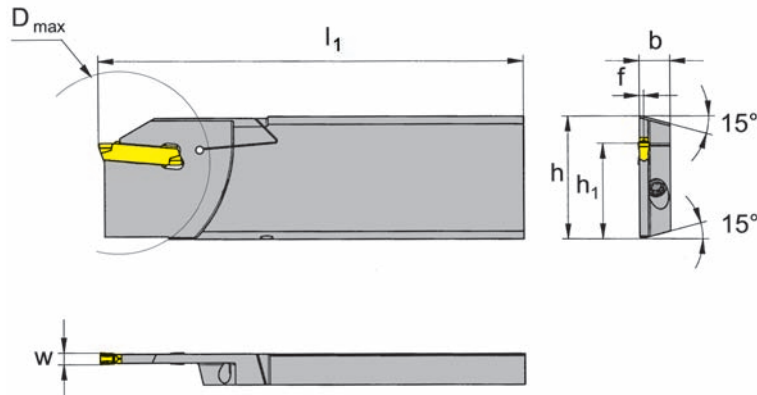
TOOLHOLDER Type

H224

with screwed clamping



Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | t_{max} | D_{max} | Size | Clamping range |
|------------------------|----|---|-------|-------|------|-----------|-----------|------|----------------|
| R/LH224.3208.93 | 32 | 8 | 112 | 24.8 | 1.15 | 18 | 50 | 03 | 2.8 - 3.7 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench | Pin |
|-----------------|----------------------|-------------------|----------------------|
| R/LH224.3208.93 | 030.0413.T15P | T15PQ | 020.0040.0999 |

HORN - THE LEADERS IN GROOVING TECHNOLOGY



ONE RESOURCE THAT WILL NEVER RUN DRY!

TOOLING SYSTEMS FOR THE OIL INDUSTRY: S117

- Extreme precision
- Optimal repeatability (≤ 0.005 mm)
- Extremely simple handling
- Patented reliability
- Certification according to API Q1



HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please contact HORN USA.

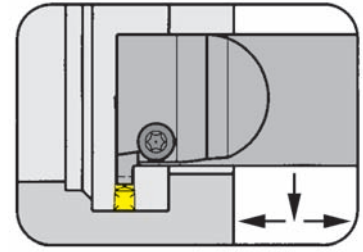
TOOLHOLDER Type

B224

Short reach

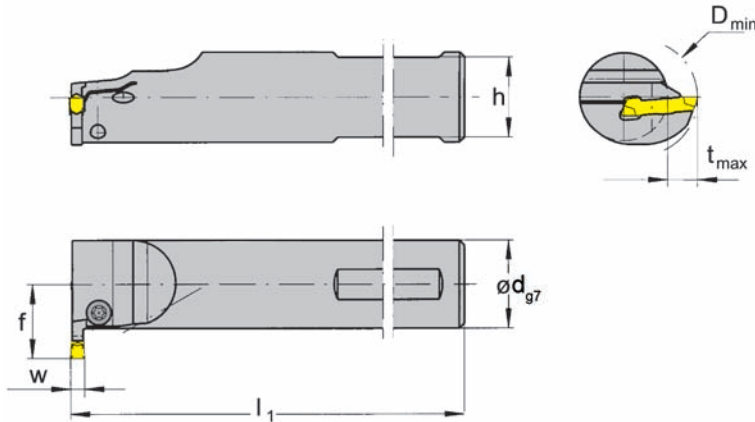
Bore \varnothing from 1.181" (30.0 mm)
 Depth of groove up to .315" (8.0 mm)
 Clamping range up to .240" (6.1 mm)

with through coolant supply



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D_{min} | t_{max} | d | h | l_1 | f | Size | Clamping range |
|---|----------------|-----------|----------------|----------------|-------------------|----------------------|------|----------------|
| R/LB224.0020.0.01 R/LB224.0025.0.01 | 30 35 | 8 | 20 25 | 18 23 | 130 | 18.5 21.0 | 01 | 2.0 - 2.4 |
| R/LB224.0020.0.02 R/LB224.0025.0.02 | 30 35 | 8 | 20 25 | 18 23 | 130 | 18.5 21.0 | 02 | 2.4 - 2.8 |
| R/LB224.0020.0.03 R/LB224.0025.0.03 R/LB224.0032.0.03 | 30 35 42 | 8 | 20 25 32 | 18 23 30 | 130 130 150 | 18.5 21.0 24.5 | 03 | 2.8 - 3.7 |
| R/LB224.0020.0.04 R/LB224.0025.0.04 R/LB224.0032.0.04 | 30 35 42 | 8 | 20 25 32 | 18 23 30 | 130 130 150 | 18.5 21.0 24.5 | 04 | 3.7 - 4.4 |
| R/LB224.0020.0.05 R/LB224.0025.0.05 R/LB224.0032.0.05 | 30 35 42 | 8 | 20 25 32 | 18 23 30 | 130 130 150 | 18.5 21.0 24.5 | 05 | 4.4 - 5.1 |
| R/LB224.0025.0.06 R/LB224.0032.0.06 | 35 42 | 8 | 25 32 | 23 30 | 130 150 | 21.0 24.5 | 06 | 5.1 - 6.1 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LB224.00... | 5.13T20EP | T20PQ |

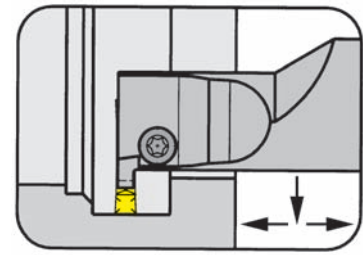
E

TOOLHOLDER Type

BU224

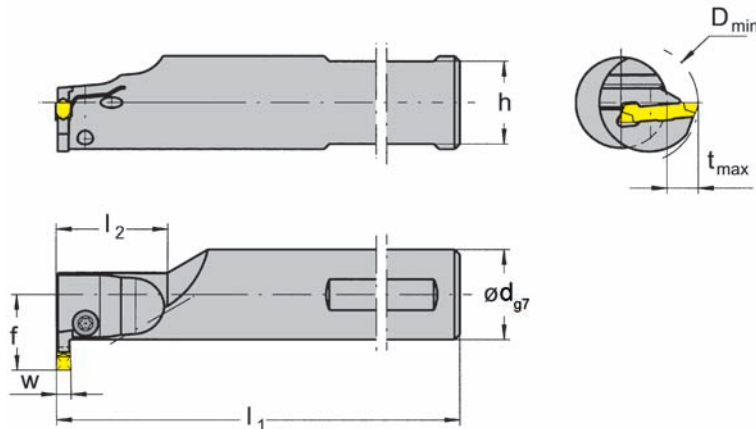
| | |
|-----------------------|--------|
| Bore Ø from | 1.102" |
| Depth of groove up to | .315" |
| Clamping range up to | .240" |

with through coolant supply



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | d | h | l ₁ | f | l ₂ | Size | Clamping range |
|--|------------------|------------------|------------------------|-----------------------|-------------------------|----------------------|----------------|------|----------------|
| R/LBU224.0750.1.01 R/LBU224.1000.1.01 | 1.102 | .315 | .750 1.000 | .671 .921 | 5.125 | .728 .827 | 1.125 | 01 | .079 - .094 |
| R/LBU224.0750.1.02 R/LBU224.1000.1.02 | 1.102 | .315 | .750 1.000 | .671 .921 | 5.125 | .728 .827 | 1.125 | 02 | .094 - .110 |
| R/LBU224.0750.1.03 R/LBU224.1000.1.03 R/LBU224.1250.1.03 | 1.102 | .315 | .750 1.000 1.250 | .671 .921 1.171 | 5.125 5.125 6.000 | .728 .827 .964 | 1.125 | 03 | .110 - .146 |
| R/LBU224.0750.1.04 R/LBU224.1000.1.04 R/LBU224.1250.1.04 | 1.102 | .315 | .750 1.000 1.250 | .671 .921 1.171 | 5.125 5.125 6.000 | .728 .827 .964 | 1.125 | 04 | .146 - .173 |
| R/LBU224.0750.1.05 R/LBU224.1000.1.05 | 1.102 | .315 | 1.000 | .671 .921 | 5.125 | .728 .827 | 1.125 | 05 | .173 - .201 |
| R/LBU224.1000.1.06 | 1.102 | .315 | 1.000 | .921 | 5.125 | .827 | 1.125 | 06 | .201 - .240 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

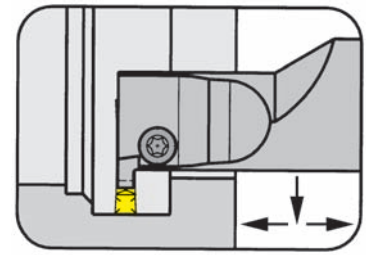
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------|-------------------|
| R/LBU224.... | 5.13T20EP | T20PQ |

TOOLHOLDER Type

B224

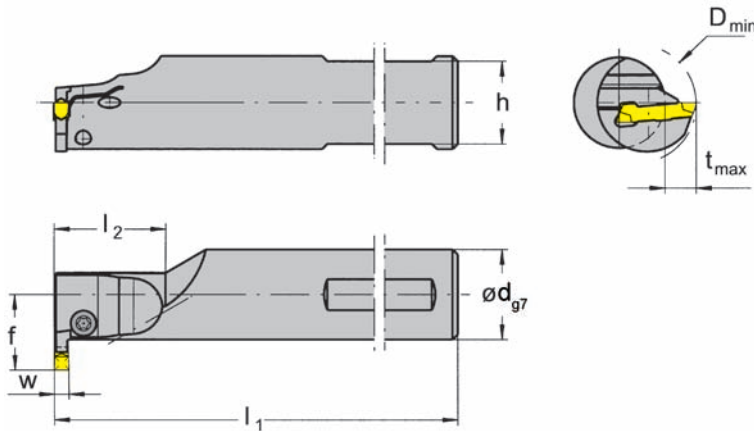
Bore \varnothing from 1.102" (28.0 mm)
 Depth of groove up to .315" (8.0 mm)
 Clamping range up to .240" (6.1 mm)

with through coolant supply



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D_{min} | t_{max} | d | h | l_1 | f | l_2 | Size | Clamping range |
|---|-----------|-----------|----------------|----------------|-------------------|----------------------|-------|------|----------------|
| R/LB224.0020.1.01 R/LB224.0025.1.01 | 28 | 8 | 20 25 | 18 23 | 130 | 18.5 21.0 | 30 | 01 | 2.0 - 2.4 |
| R/LB224.0020.1.02 R/LB224.0025.1.02 | 28 | 8 | 20 25 | 18 23 | 130 | 18.5 21.0 | 30 | 02 | 2.4 - 2.8 |
| R/LB224.0020.1.03 R/LB224.0025.1.03 R/LB224.0032.1.03 | 28 | 8 | 20 25 32 | 18 23 30 | 130 130 150 | 18.5 21.0 24.5 | 30 | 03 | 2.8 - 3.7 |
| R/LB224.0020.1.04 R/LB224.0025.1.04 R/LB224.0032.1.04 | 28 | 8 | 20 25 32 | 18 23 30 | 130 130 150 | 18.5 21.0 24.5 | 30 | 04 | 3.7 - 4.4 |
| R/LB224.0025.1.05 R/LB224.0032.1.05 | 28 | 8 | 25 32 | 23 30 | 130 150 | 21.0 24.5 | 30 | 05 | 4.4 - 5.1 |
| R/LB224.0025.1.06 R/LB224.0032.1.06 | 28 | 8 | 25 32 | 23 30 | 130 150 | 21.0 24.5 | 30 | 06 | 5.1 - 6.1 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LB224.00... | 5.13T20EP | T20PQ |

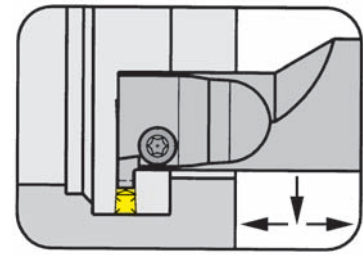


TOOLHOLDER Type

BU224

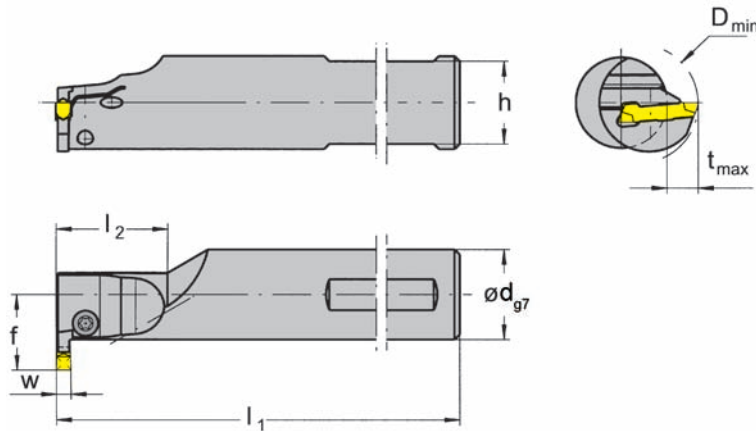
| | |
|-----------------------|--------|
| Bore Ø from | 1.260" |
| Depth of groove up to | .512" |
| Clamping range up to | .240" |

with through coolant supply



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | d | h | l ₁ | f | l ₂ | Size | Clamping range |
|--------------------|------------------|------------------|-------|-------|----------------|-------|----------------|------|----------------|
| R/LBU224.1000.1.13 | 1.260 | .393 | 1.000 | .921 | 5.000 | .925 | 1.125 | 03 | .110 - .146 |
| R/LBU224.1250.1.13 | | .433 | 1.250 | 1.171 | 6.000 | 1.102 | | | |
| R/LBU224.1000.1.14 | 1.260 | .393 | 1.000 | .921 | 5.000 | .925 | 1.125 | 04 | .146 - .173 |
| R/LBU224.1250.1.14 | | .433 | 1.250 | 1.171 | 6.000 | 1.102 | | | |
| R/LBU224.1250.1.15 | 1.260 | .433 | 1.250 | 1.171 | 6.000 | 1.102 | 1.125 | 05 | .173 - .201 |
| R/LBU224.1500.1.25 | | .512 | 1.500 | 1.421 | 7.000 | 1.338 | | | |
| R/LBU224.1250.1.16 | 1.260 | .433 | 1.250 | 1.171 | 6.000 | 1.102 | 1.125 | 06 | .201 - .240 |
| R/LBU224.1500.1.26 | | .512 | 1.500 | 1.421 | 7.000 | 1.338 | | | |

State R or L version

w see indexable inserts

Dimensions in inch

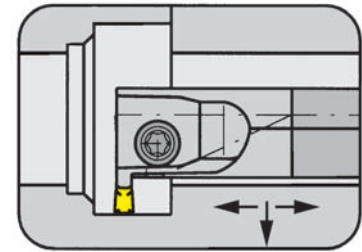
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LBU224.1... | 5.13T20EP | T20PQ |

TOOLHOLDER Type

B224

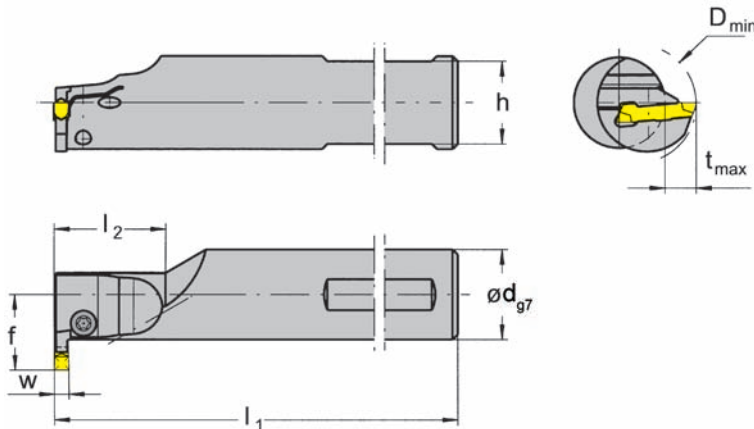


Bore \varnothing from 1.260" (32.0 mm)
 Depth of groove up to .512" (13.0 mm)
 Clamping range up to .240" (6.1 mm)

with through coolant supply

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D_{min} | t_{max} | d | h | l_1 | f | l_2 | Size | Clamping range |
|--|-----------|-----------|----------|----------|------------|--------------|-------|------|----------------|
| R/LB224.0025.1.13 R/LB224.0032.1.13 | 32 | 10 11 | 25 32 | 23 30 | 130 150 | 23.5 28.0 | 30 | 03 | 2.8 - 3.7 |
| R/LB224.0025.1.14 R/LB224.0032.1.14 | 32 | 10 11 | 25 32 | 23 30 | 130 150 | 23.5 28.0 | 30 | 04 | 3.7 - 4.4 |
| R/LB224.0032.1.15 R/LB224.0040.1.25 | 32 38 | 11 13 | 32 40 | 30 38 | 150 180 | 28.0 34.0 | 30 | 05 | 4.4 - 5.1 |
| R/LB224.0032.1.16 R/LB224.0040.1.26 | 32 38 | 11 13 | 32 40 | 30 38 | 150 180 | 28.0 34.0 | 30 | 06 | 5.1 - 6.1 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LB224.00... | 5.13T20EP | T20PQ |



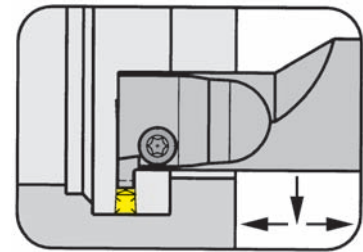
TOOLHOLDER Type

BU224

long reach

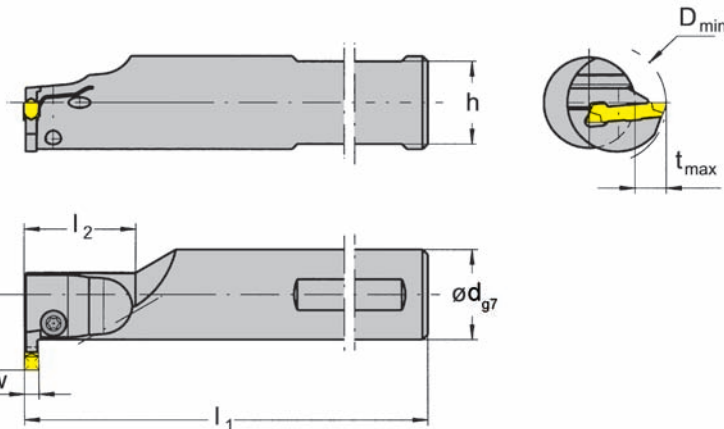
| | |
|-----------------------|--------|
| Bore Ø from | 1.102" |
| Depth of groove up to | .433" |
| Clamping range up to | .173" |

with through coolant supply



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | d | h | l ₁ | f | l ₂ | Size | Clamping range |
|--|-------------------------|----------------------|-------------------------|------------------------|-------------------------|-----------------------|----------------|------|----------------|
| R/LBU224.0750.2.01 R/LBU224.1000.2.01 | 1.102 | .315 | .750 1.000 | .671 .921 | 5.000 6.000 | .728 .826 | 1.750 2.000 | 01 | .079 - .094 |
| R/LBU224.0750.2.02 R/LBU224.1000.2.02 | 1.102 | .315 | .750 1.000 | .671 .921 | 5.000 6.000 | .728 .826 | 1.750 2.000 | 02 | .094 - .110 |
| R/LBU224.1000.2.03 R/LBU224.1250.2.03 R/LBU224.1250.2.13 | 1.102 1.102 1.260 | .315 .315 .433 | 1.000 1.250 1.250 | .921 1.171 1.171 | 6.000 7.000 7.000 | .826 .964 1.102 | 2.000 | 03 | .110 - .146 |
| R/LBU224.1000.2.04 R/LBU224.1250.2.04 R/LBU224.1250.2.14 | 1.102 1.102 1.260 | .315 .315 .433 | 1.000 1.250 1.250 | .921 1.171 1.171 | 6.000 7.000 7.000 | .826 .964 1.102 | 2.000 | 04 | .146 - .173 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

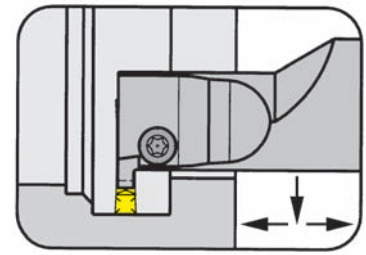
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------|-------------------|
| R/LBU224.... | 5.13T20EP | T20PQ |

TOOLHOLDER Type

B224

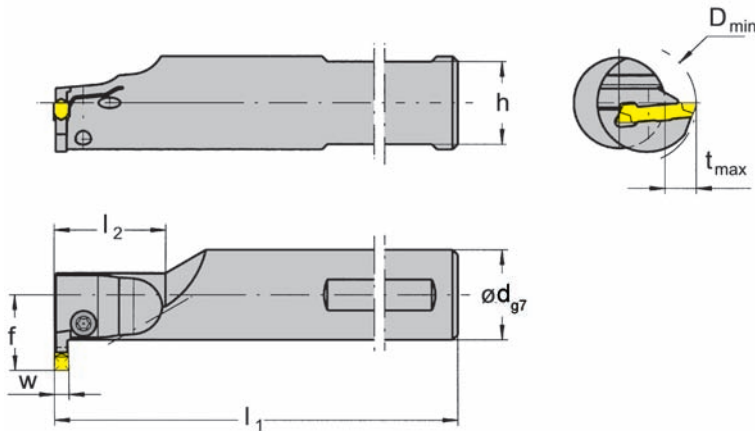
| | |
|-----------------------|------------------|
| Bore Ø from | 1.102" (28.0 mm) |
| Depth of groove up to | .433" (11.0 mm) |
| Clamping range up to | .173" (4.4 mm) |

with through coolant supply



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | d | h | l ₁ | f | l ₂ | Size | Clamping range |
|---|------------------|------------------|----------------|----------------|-------------------|----------------------|----------------|------|----------------|
| R/LB224.0020.2.01 R/LB224.0025.2.01 | 28 | 8 | 20 25 | 18 23 | 130 150 | 18.5 21.0 | 45 50 | 01 | 2.0 - 2.4 |
| R/LB224.0020.2.02 R/LB224.0025.2.02 | 28 | 8 | 20 25 | 18 23 | 130 150 | 18.5 21.0 | 45 50 | 02 | 2.4 - 2.8 |
| R/LB224.0025.2.03 R/LB224.0032.2.03 R/LB224.0032.2.13 | 28 28 32 | 8 8 11 | 25 32 32 | 23 30 30 | 150 180 180 | 21.0 24.5 28.0 | 50 | 03 | 2.8 - 3.7 |
| R/LB224.0025.2.04 R/LB224.0032.2.04 R/LB224.0032.2.14 | 28 28 32 | 8 8 11 | 25 32 32 | 23 30 30 | 150 180 180 | 21.0 24.5 28.0 | 50 | 04 | 3.7 - 4.4 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LB224.00... | 5.13T20EP | T20PQ |



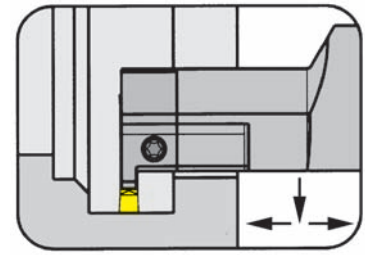
BASIC TOOLHOLDER Type

BU224

without cassette

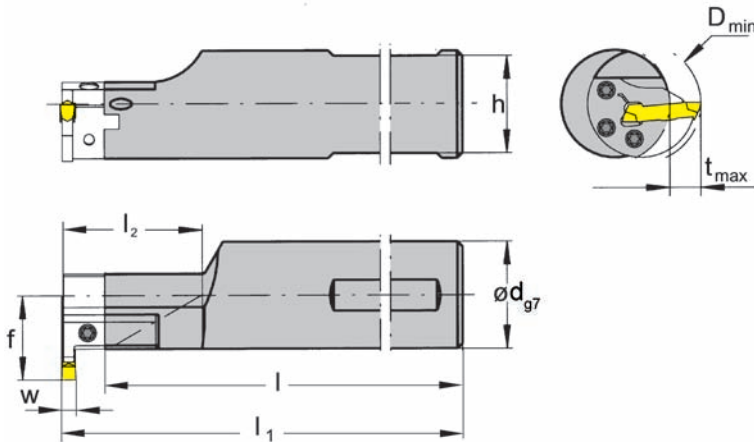
| | |
|-----------------------|--------|
| Bore Ø from | 1.575" |
| Depth of groove up to | .433" |
| Width of groove up to | .240" |

with through coolant supply



for use with Cassette

Type BK224



R = right hand version shown

L = left hand version

| Part number | d | h | l_1 | f | l_2 | l |
|--------------------|-------|-------|-------------|-------|-------|-------|
| R/LBU224.1250.1.K2 | 1.250 | 1.171 | $l+b_1+w/2$ | 1.102 | 1.181 | 5.461 |
| R/LBU224.1250.2.K2 | | | | | | 6.461 |
| R/LBU224.1500.1.K2 | 1.500 | 1.421 | $l+b_1+w/2$ | 1.260 | 1.181 | 6.461 |
| R/LBU224.1500.2.K2 | | | | | | 7.461 |

State R or L version

Dimensions in inch

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} , w and b_1 see cassettes

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LBU224.1... | 030.0518.T20P | T20PQ |

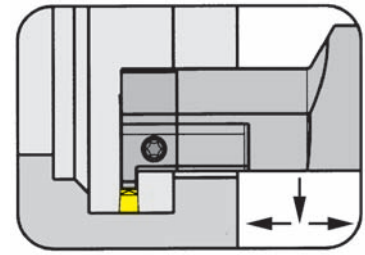
BASIC TOOLHOLDER Type

B224

without cassette

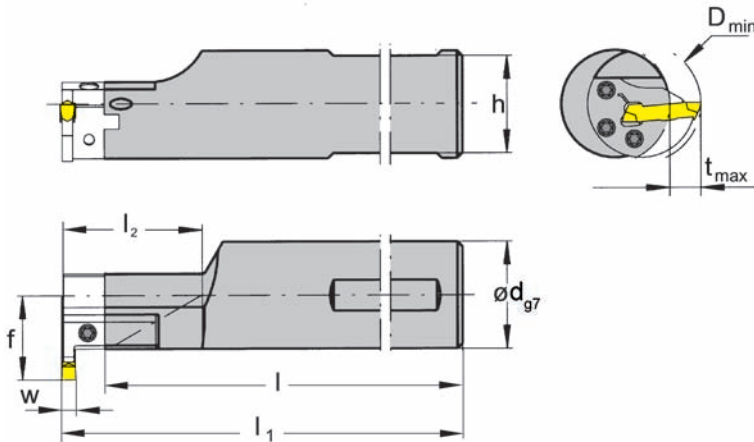
Bore Ø from 1.575" (40.0 mm)
 Depth of groove up to .433" (11.0 mm)
 Width of groove up to .240" (6.1 mm)

with through coolant supply



for use with Cassette

Type BK224



R = right hand version shown

L = left hand version

| Part number | d | h | l_1 | f | l_2 | l |
|-------------------|----|----|-------------|----|-------|-------|
| R/LB224.0032.1.K2 | 32 | 30 | $l+b_1+w/2$ | 28 | 30 | 136.3 |
| R/LB224.0032.2.K2 | | | | | 60 | 166.3 |
| R/LB224.0040.1.K2 | 40 | 38 | $l+b_1+w/2$ | 32 | 30 | 166.3 |
| R/LB224.0040.2.K2 | | | | | 60 | 186.3 |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

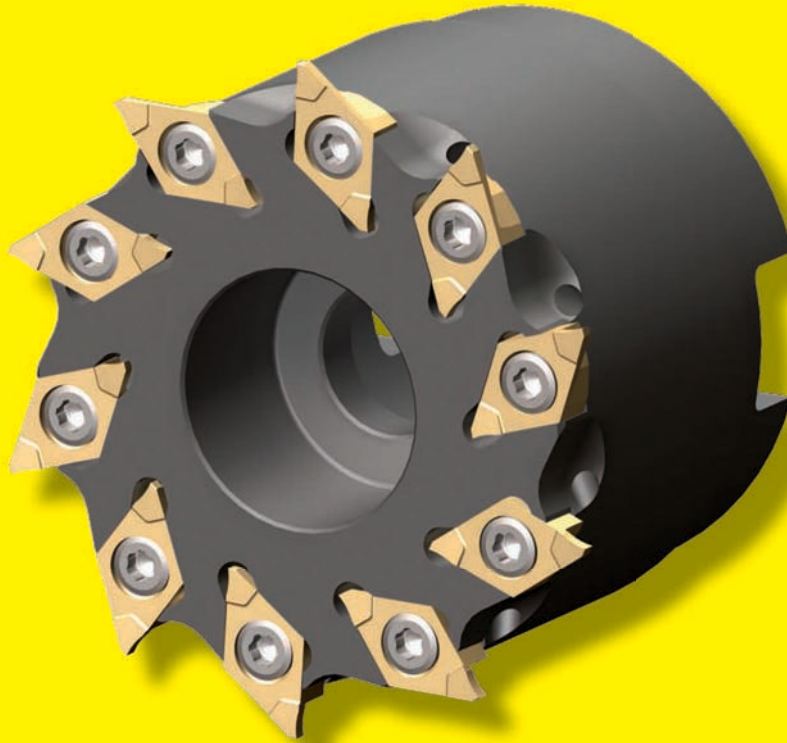
Dimensions for D_{min} , t_{max} , w and b_1 see cassettes

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LB224.00... | 030.0518.T20P | T20PQ |



HORN - THE LEADERS IN GROOVING TECHNOLOGY



GROOVE MILLING BY CIRCULAR INTERPOLATION

SYSTEM 275

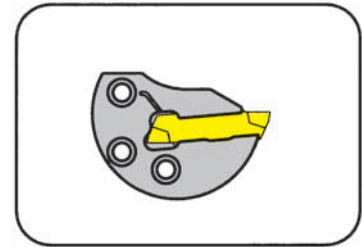
HORN - INTELLIGENT TOOL DESIGN AT WORK.



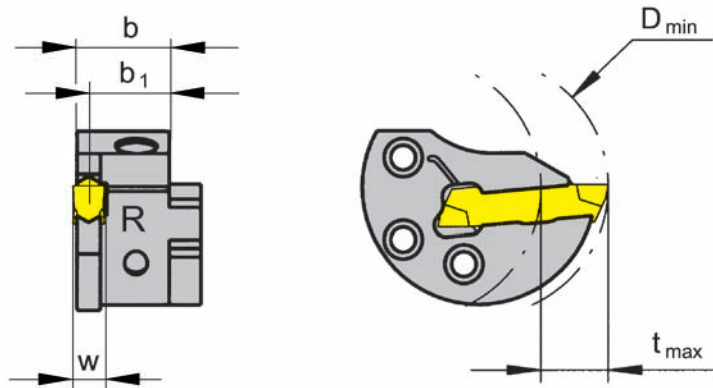
For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

CASSETTE Type

BK224



Bore Ø from 1.575"
 Depth of groove up to .433"
 Clamping range .079 - .240"



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | b ₁ | b | D _{min} | t _{max} | Size | Clamping range |
|------------------|----------------|------|------------------|------------------|------|----------------|
| R/LBK224.0040.01 | .500 | .528 | 1.575 | .433 | 01 | .079 - .094 |
| R/LBK224.0040.02 | .490 | .526 | 1.575 | .433 | 02 | .094 - .110 |
| R/LBK224.0040.03 | .480 | .524 | 1.575 | .433 | 03 | .110 - .146 |
| R/LBK224.0040.04 | .461 | .518 | 1.575 | .433 | 04 | .146 - .173 |
| R/LBK224.0040.05 | .441 | .514 | 1.575 | .433 | 05 | .173 - .201 |
| R/LBK224.0040.06 | .421 | .510 | 1.575 | .433 | 06 | .201 - .240 |

State R or L version

w see indexable inserts

Dimensions in inch

Use right hand cassettes in right hand basic toolholders and left hand cassettes in left hand basic toolholders.

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

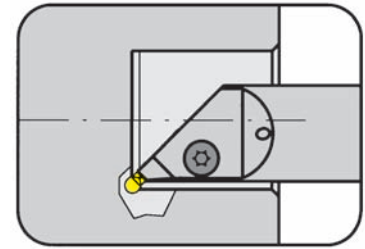
| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|-----------|-------------------|
| R/LBK224.0040.0... | 5.13T20EP | T20PQ |

GROOVING CORNER RELIEFS (internal)



TOOLHOLDER Type

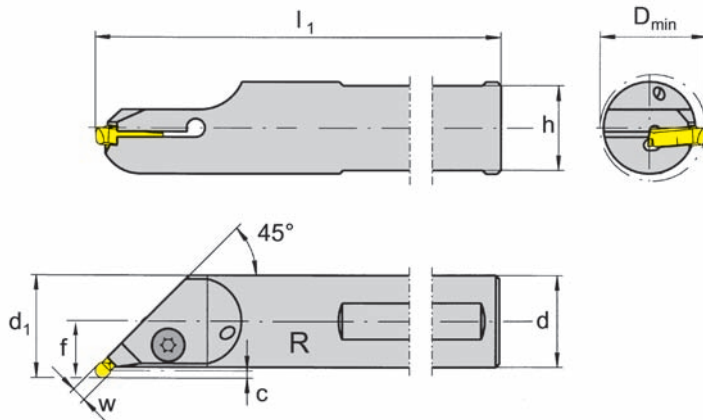
B224



Clamping range up to .240" (6.1 mm)

for use with Indexable insert

Type S224...K



R = right hand version shown

L = left hand version

only for full radius inserts
S224...K

| Part number | d | h | l ₁ | f | d ₁ | c | D _{min} | Clamping range |
|-------------------|----|----|----------------|------|----------------|-----|------------------|----------------|
| R/LB224.4520.0.02 | 20 | 18 | 130 | 13.0 | 23.0 | | 25.0 | 2.0 - 2.8 |
| R/LB224.4525.0.02 | 25 | 23 | 150 | 15.5 | 28.0 | 2.5 | 29.0 | |
| R/LB224.4532.0.02 | 32 | 30 | 150 | 19.0 | 35.0 | | 36.0 | |
| R/LB224.4540.1.02 | 40 | 38 | 200 | 23.0 | 43.0 | | 44.0 | |
| R/LB224.4540.1.04 | 40 | 38 | 200 | 23.0 | 43.0 | | 44.0 | 2.8 - 4.4 |
| R/LB224.4520.0.04 | 20 | 18 | 130 | 13.0 | 23.0 | 2.5 | 25.0 | |
| R/LB224.4525.0.04 | 25 | 23 | 150 | 15.5 | 28.0 | | 29.0 | |
| R/LB224.4532.0.04 | 32 | 30 | 150 | 19.0 | 35.0 | | 36.0 | |
| R/LB224.4520.0.06 | 20 | 18 | 130 | 13.5 | 23.5 | | 25.0 | 4.4 - 6.1 |
| R/LB224.4525.0.06 | 25 | 23 | 150 | 16.0 | 28.5 | 3.0 | 29.5 | |
| R/LB224.4532.0.06 | 32 | 30 | 150 | 19.0 | 35.5 | | 36.5 | |

State R or L version

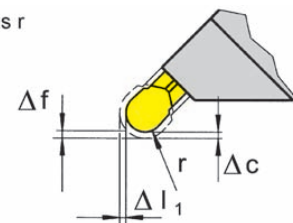
w see indexable inserts

Dimensions in mm

Further sizes upon request

Revision factor Δl_1 , Δc and Δf in relation to radius r

| r | Δl_1 | Δc | Δf |
|-----|--------------|------------|------------|
| 3,0 | 0 | 0 | 0 |
| 2,5 | -0,146 | -0,146 | -0,146 |
| 2,0 | 0 | 0 | 0 |
| 1,5 | -0,146 | -0,146 | -0,146 |
| 1,0 | 0 | 0 | 0 |



Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LB224.45... | 6.14T25P | T25PQ |

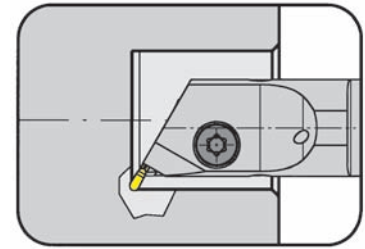
E34

GROOVING CORNER RELIEFS (internal)



TOOLHOLDER Type

B224

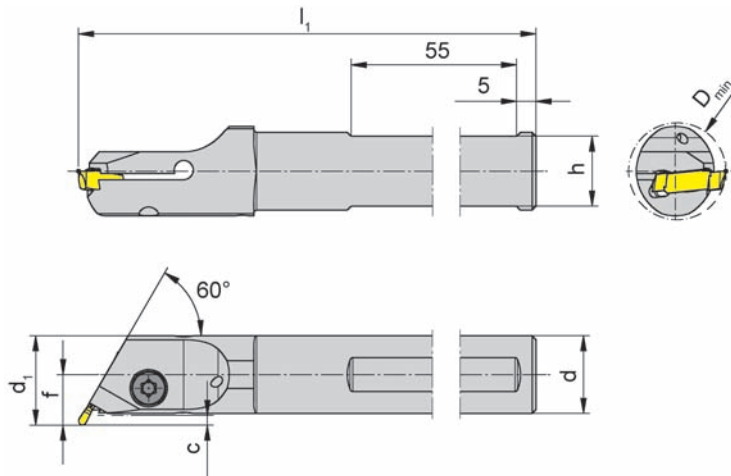


Clamping range up to

.240" (6.1 mm)

for use with Indexable insert

Type S224...K



R = right hand version shown

L = left hand version

only for full radius inserts
S224...K

| Part number | d | h | l_1 | f | d_1 | c | D_{min} | Size | Clamping range |
|-------------------|----|----|-------|------|-------|-----|-----------|------|----------------|
| R/LB224.6020.0.02 | 20 | 18 | 150 | 13.0 | 23.0 | 2.5 | 25.0 | 02 | 2.0 - 2.8 |
| R/LB224.6025.0.02 | 25 | 23 | | 15.5 | 28.0 | | 29.0 | | |
| R/LB224.6032.0.02 | 32 | 30 | | 19.0 | 35.0 | | 36.0 | | |
| R/LB224.6020.0.04 | 20 | 18 | 150 | 13.0 | 23.0 | 2.5 | 25.0 | 04 | 2.8 - 4.4 |
| R/LB224.6025.0.04 | 25 | 23 | | 15.5 | 28.0 | | 29.0 | | |
| R/LB224.6032.0.04 | 32 | 30 | | 19.0 | 35.0 | | 36.0 | | |
| R/LB224.6020.0.06 | 20 | 18 | 150 | 13.5 | 23.5 | 3.0 | 25.0 | 06 | 4.4 - 6.1 |
| R/LB224.6025.0.06 | 25 | 23 | | 16.0 | 28.5 | | 29.5 | | |
| R/LB224.6032.0.06 | 32 | 30 | | 19.5 | 35.5 | | 36.5 | | |

State R or L version

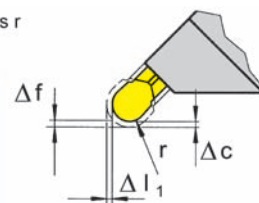
w see indexable inserts

Dimensions in mm

Further sizes upon request

Revision factor Δl_1 , Δc and Δf in relation to radius r

| r | Δl_1 | Δc | Δf |
|-----|--------------|------------|------------|
| 3,0 | 0 | 0 | 0 |
| 2,5 | -0,25 | -0,067 | -0,067 |
| 2,0 | 0 | 0 | 0 |
| 1,5 | -0,25 | -0,067 | -0,067 |
| 1,0 | 0 | 0 | 0 |



Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|----------|-------------------|
| R/LB224.60... | 6.14T25P | T25PQ |



INDEXABLE INSERT Type

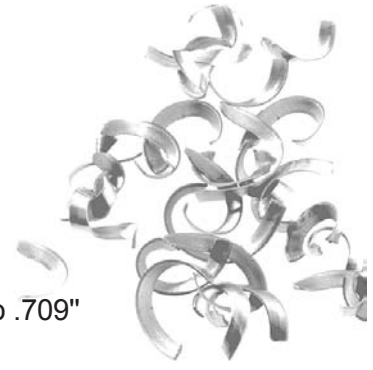
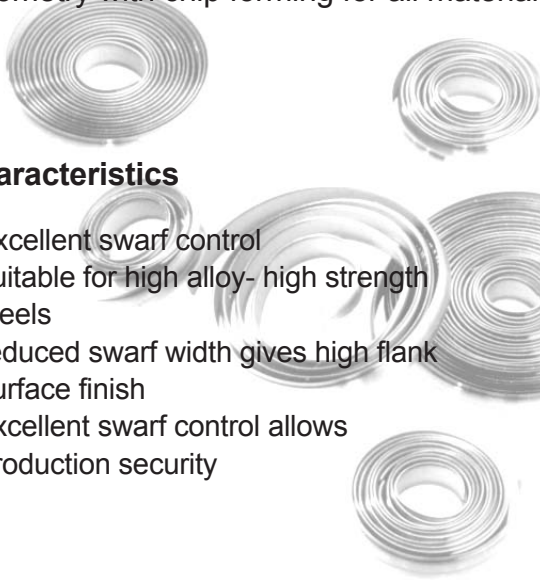
S224...3.

precision sintered



Geometry .3.

Geometry with chip forming for all materials.



Characteristics

- excellent swarf control
- suitable for high alloy- high strength steels
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

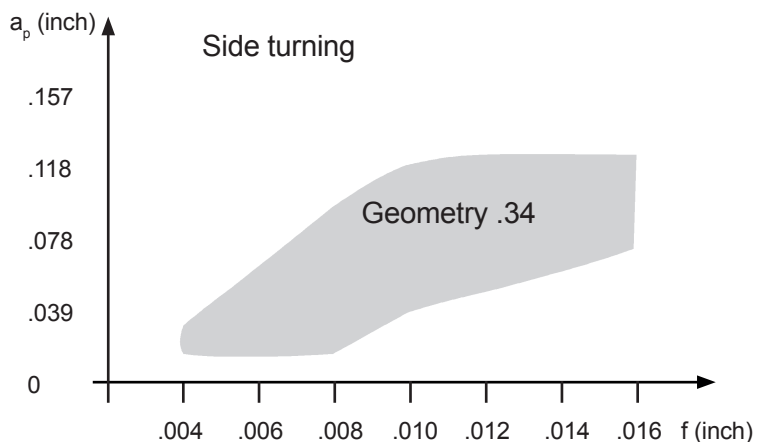
- Grooving: Depth of groove up to .709"
- Side turning: depth of cut a_p up to .118"

Feed rate f

- Grooving: f .006 up to .010 in/rev.*
- Side turning: f up to .016 in/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

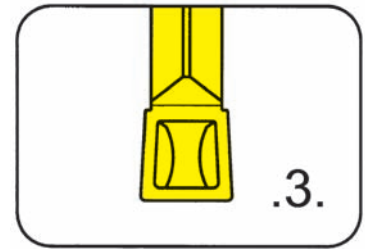


Chip control graph S224.0500.34 material 16MnCr5

INDEXABLE INSERT Type

S224

with chip former

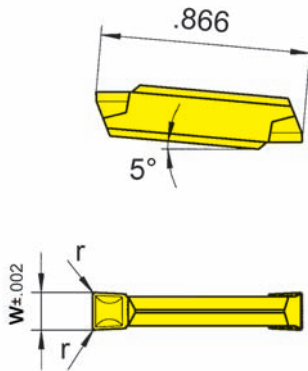


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .118 - .236" |

precision sintered

for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - HU224
 - H224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | | | |
|------------------------------|------|------|------|----------------|------|------|------|------|------|------|------|------|---|
| | | | | TN32 | TN35 | T122 | T125 | TF45 | TC92 | AS62 | AS66 | AL96 | |
| S224.0300.32 | .118 | .008 | 03 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0300.34 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.32 | .157 | .008 | 04 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.34 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0500.34 | .197 | .016 | 05 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0500.38 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0600.34 | .236 | .016 | 06 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0600.38 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • | • | • | • | • | • | • |
| ● main recommendation | | | | M | • | • | • | • | • | • | • | • | • |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • | • | • | • |
| ■ uncoated grades | | | | S | • | • | • | • | • | • | • | • | • |
| ■ coated grades | | | | N | • | • | • | • | • | • | • | • | • |
| ■ brazed/Cermet | | | | H | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



INDEXABLE INSERT Type

S224...5.

precision sintered



Geometry .5.

Easy cutting geometry for materials with medium strength.

E

Characteristics

- excellent swarf on a wide feed range
- easy cutting - low power requirement
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving: Depth of groove up to .709"
- Side turning: depth of cut a_p up to .118"

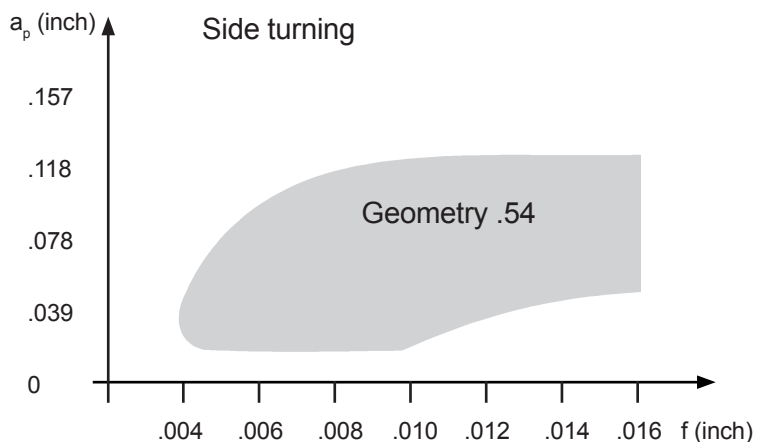


Feed rate f

- Grooving: f .006 up to .018 in/rev.*
- Side turning: f up to .024 in/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

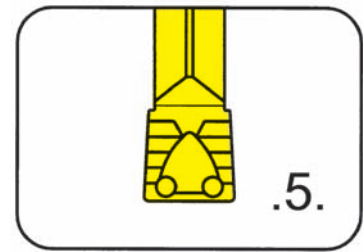


Chip control graph S224.0500.54 material 16MnCr5

INDEXABLE INSERT Type

S224

with chip forming

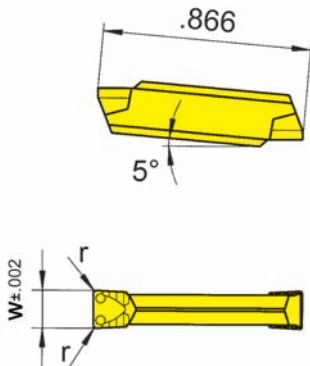


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .118 - .236" |

precision sintered

for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - H224
 - HU224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | |
|--|------|------|------|----------------|------|------|------|------|------|------|
| | | | | K10 | TN32 | TN35 | TI25 | TF45 | TC92 | AL96 |
| S224.0300.52 | .118 | .008 | 03 | | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0300.54 | | .016 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.52 | .157 | .008 | 04 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.54 | | .016 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0500.54 | .197 | .016 | 05 | | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0500.58 | | .031 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0600.54 | .236 | .016 | 06 | | | ▲ | ▲ | ▲ | ▲ | |
| S224.0600.58 | | .031 | | | | | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● | ● | ● | ● |
| | | | | M | ● | ● | ● | ● | ● | ● |
| | | | | K | ● | ● | ● | ● | ● | ● |
| | | | | S | ● | ● | ● | ● | ● | ● |
| | | | | N | ● | ● | ● | ● | ● | ● |
| | | | | H | ● | ● | ● | ● | ● | ● |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



INDEXABLE INSERT Type

S224...A.

precision sintered



Geometry .A.

Geometry with excellent chip breaking for materials with medium strength

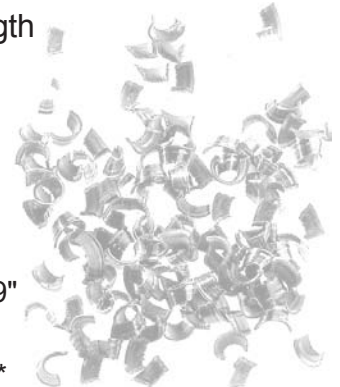
E

Characteristics

- excellent swarf on a wide feed range
- excellent swarf control, also by partial cutting
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving: Depth of groove up to .709"
- Side turning: depth of cut a_p up to .098"*

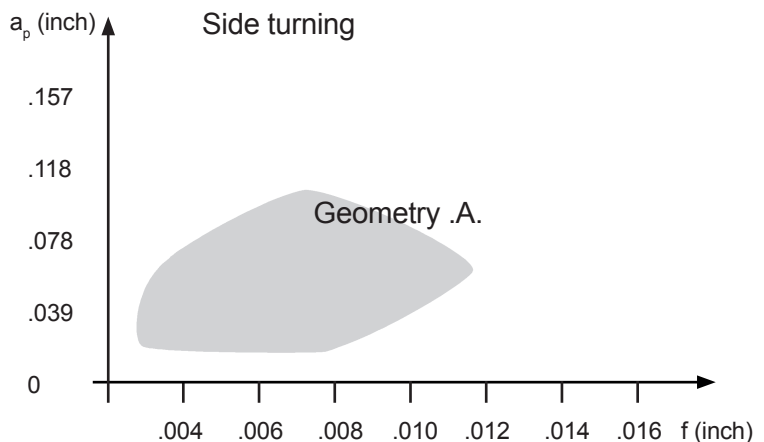


Feed rate f

- Grooving: up to .012"/rev.*
- Side turning: up to .012"/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

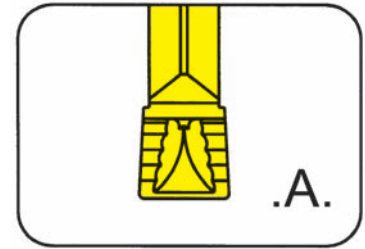


Chip control graph S224.0500.A4 material 16MnCr5

INDEXABLE INSERT Type

S224

with chip forming

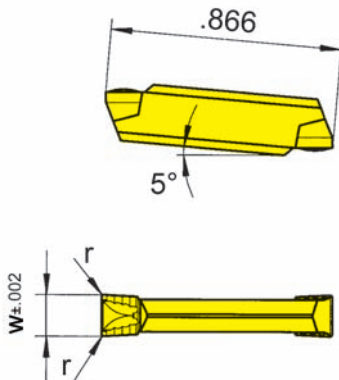


Depth of groove up to .709"
Width of groove .118 - .236"

precision sintered

for use with Toolholder

- Type B224
B224
BK224
BU224
H224
HU224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | | |
|--|------|------|------|----------------|------|------|------|------|------|------|------|---|
| | | | | K10 | TN32 | TN35 | T122 | T125 | TF45 | TC92 | AL96 | |
| S224.0300.A2 | .118 | .008 | 03 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0300.A4 | | .016 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.A2 | .157 | .008 | 04 | | ▲ | ▲ | | ▲ | ▲ | ▲ | | |
| S224.0400.A4 | | .016 | | | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ | |
| S224.0500.A4 | .197 | .016 | 05 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0500.A8 | | .031 | | | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ | |
| S224.0600.A4 | .236 | .016 | 06 | | ▲ | ▲ | | ▲ | | | | |
| S224.0600.A8 | | .031 | | | ▲ | ▲ | | ▲ | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | M | | ● | | ● | ● | | | |
| | | | | K | | ● | | ● | ● | ● | | ● |
| | | | | S | | ● | | ● | ● | | | |
| | | | | N | | ● | | ● | ● | | | ● |
| | | | | H | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



INDEXABLE INSERT Type

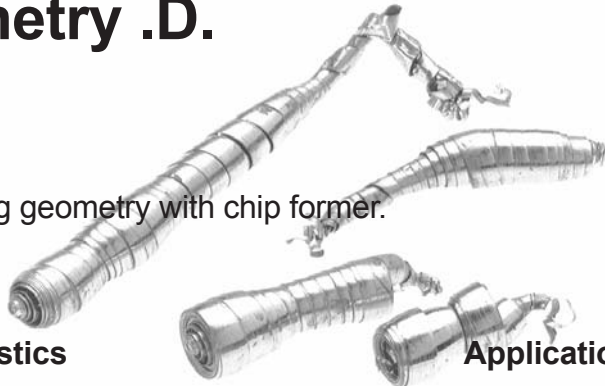
S224...D.

precision sintered



Geometry .D.

Easy cutting geometry with chip former.



Characteristics

- mainly used for internal grooving
- very positive geometry
- reduced swarf width gives high flank surface finish
- reduced swarf even at low feedrate

Applications

- Grooving: Depth of groove up to .709"
- Side turning: depth of cut a_p up to .118" *

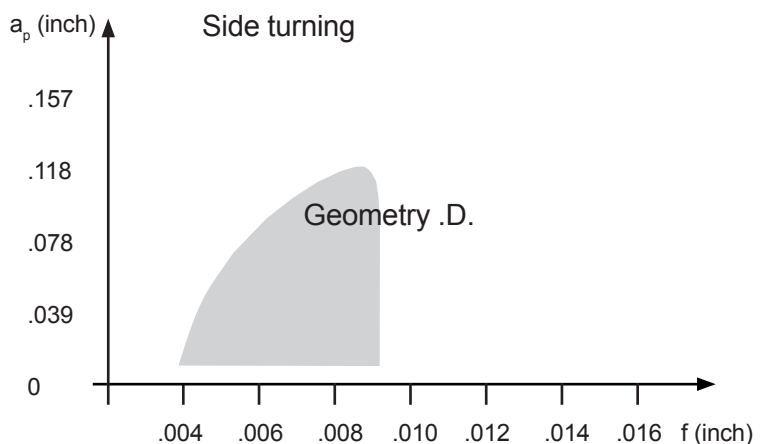


Feed rate f

- Grooving: up to .006"/rev.*
- Side turning: up to .008"/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

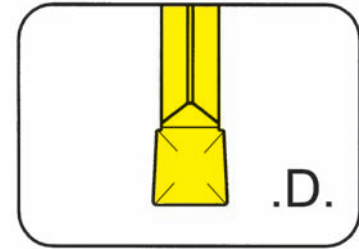


Chip control graph S224.0300.D2 material 16MnCr5

INDEXABLE INSERT Type

S224

with chip forming

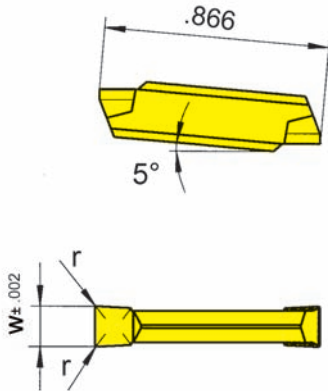


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .157" |

D2 precision sintered / D2.G precision ground

for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - H224
 - HU224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | | | |
|--|------|------|------|----------------|-----|------|------|------|------|------|------|------|--|
| | | | | K10 | H54 | TN32 | TN35 | T122 | T125 | TF45 | TF46 | TC92 | |
| S224.0200.D2.G S224.0200.D2 | .079 | .008 | 01 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0250.D2.G S224.0250.D2 | .098 | .008 | 02 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0300.D2.G S224.0300.D2 | .118 | .008 | 03 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0400.D2.G S224.0400.D2 | .157 | .008 | 04 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | | M | ● | | ● | ● | ● | ● | ○ | | |
| | | | | K | | | ● | ● | ● | ● | ● | | |
| | | | | S | | | ● | ● | ● | ● | ○ | | |
| | | | | N | | | ● | ● | ● | ● | ● | | |
| | | | | H | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



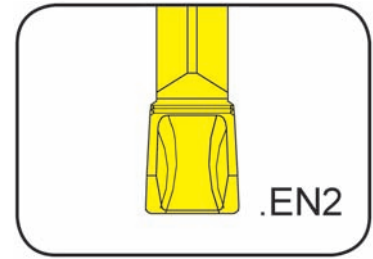
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S224

with chip former

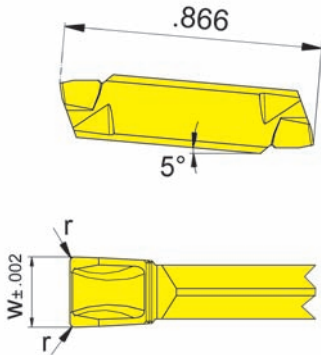


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .118" |

precision sintered

for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - H224
 - HU224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | |
|---------------|------|------|------|----------------|------|------|------|------|
| | | | | MG12 | TN35 | TI22 | TI25 | AS62 |
| S224.0200.EN2 | .079 | .008 | 01 | | | | | ▲ |
| S224.0250.EN2 | .098 | .008 | 02 | | | | | ▲ |
| S224.0300.EN2 | .118 | .008 | 03 | | | | | ▲ |
| | | | | P | | | | ● |
| | | | | M | | | | |
| | | | | K | | | | |
| | | | | S | | | | |
| | | | | N | | | | |
| | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Further sizes upon request

Indexable inserts can be used in **right and left hand** toolholders.

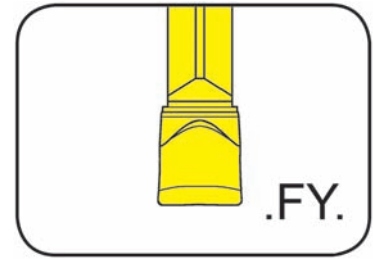
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S224

with chip forming

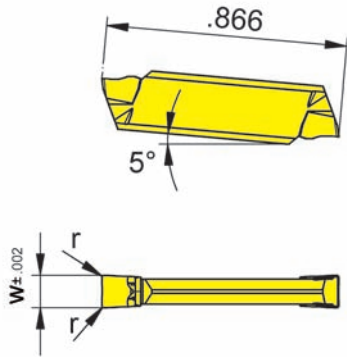


Depth of groove up to
Width of groove

.709"
.079 - .118"

for use with Toolholder

Type B224
BK224
BU224
H224
HU224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | |
|---------------|------|------|------|----------------|------|------|------|
| | | | | TN32 | TI25 | TF45 | AS45 |
| S224.0200.FY2 | .079 | .008 | 01 | | ▲ | | |
| S224.0250.FY2 | .098 | .008 | 02 | | ▲ | | |
| S224.0300.FY2 | .118 | .008 | 03 | | ▲ | | |
| | | | | P | • | | |
| | | | | M | • | | |
| | | | | K | • | | |
| | | | | S | • | | |
| | | | | N | • | | |
| | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

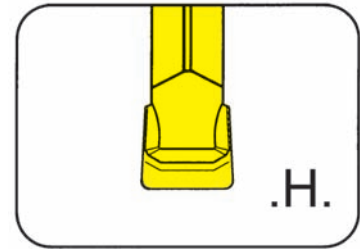
Indexable inserts can be used in **right and left hand** toolholders.



INDEXABLE INSERT Type

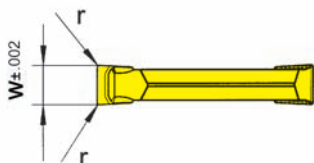
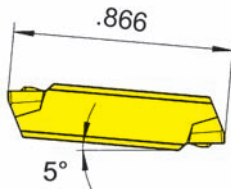
S224

with chip breaker



| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .118 - .236" |

precision sintered



for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - H224
 - HU224

Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | |
|------------------------------|------|------|------|----------------|------|------|------|------|------|
| | | | | TN35 | T125 | TF42 | TF45 | TC92 | AL96 |
| S224.0300.H4 | .118 | .016 | 03 | | | ▲ | | | ▲ |
| S224.0400.H4 | .157 | .016 | 04 | | | ▲ | | | ▲ |
| S224.0500.H6 | .197 | .024 | 05 | | | ▲ | | | ▲ |
| S224.0500.H8 | | .031 | | | | | ▲ | | ▲ |
| S224.0600.H6 | .236 | .024 | 06 | | | ▲ | | | ▲ |
| S224.0600.H8 | | .031 | | | | | ▲ | | ▲ |
| ▲ on stock Δ 4 weeks | | | | P | | • | | | • |
| ● main recommendation | | | | M | | | | | |
| ○ alternative recommendation | | | | K | | | | | • |
| ■ uncoated grades | | | | S | | | | | |
| ■ coated grades | | | | N | | | | | • |
| ■ brazed/Cermet | | | | H | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

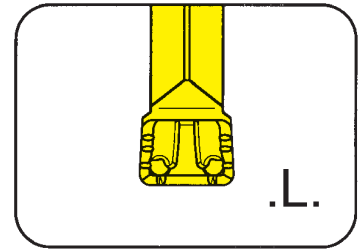
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S224

with chip forming

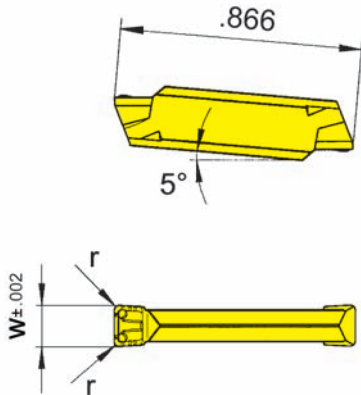


Depth of groove up to .709"
Width of groove .157 - .236"

precision sintered

for use with Cassette

Type B224
BK224
BU224
H224
HU224



Indexability length
± .002"



| Part number | w | r | Size | Carbide grades | | |
|--|------|------|------|----------------|------|------|
| | | | | Ti22 | TF42 | AL96 |
| S224.0400.L4 | .157 | .016 | 04 | ▲ | ▲ | ▲ |
| S224.0500.L4 | .197 | .016 | 05 | ▲ | ▲ | ▲ |
| S224.0500.L6 | | .024 | | ▲ | ▲ | ▲ |
| S224.0600.L4 | .236 | .016 | 06 | ▲ | ▲ | ▲ |
| S224.0600.L6 | | .024 | | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● |
| | | | | M | ■ | ■ |
| | | | | K | ■ | ● |
| | | | | S | ■ | ■ |
| | | | | N | ■ | ● |
| | | | | H | ■ | ■ |

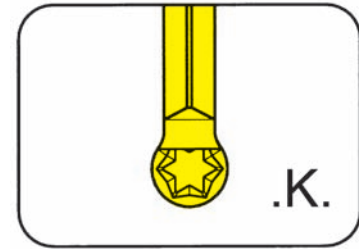
Dimensions in inch

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S224

with chip forming

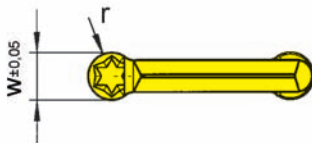
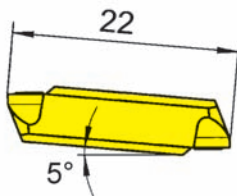


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .236" |
| Full radius | .039 - .118" |

precision sintered

for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - H224
 - HU224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | | | | |
|------------------------------|------|------|------|----------------|------|------|------|------|------|------|------|------|------|---|
| | | | | P20 | TN32 | TN35 | T122 | T125 | TF42 | TC92 | AS62 | AS66 | AL96 | |
| S224.0010.K2 | .079 | .039 | 01 | | | | | | | ▲ | | ▲ | ▲ | |
| S224.0015.K3 | .118 | .059 | 03 | | ▲ | | | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0020.K4 | .157 | .079 | 04 | | ▲ | | | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0025.K5 | .197 | .098 | 05 | | ▲ | | | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0030.K6 | .236 | .118 | 06 | | | | | | | | | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks | | | | P | • | | | | | • | • | • | • | • |
| • main recommendation | | | | M | | | | | | | | | o | |
| o alternative recommendation | | | | K | | | | | | | | | • | • |
| ■ uncoated grades | | | | S | | | | | | | | | o | |
| ■ coated grades | | | | N | | | | | | | | | • | • |
| ■ brazed/Cermet | | | | H | | | | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

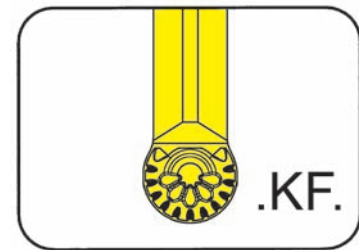
Indexable inserts can be used in **right and left hand** toolholders.

D_{min} for corner reliefs with toolholder 45°

| t _{max} | S224.0010.K2 | S224.0015.K3 | S224.0020.K4 | S224.0025.K5 | S224.0030.K6 |
|------------------|------------------|------------------|------------------|-----------------|-----------------|
| .0080" (0.5 mm) | Ø 1.339" (34 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .826" (21 mm) | Ø .551" (14 mm) |
| .039" (1.0 mm) | Ø 2.126" (54 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .059" (1.5 mm) | Ø 2.126" (54 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .079" (2.0 mm) | Ø 2.165" (55 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .098" (2.5 mm) | Ø 2.205" (56 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .118" (3.0 mm) | - | - | - | Ø .866" (22 mm) | Ø .709" (18 mm) |

INDEXABLE INSERT Type

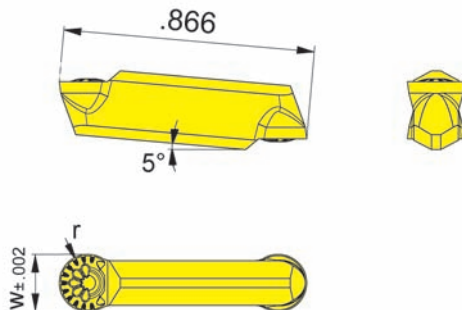
S224



| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .118 - .236" |
| Full radius | .059 - .118" |

for use with Toolholder

- Type
- B224
 - BK224
 - BU224
 - H224
 - HU224



Indexability length
± .002"

| Part number | W | r | Size | Carbide grades | | | | | | | | |
|--|------|------|------|----------------|-----|------|------|------|------|------|------|---|
| | | | | P20 | H54 | TN32 | TN35 | TI25 | TA42 | AS62 | AS66 | |
| S224.0015.KF3 | .118 | .059 | 03 | | | | | | | | | ▲ |
| S224.0020.KF4 | .157 | .079 | 04 | | | | | | | | | ▲ |
| S224.0025.KF5 | .197 | .098 | 05 | | | | | | | | | ▲ |
| S224.0030.KF6 | .236 | .118 | 06 | | | | | | | | | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | M | K | S | N | H | | | ● |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

D_{min} for corner reliefs with toolholder 45°

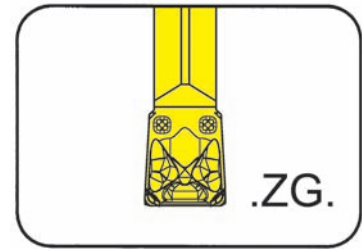
| t _{max} | S224.0015.KF3 | S224.0020.KF4 | S224.0025.KF5 | S224.0030.KF6 |
|------------------|------------------|------------------|-----------------|-----------------|
| .0080" (0.5 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .826" (21 mm) | Ø .551" (14 mm) |
| .039" (1.0 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .059" (1.5 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .079" (2.0 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .098" (2.5 mm) | Ø 1.417" (36 mm) | Ø 1.024" (26 mm) | Ø .866" (22 mm) | Ø .709" (18 mm) |
| .118" (3.0 mm) | - | - | Ø .866" (22 mm) | Ø .709" (18 mm) |



INDEXABLE INSERT Type

S224

with chip forming

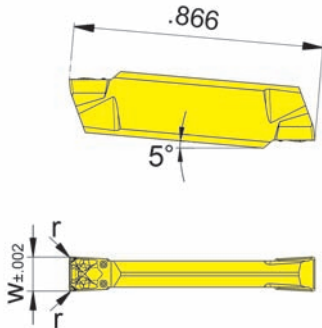


Depth of groove up to .709"
Width of groove .118"

ZG precision ground

for use with Toolholder

Type B224
BK224
BU224
H224
HU224



Indexability length
± .002"

| Part number | w | r | Size | ALXT |
|----------------------|------|------|------|------|
| S224.0300.ZG2 | .118 | .008 | 03 | ▲ |
| | | | | ● |
| | | | | ○ |
| | | | | ■ |
| | | | | ■ |
| | | | | ■ |
| | | | | ■ |
| | | | | ■ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

E

CUTTER BODY H224

- with screwed clamping
- reinforced version
- width of groove .118" (3.0 mm)



E

INDEXABLE INSERT Type

S224...C.

precision sintered



Geometry .C.

Geometry for parting off.

E

Characteristics

- excellent swarf control on the recommended feed range
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving and parting off:
Depth of groove up to .709"

Feed rate f

- Parting off: .0008 up to .0039"/rev.



Please note:

The recommended feedrate has to be reduced by 20-50% with right or left hand inserts. Best toollife and surfaces will be obtained with neutral inserts. Reduce the feed rate before parting off when machining solid bars.

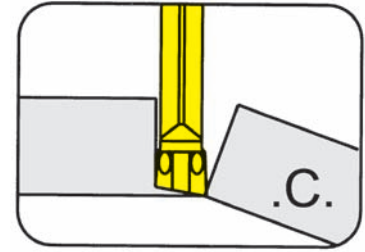
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S224

with chip forming

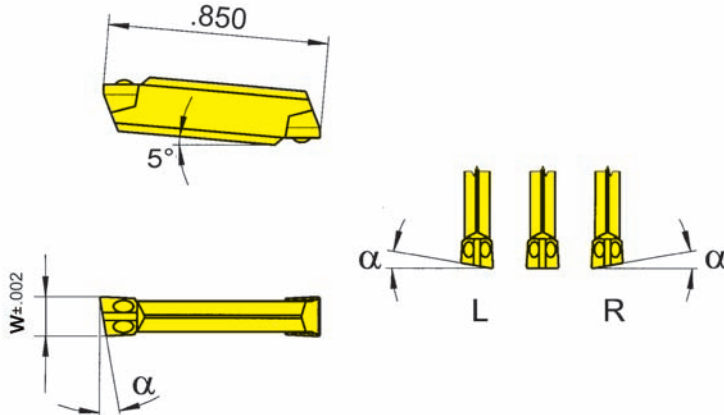


Depth of groove up to .709"
Width of groove .079 - .118"

precision sintered

for use with Toolholder

Type B224
BK224
BU224
H224
HU224



Indexability length
± .002"

| Part number | w | α | Size | TN35 | T125 | TF45 | TC92 |
|------------------------------|------|-----|------|------|------|------|------|
| | | | | | | | |
| S224.0020.C0 | .079 | 0° | 01 | ▲ | ▲ | ▲ | |
| R/LS224.1520.C0 | | 15° | | ▲/▲ | | ▲/▲ | Δ/Δ |
| R/LS224.0520.C0 | | 5° | | ▲/▲ | | ▲/▲ | |
| R/LS224.0820.C0 | | 8° | | ▲/▲ | | ▲/▲ | |
| S224.0025.C0 | .098 | 0° | 02 | ▲ | ▲ | ▲ | |
| R/LS224.0525.C0 | | 5° | | ▲/▲ | ▲/ | ▲/Δ | |
| R/LS224.0825.C0 | | 8° | | ▲/▲ | | Δ/ | |
| S224.0030.C0 | .118 | 0° | 03 | ▲ | ▲ | ▲ | |
| R/LS224.0530.C0 | | 5° | | ▲/▲ | | ▲/▲ | ▲/Δ |
| R/LS224.0830.C0 | | 8° | | ▲/▲ | | ▲/Δ | |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • |
| ● main recommendation | | | | M | • | • | • |
| ○ alternative recommendation | | | | K | • | • | • |
| ■ uncoated grades | | | | S | • | • | • |
| ■ coated grades | | | | N | • | • | • |
| ■ brazed/Cermet | | | | H | • | • | • |

Dimensions in inch

Carbide grades

State R or L version

Further sizes upon request

Indexable inserts can be used in **right and left hand** toolholders.



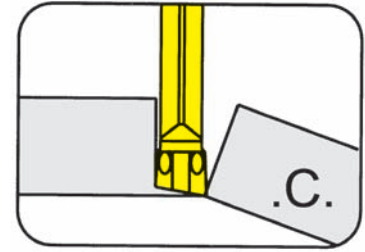
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S224

with chip forming

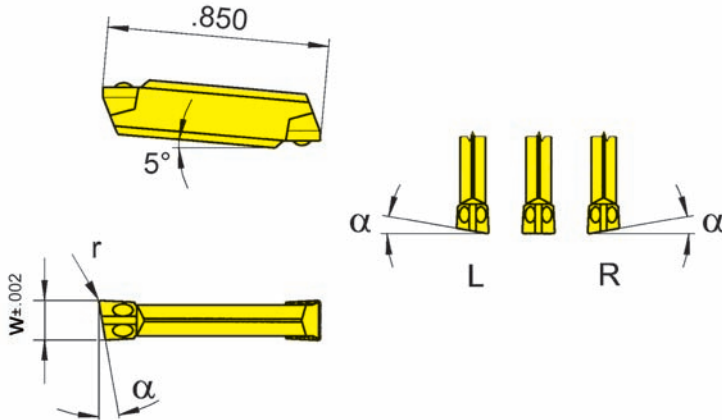


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .118" |

precision sintered

for use with Toolholder

- Type B224
BK224
BU224
H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | r | α | Size | TN35 | T125 | TF45 | TC92 |
|------------------------------|------|------|-----|------|------|------|------|------|
| | | | | | | | | |
| S224.0020.C1 | .079 | .006 | 0° | 01 | ▲ | ▲ | ▲ | ▲ |
| R/LS224.1520.C1 | | | 15° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS224.0520.C1 | | | 5° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS224.0820.C1 | | | 8° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| S224.0025.C1 | .098 | .006 | 0° | 02 | ▲ | ▲ | ▲ | ▲ |
| R/LS224.0525.C1 | | | 5° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS224.0825.C1 | | | 8° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| S224.0030.C1 | .118 | .006 | 0° | 03 | ▲ | ▲ | ▲ | ▲ |
| R/LS224.0530.C1 | | | 5° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS224.0830.C1 | | | 8° | | ▲/▲ | ▲/▲ | ▲/▲ | |
| ▲ on stock Δ 4 weeks | | | | | P | • | • | • |
| ● main recommendation | | | | | M | • | • | • |
| ○ alternative recommendation | | | | | K | • | • | • |
| ■ uncoated grades | | | | | S | • | • | • |
| ■ coated grades | | | | | N | • | • | • |
| ■ brazed/Cermet | | | | | H | • | • | • |

Dimensions in inch

Carbide grades

State R or L version

Further sizes upon request

Indexable inserts can be used in **right and left hand** toolholders.

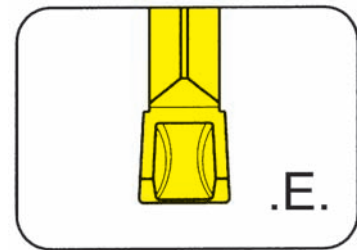
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S224

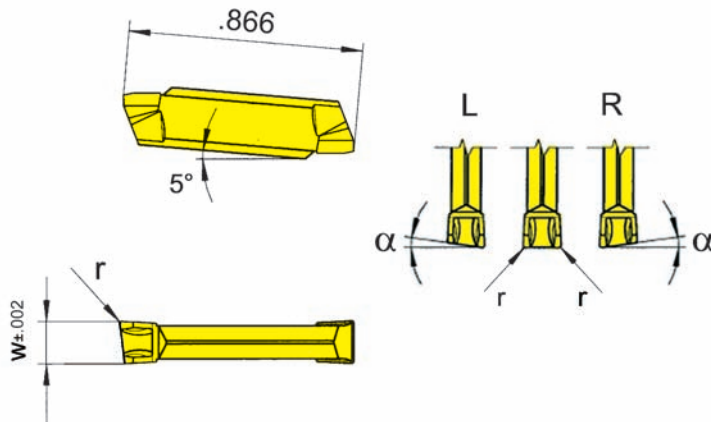
with chip former



Depth of groove up to .709"
Width of groove .079 - .157"

precision sintered

for use with Toolholder



Type B224
BK224
BU224
H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | r | α | Size | Carbide grades | | | | | | | | | | | | | | |
|---|------|----------------------|----------------|------|----------------|------|------|------|------|------|------|---|---|---|---|---|---|---|---|
| | | | | | T122 | T125 | TF43 | TF45 | TC92 | TC93 | AS62 | P | M | K | S | N | H | | |
| S224.0200.E2 R/LS224.0520.E2 | .079 | .008 | 0° 5° | 01 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0250.E2 R/LS224.0525.E2 | .098 | .008 | 0° 5° | 02 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0300.E2 S224.0300.E4 R/LS224.0530.E2 | .118 | .008 .016 .008 | 0° 0° 5° | 03 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.E2 S224.0400.E4 | .157 | .008 .016 | 0° | 04 | | | | ▲ | ▲ | | | | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch
State R or L version

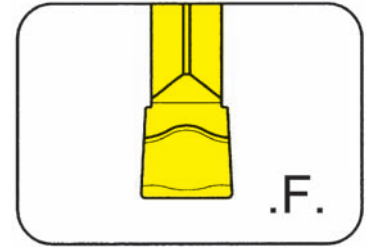
Further sizes upon request

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S224

with chip forming

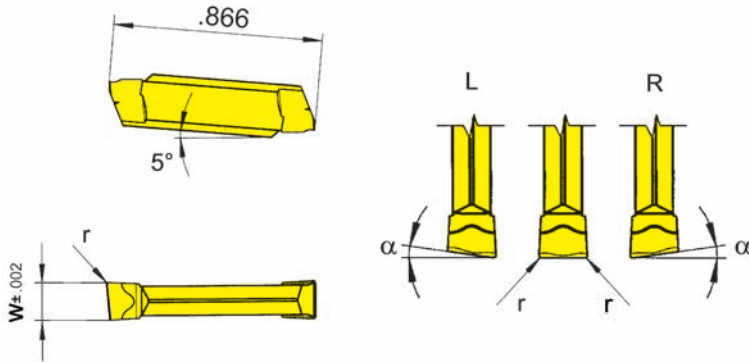


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .157" |

precision sintered

for use with Toolholder

Type B224
BK224
BU224
H224
HU224



Indexability length
± .002"

| Part number | w | r | α | Size | Carbide grades | | | | | |
|--|------|------|----------|------|----------------|------|------|------|------|------|
| | | | | | T122 | T125 | TF42 | TF43 | TF45 | TF46 |
| S224.0200.F2 R/LS224.0520.F2 | .079 | .008 | 0° 5° | 01 | ▲ | ▲ | | ▲ | ▲ | ▲ |
| S224.0250.F2 R/LS224.0525.F2 | .098 | .008 | 0° 5° | 02 | ▲ | | | ▲ | ▲ | ▲ |
| S224.0300.F2 R/LS224.0530.F2 | .118 | .008 | 0° 5° | 03 | ▲/▲ | ▲ | | ▲ | ▲ | ▲ |
| S224.0400.F2 | .157 | .008 | 0° | 04 | ▲ | | | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | ● | ● | ● | ● |
| | | | | | M | ● | ● | ● | ● | ○ |
| | | | | | K | ● | ● | ● | ● | ● |
| | | | | | S | ● | ● | ● | ● | ○ |
| | | | | | N | ● | ● | ● | ● | ● |
| | | | | | H | | | | | |

Dimensions in inch

State R or L version

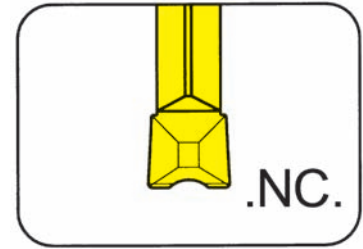
Indexable inserts can be used in **right and left hand** toolholders.

E

INDEXABLE INSERT Type

S224

with chip forming

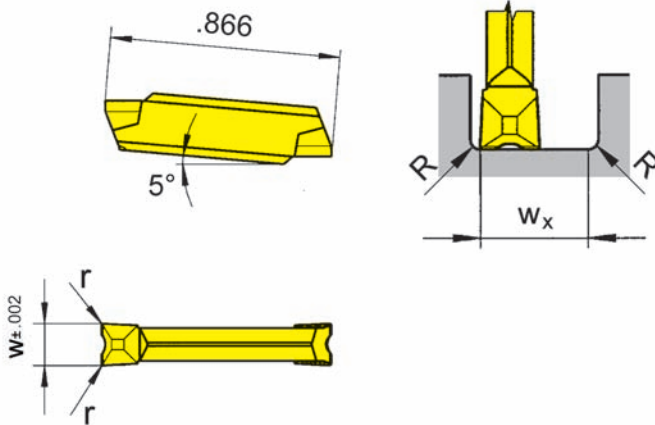


Depth of groove up to .709"
Width of groove .098 - .118"

precision ground

for use with Toolholder

Type B224
BK224
BU224
H224
HU224



Indexability length
± .002"



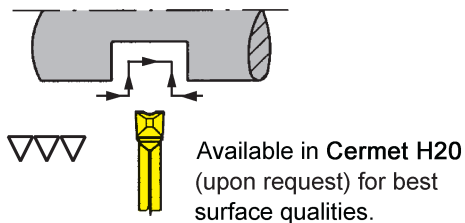
| Part number | w | r | w _x | Size | Carbide grades | | | | |
|--------------|------|------|----------------|------|----------------|------|------|------|------|
| | | | | | H54 | Ti22 | Ti25 | Ti26 | TA45 |
| S224.NC25.D2 | .098 | .008 | .142 | 02 | | ▲ | ▲ | ▲ | |
| S224.NC30.D2 | .118 | .008 | .177 | 03 | | ▲ | ▲ | ▲ | |
| | | | | | P | • | • | • | |
| | | | | | M | | • | o | |
| | | | | | K | | • | • | |
| | | | | | S | | • | o | |
| | | | | | N | | • | • | |
| | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

$$w_x = \text{width of groove} - R_{(\text{right})} - R_{(\text{left})}$$

Indexable inserts can be used in **right and left hand** toolholders.



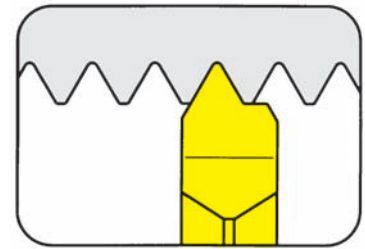
THREADING (external) Full profile



INDEXABLE INSERT Type

S224

Metric ISO thread

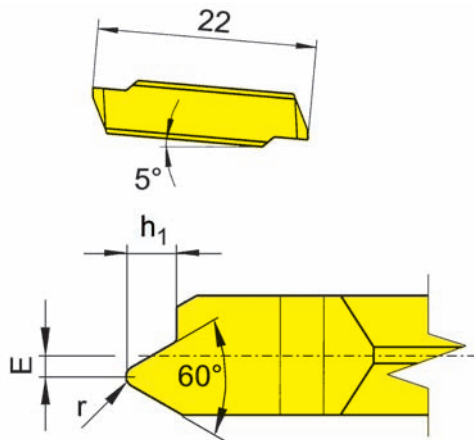


| | |
|-------|--------------|
| Pitch | 0.5 - 2.0 mm |
|-------|--------------|

precision ground

for use with Toolholder

Type H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .001"

| Part number | P | r | E | h ₁ | Size | Carbide grades | | |
|-----------------|------|------|-----|----------------|------|----------------|------|------|
| | | | | | | TN35 | T125 | TF45 |
| R/LS224.0305.02 | 0.50 | 0.07 | 1.0 | 0.31 | 03 | | | ▲/▲ |
| R/LS224.0407.02 | 0.75 | 0.11 | 0.9 | 0.46 | | | | ▲/▲ |
| R/LS224.0610.02 | 1.00 | 0.12 | 0.8 | 0.61 | | | | ▲/▲ |
| R/LS224.0712.02 | 1.25 | 0.15 | 0.7 | 0.77 | | | | ▲/▲ |
| R/LS224.0915.02 | 1.50 | 0.20 | 0.5 | 0.92 | | | | ▲/▲ |
| R/LS224.1017.02 | 1.75 | 0.25 | 0.4 | 1.07 | | | | ▲/▲ |
| R/LS224.1220.02 | 2.00 | 0.25 | 0.3 | 1.23 | | | | ▲/▲ |
| | | | | | | P | | • |
| | | | | | | M | | • |
| | | | | | | K | | • |
| | | | | | | S | | • |
| | | | | | | N | | • |
| | | | | | | H | | |

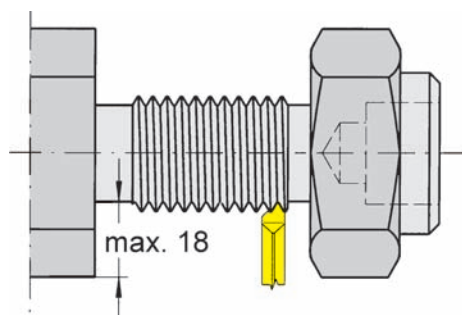
- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.



Suitable for threading behind a shoulder

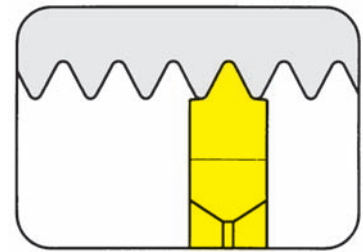
THREADING (external) Full profile



INDEXABLE INSERT Type

NS224

Whitworth pipe thread

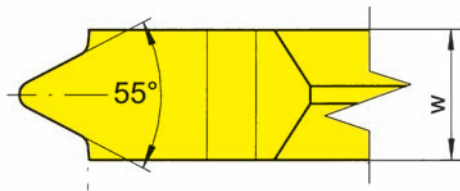
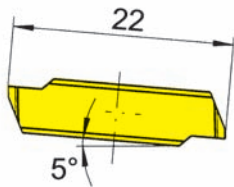


| | |
|------------------|---------|
| Threads per inch | 28 - 11 |
|------------------|---------|

precision ground

for use with Toolholder

Type H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .001"



| Part number | Threads per Inch | w | Size | TN35 | TI25 | TA45 | TF45 |
|---------------|------------------|---|------|---------------|------|------|------|
| | | | | NS224.5511.02 | 11 | .106 | 03 |
| NS224.5514.02 | 14 | | | ▲ | | | |
| NS224.5519.02 | 19 | | | ▲ | | | |
| NS224.5528.02 | 28 | | | ▲ | | | |
| | | | | P | | • | |
| | | | | M | | • | |
| | | | | K | | • | |
| | | | | S | | • | |
| | | | | N | | • | |
| | | | | H | | | |

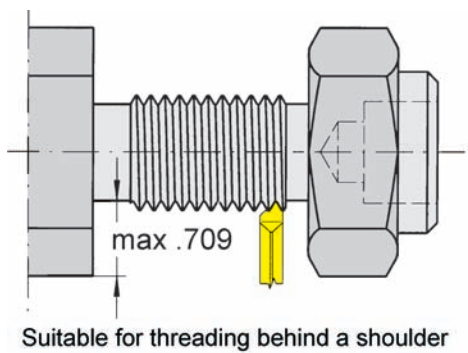
- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.



HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

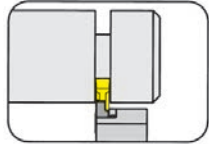
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

Special tools upon request

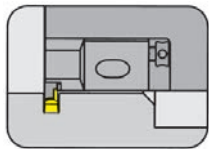
TOOLING SYSTEMS 231 **F**

**Grooving
- external -**



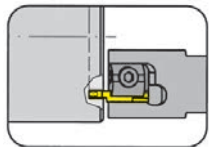
Page F2-F3

**Grooving
- internal -**

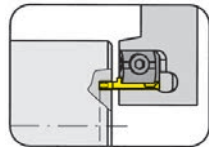


Page F4-F5

Face Grooving

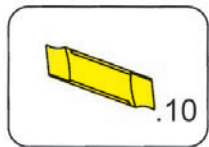


Page F8-F9



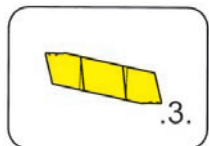
Page F10-F11

**Indexable inserts
Type
231**



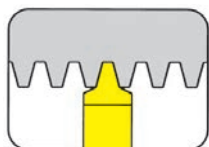
Page F6-F7

Grooving



Page F12

Face Grooving



Page F13

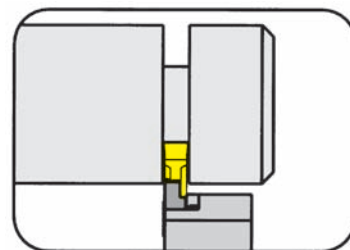
metric trapezoidal thread

For Technical Information please see chapter Q

F

TOOLHOLDER Type

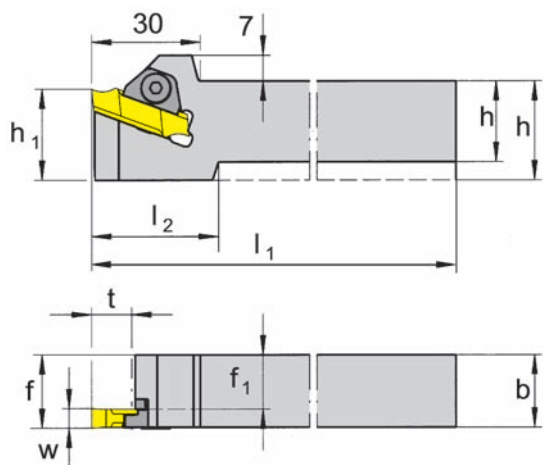
211



Depth of groove up to .433" (11.0 mm)
Clamping range up to .197" (5.0 mm)

for use with Indexable insert

Type 231



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-------|-------------|-------|-----------|------|----------------|
| R/L211.2020.02 | 20 | 20 | 125 | 25 | 17.5 | | 35 | | | |
| R/L211.2525.02 | 25 | 25 | 150 | 25 | 22.5 | f_1+w-a_1 | - | 11 | 02 | 2.5 - 3.0 |
| R/L211.3232.02 | 32 | 32 | 170 | 32 | 29.5 | | - | | | |
| R/L211.2020.03 | 20 | 20 | 125 | 25 | 17.0 | | 35 | | | |
| R/L211.2525.03 | 25 | 25 | 150 | 25 | 22.0 | f_1+w-a_1 | - | 11 | 03 | 3.0 - 4.0 |
| R/L211.3232.03 | 32 | 32 | 170 | 32 | 29.0 | | - | | | |
| R/L211.2020.04 | 20 | 20 | 125 | 25 | 16.0 | | 35 | | | |
| R/L211.2525.04 | 25 | 25 | 150 | 25 | 21.0 | f_1+w-a_1 | - | 11 | 04 | 4.0 - 5.0 |
| R/L211.3232.04 | 32 | 32 | 170 | 32 | 28.0 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

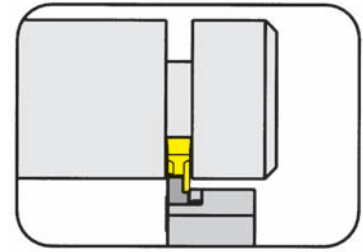
Further sizes upon request

Spare parts

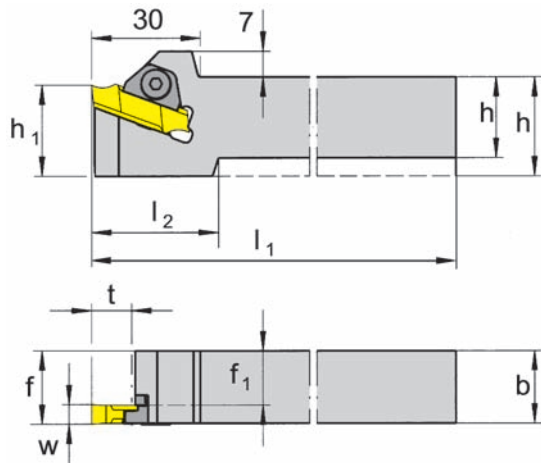
| Toolholder | Clamp | Screw | Wrench |
|--------------|--------|-------|-----------|
| R/L211....02 | 2.16.2 | 6.19 | SW3DIN911 |
| R/L211....03 | 2.16.3 | 6.19 | SW3DIN911 |
| R/L211....04 | 2.16.7 | 6.19 | SW3DIN911 |

TOOLHOLDER Type

211



Depth of groove up to .433" (11.0 mm)
Clamping range up to .394" (10.0 mm)



for use with Indexable insert

Type 231

F

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/L211.2020.05 | 20 | 20 | 125 | 25 | 15 | | 35 | | | |
| R/L211.2525.05 | 25 | 25 | 150 | 25 | 20 | f ₁ +w-a ₁ | - | 11 | 05 | 5.0 - 6.5 |
| R/L211.3232.05 | 32 | 32 | 170 | 32 | 27 | | - | | | |
| R/L211.2020.07 | 20 | 20 | 125 | 25 | 13 | | 35 | | | |
| R/L211.2525.07 | 25 | 25 | 150 | 25 | 18 | f ₁ +w-a ₁ | - | 11 | 07 | 6.5 - 8.5 |
| R/L211.3232.07 | 32 | 32 | 170 | 32 | 25 | | - | | | |
| R/L211.2020.09 | 20 | 20 | 125 | 25 | 11 | | 35 | | | |
| R/L211.2525.09 | 25 | 25 | 150 | 25 | 16 | f ₁ +w-a ₁ | - | 11 | 09 | 8.5 - 10.0 |
| R/L211.3232.09 | 32 | 32 | 170 | 32 | 23 | | - | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

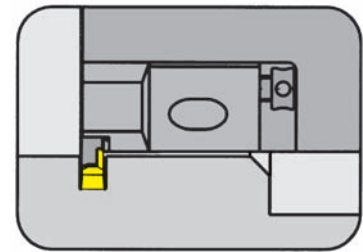
| Toolholder | Clamp | Screw | Wrench |
|------------|--------|-------|-----------|
| R/L211.... | 2.16.7 | 6.19 | SW3DIN911 |

GROOVING (internal)



CARTRIDGE Type

208



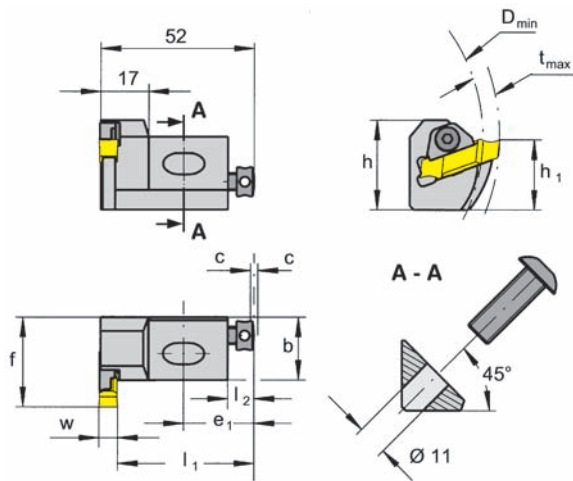
Bore Ø from 2.953" (75.0 mm)
Clamping range up to .394" (10.0 mm)

for use with Indexable insert

Type 231

Depth of groove in relation to bore Ø

| D _{min} | t _{max} |
|------------------|------------------|
| 75 | 5,0 |
| 85 | 6,0 |
| 95 | 6,5 |
| 110 | 7,0 |
| 140 | 8,0 |
| 200 | 9,0 |



R = right hand version shown

L = left hand version

| Part number | h ₁ | f | h | b | l ₁ | e ₁ | l ₂ | c | Size | Clamping range |
|----------------|----------------|----|----|----|----------------|----------------|----------------|---|------|----------------|
| R/L208.2520.04 | 25 | 32 | 32 | 20 | 47.8 | 25 | 9 | 2 | 04 | 4.0 - 5.0 |
| R/L208.2520.05 | 25 | 32 | 32 | 20 | 46.8 | 25 | 9 | 2 | 05 | 5.0 - 6.5 |
| R/L208.2520.07 | 25 | 32 | 32 | 20 | 44.8 | 25 | 9 | 2 | 07 | 6.5 - 8.5 |
| R/L208.2520.09 | 25 | 32 | 32 | 20 | 42.8 | 25 | 9 | 2 | 09 | 8.5 - 10.0 |

State R or L version

w see indexable inserts

Dimensions in mm

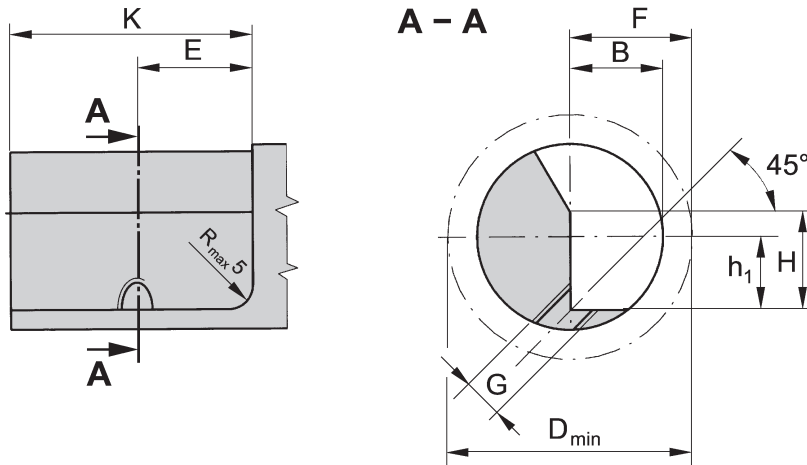
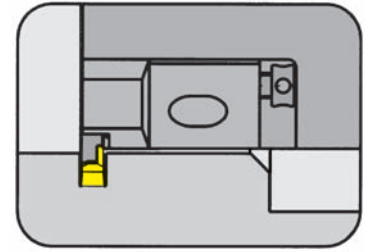
Further sizes upon request

Spare parts

| Cartridge | Clamp | Screw | Screw | Axial Setscrew | Radial Setscrew | Wrench |
|------------------|----------|----------|-------|----------------|-----------------|-----------|
| R/L208.2520.0... | 2.16.7-K | 0.30.208 | 6.16 | 6.12.020 | 4.08.913 | SW3DIN911 |

F4

SEATING DIMENSIONS CARTRIDGE Type **208**



R = right hand version shown

L = left hand version

| Cartridge | F | G | H | K | E | B | h ₁ | D _{min} | Fastening screw |
|-----------------------|----|-----|----|----|----|----|----------------|------------------|-----------------|
| R/L208.2520... | 32 | M10 | 32 | 25 | 50 | 20 | 25 | 75 | 0.30.208 |

State R or L version

Dimensions in mm

F

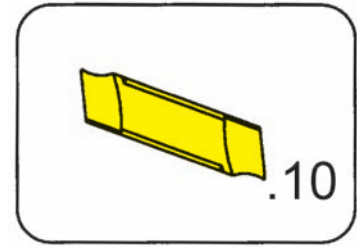
GROOVING (external)



INDEXABLE INSERT Type

231

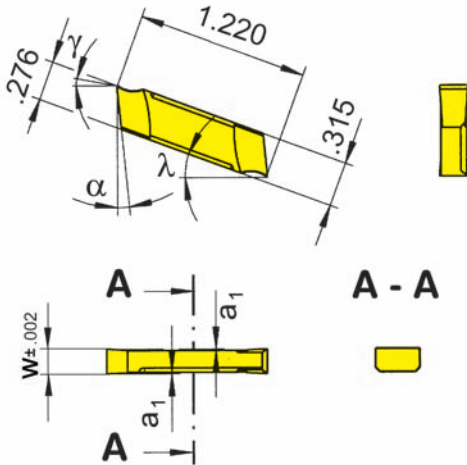
with round chip breaker



Depth of groove up to .433"
Width of groove .098 - .118"

for use with Toolholder

Type 211



R = right hand version shown

L = left hand version

| Part number | w | a ₁ | α | γ | λ | Size | Carbide grades | | | | |
|----------------|------|----------------|----|-----|-----|------|----------------|-----|------|------|------|
| | | | | | | | K10 | P20 | TN32 | TF45 | TC92 |
| R/L231.0250.10 | .098 | .008 | 6° | 20° | 20° | 02 | | ▲/▲ | ▲/▲ | | |
| R/L231.0300.10 | .118 | .008 | 6° | 20° | 20° | 03 | | ▲/▲ | | | |
| | | | | | | | P | • | • | | |
| | | | | | | | M | | | | |
| | | | | | | | K | | | | |
| | | | | | | | S | | | | |
| | | | | | | | N | | | | |
| | | | | | | | H | | | | |

Dimensions in inch

State R or L version

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

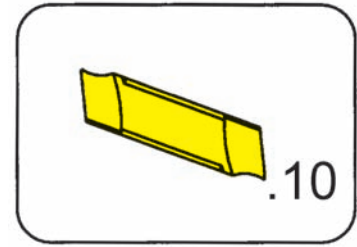
GROOVING (external and internal)



INDEXABLE INSERT Type

231

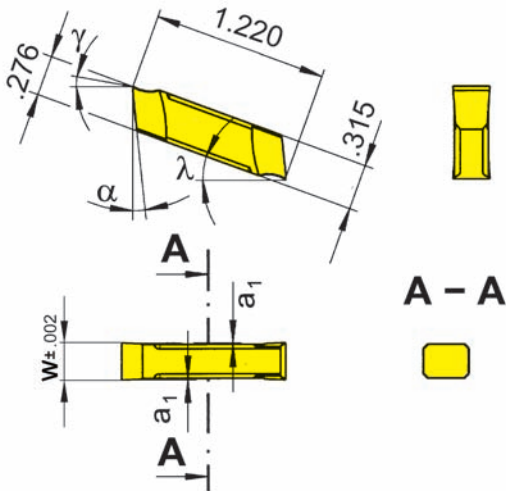
with round chip breaker



Depth of groove up to .433"
Width of groove .157 - .394"

for use with Toolholder

Type 211
208



F

| Part number | w | a ₁ | α | γ | λ | Toolholder | Size | Carbide grades | | | | | |
|--|------|----------------|--------|---------|---------|------------|------|----------------|-----|------|------|------|---|
| | | | | | | | | K10 | P20 | TN32 | TF45 | TC92 | |
| 231.0400.10 | .157 | .008 | 6°/11° | 20°/15° | 20°/15° | 211/208 | 04 | ▲ | ▲ | ▲ | | ▲ | |
| 231.0500.10 | .197 | .008 | 6°/11° | 20°/15° | 20°/15° | 211/208 | 05 | ▲ | ▲ | | | ▲ | |
| 231.0600.10 | .236 | .008 | 6°/11° | 20°/15° | 20°/15° | 211/208 | 05 | ▲ | ▲ | | | ▲ | |
| 231.0700.10 | .276 | .008 | 6°/11° | 20°/15° | 20°/15° | 211/208 | 07 | ▲ | ▲ | | | ▲ | |
| 231.0800.10 | .315 | .008 | 6°/11° | 20°/15° | 20°/15° | 211/208 | 07 | ▲ | ▲ | ▲ | | | |
| 231.1000.10 | .394 | .008 | 6°/11° | 20°/15° | 20°/15° | 211/208 | 09 | ▲ | ▲ | ▲ | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | | P | ● | ● | ● | ● | ● |
| | | | | | | | | M | ○ | | | | |
| | | | | | | | | K | ● | | | | |
| | | | | | | | | S | ○ | | | | |
| | | | | | | | | N | ● | | | | |
| | | | | | | | | H | | | | | |

Dimensions in inch

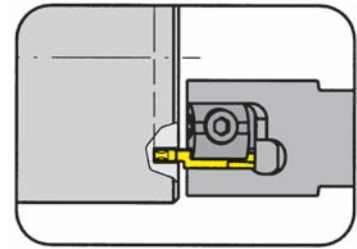
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

TOOLHOLDER Type

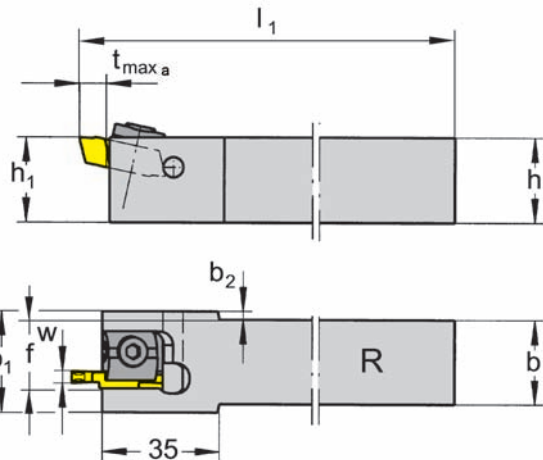
U221

from outer groove \varnothing 1.575"
 Depth of groove up to .315"
 Clamping range up to .394"



for use with Indexable insert

Type 231
 N231



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | l ₁ | b | b ₁ | b ₂ | f | t _{max a} | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|----------------|------|--------------------|------|----------------|
| R/LU221.0750.04 | .750 | .750 | 5.000 | .750 | 1.102 | .157 | .705 | .315 | 04 | .118 - .157 |
| R/LU221.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | 1.102 | .059 | .803 | .315 | 04 | .118 - .157 |
| R/LU221.0750.05 | .750 | .750 | 5.000 | .750 | 1.181 | .197 | .744 | .315 | 05 | .161 - .236 |
| R/LU221.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | 1.181 | .098 | .843 | .315 | 05 | .161 - .236 |
| R/LU221.0750.07 | .750 | .750 | 5.000 | .750 | 1.260 | .236 | .783 | .315 | 07 | .240 - .315 |
| R/LU221.1000.07 | 1.000 | 1.000 | 6.000 | 1.000 | 1.260 | .138 | .882 | .315 | 07 | .240 - .315 |
| R/LU221.0750.09 | .750 | .750 | 5.000 | .750 | 1.339 | .275 | .823 | .315 | 09 | .319 - .394 |
| R/LU221.1000.09 | 1.000 | 1.000 | 6.000 | 1.000 | 1.339 | .177 | .921 | .315 | 09 | .319 - .394 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

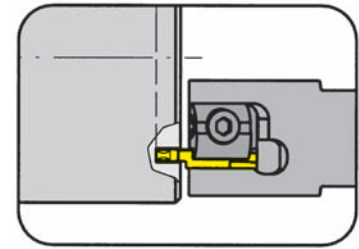
Spare parts

| Toolholder | Clamp | Screw | Position Pin |
|--------------|----------|---------|--------------|
| R/LU221..... | 01.60.12 | 6.20.70 | 3.6.28 |

TOOLHOLDER Type

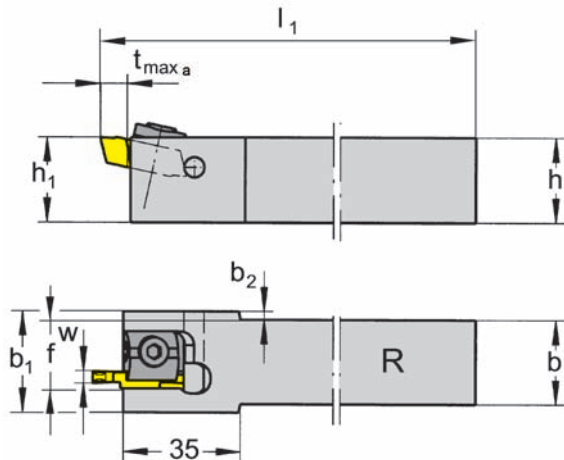
221

from outer groove \varnothing 1.575" (40.0 mm)
 Depth of groove up to .315" (8.0 mm)
 Clamping range .118 - .394" (3.0 - 10.0 mm)



for use with Indexable insert

Type 231
 N231



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | l ₁ | b | b ₁ | b ₂ | f | t _{max a} | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|----------------|------|--------------------|------|----------------|
| R/L221.2020.04 | 20 | 20 | 125 | 20 | 28 | 4.0 | 17.9 | 8 | 04 | 3.0 - 4.0 |
| R/L221.2525.04 | 25 | 25 | 150 | 25 | 28 | 1.5 | 20.4 | 8 | 04 | 3.0 - 4.0 |
| R/L221.2020.05 | 20 | 20 | 125 | 20 | 30 | 5.0 | 18.9 | 8 | 05 | 4.1 - 6.0 |
| R/L221.2525.05 | 25 | 25 | 150 | 25 | 30 | 2.5 | 21.4 | 8 | 05 | 4.1 - 6.0 |
| R/L221.2020.07 | 20 | 20 | 125 | 20 | 32 | 6.0 | 19.9 | 8 | 07 | 6.1 - 8.0 |
| R/L221.2525.07 | 25 | 25 | 150 | 25 | 32 | 3.5 | 22.4 | 8 | 07 | 6.1 - 8.0 |
| R/L221.2020.09 | 20 | 20 | 125 | 20 | 34 | 7.0 | 20.9 | 8 | 09 | 8.1 - 10.0 |
| R/L221.2525.09 | 25 | 25 | 150 | 25 | 34 | 4.5 | 23.4 | 8 | 09 | 8.1 - 10.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

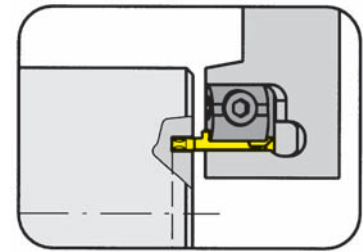
Spare parts

| Toolholder | Clamp | Screw | Position Pin |
|-------------|----------|---------|--------------|
| R/L221.2... | 01.60.12 | 6.20.70 | 3.6.28 |

F

TOOLHOLDER Type

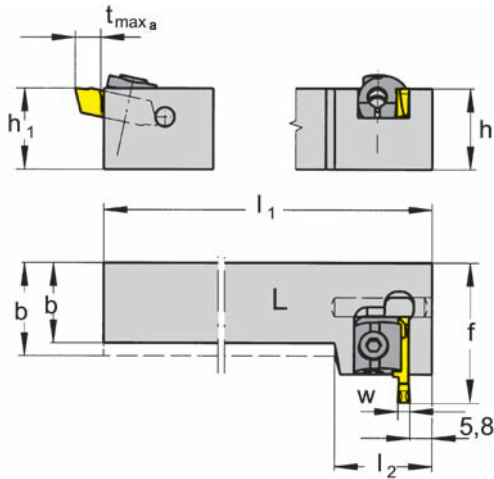
U228



| | |
|-------------------------------|--------|
| from outer groove \emptyset | 1.575" |
| Depth of groove up to | .315" |
| Clamping range up to | .394" |

for use with Cassette

Type 231
N231



L = left hand version shown

R = right hand version

| Part number | l_1 | l_2 | h | h_1 | b | f | $t_{max a}$ | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------|-------------|------|----------------|
| R/LU228.0750.04 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 04 | .118 - .157 |
| R/LU228.1000.04 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 04 | .118 - .157 |
| R/LU228.0750.05 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 05 | .161 - .236 |
| R/LU228.1000.05 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 05 | .161 - .236 |
| R/LU228.0750.07 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 07 | .240 - .315 |
| R/LU228.1000.07 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 07 | .240 - .315 |
| R/LU228.0750.09 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 09 | .319 - .394 |
| R/LU228.1000.09 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 09 | .319 - .394 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

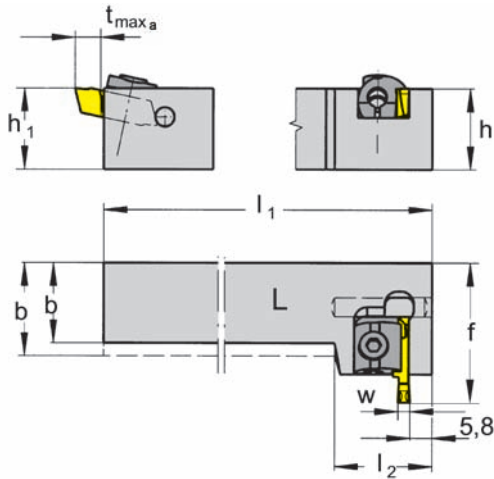
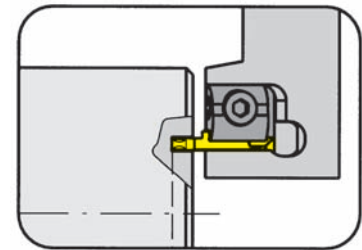
Spare parts

| Toolholder | Clamp | Screw | Position Pin |
|-------------|----------|---------|--------------|
| R/LU228.... | 01.60.12 | 6.20.70 | 3.6.28 |

TOOLHOLDER Type

228

from outer groove \varnothing 1.575" (40.0 mm)
 Depth of groove up to .315" (8.0 mm)
 Clamping range up to .394" (10.0 mm)



for use with Indexable insert

Type 231
N231

L = left hand version shown

R = right hand version

| Part number | l_1 | l_2 | h | h_1 | b | f | $t_{max a}$ | Size | Clamping range |
|----------------|-------|-------|----|-------|----|------|-------------|------|----------------|
| R/L228.2020.04 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 04 | 3.0 - 4.0 |
| R/L228.2525.04 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 04 | 3.0 - 4.0 |
| R/L228.2020.05 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 05 | 4.1 - 6.0 |
| R/L228.2525.05 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 05 | 4.1 - 6.0 |
| R/L228.2020.07 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 07 | 6.1 - 8.0 |
| R/L228.2525.07 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 07 | 6.1 - 8.0 |
| R/L228.2020.09 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 09 | 8.1 - 10.0 |
| R/L228.2525.09 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 09 | 8.1 - 10.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

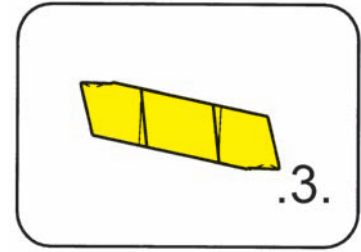
| Toolholder | Clamp | Screw | Position Pin |
|-------------|----------|---------|--------------|
| R/L228.2... | 01.60.12 | 6.20.70 | 3.6.28 |

F

INDEXABLE INSERT Type

231/N231

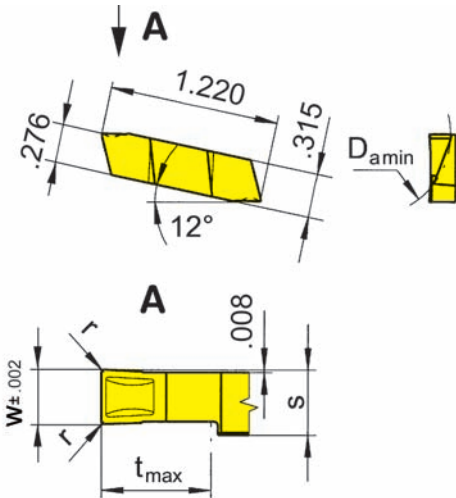
with chip former



from outer groove \varnothing 1.575"
 Depth of groove up to .315"
 Width of groove .118 - .394"

for use with Toolholder

Type 221
 228
 U221
 U228



Indexability length
 ± .001"

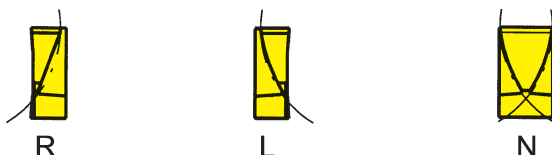
| Part number | w | s | r | t _{max} | D _{a min} | Size | Carbide grades | | |
|----------------|------|------|------|------------------|--------------------|------|----------------|------|------|
| | | | | | | | TN32 | TN35 | TA45 |
| R/L231.4030.32 | .118 | .150 | .008 | .315 | 1.575 | 04 | | ▲/▲ | |
| R/L231.4040.32 | .157 | .150 | .008 | .315 | 1.575 | 04 | | ▲/▲ | |
| R/L231.4050.34 | .197 | .228 | .016 | .315 | 1.575 | 05 | | ▲/▲ | |
| N231.4060.34 | .236 | .228 | .016 | .315 | 1.575 | 05 | | ▲ | |
| N231.4070.36 | .276 | .307 | .024 | .315 | 1.575 | 07 | | ▲ | |
| N231.4080.36 | .315 | .307 | .024 | .315 | 1.575 | 07 | | ▲ | |
| N231.4090.38 | .354 | .386 | .031 | .315 | 1.575 | 09 | | ▲ | |
| N231.4100.38 | .394 | .386 | .031 | .315 | 1.575 | 09 | | ▲ | |
| | | | | | | | P | • | |
| | | | | | | | M | • | |
| | | | | | | | K | • | |
| | | | | | | | S | • | |
| | | | | | | | N | • | |
| | | | | | | | H | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R, L or N version

Outer- \varnothing of groove < 40 mm upon request.



R = right hand version L = left hand version N = right and left hand version

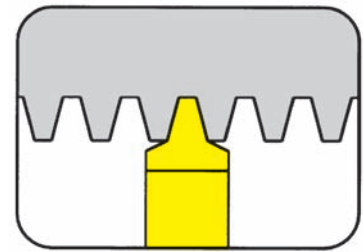
THREADING (external) Full profile



INDEXABLE INSERT Type

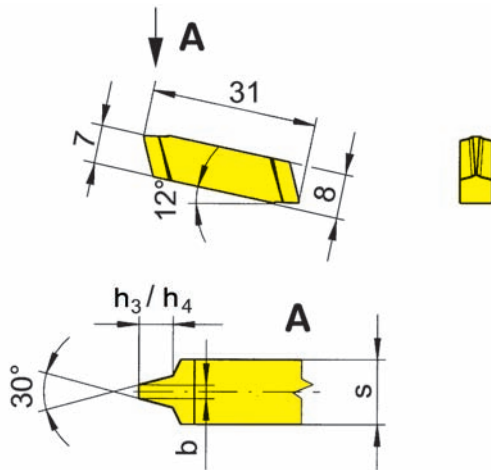
231

Pitch 7.0 - 12.0 mm



for use with Toolholder

Type 221
228
U221
U228



Metric ISO trapezoidal thread DIN 103

F

| Part number | P | b | s | h ₃ / h ₄ | Size | Carbide grades | | | |
|-------------|----|------|-----|---------------------------------|------|----------------|------|------|------|
| | | | | | | MG12 | TN35 | TI25 | TA45 |
| 231.4070.02 | 7 | 2.29 | 5.8 | 4.0 | 05 | | ▲ | | |
| 231.4580.02 | 8 | 2.66 | 5.8 | 4.5 | 05 | | ▲ | | |
| 231.5090.02 | 9 | 3.02 | 7.8 | 5.0 | 07 | | ▲ | | |
| 231.5500.02 | 10 | 3.39 | 7.8 | 5.5 | 07 | | ▲ | | |
| 231.6020.02 | 12 | 4.12 | 9.8 | 6.5 | 09 | | ▲ | | |
| | | | | | | P | • | | |
| | | | | | | M | • | | |
| | | | | | | K | • | | |
| | | | | | | S | • | | |
| | | | | | | N | • | | |
| | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

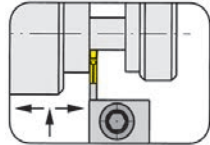
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

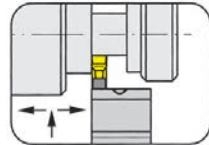
Special tools upon request

TOOLING SYSTEMS 229 / 259 **G**

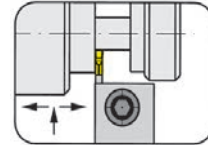
Grooving - external -



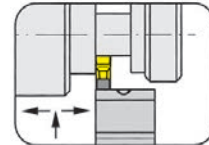
Page G2-G5, G5-G9



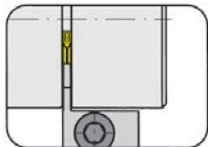
Page G6-G7, G10-G11



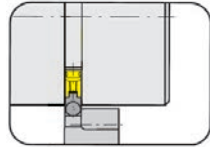
Page G12-G15, G18-G19



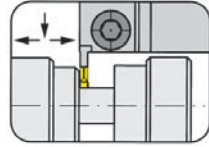
Page G16-G17, G20-G21



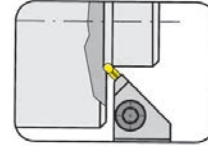
Page G22-G25



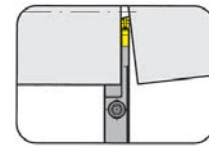
Page G26-G27



Page G28-G31

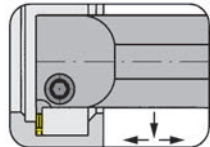


Page G32-G33

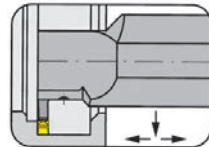


Page G34

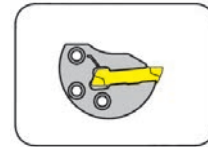
Grooving - internal -



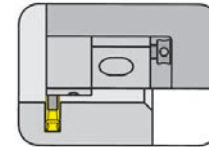
Page G37



Page G40-G49

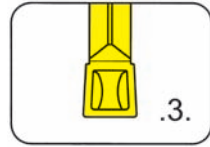


Page G50-G52

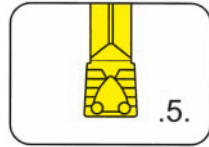


Page G53-G54

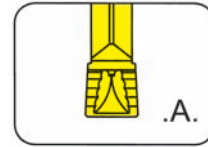
Indexable inserts type 229 / S229



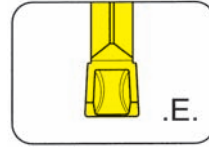
Page G56-G57



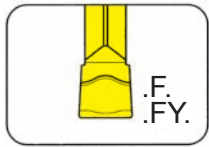
Page G58-G59



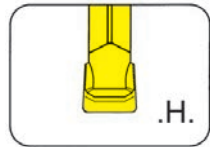
Page G60-G61



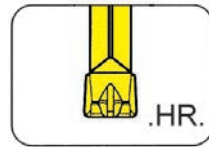
Page G62



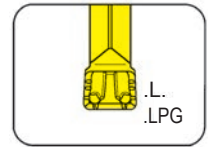
Page G64-G65



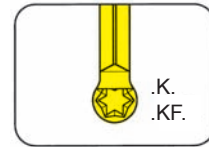
Page G66



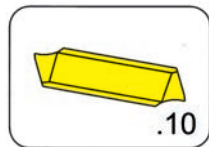
Page G67



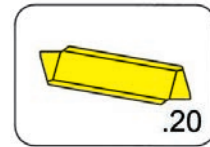
Page G68, G69



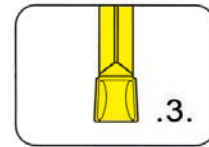
Page G70-G71



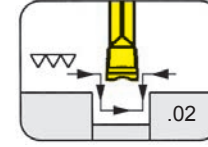
Page G72-G73



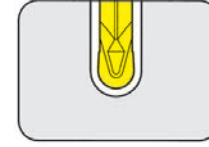
Page G74-G75



Page G76-G77

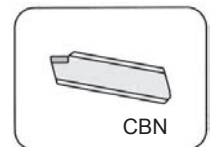


Page G78-G79



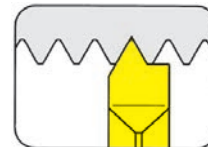
Page G80

Hard Turning Type 229

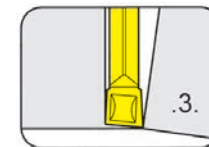


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Indexable inserts Type N229

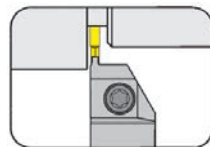


Page G82-G84

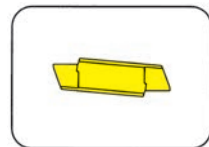


Page G85-G87

Grooving - external - type H259 / 259



Page G88



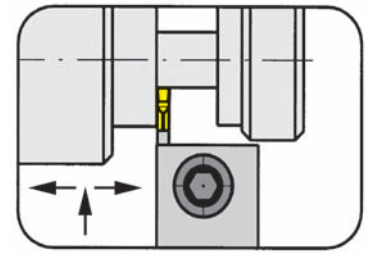
Page G89

For Technical Information please see chapter Q

G

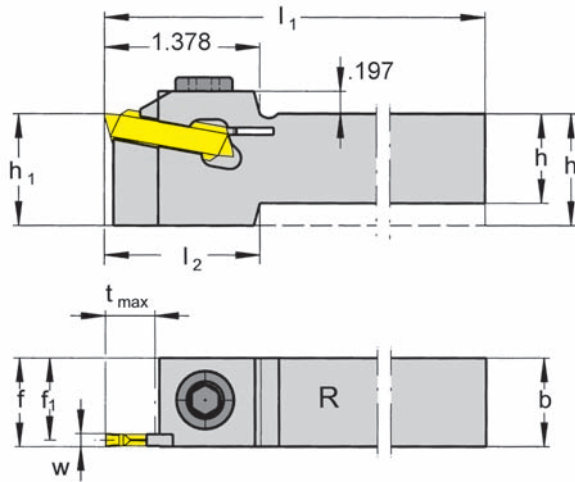
TOOLHOLDER Type

U210



Depth of groove up to
Clamping range

.433"
.098 - .236"



for use with Indexable
insert

Type 229
N229
S229

G

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/LU210.0750.02 | .750 | .750 | 6.000 | 1.000 | $f_1+w/2$ | .693 | 1.375 | .433 | 02 | .098 - .118 |
| R/LU210.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | | .943 | - | | | |
| R/LU210.0625.03 | .625 | .625 | 6.000 | 1.000 | $f_1+w/2$ | .568 | 1.750 | .433 | 03 | .118 - .157 |
| R/LU210.0750.03 | .750 | .750 | 6.000 | 1.000 | | .693 | 1.375 | | | |
| R/LU210.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .943 | - | | | |
| R/LU210.1250.03 | 1.250 | 1.000 | 6.625 | 1.250 | | .943 | - | | | |
| R/LU210.0750.04 | .750 | .750 | 6.000 | 1.000 | $f_1+w/2$ | .659 | 1.375 | .433 | 04 | .157 - .197 |
| R/LU210.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | | .909 | - | | | |
| R/LU210.1250.04 | 1.250 | 1.000 | 6.625 | 1.250 | | .909 | - | | | |
| R/LU210.0750.05 | .750 | .750 | 6.000 | 1.000 | $f_1+w/2$ | .640 | 1.375 | .433 | 05 | .201 - .236 |
| R/LU210.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | | .890 | - | | | |
| R/LU210.1250.05 | 1.250 | 1.000 | 6.625 | 1.250 | | .890 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

R/L 210...02 max. depth of groove up to \varnothing 5.906"

Spare parts

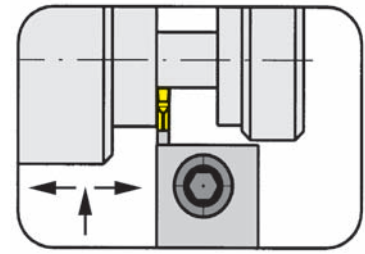
| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU210.... | 218.3 | SW6DIN911 |

G2

TOOLHOLDER Type

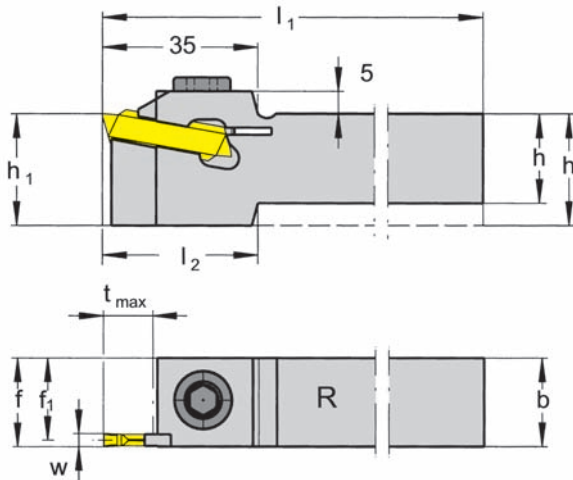
210

Depth of groove up to .433" (11.0 mm)
Clamping range .098 - .236" (2.5 - 6.0 mm)



for use with Indexable insert

Type 229
N229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L210.2020.02 | 20 | 20 | 150 | 25 | f ₁ +w/2 | 18.55 | 35 | 11 | 02 | 2.5 - 3.0 |
| R/L210.2525.02 | 25 | 25 | 150 | 25 | f ₁ +w/2 | 23.55 | - | - | - | - |
| R/L210.1616.03 | 16 | 16 | 150 | 25 | f ₁ +w/2 | 14.55 | 45 | - | - | - |
| R/L210.2020.03 | 20 | 20 | 150 | 25 | f ₁ +w/2 | 18.55 | 35 | 11 | 03 | 3.0 - 4.0 |
| R/L210.2525.03 | 25 | 25 | 150 | 25 | f ₁ +w/2 | 23.55 | - | - | - | - |
| R/L210.3225.03 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 23.55 | - | - | - | - |
| R/L210.2020.04 | 20 | 20 | 150 | 25 | f ₁ +w/2 | 17.70 | 35 | - | - | - |
| R/L210.2525.04 | 25 | 25 | 150 | 25 | f ₁ +w/2 | 22.70 | - | 11 | 04 | 4.0 - 5.0 |
| R/L210.3225.04 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 22.70 | - | - | - | - |
| R/L210.2020.05 | 20 | 20 | 150 | 25 | f ₁ +w/2 | 17.20 | 35 | - | - | - |
| R/L210.2525.05 | 25 | 25 | 150 | 25 | f ₁ +w/2 | 22.20 | - | 11 | 05 | 5.1 - 6.0 |
| R/L210.3225.05 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 22.20 | - | - | - | - |

State R or L version

w see indexable inserts

Dimensions in mm

R/L 210...02 max. depth of groove up to Ø 150 mm

Further sizes upon request

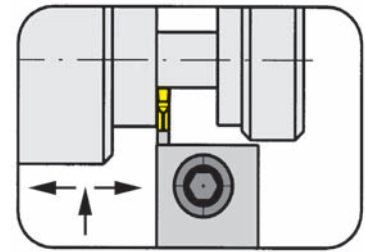
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L210.... | 218.3 | SW6DIN911 |

G

TOOLHOLDER Type

U210

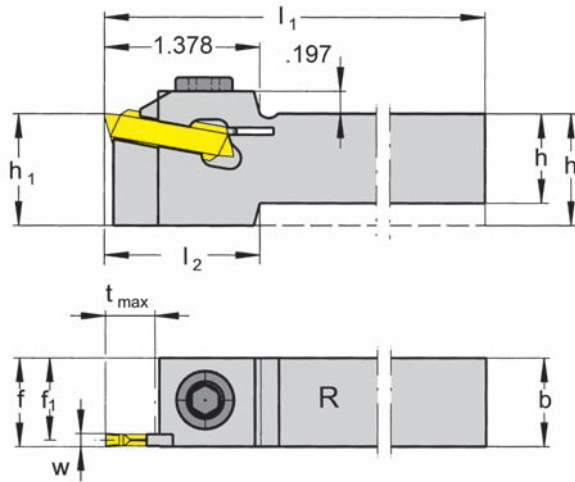


Depth of groove up to
Clamping range

.433"
.240 - .315"

for use with Indexable
insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/LU210.0750.07 | .750 | .750 | 6.000 | 1.000 | | .600 | 1.375 | | | |
| R/LU210.1000.07 | 1.000 | 1.000 | 6.000 | 1.000 | $f_1+w/2$ | .850 | - | .433 | 07 | .240 - .315 |
| R/LU210.1250.07 | 1.250 | 1.000 | 6.625 | 1.250 | | .850 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

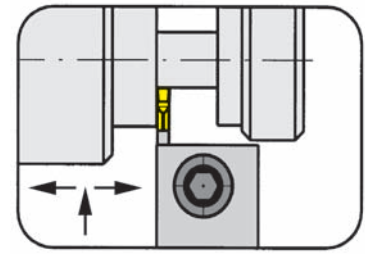
| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU210.... | 218.3 | SW6DIN911 |

G4

TOOLHOLDER Type

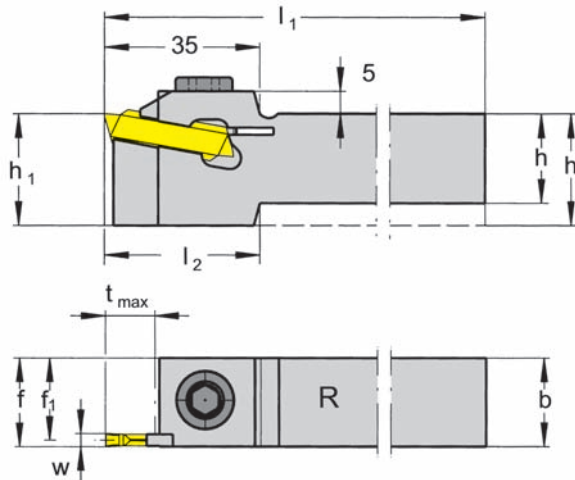
210

Depth of groove up to .433" (11.0 mm)
Clamping range .240 - .315" (6.1 - 8.0 mm)



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/L210.2020.07 | 20 | 20 | 150 | 25 | | 16.2 | 35 | | | |
| R/L210.2525.07 | 25 | 25 | 150 | 25 | $f_1+w/2$ | 21.2 | - | 11 | 07 | 6.1 - 8.0 |
| R/L210.3225.07 | 32 | 25 | 170 | 32 | | 21.2 | - | | | |
| R/L210.2020.08 | 20 | 20 | 150 | 25 | $f_1+w/2$ | 16.2 | 35 | 11 | 08 | 7.6 - 8.0 |
| R/L210.2525.08 | 25 | 25 | 150 | 25 | $f_1+w/2$ | 21.2 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

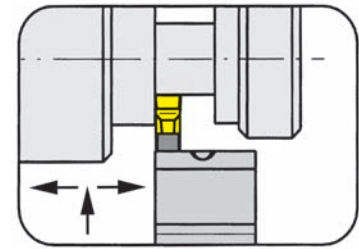
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L210.... | 218.3 | SW6DIN911 |

G

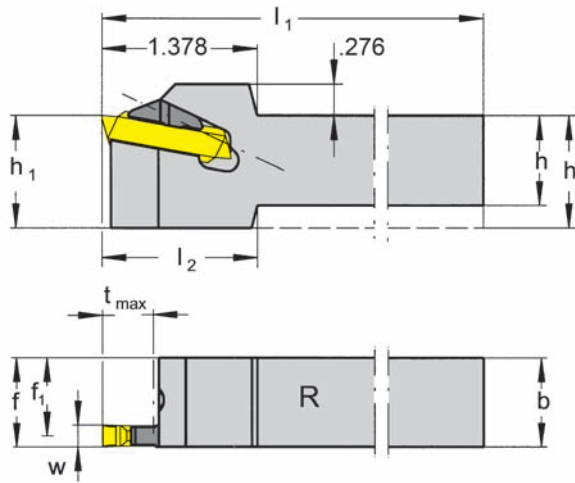
TOOLHOLDER Type

U210



Depth of groove up to
Clamping range

.433"
.319 - .409"



for use with Indexable
insert

Type 229
S229

G

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/LU210.0750.09 | .750 | .750 | 6.000 | 1.000 | | .561 | 1.375 | | | |
| R/LU210.1000.09 | 1.000 | 1.000 | 6.000 | 1.000 | $f_1+w/2$ | .811 | - | .433 | 09 | .319 - .409 |
| R/LU210.1250.09 | 1.250 | 1.000 | 6.625 | 1.250 | | .811 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note:

Please note type of clamp.

Spare parts

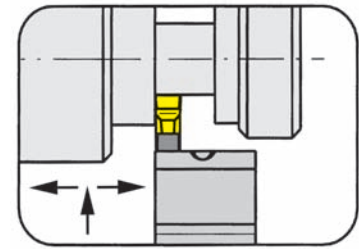
| Toolholder | Clamp | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| LU210....09 | L218.5.7 | T15PQ |
| RU210....09 | R218.5.7 | T15PQ |

G6

TOOLHOLDER Type

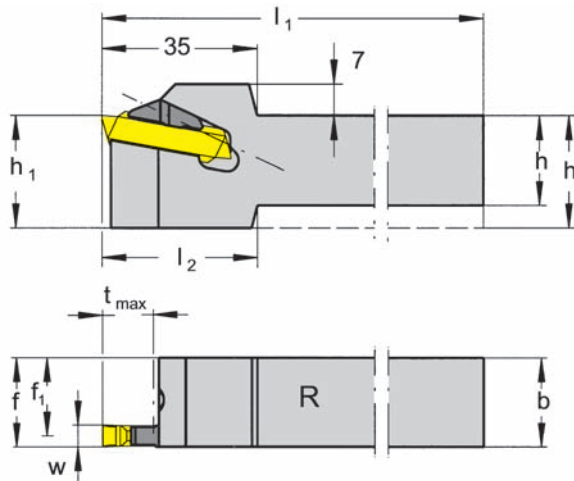
210

Depth of groove up to .433" (11.0 mm)
Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L210.2020.09 | 20 | 20 | 150 | 25 | | 15.2 | 35 | | | |
| R/L210.2525.09 | 25 | 25 | 150 | 25 | f ₁ +w/2 | 20.2 | - | 11 | 09 | 8.1 - 10.4 |
| R/L210.3225.09 | 32 | 25 | 170 | 32 | | 20.2 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Please note type of clamp.

Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|------------|--------|-------------------|
| L210....09 | L218.9 | T15PQ |
| R210....09 | R218.9 | T15PQ |



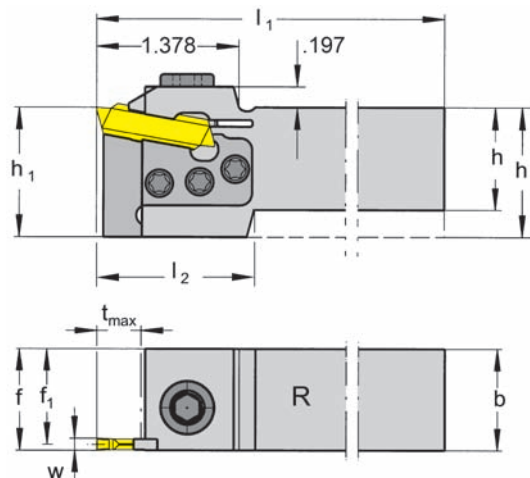
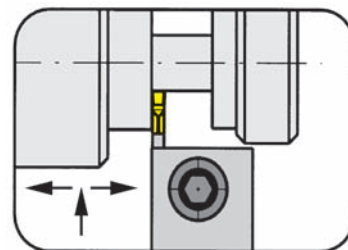
TOOLHOLDER Type

U210

with changeable cassette

Depth of groove up to
Clamping range

.433"
.118 - .315"



for use with Indexable insert

Type 229
N229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|------------------------------------|----------------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU210.1000.K3 R/LU210.1250.K3 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .943 | 2.000 - | .433 | 03 | .118 - .157 |
| R/LU210.1000.K4 R/LU210.1250.K4 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .909 | 2.000 - | .433 | 04 | .157 - .197 |
| R/LU210.1000.K5 R/LU210.1250.K5 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .890 | 2.000 - | .433 | 05 | .201 - .236 |
| R/LU210.1000.K7 R/LU210.1250.K7 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .850 | 2.000 - | .433 | 07 | .240 - .315 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

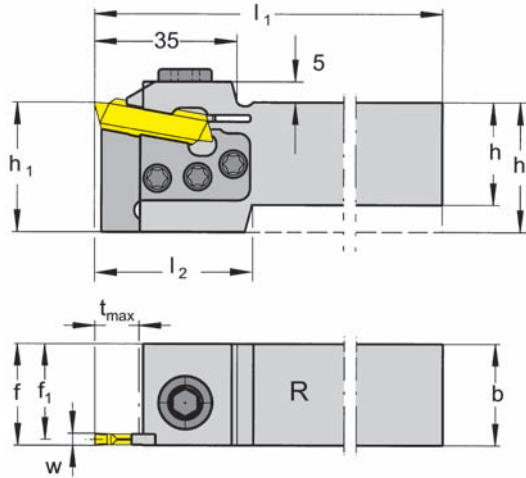
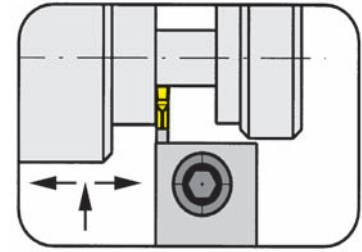
| Basic toolholder | Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------------|---------------|-------|-----------|-------------------|
| R/LU210.1...K3 | NK210.32.03 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU210.1...K4 | NK210.32.04 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU210.1...K5 | NK210.32.05 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU210.1...K7 | NK210.32.07 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |

BASIC TOOLHOLDER Type

210

with changeable cassette

Depth of groove up to .433" (11.0 mm)
Width of groove .118 - .315" (3.0 - 8.0 mm)



for use with Indexable insert

Type 229
N229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------------------------|----------|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L210.2525.K3 R/L210.3225.K3 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 23.55 | 35 - | 11 | 03 | 3.0 - 4.0 |
| R/L210.2525.K4 R/L210.3225.K4 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 22.70 | 35 - | 11 | 04 | 4.0 - 5.0 |
| R/L210.2525.K5 R/L210.3225.K5 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 22.20 | 35 - | 11 | 05 | 5.1 - 6.0 |
| R/L210.2525.K7 R/L210.3225.K7 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 21.20 | 35 - | 11 | 07 | 6.1 - 8.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Basic toolholder | Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------------|---------------|-------|-----------|-------------------|
| R/L210....K3 | NK210.32.03 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L210....K4 | NK210.32.04 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L210....K5 | NK210.32.05 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L210....K7 | NK210.32.07 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |



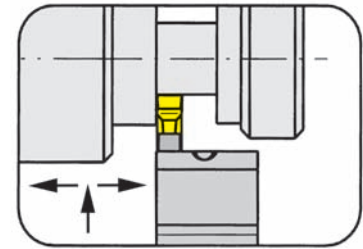
GROOVING and TURNING (external)



TOOLHOLDER Type

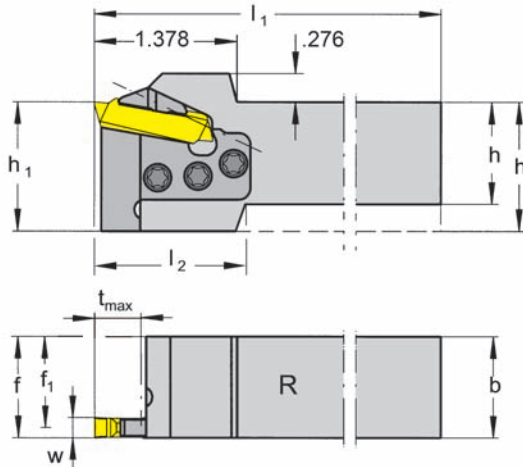
U210

with changeable cassette



Depth of groove up to
Clamping range

.433"
.319 - .409"



for use with Indexable
insert

Type 229
S229

G

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU210.1000.K9 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .811 | 2.000 | .433 | 09 | .319 - .409 |
| R/LU210.1250.K9 | 1.250 | 1.000 | 6.625 | 1.250 | f ₁ +w/2 | .811 | - | .433 | 09 | .319 - .409 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note:

Please note type of clamp.

Spare parts

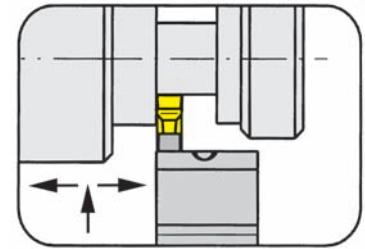
| Basic toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | TORX PLUS® Wrench |
|------------------|-------------|--------|----------------------|---------------|----------------------|
| LU210.1...K9 | NK210.32.09 | L218.9 | T15PQ | 030.0518.T20P | T20PQ |
| RU210.1...K9 | NK210.32.09 | R218.9 | T15PQ | 030.0518.T20P | T20PQ |

G10

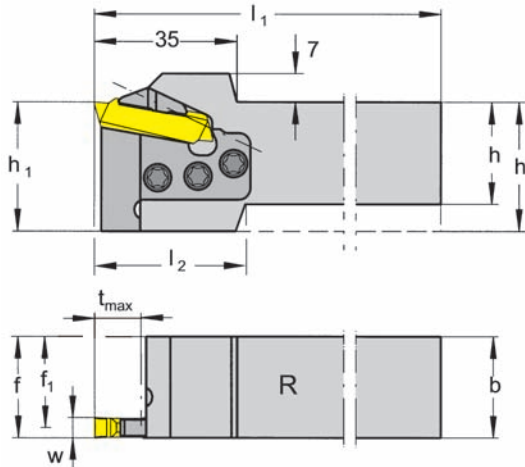
TOOLHOLDER Type

210

with changeable cassette



Depth of groove up to .433" (11.0 mm)
Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L210.2525.K9 | 25 | 25 | 150 | 32 | f ₁ +w/2 | 20.2 | 35 | 11 | 09 | 8.1 - 10.4 |
| R/L210.3225.K9 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 20.2 | - | 11 | 09 | 8.1 - 10.4 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Please note type of clamp.

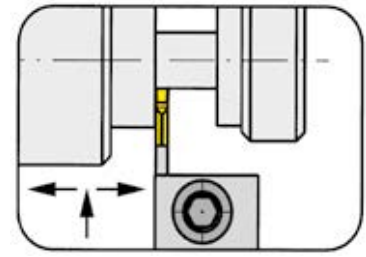
Spare parts

| Basic toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | TORX PLUS® Wrench |
|------------------|-------------|--------|-------------------|---------------|-------------------|
| L210....K9 | NK210.32.09 | L218.9 | T15PQ | 030.0518.T20P | T20PQ |
| R210....K9 | NK210.32.09 | R218.9 | T15PQ | 030.0518.T20P | T20PQ |



TOOLHOLDER Type

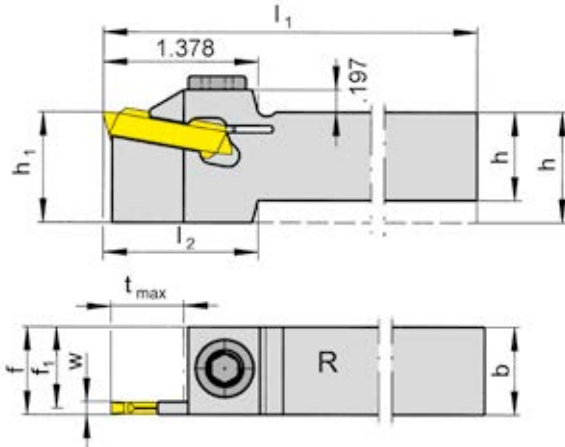
U218



Depth of groove up to **.709"**
Clamping range **.098 - .236"**

for use with Indexable insert

Type 229
N229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|-----------------|------|------|-------|-------|---------------------|------|-------|------|----|-------------|-----------------|------|------|-------|-------|------|-------|-----------------|-------|-------|-------|-------|------|---|-----------------|-------|-------|-------|-------|------|---|---|---|---|---|-----------------|------|------|-------|-------|---------------------|------|-------|------|----|-------------|-----------------|-------|-------|-------|-------|------|---|-----------------|-------|-------|-------|-------|------|---|-----------------|------|------|-------|-------|---------------------|------|-------|------|----|-------------|-----------------|-------|-------|-------|-------|------|---|-----------------|-------|-------|
| R/LU218.0750.02 | .750 | .750 | 6.000 | 1.000 | f ₁ +w/2 | .693 | 1.375 | .709 | 02 | .098 - .118 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | | .943 | - | | | | R/LU218.0625.03 | .625 | .625 | 6.000 | 1.000 | f ₁ +w/2 | .568 | 1.750 | .709 | 03 | .118 - .157 | R/LU218.0750.03 | .750 | .750 | 6.000 | 1.000 | .693 | 1.375 | R/LU218.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | .943 | - | R/LU218.1250.03 | 1.250 | 1.000 | 6.625 | 1.250 | .943 | - | - | - | - | - | R/LU218.0750.04 | .750 | .750 | 6.000 | 1.000 | f ₁ +w/2 | .659 | 1.375 | .709 | 04 | .157 - .197 | R/LU218.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | .909 | - | R/LU218.1250.04 | 1.250 | 1.000 | 6.625 | 1.250 | .909 | - | R/LU218.0750.05 | .750 | .750 | 6.000 | 1.000 | f ₁ +w/2 | .640 | 1.375 | .709 | 05 | .201 - .236 | R/LU218.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | .890 | - | R/LU218.1250.05 | 1.250 | 1.000 |
| R/LU218.0625.03 | .625 | .625 | 6.000 | 1.000 | f ₁ +w/2 | .568 | 1.750 | .709 | 03 | .118 - .157 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.0750.03 | .750 | .750 | 6.000 | 1.000 | | .693 | 1.375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .943 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1250.03 | 1.250 | 1.000 | 6.625 | 1.250 | .943 | - | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.0750.04 | .750 | .750 | 6.000 | 1.000 | f ₁ +w/2 | .659 | 1.375 | .709 | 04 | .157 - .197 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | | .909 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1250.04 | 1.250 | 1.000 | 6.625 | 1.250 | | .909 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.0750.05 | .750 | .750 | 6.000 | 1.000 | f ₁ +w/2 | .640 | 1.375 | .709 | 05 | .201 - .236 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | | .890 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/LU218.1250.05 | 1.250 | 1.000 | 6.625 | 1.250 | | .890 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

State R or L version

w see indexable inserts

Dimensions in inch

R/LU218...02 max. depth of groove up to Ø 3.150"

Further sizes upon request

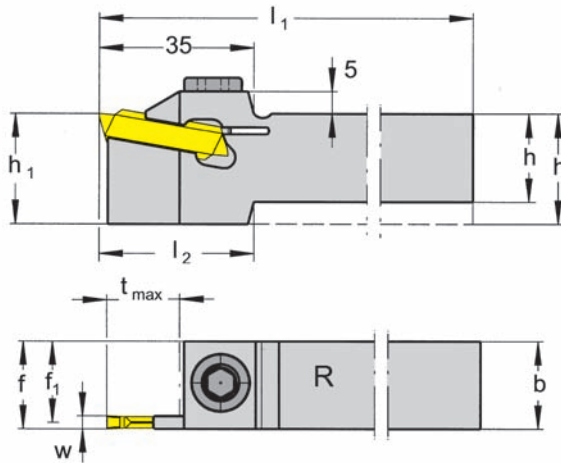
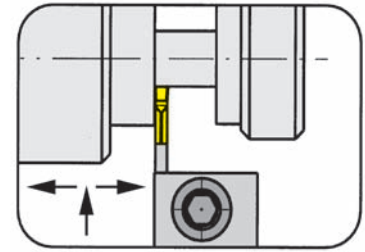
Spare parts

| Toolholder | Screw | Wrench |
|-------------|--------------|--------------------|
| R/LU218.... | 218.3 | SW6,0DIN911 |

TOOLHOLDER Type

218

Depth of groove up to .709" (18.0 mm)
Clamping range .098 - .236" (2.5 - 6.0 mm)



for use with Indexable insert

Type 229
N229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/L218.2020.02 | 20 | 20 | 150 | 25 | $f_1+w/2$ | 18.55 | 35 | 18 | 02 | 2.5 - 3.0 |
| R/L218.2525.02 | 25 | 25 | 150 | 25 | $f_1+w/2$ | 23.55 | - | | | |
| R/L218.1616.03 | 16 | 16 | 150 | 25 | $f_1+w/2$ | 14.55 | 45 | 18 | 03 | 3.0 - 4.0 |
| R/L218.2020.03 | 20 | 20 | 150 | 25 | | 18.55 | 35 | | | |
| R/L218.2525.03 | 25 | 25 | 150 | 25 | | 23.55 | - | | | |
| R/L218.3225.03 | 32 | 25 | 170 | 32 | 23.55 | - | - | - | - | - |
| R/L218.2020.04 | 20 | 20 | 150 | 25 | $f_1+w/2$ | 17.70 | 35 | 18 | 04 | 4.0 - 5.0 |
| R/L218.2525.04 | 25 | 25 | 150 | 25 | | 22.70 | - | | | |
| R/L218.3225.04 | 32 | 25 | 170 | 32 | | 22.70 | - | | | |
| R/L218.2020.05 | 20 | 20 | 150 | 25 | $f_1+w/2$ | 17.20 | 35 | 18 | 05 | 5.1 - 6.0 |
| R/L218.2525.05 | 25 | 25 | 150 | 25 | | 22.20 | - | | | |
| R/L218.3225.05 | 32 | 25 | 170 | 32 | | 22.20 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

R/L 218...02 max. depth of groove up to Ø 80 mm

Further sizes upon request

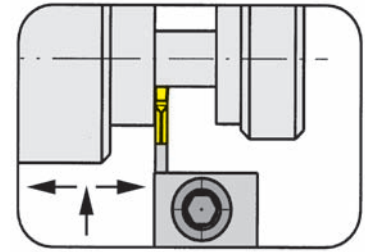
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L218.... | 218.3 | SW6DIN911 |

G

TOOLHOLDER Type

U218

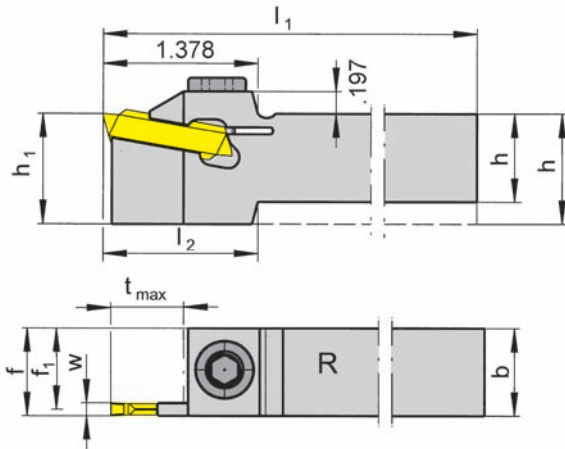


Depth of groove up to
Clamping range

.709"
.240 - .315"

for use with Indexable
insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/LU218.0750.07 | .750 | .750 | 6.000 | 1.000 | | .600 | 1.375 | | | |
| R/LU218.1000.07 | 1.000 | 1.000 | 6.000 | 1.000 | $f_1+w/2$ | .850 | - | .709 | 07 | .240 - .315 |
| R/LU218.1250.07 | 1.250 | 1.000 | 6.625 | 1.250 | | .850 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

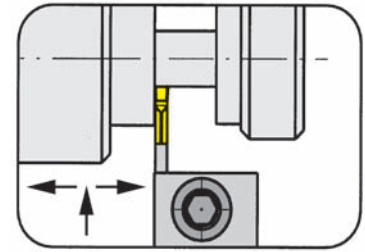
Spare parts

| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU218.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

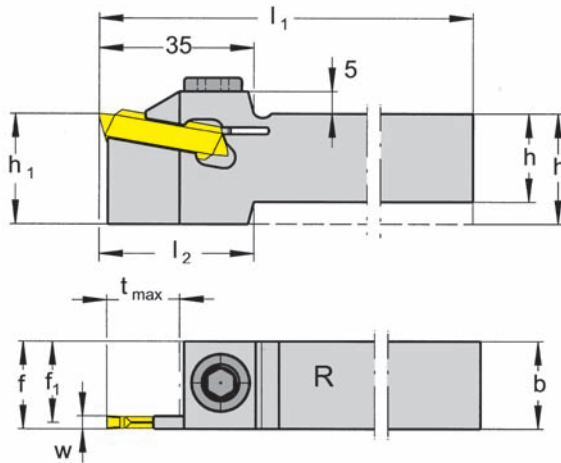
218

Depth of groove up to .709" (18.0 mm)
Clamping range .240 - .315" (6.1 - 8.0 mm)



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/L218.2020.07 | 20 | 20 | 150 | 25 | | 16.2 | 35 | | | |
| R/L218.2525.07 | 25 | 25 | 150 | 25 | $f_1+w/2$ | 21.2 | - | 18 | 07 | 6.1 - 8.0 |
| R/L218.3225.07 | 32 | 25 | 170 | 32 | | 21.2 | - | | | |
| R/L218.2525.08 | 25 | 25 | 150 | 25 | $f_1+w/2$ | 21.2 | - | 18 | 08 | 7.6 - 8.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

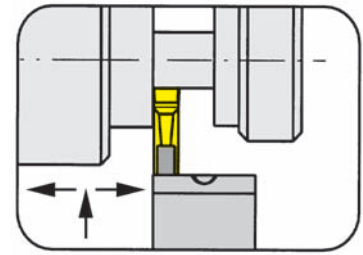
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L218.... | 218.3 | SW6DIN911 |

G

TOOLHOLDER Type

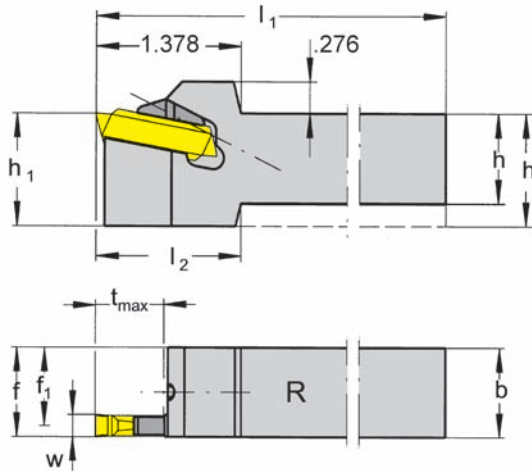
U218



Depth of groove up to .709"
Clamping range .319 - .409"

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/LU218.0750.09 | .750 | .750 | 6.000 | 1.000 | | .561 | 1.375 | | | |
| R/LU218.1000.09 | 1.000 | 1.000 | 6.000 | 1.000 | $f_1+w/2$ | .811 | - | .709 | 09 | .319 - .409 |
| R/LU218.1250.09 | 1.250 | 1.000 | 6.625 | 1.250 | | .811 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Note:

Please note type of clamp.

Further sizes upon request

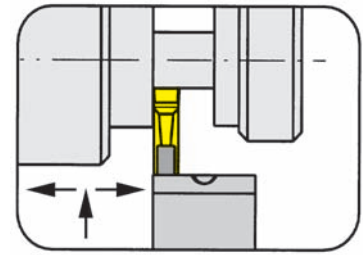
Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|-------------|---------------|-------------------|
| LU218....09 | L218.9 | T15PQ |
| RU218....09 | R218.9 | T15PQ |

TOOLHOLDER Type

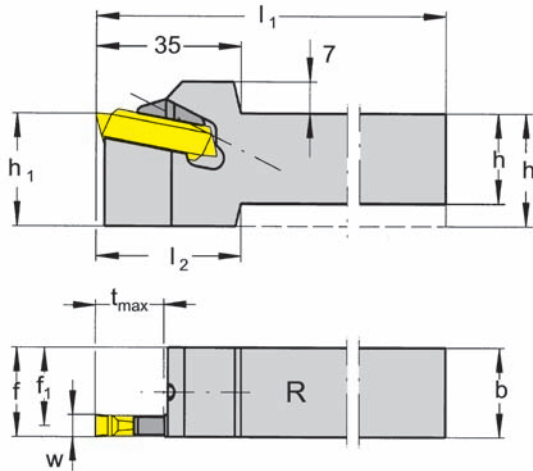
218

Depth of groove up to .709" (18.0 mm)
Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-------------|-------|-------|-----------|------|----------------|
| R/L218.2020.09 | 20 | 20 | 150 | 25 | | 15.2 | 35 | | | |
| R/L218.2525.09 | 25 | 25 | 150 | 25 | $f_1 + w/2$ | 20.2 | - | 18 | 09 | 8.1 - 10.4 |
| R/L218.3225.09 | 32 | 25 | 170 | 32 | | 20.2 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Note:

Please note type of clamp.

Further sizes upon request

Spare parts

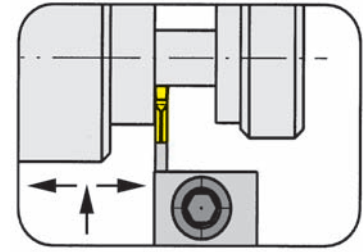
| Toolholder | Clamp | TORX PLUS® Wrench |
|------------|--------|-------------------|
| L218....09 | L218.9 | T15PQ |
| R218....09 | R218.9 | T15PQ |

G

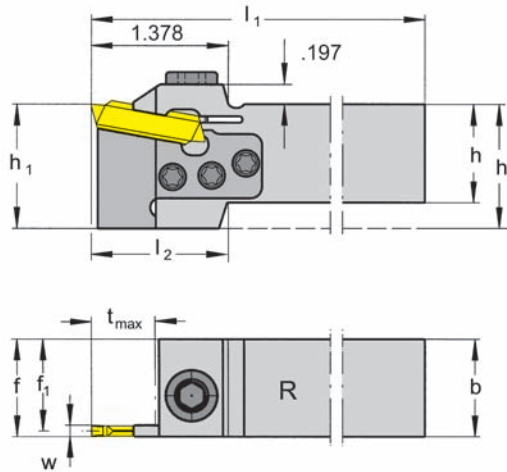
BASIC TOOLHOLDER Type

U218

with changeable cassette



Depth of groove up to .709"
Clamping range .118 - .315"



for use with Indexable insert

Type 229
N229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|------------------------------------|----------------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU218.1000.K3 R/LU218.1250.K3 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .943 | 2.000 - | .709 | 03 | .118 - .157 |
| R/LU218.1000.K4 R/LU218.1250.K4 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .909 | 2.000 - | .709 | 04 | .157 - .197 |
| R/LU218.1000.K5 R/LU218.1250.K5 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .890 | 2.000 - | .709 | 05 | .201 - .236 |
| R/LU218.1000.K7 R/LU218.1250.K7 | 1.000 1.250 | 1.000 | 6.000 6.625 | 1.250 | f ₁ +w/2 | .850 | 2.000 - | .709 | 07 | .240 - .315 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

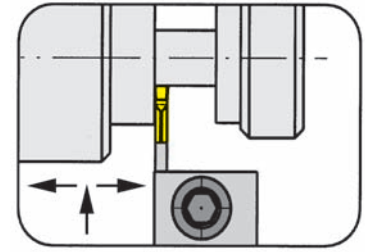
Spare parts

| Basic toolholder | Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------------|---------------|-------|-----------|-------------------|
| R/LU218.1...K3 | NK218.32.03 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU218.1...K4 | NK218.32.04 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU218.1...K5 | NK218.32.05 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU218.1...K7 | NK218.32.07 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |

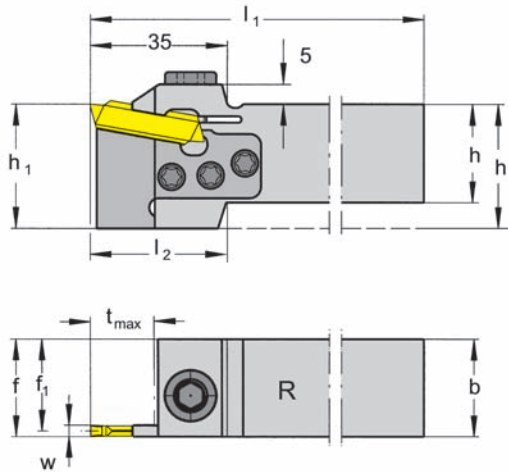
BASIC TOOLHOLDER Type

218

with changeable cassette



Depth of groove up to .709" (18.0 mm)
Clamping range .118 - .315" (3.0 - 8.0 mm)



for use with Indexable insert

Type 229
N229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------------------------|----------|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L218.2525.K3 R/L218.3225.K3 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 23.55 | 35 - | 18 | 03 | 3.0 - 4.0 |
| R/L218.2525.K4 R/L218.3225.K4 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 22.70 | 35 - | 18 | 04 | 4.0 - 5.0 |
| R/L218.2525.K5 R/L218.3225.K5 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 22.20 | 35 - | 18 | 05 | 5.1 - 6.0 |
| R/L218.2525.K7 R/L218.3225.K7 | 25 32 | 25 | 150 170 | 32 | f ₁ +w/2 | 21.20 | 35 - | 18 | 07 | 6.1 - 8.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

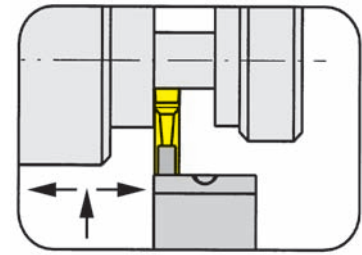
| Basic toolholder | Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------------|---------------|-------|-----------|-------------------|
| R/L218....K3 | NK218.32.03 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L218....K4 | NK218.32.04 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L218....K5 | NK218.32.05 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L218....K7 | NK218.32.07 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |

G

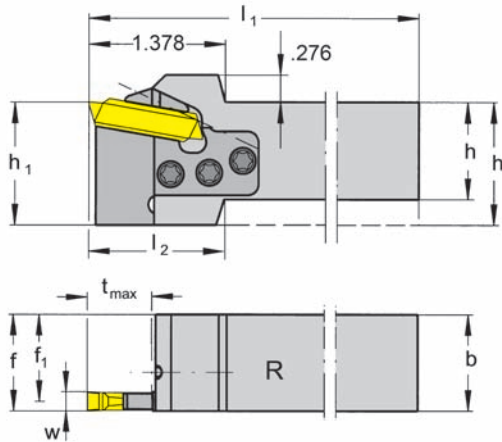
TOOLHOLDER Type

U218

with changeable cassette



Depth of groove up to .709"
Clamping range .319 - .409"



for use with Indexable insert

Type 229
S229

G

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU218.1000.K9 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .811 | 2.000 | .709 | 09 | .319 - .409 |
| R/LU218.1250.K9 | 1.250 | 1.000 | 6.625 | 1.250 | f ₁ +w/2 | .811 | - | .709 | 09 | .319 - .409 |

State R or L version

w see indexable inserts

Dimensions in inch

Note:

Please note type of clamp.

Further sizes upon request

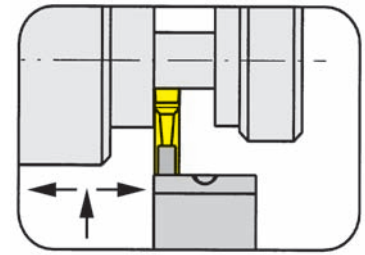
Spare parts

| Basic toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | TORX PLUS® Wrench |
|------------------|-------------|--------|-------------------|---------------|-------------------|
| LU218.1...K9 | NK218.32.09 | L218.9 | T15PQ | 030.0518.T20P | T20PQ |
| RU218.1...K9 | NK218.32.09 | R218.9 | T15PQ | 030.0518.T20P | T20PQ |

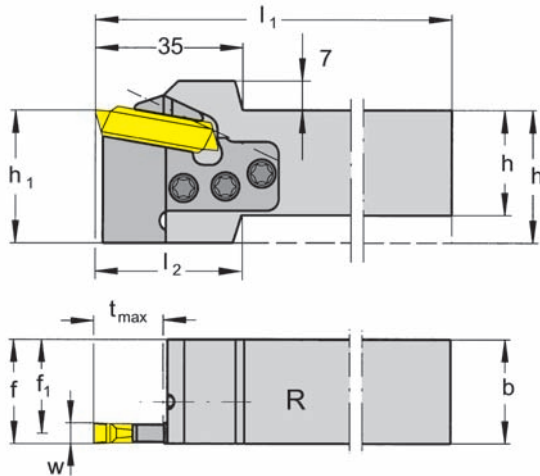
BASIC TOOLHOLDER Type

218

with changeable cassette



Depth of groove up to .709" (18.0 mm)
Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L218.2525.K9 | 25 | 25 | 150 | 32 | f ₁ +w/2 | 20.2 | 48 | 18 | 09 | 8.1 - 10.4 |
| R/L218.3225.K9 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 20.2 | - | 18 | 09 | 8.1 - 10.4 |

State R or L version

w see indexable inserts

Dimensions in mm

Note:

Please note type of clamp.

Further sizes upon request

Spare parts

| Basic toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | TORX PLUS® Wrench |
|------------------|-------------|--------|-------------------|---------------|-------------------|
| L218....K9 | NK218.32.09 | L218.9 | T15PQ | 030.0518.T20P | T20PQ |
| R218....K9 | NK218.32.09 | R218.9 | T15PQ | 030.0518.T20P | T20PQ |

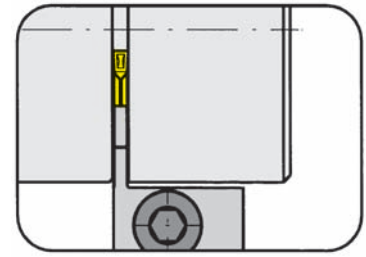
G

GROOVING (external)



TOOLHOLDER Type

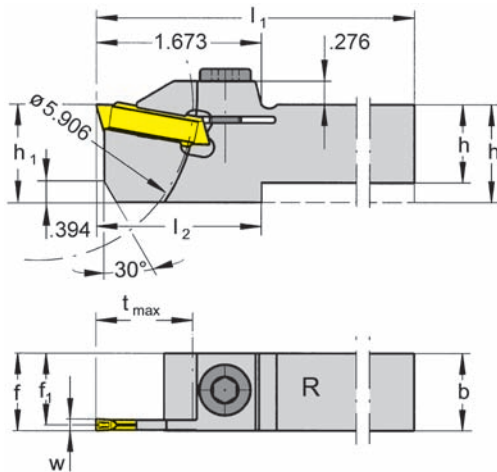
U226



Depth of groove up to 1.000"
Clamping range .118 - .236"

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU226.0625.03 | .625 | .625 | 6.000 | | | .568 | 2.000 | | | |
| R/LU226.0750.03 | .750 | .750 | 6.000 | 1.250 | f ₁ +w/2 | .693 | 1.675 | 1.000 | 03 | .118 - .157 |
| R/LU226.1000.03 | 1.000 | 1.000 | 6.000 | | | .943 | 1.675 | | | |
| R/LU226.1250.03 | 1.250 | 1.000 | 6.625 | | | .943 | - | | | |
| R/LU226.0625.04 | .625 | .625 | 6.000 | | | .534 | 2.000 | | | |
| R/LU226.0750.04 | .750 | .750 | 6.000 | 1.250 | f ₁ +w/2 | .659 | 1.675 | 1.000 | 04 | .157 - .197 |
| R/LU226.1000.04 | 1.000 | 1.000 | 6.000 | | | .909 | 1.675 | | | |
| R/LU226.1250.04 | 1.250 | 1.000 | 6.625 | | | .909 | - | | | |
| R/LU226.0750.05 | .750 | .750 | 6.000 | | | .640 | 1.675 | | | |
| R/LU226.1000.05 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .890 | 1.675 | 1.000 | 05 | .201 - .236 |
| R/LU226.1250.05 | 1.250 | 1.000 | 6.625 | | | .890 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU226.... | 218.3 | SW6DIN911 |

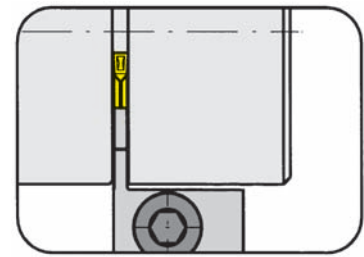
G22

GROOVING (external)

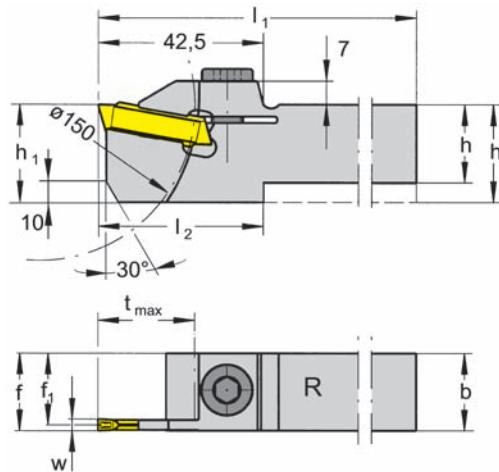


TOOLHOLDER Type

226



Depth of groove up to .984" (25.0 mm)
Clamping range .118 - .236" (3.0 - 6.0 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version



| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/L226.1616.03 | 16 | 16 | 150 | | | 18.55 | 52.5 | | | |
| R/L226.2020.03 | 20 | 20 | 150 | 32 | $f_1+w/2$ | 18.55 | 42.5 | 25 | 03 | 3.0 - 4.0 |
| R/L226.2525.03 | 25 | 25 | 150 | | | 23.55 | - | | | |
| R/L226.3225.03 | 32 | 25 | 170 | | | 23.55 | - | | | |
| R/L226.1616.04 | 16 | 16 | 150 | | | 13.70 | 52.5 | | | |
| R/L226.2020.04 | 20 | 20 | 150 | 32 | $f_1+w/2$ | 17.70 | 42.5 | 25 | 04 | 4.0 - 5.0 |
| R/L226.2525.04 | 25 | 25 | 150 | | | 22.70 | - | | | |
| R/L226.3225.04 | 32 | 25 | 170 | | | 22.70 | - | | | |
| R/L226.2020.05 | 20 | 20 | 150 | | | 17.20 | 42.5 | | | |
| R/L226.2525.05 | 25 | 25 | 150 | 32 | $f_1+w/2$ | 22.20 | 42.5 | 25 | 05 | 5.1 - 6.0 |
| R/L226.3225.05 | 32 | 25 | 170 | | | 22.20 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

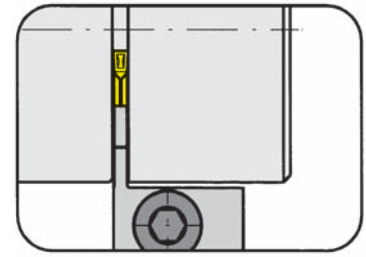
| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L226.... | 218.3 | SW6DIN911 |

GROOVING (external)



TOOLHOLDER Type

U226

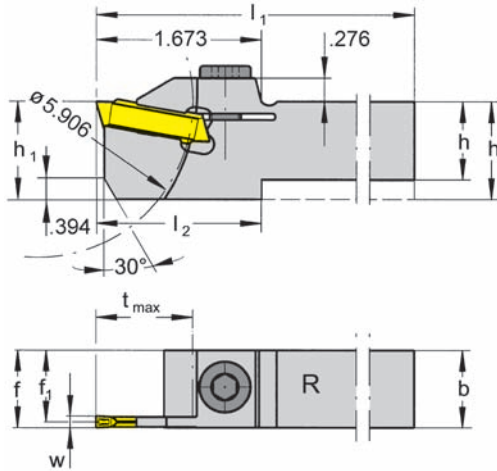


Depth of groove up to
Clamping range

1.000"
.240 - .315"

for use with Indexable
insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU226.1000.07 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .850 | 1.675 | 1.000 | 07 | .240 - .315 |
| R/LU226.1250.07 | 1.250 | 1.000 | 6.625 | 1.250 | f ₁ +w/2 | .850 | - | 1.000 | 07 | .240 - .315 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Screw | Wrench |
|--------------|-------|-----------|
| R/LU226.1... | 218.3 | SW6DIN911 |

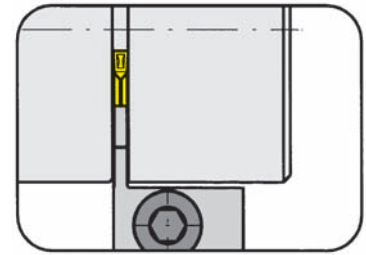
G24

GROOVING (external)

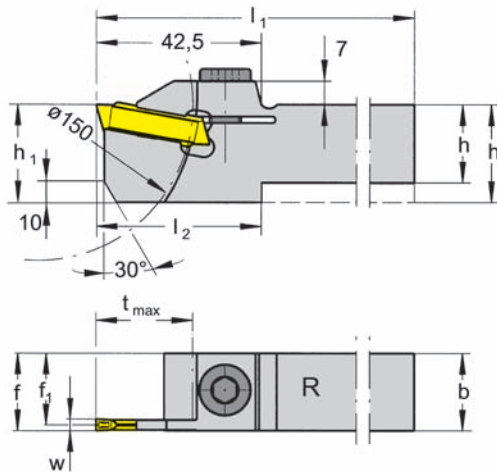


TOOLHOLDER Type

226



Depth of groove up to .984" (25.0 mm)
Clamping range .240 - .315" (6.1 - 8.0 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-----------|-------|-------|-----------|------|----------------|
| R/L226.2525.07 | 25 | 25 | 150 | 32 | $f_1+w/2$ | 21.2 | 42.5 | 25 | 07 | 6.1 - 8.0 |
| R/L226.3225.07 | 32 | 25 | 170 | 32 | $f_1+w/2$ | 21.2 | - | 25 | 07 | 6.1 - 8.0 |
| R/L226.2525.08 | 25 | 25 | 150 | 32 | $f_1+w/2$ | 20.2 | 42.5 | 25 | 08 | 7.6 - 8.0 |
| R/L226.3225.08 | 32 | 25 | 170 | 32 | $f_1+w/2$ | 21.2 | - | 25 | 08 | 7.6 - 8.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L226.... | 218.3 | SW6DIN911 |

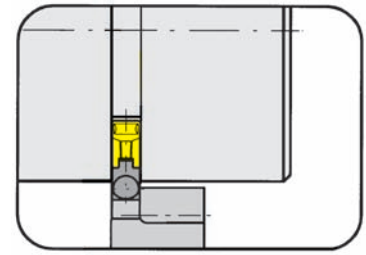
G

GROOVING (external)



TOOLHOLDER Type

U226

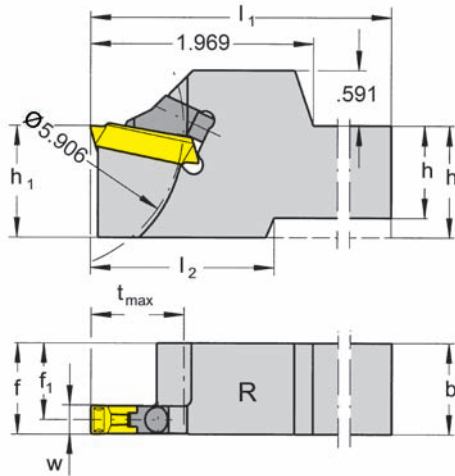


Depth of groove up to
Clamping range

1.000"
.319 - .409"

for use with Indexable
insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU226.1000.09 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .811 | 1.675 | 1.000 | 09 | .319 - .409 |
| R/LU226.1250.09 | 1.250 | 1.000 | 6.625 | 1.250 | f ₁ +w/2 | .811 | - | 1.000 | 09 | .319 - .409 |

State R or L version

w see indexable inserts

Dimensions in inch

Note:

Please note type of clamp.

Further sizes upon request

Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|--------------|---------------|-------------------|
| R/LU226.1... | 020.1008.0041 | T15PQ |

G26

G

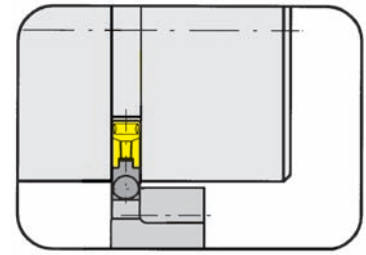
GROOVING (external)



TOOLHOLDER Type

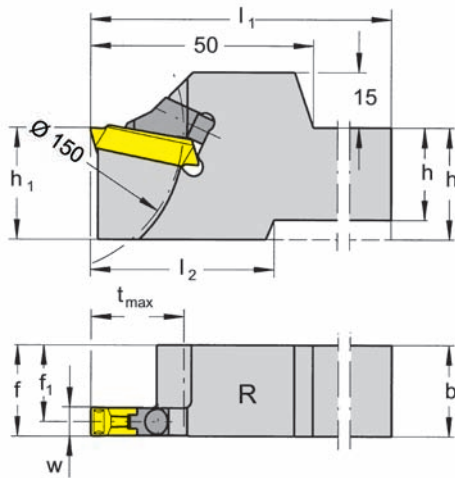
226

Depth of groove up to .984" (25.0 mm)
Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L226.2525.09 | 25 | 25 | 150 | 32 | f ₁ +w/2 | 20.2 | 42.5 | 25 | 09 | 8.1 - 10.4 |
| R/L226.3225.09 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 20.2 | - | 25 | 09 | 8.1 - 10.4 |

State R or L version

w see indexable inserts

Dimensions in mm

Note:

Please note type of clamp.

Further sizes upon request

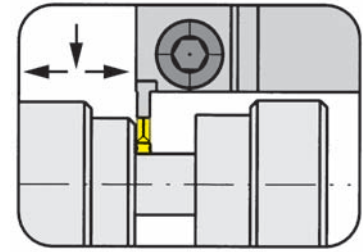
Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|------------|---------------|-------------------|
| R/L226.... | 020.1008.0041 | T15PQ |

G

TOOLHOLDER Type

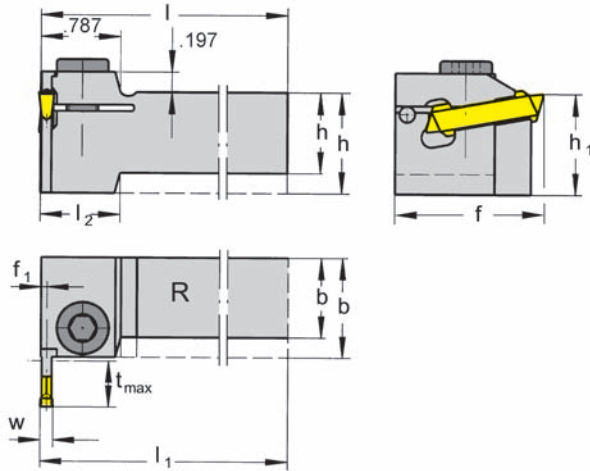
U219



Depth of groove up to **.591"**
Clamping range **.118 - .315"**

for use with Indexable insert

Type 229
N229
S229



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | t _{max} | Size | Clamping range |
|------------------------------------|---------------|----------------|---------------|-------|-----------------------|----------------|-------|----------------|------------------|------|----------------|
| R/LU219.0750.03 R/LU219.1000.03 | .750 1.000 | 1.000 | .750 1.000 | 6.000 | l-f ₁ +w/2 | .787 - | 1.472 | .057 | .433 | 03 | .118 - .157 |
| R/LU219.0750.04 R/LU219.1000.04 | .750 1.000 | 1.000 | .750 1.000 | 6.000 | l-f ₁ +w/2 | .787 - | 1.472 | .091 | .433 | 04 | .157 - .197 |
| R/LU219.0750.05 R/LU219.1000.05 | .750 1.000 | 1.000 | .750 1.000 | 6.000 | l-f ₁ +w/2 | .906 - | 1.772 | .110 | .591 | 05 | .201 - .236 |
| R/LU219.0750.07 R/LU219.1000.07 | .750 1.000 | 1.000 | .750 1.000 | 6.000 | l-f ₁ +w/2 | .906 - | 1.772 | .150 | .591 | 07 | .240 - .315 |

State R or L version

w see indexable inserts

Dimensions in inch

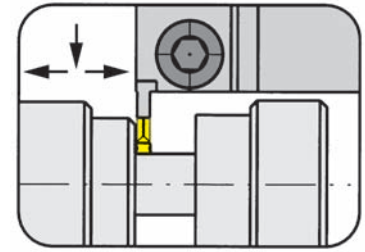
Further sizes upon request

Spare parts

| Toolholder | Screw | Wrench |
|-------------|--------------|------------------|
| R/LU219.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

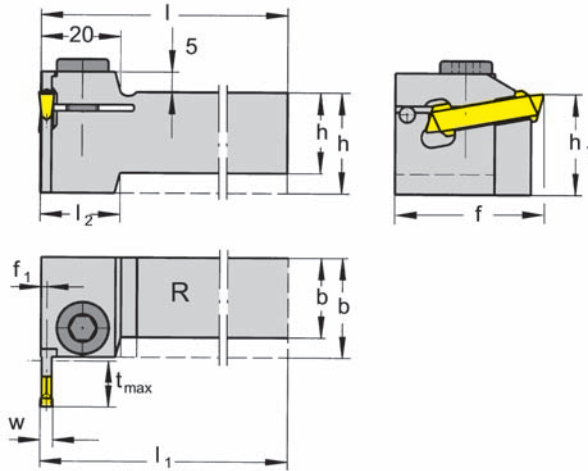
219



Depth of groove up to .591" (15.0 mm)
Clamping range .118 - .315" (3.0 - 8.0 mm)

for use with Indexable insert

Type 229
N229
S229



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | t _{max} | Size | Clamping range |
|----------------------------------|----------|----------------|----------|-----|----------------|----------------|----|----------------|------------------|------|----------------|
| R/L219.2020.03 R/L219.2525.03 | 20 25 | 25 | 20 25 | 150 | $l-f_1+w/2$ | 20 - | 37 | 1.45 | 11 | 03 | 3.0 - 4.0 |
| R/L219.2020.04 R/L219.2525.04 | 20 25 | 25 | 20 25 | 150 | $l-f_1+w/2$ | 20 - | 37 | 2.30 | 11 | 04 | 4.0 - 5.0 |
| R/L219.2020.05 R/L219.2525.05 | 20 25 | 25 | 20 25 | 150 | $l-f_1+w/2$ | 23 - | 45 | 2.80 | 15 | 05 | 5.1 - 6.0 |
| R/L219.2020.07 R/L219.2525.07 | 20 25 | 25 | 20 25 | 150 | $l-f_1+w/2$ | 23 - | 45 | 3.80 | 15 | 07 | 6.1 - 8.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

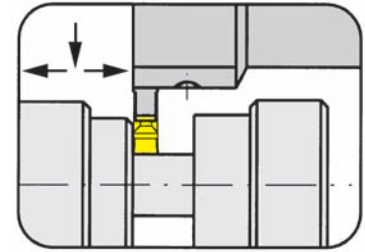
Spare parts

| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/L219.2... | 218.3 | SW6DIN911 |

G

TOOLHOLDER Type

U219

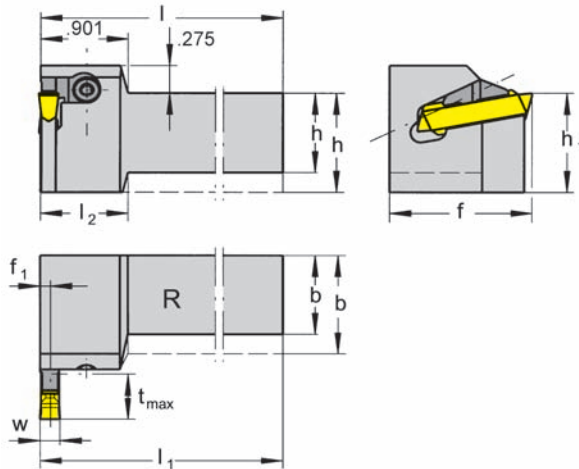


Depth of groove up to
Clamping range

.591"
.319 - .409"

for use with Indexable
insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | t _{max} | Size | Clamping range |
|-----------------|-------|----------------|-------|-------|----------------|----------------|-------|----------------|------------------|------|----------------|
| R/LU219.0750.09 | .750 | 1.000 | .750 | 6.000 | $l-f_1+w/2$ | .906 | 1.772 | .189 | .591 | 09 | .319 - .409 |
| R/LU219.1000.09 | 1.000 | 1.000 | 1.000 | 6.000 | $l-f_1+w/2$ | - | 1.772 | .189 | .591 | 09 | .319 - .409 |

State R or L version

w see indexable inserts

Dimensions in inch

Note:

Please note type of clamp.

Further sizes upon request

Spare parts

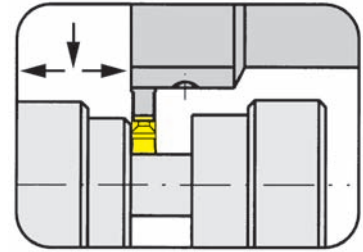
| Toolholder | Clamp | TORX PLUS® Wrench |
|-------------|------------------|-------------------|
| LU219....09 | R218.9.32 | T15PQ |
| RU219....09 | L218.9.32 | T15PQ |

G30

G

TOOLHOLDER Type

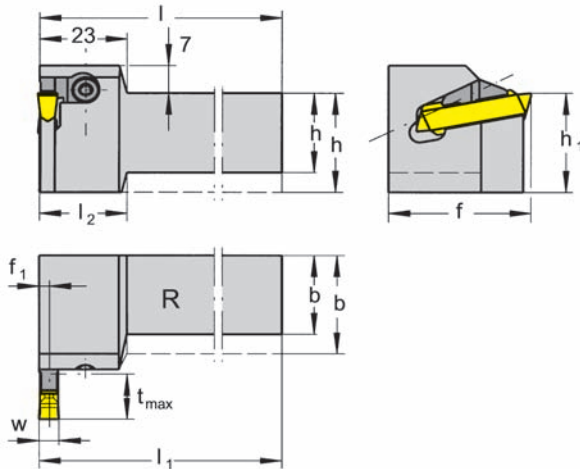
219



Depth of groove up to .591" (15.0 mm)
Clamping range .319 - .409" (8.1 - 10.4 mm)

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | t _{max} | Size | Clamping range |
|----------------|----|----------------|----|-----|-----------------------|----------------|----|----------------|------------------|------|----------------|
| R/L219.2020.09 | 20 | 25 | 20 | 150 | l-f ₁ +w/2 | 23 | 45 | 4.8 | 15 | 09 | 8.1- 10.4 |
| R/L219.2525.09 | 25 | 25 | 25 | 150 | l-f ₁ +w/2 | - | 45 | 4.8 | 15 | 09 | 8.1- 10.4 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Please note type of clamp.

Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| L219.2...09 | R218.9.32 | T15PQ |
| R219.2...09 | L218.9.32 | T15PQ |

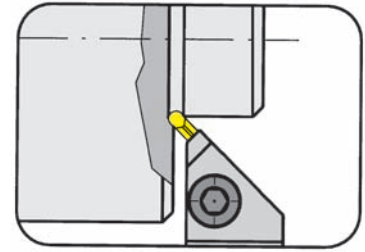
G

GROOVING CORNER RELIEFS (external)



TOOLHOLDER Type

U225

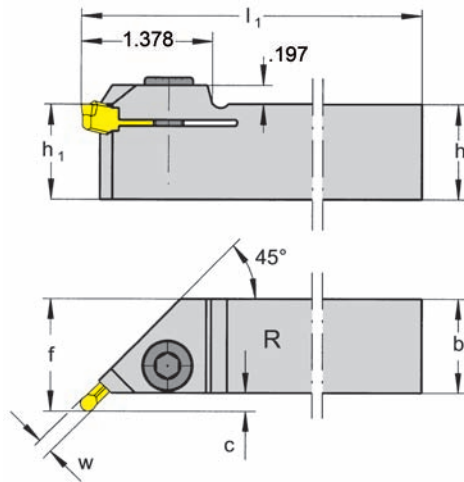


Clamping range

.118 - .197"

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | c | D_{min} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|------|-----------|------|----------------|
| R/LU225.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | 1.197 | .197 | 1.968 | 04 | .118 - .197 |

State R or L version

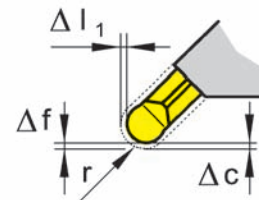
w see indexable inserts

Dimensions in inch

Further sizes upon request

Revision factor Δl_1 , Δc and Δf in relation to radius r

| r | Δl_1 | Δc | Δf |
|-------------|--------------|------------|------------|
| .098 - .118 | .000 | .000 | .000 |
| .078 - | -.0058 | -.0058 | -.0058 |
| .059 - | -.0115 | -.0115 | -.0115 |



Spare parts

| Toolholder | Screw | Wrench |
|-----------------|-------|-----------|
| R/LU225.1000.04 | 218.3 | SW6DIN911 |

G32

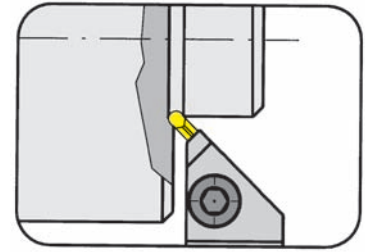
G

GROOVING CORNER RELIEFS (external)



TOOLHOLDER Type

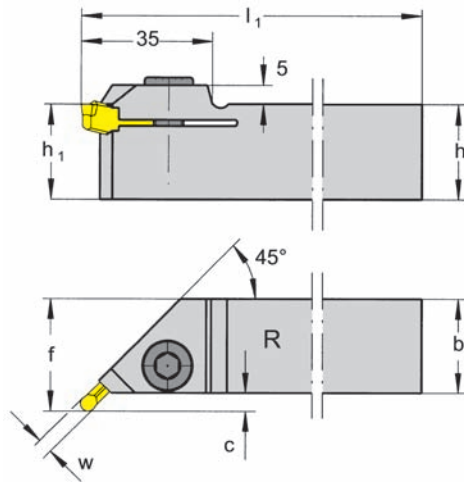
225



Clamping range .118 - .236" (3.0 - 6.0 mm)

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | c | D_{min} | Size | Clamping range |
|----------------|----|----|-------|-------|------|-----|-----------|------|----------------|
| R/L225.2525.04 | 25 | 25 | 150 | 25 | 30.0 | 5.0 | 50 | 04 | 3.0 - 5.0 |
| R/L225.2525.05 | 25 | 25 | 150 | 25 | 30.5 | 5.5 | 50 | 05 | 5.1 - 6.0 |

State R or L version

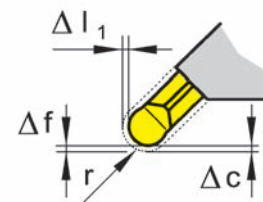
w see indexable inserts

Dimensions in mm

Further sizes upon request

Revision factor Δl_1 , Δc and Δf in relation to radius r

| r | Δl_1 | Δc | Δf |
|-----------|--------------|------------|------------|
| 2,5 - 3,0 | 0,000 | 0,000 | 0,000 |
| 2,0 | -0,147 | -0,147 | -0,147 |
| 1,5 | -0,293 | -0,293 | -0,293 |



Spare parts

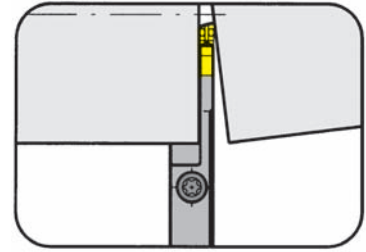
| Toolholder | Screw | Wrench |
|------------------|-------|-----------|
| R/L225.2525.0... | 218.3 | SW6DIN911 |



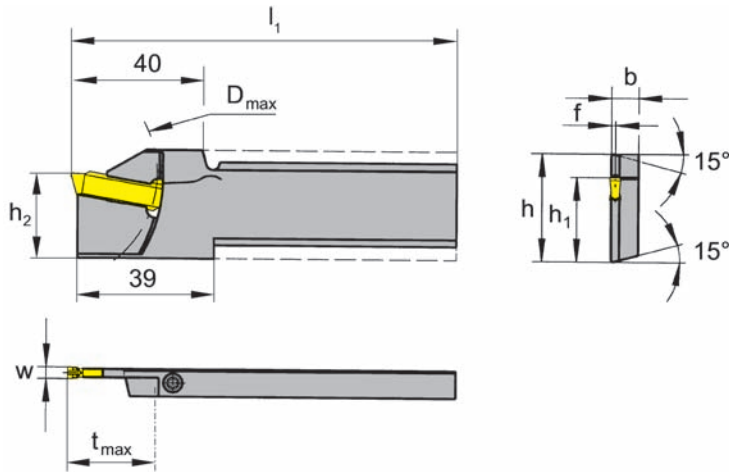
TOOLHOLDER Type

226

reinforced version



Depth of groove up to .984" (25.0 mm)
Clamping range .118 - .157" (3.0 - 4.0 mm)



for use with Indexable insert

Type 229
S229

G

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | h ₂ | f | t _{max} | D _{max} | Size | Clamping range |
|----------------|----|---|----------------|----------------|----------------|-----|------------------|------------------|------|----------------|
| R/L226.2608.03 | 26 | 8 | 110 | 21.4 | 24.8 | 1.2 | 25 | 150 | 03 | 3 |
| R/L226.3208.03 | 32 | 8 | 110 | 24.8 | 24.8 | 1.2 | 25 | 150 | 03 | 3 |
| R/L226.2608.04 | 26 | 8 | 110 | 21.4 | 24.8 | 1.7 | 25 | 150 | 04 | 4 |
| R/L226.3208.04 | 32 | 8 | 110 | 24.8 | 24.8 | 1.7 | 25 | 150 | 04 | 4 |

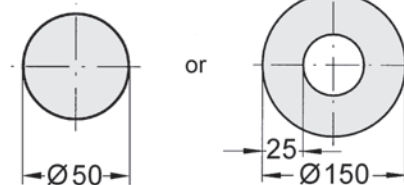
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Parting off solid bars Parting off tubes



Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| R/L226.... | 4.15T15P | T15PQ |

HORN - THE LEADERS IN GROOVING TECHNOLOGY



G

Disc Milling

SYSTEM 101

HORN - INTELLIGENT TOOL DESIGN AT WORK.



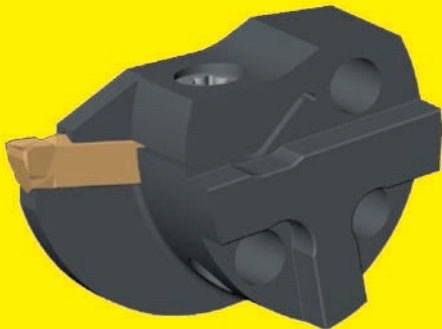
For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

G35

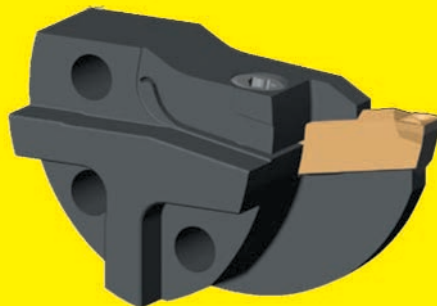
Cassettes type
BK223...
BK224...
BK229...
for internal machining



RBK223...



RBK224...



RBK229...

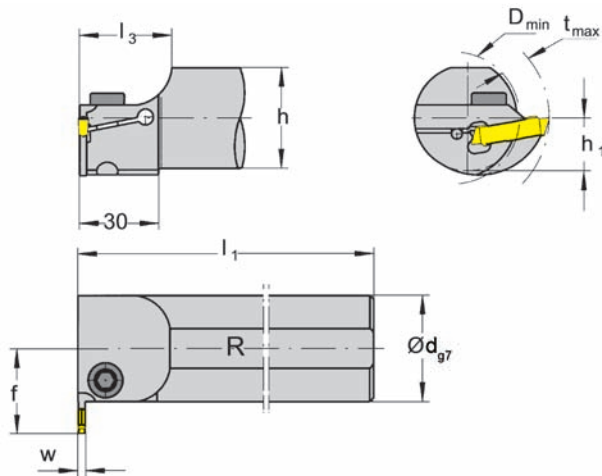
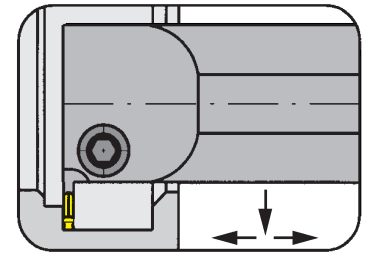
G

TOOLHOLDER Type

213

Short reach

Bore Ø from 1.811" (46.0 mm)
 Depth of groove up to .453" (11.5 mm)
 Clamping range .118 - .236" (3.0 - 6.0 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|------------------|----|----------------|----------------|----|----------------|----|------------------|------------------|------|----------------|
| R/L213.0032.0.03 | 32 | 150 | 35.0 | 30 | 15 | 28 | 46 | 11.5 | 03 | 3.0 - 4.0 |
| R/L213.0040.0.03 | 40 | 180 | 39.4 | 38 | 19 | 32 | 54 | | | |
| R/L213.0032.0.04 | 32 | 150 | 35.0 | 30 | 15 | 28 | 46 | 11.5 | 04 | 4.0 - 5.0 |
| R/L213.0040.0.04 | 40 | 180 | 39.4 | 38 | 19 | 32 | 54 | | | |
| R/L213.0032.0.05 | 32 | 150 | 35.0 | 30 | 15 | 28 | 46 | 11.5 | 05 | 5.1 - 6.0 |
| R/L213.0040.0.05 | 40 | 180 | 39.4 | 38 | 19 | 32 | 54 | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

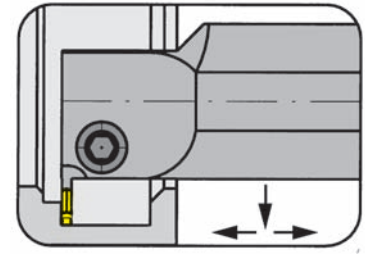
| Toolholder | Screw | Wrench |
|--------------|-------|-----------|
| R/L213.00... | 218.3 | SW6DIN911 |

G

TOOLHOLDER Type

U213

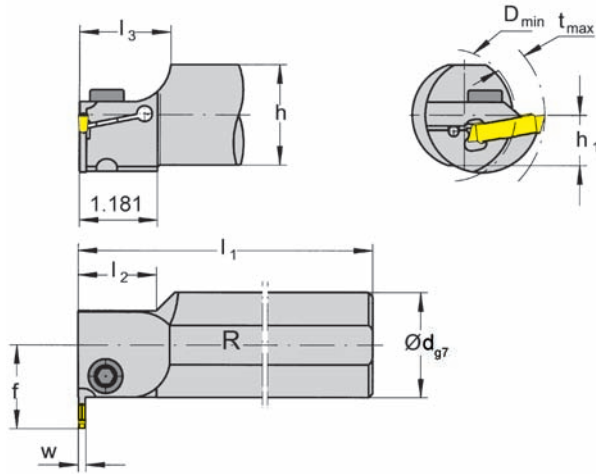
Short reach



| | |
|-----------------------|--------------|
| Bore Ø from | 1.496" |
| Depth of groove up to | .591" |
| Clamping range | .118 - .315" |

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|-----------------|-------|----------------|----------------|----------------|-------|----------------|-------|------------------|------------------|------|----------------|
| R/LU213.1000.03 | 1.000 | 6.000 | - | 1.375 | .921 | .461 | .964 | 1.496 | .295 | 03 | .118 - .157 |
| R/LU213.1250.03 | 1.250 | 6.000 | 1.250 | 1.375 | 1.171 | .586 | 1.102 | 1.496 | .295 | | |
| R/LU213.1500.03 | 1.500 | 7.000 | 1.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | | |
| R/LU213.2000.03 | 2.000 | 8.000 | 1.250 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |
| R/LU213.1000.04 | 1.000 | 6.000 | - | 1.375 | .921 | .461 | .964 | 1.496 | .295 | 04 | .157 - .197 |
| R/LU213.1250.04 | 1.250 | 6.000 | 1.250 | 1.375 | 1.171 | .586 | 1.102 | 1.496 | .295 | | |
| R/LU213.1500.04 | 1.500 | 7.000 | 1.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | | |
| R/LU213.2000.04 | 2.000 | 8.000 | 1.250 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |
| R/LU213.1250.05 | 1.250 | 6.000 | - | 1.375 | 1.171 | .586 | 1.102 | 1.811 | .453 | 05 | .201 - .236 |
| R/LU213.1500.05 | 1.500 | 7.000 | 1.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | | |
| R/LU213.2000.05 | 2.000 | 8.000 | 1.250 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |
| R/LU213.1500.07 | 1.500 | 7.000 | 1.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | 07 | .240 - .315 |
| R/LU213.2000.07 | 2.000 | 8.000 | | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note Toolholders with shank Ø 1.250":

The full depth of cut $t_{max} = .453"$ will be reached from $D_{min} 1.811"$

Spare parts

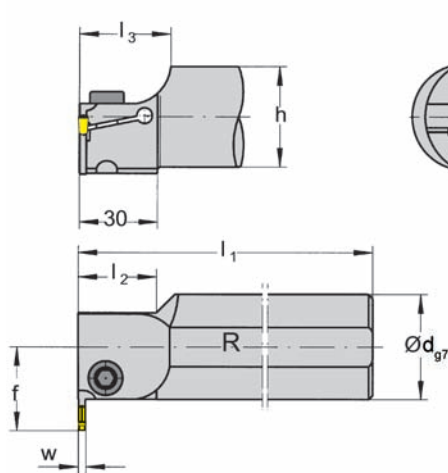
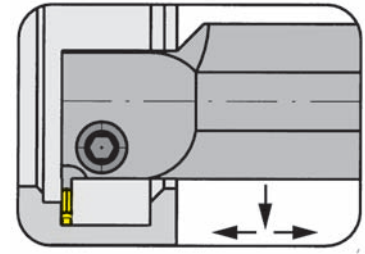
| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU213.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

213

Short reach

Bore Ø from 1.496" (38.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Clamping range .118 - .315" (3.0 - 8.0 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|----------------|----|----------------|----------------|----------------|----|----------------|------|------------------|------------------|------|----------------|
| R/L213.0025.03 | 25 | 150 | - | 31.8 | 23 | 11.5 | 24.5 | 38 | 7.5 | 03 | 3.0 - 4.0 |
| R/L213.0032.03 | 32 | 150 | 30 | 35.0 | 30 | 15.0 | 28.0 | 38 | 7.5 | | |
| R/L213.0040.03 | 40 | 180 | 30 | 37.4 | 38 | 19.0 | 32.0 | 50 | 11.5 | | |
| R/L213.0050.03 | 50 | 200 | 30 | 39.1 | 47 | 23.5 | 40.5 | 60 | 15.0 | 04 | 4.0 - 5.0 |
| R/L213.0025.04 | 25 | 150 | - | 31.8 | 23 | 11.5 | 24.5 | 38 | 7.5 | | |
| R/L213.0032.04 | 32 | 150 | 30 | 35.0 | 30 | 15.0 | 28.0 | 38 | 7.5 | | |
| R/L213.0040.04 | 40 | 180 | 30 | 37.4 | 38 | 19.0 | 32.0 | 50 | 11.5 | 05 | 5.1 - 6.0 |
| R/L213.0050.04 | 50 | 200 | 30 | 39.1 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |
| R/L213.0032.05 | 32 | 150 | - | 35.0 | 30 | 15.0 | 28.0 | 46 | 11.5 | | |
| R/L213.0040.05 | 40 | 180 | 30 | 35.0 | 38 | 19.0 | 32.0 | 50 | 11.5 | 07 | 6.1 - 8.0 |
| R/L213.0050.05 | 50 | 200 | 30 | 40.0 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |
| R/L213.0040.07 | 40 | 180 | 30 | 35.0 | 38 | 19.0 | 32.0 | 50 | 11.5 | | |
| R/L213.0050.07 | 50 | 200 | 30 | 40.0 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note toolholder with shank-Ø 25 or 32 mm

The full depth of cut $t_{max} = 11,5$ mm will be reached from D_{min} 46 mm

Spare parts

| Toolholder | Screw | Wrench |
|--------------|-------|-----------|
| R/L213.00... | 218.3 | SW6DIN911 |

G

GROOVING and TURNING (internal)

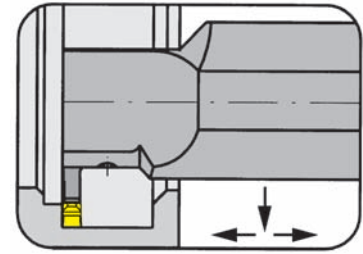


TOOLHOLDER Type

U213

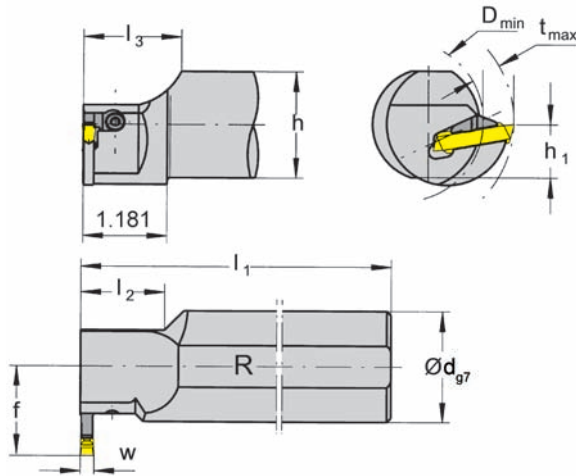
Short reach

| | |
|-----------------------|--------------|
| Bore Ø from | 1.968" |
| Depth of groove up to | .591" |
| Clamping range | .319 - .409" |



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|-----------------|-------|----------------|----------------|----------------|-------|----------------|-------|------------------|------------------|------|----------------|
| R/LU213.1500.09 | 1.500 | 7.000 | 1.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | 09 | .319 - .409 |
| R/LU213.2000.09 | 2.000 | 8.000 | 1.250 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | 09 | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note:

Please note type of clamp.

Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|-------------|---------------|-------------------|
| LU213....09 | R218.9 | T15PQ |
| RU213....09 | L218.9 | T15PQ |

G40

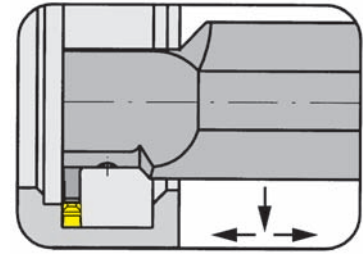
G

TOOLHOLDER Type

213

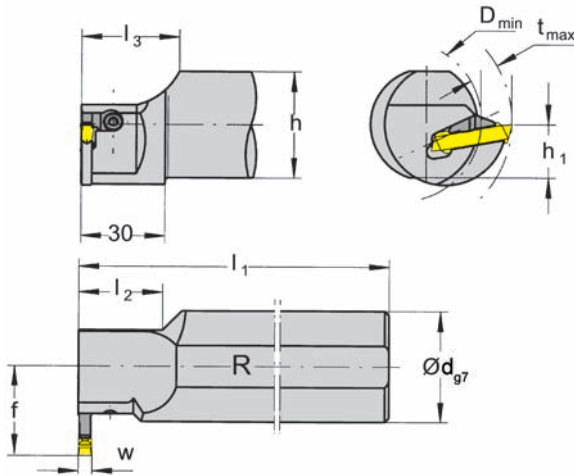
Short reach

Bore Ø from 1.969" (50.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|----------------|----|----------------|----------------|----------------|----|----------------|------|------------------|------------------|------|----------------|
| R/L213.0040.09 | 40 | 180 | 30 | 35 | 38 | 19.0 | 32.0 | 50 | 11.5 | 09 | 8.1 - 10.4 |
| R/L213.0050.09 | 50 | 200 | 30 | 40 | 47 | 23.5 | 40.5 | 60 | 15.0 | 09 | 8.1 - 10.4 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Please note type of clamp.

Spare parts

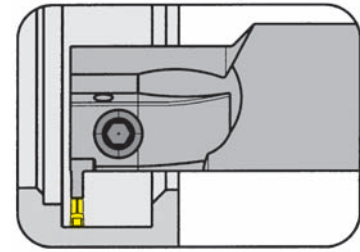
| Toolholder | Clamp | TORX PLUS® Wrench |
|--------------|--------|-------------------|
| L213.00...09 | R218.9 | T15PQ |
| R213.00...09 | L218.9 | T15PQ |



TOOLHOLDER Type

U213

Short reach

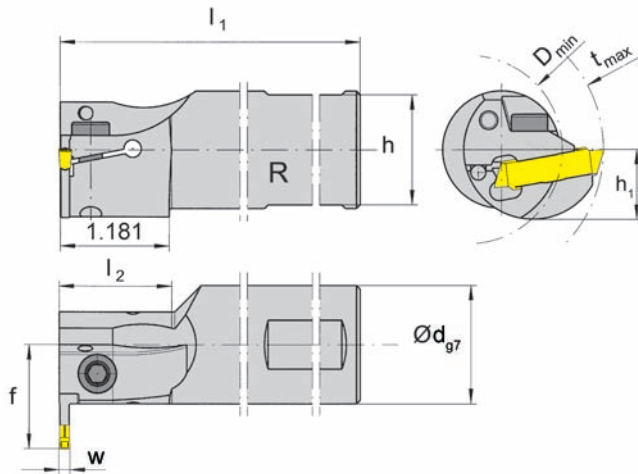


| | |
|-----------------------|--------------|
| Bore Ø from | 1.496" |
| Depth of groove up to | .453" |
| Clamping range | .118 - .197" |

with through coolant supply

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|-------------------|-------|----------------|----------------|-------|----------------|-------|------------------|------------------|------|----------------|
| R/LU213.1250.03IK | 1.250 | 6.000 | 1.250 | 1.171 | .586 | 1.102 | 1.496 | .295 | 03 | .118 - .157 |
| R/LU213.1500.03IK | 1.500 | 7.000 | 1.250 | 1.421 | .711 | 1.260 | 1.969 | .453 | 03 | .118 - .157 |
| R/LU213.1250.04IK | 1.250 | 6.000 | 1.250 | 1.171 | .586 | 1.102 | 1.496 | .295 | 04 | .157 - .197 |
| R/LU213.1500.04IK | 1.500 | 7.000 | 1.250 | 1.421 | .711 | 1.260 | 1.969 | .453 | 04 | .157 - .197 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note Toolholders with shank Ø 1.250":

The full depth of cut $t_{max} = .453"$ will be reached from $D_{min} 1.811"$

Spare parts

| Toolholder | Screw | Wrench |
|--------------|--------------|-----------|
| R/LU213.1... | DIN912-M6x14 | SW5DIN911 |

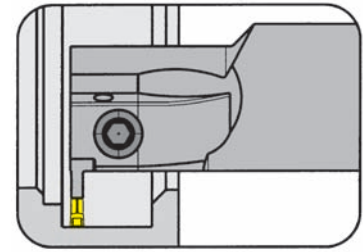
TOOLHOLDER Type

213

Short reach

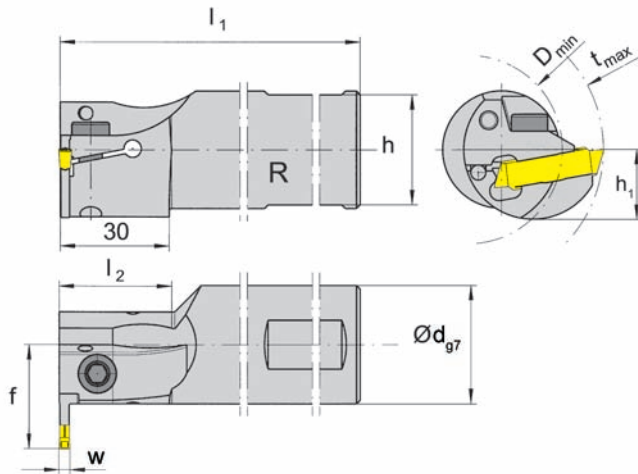
Bore Ø from 1.496" (38.0 mm)
 Depth of groove up to .453" (11.5 mm)
 Clamping range .118 - .197" (3.0 - 5.0 mm)

with through coolant supply



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|------------------|----|----------------|----------------|----|----------------|------|------------------|------------------|------|----------------|
| R/L213.0025.03IK | 25 | 150 | - | 23 | 11.5 | 24.5 | 38 | 7.5 | | |
| R/L213.0032.03IK | 32 | 150 | 30 | 30 | 15.0 | 28.0 | 38 | 7.5 | 03 | 3.0 - 4.0 |
| R/L213.0040.03IK | 40 | 180 | 30 | 38 | 19.0 | 32.0 | 50 | 11.5 | | |
| R/L213.0025.04IK | 25 | 150 | - | 23 | 11.5 | 24.5 | 38 | 7.5 | 04 | 4.0 - 5.0 |
| R/L213.0032.04IK | 32 | 150 | 30 | 30 | 15.0 | 28.0 | 38 | 7.5 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note toolholder with shank-Ø 25 or 32 mm

The full depth of cut t_{max} = 11,5 mm will be reached from D_{min} 46 mm

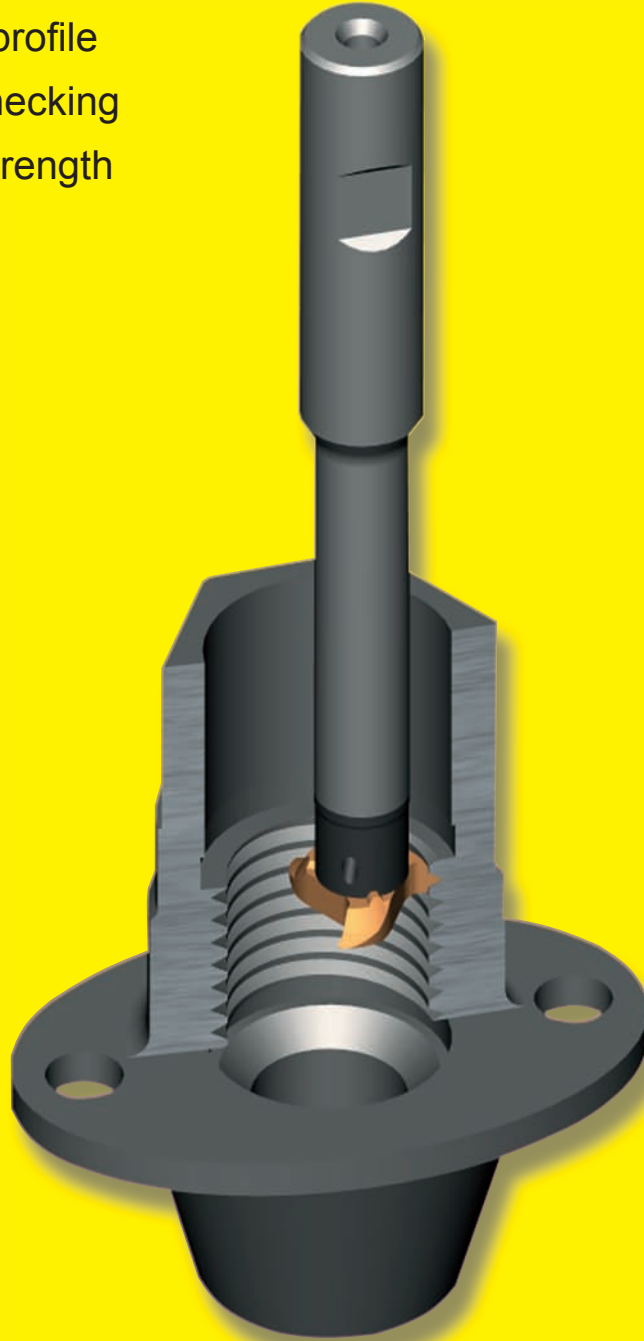
Spare parts

| Toolholder | Screw | Wrench |
|--------------|--------------|-----------|
| R/L213.00... | DIN912-M6x14 | SW5DIN911 |

G

Thread milling (by circular interpolation)

- high cylindricity
- constant milled profile
- simple thread checking
- usable in high strength materials



G

For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

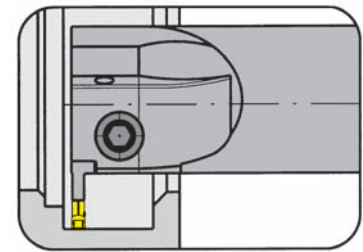
TOOLHOLDER Type

213

Short reach

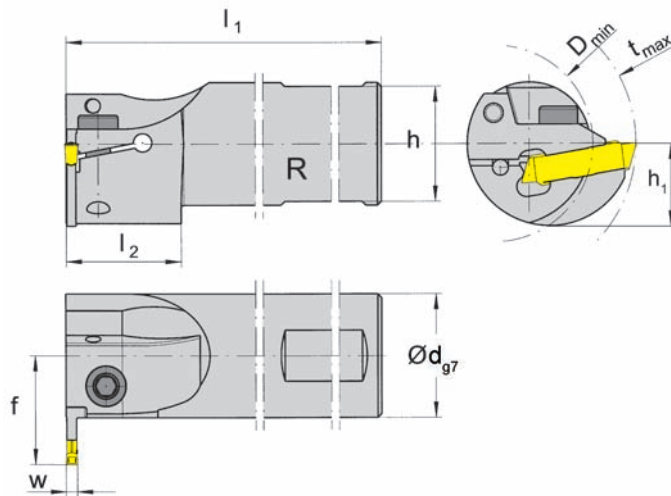
Bore Ø from 1.811" (46.0 mm)
 Depth of groove up to .453" (11.5 mm)
 Clamping range .118 - .236" (3.0 - 6.0 mm)

with through coolant supply



for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|--------------------|----|----------------|----------------|----|----------------|----|------------------|------------------|------|----------------|
| R/L213.0032.0.03IK | 32 | 150 | 30 | 30 | 15 | 28 | 46 | 11.5 | 03 | 3.0 - 4.0 |
| R/L213.0032.0.04IK | 32 | 150 | 30 | 30 | 15 | 28 | 46 | 11.5 | 04 | 4.0 - 5.0 |
| R/L213.0040.0.04IK | 40 | 180 | 30 | 38 | 19 | 32 | 54 | 11.5 | 04 | 4.0 - 5.0 |
| R/L213.0040.0.05IK | 40 | 180 | 30 | 38 | 19 | 32 | 54 | 11.5 | 05 | 5.1 - 6.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

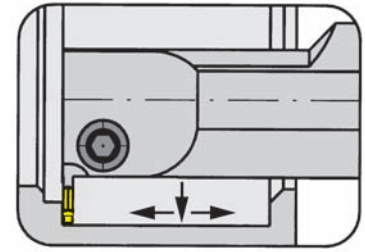
Spare parts

| Toolholder | Screw | Wrench |
|--------------|--------------|-----------|
| R/L213.00... | DIN912-M6x14 | SW5DIN911 |

G

TOOLHOLDER Type

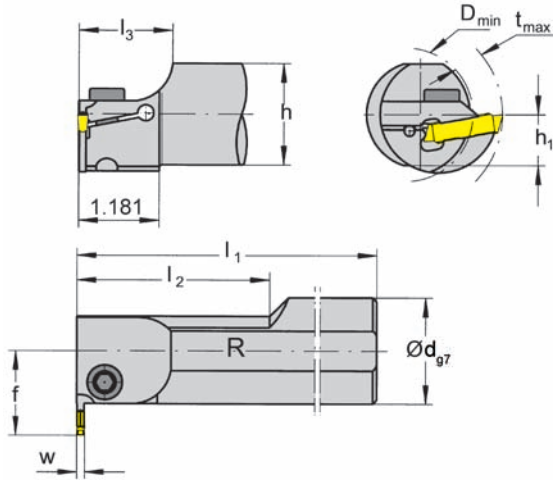
U214



Bore Ø from 1.496"
 Depth of groove up to .591"
 Clamping range .118 - .315"

for use with Indexable insert

Type 229
 S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|-----------------|-------|----------------|----------------|----------------|-------|----------------|-------|------------------|------------------|------|----------------|
| R/LU214.1250.03 | 1.250 | 8.000 | 2.750 | 1.375 | 1.171 | .586 | 1.102 | 1.496 | .295 | | |
| R/LU214.1500.03 | 1.500 | 10.000 | 3.250 | 1.375 | 1.421 | .711 | 1.265 | 1.968 | .453 | 03 | .118 - .157 |
| R/LU214.2000.03 | 2.000 | 10.000 | 4.000 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |
| R/LU214.1250.04 | 1.250 | 8.000 | 2.750 | 1.375 | 1.171 | .586 | 1.102 | 1.496 | .295 | | |
| R/LU214.1500.04 | 1.500 | 10.000 | 3.250 | 1.375 | 1.421 | .711 | 1.265 | 1.968 | .453 | 04 | .157 - .197 |
| R/LU214.2000.04 | 2.000 | 10.000 | 4.000 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |
| R/LU214.1250.05 | 1.250 | 8.000 | - | 1.375 | 1.171 | .586 | 1.102 | 1.811 | .453 | | |
| R/LU214.1500.05 | 1.500 | 10.000 | 3.250 | 1.375 | 1.421 | .711 | 1.265 | 1.968 | .453 | 05 | .201 - .236 |
| R/LU214.2000.05 | 2.000 | 10.000 | 4.000 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |
| R/LU214.1500.07 | 1.500 | 10.000 | 3.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | 07 | .240 - .315 |
| R/LU214.2000.07 | 2.000 | 10.000 | 4.000 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note Toolholders with shank Ø 1.250":

The full depth of cut t_{max} = .453" will be reached from D_{min} 1.811"

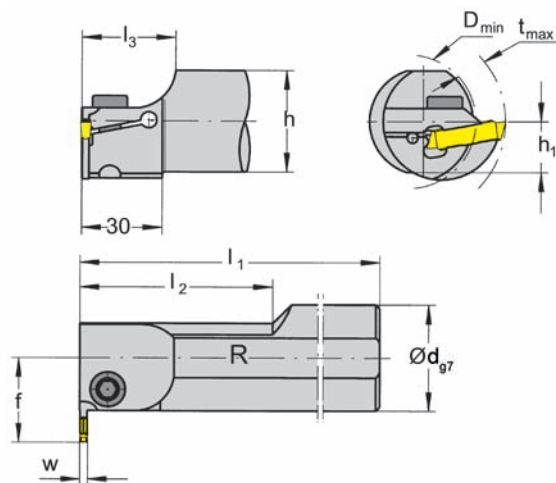
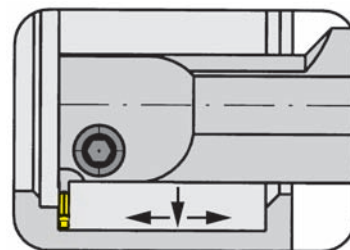
Spare parts

| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU214.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

214

Bore Ø from 1.496" (38.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Clamping range .118 - .315" (3.0 - 8.0 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|----------------|----|----------------|----------------|----------------|----|----------------|------|------------------|------------------|------|----------------|
| R/L214.0032.03 | 32 | 200 | 70 | 35 | 30 | 15.0 | 28.0 | 38 | 7.5 | 03 | 3.0 - 4.0 |
| R/L214.0040.03 | 40 | 250 | 80 | 35 | 38 | 19.0 | 32.0 | 50 | 11.5 | | |
| R/L214.0050.03 | 50 | 250 | 100 | 40 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |
| R/L214.0032.04 | 32 | 200 | 70 | 35 | 30 | 15.0 | 28.0 | 38 | 7.5 | 04 | 4.0 - 5.0 |
| R/L214.0040.04 | 40 | 250 | 80 | 35 | 38 | 19.0 | 32.0 | 50 | 11.5 | | |
| R/L214.0050.04 | 50 | 250 | 100 | 40 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |
| R/L214.0032.05 | 32 | 200 | - | 35 | 30 | 15.0 | 28.0 | 46 | 11.5 | 05 | 5.1 - 6.0 |
| R/L214.0040.05 | 40 | 250 | 80 | 35 | 38 | 19.0 | 32.0 | 50 | 11.5 | | |
| R/L214.0050.05 | 50 | 250 | 100 | 40 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |
| R/L214.0040.07 | 40 | 250 | 80 | 35 | 38 | 19.0 | 32.0 | 50 | 11.5 | 07 | 6.1 - 8.0 |
| R/L214.0050.07 | 50 | | 100 | 40 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note toolholder with shank-Ø 25 or 32 mm

The full depth of cut $t_{max} = 11,5$ mm will be reached from D_{min} 46 mm

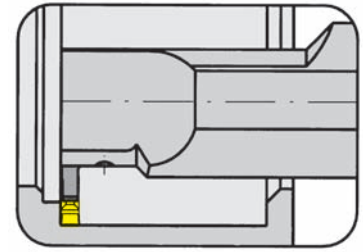
Spare parts

| Toolholder | Screw | Wrench |
|--------------|-------|-----------|
| R/L214.00... | 218.3 | SW6DIN911 |



TOOLHOLDER Type

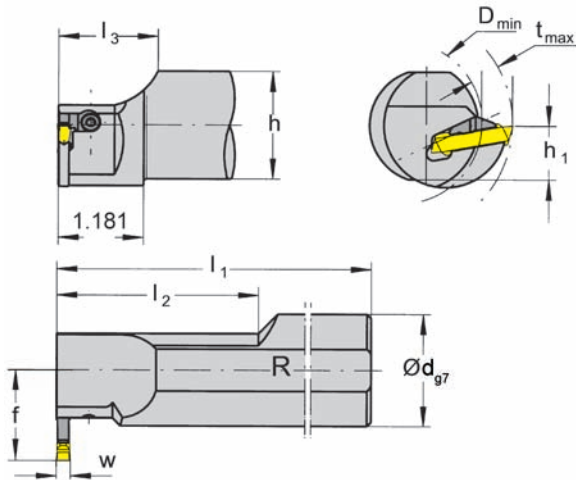
U214



| | |
|-----------------------|--------------|
| Bore Ø from | 1.968" |
| Depth of groove up to | .591" |
| Clamping range | .319 - .409" |

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|-----------------|-------|----------------|----------------|----------------|-------|----------------|-------|------------------|------------------|------|----------------|
| R/LU214.1500.09 | 1.500 | 10.000 | 3.250 | 1.375 | 1.421 | .711 | 1.260 | 1.968 | .453 | 09 | .319 - .409 |
| R/LU214.2000.09 | 2.000 | | 4.000 | 1.500 | 1.921 | .961 | 1.594 | 2.362 | .591 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Note:

Please note type of clamp.

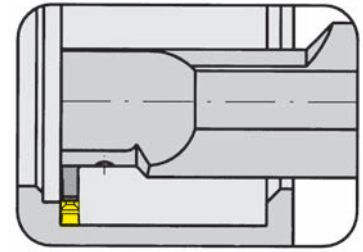
Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|-------------|---------------|-------------------|
| LU214....09 | R218.9 | T15PQ |
| RU214....09 | L218.9 | T15PQ |

TOOLHOLDER Type

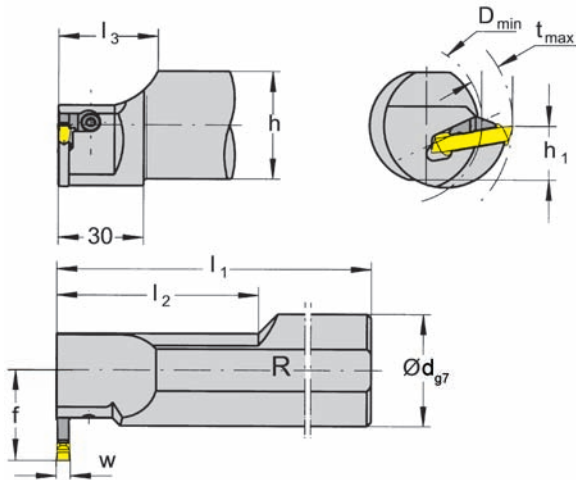
214

Bore Ø from 1.969" (50.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Clamping range .319 - .409" (8.1 - 10.4 mm)



for use with Indexable insert

Type 229
 S229



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | l ₂ | l ₃ | h | h ₁ | f | D _{min} | t _{max} | Size | Clamping range |
|----------------|----|----------------|----------------|----------------|----|----------------|------|------------------|------------------|------|----------------|
| R/L214.0040.09 | 40 | 250 | 80 | 35 | 38 | 19.0 | 32.0 | 50 | 11.5 | 09 | 8.1 - 10.4 |
| R/L214.0050.09 | 50 | | 100 | 40 | 47 | 23.5 | 40.5 | 60 | 15.0 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further shank sizes or with through coolant supply upon request.

Note:

Please note type of clamp.

Spare parts

| Toolholder | Clamp | TORX PLUS® Wrench |
|--------------|---------------|-------------------|
| L214.00...09 | R218.9 | T15PQ |
| R214.00...09 | L218.9 | T15PQ |



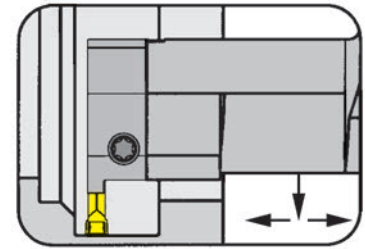
BASIC TOOLHOLDER Type

BU229

without cassette

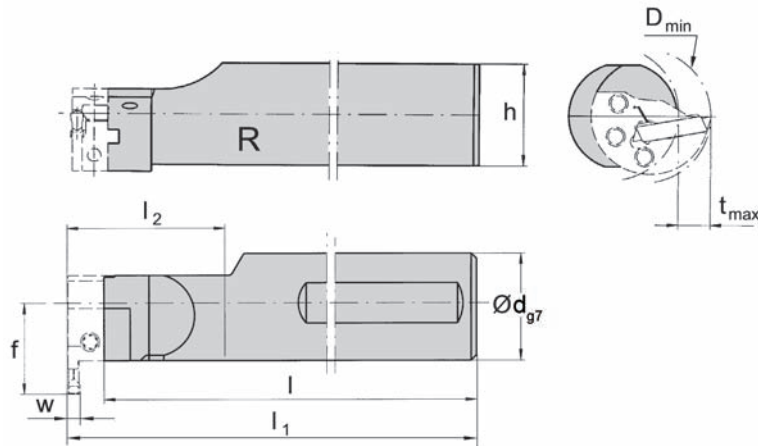
| | |
|-----------------------|--------|
| Bore Ø from | 1.969" |
| Depth of groove up to | .591" |
| Width of groove up to | .236" |

with through coolant supply



for use with Cassette

Type BK229



R = right hand version shown

L = left hand version

| Part number | d | l | l ₁ | l ₂ | h | f |
|--------------------|-------|-------|----------------|----------------|-------|-------|
| R/LBU229.1500.1.K2 | 1.500 | 6.923 | 6.923 | 1.250 | 1.421 | 1.398 |
| R/LBU229.1500.2.K2 | 1.500 | 7.429 | 7.429 | 2.250 | 1.421 | 1.398 |

State R or L version

Dimensions in inch

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench |
|-------------------|---------------|-------------------|
| R/LBU229.1500.... | 030.0518.T20P | T20PQ |

G50

G

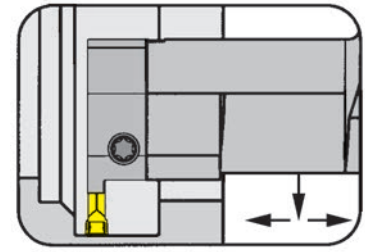
BASIC TOOLHOLDER Type

B229

without cassette

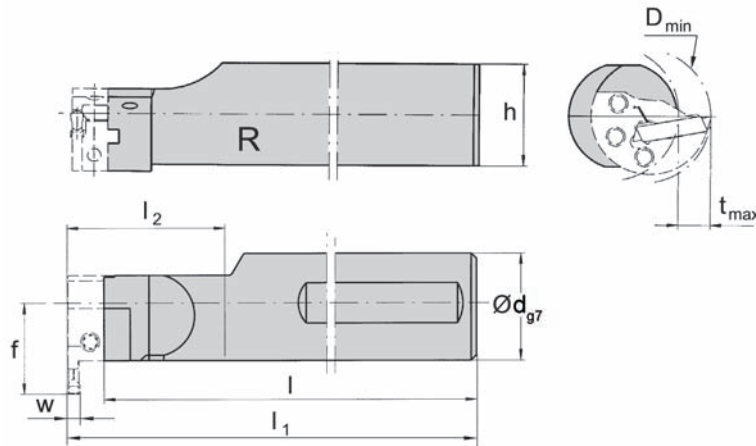
Bore \varnothing from 1.969" (50.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Width of groove up to .236" (6.0 mm)

with through coolant supply



for use with Cassette

Type BK229



R = right hand version shown

L = left hand version

| Part number | d | l | l ₁ | l ₂ | h | f |
|-------------------|----|-------|----------------|----------------|----|------|
| R/LB229.0040.1.K2 | 40 | 166.3 | 187 | 30 | 38 | 35.5 |
| R/LB229.0040.2.K2 | 40 | 186.3 | 200 | 60 | 38 | 35.5 |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

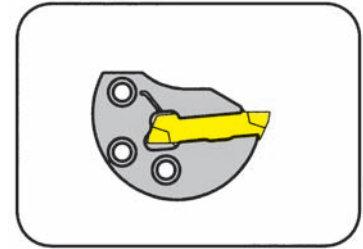
Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LB229.0040.... | 030.0518.T20P | T20PQ |

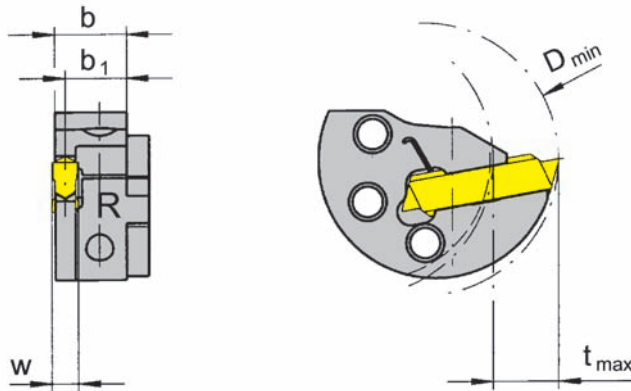
G

CASSETTE Type

BK229



Bore Ø from 1.969"
 Depth of groove up to .591"
 Clamping range .118 - .236"



for use with Indexable insert

Type 229
 S229

Depth of groove in relation to bore Ø

| D _{min} | t _{max} |
|------------------|------------------|
| 50 | 12 |
| 60 | 15 |

G

R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | b ₁ | b | D _{min} | t _{max} | Size | Clamping range |
|------------------|------------------|------------------|----------------|------|------------------|------------------|------|----------------|
| R/LBK229.0050.03 | 2.362 | .591 | .512 | .561 | 1.969 | .472 | 03 | .118 - .158 |
| R/LBK229.0050.04 | 2.362 | .591 | .492 | .559 | 1.969 | .472 | 04 | .158 - .197 |
| R/LBK229.0050.05 | 2.362 | .591 | .453 | .545 | 1.969 | .472 | 05 | .201 - .236 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Use right hand cassettes in right hand basic toolholders and left hand cassettes in left hand basic toolholders.

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

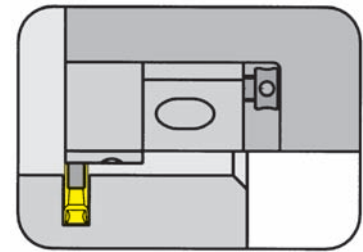
| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|-----------|-------------------|
| R/LBK229.0050.0... | 5.13T20EP | T20PQ |

GROOVING (internal)



CARTRIDGE Type

257



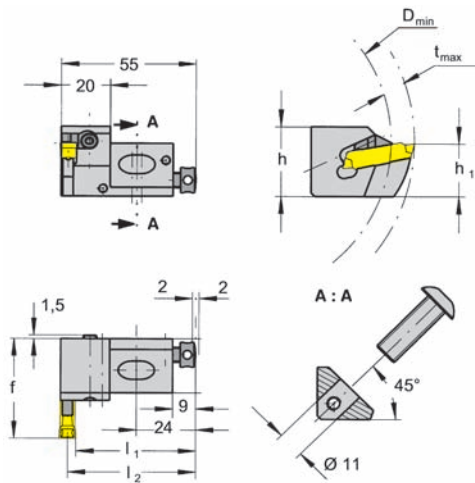
Bore \varnothing from 3.150" (80.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Clamping range .201 - .409" (5.1 - 10.4 mm)

for use with Indexable insert

Type 229
S229

Depth of groove in relation to bore \varnothing

| D_{min} | t_{max} |
|-----------|-----------|
| 80 | 10 |
| 120 | 15 |



R = right hand version shown

L = left hand version

| Part number | h_1 | f | h | l_1 | l_2 | Size | Clamping range |
|----------------|-------|----|----|-----------|-------|------|----------------|
| R/L257.2222.05 | 22 | 42 | 29 | $l_2-w/2$ | 52.2 | 05 | 5.1 - 6.0 |
| R/L257.2222.09 | 22 | 42 | 29 | $l_2-w/2$ | 50.2 | 09 | 8.1 - 10.4 |

State R or L version

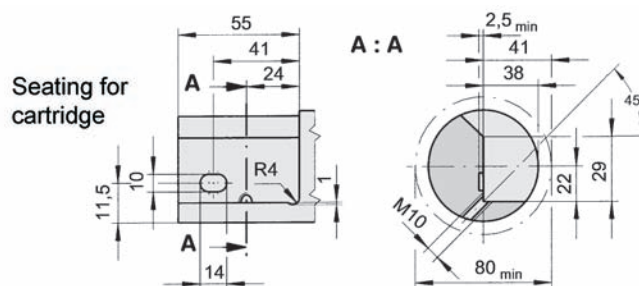
w see indexable inserts

Dimensions in mm

Further sizes upon request

Ordering note:

Please note type of clamp.



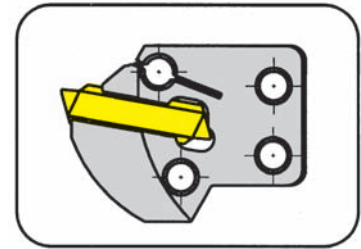
Spare parts

| Cartridge | Clamp | TORX PLUS® Wrench | Screw | Screw | Axial Setscrew | Radial Setscrew | Wrench |
|----------------|-----------|-------------------|----------|-------|----------------|-----------------|-----------|
| R/L257.2222.05 | R218.9.32 | T15PQ | 0.30.208 | 218.3 | 6.12.020 | 4.08.913 | SW6DIN911 |
| L257.2222.09 | | | 0.30.208 | | 6.12.020 | 4.08.913 | |
| R257.2222.09 | L218.9.32 | T15PQ | 0.30.208 | | 6.12.020 | 4.08.913 | |

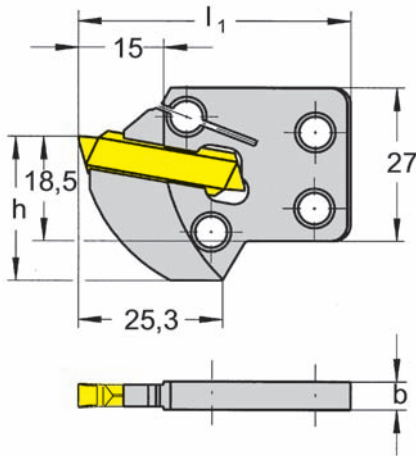


CASSETTE Type

050



Bore Ø from 2.441" (62.0 mm)
 Depth of groove up to .551" (14.0 mm)
 Width of groove up to .197" (5.0 mm)



for use with Indexable insert

Type 229
S229

Depth of groove in relation to bore Ø

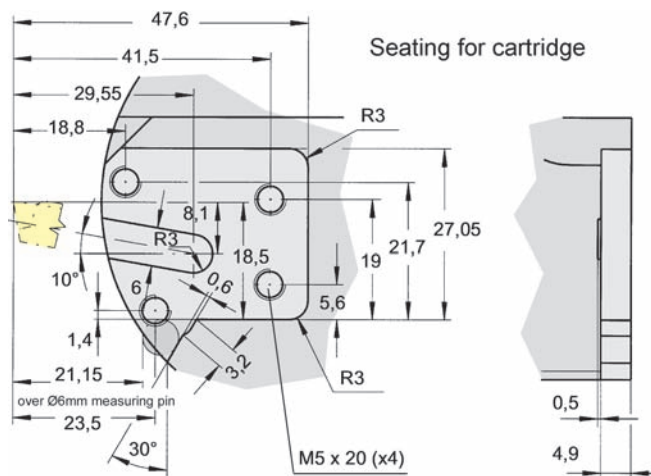
| D _{min} | t _{max} |
|------------------|------------------|
| 62 | 10 |
| 65 | 11 |
| 70 | 13 |
| ≥ 80 | 14 |

G

| Part number | l ₁ | h | b | Size | Clamping range |
|---------------|----------------|------|-----|------|----------------|
| 050.1827.0071 | 47 | 25.5 | 4.9 | 03 | 3.0 - 4.0 |
| 050.1827.0009 | 47 | 25.5 | 4.9 | 04 | 4.0 - 5.09 |

Further sizes upon request

Dimensions in mm



Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|----------------|---------------|-------------------|
| 050.1827.00... | 030.0518.T20P | T20PQ |

G54

Indexable inserts

**precision or peripheral ground
with sintered geometry**



G

INDEXABLE INSERT type

S229...3.

precision sintered



Geometry .3.

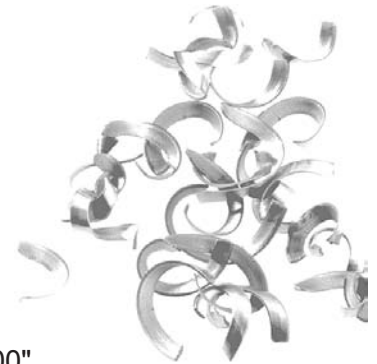
Geometry with chip forming for all materials.

Characteristics

- excellent swarf control
- suitable for high alloy- high strength steels
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving: Depth of groove up to 1.000"
- Side turning: Depth of cut a_p up to .157" *



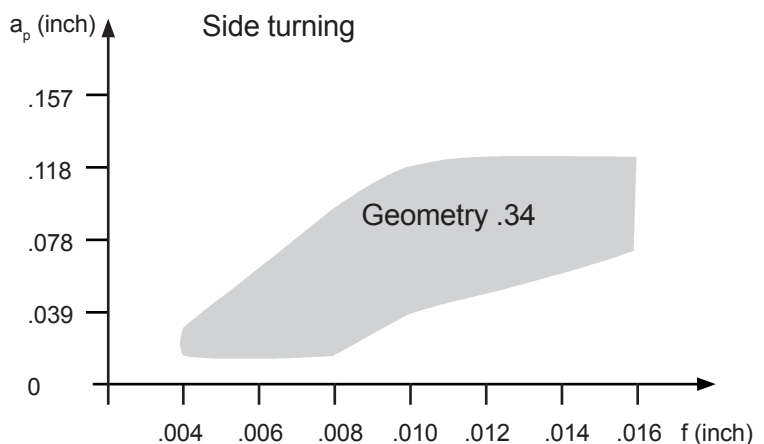
G

Feed rate f

- Grooving: .006" up to .010"/rev.*
- Side turning: up to .016"/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

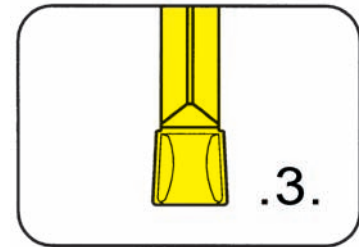


Chip control graph S229.0500.34 material 16MnCr5

INDEXABLE INSERT Type

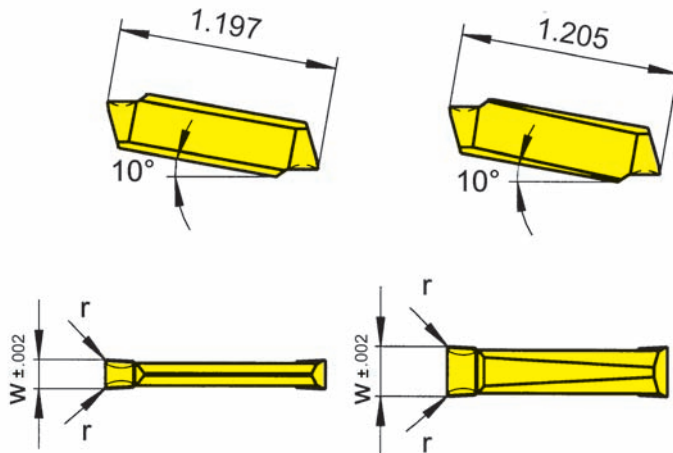
S229

with chip former



Depth of groove up to 1.000"
Width of groove .118 - .394"

precision sintered



Width = .118" - .197"

Width = .236" - .394"

Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | | | | | | | | | | | |
|------------------------------|------|------|---------|----------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| | | | | MG12 | P20 | H54 | TN32 | TN35 | TI22 | TI25 | TA45 | TF42 | TF45 | TC92 | AL96 | AS62 | AS66 |
| S229.0300.32 | .118 | .008 | 03 | ▲ | | ▲ | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0300.34 | | .016 | | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ |
| S229.0400.32 | .157 | .008 | 03 / 04 | | | ▲ | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0400.34 | | .016 | | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ |
| S229.0500.34 | .197 | .016 | 04 | | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.34 | .236 | .016 | 05 | | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.38 | | .031 | | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ |
| S229.0700.36 | .276 | .024 | 07 | | | | | ▲ | ▲ | ▲ | | | | ▲ | ▲ | ▲ | ▲ |
| S229.0800.36 | .315 | | | | | | | | | | | | | ▲ | ▲ | ▲ | ▲ |
| S229.1000.36 | .394 | .024 | 09 | | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks | | | | P | ○ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| ● main recommendation | | | | M | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ |
| ○ alternative recommendation | | | | K | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| ■ uncoated grades | | | | S | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ |
| ■ coated grades | | | | N | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| ■ brazed/Cermet | | | | H | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT type

S229...5.

precision sintered



Geometry .5.

Easy cutting geometry for materials with medium strength.

Characteristics

- excellent swarf on a wide feed range
- easy cutting - low power requirement
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving: Depth of groove up to 1.000"
- Side turning: Depth of cut a_p up to .157"*

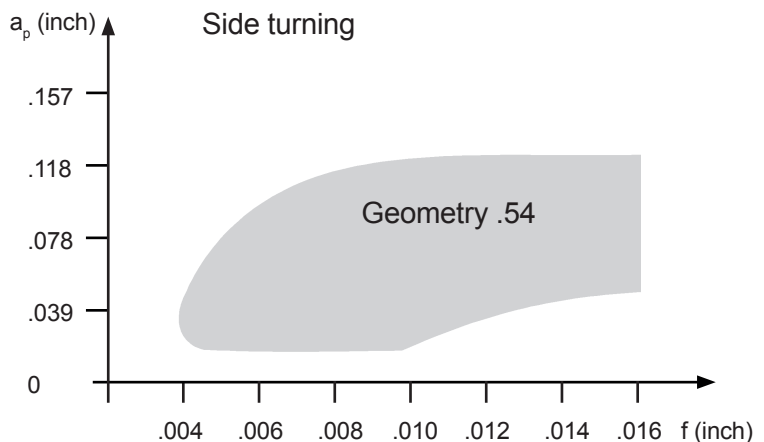
Feed rate f

- Grooving: up to .018"/rev.*
- Side turning: up to .024"/rev.*

* dependent upon width of insert

G

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

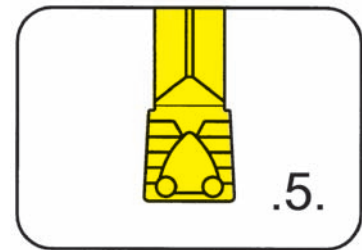


Chip control graph S229.0500.54 material 16Mn-Cr5

INDEXABLE INSERT Type

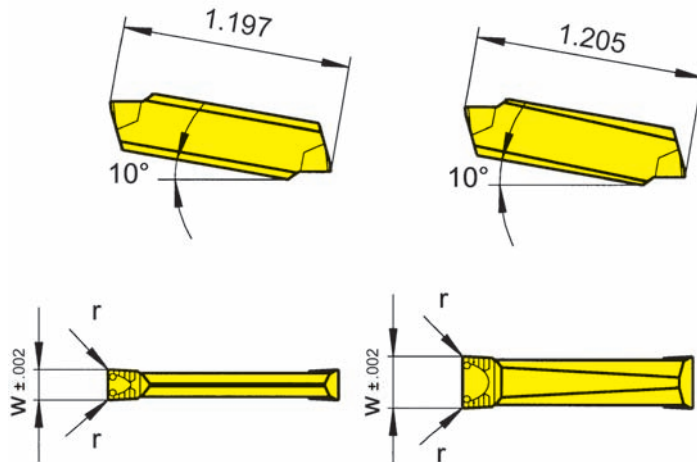
S229

with chip forming



Depth of groove up to 1.000"
Width of groove .118 - .394"

precision sintered



Width = .118" - .197"

Width = .236" - .394"

Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | | | | | | | | | |
|------------------------------|------|------|---------|----------------|-----|------|------|------|------|------|------|------|------|------|------|
| | | | | P20 | H54 | TN32 | TN35 | TI22 | TI25 | TA45 | TF42 | TF45 | TC92 | AS62 | AL96 |
| S229.0300.52 | .118 | .008 | 03 | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | △ | ▲ | |
| S229.0300.54 | | .016 | | | | ▲ | ▲ | ▲ | ▲ | | | | △ | ▲ | |
| S229.0400.52 | .157 | .008 | 03 / 04 | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | △ | ▲ | |
| S229.0400.54 | | .016 | | | | ▲ | ▲ | ▲ | ▲ | | | | ▲ | ▲ | |
| S229.0500.54 | .197 | .016 | 04 | | | ▲ | ▲ | ▲ | ▲ | | | ▲ | △ | ▲ | |
| S229.0600.54 | .236 | .016 | 05 | | | ▲ | ▲ | | ▲ | | | ▲ | △ | ▲ | ▲ |
| S229.0700.56 | .276 | .024 | 07 | | | | | ▲ | | | | | △ | ▲ | |
| S229.0800.56 | .315 | .024 | | | | ▲ | | ▲ | | | | | △ | ▲ | ▲ |
| S229.0800.58 | .315 | .031 | | | | | | ▲ | | | | ▲ | | ▲ | ▲ |
| S229.0800.5K | .315 | .047 | | | | | | ▲ | | | | ▲ | | ▲ | ▲ |
| S229.1000.56 | .394 | .024 | 09 | | | ▲ | | ▲ | | | | | | | |
| ▲ on stock △ 4 weeks | | | | P | | • | • | • | • | | • | • | • | • | • |
| • main recommendation | | | | M | | | • | | • | | | • | | | |
| ○ alternative recommendation | | | | K | | | • | | • | | | • | | | • |
| ■ uncoated grades | | | | S | | | • | | • | | | • | | | |
| ■ coated grades | | | | N | | | • | | • | | | • | | | • |
| ■ brazed/Cermet | | | | H | | | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT type

S229...A.

precision sintered



Geometry .A.

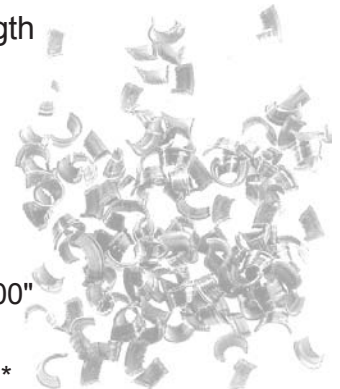
Geometry with excellent chip breaking for materials with medium strength

Characteristics

- excellent swarf on a wide feed range
- excellent swarf control, also by partial cutting
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving: Depth of groove up to 1.000"
- Side turning: Depth of cut a_p up to .098"*

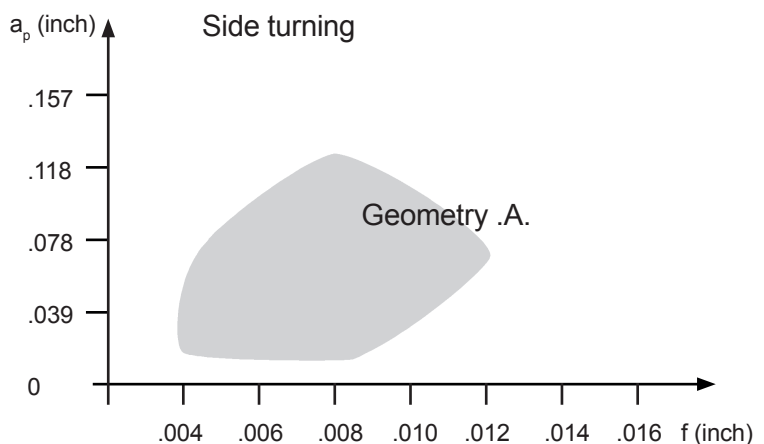


Feed rate f

- Grooving: up to .012"/rev.*
- Side turning: up to .012"/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

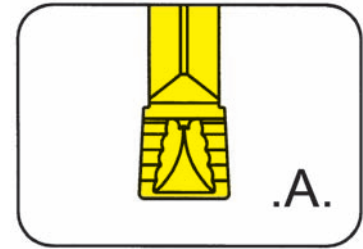


Chip control graph S229.0500.A4 material 16Mn-Cr5

INDEXABLE INSERT Type

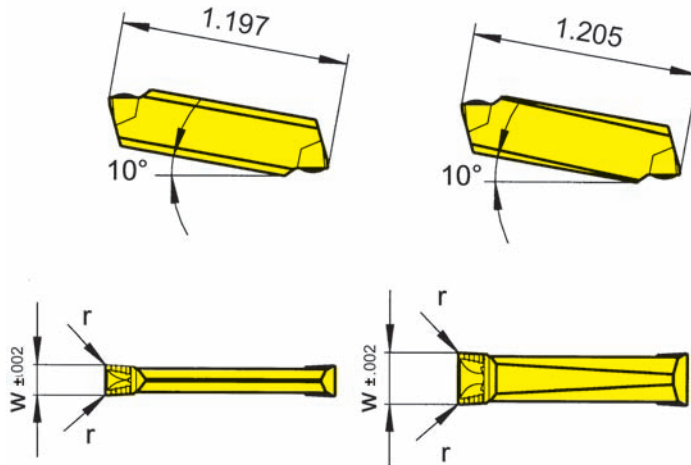
S229

with chip forming



Depth of groove up to 1.000"
Width of groove .118 - .315"

precision sintered



Width = .118" - .197"

Width = .236" - .315"

Indexability length
± .002"



| Part number | w | r | Size | Carbide grades | | | | | | | | | | | |
|---|------|------|---------|----------------|------|------|------|------|------|------|------|------|------|------|---|
| | | | | P20 | TN32 | TN35 | TI22 | TI25 | TA45 | TF42 | TF45 | TC92 | AS62 | AL96 | |
| S229.0300.A2 | .118 | .008 | 03 | | ▲ | ▲ | ▲ | ▲ | | | | ▲ | △ | ▲ | |
| S229.0300.A4 | | .016 | | | ▲ | ▲ | | ▲ | | | ▲ | | ▲ | | |
| S229.0400.A2 | .157 | .008 | 03 / 04 | | ▲ | ▲ | ▲ | ▲ | | | | ▲ | △ | ▲ | |
| S229.0400.A4 | | .016 | | | ▲ | ▲ | ▲ | ▲ | | ▲ | | ▲ | | ▲ | |
| S229.0500.A4 | .197 | .016 | 04 | | ▲ | ▲ | ▲ | | | | | ▲ | △ | ▲ | |
| S229.0600.A4 | .236 | .016 | 05 | | ▲ | ▲ | ▲ | ▲ | | | ▲ | ▲ | △ | ▲ | ▲ |
| S229.0600.A8 | | .031 | | | | | | | | | | | | | ▲ |
| S229.0500.A6 | .197 | .024 | 06 | | | | | ▲ | | | | | | ▲ | |
| S229.0700.A6 | .276 | .024 | 07 | | ▲ | | | | | | ▲ | | | | |
| S229.0800.A6 | .315 | | | | | ▲ | | | | | | | | | |
| ▲ on stock △ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| | | | | M | | ● | | ● | | | ● | | | | |
| | | | | K | | ● | | ● | | | ● | | | | ● |
| | | | | S | | ● | | ● | | | ● | | | | |
| | | | | N | | ● | | ● | | | ● | | | | ● |
| | | | | H | | | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

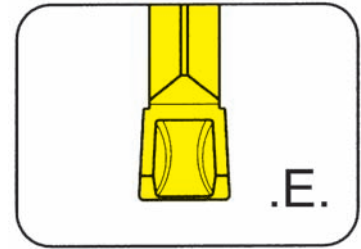
GROOVING and PARTING OFF



INDEXABLE INSERT Type

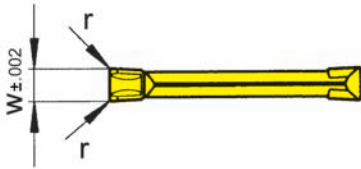
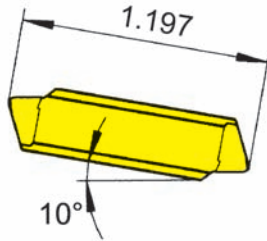
S229

with chip former



Depth of groove up to 1.000"
Width of groove .118 - .157"

precision sintered



Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | | | | | | | |
|---|------|------|---------|----------------|-----|------|------|------|------|------|------|------|------|
| | | | | MG12 | P20 | TN32 | TN35 | T122 | T125 | TF45 | TF46 | TC92 | AS62 |
| S229.0300.E2 | .118 | .008 | 03 | | | | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0300.E4 | | .016 | | | | | | | | ▲ | ▲ | ▲ | ▲ |
| S229.0400.E2 | .157 | .008 | 03 / 04 | | | | | | ▲ | ▲ | | | ▲ |
| S229.0400.E4 | | .016 | | | | | | | | ▲ | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | | | | | ● | ● | ● | ● | ● |
| | | | | M | | | | | ● | ● | ○ | | |
| | | | | K | | | | | ● | ● | ● | | |
| | | | | S | | | | | ● | ● | ○ | | |
| | | | | N | | | | | ● | ● | ● | | |
| | | | | H | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

Machining of Ni-resist ring on "Diesel Piston"

CBN-tipped insert of type 229 is used to do the grooving application in the Ni-resist ring.

The process is pregrooving followed by profiling the flanks of the groove. To avoid a high cutting pressure which forces the possibility to damage the seating of the ring, the cutting edge of the insert has a special preparation.

Material: Ni-resist (austenitic cast iron similar to DIN1694)

Cutting data:

$v_c = 220 \text{ m/min (722 SFM)}$

$v_f = 0.06 \text{ mm (.0024")}$



G

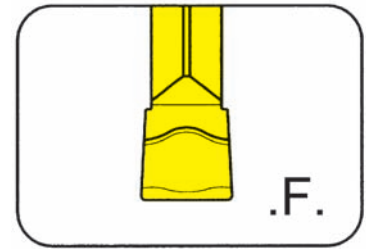
GROOVING and PARTING OFF



INDEXABLE INSERT Type

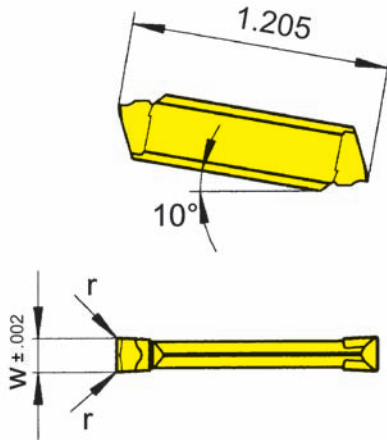
S229

with chip forming



Depth of groove up to 1.000"
Width of groove .118 - .157"

precision sintered



Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | | | | | | |
|------------------------------|------|------|---------|----------------|------|-----|------|------|------|------|------|------|
| | | | | K10 | MG12 | P20 | T122 | T125 | TF43 | TF45 | TF46 | AS62 |
| S229.0300.F2 | .118 | .008 | 03 | | | | ▲ | | ▲ | ▲ | ▲ | |
| S229.0300.F4 | | .016 | | | | | | | | ▲ | ▲ | |
| S229.0400.F2 | .157 | .008 | 03 / 04 | | | | | | | ▲ | ▲ | |
| S229.0400.F4 | | .016 | | | | | | | | ▲ | | |
| ▲ on stock Δ 4 weeks | | | | P | | | • | | • | • | • | |
| • main recommendation | | | | M | | | | | | • | • | |
| ○ alternative recommendation | | | | K | | | | | | • | • | |
| ■ uncoated grades | | | | S | | | | | | • | • | |
| ■ coated grades | | | | N | | | | | | • | • | |
| ■ brazed/Cermet | | | | H | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

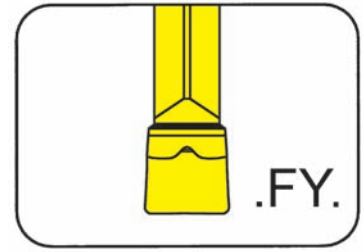
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S229

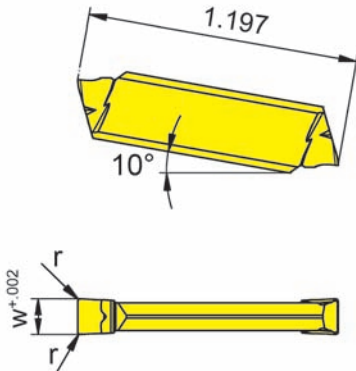
with chip forming



Depth of groove up to
Width of groove

1.000"
.118 - .157"

precision sintered



Indexability length
± .002"

G

| Part number | w | r | Size | | K10 | P20 | TN32 | TI25 | TF45 |
|---------------|------|------|---------|---|-----|-----|------|------|------|
| S229.0300.FY2 | .118 | .008 | 03 | | | | | ▲ | |
| S229.0400.FY3 | .157 | .012 | 03 / 04 | | | | | ▲ | |
| | | | | P | | | | • | |
| | | | | M | | | | • | |
| | | | | K | | | | • | |
| | | | | S | | | | • | |
| | | | | N | | | | • | |
| | | | | H | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

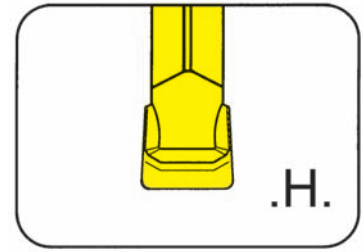
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S229

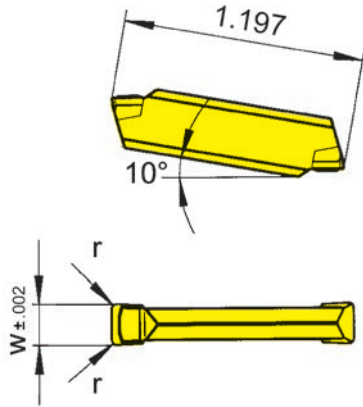
with chip breaker



Depth of groove up to
Width of groove

1.000"
.118 - .236"

precision sintered



Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | |
|--|------|------------------------------|---------|----------------|------|
| | | | | TF42 | AL96 |
| S229.0300.H4 S229.0300.H6 | .118 | .016 .024 | 03 | ▲ | ▲ |
| S229.0400.H4 S229.0400.H6 S229.0400.H8 | .157 | .016 .024 .031 | 03 / 04 | ▲ | ▲ |
| S229.0500.H4 S229.0500.H6 S229.0500.H8 | .197 | .016 .024 .031 | 04 | ▲ | ▲ |
| S229.0600.H4 S229.0600.H6 S229.0600.H8 S229.0600.HK | .236 | .016 .024 .031 .047 | 05 | ▲ | ▲ |
| | | | | P | • |
| | | | | M | • |
| | | | | K | • |
| | | | | S | • |
| | | | | N | • |
| | | | | H | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

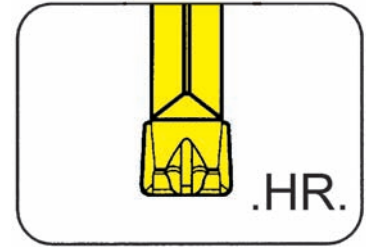
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

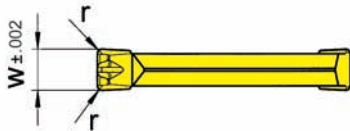
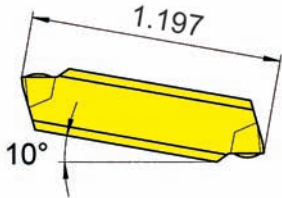
S229

with chip forming



Depth of groove up to 1.000"
Width of groove .118 - .315"

precision sintered



Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | |
|-----------------|------|------|---------|----------------|------|------|------|
| | | | | TF42 | AS62 | AS66 | AL96 |
| S229.0300.HR4 | .118 | .016 | 03 | | ▲ | | |
| S229.0400.HR4 | .157 | .016 | 03 / 04 | | ▲ | | |
| S229.0500.HR4 | .197 | .016 | 04 | | ▲ | | |
| S229.0500.HR6 | | .024 | | | ▲ | | |
| S229.0500.HR8 | | .031 | | | ▲ | | |
| S229.0600.HR4 | .236 | .016 | 05 | | ▲ | ▲ | |
| S229.0600.HR6 | | .024 | | | ▲ | | |
| S229.0600.HR8 | | .031 | | | ▲ | | |
| S229.0800.HR8PG | .315 | .031 | 07 / 08 | | ▲ | | |
| | | | | P | • | • | |
| | | | | M | | o | |
| | | | | K | | • | |
| | | | | S | | o | |
| | | | | N | | • | |
| | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

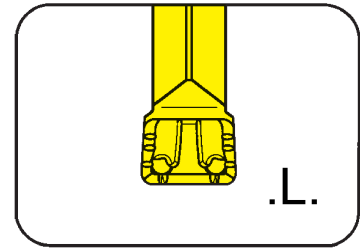
Dimensions in inch

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S229

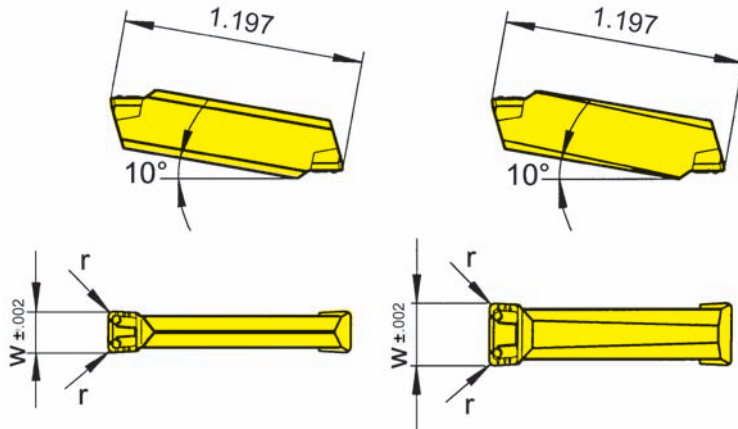
with chip forming



Depth of groove up to
Width of groove

1.000"
.157 - .315"

precision sintered



Width = .157" - .197"

Width = .236" - .315"

Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | | |
|------------------------------|------|------|---------|----------------|------|------|------|------|
| | | | | T122 | TF42 | AS62 | AS66 | AL96 |
| S229.0400.L4 | .157 | .016 | 03 / 04 | ▲ | ▲ | ▲ | | ▲ |
| S229.0500.L4 | .197 | .016 | 04 | ▲ | ▲ | ▲ | | ▲ |
| S229.0500.L6 | | .024 | | ▲ | ▲ | ▲ | ▲ | |
| S229.0600.L4 | .236 | .016 | 05 | ▲ | ▲ | ▲ | | ▲ |
| S229.0600.L6 | | .024 | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0800.L6 | .315 | .024 | 07 | ▲ | ▲ | ▲ | | ▲ |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • | • |
| ● main recommendation | | | | M | | | ○ | |
| ○ alternative recommendation | | | | K | | | • | • |
| ■ uncoated grades | | | | S | | | ○ | |
| ■ coated grades | | | | N | | | • | • |
| ■ brazed/Cermet | | | | H | | | | |

Dimensions in inch

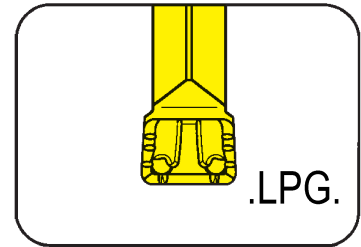
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S229

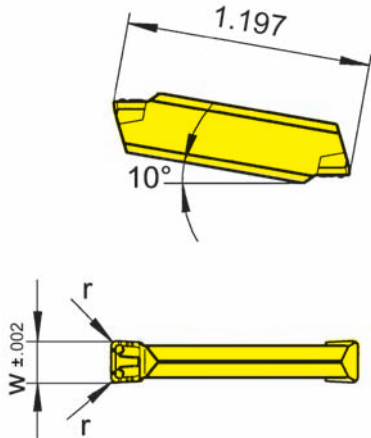
with chip forming



Depth of groove up to
Width of groove

1.000"
.236 - .315"

precision sintered



PG = inserts with ground periphery

Indexability length
± .002"

G

| Part number | w | r | Size | Carbide grades | | | |
|----------------|------|------|------|----------------|------|------|------|
| | | | | TI22 | TF42 | AS62 | AL96 |
| S229.0600.L4PG | .236 | .016 | 05 | | | ▲ | |
| S229.0800.L8PG | .315 | .031 | 07 | | | ▲ | |
| | | | | P | | • | |
| | | | | M | | | |
| | | | | K | | | |
| | | | | S | | | |
| | | | | N | | | |
| | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

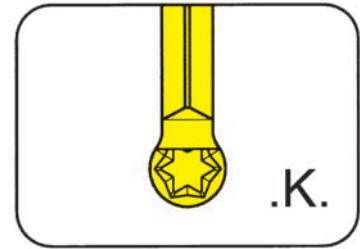
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

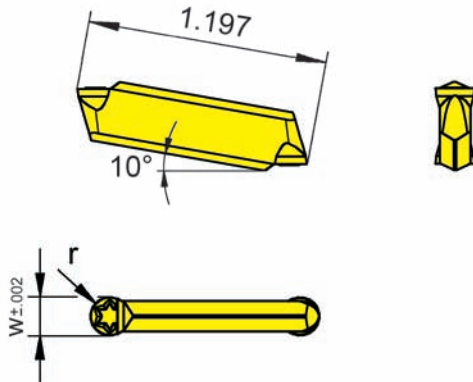
S229

with chip forming



| | |
|-----------------------|--------------|
| Depth of groove up to | 1.000" |
| Width of groove | .118 - .315" |
| Full radius | .059 - .157" |

precision sintered



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | |
|--------------|------|------|---------|----------------|------|------|------|
| | | | | TA42 | TA45 | AS62 | AS66 |
| S229.0015.K3 | .118 | .059 | 02 / 03 | | | ▲ | ▲ |
| S229.0020.K4 | .157 | .079 | 03 / 04 | | | ▲ | ▲ |
| S229.0025.K5 | .197 | .098 | 04 | | | ▲ | ▲ |
| S229.0030.K6 | .236 | .118 | 05 | | | ▲ | ▲ |
| S229.0040.K8 | .315 | .157 | 07 / 08 | | | ▲ | |
| | | | | P | | • | • |
| | | | | M | | | o |
| | | | | K | | | • |
| | | | | S | | | o |
| | | | | N | | | • |
| | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

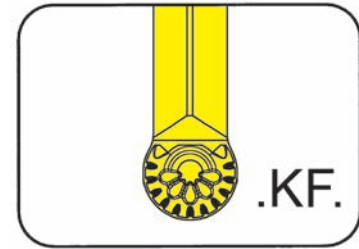
D_{min} for corner reliefs with toolholder 45°

| t _{max} | S229.0015.K3 | S229.0020.K4 | S229.0025.K5 | S229.0030.K6 |
|------------------|------------------|------------------|------------------|------------------|
| .020" (0.5 mm) | Ø 1.024" (26 mm) | Ø 1.024" (26 mm) | Ø 1.260" (32 mm) | Ø 1.260" (32 mm) |
| .039" (1.0 mm) | Ø 2.992" (76 mm) | Ø 2.165" (55 mm) | Ø 1.654" (42 mm) | Ø 1.457" (37 mm) |
| .059" (1.5 mm) | Ø 3.071" (78 mm) | Ø 2.283" (58 mm) | Ø 1.772" (45 mm) | Ø 1.614" (41 mm) |
| .079" (2.0 mm) | Ø 3.150" (80 mm) | Ø 2.323" (59 mm) | Ø 1.811" (46 mm) | Ø 1.654" (42 mm) |
| .098" (2.5 mm) | Ø 3.228" (82 mm) | Ø 2.362" (60 mm) | Ø 1.850" (47 mm) | Ø 1.693" (43 mm) |
| .118" (3.0 mm) | Ø 3.307" (84 mm) | Ø 2.441" (62 mm) | Ø 1.890" (48 mm) | Ø 1.732" (44 mm) |
| .138" (3.5 mm) | Ø 3.425" (87 mm) | Ø 2.480" (63 mm) | Ø 1.929" (49 mm) | Ø 1.811" (46 mm) |
| .157" (4.0 mm) | Ø 3.504" (89 mm) | Ø 2.559" (65 mm) | Ø 1.969" (50 mm) | Ø 1.850" (47 mm) |

INDEXABLE INSERT Type

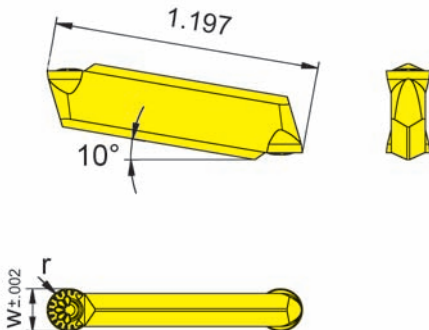
S229

with chip forming



| | |
|-----------------------|--------------|
| Depth of groove up to | 1.000" |
| Width of groove | .118 - .236" |
| Full radius | .059 - .118" |

precision sintered



Indexability length
± .002"



| Part number | w | r | Size | Carbide grades | | | | | |
|--|------|------|---------|----------------|------|------|------|------|------|
| | | | | T122 | T125 | TA42 | TA45 | AS62 | AS66 |
| S229.0015.KF3 | .118 | .059 | 02 / 03 | | | | | | ▲ |
| S229.0020.KF4 | .157 | .079 | 03 / 04 | | | | | | ▲ |
| S229.0025.KF5 | .197 | .098 | 04 | | | | | | ▲ |
| S229.0030.KF6 | .236 | .118 | 05 | | | | | | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | | | | | ● |
| | | | | M | | | | | ○ |
| | | | | K | | | | | ● |
| | | | | S | | | | | ○ |
| | | | | N | | | | | ● |
| | | | | H | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

D_{min} for corner reliefs with toolholder 45°

| t _{max} | S229.0015.KF3 | S229.0020.KF4 | S229.0025.KF5 | S229.0030.KF6 |
|------------------|------------------|------------------|------------------|------------------|
| .020" (0.5 mm) | Ø 1.024" (26 mm) | Ø 1.024" (26 mm) | Ø 1.260" (32 mm) | Ø 1.260" (32 mm) |
| .039" (1.0 mm) | Ø 2.992" (76 mm) | Ø 2.165" (55 mm) | Ø 1.654" (42 mm) | Ø 1.457" (37 mm) |
| .059" (1.5 mm) | Ø 3.071" (78 mm) | Ø 2.283" (58 mm) | Ø 1.772" (45 mm) | Ø 1.614" (41 mm) |
| .079" (2.0 mm) | Ø 3.150" (80 mm) | Ø 2.323" (59 mm) | Ø 1.811" (46 mm) | Ø 1.654" (42 mm) |
| .098" (2.5 mm) | Ø 3.228" (82 mm) | Ø 2.362" (60 mm) | Ø 1.850" (47 mm) | Ø 1.693" (43 mm) |
| .118" (3.0 mm) | Ø 3.307" (84 mm) | Ø 2.441" (62 mm) | Ø 1.890" (48 mm) | Ø 1.732" (44 mm) |
| .138" (3.5 mm) | Ø 3.425" (87 mm) | Ø 2.480" (63 mm) | Ø 1.929" (49 mm) | Ø 1.811" (46 mm) |
| .157" (4.0 mm) | Ø 3.504" (89 mm) | Ø 2.559" (65 mm) | Ø 1.969" (50 mm) | Ø 1.850" (47 mm) |

INDEXABLE INSERT type

229...10

precision ground



Geometry .10

Easy cutting geometry without chip former

Characteristics

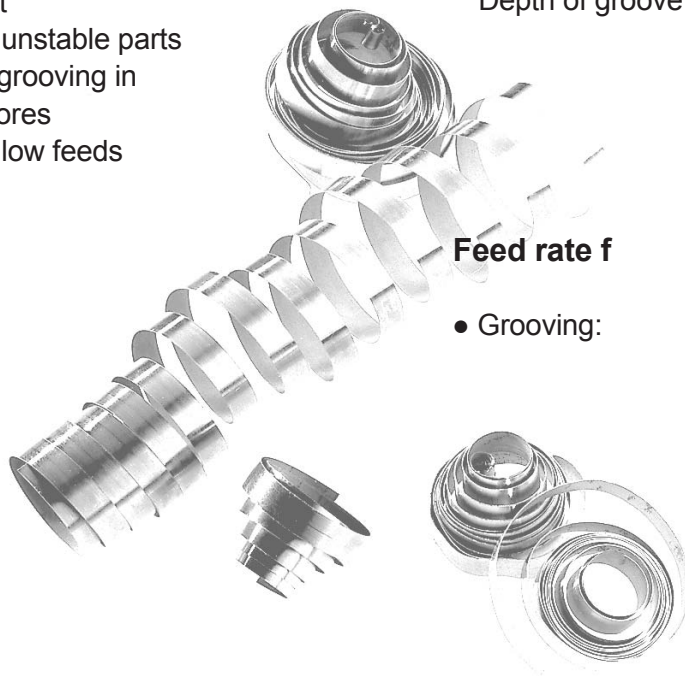
- easy cutting - low power requirement
- suitable for unstable parts
- for internal grooving in restricted bores
- suitable for low feeds

Applications

- Grooving: Depth of groove up to 1.000"

Feed rate f

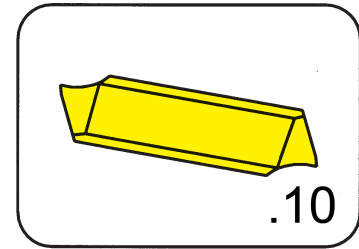
- Grooving: up to .012"/rev.



Profiling with a cutting depth of the edge radius is possible.
Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request.
Indexable inserts can be used in **right and left hand** toolholders.

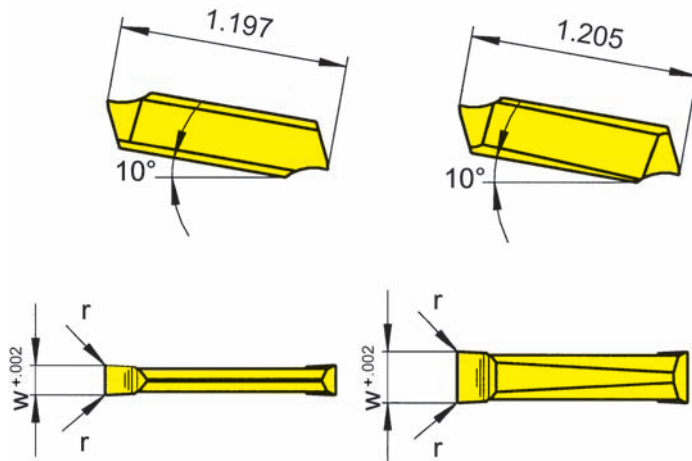
INDEXABLE INSERT Type

229



Depth of groove up to 1.000"
Width of groove .098 - .197"

precision ground



Indexability length
± .001"

G

| Part number | w | r | Size | Carbide grades | | | | | | | | | | | | |
|---|------|------|---------|----------------|------|-----|-----|------|------|------|------|------|------|---|---|---|
| | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI22 | TI25 | TC92 | AS62 | | | |
| 229.0250.10 | .098 | .008 | 02 | | | | | ▲ | ▲ | | | | | | | |
| 229.0300.10 | .118 | .008 | 03 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | | | | | ▲ | ▲ | |
| 229.0400.10 | .157 | .008 | 03 / 04 | ▲ | | ▲ | | ▲ | | | | | | ▲ | ▲ | |
| 229.0500.10 | .197 | .008 | 04 | ▲ | | ▲ | | ▲ | | | | | | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ○ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | M | ○ | ● | ● | ○ | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | K | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | S | ○ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | N | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | H | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT type

229...20

precision ground

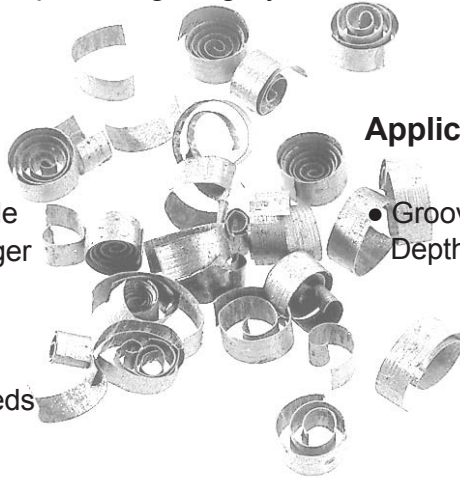


Geometry .20

Geometry without chip forming for grey cast iron and materials with higher tensile strength

Characteristics

- strong wedge angle
- for inserts with larger depth of profile
- recommended for interrupted cut
- suitable for low feeds



Applications

- Grooving: Depth of groove up to 1.000"

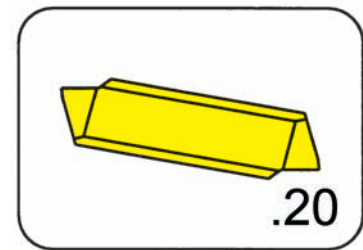
Feed rate f

- Grooving: up to .010"/rev.

Profiling with a cutting depth of the edge radius is possible. Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

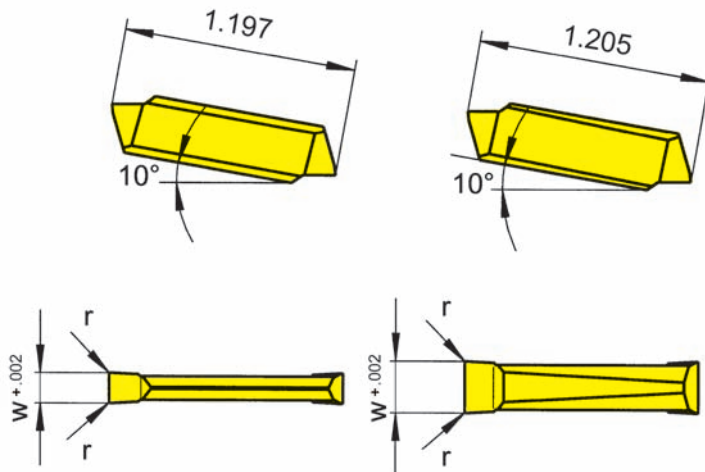
INDEXABLE INSERT Type

229



Depth of groove up to 1.000"
Width of groove .118 - .315"

precision ground



Width = .118" - .197"

Width = .236" - .315"

Indexability length
± .001"



| Part number | w | r | Size | K10 | MG12 | P20 | H20 | TN32 | TN35 | TC92 | AS62 |
|------------------------------|------|------|---------|-----|------|-----|-----|------|------|------|------|
| 229.0300.20 | .118 | .008 | 03 | ▲ | | | ▲ | | | △ | ▲ |
| 229.0400.20 | .157 | .008 | 03 / 04 | ▲ | | | | ▲ | | △ | ▲ |
| 229.0500.20 | .197 | .008 | 04 | ▲ | | | | | | △ | ▲ |
| 229.0600.20 | .236 | .016 | 05 | ▲ | | | | | | △ | ▲ |
| 229.0700.20 | .276 | .016 | 07 | ▲ | | | | | | | |
| 229.0800.20 | .315 | .016 | 07 | ▲ | | | | | | | |
| ▲ on stock △ 4 weeks | | | | P | • | • | • | • | • | • | • |
| • main recommendation | | | | M | ○ | | ○ | | | | |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • | • |
| ■ uncoated grades | | | | S | ○ | | | | | | |
| ■ coated grades | | | | N | • | | | | | | |
| ■ brazed/Cermet | | | | H | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT type

229...3.

precision ground



Geometry .3.

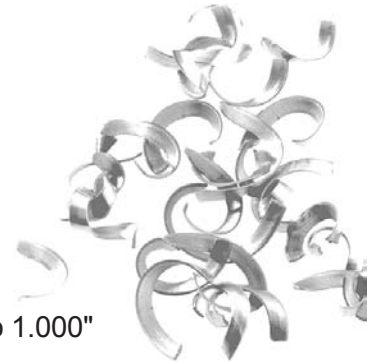
Geometry with chip forming for all materials.

Characteristics

- excellent swarf control
- suitable for high alloy- high strength steels
- reduced swarf width gives high flank surface finish
- excellent swarf control allows production security

Applications

- Grooving: Depth of groove up to 1.000"
- Side turning: Depth of cut a_p up to .157"*

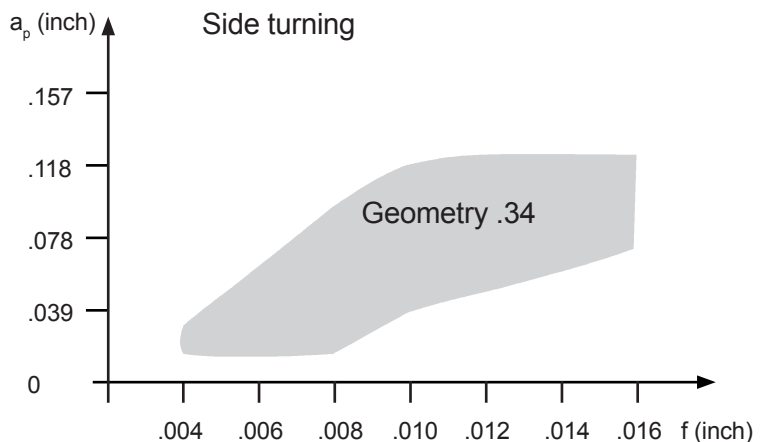


Feed rate f

- Grooving: .006" up to .010"/rev.*
- Side turning: up to .016"/rev.*

* dependent upon width of insert

Indexable inserts with profiles, intermediate sizes or other edge radii are available upon request. Indexable inserts can be used in **right and left hand** toolholders.

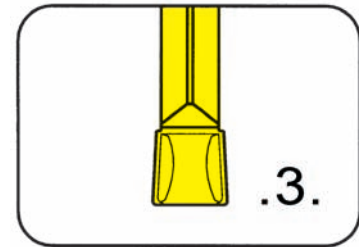


Chip control graph 229.0500.34 material 16MnCr5

INDEXABLE INSERT Type

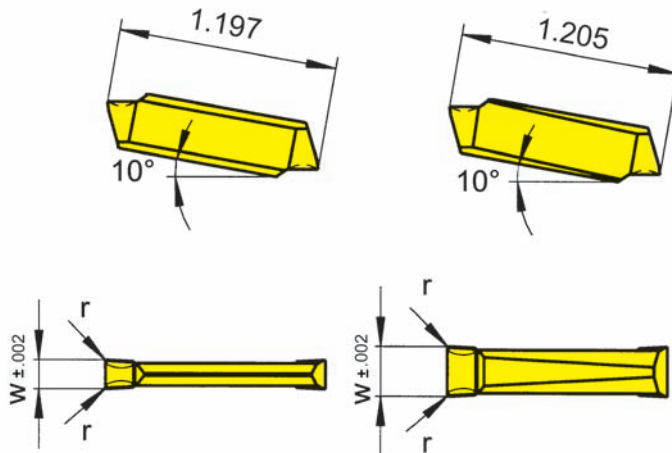
229

with chip former



Depth of groove up to 1.000"
Width of groove .118 - .394"

precision ground



Width = .118" - .197"

Width = .236" - .394"

Indexability length
± .001"

G

| Part number | w | r | Size | Carbide grades | | | | | | | | | | |
|------------------------------|------|------|---------|----------------|------|-----|-----|------|------|------|------|------|------|--|
| | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI22 | TI25 | TC92 | AS62 | |
| 229.0300.31 | .118 | .008 | 03 | ▲ | ▲ | ▲ | | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| 229.0300.34 | | .016 | 03 / 04 | | | | | ▲ | ▲ | | | ▲ | ▲ | |
| 229.0400.31 | .157 | .008 | 03 / 04 | ▲ | | ▲ | | ▲ | | | | ▲ | ▲ | |
| 229.0400.34 | | .016 | | | | | ▲ | ▲ | | | | ▲ | ▲ | |
| 229.0500.31 | .197 | .008 | 04 | ▲ | | ▲ | | ▲ | | ▲ | | ▲ | ▲ | |
| 229.0500.34 | | .016 | | | | | ▲ | ▲ | | | | ▲ | ▲ | |
| 229.0600.31 | .236 | .016 | 05 | | | ▲ | | ▲ | | | | ▲ | ▲ | |
| 229.0600.38 | | .031 | | | | | ▲ | ▲ | | | | ▲ | ▲ | |
| 229.0700.31 | .276 | .016 | 07 | | | ▲ | | ▲ | | | | ▲ | ▲ | |
| 229.0800.31 | .315 | .016 | 07 | | | ▲ | | ▲ | | | | ▲ | ▲ | |
| 229.0900.31 | .354 | .016 | 09 | | | | | ▲ | | | | ▲ | ▲ | |
| 229.1000.31 | .394 | .016 | 09 | | | | | ▲ | ▲ | | | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks | | | | P | • | ○ | • | • | • | • | • | • | • | |
| • main recommendation | | | | M | ○ | • | • | • | • | • | • | • | • | |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • | • | • | • | |
| ■ uncoated grades | | | | S | ○ | • | • | • | • | • | • | • | • | |
| ■ coated grades | | | | N | • | • | • | • | • | • | • | • | • | |
| ■ brazed/Cermet | | | | H | | | | | | | | | | |

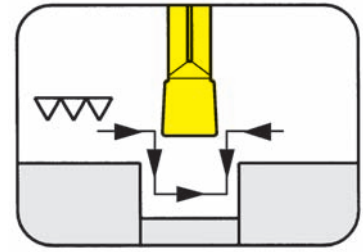
Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

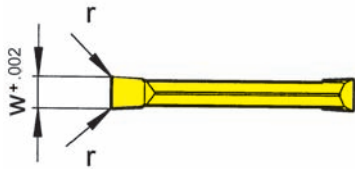
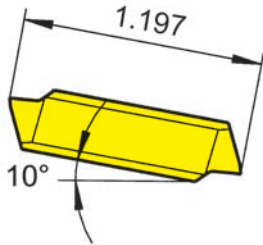
229



Depth of groove up to
Width of groove

1.000"
.118 - .157"

precision ground



Indexability length
± .001"

| Part number | w | r | Size | Carbide grades | | | | | | | | | |
|-------------|------|------|---------|----------------|------|-----|-----|------|------|------|------|--|--|
| | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI22 | TI25 | | |
| 229.0300.02 | .118 | .008 | 03 / 04 | | | | ▲ | | | | | | |
| 229.0400.02 | .157 | .008 | 03 / 04 | | | | ▲ | | | | | | |
| | | | | P | | | • | | | | | | |
| | | | | M | | | ○ | | | | | | |
| | | | | K | | | | | | | | | |
| | | | | S | | | | | | | | | |
| | | | | N | | | | | | | | | |
| | | | | H | | | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

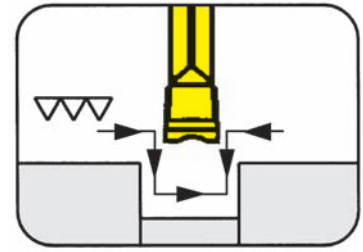
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

229

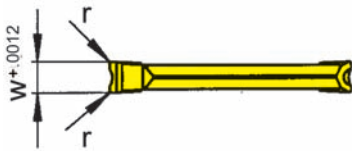
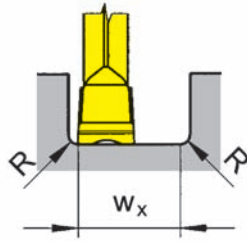
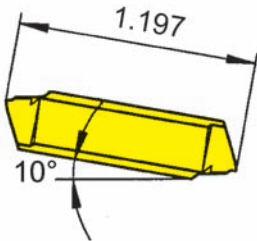
with chip breaker



Depth of groove up to
Width of groove

1.000"
.118 - .157"

precision ground



Indexability length
± .001"

G

| Part number | w | r | w _x | Size | Carbide grades | | | | | | | | | |
|-------------|------|------|----------------|---------|----------------|------|-----|-----|------|------|------|------|--|--|
| | | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI22 | TI25 | | |
| 229.NC30.02 | .118 | .008 | .177 | 03 / 04 | | | | ▲ | | | | | | |
| 229.NC40.02 | .157 | .008 | .252 | 03 / 04 | | | | ▲ | | | | | | |
| | | | | | P | | | • | | | | | | |
| | | | | | M | | | ○ | | | | | | |
| | | | | | K | | | | | | | | | |
| | | | | | S | | | | | | | | | |
| | | | | | N | | | | | | | | | |
| | | | | | H | | | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

$$w_x = \text{width of groove} - R_{(\text{right})} - R_{(\text{left})}$$

Indexable inserts can be used in **right and left hand** toolholders.

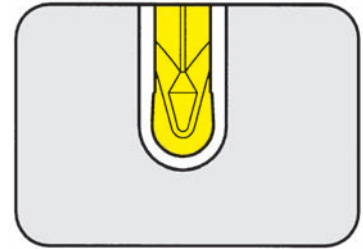
GROOVING (external and internal)



INDEXABLE INSERT Type

229

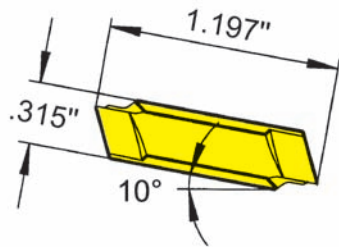
with surrounding chip breaker



Depth of groove up to
Full radius

1.000"
r .059 - .118"

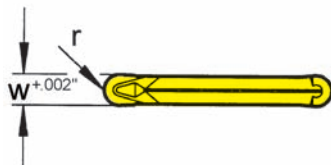
precision ground



profiling

or

corner relief



Indexability length
± .001"

G

| Part number | w | r | Size | Clamping range | Carbide grades | | | | | | | | | |
|--|------|------|----------|----------------|----------------|------|-----|-----|------|------|------|------|------|---|
| | | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI25 | AS62 | AS66 | |
| 229.0015.30 | .118 | .059 | 225...04 | .118 - .197 | | ▲ | ▲ | ▲ | ▲ | | | | ▲ | |
| | | | 03 | .118 - .157 | | | | | | | | | | |
| 229.0020.40 | .157 | .079 | 225...04 | .118 - .197 | | ▲ | ▲ | | ▲ | | | | ▲ | |
| | | | 04 | .157 - .197 | | | | | | | | | | |
| 229.0025.50 | .197 | .098 | 225...04 | .118 - .197 | | ▲ | ▲ | | ▲ | | | | ▲ | ▲ |
| | | | 04 | .157 - .197 | | | | | | | | | | |
| 229.0030.60 | .236 | .118 | 05 | .201 - .236 | | | ▲ | | ▲ | | | | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ○ | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | ● | ○ | ○ | | | | | ○ | |
| | | | | | K | ● | | | | | | | ● | ● |
| | | | | | S | ● | | | | | | | ○ | |
| | | | | | N | ● | | | | | | | ● | |
| | | | | | H | | | | | | | | | |

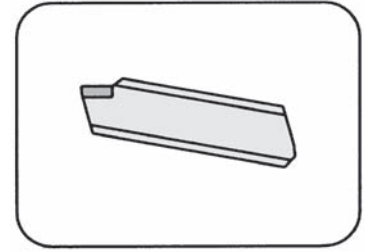
Dimensions in inch

Carbide grades

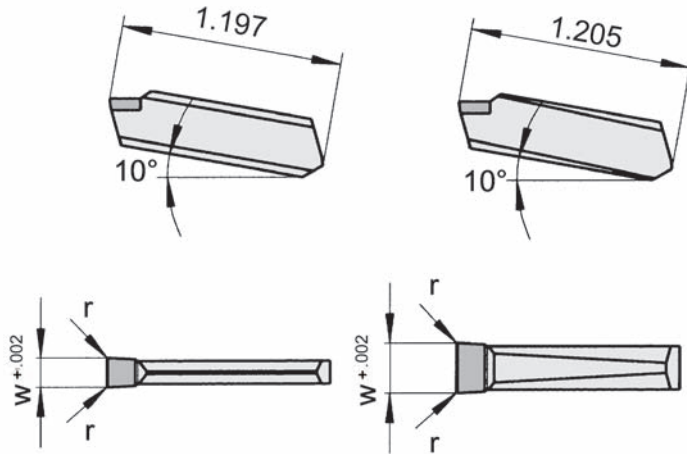
Indexable inserts can be used in **right and left hand** toolholders.

INSERT Type

229



Depth of groove up to .709"
Width of groove .118 - .236"



Width = .118" - .197"

Width = .236"

CBN tipped

G

| Part number | w | r | Size | Carbide grades | |
|--------------------------------|------|--------------|------|----------------|------|
| | | | | CB10 | CB50 |
| 229.0300.22.B 229.0300.24.B | .118 | .008 .016 | 03 | ▲ | ▲ |
| 229.0400.22.B 229.0400.24.B | .157 | .008 .016 | 04 | ▲ | ▲ |
| 229.0500.22.B 229.0500.24.B | .197 | .008 .016 | 04 | ▲ | ▲ |
| 229.0600.24.B 229.0600.26.B | .236 | .016 .024 | 05 | ▲ | ▲ |
| | | | | P | • |
| | | | | M | • |
| | | | | K | • |
| | | | | S | • |
| | | | | N | • |
| | | | | H | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left** hand toolholders.

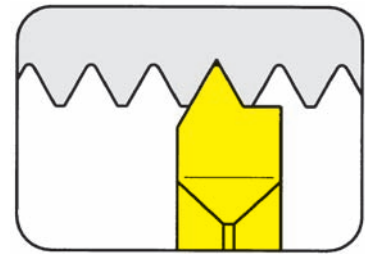
THREADING (external) Full profile



INDEXABLE INSERT Type

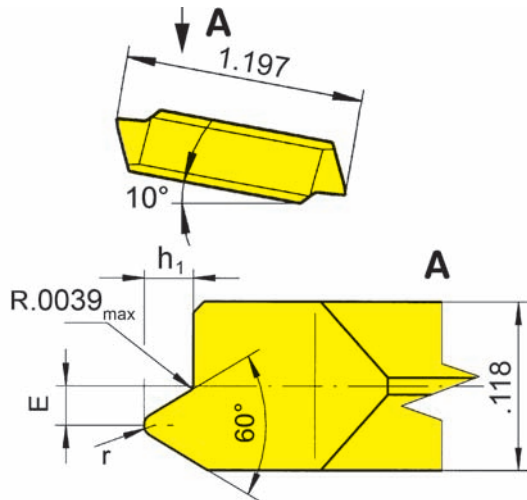
229

Metric ISO thread



| | |
|-------|--------------|
| Pitch | 1.0 - 2.5 mm |
|-------|--------------|

precision ground



R = right hand version shown

L = left hand cutting version shown

Indexability length
± .001"

| Part number | P | r | E | h ₁ | Size | Carbide grades | | |
|----------------|------|-------|-----|----------------|---------|----------------|------|------|
| | | | | | | TN35 | TI22 | TA45 |
| R/L229.0610.02 | 1.00 | 0.140 | 0.8 | 0.62 | 03 / 04 | ▲/▲ | | |
| R/L229.0712.02 | 1.25 | 0.175 | 0.8 | 0.78 | | ▲/▲ | | |
| R/L229.0915.02 | 1.50 | 0.210 | 0.7 | 0.93 | | ▲/▲ | | |
| R/L229.1017.02 | 1.75 | 0.250 | 0.5 | 1.08 | | ▲/▲ | | |
| R/L229.1220.02 | 2.00 | 0.280 | 0.5 | 1.24 | | ▲/▲ | | |
| R/L229.1525.02 | 2.50 | 0.360 | 0.3 | 1.54 | | ▲/▲ | | |

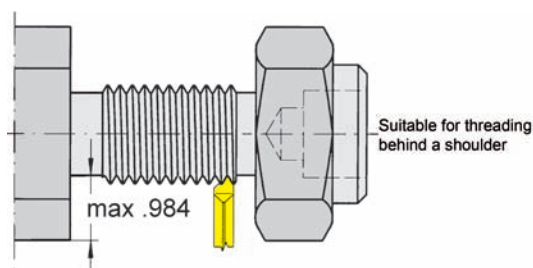
- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | P | M | K | S | N | H |
|------|---|---|---|---|---|---|
| TN35 | ● | | | | | |
| TI22 | ● | | | | | |
| TA45 | ● | | | | | |

Dimensions in mm

State R or L version

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.



G82

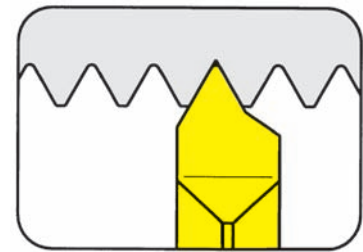
THREADING (external) Full profile



INDEXABLE INSERT Type

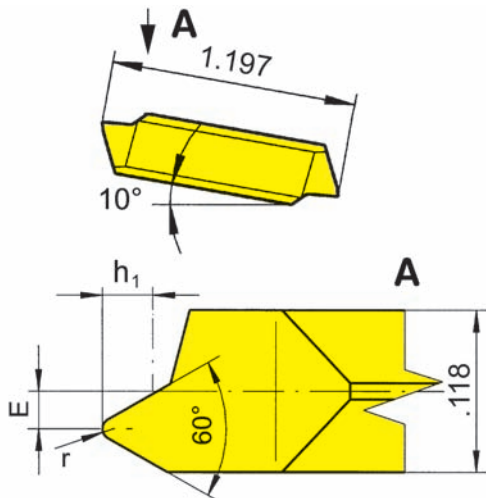
229

Metric ISO thread



| | |
|-------|--------------|
| Pitch | 1.0 - 2.5 mm |
|-------|--------------|

precision ground



R = right hand version shown

L = left hand cutting version shown

Indexability length
± .001"



| Part number | P | r | E | h ₁ | Size | Carbide grades | | |
|----------------|------|------|-----|----------------|---------|----------------|------|------|
| | | | | | | TN35 | TI22 | TA45 |
| R/L229.0610.01 | 1.00 | 0.12 | 0.8 | 0.61 | 03 / 04 | ▲/▲ | | |
| R/L229.0712.01 | 1.25 | 0.15 | 0.8 | 0.77 | | ▲/Δ | | |
| R/L229.0915.01 | 1.50 | 0.20 | 0.7 | 0.92 | | ▲/▲ | | |
| R/L229.1017.01 | 1.75 | 0.25 | 0.5 | 1.07 | | ▲/▲ | | |
| R/L229.1220.01 | 2.00 | 0.25 | 0.5 | 1.23 | | ▲/▲ | | |
| R/L229.1525.01 | 2.50 | 0.35 | 0.3 | 1.53 | | ▲/Δ | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

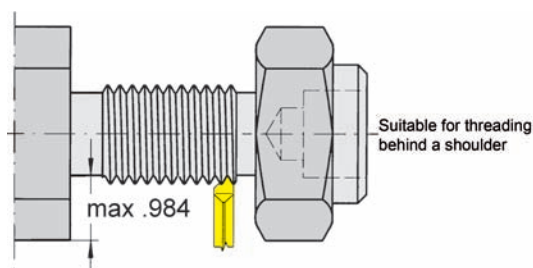
| | | | |
|---|---|---|---|
| P | ● | ■ | ■ |
| M | ● | ■ | ■ |
| K | ● | ■ | ■ |
| S | ● | ■ | ■ |
| N | ● | ■ | ■ |
| H | | ■ | ■ |

Dimensions in mm

Carbide grades

State R or L version

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.



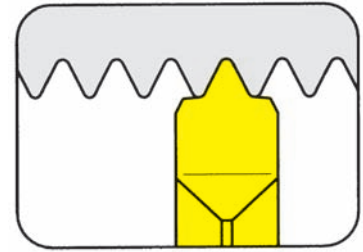
THREADING (external) Full profile



INDEXABLE INSERT Type

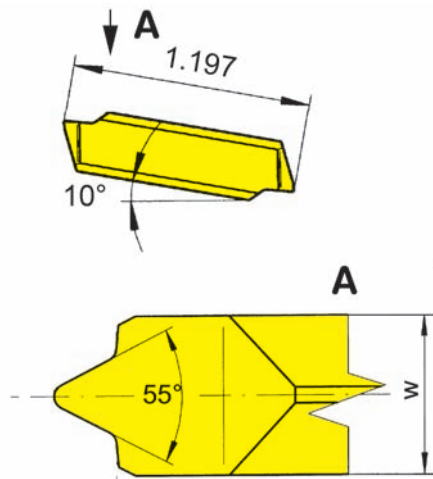
N229

Whitworth pipe thread



| | |
|------------------|---------|
| Threads per inch | 28 - 11 |
|------------------|---------|

precision ground



Indexability length
± .001"

G

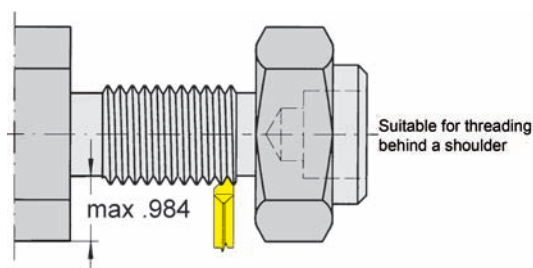
| Part number | Threads per Inch | w | Size | Carbide grades | | | | | |
|--|------------------|------|---------|----------------|------|------|------|------|------|
| | | | | K10 | MG12 | TN32 | TN35 | TI25 | TA45 |
| N229.5514.02 | 14 | .118 | 03 / 04 | Δ | Δ | | ▲ | | ▲ |
| N229.5519.02 | 19 | .118 | 03 / 04 | | Δ | | ▲ | | |
| N229.5528.02 | 28 | .118 | 03 / 04 | | Δ | | ▲ | | |
| N229.5511.02 | 11 | .138 | 03 / 04 | | Δ | | ▲ | | Δ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ○ | ● | ● | ● |
| | | | | M | ○ | ● | ● | ● | ● |
| | | | | K | ● | ● | ● | ● | ● |
| | | | | S | ○ | ● | ● | ● | ● |
| | | | | N | ● | ● | ● | ● | ● |
| | | | | H | | | | | |

Dimensions in inch

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

Indexable inserts can be used in **right and left hand** toolholders.

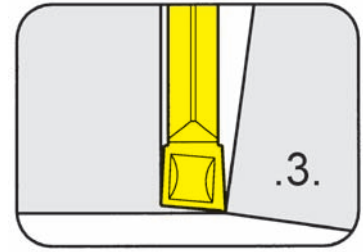


G84

INDEXABLE INSERT Type

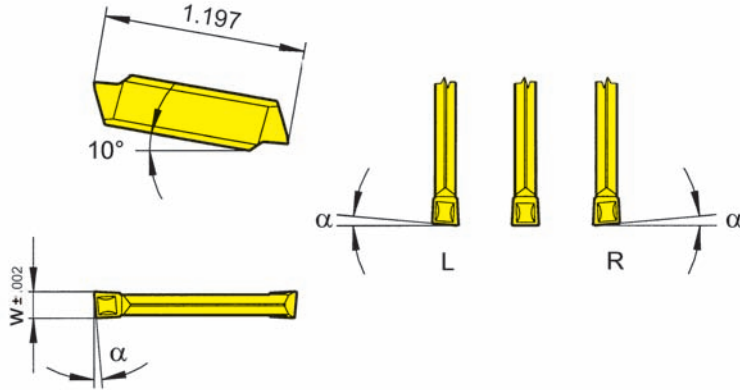
229/S229

with chip former



Depth of groove up to 1.000"
Width of groove .118 - .157"

precision sintered



R = right hand version shown

L = left hand version

Indexability length
± .002"

G

| Part number | w | α | Size | Carbide grades | | | | | | | | | | | |
|-----------------|------|----|---------|----------------|-----|-----|------|------|------|------|------|------|------|------|------|
| | | | | MG12 | P20 | H54 | TN32 | TN35 | T122 | T125 | TA45 | TF45 | TC92 | AL96 | AS62 |
| R/L229.5300.31 | .118 | 5° | 03 | ▲/▲ | | | ▲/▲ | ▲/▲ | | ▲/▲ | | | ▲/▲ | ▲/▲ | ▲/▲ |
| R/LS229.0530.32 | | 5° | | ▲/▲ | ▲/▲ | | ▲/▲ | | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | |
| S229.0300.32 | | 0° | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| R/LS229.0540.32 | .157 | 5° | 03 / 04 | | | | ▲/▲ | | | ▲/▲ | | | ▲/▲ | | ▲/▲ |
| S229.0400.32 | | 0° | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | | | | P | o | • | • | • | • | • | • | • | • | • | • |
| | | | | M | • | • | • | • | • | • | • | • | • | • | • |
| | | | | K | • | • | • | • | • | • | • | • | • | • | • |
| | | | | S | • | • | • | • | • | • | • | • | • | • | • |
| | | | | N | • | • | • | • | • | • | • | • | • | • | • |
| | | | | H | • | • | • | • | • | • | • | • | • | • | • |

Dimensions in inch

Carbide grades

State R or L version

Note:

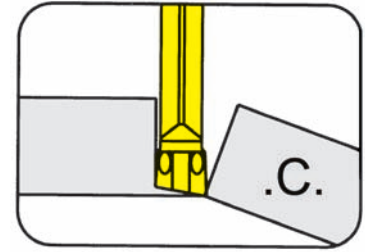
R/L229.5300.31 **precision ground**, length 1.181"

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

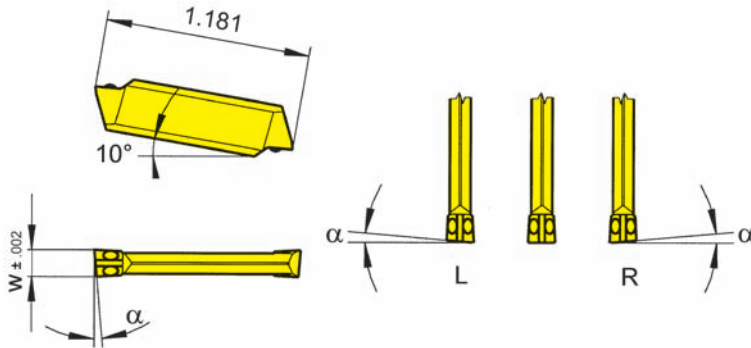
S229

with chip forming



Depth of groove up to 1.000"
Width of groove .118 - .157"

precision sintered



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | α | Size | TN32 | TN35 | T122 | T125 | TA45 | TF45 | TC92 |
|--|------|----------------|---------|--|------|----------------|------|------|------|------|
| | | | | R/LS229.0530.C0 R/LS229.0830.C0 S229.0030.C0 | .118 | 5° 8° 0° | 03 | ▲/▲ | ▲/▲ | ▲ |
| R/LS229.0540.C0 R/LS229.0840.C0 S229.0040.C0 | .157 | 5° 8° 0° | 03 / 04 | ▲/▲ | ▲/▲ | ▲ | ▲/▲ | ▲/▲ | ▲ | ▲/▲ |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • | • | • | • |
| ● main recommendation | | | | M | • | • | • | • | • | • |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • |
| ■ uncoated grades | | | | S | • | • | • | • | • | • |
| ■ coated grades | | | | N | • | • | • | • | • | • |
| ■ brazed/Cermet | | | | H | • | • | • | • | • | • |

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

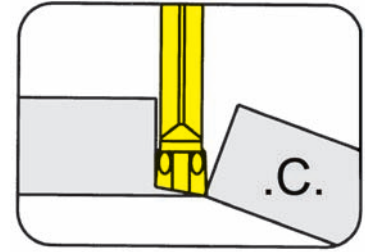
Carbide grades

G

INDEXABLE INSERT Type

S229

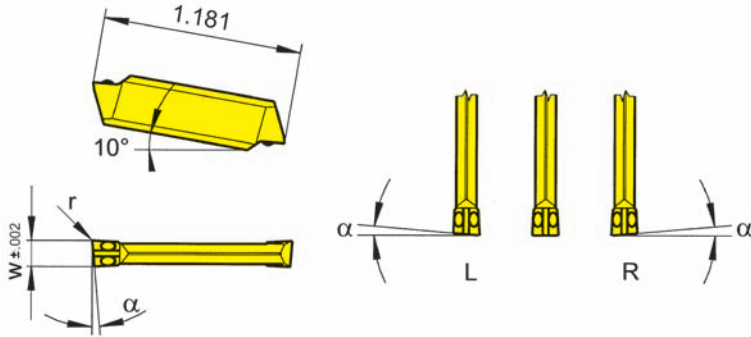
with chip forming



Depth of groove up to
Width of groove

1.000"
.118 - .157"

precision sintered



R = right hand version shown

L = left hand version

Indexability length
± .002"

G

| Part number | w | r | α | Size | TN32 | TN35 | TI22 | TI25 | TF45 | TC92 |
|--|------|------|----------------|---------|--|------------|------|----------------|----------|----------|
| | | | | | R/LS229.0530.C1 R/LS229.0830.C1 S229.0030.C1 | .118 | .006 | 5° 8° 0° | 03 | |
| R/LS229.0540.C1 R/LS229.0840.C1 S229.0040.C1 | .157 | .006 | 5° 8° 0° | 03 / 04 | | ▲/▲ ▲/▲ | | ▲/▲ ▲/▲ | ▲/▲ ▲ | ▲/▲ ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | | ● | ● | ● |
| | | | | | M | ● | | ● | ● | |
| | | | | | K | ● | | ● | ● | |
| | | | | | S | ● | | ● | ● | |
| | | | | | N | ● | | ● | ● | |
| | | | | | H | | | | | |

Dimensions in inch

State R or L version

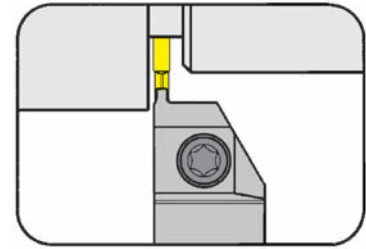
Indexable inserts can be used in **right and left hand** toolholders.

Carbide grades

TOOLHOLDER Type

H259

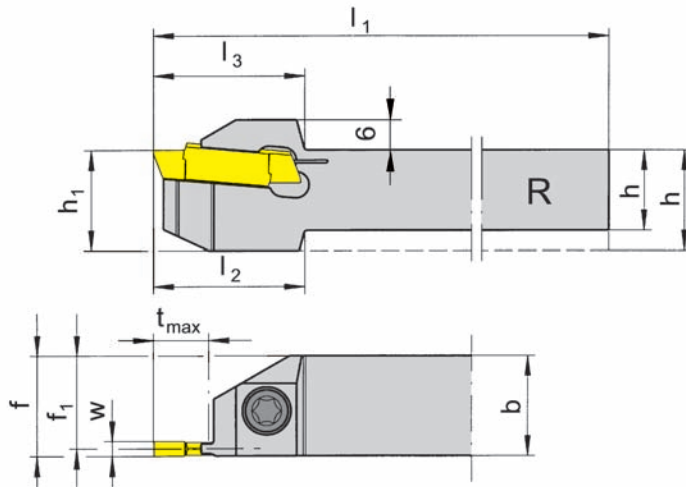
Machining brass



Depth of groove up to .709" (18.0 mm)
Width of groove up to .157" (4.0 mm)

for use with Indexable insert

Type 259



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | l ₃ | Size |
|-----------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|----------------|------|
| R/LH259.1616.03 | 16 | 16 | | 20 | 14.55 | | 30 | | | |
| R/LH259.2020.03 | 20 | 20 | 135 | 20 | 18.55 | f ₁ +w/2 | - | 11 | 30 | 03 |
| R/LH259.2525.03 | 25 | 25 | | 25 | 23.55 | | - | | | |
| R/LH259.1616.13 | 16 | 16 | | 20 | 14.55 | | 33 | | | |
| R/LH259.2020.13 | 20 | 20 | 135 | 20 | 18.55 | f ₁ +w/2 | - | 18 | 33 | 03 |
| R/LH259.2525.13 | 25 | 25 | | 25 | 23.55 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH259.... | 6.23T25P | T25PQ |

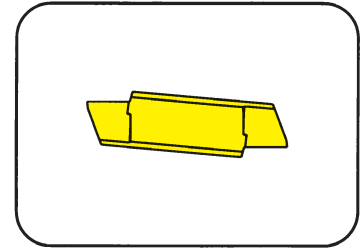
GROOVING and PARTING OFF



INDEXABLE INSERT Type

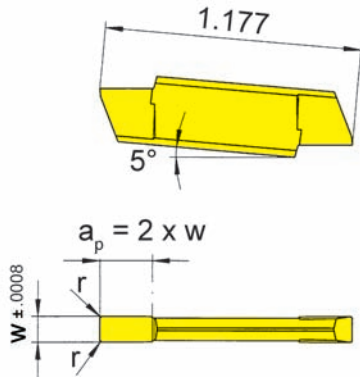
259

Machining brass



| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .118 - .157" |

precision ground



for use with Toolholder

Type H259

Usable length of minor cutting edge

2 x w for machining brass (Ms58)

Indexability length
± .0006"



| Part number | w | r | Size | Carbide grades | | | | | | |
|-------------|------|------|------|----------------|-----|------|------|------|------|--|
| | | | | MG12 | H54 | TN35 | TI25 | TF45 | TF46 | |
| 259.0300.M1 | .118 | .006 | 03 | Δ | | | | | | |
| 259.0300.M2 | | | | ▲ | | | | | | |
| 259.0400.M1 | .157 | .006 | 03 | ▲ | | | | | | |
| 259.0400.M2 | | | | ▲ | | | | | | |
| | | | | P | ○ | | | | | |
| | | | | M | • | | | | | |
| | | | | K | • | | | | | |
| | | | | S | • | | | | | |
| | | | | N | • | | | | | |
| | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

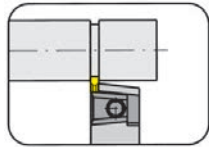
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

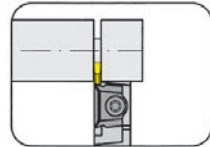
Special tools upon request

TOOLING SYSTEMS 312 **H**

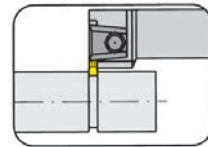
Grooving - external -



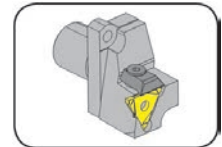
Page H2-H5,
H16-H17



Page H6



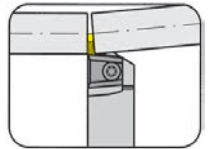
Page H10-H11



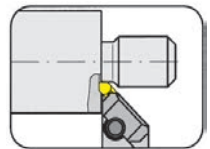
Page H12



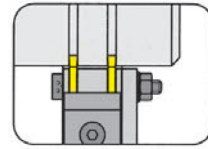
Page H13-H15



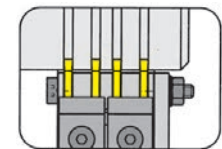
Page H19



Page H20-H21

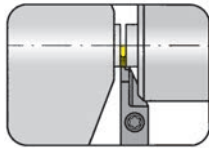


Page H22-H23

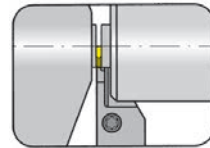


Page H24-H25

Parting off

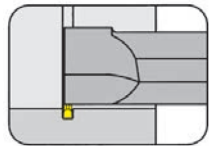


Page H7



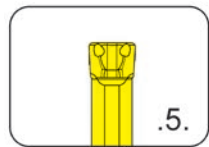
Page H8-H9

Grooving - internal -

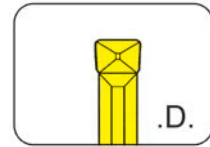


Page H26-H27

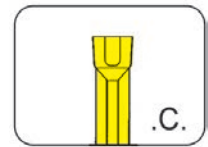
**Indexable inserts
Type
S312**



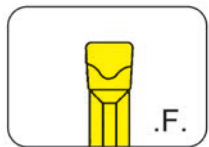
Page H28-H29



Page H30-H31



Page H50



Page H51

**Indexable inserts
Type
312**

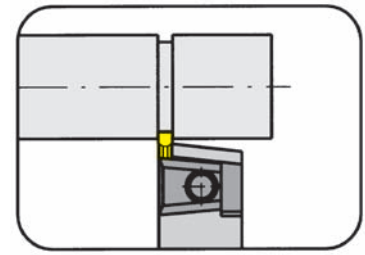


Page H33-H49,
H52-H55

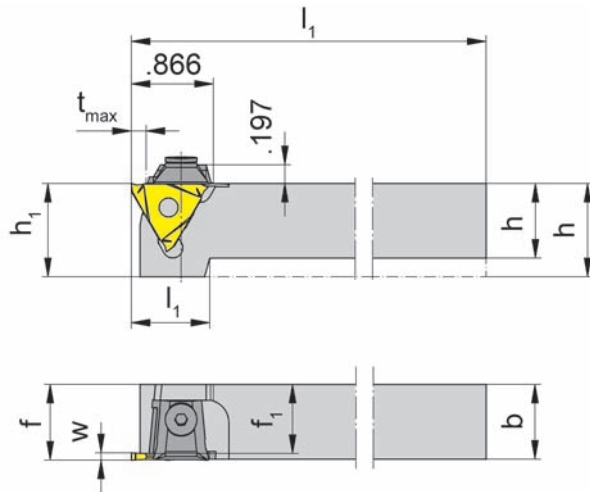
For Technical Information please see chapter Q

TOOLHOLDER Type

U360



Depth of groove up to .236"
Clamping range .020 - .114"



R = right hand version shown

L = left hand version

for use with Indexable insert

- Type 312
N312
S312
U312
US312

H

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/LU360.0500.01 | .500 | .500 | 4.000 | 1.000 | .441 | f ₁ +w-a ₁ | .944 | .157 | 01 | .020 - .075 |
| R/LU360.0625.01 | .625 | .625 | 5.000 | 1.000 | .566 | | .866 | | | |
| R/LU360.0750.01 | .750 | .750 | 5.000 | 1.000 | .691 | | .826 | | | |
| R/LU360.1000.01 | 1.000 | 1.000 | 6.000 | 1.000 | .941 | | - | | | |
| R/LU360.1250.01 | 1.250 | 1.250 | 6.625 | 1.250 | 1.191 | | - | | | |
| R/LU360.0500.02 | .500 | .500 | 4.000 | 1.000 | .402 | f ₁ +w-a ₁ | .944 | .236 | 02 | .075 - .114 |
| R/LU360.0625.02 | .625 | .625 | 5.000 | 1.000 | .527 | | .866 | | | |
| R/LU360.0750.02 | .750 | .750 | 5.000 | 1.000 | .652 | | .826 | | | |
| R/LU360.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | .902 | | - | | | |
| R/LU360.1250.02 | 1.250 | 1.250 | 6.625 | 1.250 | 1.152 | | - | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in inch

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 1.575"

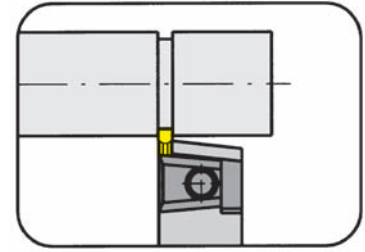
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|----------------------|-------|-------|-----------|
| R/LU360.0500...01/02 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360.0625...01/02 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360....01/02 | 16.4 | 6.25 | SW3DIN911 |

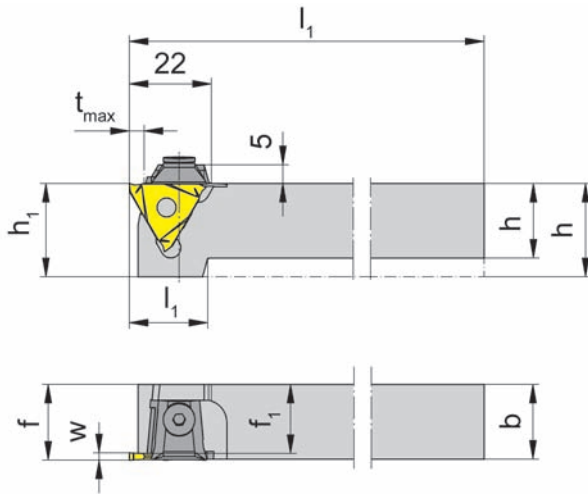
H2

TOOLHOLDER Type

360



Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .114" (0.5 - 2.9 mm)



R = right hand version shown

L = left hand version

for use with Indexable insert

- Type 312
N312
S312
U312
US312

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/L360.1212.01 | 12 | 12 | 100 | 25 | 10.5 | f ₁ +w-a ₁ | 24 | 4 | 01 | 0.5 - 1.9 |
| R/L360.1616.01 | 16 | 16 | 125 | 25 | 14.5 | | 22 | | | |
| R/L360.2020.01 | 20 | 20 | 125 | 25 | 18.5 | | 21 | | | |
| R/L360.2525.01 | 25 | 25 | 150 | 25 | 23.5 | | - | | | |
| R/L360.3232.01 | 32 | 32 | 170 | 32 | 30.5 | | - | | | |
| R/L360.1212.02 | 12 | 12 | 100 | 25 | 9.5 | f ₁ +w-a ₁ | 24 | 6 | 02 | 1.9 - 2.9 |
| R/L360.1616.02 | 16 | 16 | 125 | 25 | 13.5 | | 22 | | | |
| R/L360.2020.02 | 20 | 20 | 125 | 25 | 17.5 | | 21 | | | |
| R/L360.2525.02 | 25 | 25 | 150 | 25 | 22.5 | | - | | | |
| R/L360.3232.02 | 32 | 32 | 170 | 32 | 29.5 | | - | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 40 mm

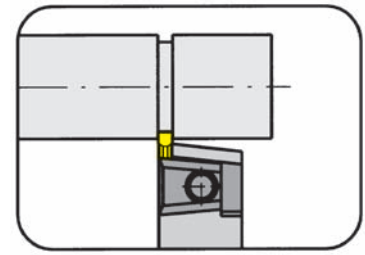
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|---------------------|-------|-------|-----------|
| R/L360.1212...01/02 | 11.3 | 6.25 | SW3DIN911 |
| R/L360.1616...01/02 | 11.3 | 6.25 | SW3DIN911 |
| R/L360...01/02 | 16.4 | 6.25 | SW3DIN911 |

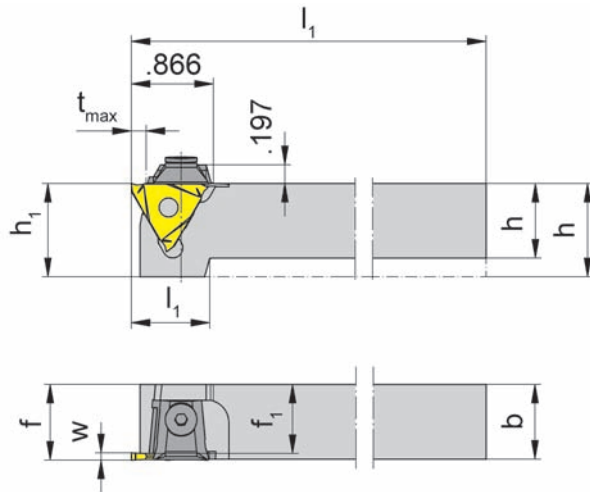
H

TOOLHOLDER Type

U360



Depth of groove up to .236"
Clamping range .114 - .248"



R = right hand version shown

L = left hand version

for use with Indexable insert

- Type 312
N312
S312
U312
US312

H

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/LU360.0500.03 | .500 | .500 | 4.000 | 1.000 | .362 | f ₁ +w-a ₁ | .944 | .236 | 03 | .114 - .154 |
| R/LU360.0625.03 | .625 | .625 | 5.000 | 1.000 | .487 | | .866 | | | |
| R/LU360.0750.03 | .750 | .750 | 5.000 | 1.000 | .612 | | .826 | | | |
| R/LU360.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | .862 | | - | | | |
| R/LU360.1250.03 | 1.250 | 1.250 | 6.625 | 1.250 | 1.112 | - | - | | | |
| R/LU360.0625.04 | .625 | .625 | 5.000 | 1.000 | .420 | f ₁ +w-a ₁ | .866 | .236 | 04 | .154 - .248 |
| R/LU360.0750.04 | .750 | .750 | 5.000 | 1.000 | .545 | | .826 | | | |
| R/LU360.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | .795 | | - | | | |
| R/LU360.1250.04 | 1.250 | 1.250 | 6.625 | 1.250 | 1.045 | | - | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in inch

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 1.575"

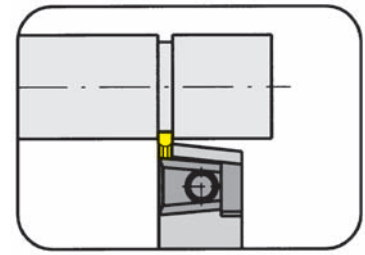
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-----------|
| R/LU360.0500.03 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360.0625.03 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360.0625.04 | 13.4 | 6.25 | SW3DIN911 |
| R/LU360....03/04 | 16.4 | 6.25 | SW3DIN911 |

H4

TOOLHOLDER Type

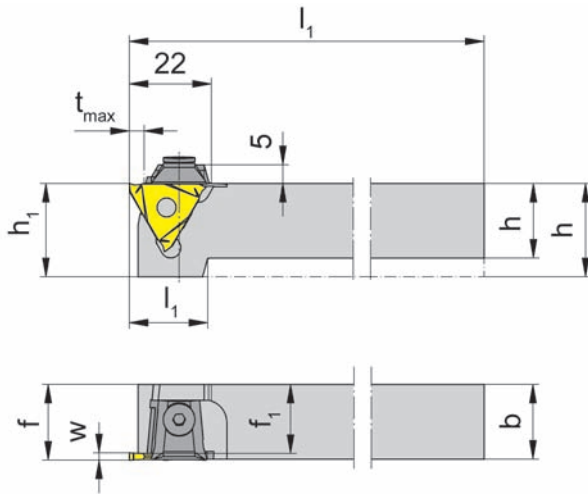
360



Depth of groove up to $.236''$ (6.0 mm)
Clamping range $.114 - .248''$ (2.9 - 6.3 mm)

for use with Indexable insert

Type 312
N312
S312
U312
US312



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-------|-----------------|-------|-----------|------|----------------|
| R/L360.1212.03 | 12 | 12 | 100 | 25 | 8.5 | $f_1 + w - a_1$ | 24 | 6 | 03 | 2.9 - 3.9 |
| R/L360.1616.03 | 16 | 16 | 125 | 25 | 12.5 | | 22 | | | |
| R/L360.2020.03 | 20 | 20 | 125 | 25 | 16.5 | | 21 | | | |
| R/L360.2525.03 | 25 | 25 | 150 | 25 | 21.5 | | - | | | |
| R/L360.3232.03 | 32 | 32 | 170 | 32 | 28.5 | | - | | | |
| R/L360.1616.04 | 16 | 16 | 125 | 25 | 10.8 | $f_1 + w - a_1$ | 22 | 6 | 04 | 3.9 - 6.3 |
| R/L360.2020.04 | 20 | 20 | 125 | 25 | 14.8 | | 21 | | | |
| R/L360.2525.04 | 25 | 25 | 150 | 25 | 19.8 | | - | | | |
| R/L360.3232.04 | 32 | 32 | 170 | 32 | 26.8 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece $\varnothing \leq 40$ mm

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-----------------|-------|-------|-----------|
| R/L360.1212.03 | 11.3 | 6.25 | SW3DIN911 |
| R/L360.1616.03 | 11.3 | 6.25 | SW3DIN911 |
| R/L360.1616.04 | 13.4 | 6.25 | SW3DIN911 |
| R/L360....03/04 | 16.4 | 6.25 | SW3DIN911 |

H

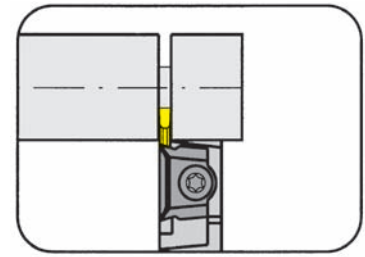
GROOVING and PARTING OFF



TOOLHOLDER Type

361

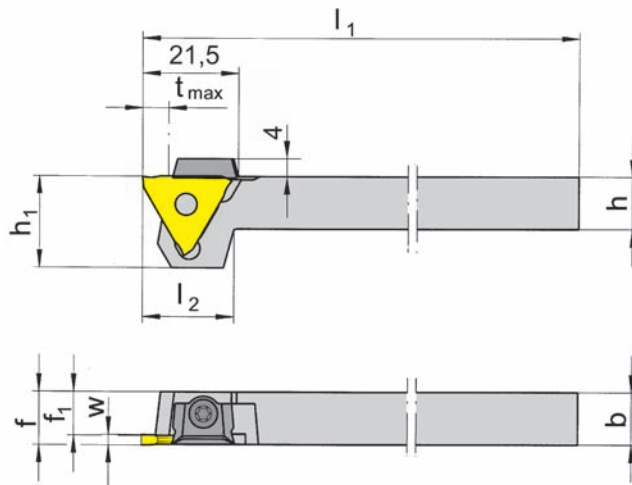
reduced head size



Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .154" (0.5 - 3.9 mm)

for use with Indexable insert

Type 312
N312
S312
U312
US312



R = right hand version shown

L = left hand version

for Swisstype machines

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/L361.1212.01 | 12 | 12 | 100 | 19 | 10.5 | f ₁ +w-a ₁ | 17 | 4 | 01 | 0.5-1.9 |
| R/L361.1212.02 | 12 | 12 | 100 | 19 | 9.5 | f ₁ +w-a ₁ | 17 | 6 | 02 | 1.9-2.9 |
| R/L361.1212.03 | 12 | 12 | 100 | 21 | 8.5 | f ₁ +w-a ₁ | 21 | 6 | 03 | 2.9-3.9 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 40 mm

Spare parts

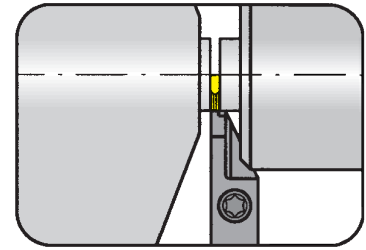
| Toolholder | Clamp | Screw | TORX PLUS® Wrench |
|------------------|-------|---------------|-------------------|
| R/L361.1212.0... | 12.3 | 030.0422.T10P | T10PW |

H6

TOOLHOLDER Type

368

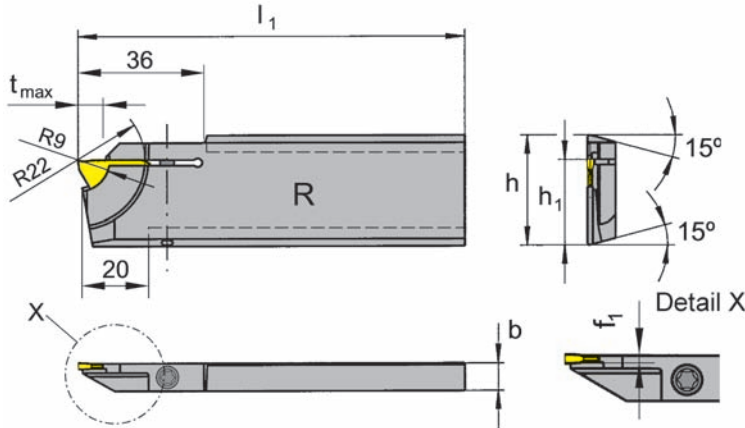
reinforced version



Depth of groove up to .315" (8.0 mm)
Clamping range .020 - .059" (0.5 - 1.5 mm)

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | Size | Clamping range |
|----------------|----|---|----------------|----------------|----------------|------------------|------|----------------|
| R/L368.2608.08 | 26 | | | 21.4 | 1.0 | | | |
| R/L368.3208.08 | 32 | | | 24.8 | 1.0 | | | |
| R/L368.2608.11 | 26 | 8 | 110 | 21.4 | 1.3 | 8 | 01 | 0.5 - 1.9 |
| R/L368.3208.11 | 32 | | | 24.8 | 1.3 | | | |

State R or L version

Dimensions in mm

Toolholder R/L368...08 for indexable inserts:

R/L312.0805... / R/L312.0808... / R/L312.0510...
R/L312.0512... / R/L312.1210... / R/L312.0012...

Toolholder R/L368...11 for indexable inserts:

R/L312.0515... / R/L312.0015...

Further sizes upon request

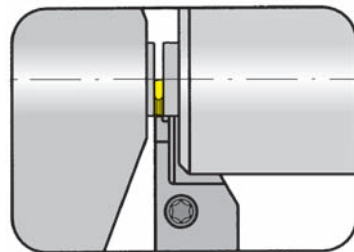
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| R/L368.... | 4.15T15P | T15PQ |

H

TOOLHOLDER Type

U368

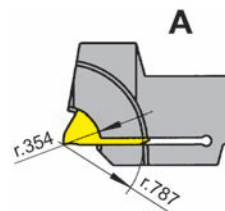
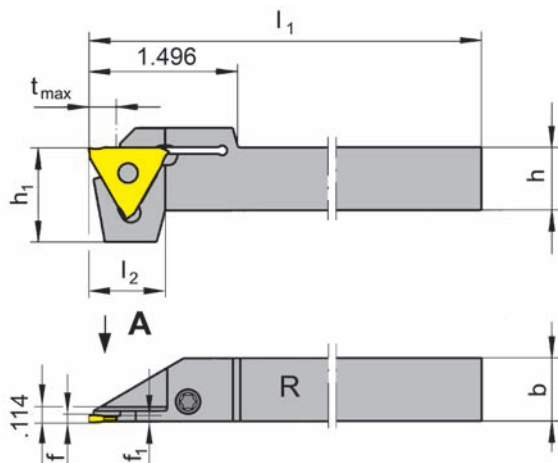


Depth of groove up to .315"
Width of groove up to .059"

for machines TRAUB (TNL12/7)

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size |
|-----------------|------|------|----------------|----------------|----------------|--------------------------------|----------------|------------------|------|
| R/LU368.0500.08 | .500 | .500 | | | .039 | | | | |
| R/LU368.0500.11 | .500 | .500 | 3.740 | .945 | .051 | f ₁ +a ₁ | .768 | .315 | 01 |
| R/LU368.0625.08 | .625 | .625 | | | .039 | | | | |
| R/LU368.0625.11 | .625 | .625 | | | .051 | | | | |

State R or L version

a₁ see indexable inserts

Dimensions in inch

Toolholder R/L368...08 for indexable inserts:

R/L312.0805... / R/L312.0808... / R/L312.0510...
R/L312.0512... / R/L312.1210... / R/L312.0012...

Toolholder R/L368...11 for indexable inserts:

R/L312.0515... / R/L312.0015...

Further sizes upon request

Spare parts

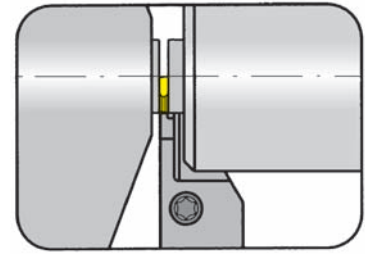
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|----------|-------------------|
| R/LU368.0... | 4.15T15P | T15PQ |

TOOLHOLDER Type

368

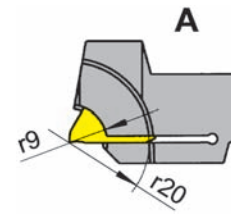
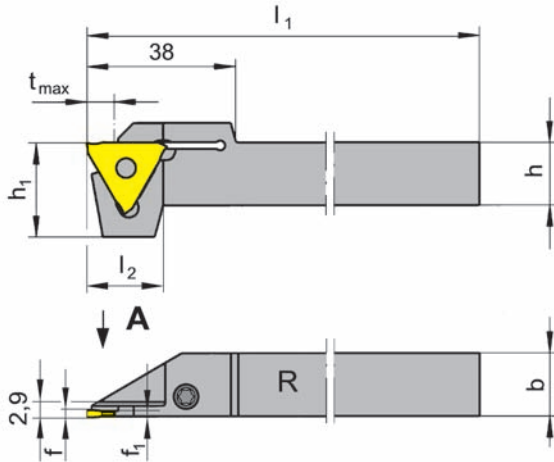
Depth of groove up to .315" (8.0 mm)
Clamping range .020 - .059" (0.5 - 1.5 mm)

for machines TRAUB (TNL12/7)



for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|--------------------------------|----------------|------------------|------|----------------|
| R/L368.1212.08 | 12 | 12 | | | 1.0 | | | | | |
| R/L368.1212.11 | 12 | 12 | | | 1.3 | | | | | |
| R/L368.1616.08 | 16 | 16 | 95 | 24 | 1.0 | f ₁ +a ₁ | 19.5 | 8 | 01 | 0.5 - 1.9 |
| R/L368.1616.11 | 16 | 16 | | | 1.3 | | | | | |

State R or L version

a₁ see indexable inserts

Dimensions in mm

Toolholder R/L368...08 for indexable inserts:

R/L312.0805... / R/L312.0808... / R/L312.0510...
R/L312.0512... / R/L312.1210... / R/L312.0012...

Toolholder R/L368...11 for indexable inserts:

R/L312.0515... / R/L312.0015...

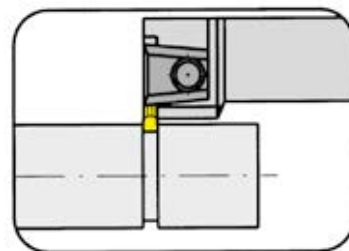
Further sizes upon request

Spare parts

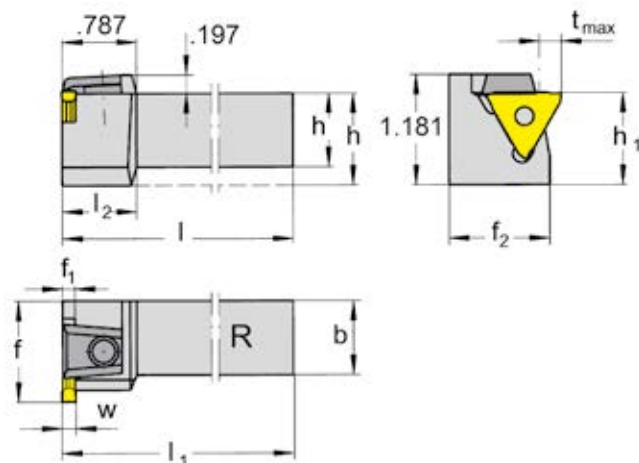
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/L368.1... | 4.15T15P | T15PQ |

H

GROOVING (external)


TOOLHOLDER Type
U369


Depth of groove up to **.236"**
Clamping range **.020 - .248"**



for use with Indexable insert

 Type 312
N312
S312
U312
US312

R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | f ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|----------------|-------|-------|------------------------------------|----------------|-------|----------------|----------------|------------------|------|----------------|
| R/LU369.0750.01 | .750 | 1.000 | .750 | 5.000 | l-f ₁ +w-a ₁ | .750 | 1.026 | .059 | .927 | .157 | 01 | .020 - .075 |
| R/LU369.1000.01 | 1.000 | 1.000 | 1.000 | 6.000 | l-f ₁ +w-a ₁ | - | 1.276 | .098 | 1.156 | .236 | 02 | .075 - .114 |
| R/LU369.0750.02 | .750 | 1.000 | .750 | 5.000 | l-f ₁ +w-a ₁ | .750 | 1.026 | .137 | .927 | .236 | 03 | .114 - .154 |
| R/LU369.1000.02 | 1.000 | 1.000 | 1.000 | 6.000 | l-f ₁ +w-a ₁ | - | 1.276 | .204 | 1.156 | .236 | 04 | .154 - .248 |
| R/LU369.0750.03 | .750 | 1.000 | .750 | 5.000 | l-f ₁ +w-a ₁ | .750 | 1.026 | | .927 | | | |
| R/LU369.1000.03 | 1.000 | 1.000 | 1.000 | 6.000 | l-f ₁ +w-a ₁ | - | 1.276 | | 1.156 | | | |
| R/LU369.0750.04 | .750 | 1.000 | .750 | 5.000 | l-f ₁ +w-a ₁ | .750 | 1.026 | | .927 | | | |
| R/LU369.1000.04 | 1.000 | 1.000 | 1.000 | 6.000 | l-f ₁ +w-a ₁ | - | 1.276 | | 1.156 | | | |

State R or L version

 w, a₁ see indexable inserts

Dimensions in inch

Further sizes upon request

 t_{max} can be reached only with workpiece $\varnothing \leq 1.575"$
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-----------|
| R/LU369.... | 16.4 | 6.25 | SW3DIN911 |

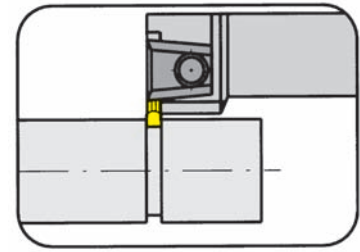
H10

GROOVING (external)

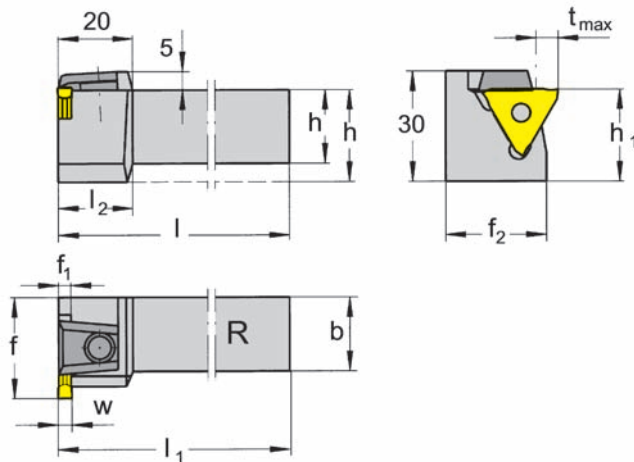


TOOLHOLDER Type

369



Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .248" (0.5 - 6.3 mm)



for use with Indexable insert

Type 312
N312
S312
U312
US312

R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | f ₂ | t _{max} | Size | Clamping range |
|----------------|----|----------------|----|-----|------------------------------------|----------------|----|----------------|----------------|------------------|------|----------------|
| R/L369.2020.01 | 20 | 25 | 20 | 125 | l-f ₁ +w-a ₁ | 20 | 27 | 1.5 | 23.5 | 4 | 01 | 0.5 - 1.9 |
| R/L369.2525.01 | 25 | 25 | 25 | 150 | l-f ₁ +w-a ₁ | - | 32 | 1.5 | 28.5 | 4 | 01 | 0.5 - 1.9 |
| R/L369.2020.02 | 20 | 25 | 20 | 125 | l-f ₁ +w-a ₁ | 20 | 27 | 2.5 | 23.5 | 6 | 02 | 1.9 - 2.9 |
| R/L369.2525.02 | 25 | 25 | 25 | 150 | l-f ₁ +w-a ₁ | - | 32 | 2.5 | 28.5 | 6 | 02 | 1.9 - 2.9 |
| R/L369.2020.03 | 20 | 25 | 20 | 125 | l-f ₁ +w-a ₁ | 20 | 27 | 3.5 | 23.5 | 6 | 03 | 2.9 - 3.9 |
| R/L369.2525.03 | 25 | 25 | 25 | 150 | l-f ₁ +w-a ₁ | - | 32 | 3.5 | 28.5 | 6 | 03 | 2.9 - 3.9 |
| R/L369.2020.04 | 20 | 25 | 20 | 125 | l-f ₁ +w-a ₁ | 20 | 27 | 4.5 | 23.5 | 6 | 04 | 3.9 - 6.3 |
| R/L369.2525.04 | 25 | 25 | 25 | 150 | l-f ₁ +w-a ₁ | - | 32 | 4.5 | 28.5 | 6 | 04 | 3.9 - 6.3 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 40 mm

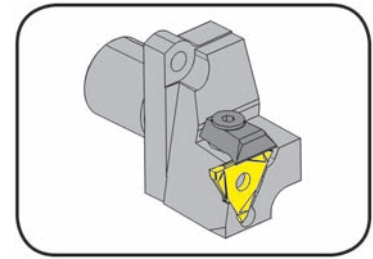
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-----------|
| R/L369.2... | 16.4 | 6.25 | SW3DIN911 |

H

TOOLHOLDER Type

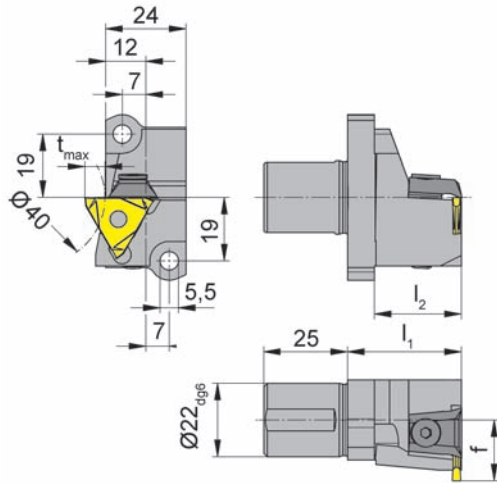
369



Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .114" (0.5 - 2.9 mm)

for use with Indexable insert

Type 312
U312



L = left hand version shown

Star SV 12/20/32
SR 10/20/32 and SB 16

| Part number | l_1 | l_2 | f | t_{max} | Size | Clamping range |
|-----------------|-------|-------|------|-----------|------|----------------|
| L369.A022.18.01 | 34 | 26 | 18.2 | 4 | 01 | 0.5 - 1.9 |
| L369.A022.18.02 | 34 | 26 | 18.2 | 6 | 02 | 1.9 - 2.9 |

Further sizes upon request

Dimensions in mm

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------------|-------|-------|-----------|
| L369.A022.18.0... | 16.4 | 6.25 | SW3DIN911 |

H12

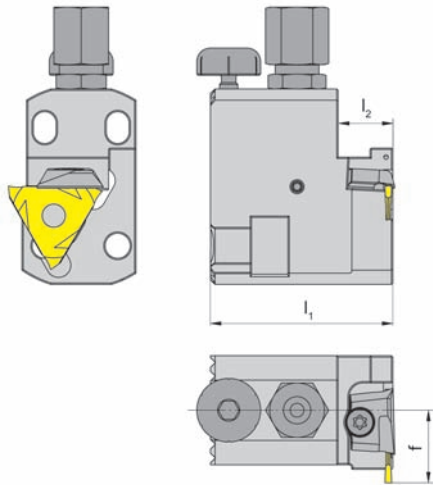
CARTRIDGE GRAF Type

64/65

with through coolant supply



Depth of groove up to .157" (4.0 mm)
Clamping range .020 - .114" (0.5 - 2.9 mm)



for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | l_1 | l_2 | f | Size | Clamping range |
|-------------|-------|-------|----|------|----------------|
| R/L64IK | 40 | 12 | 16 | 01 | 0.5 - 1.9 |
| R/L65IK | 40 | 12 | 16 | 02 | 1.9 - 2.9 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Cartridge Graf | Clamp | Height adjustment screw | Coolant supply |
|----------------|--------|-------------------------|----------------|
| L6... | 4.082L | 002.00.69 | 004.00.19 |
| R6... | 4.081R | 002.00.69 | 004.00.19 |



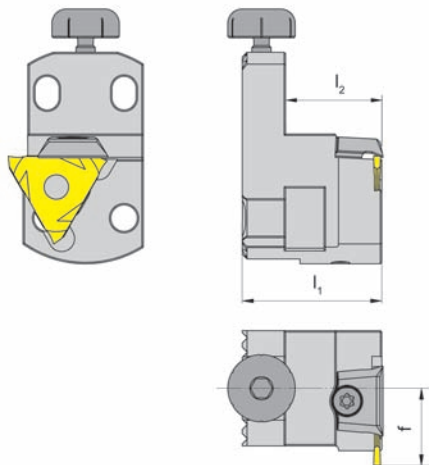
CARTRIDGE GRAF Type

64/65/99

no coolant supply



Depth of groove up to .157" (4.0 mm)
Clamping range .020 - .154" (0.5 - 3.9 mm)



for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | l_1 | l_2 | f | Size | Clamping range |
|-------------|-------|-------|----|------|----------------|
| R/L64 | 29 | 20 | 16 | 01 | 0.5 - 1.9 |
| R/L65 | 29 | 20 | 16 | 02 | 1.9 - 2.9 |
| R/L99 | 29 | 20 | 16 | 03 | 2.9 - 3.9 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

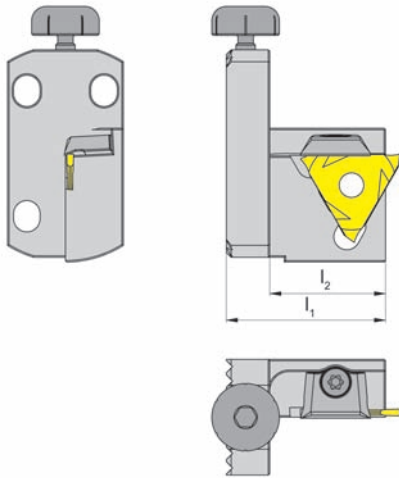
| Cartridge Graf | Clamp | Height adjustment screw |
|----------------|-------|-------------------------|
| R/L... | 4.078 | 002.00.69 |

ADJUSTABLE HOLDER Type

N67/N68/N98

no coolant supply

Depth of groove up to .157" (4.0 mm)
Clamping range .020 - .154" (0.5 - 3.9 mm)



for use with Indexable insert

Type 312
U312



| Part number | l_1 | l_2 | Size | Clamping range |
|-------------|-------|-------|------|----------------|
| N67 | 33 | 29 | 01 | 0.5 - 1.9 |
| N68 | 33 | 29 | 02 | 1.9 - 2.9 |
| N98 | 33 | 29 | 02 | 2.9 - 3.9 |

Further sizes upon request

Dimensions in mm

H

Spare parts

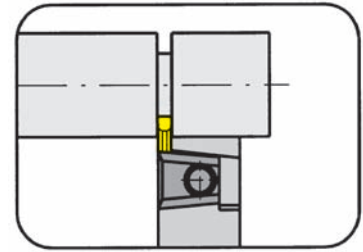
| Adjustable holder | Clamp | Height adjustment screw |
|-------------------|-------|-------------------------|
| N... | 4.078 | 002.00.69 |

GROOVING (external)



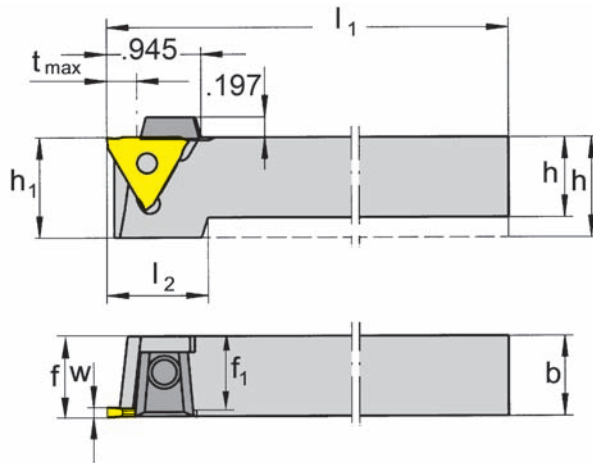
TOOLHOLDER Type

U390



Depth of groove up to
Clamping range

.315"
.075 - .209"



for use with Indexable
insert

Type 312
N312
S312
U312
US312

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------------|-------|-----------|------|----------------|
| R/LU390.0750.02 | .750 | .750 | 5.000 | 1.000 | .652 | f_1+w-a_1 | .866 | .315 | 02 | .075 - .114 |
| R/LU390.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | .902 | | - | | | |
| R/LU390.1250.02 | 1.250 | 1.250 | 6.625 | 1.250 | 1.152 | | - | | | |
| R/LU390.0750.03 | .750 | .750 | 5.000 | 1.000 | .612 | f_1+w-a_1 | .866 | .315 | 03 | .114 - .154 |
| R/LU390.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | .862 | | - | | | |
| R/LU390.1250.03 | 1.250 | 1.250 | 6.625 | 1.250 | 1.112 | | - | | | |
| R/LU390.0750.04 | .750 | .750 | 5.000 | 1.000 | .545 | f_1+w-a_1 | .866 | .315 | 04 | .154 - .209 |
| R/LU390.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | .795 | | - | | | |
| R/LU390.1250.04 | 1.250 | 1.250 | 6.625 | 1.250 | 1.045 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

Further sizes upon request

$t_{max} = .315"$ can be reached only with workpiece $\varnothing \leq 4.921"$

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-----------|
| R/LU390.... | 16.4 | 6.25 | SW3DIN911 |

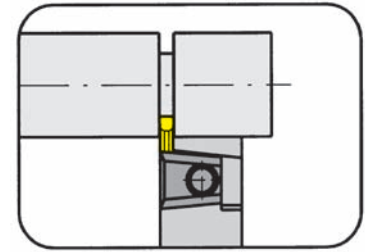
H16

GROOVING (external)

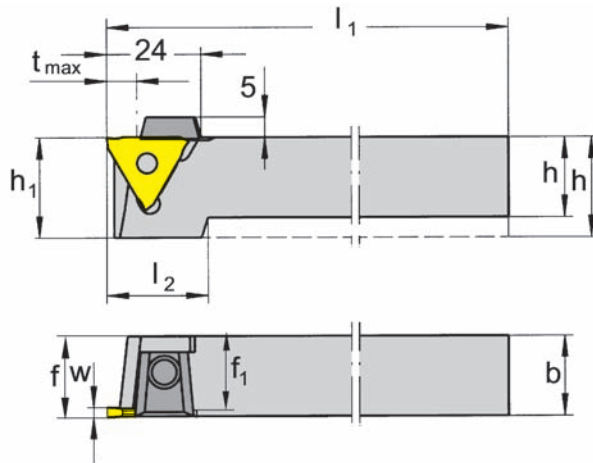


TOOLHOLDER Type

390



Depth of groove up to .315" (8.0 mm)
Clamping range .055 - .209" (1.4 - 5.3 mm)



for use with Indexable insert

Type 312
N312
S312
U312
US312

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-------|-------------|-------|-----------|------|----------------|
| R/L390.2020.01 | 20 | 20 | 125 | 25 | 18.5 | f_1+w-a_1 | 22 | 8 | 01 | 1.4 - 1.9 |
| R/L390.2525.01 | 25 | 25 | 150 | 25 | 23.5 | f_1+w-a_1 | - | 8 | 01 | 1.4 - 1.9 |
| R/L390.2020.02 | 20 | 20 | 125 | 25 | 17.5 | f_1+w-a_1 | 22 | 8 | 02 | 1.9 - 2.9 |
| R/L390.2525.02 | 25 | 25 | 150 | 25 | 22.5 | f_1+w-a_1 | - | 8 | 02 | 1.9 - 2.9 |
| R/L390.3232.02 | 32 | 32 | 170 | 32 | 29.5 | f_1+w-a_1 | - | 8 | 02 | 1.9 - 2.9 |
| R/L390.2020.03 | 20 | 20 | 125 | 25 | 16.5 | f_1+w-a_1 | 22 | 8 | 03 | 2.9 - 3.9 |
| R/L390.2525.03 | 25 | 25 | 150 | 25 | 21.5 | f_1+w-a_1 | - | 8 | 03 | 2.9 - 3.9 |
| R/L390.3232.03 | 32 | 32 | 170 | 32 | 28.5 | f_1+w-a_1 | - | 8 | 03 | 2.9 - 3.9 |
| R/L390.2020.04 | 20 | 20 | 125 | 25 | 14.8 | f_1+w-a_1 | 22 | 8 | 04 | 3.9 - 5.3 |
| R/L390.2525.04 | 25 | 25 | 150 | 25 | 19.8 | f_1+w-a_1 | - | 8 | 04 | 3.9 - 5.3 |
| R/L390.3232.04 | 32 | 32 | 170 | 32 | 26.8 | f_1+w-a_1 | - | 8 | 04 | 3.9 - 5.3 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece $\varnothing \leq 125$ mm

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|------------|-------|-------|-----------|
| R/L390.... | 16.4 | 6.25 | SW3DIN911 |

H

HORN - THE LEADERS IN GROOVING TECHNOLOGY



SETTING THE STANDARD

GROOVE MILLING

HORN groove milling sets the standard.
For productivity, nothing else come close.

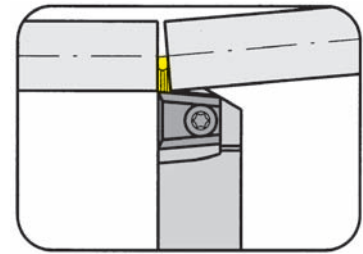
HORN - INTELLIGENT TOOL DESIGN AT WORK.



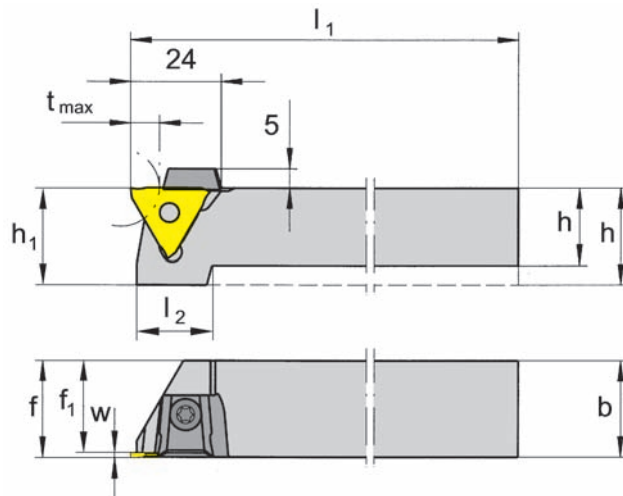
For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

TOOLHOLDER Type

391



Depth of groove up to .315" (8.0 mm)
Clamping range .020 - .075" (0.5 - 1.9 mm)



R = right hand version shown

L = left hand version

for use with Indexable insert

Type 312
N312
S312
U312
US312

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/L391.1212.01 | 12 | 12 | 100 | 21 | 10.5 | f ₁ +w-a ₁ | 21 | 8 | 01 | 0.5-1.9 |
| R/L391.1616.01 | 16 | 16 | 125 | 21 | 14.5 | | 21 | | | |
| R/L391.2020.01 | 20 | 20 | 125 | 21 | 18.5 | | 21 | | | |
| R/L391.2525.01 | 25 | 25 | 150 | 25 | 23.8 | - | - | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 20 mm

Spare parts

| Toolholder | Clamp | Screw | Wrench | TORX PLUS® Wrench |
|----------------|-------|---------------|-----------|-------------------|
| R/L391.1212.01 | 12.3 | 030.0422.T10P | SW3DIN911 | T10PL |
| R/L391.1616.01 | 14.4 | 5.32.3T15P | | T15PQ |
| R/L391.2...01 | 16.4 | 6.25 | | |

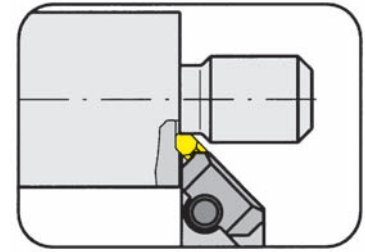


GROOVING CORNER RELIEFS (external)



TOOLHOLDER Type

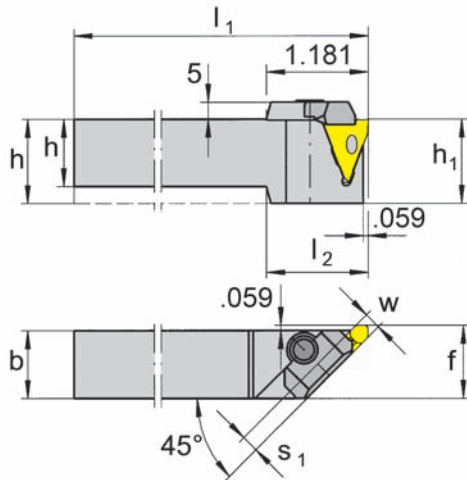
U309



Corner reliefs similar to DIN 509 form "F"

for use with Indexable insert

Type 312



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | s_1 | l_2 | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------|-------|------|----------------|
| R/LU309.0750.02 | .750 | .750 | 5.000 | 1.000 | .809 | | 1.181 | | |
| R/LU309.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | 1.059 | .098 | - | 02 | .075 - .114 |
| R/LU309.1250.02 | 1.250 | 1.250 | 6.625 | 1.250 | 1.309 | | - | | |
| R/LU309.0750.03 | .750 | .750 | 5.000 | 1.000 | .809 | | 1.181 | | |
| R/LU309.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | 1.059 | .138 | - | 03 | .114 - .154 |
| R/LU309.1250.03 | 1.250 | 1.250 | 6.625 | 1.250 | 1.309 | | - | | |
| R/LU309.0750.04 | .750 | .750 | 5.000 | 1.000 | .809 | | 1.181 | | |
| R/LU309.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | 1.059 | .205 | - | 04 | .154 - .209 |
| R/LU309.1250.04 | 1.250 | 1.250 | 6.625 | 1.250 | 1.309 | | - | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-----------|
| R/LU309.... | 21.4 | 6.25 | SW3DIN911 |

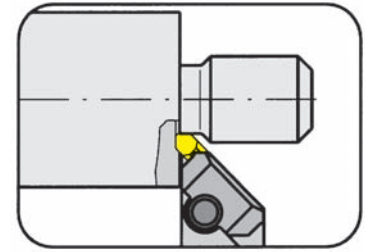
H20

GROOVING CORNER RELIEFS (external)



TOOLHOLDER Type

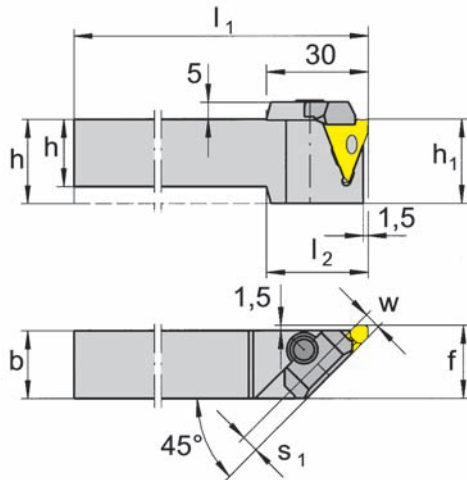
309



Corner reliefs similar to DIN 509 form "F"

for use with Indexable insert

Type 312



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | s_1 | l_2 | Size | Clamping range |
|----------------|----|----|-------|-------|------|-------|-------|------|----------------|
| R/L309.2020.02 | 20 | 20 | 125 | 25 | 21.5 | - | 30 | - | - |
| R/L309.2525.02 | 25 | 25 | 150 | 25 | 26.5 | 2.5 | - | 02 | 1.9 - 2.9 |
| R/L309.3232.02 | 32 | 32 | 170 | 32 | 33.5 | - | - | - | - |
| R/L309.2020.03 | 20 | 20 | 125 | 25 | 21.5 | - | 30 | - | - |
| R/L309.2525.03 | 25 | 25 | 150 | 25 | 26.5 | 3.5 | - | 03 | 2.9 - 3.9 |
| R/L309.3232.03 | 32 | 32 | 170 | 32 | 33.5 | - | - | - | - |
| R/L309.2020.04 | 20 | 20 | 125 | 25 | 21.5 | - | 30 | - | - |
| R/L309.2525.04 | 25 | 25 | 150 | 25 | 26.5 | 5.2 | - | 04 | 3.9 - 5.3 |
| R/L309.3232.04 | 32 | 32 | 170 | 32 | 33.5 | - | - | - | - |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|------------|-------|-------|-----------|
| R/L309.... | 21.4 | 6.25 | SW3DIN911 |

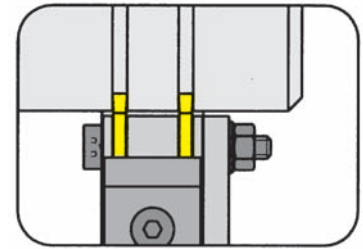
H

GROOVING (external)



TOOLHOLDER Type

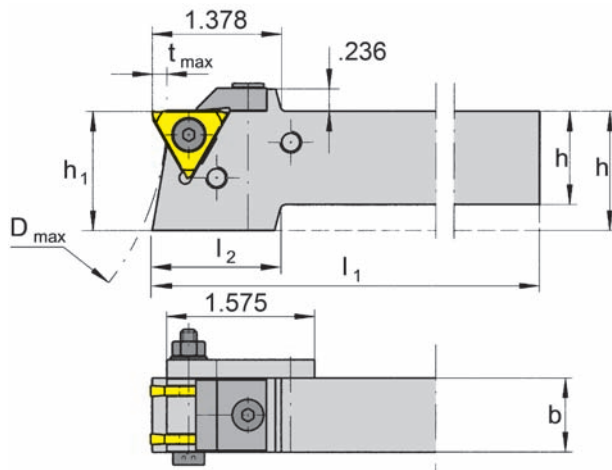
U340



Multi grooving

for use with Indexable insert

Type 312 "G"



use only with special inserts ground periphery type "G"

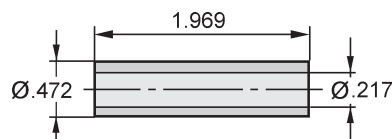
H

| Part number | h | b | l ₁ | h ₁ | l ₂ | t _{max} | D _{max} | Size |
|--------------|-------|------|----------------|----------------|----------------|------------------|------------------|------|
| U340.0750.01 | .750 | | | | 1.377 | | | |
| U340.1000.01 | 1.000 | .750 | 6.625 | 1.250 | 1.377 | .157 | 6.299 | 01 |
| U340.1250.01 | 1.250 | | | | - | | | |

Further sizes upon request

Dimensions in inch

Tube for producing spacing rings
Part number 340.0012.50
separate order required



Spare parts

| Toolholder | Hex nut | Clamp | Screw | Screw | Spring Plate | Washer | Flange | Thread Ring |
|------------|----------|----------|-----------|-----------|--------------|------------|--------|-------------|
| U340.... | M5DIN439 | 340.0200 | 5.30.7984 | 6.16.7991 | 5.12.03 | B5.3DIN125 | 24.40 | 12.3.8.5 |

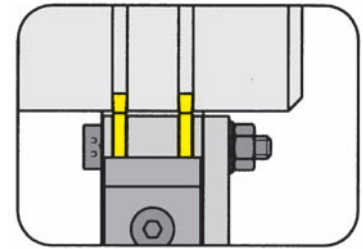
H22

GROOVING (external)

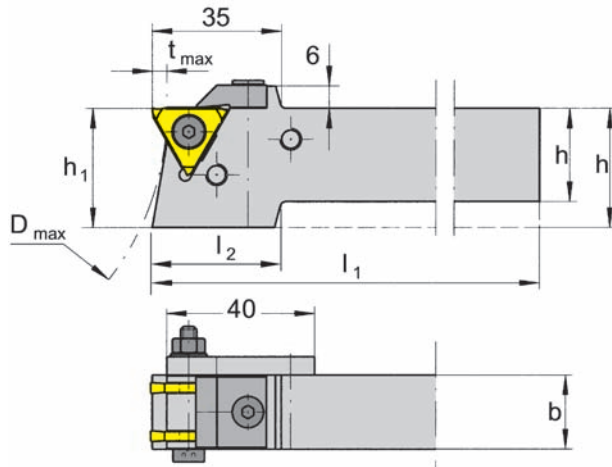


TOOLHOLDER Type

340



Multi grooving



for use with Indexable insert

Type 312 "G"

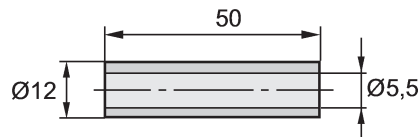
use only with special inserts ground periphery type "G"

| Part number | h | b | l ₁ | h ₁ | l ₂ | t _{max} | D _{max} | Size |
|-------------|----|----|----------------|----------------|----------------|------------------|------------------|------|
| 340.2020.01 | 20 | | | | 35 | | | |
| 340.2520.01 | 25 | 20 | 170 | 32 | 35 | 4 | 160 | 01 |
| 340.3220.01 | 32 | | | | - | | | |

Further sizes upon request

Dimensions in mm

Tube for producing spacing rings
Part number 340.0012.50
separate order required



Spare parts

| Toolholder | Hex nut | Clamp | Screw | Screw | Wrench | Spring Plate | Washer | Flange | Thread Ring |
|------------|----------|----------|-----------|-----------|-----------|--------------|------------|--------|-------------|
| 340.... | M5DIN439 | 340.0200 | 5.30.7984 | 6.16.7991 | SW3DIN911 | 5.12.03 | B5.3DIN125 | 24.40 | 12.3.8.5 |

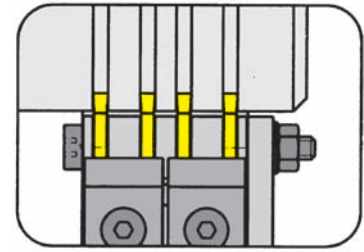


GROOVING (external)



TOOLHOLDER Type

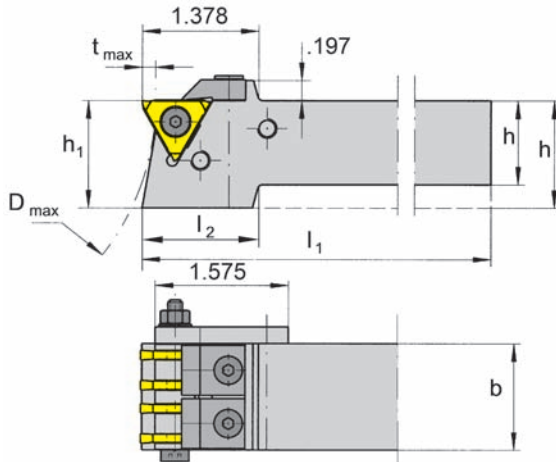
U340



Multi grooving

for use with Indexable insert

Type 312 "G"



Right hand mounted

use only with special inserts ground periphery type "G"

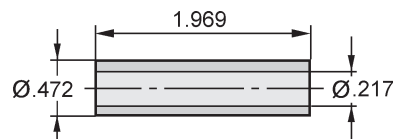
H

| Part number | h | b | l ₁ | h ₁ | l ₂ | t _{max} | D _{max} | Size |
|--------------|-------|-------|----------------|----------------|----------------|------------------|------------------|------|
| U340.1000.02 | 1.000 | 1.250 | 6.625 | 1.250 | 1.377 | .157 | 6.299 | 02 |
| U340.1250.02 | 1.250 | 1.250 | 6.625 | 1.250 | - | .157 | 6.299 | 02 |

Further sizes upon request

Dimensions in inch

Tube for producing spacing rings
Part number 340.0012.50
separate order required



Spare parts

| Toolholder | Hex nut | Clamp | Screw | Screw | Wrench | Spring Plate | Washer | Flange | Thread Ring |
|------------|----------|-------|-----------|-----------|-----------|--------------|------------|--------|-------------|
| U340.1... | M5DIN439 | 22.16 | 5.40.7984 | 6.16.7991 | SW3DIN911 | 5.12.03 | B5.3DIN125 | 24.40 | 12.3.8.5 |

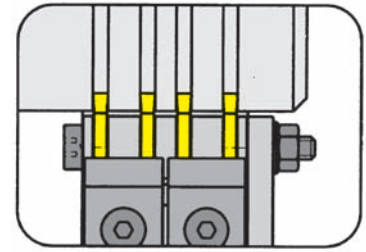
H24

GROOVING (external)



TOOLHOLDER Type

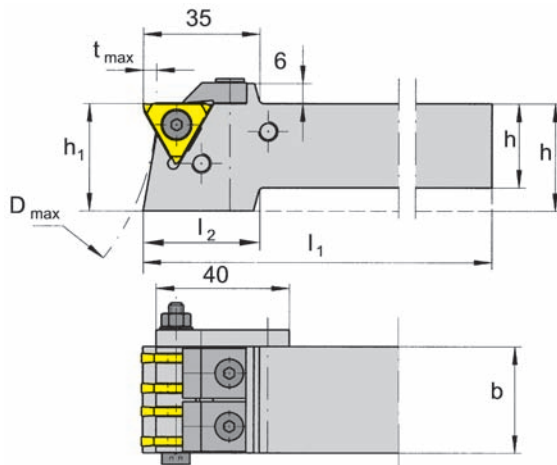
340



Multi grooving

for use with Indexable insert

Type 312 "G"



Right hand mounted

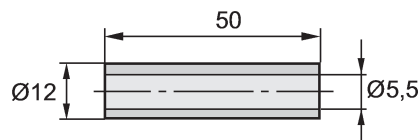
use only with special inserts ground periphery type "G"

| Part number | h | b | l ₁ | h ₁ | l ₂ | t _{max} | D _{max} | Size |
|-------------|----|----|----------------|----------------|----------------|------------------|------------------|------|
| 340.2532.02 | 25 | 32 | 170 | 32 | 35 | 4 | 160 | 02 |
| 340.3232.02 | 32 | 32 | 170 | 32 | - | 4 | 160 | 02 |

Further sizes upon request

Dimensions in mm

Tube for producing spacing rings
Part number 340.0012.50
separate order required



Spare parts

| Toolholder | Hex nut | Clamp | Screw | Screw | Wrench | Spring Plate | Washer | Flange | Thread Ring |
|------------|----------|-------|-----------|-----------|-----------|--------------|------------|--------|-------------|
| U340.1... | M5DIN439 | 22.16 | 5.40.7984 | 6.16.7991 | SW3DIN911 | 5.12.03 | B5.3DIN125 | 24.40 | 12.3.8.5 |

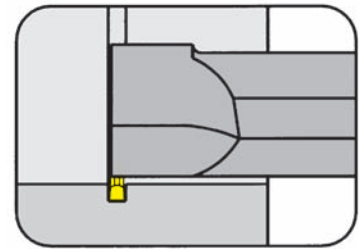


GROOVING (internal)



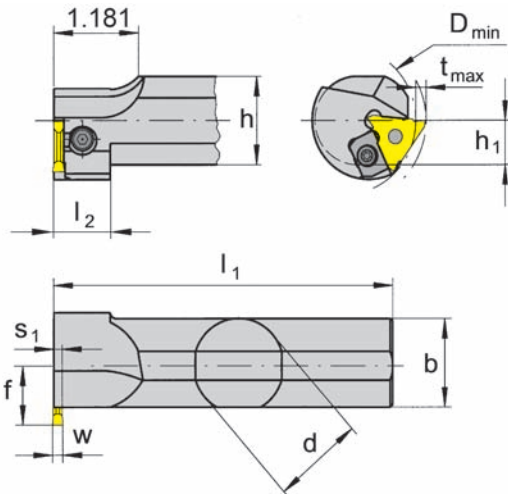
BASIC TOOLHOLDER Type

U330



Bore Ø from
Clamping range

1.811"
.020 - .248"



R = right hand version shown

L = left hand version

for use with Indexable
insert

Type 312
N312
S312
U312
US312

Depth of groove in relation to bore Ø

| D _{min} | t _{max} |
|------------------|------------------|
| 1.811 | .079 |
| 1.968 | .118 |
| 2.362 | .157 |
| 3.149 | .177 |
| 3.937 | .197 |

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | s ₁ | b | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|------|------------------|----------------|-------|------|----------------|
| R/LU330.1000.01 | 1.000 | 6.625 | .750 | .921 | .461 | .750 | | | 1.000 | | |
| R/LU330.1250.01 | 1.250 | 8.000 | .750 | 1.171 | .586 | .750 | 1.811 | .059 | 1.171 | 01 | .020 - .075 |
| R/LU330.1500.01 | 1.500 | 10.000 | - | 1.421 | .711 | .944 | | | 1.421 | | |
| R/LU330.1000.K2 | 1.000 | 6.625 | .750 | .921 | .461 | .750 | | | 1.000 | | |
| R/LU330.1250.K2 | 1.250 | 8.000 | .750 | 1.171 | .586 | .750 | 1.811 | .098 | 1.171 | 02 | .075 - .114 |
| R/LU330.1500.K2 | 1.500 | 10.000 | - | 1.421 | .711 | .944 | | | 1.421 | | |
| R/LU330.1000.K3 | 1.000 | 6.625 | .750 | .921 | .461 | .750 | | | 1.000 | | |
| R/LU330.1250.K3 | 1.250 | 8.000 | .750 | 1.171 | .586 | .750 | 1.811 | .137 | 1.171 | 03 | .114 - .154 |
| R/LU330.1500.K3 | 1.500 | 10.000 | - | 1.421 | .711 | .944 | | | 1.421 | | |
| R/LU330.1000.K4 | 1.000 | 6.625 | .750 | .921 | .461 | .750 | | | 1.000 | | |
| R/LU330.1250.K4 | 1.250 | 8.000 | .750 | 1.171 | .586 | .750 | 1.811 | .216 | 1.171 | 04 | .154 - .248 |
| R/LU330.1500.K4 | 1.500 | 10.000 | - | 1.421 | .711 | .944 | | | 1.421 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

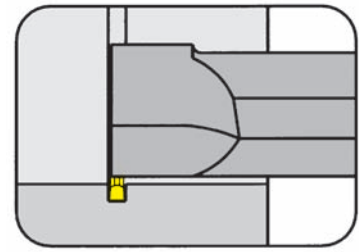
| Basic toolholder | Clamp | Guide Strip | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------|---------------|----------|-----------|-------------------|
| R/LU330.1... | 15.4 | 020.1025.0170 | 5.12T20P | SW3DIN911 | T20PQ |

H26

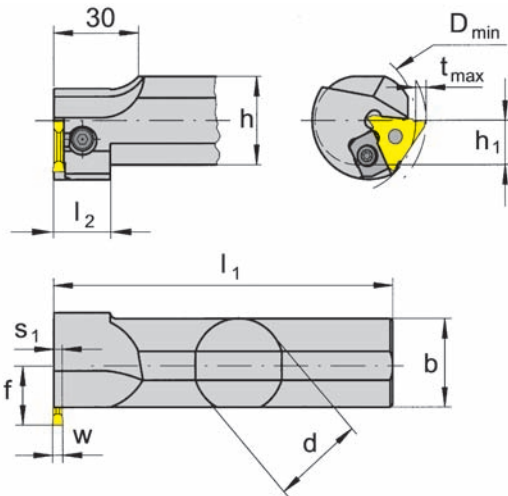
GROOVING (internal)



BASIC TOOLHOLDER Type **330**



Bore Ø from 1.811" (46.0 mm)
Clamping range .075 - .248" (1.9 - 6.3 mm)



R = right hand version shown

L = left hand version

for use with Indexable insert

Type 312
N312
S312
U312
US312

Depth of groove in relation to bore Ø

| D _{min} | t _{max} |
|------------------|------------------|
| 46 | 2,0 |
| 50 | 3,0 |
| 60 | 4,0 |
| 80 | 4,5 |
| 100 | 5,0 |

| Part number | d | l ₁ | l ₂ | h | h ₁ | f | D _{min} | s ₁ | b | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|----|------------------|----------------|----|------|----------------|
| R/L330.0025.K2 | 25 | 170 | 20 | 23 | 11.5 | 20 | | | 25 | | |
| R/L330.0032.K2 | 32 | 200 | 20 | 30 | 15.0 | 20 | 46 | 2.5 | 30 | 02 | 1.9 - 2.9 |
| R/L330.0040.K2 | 40 | 250 | - | 38 | 19.0 | 24 | | | 38 | | |
| R/L330.0025.K3 | 25 | 170 | 20 | 23 | 11.5 | 20 | | | 25 | | |
| R/L330.0032.K3 | 32 | 200 | 20 | 30 | 15.0 | 20 | 46 | 3.5 | 30 | 03 | 2.9 - 3.9 |
| R/L330.0040.K3 | 40 | 250 | - | 38 | 19.0 | 24 | | | 38 | | |
| R/L330.0025.K4 | 25 | 170 | | 23 | 11.5 | 20 | | | 25 | | |
| R/L330.0032.K4 | 32 | 200 | 20 | 30 | 15.0 | 20 | 46 | 5.5 | 30 | 04 | 3.9 - 6.3 |
| R/L330.0040.K4 | 40 | 250 | | 38 | 19.0 | 24 | | | 38 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Basic toolholder | Clamp | Guide Strip | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------|---------------|----------|-----------|-------------------|
| R/L330.00... | 15.4 | 020.1025.0170 | 5.12T20P | SW3DIN911 | T20PQ |



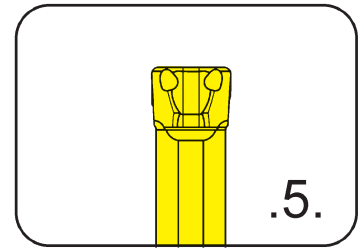
GROOVING (external and internal)



INDEXABLE INSERT Type

US312

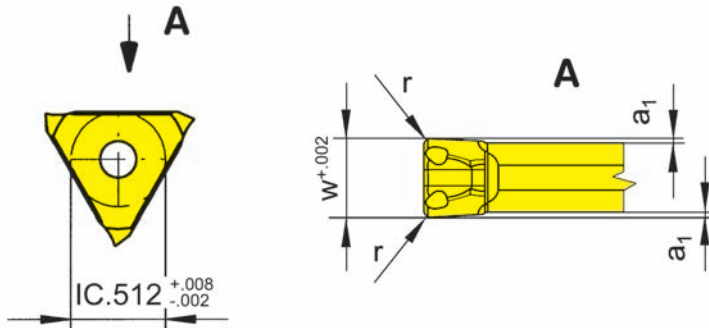
with sintered geometries



Width of groove .094 - .125"

for use with Toolholder

- Type 330 / U330
 360 / U360
 361
 369 / U369
 390 / U390



Geometry .5

H

| Part number | w | r | a ₁ | Size | TN32 | TN35 | TI25 | TF45 | TF46 | AS62 | AS63 |
|---------------|------|------|----------------|------|------|------|------|------|------|------|------|
| US312.0094.58 | .094 | .008 | .010 | 02 | | | | | ▲ | | |
| US312.0125.58 | .125 | .008 | .010 | 03 | | | | | ▲ | | |
| | | | | | P | | | | • | | |
| | | | | | M | | | | ○ | | |
| | | | | | K | | | | • | | |
| | | | | | S | | | | ○ | | |
| | | | | | N | | | | • | | |
| | | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

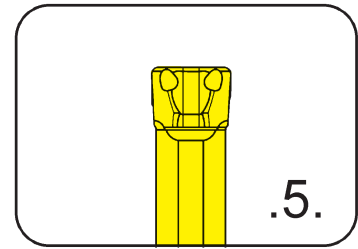
GROOVING (external and internal)



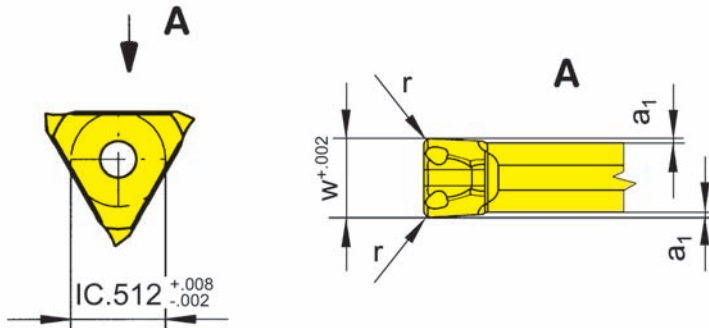
INDEXABLE INSERT Type

S312

with sintered geometries



Width of groove .098 - .197"



for use with Toolholder

- Type 330 / U330
 360 / U360
 361
 369 / U369
 390 / U390

Geometry .5

| Part number | w | r | a ₁ | Size | Carbide grades | | | | | | | | | | |
|--|------|--------------|----------------|------|----------------|------|-----|------|------|------|------|------|------|------|---|
| | | | | | K10 | MG12 | P20 | TN32 | TN35 | T125 | TF45 | TF46 | TC92 | AL96 | |
| S312.0250.52 S312.0250.54 | .098 | .008 .016 | .010 | 02 | | | | ▲ | ● | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S312.0300.52 S312.0300.54 | .118 | .008 .016 | .010 | 03 | | | | ▲ | ● | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S312.0400.52 S312.0400.54 | .157 | .008 .016 | .010 | 04 | | | | ▲ | ● | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S312.0500.52 S312.0500.54 | .197 | .008 .016 | .010 | 04 | | | | ▲ | ● | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | | | ● | ● | ● | ○ | ● | ● | ● | ● |
| | | | | | K | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | S | | | ● | ● | ● | ○ | ● | ● | ● | ● |
| | | | | | N | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | H | | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



GROOVING (external and internal)



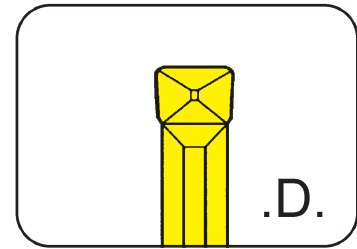
INDEXABLE INSERT Type

US312

with sintered geometries

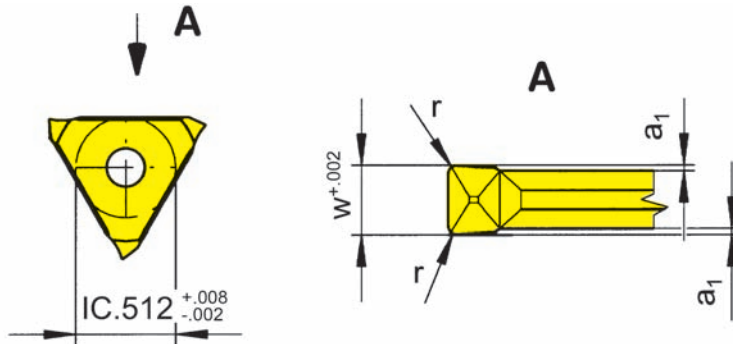
Width of groove

.094 - .125"



for use with Toolholder

Type 330 / U330
360 / U360
361
369 / U369
390 / U390



Geometry .D

H

| Part number | w | r | a ₁ | Size | Carbide grades | | | | | | |
|----------------|------|------|----------------|------|----------------|------|------|------|------|------|------|
| | | | | | TN32 | TN35 | T125 | TF45 | TF46 | AS62 | AS63 |
| US312.0094.D16 | .094 | .016 | .010 | 02 | | | ▲ | | | | |
| US312.0094.D8 | | .008 | | | | | ▲ | | | | |
| US312.0125.D8 | .125 | .008 | .010 | 03 | | | | ▲ | ▲ | | |
| | | | | | P | | • | • | • | | |
| | | | | | M | | • | • | ○ | | |
| | | | | | K | | • | • | • | | |
| | | | | | S | | • | • | ○ | | |
| | | | | | N | | • | • | • | | |
| | | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

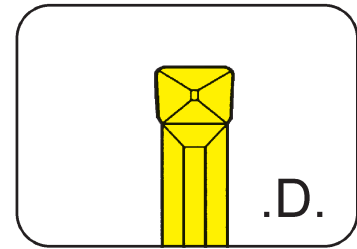
GROOVING and PARTING OFF



INDEXABLE INSERT Type

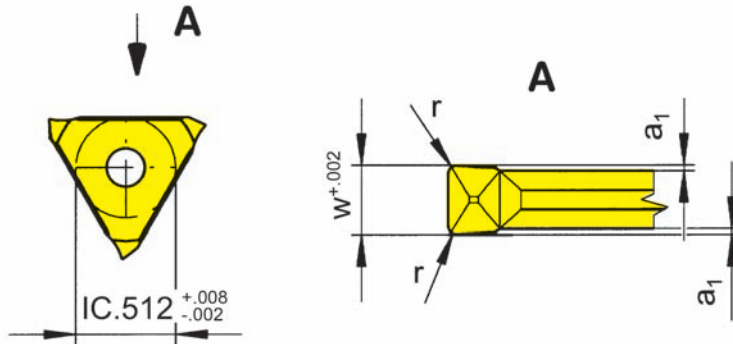
S312

with sintered geometries



Width of groove

.079 - .118"



for use with Toolholder

- Type 330 / U330
 360 / U360
 361
 369 / U369
 390 / U390

R = right hand version shown

L = left hand version

Geometry .D

| Part number | w | r | a ₁ | Size | TN32 | T125 | TF45 | TF46 | TC92 | AS62 | AS66 |
|------------------------------|------|--------------|----------------|------|------------------------------|------|--------------|------|------|------|------|
| | | | | | S312.0200.D2 S312.0200.D4 | .079 | .008 .016 | .010 | 02 | ▲ | ▲ |
| S312.0250.D2 S312.0250.D4 | .098 | .008 .016 | .010 | 02 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S312.0300.D2 S312.0300.D4 | .118 | .008 .016 | .010 | 03 | ▲ | ▲ | ▲ | ▲ | | ▲ | ▲ |
| | | | | | P | • | • | • | • | • | • |
| | | | | | M | • | • | ○ | • | • | ○ |
| | | | | | K | • | • | • | • | • | • |
| | | | | | S | • | • | ○ | • | • | ○ |
| | | | | | N | • | • | • | | | • |
| | | | | | H | | | | | | |

▲ on stock Δ 4 weeks
 • main recommendation
 ○ alternative recommendation
 ■ uncoated grades
 ■ coated grades
 ■ brazed/Cermet

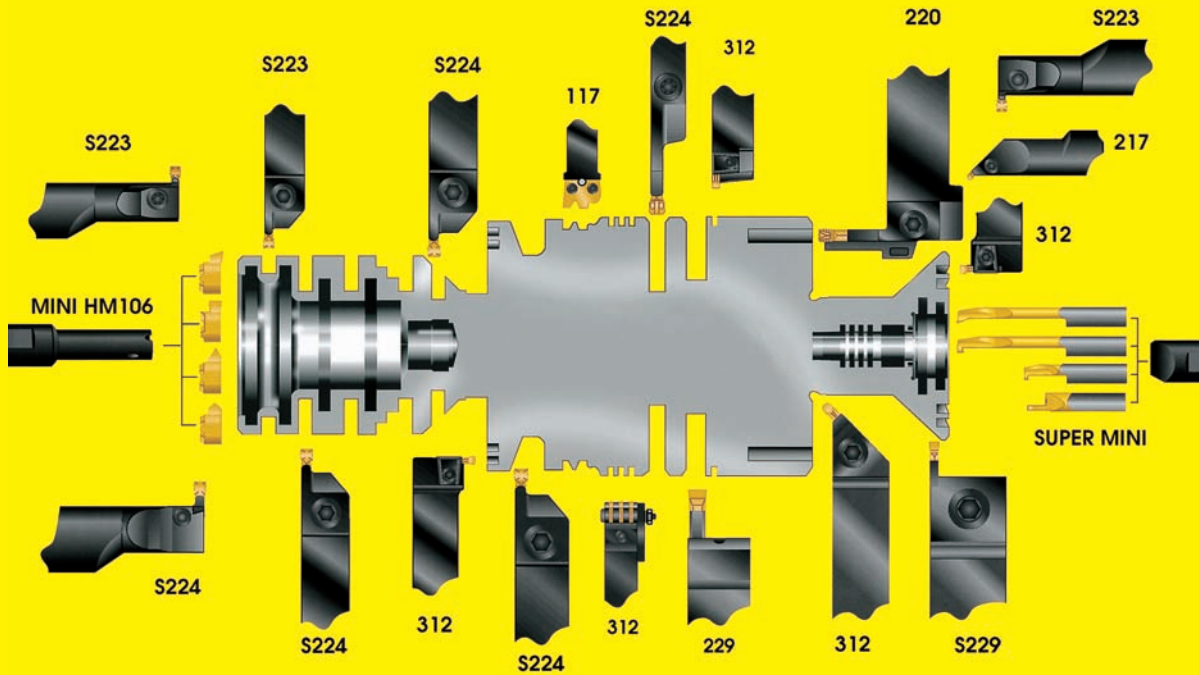
Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



HORN - THE LEADERS IN GROOVING TECHNOLOGY



THERE IS ALWAYS A (GROOVING) SOLUTION...

H

...and if it doesn't already exist, we will find it.

HORN has developed the world's most effective range of grooving technology by providing solutions to problems that others have walked away from.

Many of our 12.000+ standard catalog items were developed as specials - but many customers had the same requirements leading to standards.

Even though our standard catalog range is very broad, it is dwarfed by our database of over 85.000 special solutions.

So your problem might be something that we've already encountered. If we haven't, then we like a challenge.

HORN - INTELLIGENT TOOL DESIGN AT WORK.

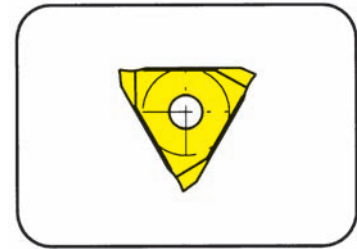
For further information, please contact HORN USA.

GROOVING (external)



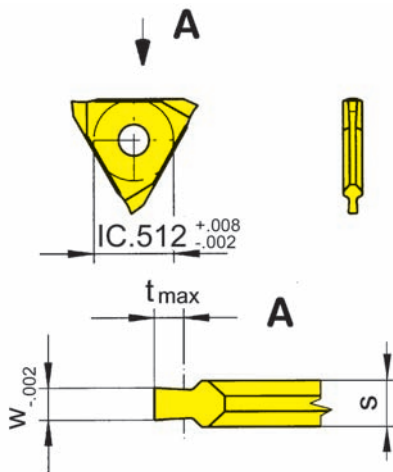
INDEXABLE INSERT Type

312



Circlip grooves
Width of circlip Nw

DIN 471/472
.020 - .039"



for use with Toolholder

Type 360 / U360
361
369 / U369

Indexability length
± .0008"

| Part number | Nw | w | t _{max} | s | Size | MG12 | P20 | H20 | TN32 | TN35 | TI25 | TA45 |
|-------------|------|------|------------------|------|------|------|-----|-----|------|------|------|------|
| | | | | | | | | | | | | |
| 312.0050.15 | .020 | .022 | .028 | .059 | 01 | | | | ▲ | | | |
| 312.0060.15 | .024 | .026 | .031 | | | ▲ | | | | | | |
| 312.0070.15 | .028 | .030 | .043 | | | ▲ | | | | | | |
| 312.0080.15 | .031 | .034 | .047 | | | ▲ | | | | | | |
| 312.0090.15 | .035 | .038 | .055 | | | ▲ | | | | | | |
| 312.0100.15 | .039 | .042 | .063 | | | ▲ | | | | | | |
| | | | | | | P | | | ● | | | |
| | | | | | | M | | | | | | |
| | | | | | | K | | | | | | |
| | | | | | | S | | | | | | |
| | | | | | | N | | | | | | |
| | | | | | | H | | | | | | |

H

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

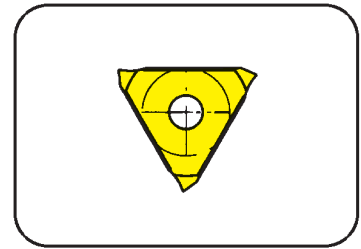
GROOVING (external and internal)



INDEXABLE INSERT Type

U312

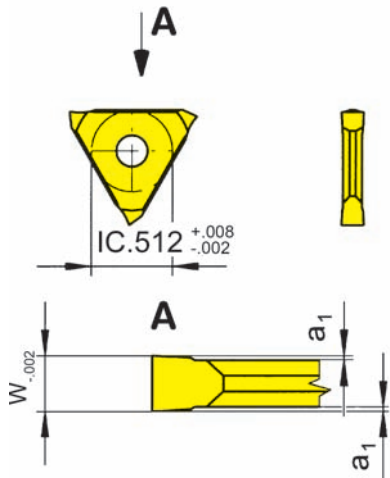
with round chip breaker



Width of groove .026 - .250"

for use with Toolholder

Type 330 / U330
360 / U360
361
369 / U369
390 / U390



Indexability length ± .0008"

H

| Part number | w | a ₁ | Size | MG12 | H54 | TN32 | TN35 | TI25 | TF45 | TF46 | |
|------------------------------|------|----------------|------|------|-----|------|------|------|------|------|---|
| | | | | | | | | | | | |
| U312.0026.00 | .026 | .003 | 01 | | | | | ▲ | | ▲ | |
| U312.0031.00 | .031 | .003 | | ▲ | | ▲ | | ▲ | ▲ | ▲ | |
| U312.0040.00 | .040 | .003 | | ▲ | | ▲ | | ▲ | ▲ | ▲ | |
| U312.0046.00 | .046 | .004 | | | | | | ▲ | ▲ | ▲ | |
| U312.0056.00 | .056 | .008 | | ▲ | | | | ▲ | ▲ | ▲ | |
| U312.0062.00 | .062 | .008 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | |
| U312.0078.00 | .078 | .008 | | ▲ | | ▲ | | ▲ | ▲ | ▲ | |
| U312.0088.00 | .088 | .008 | 02 | | | | | ▲ | ▲ | ▲ | |
| U312.0094.00 | .094 | | | | | | | | ▲ | ▲ | ▲ |
| U312.0125.00 | .125 | .008 | 03 | ▲ | | ▲ | | | ▲ | ▲ | |
| U312.0157.00 | .157 | .008 | 04 | | | | | ▲ | | ▲ | |
| U312.0188.00 | .188 | | | | | | | | | | ▲ |
| U312.0250.00 | .250 | | | | | | | | | ▲ | |
| ▲ on stock Δ 4 weeks | | | | P | ○ | ● | ● | ● | ● | ● | |
| ● main recommendation | | | | M | ● | ● | ● | ● | ● | ○ | |
| ○ alternative recommendation | | | | K | ● | ● | ● | ● | ● | ● | |
| ■ uncoated grades | | | | S | ● | ● | ● | ● | ● | ○ | |
| ■ coated grades | | | | N | ● | ● | ● | ● | ● | ● | |
| ■ brazed/Cermet | | | | H | ● | ● | ● | ● | ● | ● | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

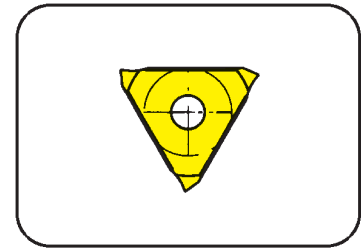
GROOVING (external and internal)



INDEXABLE INSERT Type

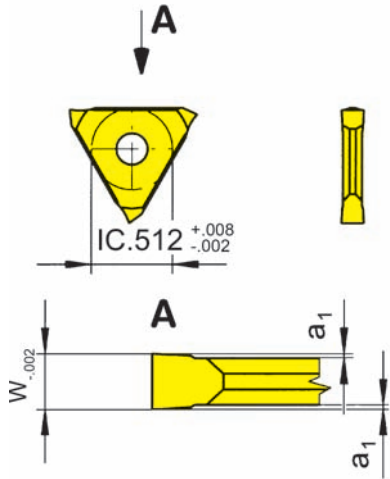
312

with round chip breaker



Circlip grooves
Width of circlip Nw

DIN 471/472
.020 - .203"



for use with Toolholder

Type 330 / U330
360 / U360
361
369 / U369
390 / U390

Indexability length
± .0008"

| Part number | Nw | w | a ₁ | Size | Carbide grades | | | | | | | | | |
|--|------|------|----------------|------|----------------|------|-----|-----|------|------|------|------|------|------|
| | | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI25 | TF45 | TF46 | TC92 |
| 312.0050.00 | .020 | .022 | .003 | 01 | ▲ | | ▲ | | ▲ | | | ▲ | ▲ | |
| 312.0060.00 | .024 | .026 | .003 | | ▲ | | ▲ | | ▲ | | | ▲ | ▲ | |
| 312.0070.00 | .028 | .030 | .003 | | ▲ | | ▲ | | ▲ | | | ▲ | ▲ | |
| 312.0080.00 | .031 | .034 | .003 | | ▲ | | ▲ | | ▲ | | | ▲ | ▲ | |
| 312.0090.00 | .035 | .038 | .003 | | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | |
| 312.0100.00 | .039 | .042 | .004 | | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | |
| 312.0110.00 | .043 | .049 | .008 | | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | ▲ |
| 312.0130.00 | .051 | .057 | .008 | | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | ▲ |
| 312.0160.00 | .063 | .069 | .008 | | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | ▲ |
| 312.0185.00 | .073 | .078 | .008 | | ▲ | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| 312.0215.00 | .085 | .090 | .008 | 02 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 312.0265.00 | .104 | .110 | .008 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 312.0315.00 | .124 | .130 | .008 | 03 | ▲ | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 312.0415.00 | .163 | .169 | .008 | | 04 | ▲ | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| 312.0515.00 | .203 | .208 | .008 | ▲ | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | ○ | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | ○ | ● | | ○ | ● | ● | ● | ○ | |
| | | | | | K | ● | ● | | | ● | ● | ● | ● | |
| | | | | | S | ○ | ● | | | ● | ● | ● | ○ | |
| | | | | | N | ● | ● | | | ● | ● | ● | ● | |
| | | | | | H | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



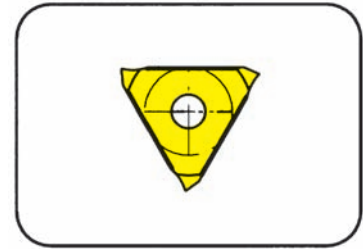
GROOVING (external and internal)



INDEXABLE INSERT Type

U312

with round chip breaker



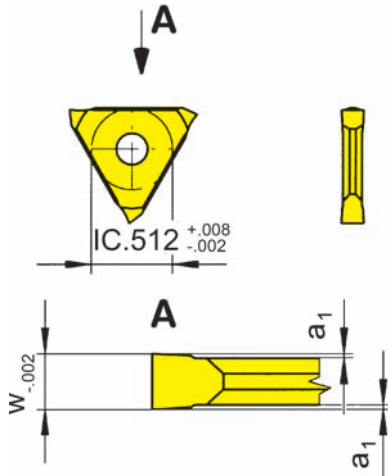
Circlip grooves
Width of groove

DIN 471/472
.062"

recommended for interrupted cut

for use with Toolholder

Type 360 / U360
361
369 / U369
390 / U390



Indexability length
± .0008"

H

| Part number | w | a ₁ | Size | Carbide grades | | | | |
|---------------------|------|----------------|------|----------------|-----|------|------|------|
| | | | | MG12 | H54 | TN35 | TI25 | TF46 |
| U312.0062.80 | .062 | .008 | 01 | | | ▲ | | |
| | | | | P | | • | | |
| | | | | M | | • | | |
| | | | | K | | • | | |
| | | | | S | | • | | |
| | | | | N | | • | | |
| | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

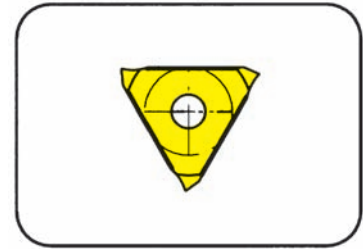
GROOVING (external)



INDEXABLE INSERT Type

312

with round chip breaker



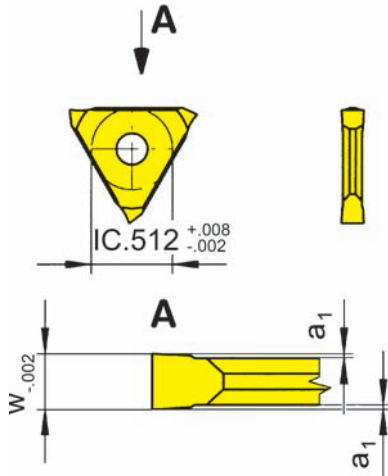
Circlip grooves
Width of circlip Nw

DIN 471/472
.043 - .203"

recommended for interrupted cut

for use with Toolholder

Type 360 / U360
361
369 / U369
390 / U390



Indexability length
± .0008"

| Part number | Nw | w | a ₁ | Size | Carbide grades | | | | | |
|--|------|------|----------------|------|----------------|-----|------|------|------|------|
| | | | | | MG12 | P20 | TN32 | TN35 | TI25 | TA45 |
| 312.0110.80 | .043 | .049 | .008 | 01 | | | | ▲ | | |
| 312.0130.80 | .051 | .057 | | | ▲ | | | | | |
| 312.0160.80 | .063 | .069 | | | ▲ | | | | | |
| 312.0185.80 | .073 | .078 | | | ▲ | | | | | |
| 312.0215.80 | .085 | .090 | .008 | 02 | | | ▲ | | | |
| 312.0265.80 | .104 | .110 | | | ▲ | | | | | |
| 312.0315.80 | .124 | .130 | .008 | 03 | | | ▲ | | | |
| 312.0415.80 | .163 | .169 | | | ▲ | | | | | |
| 312.0515.80 | .203 | .208 | .008 | 04 | | | ▲ | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | | | ● | | |
| | | | | | M | | | ● | | |
| | | | | | K | | | ● | | |
| | | | | | S | | | ● | | |
| | | | | | N | | | ● | | |
| | | | | | H | | | | | |

Dimensions in inch

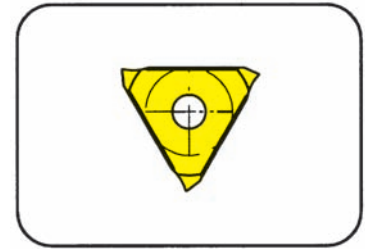
Indexable inserts can be used in **right and left hand** toolholders.

H

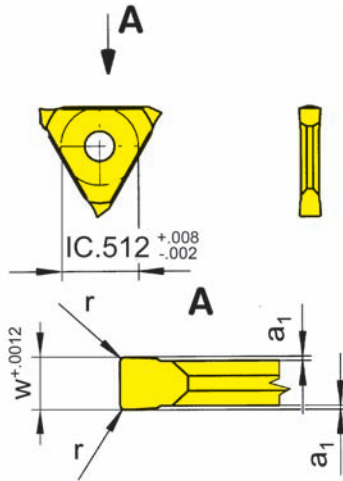
INDEXABLE INSERT Type

U312

with round chip breaker



Depth of groove up to .315"
Width of groove .062 - .250"



for use with Toolholder

Type 360 / U360
361
369 / U369

Indexability length
± .0008"

H

| Part number | w | r | a ₁ | Size | Carbide grades | | | | | | |
|--------------|------|------|----------------|------|----------------|------|------|------|------|------|------|
| | | | | | MG12 | TN35 | T122 | T125 | TF45 | TF46 | AS62 |
| U312.0062.04 | .062 | .004 | .010 | 01 | | Δ | | ▲ | | ▲ | |
| U312.0062.08 | | .008 | | | | ▲ | | ▲ | | | |
| U312.0094.08 | .094 | .008 | .010 | 02 | ▲ | | | ▲ | | ▲ | |
| U312.0094.16 | | .016 | | | | ▲ | | ▲ | | | |
| U312.0094.32 | | .032 | | | | ▲ | | ▲ | | | |
| U312.0125.08 | .125 | .008 | .010 | 03 | | | | ▲ | | ▲ | |
| U312.0125.16 | | .016 | | | | ▲ | | ▲ | | | |
| U312.0250.08 | .250 | .008 | .010 | 04 | | | | ▲ | | ▲ | |
| | | | | | P | ○ | ● | ● | ● | ● | ● |
| | | | | | M | ● | ● | ● | ● | ○ | ○ |
| | | | | | K | ● | ● | ● | ● | ● | ● |
| | | | | | S | ● | ● | ● | ● | ○ | ○ |
| | | | | | N | ● | ● | ● | ● | ● | ● |
| | | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

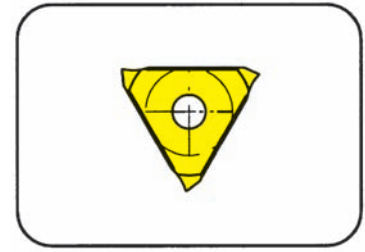
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

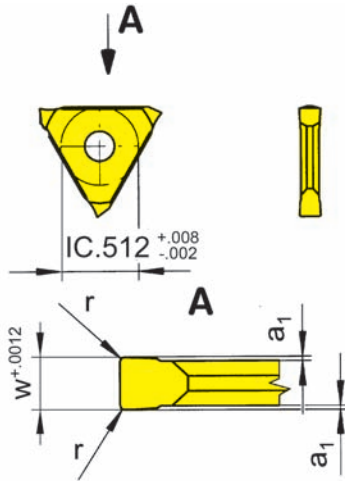
312

with round chip breaker



Depth of groove up to
Width of groove

.236"
.059 - .157"



for use with Toolholder

Type 360 / U360
361
369 / U369

Indexability length
± .0008"

| Part number | w | r | a ₁ | Size | Carbide grades | | | | | | | | | | | |
|--|------|------|----------------|------|----------------|------|-----|-----|------|------|------|------|------|------|---|---|
| | | | | | K10 | MG12 | P20 | H20 | TN32 | TN35 | TI22 | TI25 | TF45 | AS62 | | |
| 312.0150.02 | .059 | .008 | .010 | 01 | | | ▲ | | ▲ | ▲ | | ▲ | | | | |
| 312.0200.02 | .079 | .008 | .010 | 02 | ▲ | | ▲ | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | |
| 312.0200.04 | | | | | | ▲ | ▲ | ▲ | | | | | | | | |
| 312.0300.02 | .118 | .008 | .010 | 03 | | | ▲ | ▲ | ▲ | | | | ▲ | | | |
| 312.0300.06 | | .024 | | | ▲ | ▲ | ▲ | | | | | | | | | |
| 312.0300.08 | | .031 | | | ▲ | ▲ | ▲ | | | | | | | | | |
| 312.0400.02 | .157 | .008 | .010 | 04 | | | ▲ | ▲ | ▲ | | | | | | | |
| 312.0400.08 | | .031 | | | ▲ | ▲ | ▲ | | | | | | | | | |
| 312.0400.12 | | .047 | | | ▲ | ▲ | ▲ | | | | | | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | ○ | | | ○ | | ● | | ● | ● | ● | ● |
| | | | | | K | ● | | | | | ● | | ● | ● | ● | ● |
| | | | | | S | ○ | | | | | ● | | ● | ● | ● | ● |
| | | | | | N | ● | | | | | ● | | ● | ● | ● | ● |
| | | | | | H | | | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



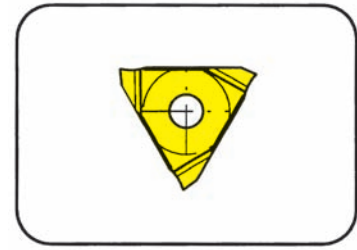
GROOVING (external and internal)



INDEXABLE INSERT Type

312

with round chip breaker



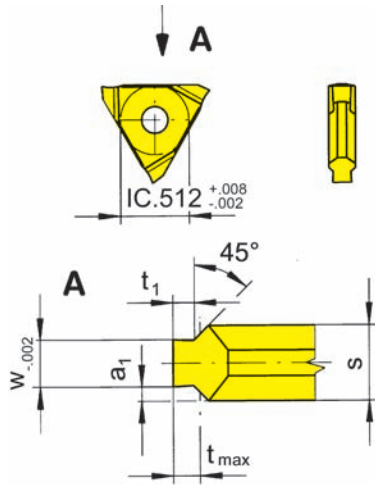
Circlip grooves
Width of circlip Nw

DIN471/472
.043 - .203"

with chamfer

for use with Toolholder

Type 330 / U330
360 / U360
361
369 / U369



Indexability length
± .0008"

H

| Part number | Nw | w | a ₁ | t ₁ | t _{max} | s | Size | Carbide grades | | | | | | | |
|-------------|------|------|----------------|----------------|------------------|------|------|----------------|-----|------|------|------|------|--|--|
| | | | | | | | | MG12 | P20 | TN32 | TN35 | TI25 | TA45 | | |
| 312.1101.25 | .043 | .049 | .025 | .007 | .008 | .098 | 02 | | | ▲ | | | | | |
| 312.1102.25 | .043 | .049 | .025 | .009 | .010 | | | | | ▲ | | | | | |
| 312.1103.25 | .043 | .049 | .025 | .011 | .012 | | | | | ▲ | | | | | |
| 312.1104.25 | .043 | .049 | .025 | .013 | .014 | | | | | ▲ | | | | | |
| 312.1105.25 | .043 | .049 | .025 | .014 | .016 | | | | | ▲ | | | | | |
| 312.1306.25 | .051 | .057 | .021 | .018 | .022 | | | | | ▲ | | | | | |
| 312.1607.33 | .063 | .069 | .031 | .024 | .028 | .130 | 03 | | | ▲ | | | | | |
| 312.1608.33 | .063 | .069 | .031 | .030 | .033 | | | | | ▲ | | | | | |
| 312.1609.33 | .063 | .069 | .031 | .033 | .039 | | | | | ▲ | | | | | |
| 312.1810.33 | .073 | .078 | .026 | .033 | .039 | | | | | ▲ | | | | | |
| 312.1812.33 | .073 | .078 | .026 | .043 | .049 | | | | | ▲ | | | | | |
| 312.2115.43 | .085 | .090 | .040 | .053 | .059 | | | | | ▲ | | | | | |
| 312.2616.43 | .104 | .110 | .030 | .053 | .059 | .169 | 04 | | ▲ | ▲ | | | | | |
| 312.2617.43 | .104 | .110 | .030 | .063 | .069 | | | | | ▲ | ▲ | | | | |
| 312.3118.53 | .124 | .130 | .040 | .063 | .069 | | | | | ▲ | ▲ | | | | |
| 312.4120.53 | .163 | .169 | .020 | .073 | .079 | | | | | ▲ | ▲ | | | | |
| 312.4125.53 | .163 | .169 | .020 | .093 | .098 | | | | | ▲ | ▲ | | | | |
| 312.5130.63 | .203 | .208 | .020 | .112 | .118 | | | | | ▲ | ▲ | | | | |
| | | | | | | | | P | • | • | | | | | |
| | | | | | | | | M | | | | | | | |
| | | | | | | | | K | | | | | | | |
| | | | | | | | | S | | | | | | | |
| | | | | | | | | N | | | | | | | |
| | | | | | | | | H | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

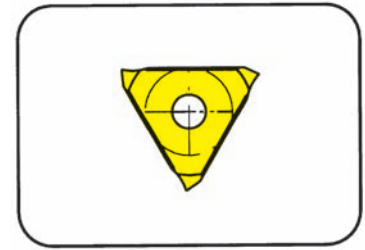
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

H40

INDEXABLE INSERT Type

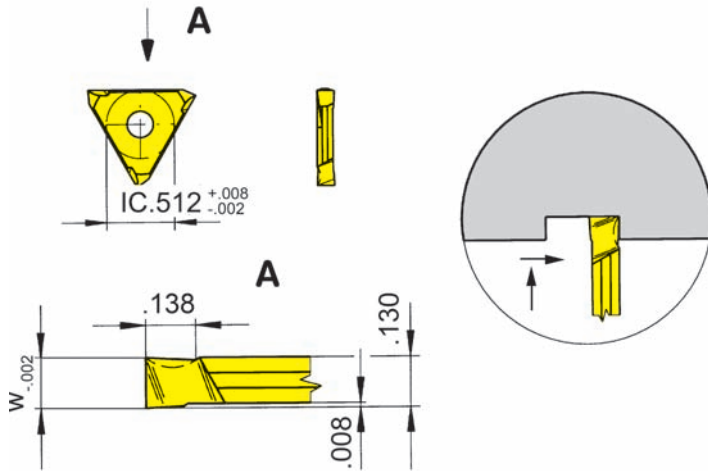
312



Depth of cut up to **.138"**

for use with Toolholder

Type 360 / U360
361



L = left hand version shown

R = right hand version

Indexability length
 $\pm .0008"$

| Part number | w | Size | Carbide grades | | | | | | | |
|------------------------------|------|------|----------------|-----|------|------|------|------|------|-----|
| | | | MG12 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 | |
| R/L312.3031.33 | .130 | 03 | | ▲▲ | ▲/▲ | | | | | ▲/▲ |
| ▲ on stock Δ 4 weeks | | | P | • | • | | | | | • |
| ● main recommendation | | | M | | | | | | | |
| ○ alternative recommendation | | | K | | | | | | | |
| ■ uncoated grades | | | S | | | | | | | |
| ■ coated grades | | | N | | | | | | | |
| ■ brazed/Cermet | | | H | | | | | | | |

Dimensions in inch

Carbide grades

State R or L version

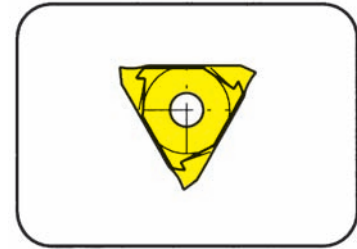
Indexable inserts can be used in **right and left hand** toolholders.

The special cutting geometry permits a positive chip breaking angle when keeping a straight and right angled cutting edge.



INDEXABLE INSERT Type

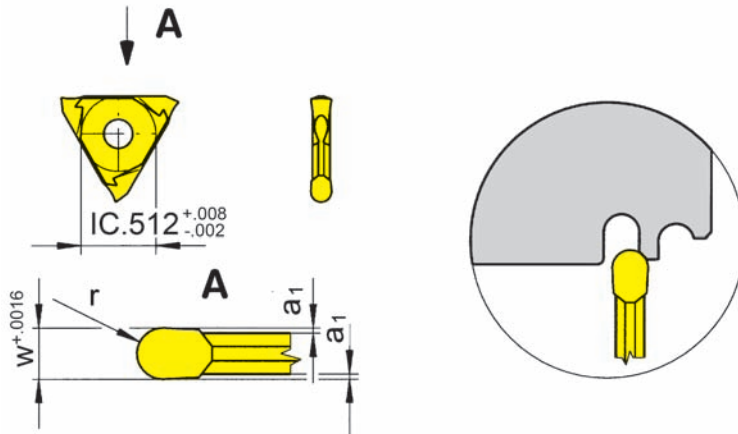
U312



Depth of groove up to $.315''$
Full radius $r .031 - .062''$

for use with Toolholder

Type 360 / U360
361
369 / U369



Indexability length
 $\pm .0008''$

H

| Part number | w | r | a ₁ | Size | Carbide grades | | | | | | |
|--------------|------|------|----------------|------|----------------|-----|------|------|------|------|------|
| | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TF46 | TC92 |
| U312.0031.62 | .062 | .031 | .010 | 01 | | | | | ▲ | ▲ | |
| U312.0039.78 | .078 | .039 | .010 | 01 | | | | | ▲ | ▲ | |
| U312.0047.94 | .094 | .047 | .010 | 02 | | | | | ▲ | ▲ | |
| U312.0062.12 | .125 | .062 | .010 | 03 | | | ▲ | | ▲ | ▲ | |
| | | | | | P | | • | | • | • | |
| | | | | | M | | | | | ○ | |
| | | | | | K | | | | | • | |
| | | | | | S | | | | | ○ | |
| | | | | | N | | | | | • | |
| | | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

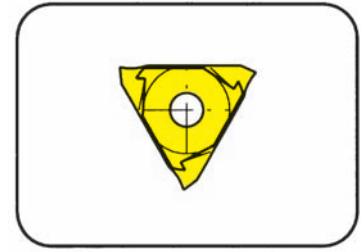
Further radii upon request

Note:
Width of groove .062" recommended only for grooving

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

312

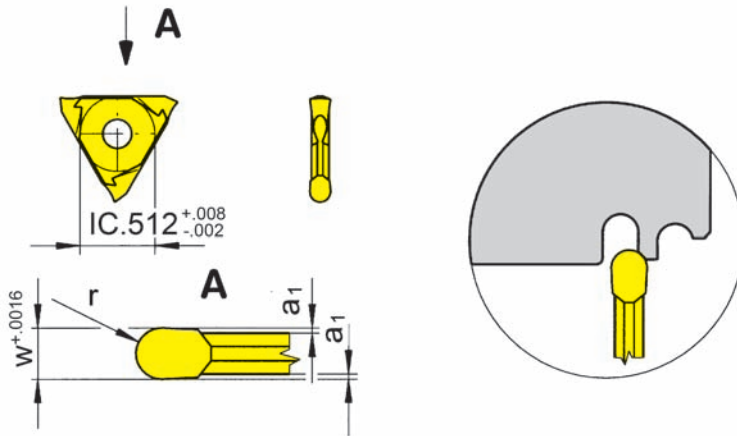


Depth of groove up to
Full radius

.236"
r .010 - .079"

for use with Toolholder

Type 360 / U360
361
369 / U369



Indexability length
± .0008"

| Part number | w | r | a ₁ | Size | Carbide grades | | | | | |
|-------------|------|------|----------------|------|----------------|-----|------|------|------|------|
| | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TC92 |
| 312.0050.02 | .020 | .010 | .003 | 01 | | ▲ | ▲ | | | |
| 312.0100.05 | .039 | .020 | .004 | | ▲ | ▲ | | | | |
| 312.0120.06 | .047 | .024 | .008 | | ▲ | ▲ | | | | |
| 312.0160.08 | .063 | .031 | .010 | | ▲ | ▲ | | | | |
| 312.0200.10 | .079 | .039 | .010 | | ▲ | ▲ | | | | |
| 312.0250.12 | .098 | .049 | .010 | 02 | | ▲ | ▲ | | | |
| 312.0300.15 | .118 | .059 | .010 | | ▲ | ▲ | | | | |
| 312.0400.20 | .157 | .079 | .010 | 03 | | ▲ | ▲ | | | |
| | | | | | P | ● | ● | | | |
| | | | | | M | | | | | |
| | | | | | K | | | | | |
| | | | | | S | | | | | |
| | | | | | N | | | | | |
| | | | | | H | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Further radii upon request

Note:

Width of groove up to .063" recommended only for grooving

Indexable inserts can be used in **right and left hand** toolholders.

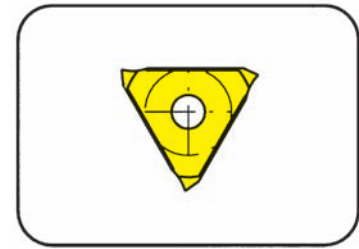


GROOVING (external)



INDEXABLE INSERT Type

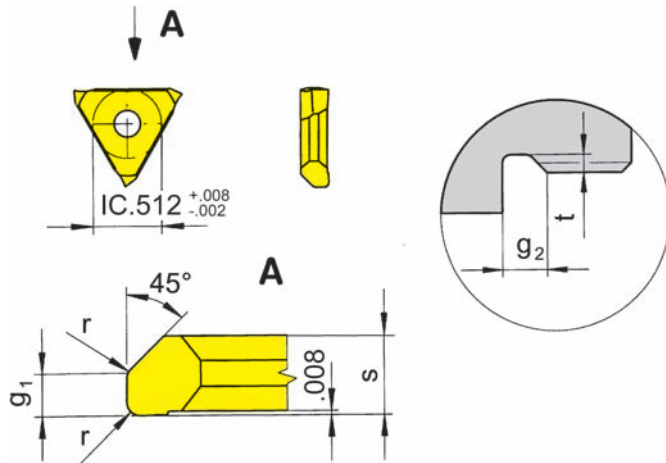
312



Thread relief DIN 76 "Short form"

for use with Toolholder

Type 360 / U360
361
369 / U369



R = right hand version shown

L = left hand version

Indexability length
± .0008"

| Part number | P mm | r | s | g ₁ | g ₂ | t _{max} | Size | Carbide grades | | | | | | | |
|----------------|---------|------|------|----------------|----------------|------------------|------|----------------|-----|------|------|------|------|------|--|
| | | | | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 | |
| R/L312.1050.17 | 0.50 | .008 | .067 | .024 | .039 | .016 | 01 | | | | ▲/ | | | | |
| R/L312.1080.27 | 0.80 | .016 | | .037 | .063 | .026 | | | | | ▲/▲ | | | | |
| R/L312.1100.27 | 1.00 | .024 | .106 | .047 | .079 | .031 | 02 | | ▲/ | | ▲/ | | | | |
| R/L312.1125.27 | 1.25 | .024 | | .059 | .098 | .039 | | | | | ▲/▲ | | | | |
| R/L312.1150.37 | 1.50 | .031 | .146 | .073 | .118 | .045 | 03 | | | | ▲/▲ | | | | |
| R/L312.1200.53 | 2.00 | .039 | .209 | .098 | .157 | .059 | 04 | | ▲/▲ | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch and mm

State R or L version

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

P = Pitch of Thread

| | | | | | | | | | | |
|---|---|--|--|---|--|--|--|--|--|--|
| P | ● | | | ● | | | | | | |
| M | | | | ● | | | | | | |
| K | | | | ● | | | | | | |
| S | | | | ● | | | | | | |
| N | | | | ● | | | | | | |
| H | | | | | | | | | | |

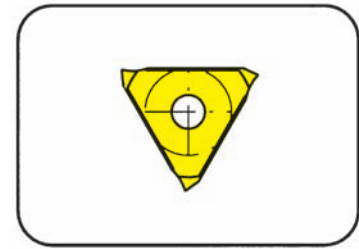
Carbide grades

GROOVING (external)



INDEXABLE INSERT Type

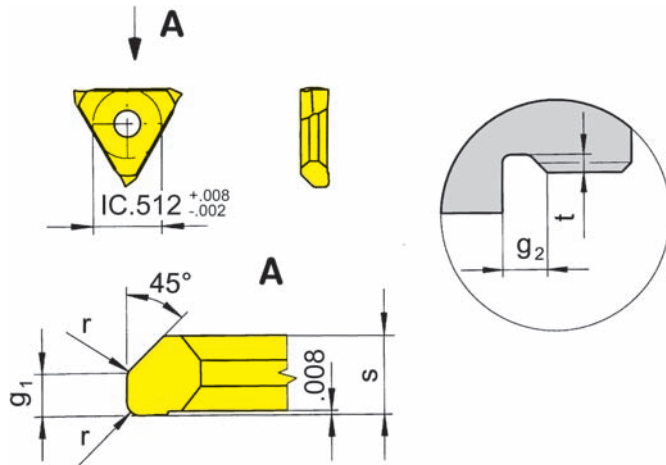
312



Thread relief DIN 76 "Standard form"

for use with Toolholder

Type 360 / U360
361
369 / U369



R = right hand version shown

L = left hand version

Indexability length
± .0008"

| Part number | P mm | r | s | g ₁ | g ₂ | t _{max} | Size | Carbide grades | | | | | | | |
|--|---------|------|------|----------------|----------------|------------------|------|----------------|-----|------|------|------|------|------|--|
| | | | | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 | |
| R/L312.3050.17 | 0.5 | .008 | .067 | .043 | .059 | .016 | 01 | | | | /▲ | | | | |
| R/L312.3060.27 | 0.6 | .016 | .106 | .051 | .071 | .020 | 02 | | | | ▲/ | | | | |
| R/L312.3100.37 | 1.0 | .024 | .146 | .087 | .118 | .031 | 03 | | | | ▲/ | | | | |
| R/L312.3150.53 | 1.5 | .031 | .209 | .132 | .177 | .045 | 04 | | | | ▲/ | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | | P | | | ● | | | | |
| | | | | | | | | M | | | ● | | | | |
| | | | | | | | | K | | | ● | | | | |
| | | | | | | | | S | | | ● | | | | |
| | | | | | | | | N | | | ● | | | | |
| | | | | | | | | H | | | | | | | |

Dimensions in inch and mm

State R or L version

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

P = Pitch of Thread

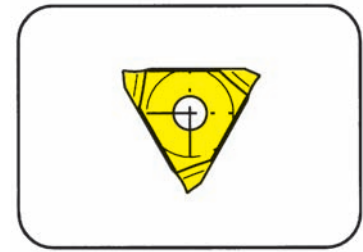


GROOVING CORNER RELIEFS (external)



INDEXABLE INSERT Type

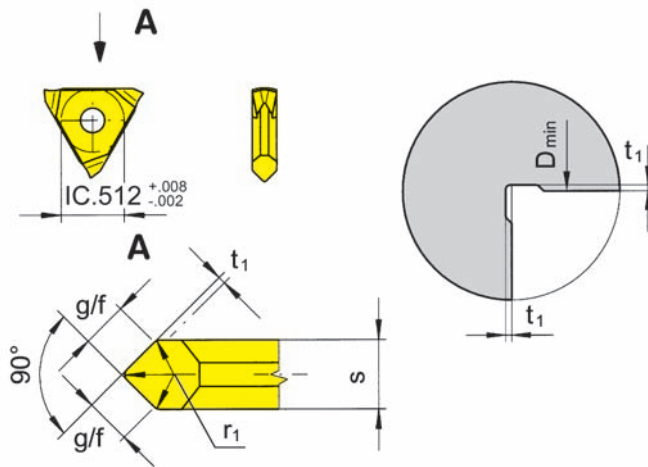
312



Corner reliefs similar to DIN 509 form "F"

for use with Toolholder

Type 309 / U309



Indexability length
± .0008"

H

| Part number | r ₁ | g _f | s | t ₁ | D _{min} | Size | Carbide grades | | | | | | |
|-------------|----------------|----------------|------|----------------|------------------|------|----------------|-----|------|------|------|------|---|
| | | | | | | | MG12 | P20 | TN32 | TN35 | TF45 | TC92 | |
| 312.0602.24 | .024 | .067 | .094 | .008 | .748 | 02 | | ▲ | | | | | ▲ |
| 312.0603.33 | .024 | .091 | .130 | .012 | .906 | 03 | | ▲ | | | | | |
| 312.1002.30 | .039 | .083 | .118 | .008 | .787 | | | ▲ | | | | | |
| 312.1004.50 | .039 | .142 | .197 | .016 | 1.142 | 04 | | ▲ | | | | | |
| 312.1603.50 | .063 | | | .012 | .984 | | | ▲ | | | | | |
| | | | | | | | P | • | | | | | • |
| | | | | | | | M | | | | | | |
| | | | | | | | K | | | | | | |
| | | | | | | | S | | | | | | |
| | | | | | | | N | | | | | | |
| | | | | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

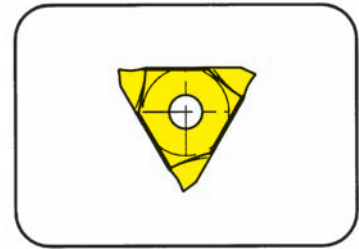
Indexable inserts can be used in **right and left hand** toolholders.

GROOVING CORNER RELIEFS (external)



INDEXABLE INSERT Type

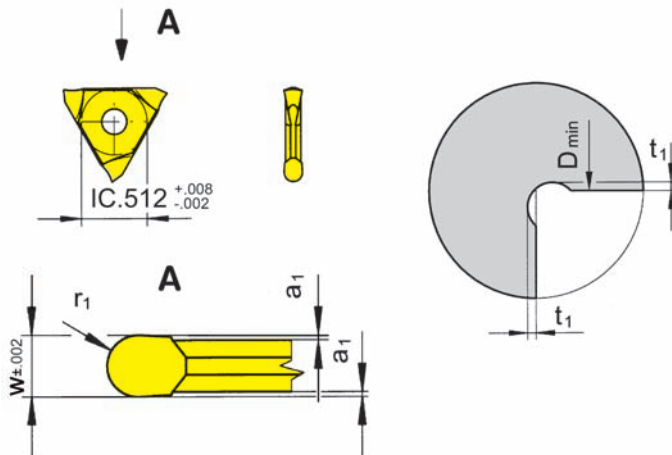
312



Full radius $r \ .039 - .098''$

for use with Toolholder

Type 309 / U309



Indexability length $\pm .0008''$

| Part number | r_1 | w | a_1 | t_1 | D_{min} | Size | Carbide grades | | | | | | |
|--|-------|------|-------|-------|-----------|------|----------------|-----|------|------|------|------|------|
| | | | | | | | K10 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 |
| 312.0010.20 | .039 | .079 | .008 | .028 | .866 | 02 | ▲ | ▲ | ▲ | ▲ | | | ▲ |
| 312.0015.30 | .059 | .118 | .008 | .039 | 1.063 | 03 | ▲ | ▲ | ▲ | | | | ▲ |
| 312.0020.40 | .079 | .157 | .008 | .047 | 1.181 | 04 | ▲ | ▲ | ▲ | | | | ▲ |
| 312.0025.50 | .098 | .197 | .008 | .059 | 1.378 | 04 | ▲ | ▲ | ▲ | | | | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | P | ● | ● | ● | ● | ● | ● |
| | | | | | | | M | ○ | | | ● | | |
| | | | | | | | K | ● | | | ● | | |
| | | | | | | | S | ○ | | | ● | | |
| | | | | | | | N | ● | | | ● | | |
| | | | | | | | H | | | | | | |

Dimensions in inch

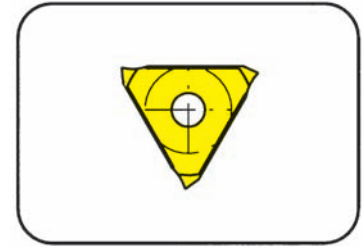
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.



INDEXABLE INSERT Type

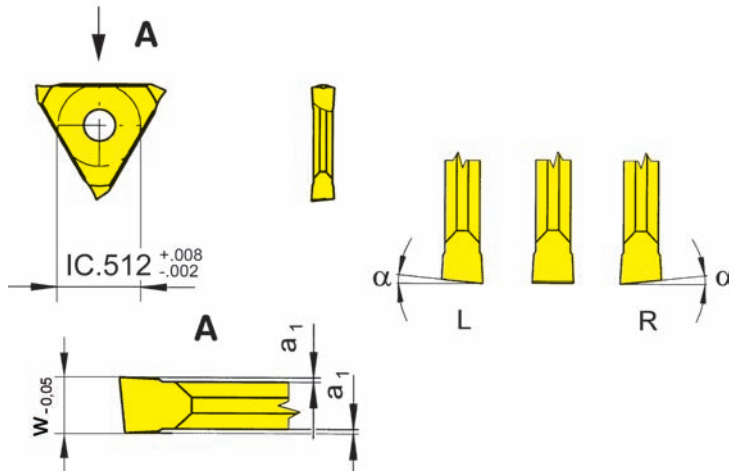
312



Depth of groove up to $.197''$
 Width of groove $.042 - .057''$

for use with Toolholder

Type 360 / U360
 361



R = right hand version shown

L = left hand version

| Part number | w | α | a_1 | Size | Carbide grades | | | | | | | | | |
|---|------|----------|-------|---------|----------------|------|-----|-----|------|------|------|------|------|------|
| | | | | | K10 | MG12 | P20 | H54 | TN32 | TN35 | TI25 | TF45 | TF46 | TC92 |
| 312.0100.00 | .042 | 0° | .004 | 01 / 02 | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | |
| 312.0130.00 | .057 | 0° | .008 | 01 / 02 | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | ▲ |
| R/L312.0614.00 | .057 | 6° | .008 | 01 / 02 | | | | | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | ○ | | | ● | ● | ● | ● | ○ | |
| | | | | | K | ● | | | ● | ● | ● | ● | ● | ● |
| | | | | | S | ○ | | | ● | ● | ● | ● | ○ | |
| | | | | | N | ● | | | ● | ● | ● | ● | ● | |
| | | | | | H | | | | | | | | | |

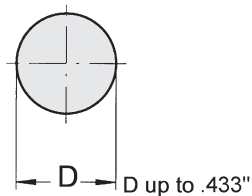
Dimensions in inch

State R or L version

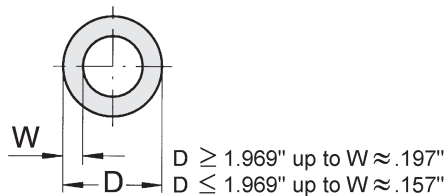
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

Parting off solid bars

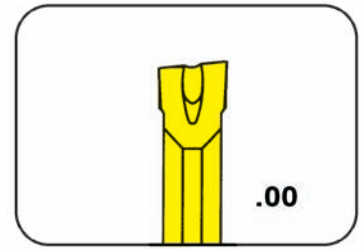


Parting off tubes



INDEXABLE INSERT Type

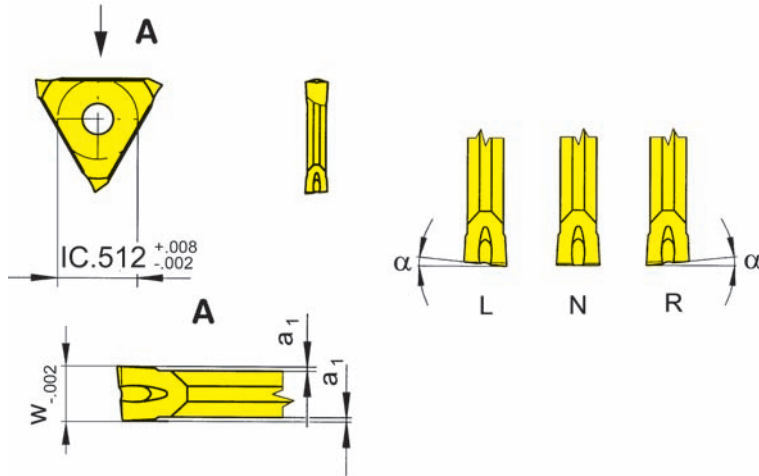
312



Depth of groove up to $.197''$
 Width of groove $.057 - .090''$

for use with Toolholder

Type 360 / U360
 361



R = right hand version shown

L = left hand version

| Part number | w | a ₁ | α | Size | Carbide grades | | | | | | | | | |
|----------------|------|----------------|----|---------|----------------|-----|------|------|------|------|------|------|--|---|
| | | | | | K10 | P20 | TN32 | TN35 | TI25 | TF45 | TF46 | TC92 | | |
| N312.0014.00 | .057 | .008 | 0° | 01 / 02 | | | | | | | | | | |
| N312.0018.00 | .078 | | 0° | | | | | | | | | | | |
| R/L312.0518.00 | .078 | | 5° | | | ▲▲ | ▲▲ | ▲▲ | | | | | | |
| N312.0021.00 | .090 | .008 | 0° | 02 | | | | | | | | | | |
| R/L312.0521.00 | .090 | | 5° | | | ▲▲ | ▲▲ | ▲▲ | | | | | | |
| | | | | | P | • | • | • | | • | | | | • |
| | | | | | M | | | • | | • | | | | |
| | | | | | K | | | • | | • | | | | |
| | | | | | S | | | • | | • | | | | |
| | | | | | N | | | • | | • | | | | |
| | | | | | H | | | | | | | | | |

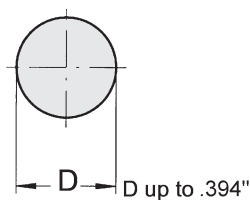
- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

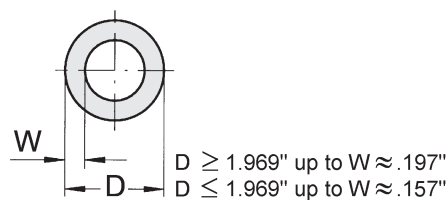
State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

Parting off solid bars



Parting off tubes

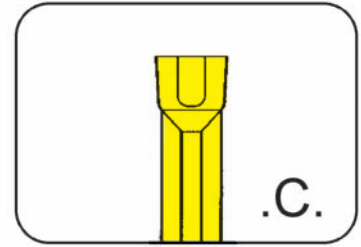


H

INDEXABLE INSERT Type

S312

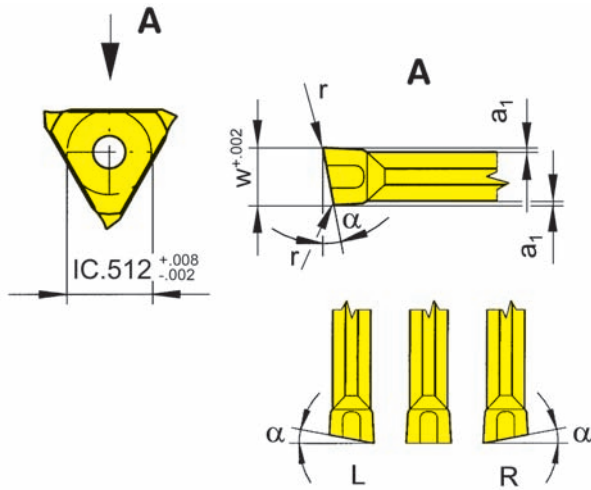
with sintered geometries



Depth of groove up to $.197''$
 Width of groove $.079 - .118''$

for use with Toolholder

Type 360 / U360
 361
 369 / U369



R = right hand version shown

L = left hand version

Geometry .C

H

| Part number | w | r | a ₁ | α | Size | Carbide grades | | | | | | |
|--|------|------|----------------|----------|------|----------------|-----|------|------|------|------|------|
| | | | | | | K10 | P20 | TN32 | TI25 | TF45 | TF46 | TC92 |
| S312.0200.C2 R/LS312.0520.C2 | .079 | .008 | .010 | 0° 5° | 02 | | | | ▲ | | ▲ | |
| S312.0250.C2 R/LS312.0525.C2 | .098 | .008 | .010 | 0° 5° | 02 | | | | ▲ | | ▲ | |
| S312.0300.C2 R/LS312.0530.C2 | .118 | .008 | .010 | 0° 5° | 03 | | | | ▲ | | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | | | ● | | ● | |
| | | | | | | M | | | ● | | ○ | |
| | | | | | | K | | | ● | | ● | |
| | | | | | | S | | | ● | | ○ | |
| | | | | | | N | | | ● | | ● | |
| | | | | | | H | | | | | | |

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

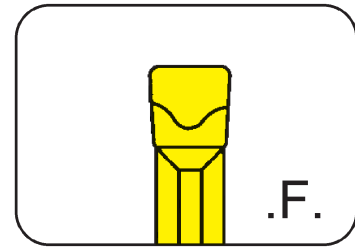
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S312

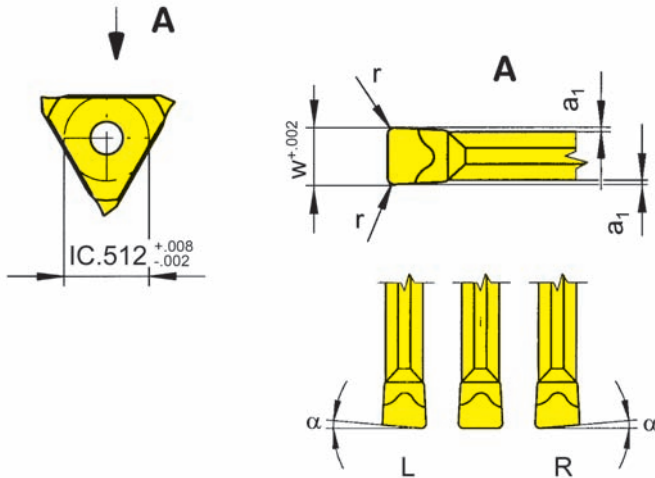
with sintered geometries



Width of groove .079 - .197"

for use with Toolholder

- Type 330 / U330
360 / U360
361
369 / U369
390 / U390



R = right hand version shown

L = left hand version

Geometry .F

| Part number | w | r | a ₁ | α | Size | Carbide grades | | | | | | | | |
|--|------|--------------|----------------|----------|------|----------------|------|-----|------|----------|------|----------|------|------|
| | | | | | | K10 | MG12 | P20 | TN32 | TI25 | TF45 | TF46 | TC92 | AL96 |
| R/LS312.0520.F2 S312.0200.F2 | .079 | .008 | .010 | 5° 0° | 02 | | | | | ▲/▲ ▲ | | ▲/▲ ▲ | | |
| R/LS312.0525.F2 S312.0250.F2 | .098 | .008 | .010 | 5° 0° | 02 | | | | | ▲/▲ ▲ | | ▲/▲ ▲ | | |
| S312.0400.F2 S312.0400.F4 | .157 | .008 .016 | .010 | 0° | 04 | | | | | ▲ | | ▲ | | |
| S312.0500.F2 S312.0500.F4 | .197 | .008 .016 | .010 | 0° | 04 | | | | | | | ▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | | | | ● | | ● | | |
| | | | | | | M | | | | ● | | ○ | | |
| | | | | | | K | | | | ● | | ● | | |
| | | | | | | S | | | | ● | | ○ | | |
| | | | | | | N | | | | ● | | ● | | |
| | | | | | | H | | | | | | | | |

Dimensions in inch

State R or L version

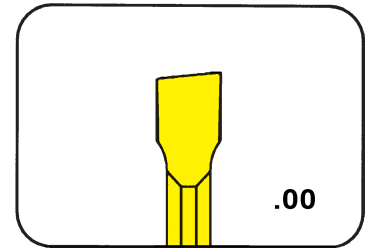
Indexable inserts can be used in **right and left hand** toolholders.



INDEXABLE INSERT Type

312

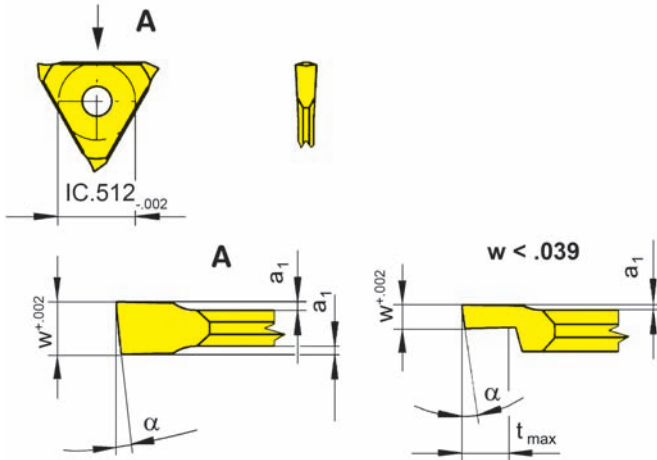
with round chip breaker



Depth of groove up to .315"
Width of groove .020 - .059"

for use with Toolholder

Type 368 / U368



R = right hand version shown

L = left hand version

| Part number | w | t _{max} | a ₁ | α | Size | Carbide grades | | | |
|--|------|------------------|----------------|-----|------|----------------|------|------|------|
| | | | | | | K10 | TN35 | TF45 | TC92 |
| R/L312.0805.00 | .020 | .039 | .004 | 8° | 01 | | | ▲/▲ | |
| R/L312.0808.00 | .031 | .059 | .004 | 8° | | | | ▲/▲ | |
| R/L312.1210.00 | .039 | .315 | .004 | 12° | | ▲/▲ | ▲/▲ | | |
| R/L312.0510.00 | .039 | .315 | .004 | 5° | | ▲/▲ | | | |
| R/L312.0512.00 | .047 | .315 | .008 | 5° | | ▲/▲ | | | |
| R/L312.0515.00 | .059 | .315 | .008 | 5° | | ▲/▲ | | | |
| <ul style="list-style-type: none"> ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | ● | ● | |
| | | | | | | M | ● | ● | |
| | | | | | | K | ● | ● | |
| | | | | | | S | ● | ● | |
| | | | | | | N | ● | ● | |
| | | | | | | H | | | |

Dimensions in inch

Carbide grades

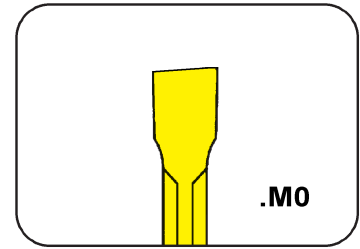
State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

H

INDEXABLE INSERT Type

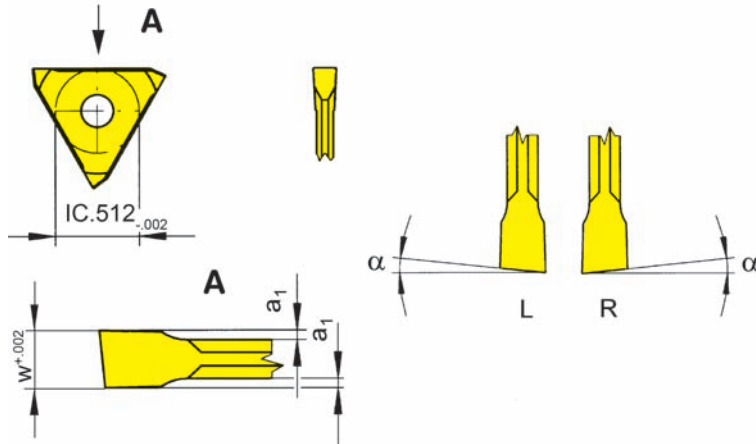
312



Depth of groove up to $.315''$
 Width of groove $.047 - .059''$

for use with Toolholder

Type 368 / U368



R = right hand version shown

L = left hand version

| Part number | w | a ₁ | α | Size | Carbide grades | | | |
|----------------|------|----------------|----|------|----------------|------|------|------|
| | | | | | K10 | TN35 | TF45 | TC92 |
| R/L312.0512.M0 | .047 | .008 | 5° | 01 | /Δ | | ▲/Δ | |
| R/L312.0515.M0 | .059 | .008 | 5° | 01 | ▲/ | | ▲/Δ | |
| | | | | | P | • | • | • |
| | | | | | M | ○ | • | • |
| | | | | | K | • | • | • |
| | | | | | S | ○ | • | • |
| | | | | | N | • | • | • |
| | | | | | H | | | |

Dimensions in inch

State R or L version

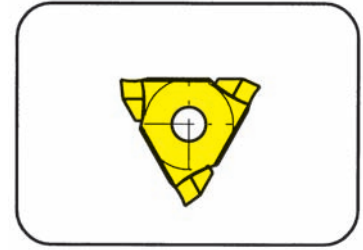
Indexable inserts can be used in **right and left hand** toolholders.

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet



INDEXABLE INSERT Type

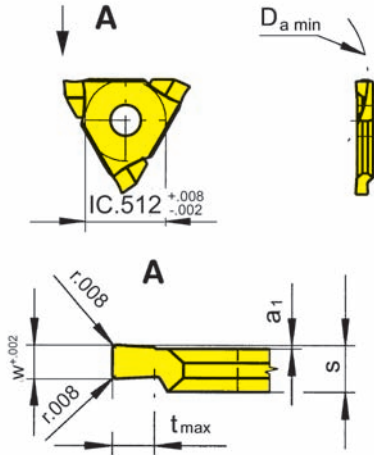
312



| | |
|-------------------------------|--------------|
| from outer groove \emptyset | .787" |
| Depth of groove up to | .118" |
| Width of groove | .059 - .118" |

for use with Toolholder

Type 360 / U360
361
369 / U369



R = right hand version shown

L = left hand version

Indexability length
 $\pm .0008''$

H

| Part number | w | s | t _{max} | D _{a min} | a ₁ | Size | Carbide grades | | |
|----------------|------|------|------------------|--------------------|----------------|------|----------------|------|------|
| | | | | | | | TN35 | TI25 | TA45 |
| R/L312.2015.02 | .059 | .106 | .079 | .787 | .008 | 02 | ▲/▲ | | |
| R/L312.3020.02 | .079 | .106 | .118 | 1.181 | .008 | 02 | ▲/▲ | | |
| R/L312.3030.02 | .118 | .146 | .118 | 1.181 | .008 | 03 | ▲/▲ | | |
| | | | | | | | P | • | |
| | | | | | | | M | • | |
| | | | | | | | K | • | |
| | | | | | | | S | • | |
| | | | | | | | N | • | |
| | | | | | | | H | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch
State R or L version

Note for toolholder type 360
Use right hand inserts in left hand toolholders and left hand inserts in right hand toolholders

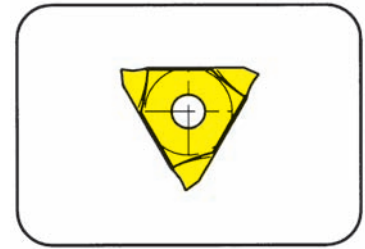
Note for toolholder type 369
Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

GROOVING (external)



INDEXABLE INSERT Type

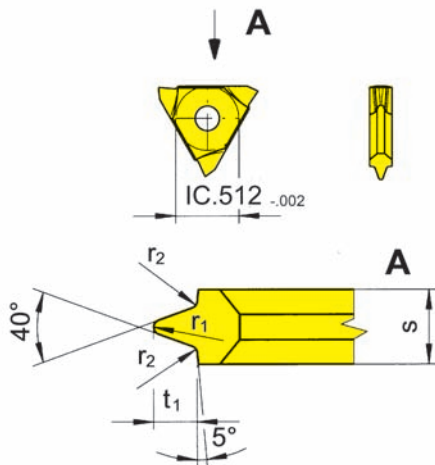
312



Poly-V-belt grooves profile "J"

for use with Toolholder

Type 360 / U360
361
369 / U369



Indexability length
± .0008"

| Part number | s | t ₁ | r ₂ | Size | P20 | TN32 |
|--------------------|------|----------------|----------------|------|-----|------|
| 312.0223.30 | .118 | .091 | .008 | 03 | ▲ | ▲ |
| | | | | | P | • |
| | | | | | M | • |
| | | | | | K | • |
| | | | | | S | • |
| | | | | | N | • |
| | | | | | H | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

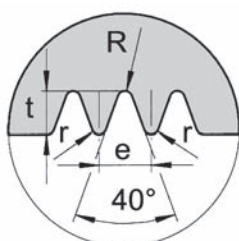
Dimensions in inch

Carbide grades

Indexable insert 312.0223.30 for single grooving

Indexable inserts can be used in **right and left hand** toolholders.

Shape of groove:
Poly-V-belt grooves profile "J"



| e | t | | R | | r |
|--------|------|------|------|------|------|
| | max | min | max | min | |
| ± .001 | | | | | |
| .092 | .092 | .082 | .015 | .010 | .008 |



HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

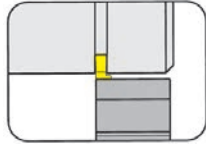
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

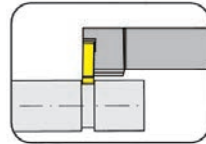
Special tools upon request

TOOLING SYSTEMS 315 **J**

**Grooving and
threading
- external -**

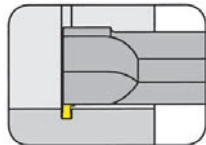


Page J2-J5

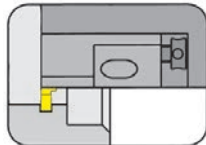


Page J6-J7

**Grooving and
threading
- internal -**



Page J8-J9

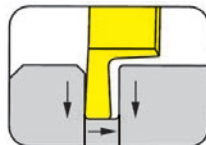


Page J10-J11

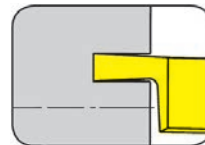
**Indexable inserts
Type
315**



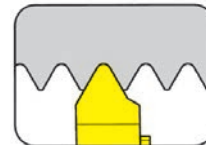
Page J12-J13



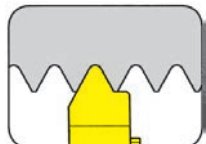
Page J14



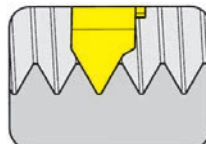
Page J15



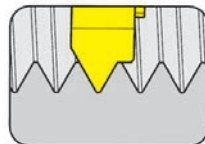
Page J16



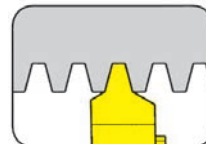
Page J17



Page J18



Page J19



Page J20

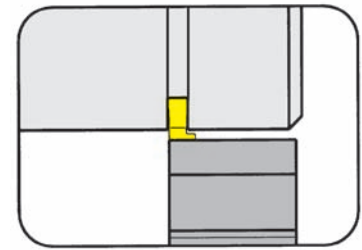
For Technical Information please see chapter Q

J

TOOLHOLDER Type

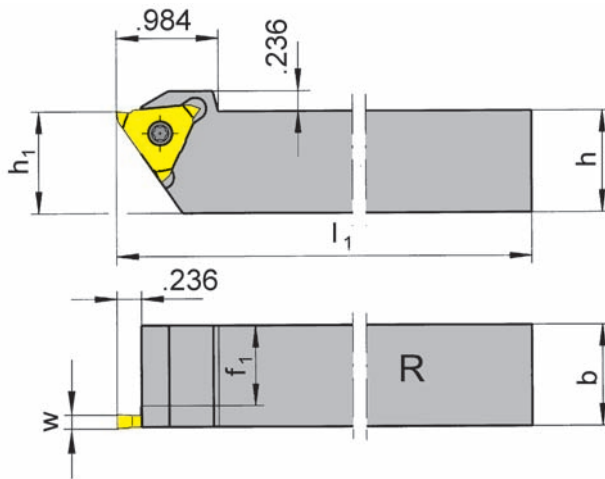
U356

Depth of groove up to .236"
Width of groove up to .209"



for use with Indexable insert

Type 315



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | Size |
|-----------------|-------|-------|----------------|----------------|----------------|------|
| R/LU356.0750.05 | .750 | .750 | 5.000 | .750 | .545 | 05 |
| R/LU356.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | .795 | |
| R/LU356.1250.05 | 1.250 | 1.250 | 6.693 | 1.250 | 1.045 | |

State R or L version

w see indexable inserts

Dimensions in inch

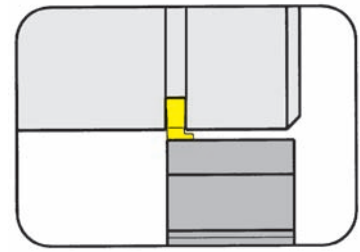
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LU356.... | 5.12T20P | T20PQ |

TOOLHOLDER Type

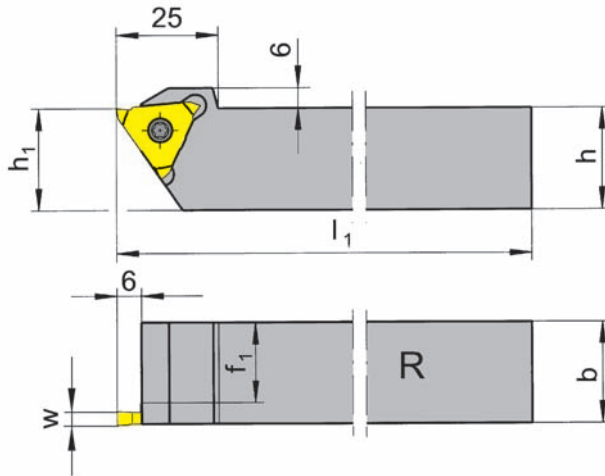
356



Depth of groove up to .197" (5.0 mm)
Width of groove up to .287" (7.3 mm)

for use with Indexable insert

Type 315



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | Size |
|----------------|----|----|----------------|----------------|----------------|------|
| R/L356.1616.03 | 16 | 16 | 125 | 20 | 13.0 | 03 |
| R/L356.2020.03 | 20 | 20 | 125 | 20 | 17.0 | |
| R/L356.2525.03 | 25 | 25 | 150 | 25 | 22.0 | |
| R/L356.3232.03 | 32 | 32 | 150 | 32 | 29.0 | |
| R/L356.1616.05 | 16 | 16 | 125 | 20 | 10.8 | 05 |
| R/L356.2020.05 | 20 | 20 | 125 | 20 | 14.8 | |
| R/L356.2525.05 | 25 | 25 | 150 | 25 | 19.8 | |
| R/L356.3232.05 | 32 | 32 | 150 | 32 | 26.8 | |
| R/L356.2020.07 | 20 | 20 | 125 | 20 | 13.0 | 07 |
| R/L356.2525.07 | 25 | 25 | 150 | 25 | 18.0 | |
| R/L356.3232.07 | 32 | 32 | 150 | 32 | 25.0 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-----------------|----------|-------------------|
| R/L356....03/05 | 5.12T20P | T20PQ |
| R/L356....07 | 5.15T20P | T20PQ |

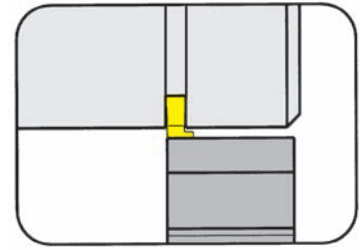


TOOLHOLDER Type

356

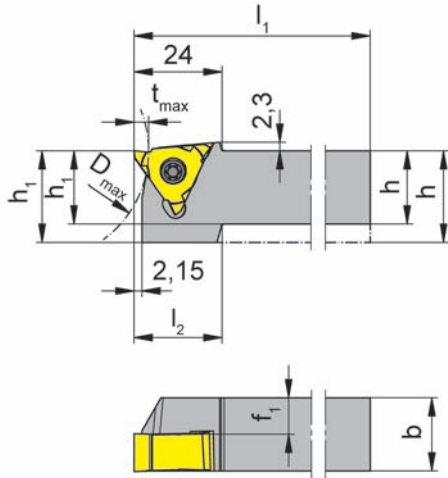
Depth of groove up to
Width of groove up to

.197" (5.0 mm)
.406" (10.3 mm)



for use with Indexable insert

Type 315



Depth of groove in relation to outer-Ø

| D _{max} | t _{max} |
|------------------|------------------|
| 30 | 5.0 |
| 40 | 4.5 |
| 60 | 4.0 |
| 115 | 3.5 |
| 185 | 3.0 |

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | l ₂ | h ₁ | f ₁ | Size |
|----------------|----|----|----------------|----------------|----------------|----------------|------|
| R/L356.1616.13 | 16 | 16 | 125 | 21 | 20 | 13.0 | 03 |
| R/L356.1616.15 | 16 | 16 | 125 | 21 | 20 | 10.8 | 05 |
| R/L356.2020.15 | 20 | 20 | 125 | 21 | 20 | 14.8 | |
| R/L356.2525.15 | 25 | 25 | 150 | - | 25 | 19.8 | 06 |
| R/L356.1616.16 | 16 | 16 | 125 | 21 | 20 | 10.0 | |
| R/L356.2020.16 | 20 | 20 | 125 | 21 | 25 | 14.0 | |
| R/L356.2525.16 | 25 | 25 | 150 | - | 25 | 19.0 | 07 |
| R/L356.2020.17 | 20 | 20 | 125 | 21 | 25 | 13.0 | |
| R/L356.2525.17 | 25 | 25 | 150 | - | | 18.1 | |
| R/L356.2020.10 | 20 | 20 | 125 | 21 | 25 | 10.0 | 10 |

State R or L version

Dimensions in mm

Further sizes upon request

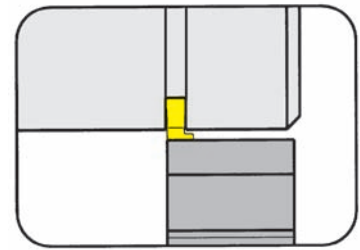
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------------|----------|-------------------|
| R/L356....13/15 | 5.12T20P | T20PQ |
| R/L356....10/16/17 | 5.15T20P | T20PQ |

TOOLHOLDER Type

356

Depth of groove up to .197" (5.0 mm)
Width of groove up to .524" (13.3 mm)

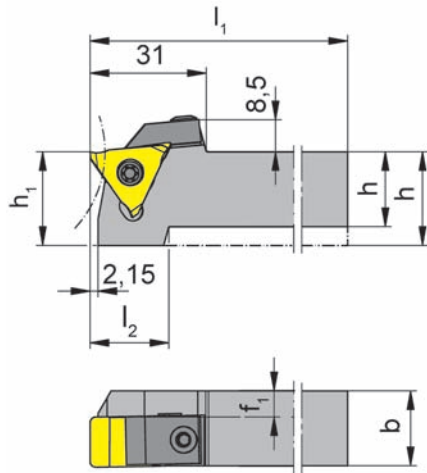


for use with Indexable insert

Type 315

Depth of groove in relation to outer-Ø

| D _{max} | t _{max} |
|------------------|------------------|
| 30 | 5.0 |
| 40 | 4.5 |
| 60 | 4.0 |
| 115 | 3.5 |
| 185 | 3.0 |



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | l ₂ | h ₁ | f ₁ | Size |
|-------------------|----|----|----------------|----------------|----------------|----------------|------|
| R/L 356.2020.2.13 | 20 | 20 | 125 | 21 | 20 | 7 | 13 |
| R/L 356.2525.2.13 | 25 | 25 | 150 | - | 25 | 12 | |

State R or L version

Dimensions in mm

Further sizes upon request



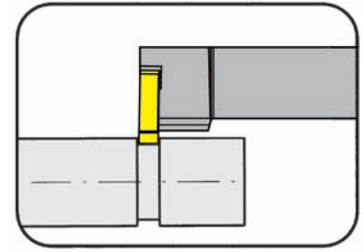
Spare parts

| Toolholder | Clamp | Screw | TORX PLUS® Wrench |
|-------------|---------------|----------|-------------------|
| R/L356.2... | 010.2013.0468 | 5.15T20P | T20PQ |

TOOLHOLDER Type

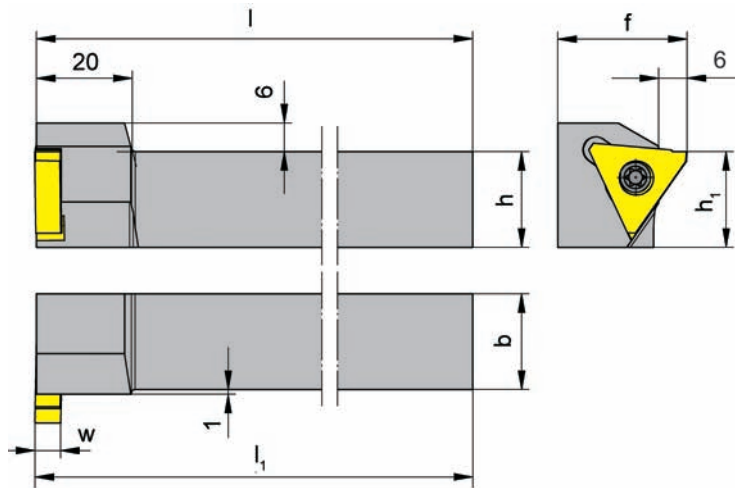
357

Depth of groove up to .197" (5.0 mm)
Width of groove up to .209" (5.3 mm)



for use with Indexable insert

Type 315
A315



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | f | Size |
|----------------|----|----------------|----|-----|----------------|----|------|
| R/L357.2020.05 | 20 | 25 | 20 | 125 | 125.3 | 27 | 05 |
| R/L357.2525.05 | 25 | 25 | 25 | 150 | 150.3 | 32 | 05 |

State R or L version

w see indexable inserts

Dimensions in mm

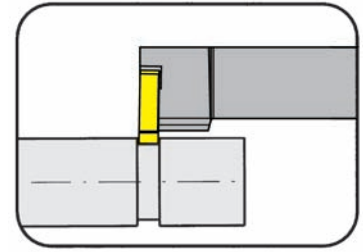
Further sizes upon request

Spare parts

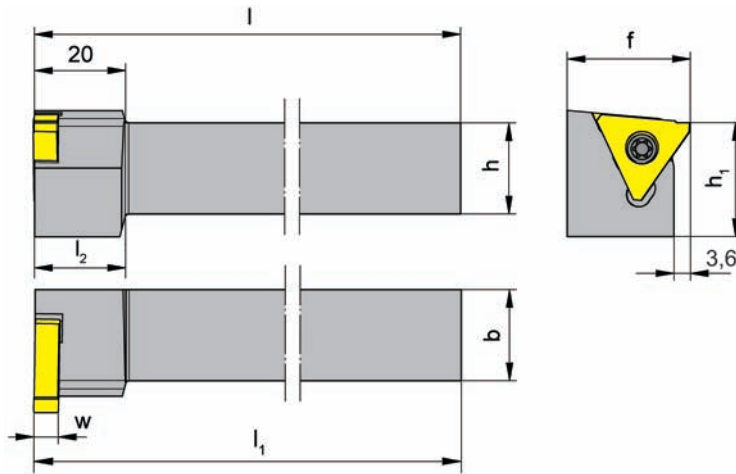
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/L357.2... | 5.12T20P | T20PQ |

TOOLHOLDER Type

357



Depth of groove up to .197" (5.0 mm)
Width of groove up to .209" (5.3 mm)



for use with Indexable insert

Type 315
A315

R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | Size |
|-----------------|----|----------------|----|-----|----------------|----------------|----|------|
| R/L 357.2020.15 | 20 | 25 | 20 | 125 | 125.3 | 20 | 27 | 05 |
| R/L 357.2525.15 | 25 | 25 | 25 | 150 | 150.3 | - | 32 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

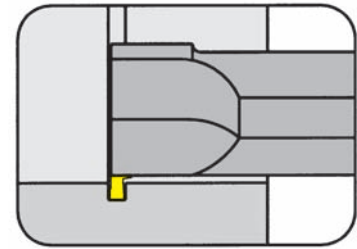
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/L357.2... | 5.12T20P | T20PQ |



TOOLHOLDER Type

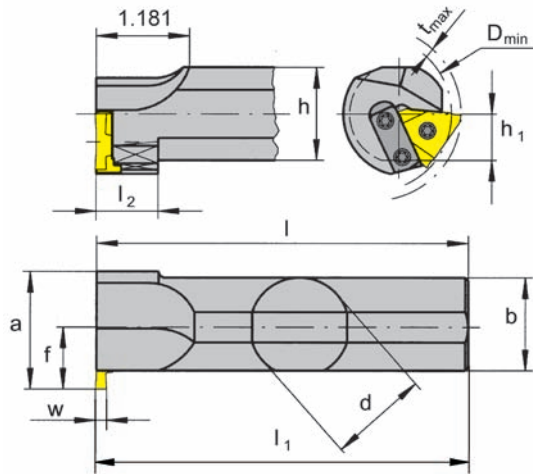
U333



Bore Ø from 1.693"
Width of groove up to .209"

for use with Indexable insert

Type 315



Depth of groove in relation to bore Ø

| D_{min} | t_{max} |
|-----------|-----------|
| 1.693 | .070 |
| 1.811 | .079 |
| 1.968 | .118 |
| 2.362 | .157 |
| 3.149 | .177 |
| 4.000 | .197 |

R = right hand version shown

L = left hand version

| Part number | d | l | l_1 | l_2 | h | h_1 | f | D_{min} | b | a | Size |
|-----------------|-------|--------|--------|-------|-------|-------|------|-----------|-------|-------|------|
| R/LU333.1000.05 | 1.000 | 6.625 | 6.637 | .750 | .921 | .461 | .787 | | 1.000 | 1.496 | 05 |
| R/LU333.1250.05 | 1.250 | 8.000 | 8.012 | .750 | 1.171 | .586 | .787 | 1.693 | 1.171 | 1.496 | 05 |
| R/LU333.1500.05 | 1.500 | 10.000 | 10.012 | - | 1.421 | .711 | .944 | | 1.421 | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Guide Strip | Screw | TORX PLUS® Wrench |
|--------------|---------------|----------|-------------------|
| R/LU333.1... | 020.7000.0193 | 5.12T20P | T20PQ |

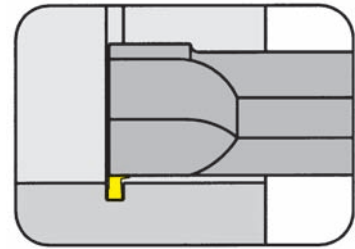
J8

TOOLHOLDER Type

333

Bore \varnothing from
Width of groove up to

1.693" (43.0 mm)
.209" (5.3 mm)

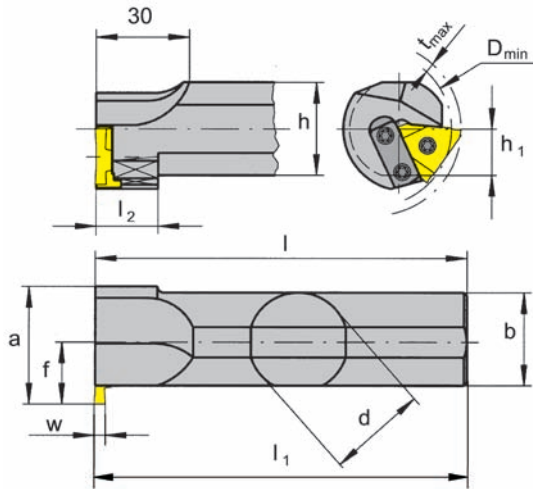


for use with Indexable
insert

Type 315

Depth of groove in relation to bore \varnothing

| D_{min} | t_{max} |
|-----------|-----------|
| 43 | 1.8 |
| 46 | 2.0 |
| 50 | 3.0 |
| 60 | 4.0 |
| 80 | 4.5 |
| 100 | 5.0 |



| Part number | d | l | l_1 | l_2 | h | h_1 | f | D_{min} | b | a | Size |
|----------------|----|-----|-------|-------|----|-------|----|-----------|----|----|------|
| R/L333.0025.03 | 25 | 170 | 170.3 | 20 | 23 | 11.5 | 20 | 43 | 25 | 38 | 03 |
| R/L333.0032.03 | 32 | 200 | 200.3 | 20 | 30 | 15.0 | 20 | 43 | 30 | 38 | 03 |
| R/L333.0025.05 | 25 | 170 | 170.3 | 20 | 23 | 11.5 | 20 | 43 | 25 | 38 | 05 |
| R/L333.0032.05 | 32 | 200 | 200.3 | 20 | 30 | 15.0 | 20 | 43 | 30 | 38 | |
| R/L333.0040.05 | 40 | 250 | 250.3 | - | 38 | 19.0 | 24 | 45 | 38 | 44 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

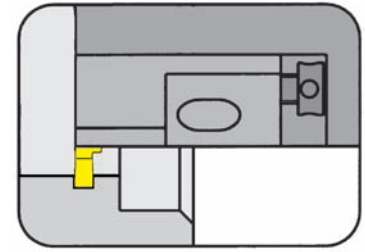
Spare parts

| Toolholder | Guide Strip | Screw | TORX PLUS® Wrench |
|--------------|---------------|----------|-------------------|
| R/L333.00... | 020.7000.0193 | 5.12T20P | T20PQ |



CARTRIDGE Type

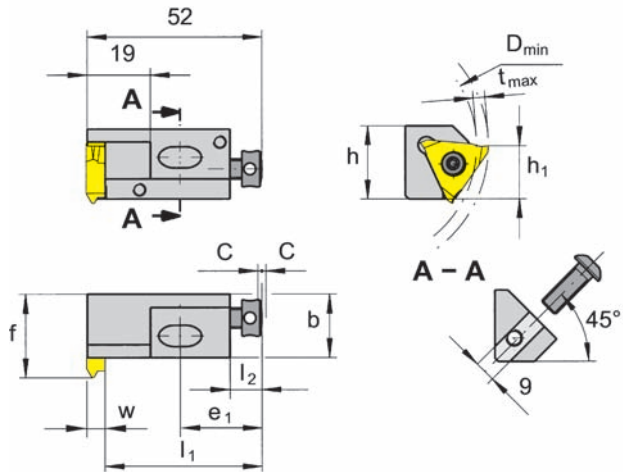
357



Bore \varnothing from 1.969" (50.0 mm)
 Width of groove up to .209" (5.3 mm)

for use with Indexable insert

Type 315



Depth of groove in relation to bore \varnothing

| D_{min} | t_{max} |
|-----------|-----------|
| 50 | 3,0 |
| 60 | 4,0 |
| 80 | 4,5 |
| 100 | 5,0 |

R = right hand version shown

L = left hand version

| Part number | h_1 | f | h | b | l_1 | e_1 | l_2 | c | Size |
|-----------------------|-------|----|----|----|-------|-------|-------|---|------|
| R/L357.1619.05 | 16 | 25 | 21 | 19 | 46.8 | 24 | 9 | 2 | 05 |

State R or L version

w see indexable inserts

Dimensions in mm

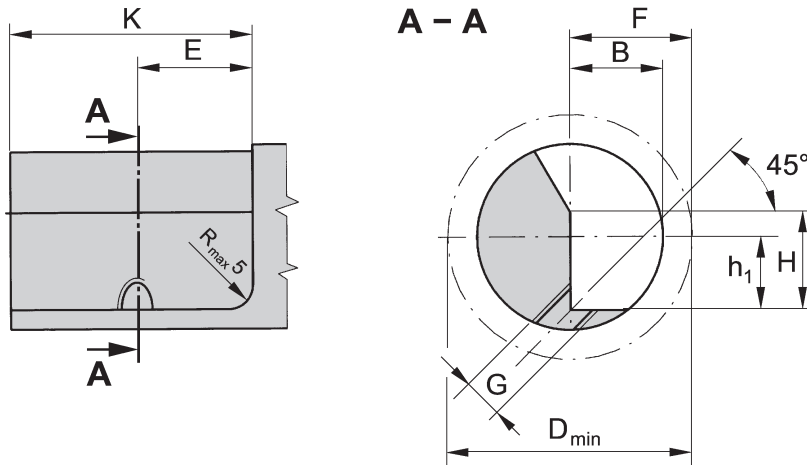
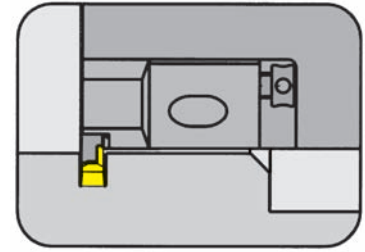
Dimensions of seating see following page

Spare parts

| Cartridge | Screw | Screw | Axial Setscrew | Radial Setscrew | TORX PLUS® Wrench |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| R/L357.1619.05 | 8.25.351 | 5.12T20P | 6.12.020 | 4.08.913 | T20PQ |



SEATING DIMENSIONS CARTRIDGE Type **357**



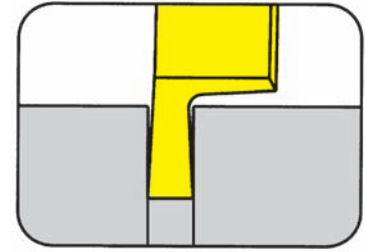
| Cartridge | F | G | H | K | E | B | h ₁ | D _{min} | Fastening screw |
|--------------------|----|----|----|----|----|----|----------------|------------------|-----------------|
| 357.1619.05 | 25 | M8 | 21 | 50 | 24 | 19 | 16 | 50 | 8.25.351 |

Dimensions in mm



INDEXABLE INSERT Type

315

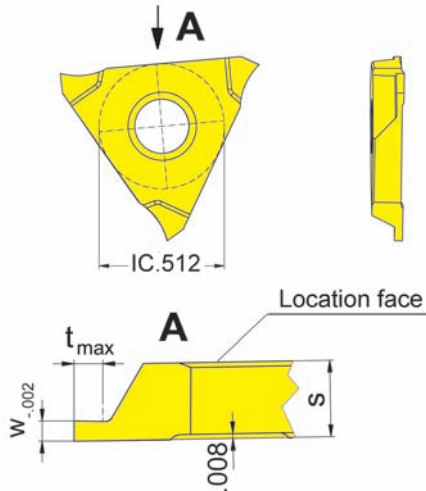


Circlip grooves
Width of circlip Nw

DIN471/472
.020 - .039"

for use with Toolholder

Type 356...03



R = right hand version shown

L = left hand version

| Part number | Nw | w | t _{max} | s | Size | TN32 | TN35 | T125 | TA45 |
|--|------|------|------------------|------|------|------|------|------|------|
| | | | | | | | | | |
| R/L315.0050.32.00 | .020 | .022 | .028 | .126 | 03 | Δ/Δ | | | |
| R/L315.0060.32.00 | .024 | .026 | .031 | | | Δ/Δ | | | |
| R/L315.0070.32.00 | .028 | .030 | .043 | | | Δ/Δ | | | |
| R/L315.0080.32.00 | .031 | .034 | .047 | | | Δ/Δ | | | |
| R/L315.0090.32.00 | .035 | .038 | .055 | | | Δ/Δ | | | |
| R/L315.0100.32.00 | .039 | .042 | .063 | | | Δ/Δ | | | |
| <ul style="list-style-type: none"> ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | ● | | |
| | | | | | | M | | | |
| | | | | | | K | | | |
| | | | | | | S | | | |
| | | | | | | N | | | |
| | | | | | | H | | | |

Carbide grades

Dimensions in inch

State R or L version

External machining:

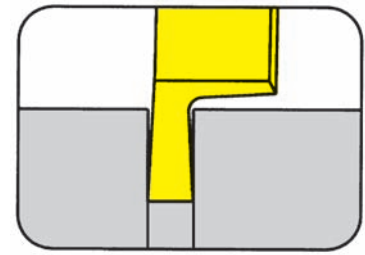
Right hand insert in right hand toolholder 356, left hand insert in left hand toolholder 356.

GROOVING (external and internal)



INDEXABLE INSERT Type

315

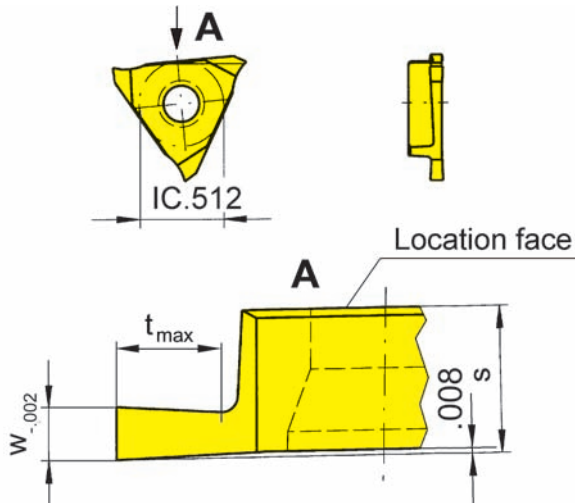


Circlip grooves
Width of circlip Nw

DIN471/472
.043 - .163"

for use with Toolholder

Type 333
U333
356
U356



R = right hand version shown

L = left hand version

| Part number | Nw | w | t _{max} | s | Size | TN35 | T125 | TF45 | TF46 | TC92 | AL96 |
|----------------|------|------|------------------|------|------|------|------|------|------|------|------|
| | | | | | | | | | | | |
| R/L315.0110.00 | .043 | .049 | .079 | .213 | 05 | ▲▲ | | ▲/Δ | | | |
| R/L315.0130.00 | .051 | .057 | .079 | .213 | 05 | ▲▲ | | ▲/Δ | | | |
| R/L315.0160.00 | .063 | .069 | .118 | .213 | 05 | ▲▲ | | /Δ | | | |
| R/L315.0185.00 | .073 | .078 | .118 | .213 | 05 | ▲▲ | | Δ/Δ | | | Δ/ |
| R/L315.0215.00 | .085 | .090 | .157 | .213 | 05 | ▲▲ | | /Δ | | | Δ/ |
| R/L315.0265.00 | .104 | .110 | .157 | .213 | 05 | ▲▲ | | Δ/Δ | | | Δ/ |
| R/L315.0315.00 | .124 | .130 | .197 | .213 | 05 | ▲▲ | | ▲/Δ | | Δ/ | |
| R/L315.0415.00 | .163 | .169 | .197 | .213 | 05 | ▲▲ | | ▲/Δ | | | /Δ |
| | | | | | | P | • | • | • | • | • |
| | | | | | | M | • | • | • | • | • |
| | | | | | | K | • | • | • | • | • |
| | | | | | | S | • | • | • | • | • |
| | | | | | | N | • | • | • | • | • |
| | | | | | | H | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Carbide grades

External machining:

Right hand insert in right hand toolholder 356, left hand insert in left hand toolholder 356.

Internal machining:

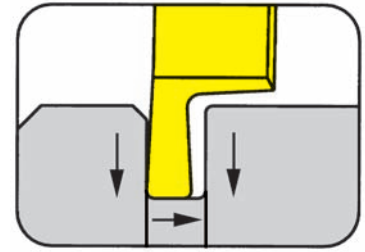
Right hand insert in left hand toolholder 333/357, left hand insert in right hand toolholder 333/357.



INDEXABLE INSERT Type

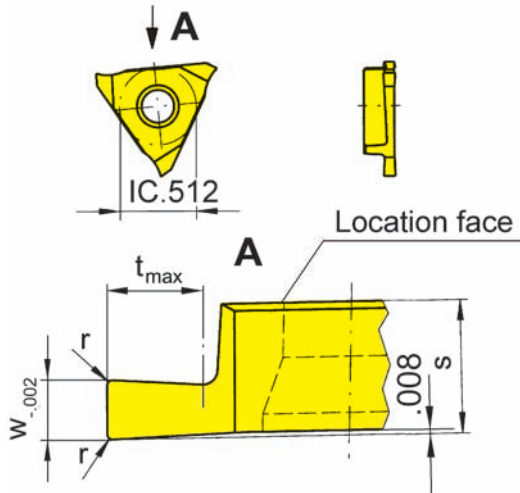
315

Depth of groove up to .157"
Width of groove .079 - .118"



for use with Toolholder

Type 333
U333
356
U356
357



R = right hand version shown

L = left hand version

Indexability length
± .001"

| Part number | w | r | s | t _{max} | Size | TN35 | TF45 | TF46 | TC92 | AL96 |
|----------------|------|------|------|------------------|------|------|------|------|------|------|
| R/L315.0200.02 | .079 | .008 | .213 | .118 | 05 | ▲/▲ | | | | |
| R/L315.0200.04 | .079 | .016 | .213 | .118 | 05 | ▲/Δ | | | | |
| R/L315.0300.02 | .118 | .008 | .213 | .157 | 05 | ▲/▲ | | | /Δ | |
| R/L315.0300.04 | .118 | .016 | .213 | .157 | 05 | Δ/Δ | Δ/ | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | P | M | K | S | N | H |
|------|---|---|---|---|---|---|
| TN35 | ● | ● | ● | ● | ● | ● |
| TF45 | ● | ● | ● | ● | ● | ● |
| TF46 | ● | ● | ● | ● | ● | ● |
| TC92 | ● | ● | ● | ● | ● | ● |
| AL96 | ● | ● | ● | ● | ● | ● |

Dimensions in inch

State R or L version

Carbide grades

External machining:

Right hand insert in right hand toolholder 356, left hand insert in left hand toolholder 356.

Internal machining:

Right hand insert in left hand toolholder 333/357, left hand insert in right hand toolholder 333/357.

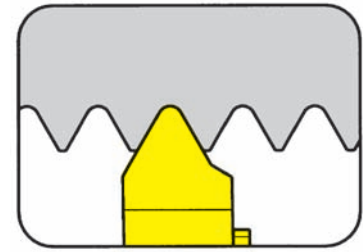
THREADING (external) Partial profile



INDEXABLE INSERT Type

315

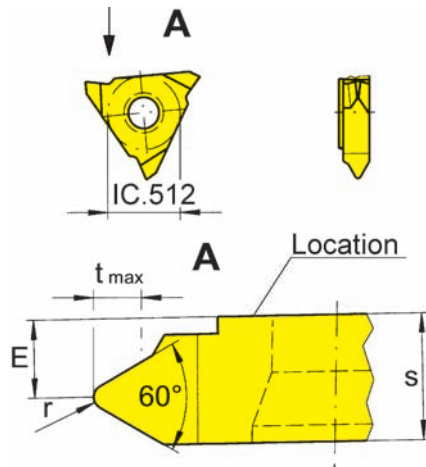
Metric ISO thread



| | |
|-------|--------------|
| Pitch | 1.0 - 6.0 mm |
|-------|--------------|

for use with Toolholder

Type 356
U356



R = right hand version shown

L = left hand version

| Part number | P | t _{max} | r | E | s | Size | Carbide grades | | | |
|--|-----------|------------------|------|------|------|------|----------------|------|------|--|
| | | | | | | | TN35 | TI25 | TA45 | |
| R/L315.0610.01 | 1.00 | 0.61 | 0.12 | 4.50 | 5.45 | 05 | ▲/Δ | | | |
| R/L315.0712.01 | 1.25 | 0.77 | 0.15 | 4.50 | 5.45 | 05 | ▲/Δ | | | |
| R/L315.0915.01 | 1.50 | 0.92 | 0.20 | 4.15 | 5.45 | 05 | ▲/▲ | | | |
| R/L315.1017.01 | 1.75 | 1.07 | 0.25 | 4.15 | 5.45 | 05 | ▲/Δ | | | |
| R/L315.1220.01 | 2.00 | 1.23 | 0.25 | 4.15 | 5.45 | 05 | ▲/Δ | | | |
| R/L315.1525.01 | 2.50 | 1.53 | 0.35 | 3.80 | 5.45 | 05 | ▲/Δ | | | |
| R/L315.1830.01 | 3.00 | 1.84 | 0.40 | 3.60 | 5.45 | 05 | ▲/Δ | | | |
| R/L315.3060.01 | 3.00-6.00 | 4.15 | 0.40 | 3.00 | 6.10 | 05 | ▲/▲ | | | |
| R/L315.2135.01 | 3.50 | 2.15 | 0.50 | 3.40 | 5.45 | 05 | Δ/Δ | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | P | ● | | |
| | | | | | | | M | ● | | |
| | | | | | | | K | ● | | |
| | | | | | | | S | ● | | |
| | | | | | | | N | ● | | |
| | | | | | | | H | | | |

Dimensions in mm

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

External machining:

Right hand insert in right hand toolholder 356, left hand insert in left hand toolholder 356.



THREADING (external) Full profile

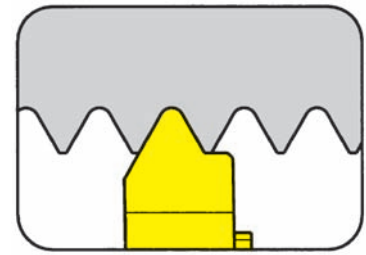


INDEXABLE INSERT Type

315

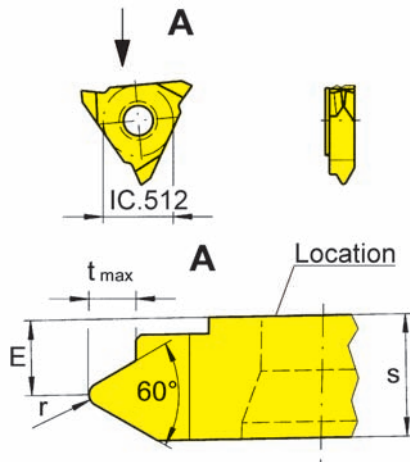
Metric ISO thread

| | |
|-------|--------------|
| Pitch | 1.0 - 6.0 mm |
|-------|--------------|



for use with Toolholder

Type 356
U356



R = right hand version shown

L = left hand version

| Part number | P | t _{max} | r | E | s | Size | Carbide grades | | |
|----------------|------|------------------|------|------|------|------|----------------|------|------|
| | | | | | | | TN35 | TI25 | TA45 |
| R/L315.0610.02 | 1.00 | 0.61 | 0.12 | 4.50 | 5.45 | 05 | ▲/▲ | | |
| R/L315.0712.02 | 1.25 | 0.77 | 0.15 | 4.50 | 5.45 | 05 | ▲/Δ | | |
| R/L315.0915.02 | 1.50 | 0.92 | 0.20 | 4.15 | 5.45 | 05 | ▲/▲ | | |
| R/L315.1017.02 | 1.75 | 1.07 | 0.25 | 4.15 | 5.45 | 05 | ▲/Δ | | |
| R/L315.1220.02 | 2.00 | 1.23 | 0.25 | 4.15 | 5.45 | 05 | ▲/▲ | | |
| R/L315.1525.02 | 2.50 | 1.53 | 0.35 | 3.80 | 5.45 | 05 | ▲/Δ | | |
| R/L315.1830.02 | 3.00 | 1.84 | 0.40 | 3.60 | 5.45 | 05 | ▲/▲ | | |
| R/L315.2135.02 | 3.50 | 2.15 | 0.50 | 3.40 | 5.45 | 05 | ▲/Δ | | |
| R/L315.2440.02 | 4.00 | 2.45 | 0.55 | 3.30 | 5.45 | 05 | ▲/▲ | | |
| R/L315.3050.02 | 5.00 | 3.07 | 0.70 | 4.00 | 6.50 | 05 | ▲/Δ | | |
| R/L315.3660.02 | 6.00 | 3.68 | 0.85 | 4.10 | 7.00 | 05 | ▲/Δ | | |
| | | | | | | | P | • | |
| | | | | | | | M | • | |
| | | | | | | | K | • | |
| | | | | | | | S | • | |
| | | | | | | | N | • | |
| | | | | | | | H | • | |

Dimensions in mm

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

External machining:

Right hand insert in right hand toolholder 356, left hand insert in left hand toolholder 356.

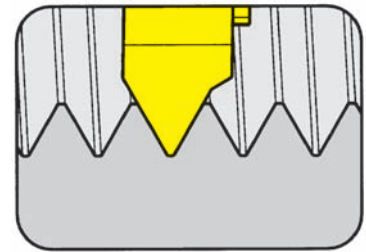
THREADING (internal) Partial profile



INDEXABLE INSERT Type

315

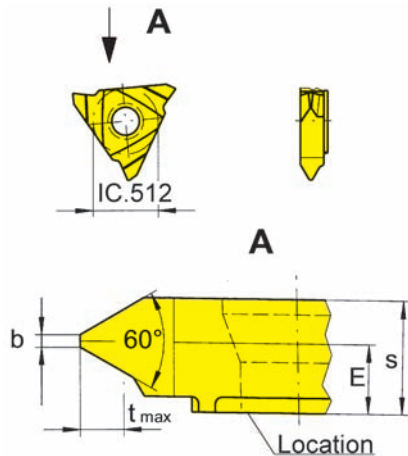
Metric ISO thread



| | |
|-------|--------------|
| Pitch | 1.0 - 3.5 mm |
|-------|--------------|

for use with Toolholder

Type 333
U333
357



R = right hand version shown

L = left hand version

| Part number | P | t _{max} | E | b | s | D _{min} | Size | TN35 | TI25 | TA45 |
|----------------|-----|------------------|------|------|------|------------------|------|------|------|------|
| R/L315.0510.01 | 1.0 | 0.55 | 4.85 | 0.12 | 5.45 | 40 | 05 | Δ/Δ | | |
| R/L315.0815.01 | 1.5 | 0.81 | 4.65 | 0.18 | 5.45 | 40 | 05 | Δ/Δ | | |
| R/L315.1020.01 | 2.0 | 1.08 | 4.45 | 0.25 | 5.45 | 40 | 05 | Δ/ | | |
| R/L315.1325.01 | 2.5 | 1.35 | 4.25 | 0.31 | 5.45 | 43 | 05 | Δ/ | | |
| R/L315.1630.01 | 3.0 | 1.62 | 4.05 | 0.37 | 5.45 | 43 | 05 | Δ/ | | |
| R/L315.1835.01 | 3.5 | 1.89 | 3.90 | 0.43 | 5.45 | 43 | 05 | Δ/ | | |
| | | | | | | | | P | • | |
| | | | | | | | | M | • | |
| | | | | | | | | K | • | |
| | | | | | | | | S | • | |
| | | | | | | | | N | • | |
| | | | | | | | | H | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

Internal machining:

Right hand threading insert in right hand toolholder 333/357, left hand threading insert in left hand toolholder 333/357



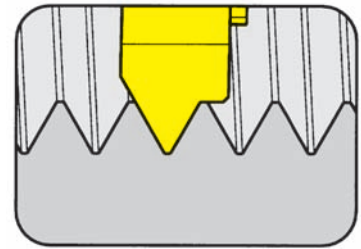
THREADING (internal) Full profile



INDEXABLE INSERT Type

315

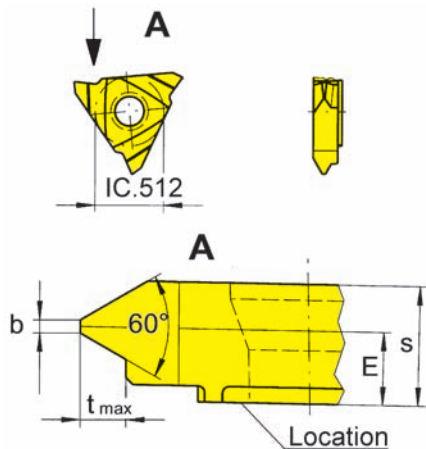
Metric ISO thread



| | |
|-------|--------------|
| Pitch | 1.0 - 3.5 mm |
|-------|--------------|

for use with Toolholder

Type 333
U333
357



R = right hand version shown

L = left hand version

| Part number | P | t _{max} | E | b | s | D _{min} | Size | TN35 | T125 | TA45 |
|----------------|-----|------------------|------|------|------|------------------|------|------|------|------|
| R/L315.0510.02 | 1.0 | 0.55 | 4.85 | 0.12 | 5.45 | 40 | 05 | Δ/ | | |
| R/L315.0815.02 | 1.5 | 0.81 | 4.65 | 0.18 | 5.45 | 40 | 05 | ▲/ | | |
| R/L315.1020.02 | 2.0 | 1.08 | 4.45 | 0.25 | 5.45 | 40 | 05 | ▲/Δ | | |
| R/L315.1325.02 | 2.5 | 1.35 | 4.25 | 0.31 | 5.45 | 43 | 05 | ▲/ | | |
| R/L315.1630.02 | 3.0 | 1.62 | 4.05 | 0.37 | 5.45 | 43 | 05 | ▲/Δ | | |
| R/L315.1835.02 | 3.5 | 1.89 | 3.90 | 0.43 | 5.45 | 43 | 05 | Δ/ | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | | |
|---|---|---|---|
| P | ● | ■ | ■ |
| M | ● | ■ | ■ |
| K | ● | ■ | ■ |
| S | ● | ■ | ■ |
| N | ● | ■ | ■ |
| H | ● | ■ | ■ |

Dimensions in mm

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

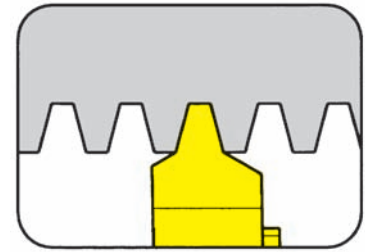
Internal machining:

Right hand threading insert in right hand toolholder 333/357, left hand threading insert in left hand toolholder 333/357

INDEXABLE INSERT Type

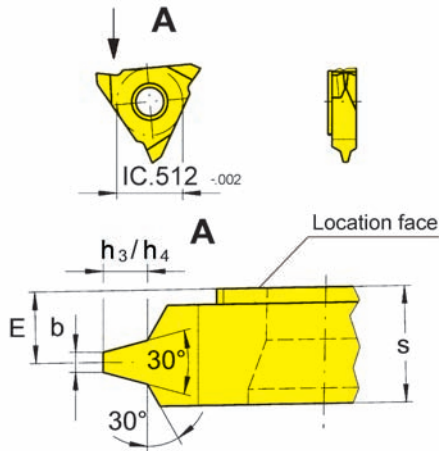
315

Pitch 1.5 - 6.0 mm



for use with Toolholder

Type 333
U333
356
U356
357



R = right hand version shown

L = left hand version

Metric ISO trapezoidal thread DIN 103

| Part number | P | E | b | s | D _{min} | h ₃ / h ₄ | Size | TN35 | T125 | TA45 |
|----------------|-----|-----|------|------|------------------|---------------------------------|------|------|------|------|
| R/L315.1015.02 | 1.5 | 4.5 | 0.47 | 5.45 | 43 | 0.90 | 05 | ▲/△ | | |
| R/L315.1320.02 | 2.0 | 4.3 | 0.60 | 5.45 | 43 | 1.25 | 05 | ▲/△ | | |
| R/L315.1730.02 | 3.0 | 4.0 | 0.96 | 5.45 | 43 | 1.75 | 05 | ▲/▲ | | |
| R/L315.2240.02 | 4.0 | 3.6 | 1.33 | 5.45 | 43 | 2.25 | 05 | ▲/▲ | | |
| R/L315.2750.02 | 5.0 | 3.3 | 1.70 | 5.45 | 43 | 2.75 | 05 | ▲/▲ | | |
| R/L315.3560.02 | 6.0 | 3.0 | 1.93 | 5.45 | 43 | 3.50 | 05 | ▲/▲ | | |

- ▲ on stock △ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | P | M | K | S | N | H |
|------|---|---|---|---|---|---|
| TN35 | ● | ● | ● | ● | ● | ● |
| T125 | ● | ● | ● | ● | ● | ● |
| TA45 | ● | ● | ● | ● | ● | ● |

Dimensions in mm

State R or L version

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with **full ground radial clearance**.

External machining:

Right hand insert in right hand toolholder 356, left hand insert in left hand toolholder 356.

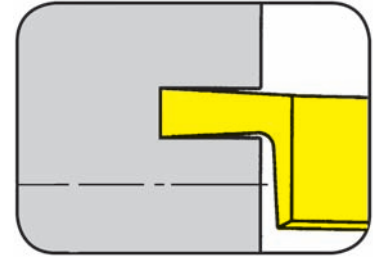
Internal machining:

Right hand insert in left hand toolholder 333/357, left hand insert in right hand toolholder 333/357.



INDEXABLE INSERT Type

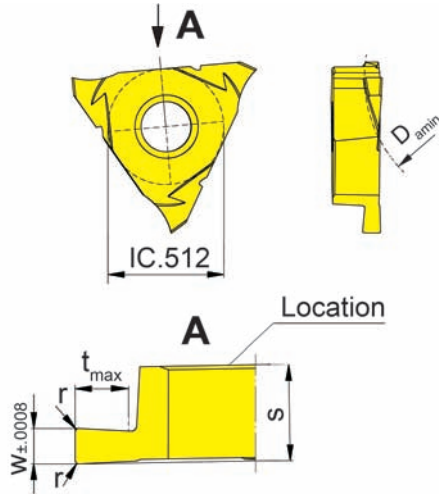
A315



Depth of groove up to .118"
Width of groove .059 - .118"

for use with Toolholder

Type 356
U356
357



R = right hand version shown

L = left hand version

| Part number | w | s | r | t _{max} | D _{a min} | Size | Carbide grades | | | | |
|----------------|------|------|------|------------------|--------------------|------|----------------|------|------|------|------|
| | | | | | | | TN32 | TN35 | TI22 | TA45 | TH35 |
| LA315.2015.02R | .059 | | | .079 | .787 | | | | | | ▲ |
| LA315.3020.02R | .079 | .213 | .008 | .118 | 1.181 | 05 | | | | | ▲ |
| LA315.3030.02R | .118 | | | .118 | 1.181 | | | | | | ▲ |
| RA315.2015.02L | .059 | | | .079 | .787 | | | | | | ▲ |
| RA315.3020.02L | .079 | .213 | .008 | .118 | 1.181 | 05 | | | | | ▲ |
| RA315.3030.02L | .118 | | | .118 | 1.181 | | | | | | ▲ |
| | | | | | | | P | | | | • |
| | | | | | | | M | | | | • |
| | | | | | | | K | | | | • |
| | | | | | | | S | | | | • |
| | | | | | | | N | | | | • |
| | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch
State R or L version

Carbide grades

HORN - THE LEADERS IN GROOVING TECHNOLOGY



LEGENDARY CAPABILITIES

DS END MILLING

J

HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

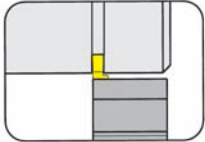
EXTERNAL GROOVING

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

Special tools upon request

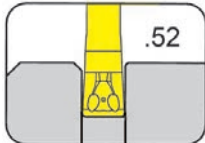
TOOLING SYSTEMS S316 **K**

Grooving
- external -

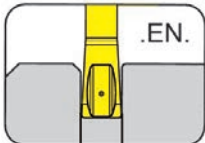


Page K2

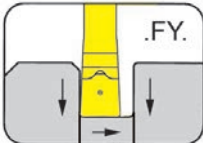
Indexable inserts
Type
S316



Page K3



Page K4



Page K5

For Technical Information please see chapter Q



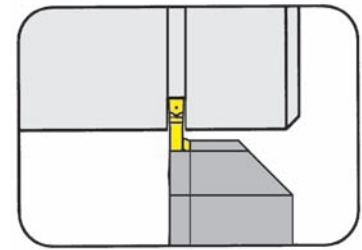
K

GROOVING (external)



TOOLHOLDER Type

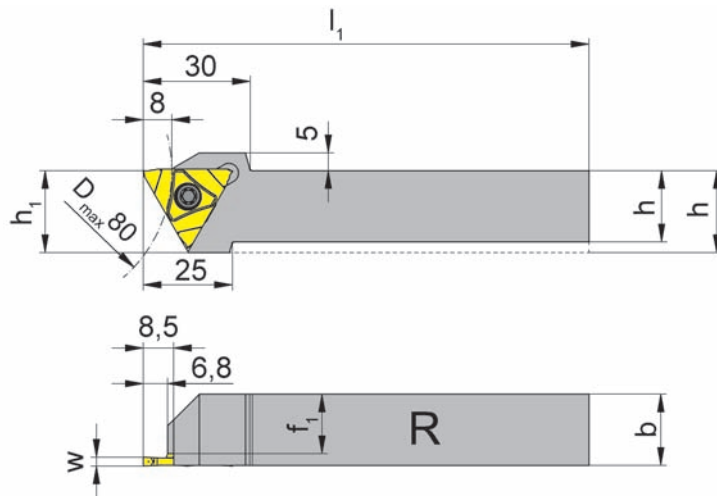
H316



Depth of groove up to .315" (8.0 mm)
Width of groove up to .059 - .118" (1.5 - 3.0 mm)

for use with Indexable insert

Type S316



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | Size |
|--------------------|----|----|----------------|----------------|----------------|------|
| R/LH316.1616.S3.03 | 16 | 16 | 125 | 23 | 12.7 | 03 |
| R/LH316.2020.S3.03 | 20 | 20 | 125 | 23 | 16.7 | |
| R/LH316.2525.S3.03 | 25 | 25 | 150 | 25 | 21.7 | |
| R/LH316.3225.S3.03 | 32 | 25 | 150 | 32 | 21.7 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

K

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH316.... | 5.12T20P | T20PQ |

K2

GROOVING (external)

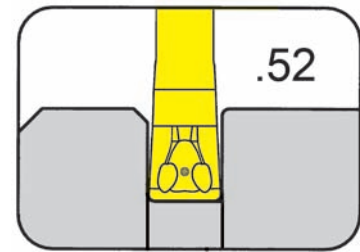


INDEXABLE INSERT Type

S316

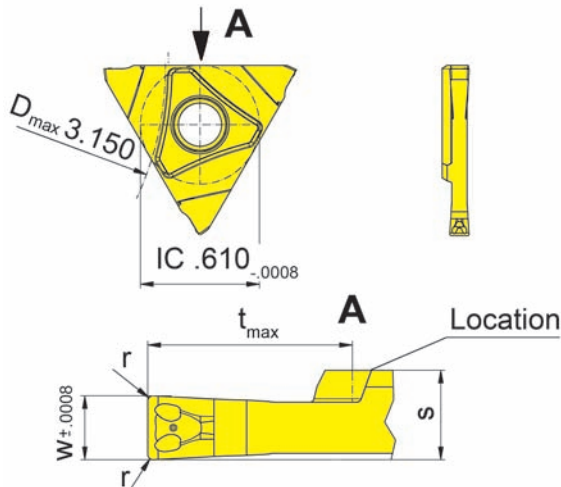
| | |
|-----------------------|--------------|
| Depth of groove up to | .315" |
| Width of groove | .079 - .118" |

precision sintered



for use with Toolholder

Type H316...S3.03



R = right hand version shown

L = left hand version

Indexability length
± .001"

| Part number | w | r | s | t _{max} | Size | Carbide grades | | | | |
|-----------------|------|------|------|------------------|------|----------------|------|------|------|------|
| | | | | | | TN35 | TI25 | TF45 | TF46 | AS45 |
| R/LS316.0200.52 | .079 | | | | | | | | | ▲/▲ |
| R/LS316.0250.52 | .098 | .008 | .138 | .315 | 03 | | | | | ▲/▲ |
| R/LS316.0300.52 | .118 | | | | | | | | | ▲/▲ |
| | | | | | | P | | | | ● |
| | | | | | | M | | | | |
| | | | | | | K | | | | |
| | | | | | | S | | | | |
| | | | | | | N | | | | |
| | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

External machining:

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

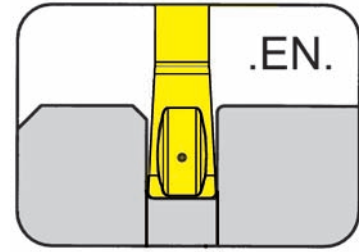


GROOVING (external)



INDEXABLE INSERT Type

S316

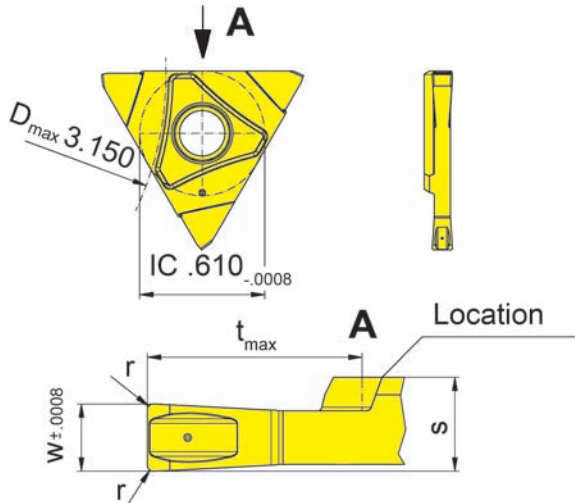


Depth of groove up to .315"
Width of groove .079 - .118"

precision sintered

for use with Toolholder

Type H316...S3.03



R = right hand version shown

L = left hand version

Indexability length
± .001"

| Part number | w | r | s | t _{max} | Size | Carbide grades | | | | |
|------------------|------|------|------|------------------|------|----------------|------|------|------|------|
| | | | | | | TN35 | TI25 | TF45 | TF46 | AS6G |
| R/LS316.0200.EN2 | .079 | | | | | | | | | ▲/▲ |
| R/LS316.0250.EN2 | .098 | .008 | .138 | .315 | 03 | | | | | ▲/▲ |
| R/LS316.0300.EN2 | .118 | | | | | | | | | ▲/▲ |
| | | | | | | P | | | | • |
| | | | | | | M | | | | • |
| | | | | | | K | | | | • |
| | | | | | | S | | | | • |
| | | | | | | N | | | | • |
| | | | | | | H | | | | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

External machining:

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

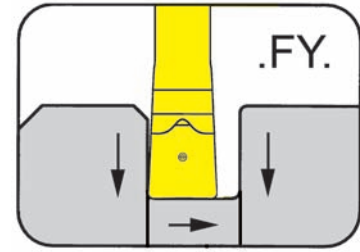


INDEXABLE INSERT Type

S316

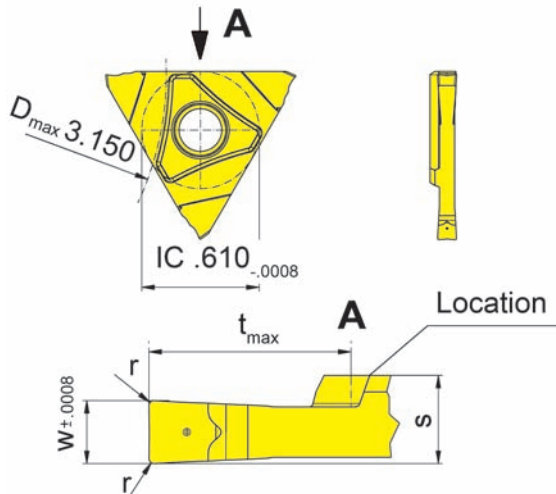
Depth of groove up to .315"
 Width of groove .059 - .118"

precision sintered



for use with Toolholder

Type H316



R = right hand version shown

L = left hand version

Indexability length
± .001"

| Part number | w | r | s | t _{max} | Size | Carbide grades | | | |
|------------------|------|------|------|------------------|------|----------------|------|------|------|
| | | | | | | TN35 | TI25 | TF45 | TF46 |
| R/LS316.0150.FY1 | .059 | .004 | .130 | .315 | 03 | | ▲/▲ | | |
| R/LS316.0200.FY2 | .079 | .008 | .138 | | | ▲/▲ | | | |
| R/LS316.0250.FY2 | .098 | .008 | .138 | | | ▲/▲ | | | |
| R/LS316.0300.FY2 | .118 | .008 | .138 | | | ▲/▲ | | | |
| | | | | | | P | • | | |
| | | | | | | M | • | | |
| | | | | | | K | • | | |
| | | | | | | S | • | | |
| | | | | | | N | • | | |
| | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

External machining:

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders



HCG - HORN Catalog Guide

INTERNAL GROOVING

| Bore Ø | Product line | | | | | | | | | |
|---------------------------|--------------|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .625" (15.87 mm) | | | | • | | | | | | |
| .709" (18 mm) | | | | • | | | | | | |
| .787 - 1.102" (20-28 mm) | • | | | • | | | | | | |
| 1.102 - 1.496" (28-38 mm) | • | | | • | • | | | | | |
| > 1.496" (38 mm) | • | | | • | • | • | • | • | • | |
| Operation Type | | | | | | | | | | |
| Grooving | • | | | • | • | • | • | • | • | |
| Threading | | | | | • | • | | | • | |
| Profiling | | | | • | • | | • | • | • | |
| Width of groove inch | .022-.209 | | | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .049-.169 | |
| Width of groove mm | 0.56-5.3 | | | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 1.25-4.29 | |
| Chapter | A | B | C | D | E | F | G | H | J | K |

EXTERNAL GROOVING

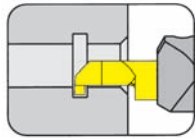
| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | 231 | S229/229 | S312/312 | 315 | S316 |
| .157" (4 mm) | • | • | • | • | • | • | • | • | • | • |
| .236" (6 mm) | | • | • | • | • | • | • | • | • | • |
| .315" (8 mm) | | • | | • | • | • | • | • | | • |
| .394" (10 mm) | | • | | • | • | • | • | | | |
| .433" (11 mm) | | • | | • | • | • | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | • | • | • | • | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | • | • | | • | |
| Profiling | | | • | | • | | • | • | • | • |
| Axial Grooving | | | | | | • | | | • | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | .098-.394 | .098-.394 | .020-.250 | .022-.169 | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | 2.5-10.0 | 2.5-10.0 | 0.5-6.35 | 0.56-4.29 | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

Special tools upon request

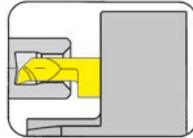
TOOLS FOR SWISS TYPE MACHINES **L**

for Inserts Type

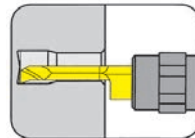
105



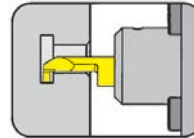
Page L2,L6,L13



Page L3-L4



Page L5



Page L7-L11



Page L12



Page L14



Page L15



Page L37-L42

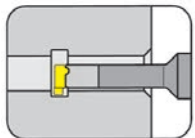


Page L43-L46

Additional equipment

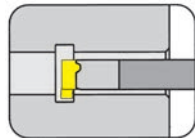
Page L47-L48

108



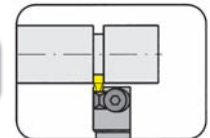
Page L16

111



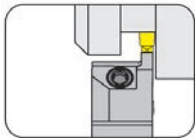
Page L17

217



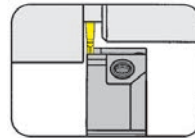
Page L18-L19

S224

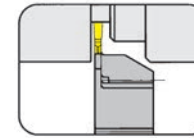


Page L20-L21

264

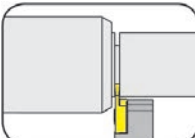


Page L22-L24

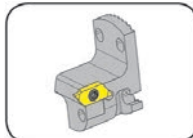


Page L25

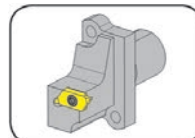
S274



Page L26

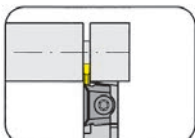


Page L27

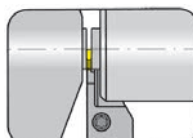


Page L28-L29

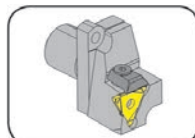
312



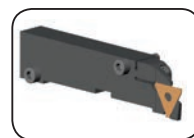
Page L30



Page L31



Page L32



Page L33



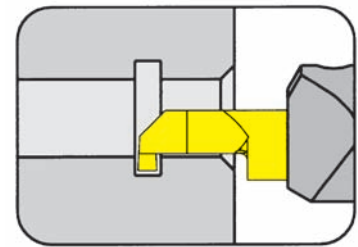
Page L34-L35

Inserts for pages L2-L17 and L41-L42 -
See the respective chapters in the Supermini® / Mini catalog.

TOOLHOLDER Type

H105

with screwed clamping

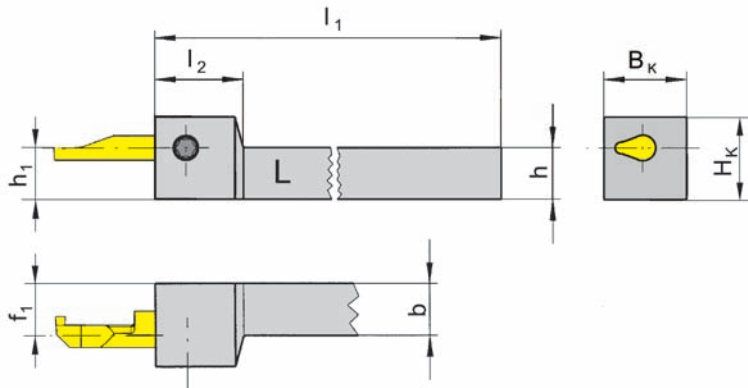


Bore Ø from

.008" (0.2 mm)

for use with Insert

Type 105
U105



L = left hand version shown

R = right hand version

| Part number | l_1 | l_2 | h | h_1 | f_1 | b | B_K | H_K |
|-----------------|-------|-------|-----|-------|-------|-----|-------|-------|
| R/LH105.0808.01 | 90 | 17 | 8 | 8 | 7.5 | 8 | 16 | 14 |
| R/LH105.1010.01 | 90 | 17 | 10 | 10 | 7.5 | 10 | 16 | 16 |
| R/LH105.1212.01 | 90 | 17 | 12 | 12 | 7.5 | 12 | 16 | 18 |
| R/LH105.1616.01 | 110 | 17 | 16 | 16 | 7.5 | 16 | 16 | 22 |

State R or L version

Dimensions in mm

Further sizes upon request

L

Spare parts

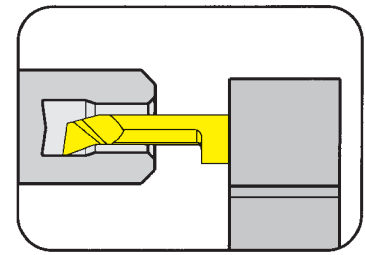
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| R/LH105.... | 6.075T15P | T15PQ |

L2

TOOLHOLDER Type

HC105

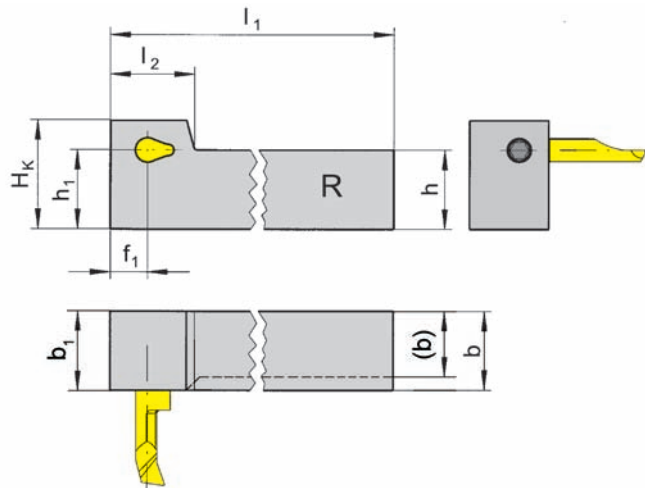
with screwed clamping



Bore Ø from .008" (0.2 mm)

for use with Insert

Type 105
U105



R = right hand version shown

L = left hand version

| Part number | l_1 | l_2 | h | h_1 | f_1 | b | b_1 | H_k |
|------------------|-------|-------|-----|-------|-------|-----|-------|-------|
| R/LHC105.1212.01 | 90 | 17 | 12 | 12 | 7.5 | 12 | 16 | 18 |
| R/LHC105.1616.01 | 130 | 17 | 16 | 16 | 7.5 | 16 | 16 | 22 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

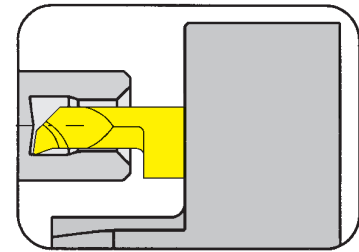
| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------|-------------------|
| R/LHC105.1... | 6.075T15P | T15PQ |

L

TOOLHOLDER Type

HC105

with screwed clamping

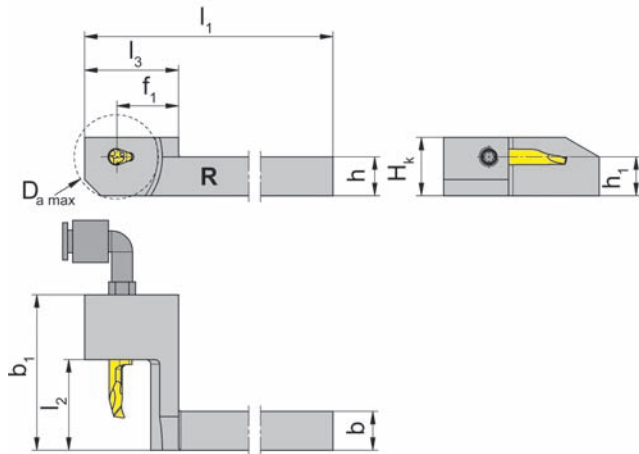


Bore Ø from .008" (0.2 mm)

Coolant supply through cranked fitting

for use with Insert

Type 105
U105



L = left hand version shown

R = right hand version

| Part number | l_1 | l_2 | h | h_1 | f_1 | l_3 | b | b_1 | $D_{a \max}$ | H_k | Remark |
|------------------|-------|-------|-----|-------|-------|-------|-----|-------|--------------|-------|--------|
| R/LHC105.0707.21 | 99 | 18 | 7 | 7 | 19 | 29 | 7 | 32.0 | 26 | 13 | * |
| R/LHC105.0808.21 | 99 | 18 | 8 | 8 | 19 | 29 | 8 | 32.0 | 26 | 13 | * |
| RHC105.1010.11 | | 8 | | | | | | 22.7 | | | * |
| R/LHC105.1010.21 | 99 | 18 | 10 | 10 | 19 | 29 | 10 | 38.0 | 26 | 16 | |
| R/LHC105.1010.41 | | 28 | | | | | | 48.0 | | | |
| R/LHC105.1212.21 | 99 | 18 | 12 | 12 | 19 | 29 | 12 | 38.0 | 26 | 18 | |
| R/LHC105.1212.41 | | 28 | | | | | | 48.0 | | | |
| R/LHC105.1616.21 | 104 | 18 | 16 | 16 | 24 | 34 | 16 | 38.0 | 36 | 22 | |
| R/LHC105.1616.41 | | 28 | | | | | | 48.0 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

* = no through coolant supply!

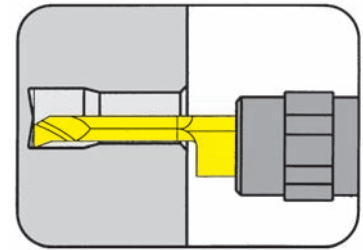
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench | Screwed angle fitting |
|----------------------|------------------|-------------------|-----------------------|
| R/LHC105...07./08... | 6.075T15P | T15PQ | - |
| RHC105...11 | 6.075T15P | T15PQ | - |
| R/LHC105.1...21/41 | 6.075T15P | T15PQ | KQ2L06-M5 |

TOOLHOLDER Type

B105

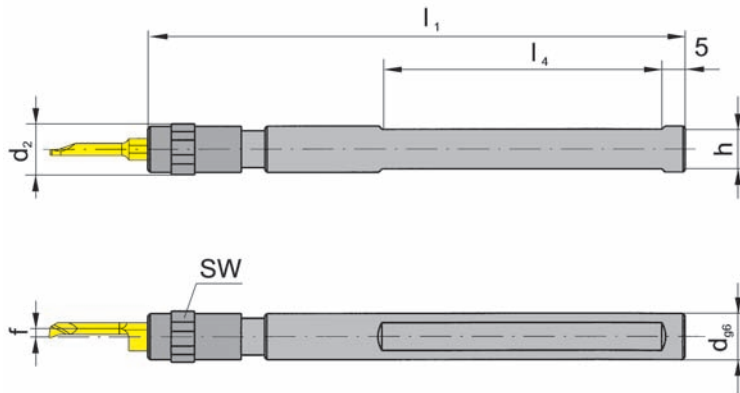
with through coolant supply



Bore Ø from $\leq .118''(3.0\text{mm})$ or $\geq .197''(5.0\text{mm})$

for use with Insert

Type 105/U105
 (Ø $\leq .118''/3.0\text{mm}$)
 (Ø $\geq .197''/5.0\text{mm}$)



Picture = right hand cutting version shown

| Part number | d | l_1 | h | d_2 | l_4 | Bore Range | SW |
|------------------------|----|-------|----|-------|-------|--------------|----|
| B105.0010.9.01 | 10 | 100 | 9 | 11 | 50 | * ≤ 3.0 | 10 |
| B105.0012.11.01 | 12 | | 11 | | | | |
| B105.0016.11.01 | 16 | 100 | 15 | 16 | 50 | * ≥ 5.0 | 13 |

Further sizes upon request

f see inserts type 105

Dimensions in mm

* only valid for standard inserts

Ordering note:

Toolholders can be used with right and left hand inserts.

Spare parts

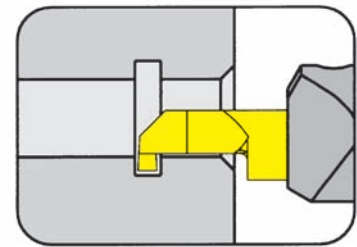
| Toolholder | Chucking nut |
|----------------|----------------------|
| B105.0010.9.01 | 020.0010.1719 |
| B105.001...01 | 020.0016.1999 |

L

TOOLHOLDER Type

B105

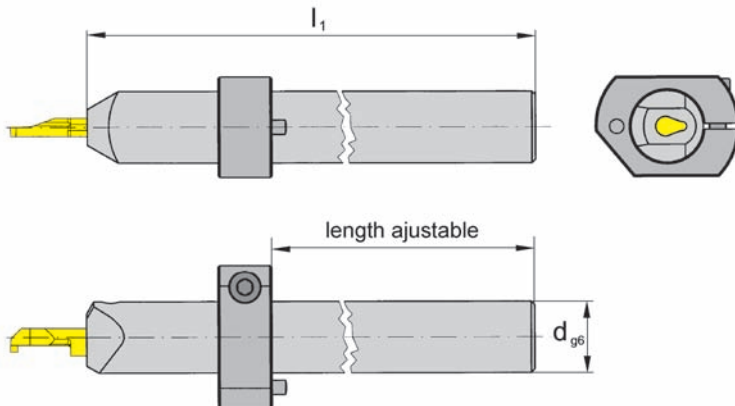
with through coolant supply



| | |
|-----------------------|----------------|
| Bore Ø from | .008" (0.2 mm) |
| Depth of groove up to | .098" (2.5 mm) |
| Width of groove up to | .079" (2.0 mm) |

for use with Insert

Type 105
U105



Picture = right hand cutting version shown

| Part number | d | l ₁ |
|----------------|----|----------------|
| B105.0020.2.01 | 20 | 150 |
| B105.0025.2.01 | 25 | |

Further sizes upon request

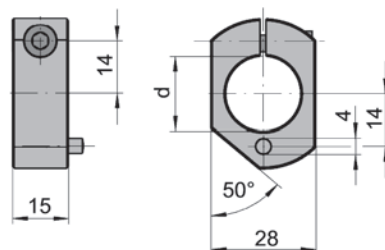
Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.

Adjusting ring is not combined with the toolholder - separate order required!

Adjusting ring



| Part number "Adjusting ring" | d | Type of machine |
|------------------------------|----|-----------------|
| 020.0020.1665 | 20 | Tornos DECO |
| 020.0025.2234 | 25 | |

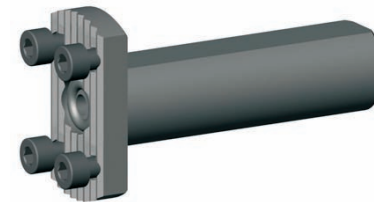
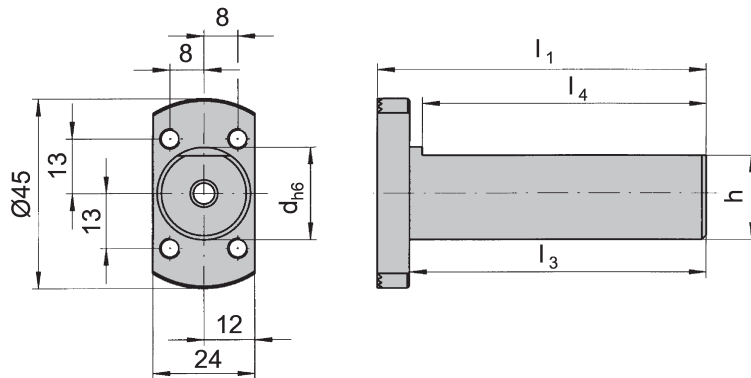
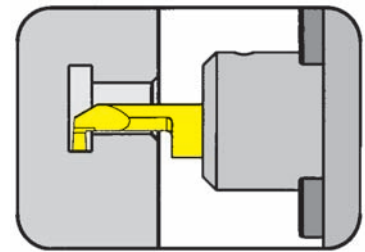
BASIC TOOLHOLDER Type

BGT

without cartridge

Adjustable round shanks for toolholder BKT105.2445.01/2

with through coolant supply



| Part number | d | l ₁ | h | l ₃ | l ₄ | Machine tool |
|--|----|----------------|----|----------------|----------------|--------------|
| BGT001.0010.50 | 10 | 57.50 | 9 | 50 | 47 | |
| BGT001.0016.21 BGT001.0R16.21 | 16 | 28.50 | 14 | 21 | 18 | Star |
| BGT001.0020.100 | 20 | 107.50 | 18 | 100 | 97 | Tornos |
| BGT001.0022.30 BGT001.0022.70 | 22 | 36.35 77.50 | 20 | 30 70 | 27 67 | Star |
| BGT001.0025.70 | 25 | 77.50 | 23 | 70 | 67 | |
| BGT001.0028.80 | 28 | 87.50 | 26 | 81 | 77 | Traub |

Further sizes upon request

Dimensions in mm

Note:

BGT001.0022.30 without through coolant supply

Spare parts

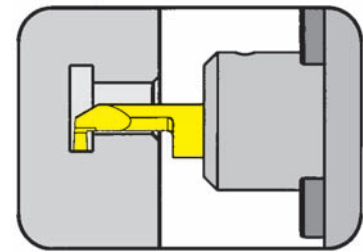
| Basic toolholder | Screw | O-ring |
|------------------|--------------------|-------------------|
| BGT001.0... | DIN912M5X10 | DIN37707X3 |

L

ADJUSTABLE HOLDER Type **BKT**

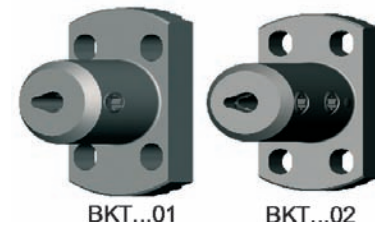
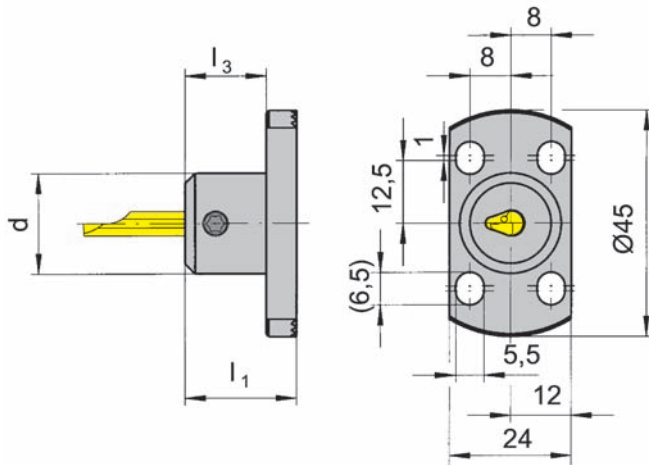
Bore Ø from .008" (0.2 mm)
 Depth of groove up to .098" (2.5 mm)
 Width of groove up to .079" (2.0 mm)

with through coolant supply



for use with Insert

Type 105
 U105



| Part number | d | l ₁ | l ₃ |
|-----------------------|----|----------------|----------------|
| BKT105.2445.01 | 20 | 22 | 16 |
| BKT105.2445.02 | 20 | 32 | 26 |

Further sizes upon request

Dimensions in mm

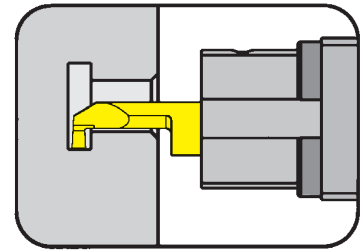
Spare parts

| Adjustable holder | Screw | TORX PLUS® Wrench |
|-------------------|------------------|-------------------|
| BKT105.2445.0... | 6.075T15P | T15PQ |

BASIC TOOLHOLDER Type

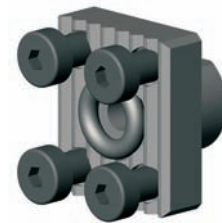
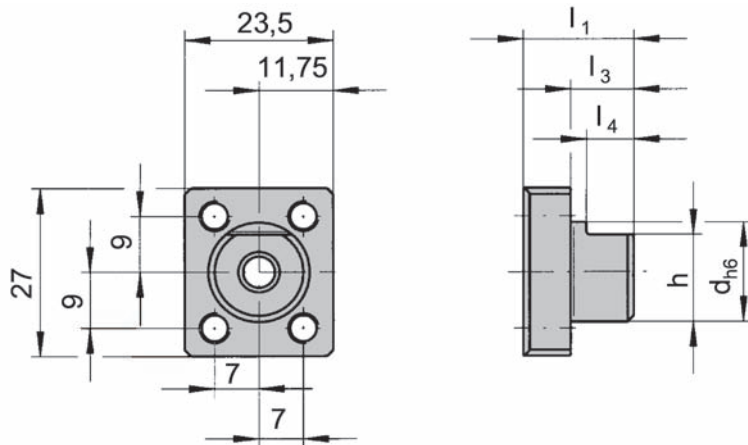
BGT

without cartridge



Adjustable round shanks for toolholder BKT105.2327.01

with through coolant supply



| Part number | d | l ₁ | h | l ₃ | l ₄ | Machine tool |
|-----------------------|----|----------------|----|----------------|----------------|--------------|
| BGT001.1627.10 | 16 | 17.5 | 14 | 10 | 7.5 | Star |

Further sizes upon request

Dimensions in mm

Spare parts

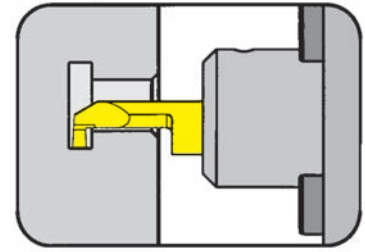
| Basic toolholder | Screw | O-ring |
|------------------|--------------------|-------------------|
| BGT001.1627.10 | DIN912M5X10 | DIN37707X3 |

L

BASIC TOOLHOLDER Type

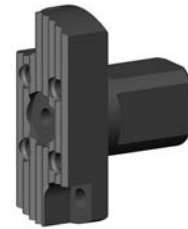
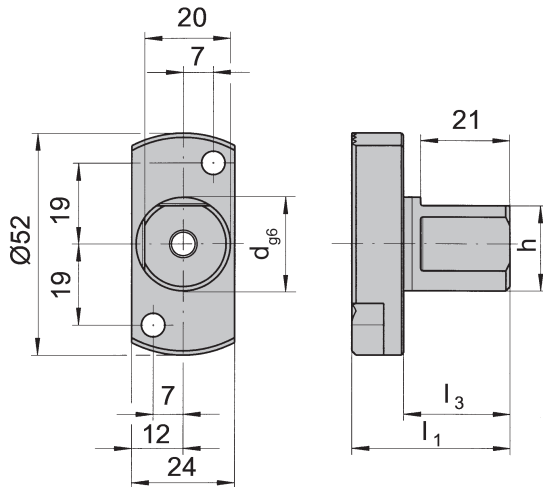
BGT

without cartridge



Adjustable round shanks for toolholder BKT105.2327.01

with through coolant supply



| Part number | d | l ₁ | h | l ₃ |
|-----------------------|----|----------------|----|----------------|
| BGT001.0R22.25 | 22 | 37 | 20 | 25 |

Further sizes upon request

Dimensions in mm

Spare parts

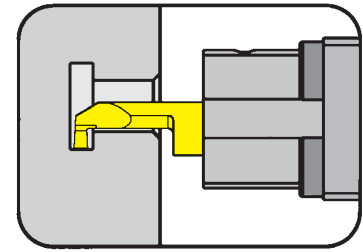
| | |
|-----------------------|--------------------|
| Basic toolholder | Screw |
| BGT001.0R22.25 | DIN912M5X10 |

ADJUSTABLE HOLDER Type

BKT

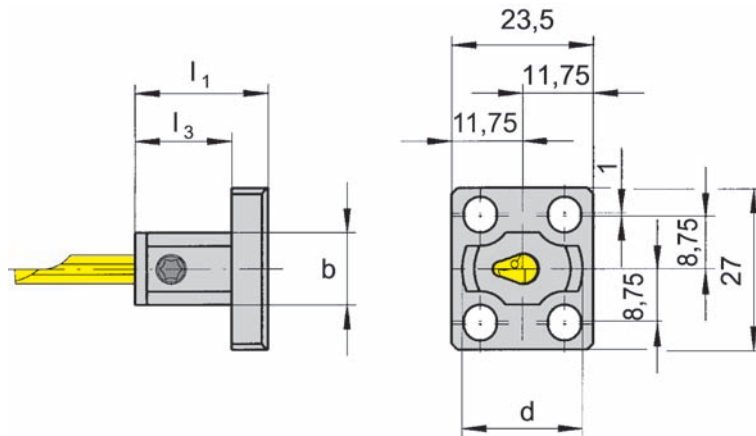
Bore \varnothing from .008" (0.2 mm)
 Depth of groove up to .098" (2.5 mm)
 Width of groove up to .079" (2.0 mm)

with through coolant supply



for use with Insert

Type 105
 U105



BKT105.2327.01

| Part number | d | l ₁ | l ₃ | b |
|-----------------------|----|----------------|----------------|----|
| BKT105.2327.01 | 20 | 22 | 16 | 12 |

Further sizes upon request

Dimensions in mm

Spare parts

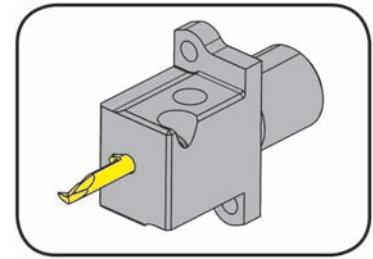
| Adjustable holder | Screw | TORX PLUS® Wrench |
|-------------------|------------------|-------------------|
| BKT105.2327.01 | 6.075T15P | T15PQ |



TOOLHOLDER Type

B105

with through coolant supply

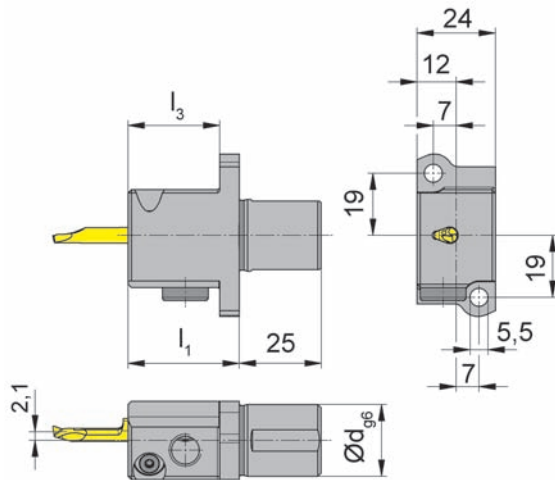


| | |
|-----------------|----------------|
| Bore Ø from | .008" (0.2 mm) |
| Depth of groove | .098" (2.5 mm) |
| Width of groove | .079" (2.0 mm) |

Through coolant supply G1/8"

for use with Insert

Type 105
U105



Picture = left hand cutting version shown

Star SV 12/20/32
SR 10/20/32 and SB 16

| Part number | d | l_1 | l_3 |
|-------------------------|----|-------|-------|
| LB105.A022.26.31 | 22 | 34 | 28 |

Further sizes upon request

Dimensions in mm

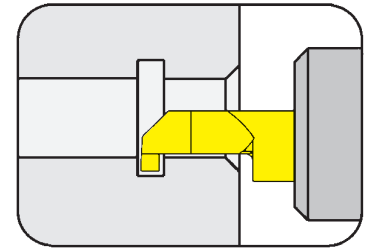
Spare parts

| Toolholder | Tensioning wedge | Screw | TORX PLUS® Wrench |
|------------------|----------------------|----------------------|-------------------|
| LB105.A022.26.31 | 070.0010.0118 | DIN7984-M5x12 | T10PL |

TOOLHOLDER Type

VDI

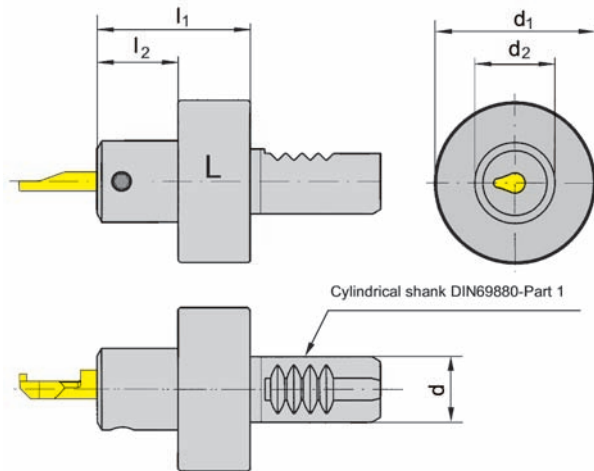
with through coolant supply



Bore Ø from .008" (0.2 mm)

for use with Insert

Type 105
U105



L = left hand version shown

R = right hand version

| Part number | d | l_1 | l_2 | d_2 | d_1 |
|--------------------|----|-------|-------|-------|-------|
| VDI16.R/L105.20.01 | 16 | 38 | 20 | 20 | 40 |
| VDI20.R/L105.20.01 | 20 | 38 | 20 | 20 | 50 |
| VDI25.R/L105.20.01 | 25 | 38 | 20 | 20 | 58 |
| VDI30.R/L105.20.01 | 30 | 38 | 20 | 20 | 68 |
| VDI40.R/L105.20.01 | 40 | 38 | 20 | 20 | 83 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------|-------------------|
| VDI... | 6.075T15P | T15PQ |

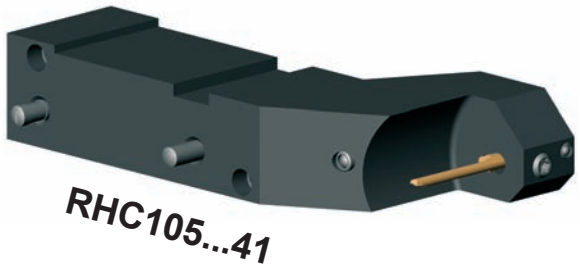
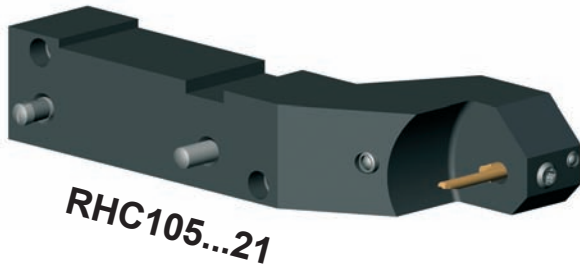
L

Tools for Tornos DECO2000

for Insert

Type 105 / U105

Bore Ø from .008" (0.2 mm)



| Basic toolholder | Insert | Machine |
|------------------|--|----------|
| RHC105.0710.21 | 105...21 l ₂ up to 15 mm | DECO7/10 |
| RHC105.0710.41 | 105...41 l ₂ up to 25 mm | |

Dimensions in mm

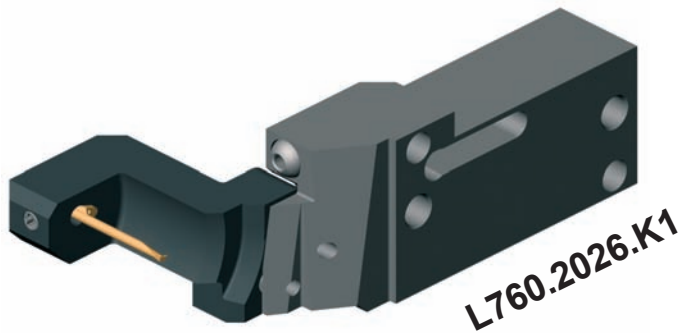
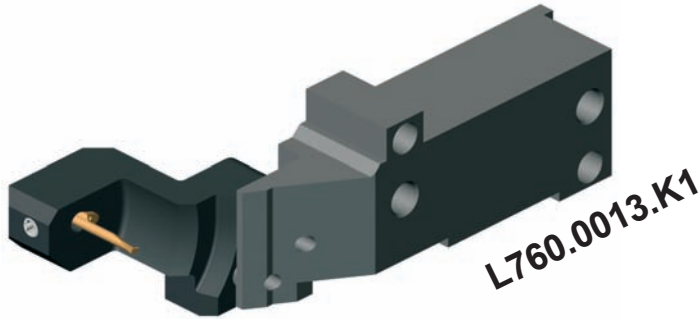
L

Tools for Tornos DECO2000

for Cassettes

Type RKC760

Bore Ø from .008" (0.2 mm)



| Basic toolholder | Cassette | Insert | Machine |
|------------------|----------------|--|-----------|
| L760.0013.K1 | RKC760.0105.21 | 105...21 l ₂ up to 15 mm | DECO13 |
| L760.2026.K1 | RKC760.0105.41 | 105...41 l ₂ up to 25 mm | DECO20/26 |

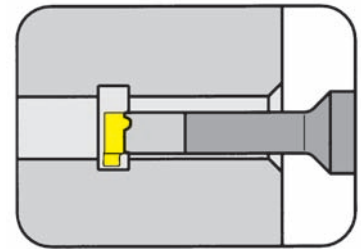
Dimensions in mm

L

TOOLHOLDER Type

B108

with through coolant supply

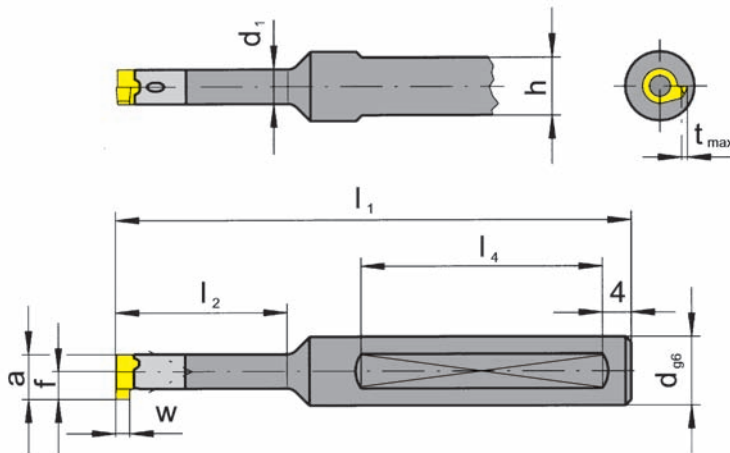


Bore Ø from .315" (8.0 mm)
Width of groove up to .079" (2.0 mm)

Material of shank: Carbide - Giving a good vibration resistance

for use with Insert

Type 108
S108
U108



Picture = right hand cutting version shown

| Part number | d | l ₁ | l ₂ | h | f | t _{max} | w | a | l ₄ | d ₁ |
|--------------|---|----------------|----------------|---|-----|------------------|---|-----|----------------|----------------|
| B108.0008.00 | 8 | 60 | 12.5 | 7 | 4.8 | 1 | 2 | 7.8 | 35 | 6 |
| B108.0008.01 | 8 | 70 | 21.0 | 7 | 4.8 | 1 | 2 | 7.8 | 40 | 6 |

Further sizes upon request

Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.
Toolholders with damaged seating can be repaired by HORN.

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|----------------|-----------|-------------------|
| B108.0008.0... | 2.6.5T8EP | T8PL |

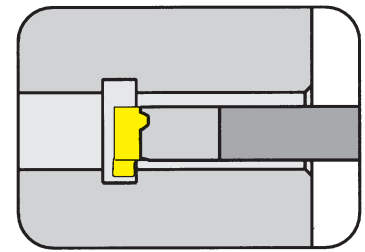
TOOLHOLDER Type

B111

with through coolant supply

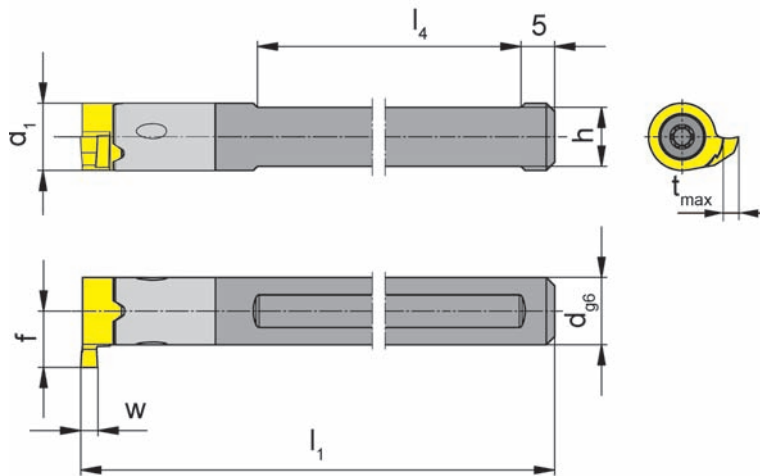
| | |
|-----------------------|-----------------|
| Bore Ø from | .433" (11.0 mm) |
| Depth of groove | .091" (2.3 mm) |
| Width of groove up to | .118" (3.0 mm) |

Material of shank: Carbide - Giving a good vibration resistance



for use with Insert

Type 111
S111
U111



Picture = right hand cutting version shown

| Part number | d | l ₁ | h | f | t _{max} | w | a | l ₄ | d ₁ |
|---------------------|---|----------------|---|-----|------------------|---|------|----------------|----------------|
| B111.0008.01 | 8 | 80 | 7 | 6.7 | 2.3 | 3 | 10.7 | 55 | 8 |

Further sizes upon request

Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.
Toolholders with damaged seating can be repaired by HORN.

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|--------------------|-------------------|
| B111.0008.01 | 3.5.12T10EP | T10PL |

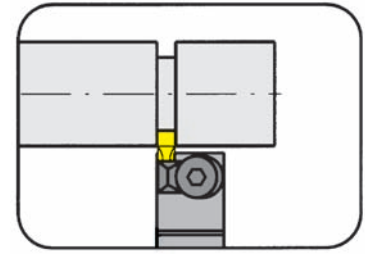
L

GROOVING (external)



TOOLHOLDER Type

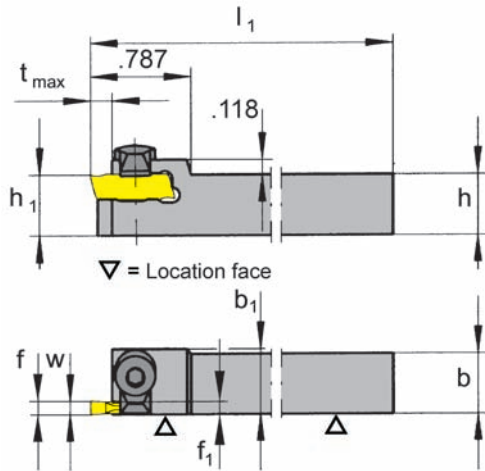
U248



Depth of groove up to .157"
Clamping range up to .106"

for use with Indexable insert

Type 217
U217



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | t _{max} | Size | Clamping range |
|-----------------|------|------|----------------|----------------|----------------|----------------|--------------------------------|------------------|------|----------------|
| R/LU248.0500.01 | .500 | .500 | 3.740 | .500 | .539 | .059 | f ₁ +a ₁ | .157 | 01 | .020 - .067 |
| R/LU248.0500.02 | .500 | .500 | 3.740 | .500 | .539 | .098 | f ₁ +a ₁ | .157 | 02 | .067 - .106 |

State R or L version

w, a₁ see indexable inserts

Dimensions in inch

Further sizes upon request

L

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------------|-------|-------|-------------|
| R/LU248.0500.0... | 8.3 | 5.14 | SW2,5DIN911 |

L18

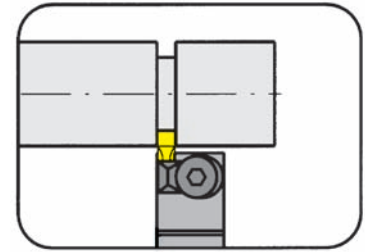
GROOVING (external)



TOOLHOLDER Type

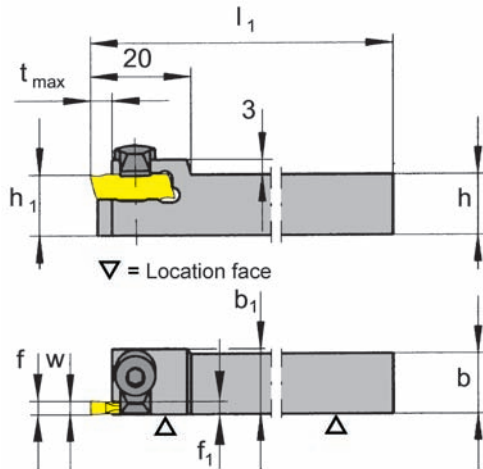
248

Depth of groove up to .157" (4.0 mm)
Clamping range up to .106" (2.7 mm)



for use with Indexable insert

Type 217
U217



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------|--------------------------------|------------------|------|----------------|
| R/L248.1212.01 | 12 | 12 | 95 | 12 | 13 | 1.5 | f ₁ +a ₁ | 4 | 01 | 0.5 - 1.7 |
| R/L248.1212.02 | 12 | 12 | 95 | 12 | 13 | 2.5 | f ₁ +a ₁ | 4 | 02 | 1.7 - 2.7 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

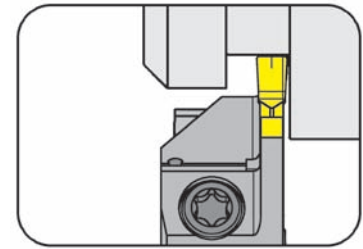
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-------------|
| R/L248.1212.0... | 8.3 | 5.14 | SW2,5DIN911 |

L

TOOLHOLDER Type

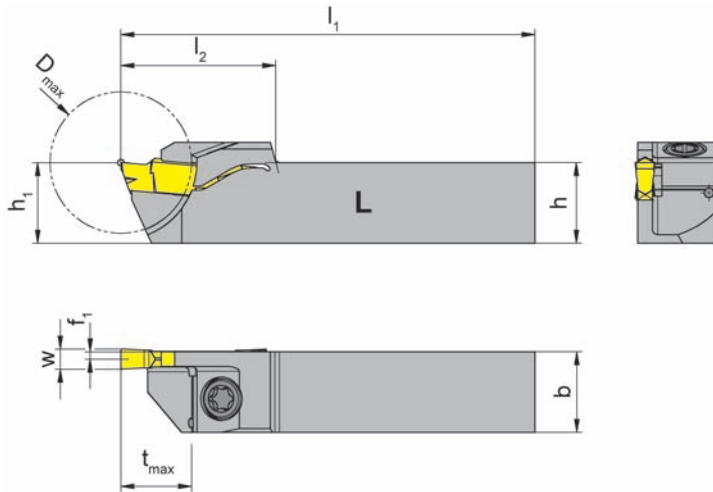
H224



Depth of groove up to .413" (10.5 mm)
Clamping range up to .146" (3.7 mm)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | l ₂ | t _{max} | D _{max} | Size | Clamping range |
|--------------------|----|----|----------------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH224.1212.20.61 | 12 | 12 | 100 | 12 | 0.7 | 23 | 10.5 | 21 | 01 | 2.0 - 2.4 |
| R/LH224.1212.20.62 | 12 | 12 | 100 | 12 | 0.9 | 23 | 10.5 | 21 | 02 | 2.4 - 2.8 |
| R/LH224.1212.20.63 | 12 | 12 | 100 | 12 | 1.1 | 23 | 10.5 | 21 | 03 | 2.8 - 3.7 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

L

Spare parts

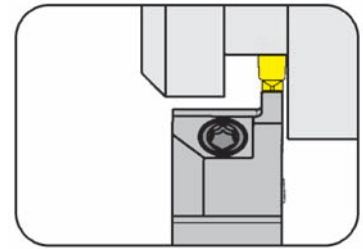
| Toolholder | Screw | TORX PLUS® Wrench |
|----------------------|-----------|-------------------|
| R/LH224.1212.20.6... | 4.12T15EP | T15PQ |

L20

TOOLHOLDER Type

H224

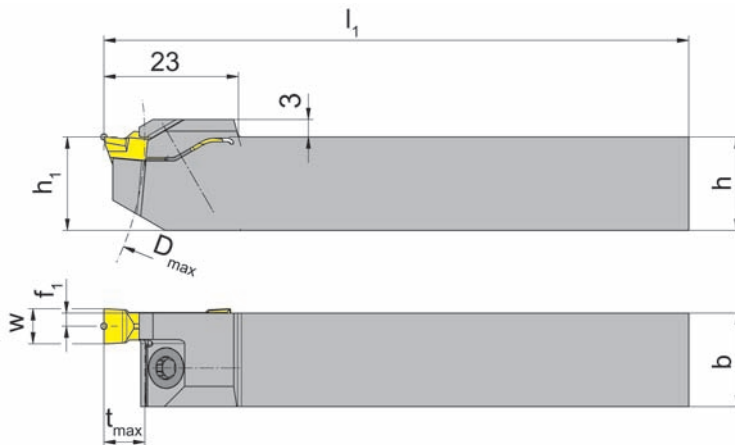
with screwed clamping



Depth of groove up to .276" (7.0 mm)
Clamping range up to .173" (4.4 mm)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH224.1212.61 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.61 | 16 | 16 | 100 | 16 | 0.70 | 7 | 100 | 01 | 2.0 - 2.4 |
| R/LH224.2020.61 | 20 | 20 | | 20 | | | | | |
| R/LH224.1212.62 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.62 | 16 | 16 | 100 | 16 | 0.90 | 7 | 100 | 02 | 2.4 - 2.8 |
| R/LH224.2020.62 | 20 | 20 | | 20 | | | | | |
| R/LH224.1212.63 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.63 | 16 | 16 | 100 | 16 | 1.10 | 7 | 100 | 03 | 2.8 - 3.7 |
| R/LH224.2020.63 | 20 | 20 | | 20 | | | | | |
| R/LH224.1212.64 | 12 | 12 | | 12 | | | | | |
| R/LH224.1616.64 | 16 | 16 | 100 | 16 | 1.45 | 7 | 100 | 04 | 3.7 - 4.4 |
| R/LH224.2020.64 | 20 | 20 | | 20 | | | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| R/LH224.... | 4.12T15EP | T15PQ |

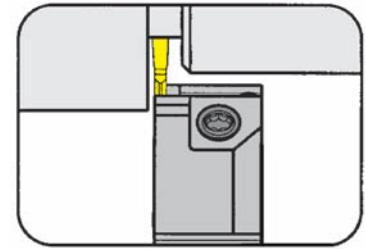
GROOVING and PARTING OFF



TOOLHOLDER Type

H264

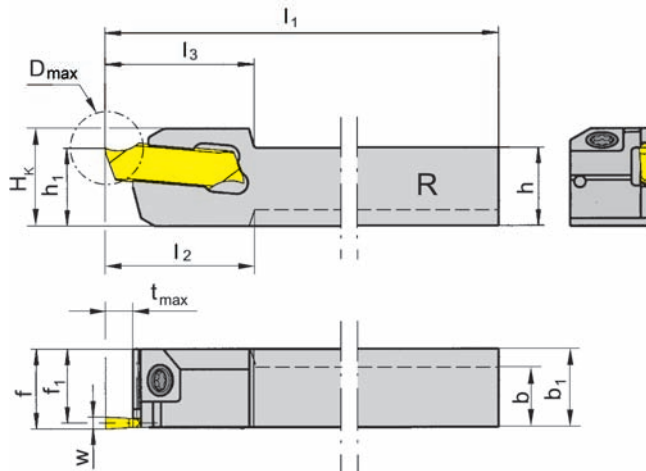
with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove up to .079" (2.0 mm)

for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | l ₂ | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----------------|----|----------------|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.0808.01 | 8 | 8 | | 8 | 10 | 9.25 | 10 | 17.5 | | | 22 | | 12.5 | |
| R/LH264.1010.01 | 10 | 10 | 120 | 10 | - | 9.25 | 10 | - | 4 | 1.5 | 22 | 17.5 | 12.5 | 01 |
| R/LH264.1212.01 | 12 | 12 | | 12 | - | 11.25 | 12 | - | | | 22 | | 14.5 | |
| R/LH264.1616.01 | 16 | 16 | | 16 | - | 15.25 | 16 | - | | | 32 | | 18.5 | |
| R/LH264.1010.11 | 10 | 10 | | 10 | - | 9.25 | 10 | | | | 20 | | 12.5 | |
| R/LH264.1212.11 | 12 | 12 | 120 | 12 | - | 11.25 | 12 | - | 10 | 1.5 | 20 | 19.0 | 14.5 | 01 |
| R/LH264.1616.11 | 16 | 16 | | 16 | | 15.25 | 16 | | | | 32 | | 18.5 | |
| R/LH264.1212.21 | 12 | 12 | 120 | 12 | - | 11.25 | 12 | - | | | 26 | 22.0 | 15.5 | 01 |
| R/LH264.1616.21 | 16 | 16 | | 16 | - | 15.25 | 16 | | 13 | 1.5 | 32 | | 19.5 | |
| R/LH264.1010.02 | 10 | 10 | | 10 | | 9.00 | 10 | | | | | | 12.5 | |
| R/LH264.1212.02 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | 4 | 2.0 | 32 | 17.5 | 14.5 | 02 |
| R/LH264.1616.02 | 16 | 16 | | 16 | | 15.00 | 16 | | | | | | 18.5 | |
| R/LH264.1010.12 | 10 | 10 | | 10 | | 9.00 | 10 | | | | | | 12.5 | |
| R/LH264.1212.12 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | 10 | 2.0 | 32 | 19.0 | 14.5 | 02 |
| R/LH264.1616.12 | 16 | 16 | | 16 | | 15.00 | 16 | | | | | | 18.5 | |
| R/LH264.1212.22 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | | | 32 | 25.0 | 14.5 | 02 |
| R/LH264.1616.22 | 16 | 16 | | 16 | - | 15.00 | 16 | - | 16 | 2.0 | 32 | | 19.5 | |

State R or L version

Further sizes upon request

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-------------|-------------------|
| R/LH264.... | 3.5.12T10EP | T10PL |

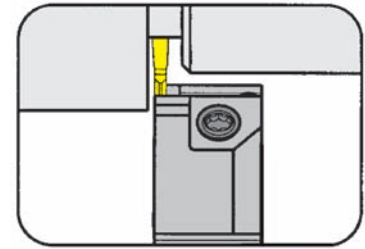
GROOVING and PARTING OFF



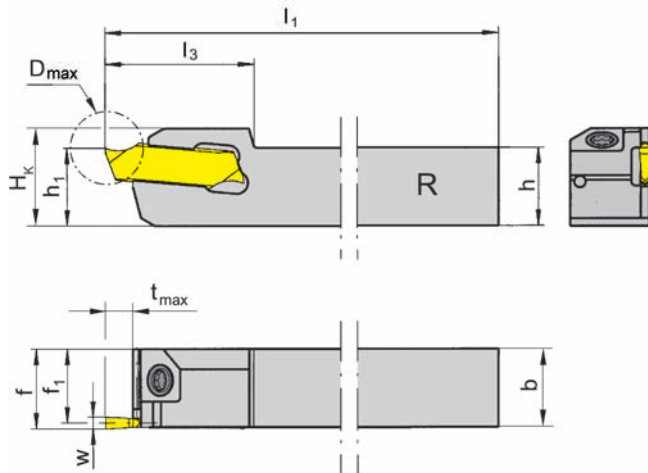
TOOLHOLDER Type

H264

with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove .098" (2.5 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.1212.03 | 12 | 12 | 120 | 12 | 10.75 | 12 | 4 | 2.5 | 32 | 17.5 | 14.5 | 03 |
| R/LH264.1616.03 | 16 | 16 | 120 | 16 | 14.75 | 16 | 4 | 2.5 | 32 | 17.5 | 18.5 | 03 |
| R/LH264.1212.13 | 12 | 12 | 120 | 12 | 10.75 | 12 | 10 | 2.5 | 32 | 19.0 | 14.5 | 03 |
| R/LH264.1616.13 | 16 | 16 | 120 | 16 | 14.75 | 16 | 10 | 2.5 | 32 | 19.0 | 18.5 | 03 |
| R/LH264.1212.23 | 12 | 12 | 120 | 12 | 10.75 | 12 | 16 | 2.5 | 32 | 25.0 | 14.5 | 03 |
| R/LH264.1616.23 | 16 | 16 | 120 | 16 | 14.75 | 16 | 16 | 2.5 | 32 | 25.0 | 18.5 | 03 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-------------|-------------------|
| R/LH264.1... | 3.5.12T10EP | T10PL |

L

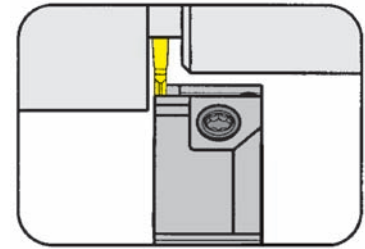
GROOVING and PARTING OFF



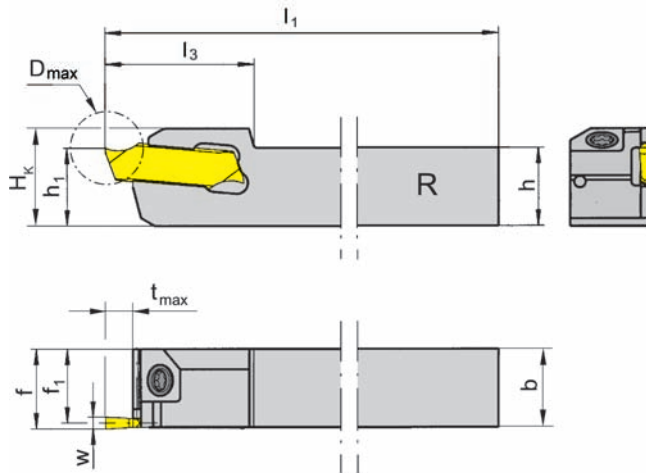
TOOLHOLDER Type

H264

with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove .118" (3.0 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|------------------|---|------------------|----------------|----------------|------|
| R/LH264.1212.04 | 12 | 12 | 120 | 12 | 10.5 | 12 | 5 | 3 | 32 | 17.5 | 15 | 04 |
| R/LH264.1616.04 | 16 | 16 | 120 | 16 | 14.5 | 16 | 5 | 3 | 32 | 17.5 | 19 | 04 |
| R/LH264.1212.14 | 12 | 12 | 120 | 12 | 10.5 | 12 | 10 | 3 | 32 | 19.0 | 15 | 04 |
| R/LH264.1616.14 | 16 | 16 | 120 | 16 | 14.5 | 16 | 10 | 3 | 32 | 19.0 | 19 | 04 |
| R/LH264.1212.24 | 12 | 12 | 120 | 12 | 10.5 | 12 | 16 | 3 | 32 | 25.0 | 15 | 04 |
| R/LH264.1616.24 | 16 | 16 | 120 | 16 | 14.5 | 16 | 16 | 3 | 32 | 25.0 | 19 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

L

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-------------|-------------------|
| R/LH264.1... | 3.5.12T10EP | T10PL |

L24

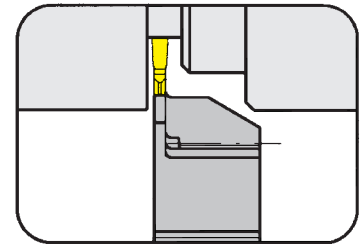
GROOVING and PARTING OFF



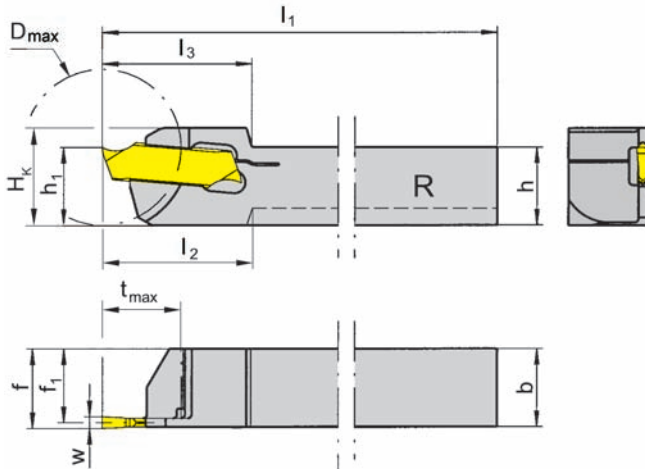
TOOLHOLDER Type

H264

with self clamping



Depth of groove up to .394" (10.0 mm)
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | I ₁ | h ₁ | f ₁ | f | I ₂ | t _{max} | w | D _{max} | I ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|----------------|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.0808.51 | 8 | 8 | 120 | 10 | 7.25 | 8 | 18 | 7 | 1.5 | 20 | 18 | 12.5 | 01 |
| R/LH264.1010.61 | 10 | 10 | 120 | 10 | 9.25 | 10 | - | 10 | 1.5 | 20 | 19 | 12.5 | 01 |
| R/LH264.1010.62 | 10 | 10 | 120 | 10 | 9.00 | 10 | - | 10 | 2.0 | 20 | 19 | 12.5 | 02 |
| R/LH264.1212.62 | 12 | 12 | 120 | 12 | 11.00 | 12 | - | 10 | 2.0 | 20 | 19 | 14.5 | 02 |
| R/LH264.1212.63 | 12 | 12 | 120 | 12 | 10.75 | 12 | - | 10 | 2.5 | 32 | 19 | 14.5 | 03 |
| R/LH264.1212.64 | 12 | 12 | 120 | 12 | 10.50 | 12 | - | 10 | 3.0 | 32 | 19 | 14.5 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

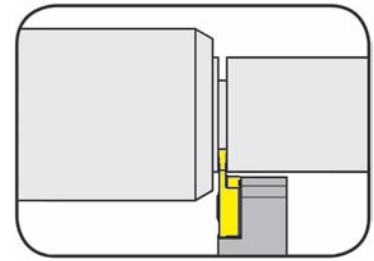
| Toolholder | Wrench |
|-------------|--------|
| R/LH264.... | P39L |

L

TOOLHOLDER Type

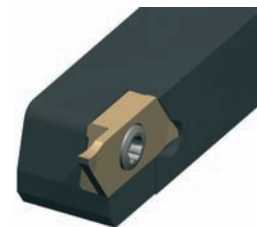
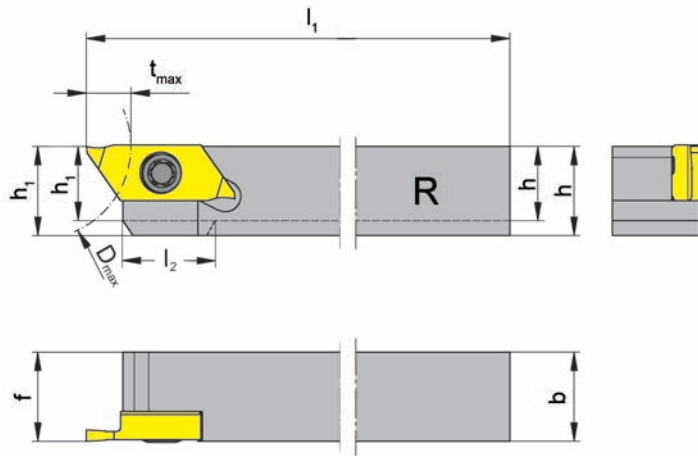
H274

Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|-----------------|----|----|----------------|----------------|----|------------------|------------------|------|
| R/LH274.0808.04 | 8 | 8 | 100 | 8 | 8 | 6 | 25 | 04 |
| R/LH274.1010.04 | 10 | 10 | 100 | 10 | 10 | | | |
| R/LH274.1212.04 | 12 | 12 | 100 | 12 | 12 | | | |
| R/LH274.1414.04 | 14 | 14 | 100 | 14 | 14 | | | |
| R/LH274.1616.04 | 16 | 16 | 125 | 16 | 16 | | | |
| R/LH274.2020.04 | 20 | 20 | 125 | 20 | 20 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

L

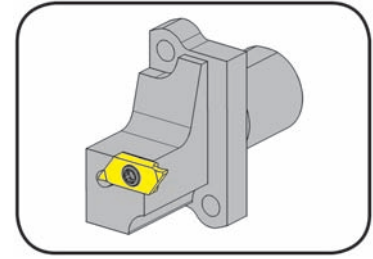
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|---------------|-------------------|
| R/LH274.... | 030.3509.T15P | T15PQ |

L26

TOOLHOLDER Type

H274

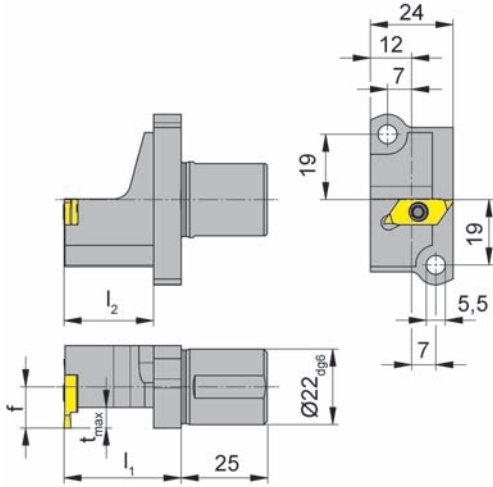


Depth of groove up to
Width of groove up to

.236" (6.0 mm)
.118" (3.0 mm)

for use with Indexable
insert

Type S274



R = right hand version shown

L = left hand version

Star SV 12/20/32
SR 10/20/32 and SB 16

| Part number | l_1 | l_2 | f | t_{max} | Size |
|--------------------|-------|-------|----|-----------|------|
| R/LH274.A022.09.04 | | | 9 | | |
| R/LH274.A022.12.04 | 34 | 26 | 12 | 6 | 04 |
| R/LH274.A022.16.04 | | | 16 | | |
| R/LH274.A022.09.07 | 34 | 26 | 9 | 6 | 07 |
| R/LH274.A022.12.07 | | | 12 | | |

State R or L version

Dimensions in mm

Further sizes upon request

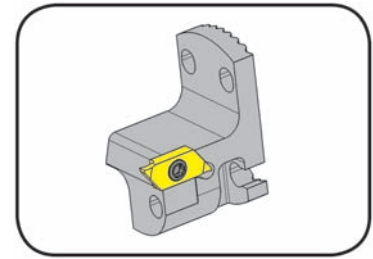
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LH274.A022.... | 030.3513.T15P | T15PQ |

L

CARTRIDGE Type

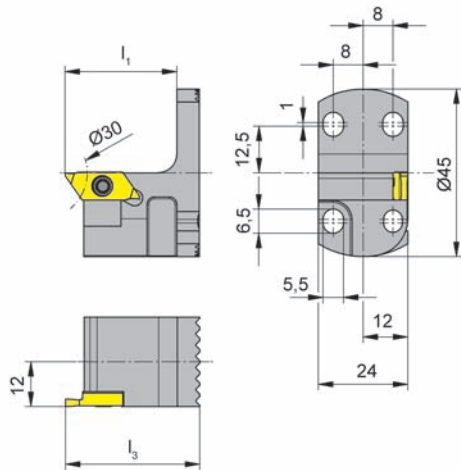
KT274



Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | l_1 | l_3 | Size |
|------------------|-------|-------|------|
| R/LKT274.2445.04 | 30 | 36 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

$t_{max} = .236"$ (6.0 mm) can be reached only when $D_{max} \leq 1.181"$ (30 mm)

L

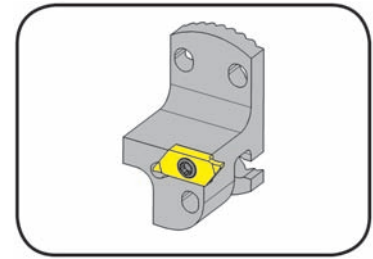
Spare parts

| Cartridge | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LKT274.2445.04 | 030.3509.T15P | T15PQ |

L28

CARTRIDGE Type

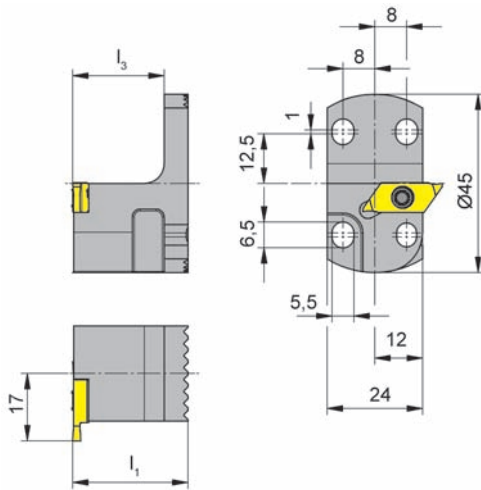
KTC274



Depth of groove up to .236" (6.0 mm)
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

| Part number | l_1 | l_3 | Size |
|------------------------|-------|-------|------|
| RKTC274.2445.04 | 29 | 23 | 04 |

Further sizes upon request

Dimensions in mm

$t_{max} = .236"$ (6.0 mm) can be reached only when $D_{max} \leq 1.181"$ (30 mm)

Spare parts

| Cartridge | Screw | TORX PLUS® Wrench |
|-----------------|----------------------|-------------------|
| RKTC274.2445.04 | 030.3509.T15P | T15PQ |



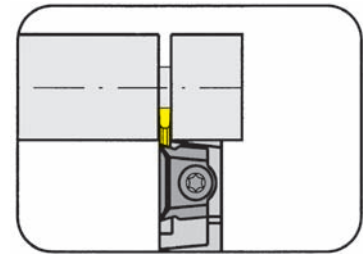
GROOVING and PARTING OFF



TOOLHOLDER Type

361

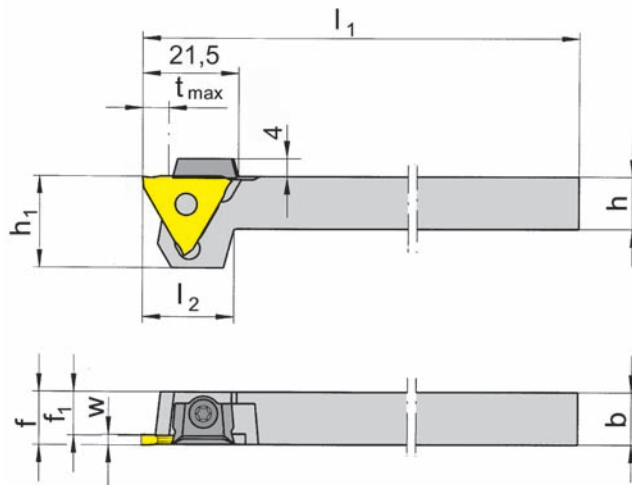
reduced head size



Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .154" (0.5 - 3.9 mm)

for use with Indexable insert

Type 312
N312
S312
U312
US312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/L361.1212.01 | 12 | 12 | 100 | 19 | 10.5 | f ₁ +w-a ₁ | 17 | 4 | 01 | 0.5-1.9 |
| R/L361.1212.02 | 12 | 12 | 100 | 19 | 9.5 | f ₁ +w-a ₁ | 17 | 6 | 02 | 1.9-2.9 |
| R/L361.1212.03 | 12 | 12 | 100 | 21 | 8.5 | f ₁ +w-a ₁ | 21 | 6 | 03 | 2.9-3.9 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 40 mm

L

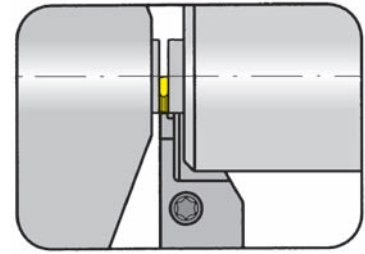
Spare parts

| Toolholder | Clamp | Screw | TORX PLUS® Wrench |
|------------------|-------|---------------|-------------------|
| R/L361.1212.0... | 12.3 | 030.0422.T10P | T10PW |

L30

TOOLHOLDER Type

368

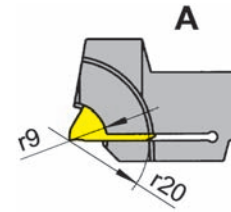
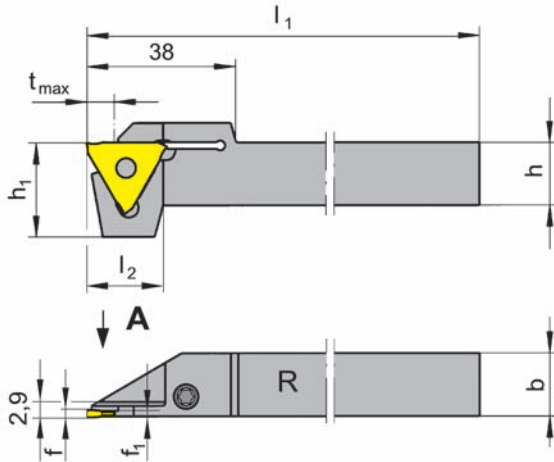


Depth of groove up to .315" (8.0 mm)
Width of groove up to .059" (1.5 mm)

for machines TRAUB (TNL12/7)

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|--------------------------------|----------------|------------------|------|----------------|
| R/L368.1212.08 | 12 | 12 | | | 1.0 | | | | | |
| R/L368.1212.11 | 12 | 12 | | | 1.3 | | | | | |
| R/L368.1616.08 | 16 | 16 | 95 | 24 | 1.0 | f ₁ +a ₁ | 19.5 | 8 | 01 | 0.5 - 1.9 |
| R/L368.1616.11 | 16 | 16 | | | 1.3 | | | | | |

State R or L version

a₁ see indexable inserts

Dimensions in mm

Toolholder R/L368...08 for indexable inserts:

R/L312.0805... / R/L312.0808... / R/L312.0510...
R/L312.0512... / R/L312.1210... / R/L312.0012...

Toolholder R/L368...11 for indexable inserts:

R/L312.0515... / R/L312.0015...

Further sizes upon request

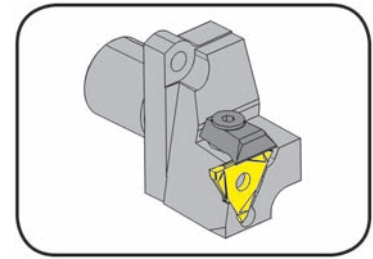
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/L368.1... | 4.15T15P | T15PQ |

L

TOOLHOLDER Type

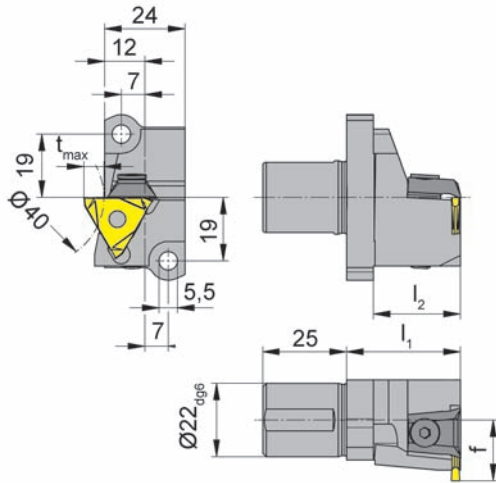
369



Depth of groove up to .236" (6.0 mm)
Clamping range up to .020 - .114" (0.5 - 2.9 mm)

for use with Indexable insert

Type 312
U312



L = left hand version shown

Star SV 12/20/32
SR 10/20/32 and SB 16

| Part number | l_1 | l_2 | f | t_{max} | Size | Clamping range |
|-----------------|-------|-------|------|-----------|------|----------------|
| L369.A022.18.01 | 34 | 26 | 18.2 | 4 | 01 | 0.5 - 1.9 |
| L369.A022.18.02 | 34 | 26 | 18.2 | 6 | 02 | 1.9 - 2.9 |

Further sizes upon request

Dimensions in mm

L

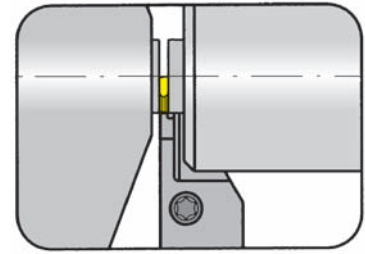
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------------|-------|-------|-----------|
| L369.A022.18.0... | 16.4 | 6.25 | SW3DIN911 |

L32

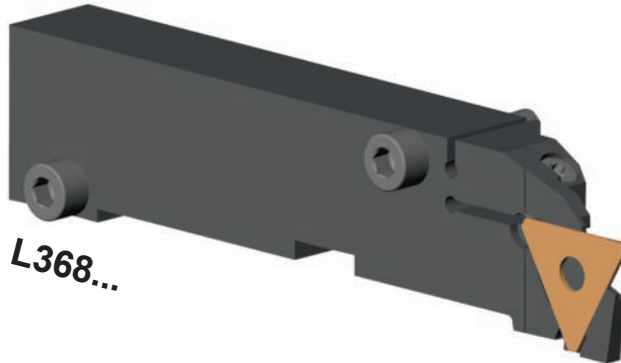
Tools for Tornos DECO2000

Depth of groove up to .315" (8.0 mm)
 Width of groove up to .059" (1.5 mm)



for use with Indexable insert

Type 312
 U312



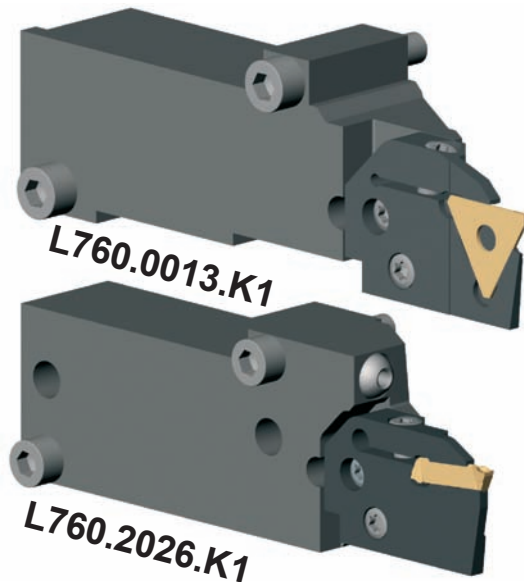
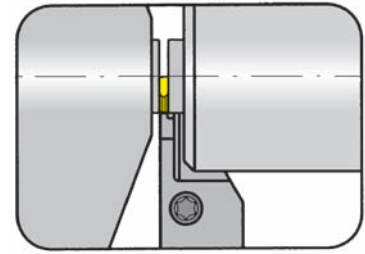
| Basic toolholder | t _{max} | w | Indexable inserts | Machine |
|------------------|------------------|-----------|---|----------|
| L368.0710.08 | 8 | 0.5 - 1.2 | R/L312.0805... R/L312.0808... R/L312.0510... R/L312.0512... R/L312.1210... 312.0012... | DECO7/10 |
| L368.0710.11 | 8 | 1.5 | R/L312.0515... 312.0015... | |

Dimensions in mm



Tools for Tornos DECO2000

Depth of groove up to .591" (15.0 mm)
Width of groove up to .146" (3.7 mm)



for Cassettes

Type LNK368
LNK760

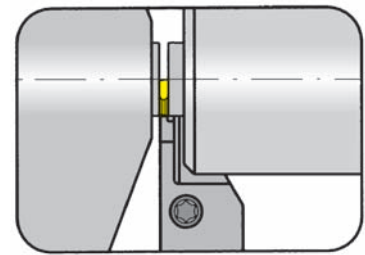


| Basic toolholder | Cassette | t _{max} | w | Indexable inserts | Machine |
|------------------|--|------------------|-------------------------------------|---|-----------|
| L760.0013.K1 | LNK368.0760.08 | 8 | 0.5 - 1.2 | R/L312.0805... R/L312.0808... R/L312.0510... R/L312.0512... R/L312.1210... 312.0012... | DECO13 |
| | LNK368.0760.11 | 8 | 1.5 | R/L312.0515... 312.0015... | |
| L760.2026.K1 | LNK760.0224.01 LNK760.0224.02 LNK760.0224.03 | 15 | 2.0 - 2.4 2.4 - 2.8 2.8 - 3.7 | S224... | DECO20/26 |

Dimensions in mm

Tools for Tornos DECO2000

Depth of groove up to .591" (15.0 mm)
 Width of groove up to .146" (3.7 mm)



for Basic toolholder

Type L760.0013.K1
 L760.2026.K1



| Cassette | t _{max} | w | Indexable inserts | Machine |
|--|------------------|-------------------------------------|---|---------------------|
| LNK368.0760.08 | 9 | 0.5 - 1.2 | R/L312.0805... R/L312.0808... R/L312.0510... R/L312.0512... R/L312.1210... 312.0012... | DECO13 DECO20/26 |
| LNK368.0760.11 | 9 | 1.5 | R/L312.0515... 312.0015... | |
| LNK760.0224.01 LNK760.0224.02 LNK760.0224.03 | 15 | 2.0 - 2.4 2.4 - 2.8 2.8 - 3.7 | S224... | |

Dimensions in mm





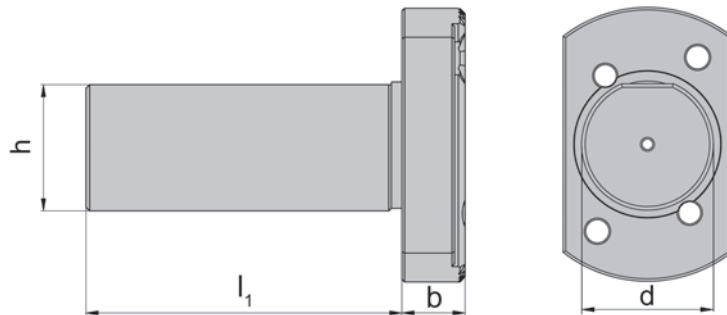
L

BASIC TOOLHOLDER Type

G

without cartridge

for adjustable holder Graf type N and HORN
BKT105.2445.01/2



| Part number | d | l ₁ | h | b | Machine tool |
|-----------------|-------|----------------|----|----|--|
| G016021 | 16,00 | 21 | 14 | 6 | Star Traub/Manurhin |
| G016040 | | 40 | | | |
| G034040 | 3/4" | 40 | 18 | 6 | Citizen |
| G034050 | | 50 | | | |
| G034120 | | 120 | | | |
| G020030 | 20,00 | 30 | 18 | 6 | Citizen Hanwha Tornos Manurhin/Tornos |
| G020040 | | 40 | | | |
| G020100 | | 100 | | | |
| G020150 | | 150 | | | |
| G022023 | 22,00 | 23 | 20 | 6 | Star |
| G022025SR16/20R | | 25 | | 12 | |
| G022030 | | 30 | | 6 | |
| G022030SR32 | | 30 | | 12 | |
| G022070 | | 70 | | 6 | |

Further sizes upon request

Dimensions in mm and inch

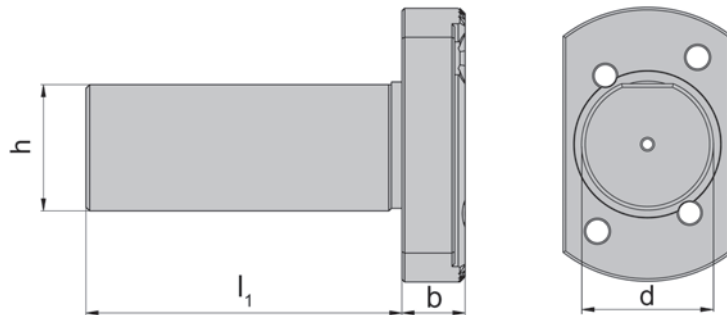
L

BASIC TOOLHOLDER Type

G

without cartridge

for adjustable holder Graf type N and HORN
BKT105.2445.01/2



| Part number | d | l ₁ | h | b | Machine tool |
|-------------|------|----------------|----|----|-----------------|
| G025060 | 25,0 | 60 | 23 | 12 | Hanwha |
| G025070 | | 70 | | 6 | Manurhin/Tornos |
| G025100 | | 100 | | 6 | Manurhin/Tornos |
| G025160 | | 160 | | 6 | Manurhin/Tornos |
| G010060 | 1" | 60 | 23 | 6 | Citizen |
| G010100 | | 100 | | | |
| G028006 | 28,0 | 6 | 26 | 12 | Hanwha |
| G028080 | | 80 | | | Traub |
| G030045 | 30,0 | 45 | 27 | 12 | Maier |
| G033040 | 33,0 | 40 | 31 | 12 | Hanwha |
| G034020 | 34,0 | 20 | 32 | 12 | Maier |
| G034044 | | 44 | | | Maier/Hanwha |

Further sizes upon request

Dimensions in mm and inch

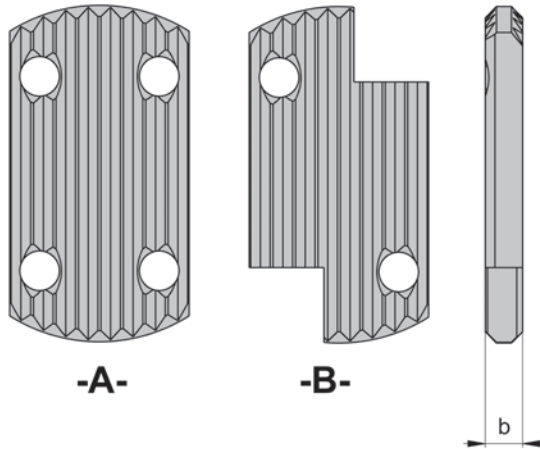
L

ADAPTOR Type

Z

without cartridge

for adjustable holder Graf type N and HORN
BKT105.2445.01/2



| Part number | b | Form |
|-------------|----|------|
| Z5 | 5 | A |
| Z10 | 10 | |
| Z15 | 15 | |
| Z20 | 20 | |
| Z25 | 25 | |
| Z30 | 30 | |
| Z5SR16/20R | 5 | B |
| Z10SR16/20R | 10 | |
| Z15SR16/20R | 15 | |
| Z20SR16/20R | 20 | |
| Z25SR16/20R | 25 | |
| Z30SR16/20R | 30 | |

Further sizes upon request

Dimensions in mm



PLATE BETWEEN GRAF Type

N

without Cartridge

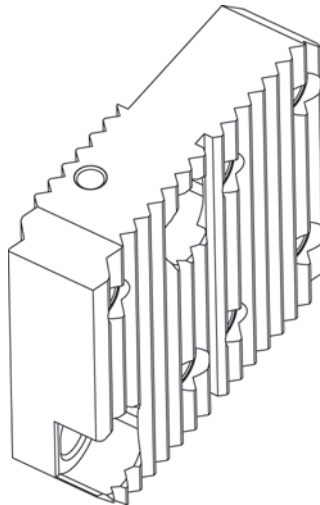


for adjustable holder Graf type N and HORN BKT105.2445.01/2

for back working

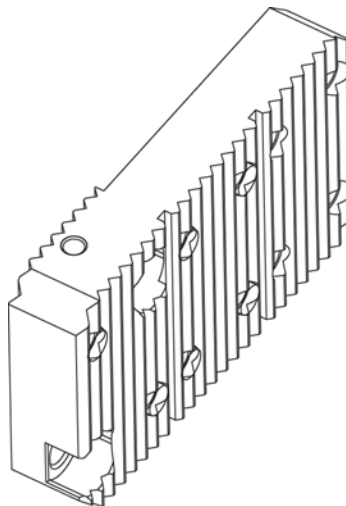
Part number N11

For alternatively 2 cartridges



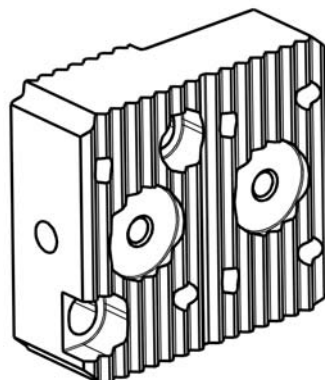
Part number N12

For alternatively 3 cartridges



Part number N93IK

with through coolant supply



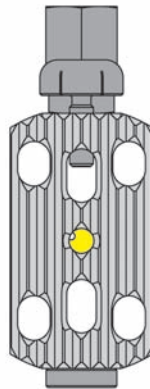
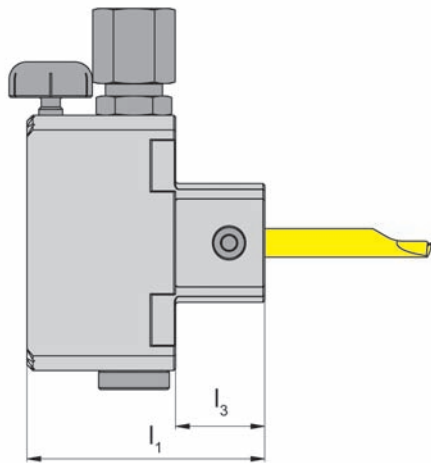
L

ADJUSTABLE HOLDER Type **N**



| | |
|-----------------------|----------------|
| Bore Ø from | .008" (0.2 mm) |
| Depth of groove up to | .098" (2.5 mm) |
| Width of groove up to | .079" (2.0 mm) |

with through coolant supply



for use with Insert

Type 105
U105



| Part number | l_1 |
|--------------|-------|
| N09IK | 40 |

Further sizes upon request

Dimensions in mm

Spare parts

| Adjustable holder | Screw | Height adjustment screw | Coolant supply |
|-------------------|-----------|-------------------------|----------------|
| N09IK | 6.075T15P | 002.00.69 | 004.00.19 |



ADJUSTABLE HOLDER Type **N**

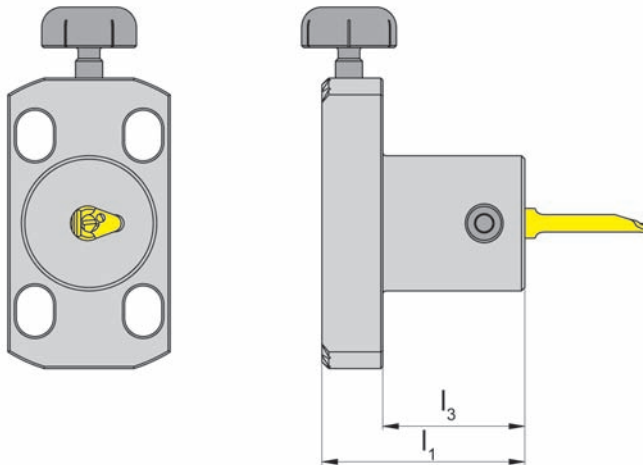


| | |
|-----------------------|----------------|
| Bore Ø from | .008" (0.2 mm) |
| Depth of groove up to | .098" (2.5 mm) |
| Width of groove up to | .079" (2.0 mm) |

no through coolant supply

for use with Insert

Type 105
U105



| Part number | l_1 |
|-------------|-------|
| N09 | 30 |

Further sizes upon request

Dimensions in mm

L

Spare parts

| Adjustable holder | Screw | Height adjustment screw |
|-------------------|-----------|-------------------------|
| N09 | 6.075T15P | 002.00.69 |

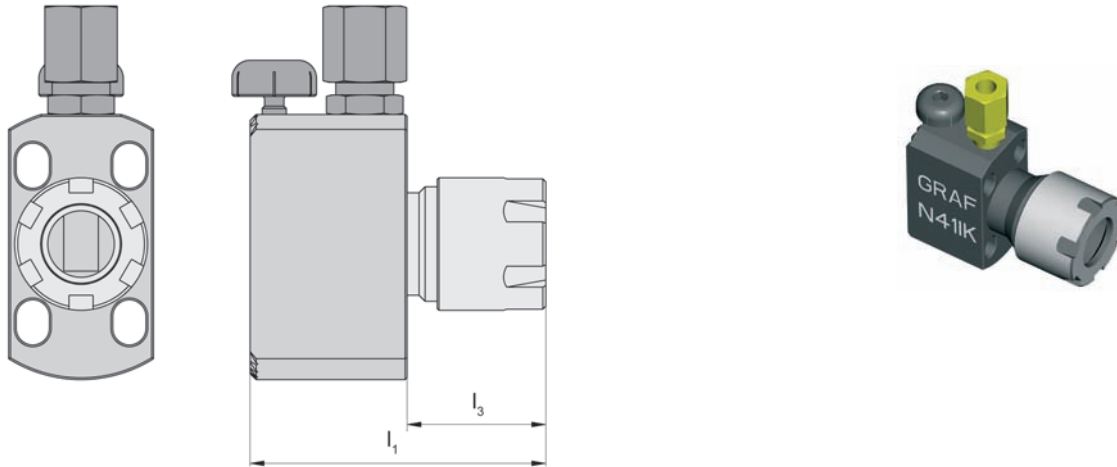
L42

ADJUSTABLE HOLDER Type **N**



with chucking nut ER16 / E20 system Graf

with through coolant supply



| Part number | l_1 | Remark |
|-------------|-------|--------|
| N07IK | 54 | ER16 |
| N41IK | 64 | ER20 |

Further sizes upon request

Dimensions in mm

Spare parts

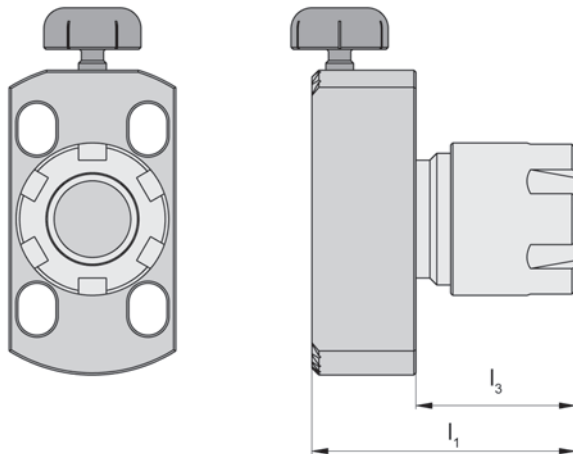
| Adjustable holder | Chucking nut | Height adjustment screw | Coolant supply | Set of seals D3 |
|-------------------|--------------|-------------------------|----------------|-----------------|
| N07IK | 62.000.16 | 002.00.69 | 004.00.19 | 64.600.16.3-10 |
| N41IK | 62.000.20 | 002.00.69 | 004.00.19 | 64.600.20.3-13 |



ADJUSTABLE HOLDER Type **N**



with chucking nut ER16 system Graf



for use with Basic toolholder

Type Horn BGT
Graf G



| Part number | l_1 | Remark |
|-------------|-------|--------|
| N07 | 37 | ER16 |

Further sizes upon request

Dimensions in mm

L

Spare parts

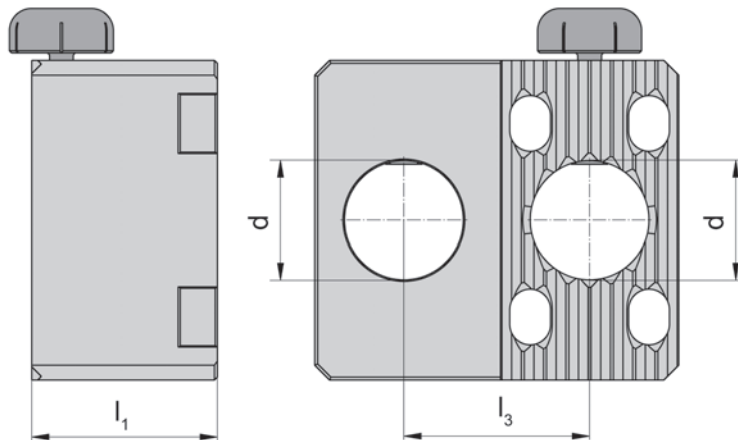
| Adjustable holder | Chucking nut | Height adjustment screw |
|-------------------|--------------|-------------------------|
| N07 | 62.000.16 | 002.00.69 |

L44

ADJUSTABLE HOLDER Type **N**



for collet holders ER11 / ER16 system Graf



for use with Basic toolholder

Type Horn BGT
Graf G



| | |
|-------------|-------|
| Part number | l_1 |
| N10 | 25 |

Further sizes upon request

Dimensions in mm

Spare parts

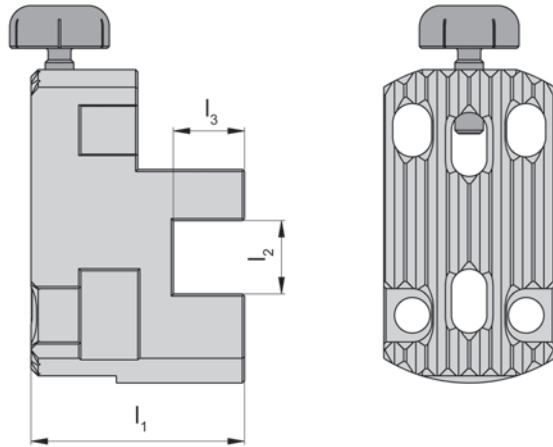
| Adjustable holder | Threaded pin | Height adjustment screw | Collet holder |
|-------------------|--------------|-------------------------|------------------|
| N10 | 002.00.11 | 002.00.69 | GZ66.1620.11ER11 |



ADJUSTABLE HOLDER Type **N**



for square shank system Graf



for use with Basic toolholder

Type Horn BGT
Graf G



| | |
|-------------|-------|
| Part number | l_1 |
| N06 | 10 |

Further sizes upon request

Dimensions in mm

L

Spare parts

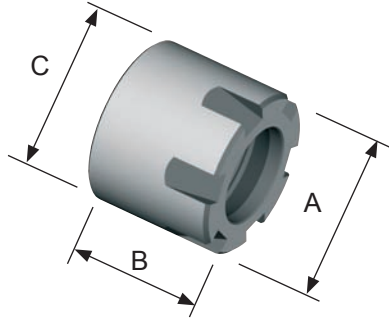
| Adjustable holder | Threaded pin | Height adjustment screw |
|-------------------|--------------|-------------------------|
| N06 | 002.00.11 | 002.00.69 |

L46

Chucking nut

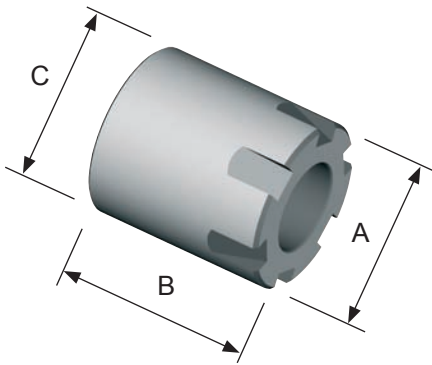


ER-M



| ER-M | A | B | C |
|-----------------|----|------|----------|
| 62 000 08-ER 8 | 12 | 10,8 | M10x0,75 |
| 62 000 11-ER 11 | 16 | 12 | M13x0,75 |
| 62 000 16-ER 16 | 22 | 18 | M19x1 |
| 62 000 20-ER 20 | 28 | 19 | M24x1 |
| 62 000 25-ER 25 | 35 | 20 | M30x1 |

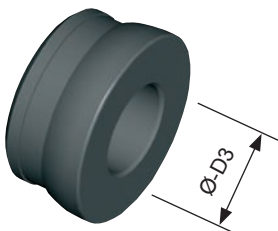
ER-MA sealed



| ER-MA | A | B | C |
|-----------------|----|------|-------|
| 62 600 16-ER 16 | 22 | 24.5 | M19x1 |
| 62 600 20-ER 20 | 28 | 26.5 | M24x1 |
| 62 600 25-ER 25 | 35 | 27.5 | M30x1 |

Dimensions in mm

Sealing rings for chucking nuts ER-MA...



completed set:

| Part number | Ø D3 |
|-----------------|------------------------|
| 64 600 16-ER 16 | 3.0-3.5...9.5-10.0 mm |
| 64 600 20-ER 20 | 3.0-3.5...12.5-13.0 mm |
| 64 600 25-ER 25 | 3.0-3.5...15.5-16.0 mm |

Dimensions in mm

The sealing rings can be ordered separately.

Example:

| Part number | Diameter range | possible from-up to |
|---------------------------|----------------|---------------------|
| ER 16 64 600 16 <u>30</u> | 3.01 - 3.50 | 3 - 10 |
| ER 20 64 600 20 <u>45</u> | 4.51 - 5.00 | 3 - 13 |
| ER 25 64 600 25 <u>80</u> | 8.01 - 8.50 | 3 - 16 |

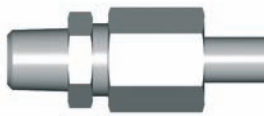
Dimensions in mm

Standard connection for through cooling

for pipe Ø 6 mm

Connection for through cooling
004.00.19

M8 x 1



for pipe Ø 6 mm

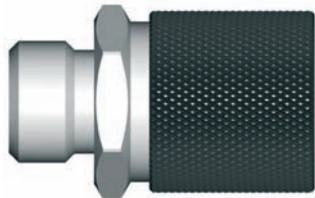


Connection for through cooling
004.00.22

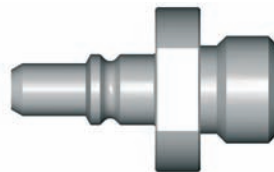
M8 x 1

Clip connection for through cooling

M10 x 1

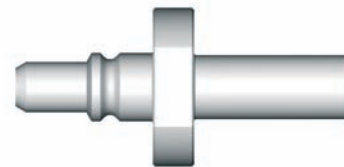


Clip connection
004.00.49



Plug

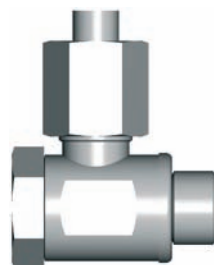
M8 x 1 - 004.00.56
G1/8" - 004.00.57



Plug

Ø 6 mm - 004.00.59

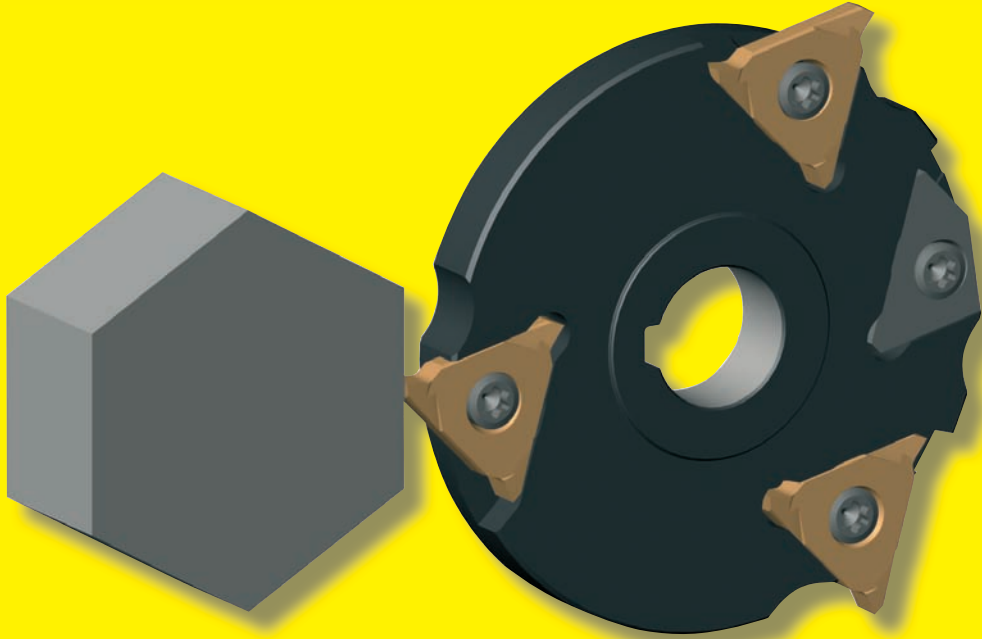
for pipe Ø 6 mm



Coupling

M8 x 1 - 004.00.61
G1/8" - 004.00.16

HORN - THE LEADERS IN GROOVING TECHNOLOGY



POLYGON MILLING

HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

HCG - HORN Catalog Guide

MODULAR TOOLING SYSTEM

| Couplings | Toolholder system | | | | | | | | | | | | |
|---------------------------------------|-------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| | Supermini® | Mini | 100 | 117 | 264 | 274 | 360 | 356 | 368 | 224 | 220 | B224 | B229 |
| HORN Polygon shank | | | • | | | | • | • | • | • | • | • | • |
| KM | | | • | | | | • | • | • | • | • | • | • |
| KM Micro | • | • | | | • | • | | | | | | | |
| HSK-C63 | | | • | | | | • | • | | • | • | • | • |
| HSK-T63 | | | • | | | | • | • | | • | • | • | • |
| HSK-T40 (...840...) | | | • | | • | • | • | • | • | • | | | |
| HSKW (Schütte...849...) | • | | • | • | | | • | • | • | • | • | | |
| HORN Polygon shank (Schütte...849...) | • | | • | • | | | • | • | • | • | • | | |

| Machining | | | | | | | | | | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Internal grooving | • | • | | | | | | | | | | • | • |
| Extern. grooving | | | • | | • | • | • | • | • | • | • | | |
| Face grooving | | | | | | | • | • | | • | • | | |
| Parting off | | | • | | • | • | • | • | • | • | • | | |
| Profiling | | | | • | | | | | | | | | |

| | | | | | | | | | | | | | |
|----------|--|--|---|--|---|---|---|---|---|---|---|---|---|
| Cassette | | | • | | • | • | • | • | • | • | • | • | • |
|----------|--|--|---|--|---|---|---|---|---|---|---|---|---|

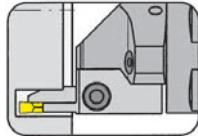
| Cassette type | Inserts type | | | | | | | | | | | | |
|-----------------------|--------------|--|------|--|------|------|-------------|-----|-------------|------|-------------|------|-------------|
| R/L/NK100 | | | S100 | | | | | | | | | | |
| R/L/NK264 | | | | | S264 | | | | | | | | |
| R/L/NK274 | | | | | | S274 | | | | | | | |
| R/L/NK360 | | | | | | | S312 312 | | | | | | |
| R/L/NK356 | | | | | | | | 315 | | | | | |
| R/L/NK368 | | | | | | | | | S312 312 | | | | |
| R/L/NK,R/LIK,R/LAK224 | | | | | | | | | | S224 | | | |
| R/L/NK,R/LIK,R/LAK220 | | | | | | | | | | | S229 229 | | |
| R/LBK224 | | | | | | | | | | | | S224 | |
| R/LBK229 | | | | | | | | | | | | | S229 229 |

| | |
|---------|----------|
| Chapter | M |
|---------|----------|

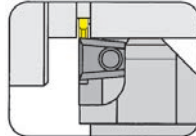
Inserts can be selected in the chapters of the responsible tooling system.

MODULAR TOOLING SYSTEM **M**

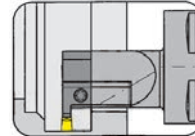
HORN Polygon shank



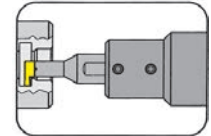
Page M4-M5



Page M6-M7

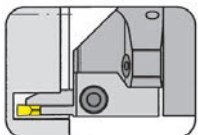


Page M8-M9

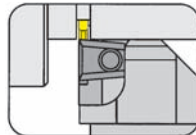


Page M10

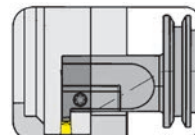
HORN-KM



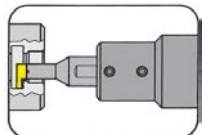
Page M12-M13



Page M14-M15

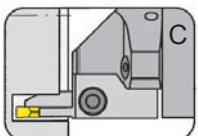


Page M16-M17

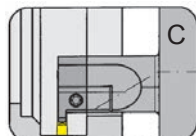


Page M18

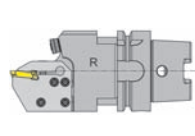
HORN HSK-C63
HORN HSK-T63



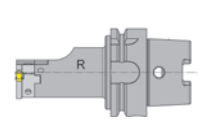
Page M20-M21



Page M22-M23



Page M26-M29



Page M30-M31

Cassettes

radial
Page M33-M40

axial
Page M42-M57

HORN HSK-T40

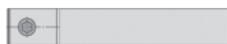


Page M59

Cassettes

Page M60-M66

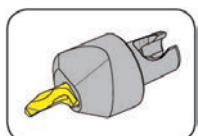
HORN KM16 Micro



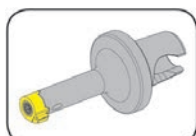
Page M68



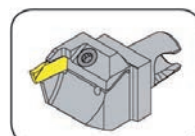
Page M69



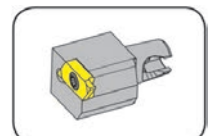
Page M70-M71



Page M72-M73

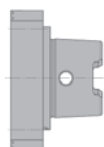


Page M74-M75

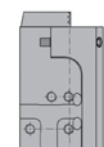


Page M76-M77

HORN 849



Page M81-M82



Page M87-M88

Cassettes

Page
M83-M86
M89-M90

M

Adapters for the modular systems HORN Polygon shank according to ISO 26623-3, HORN-KM and HORN-HSK with different cassettes are suitable for grooving, parting off and face grooving.

Excellent stability is guaranteed through the HORN designed interface between the cassette and adapter. The cassettes are available for four insert systems - 312, S224, S229 and S100.

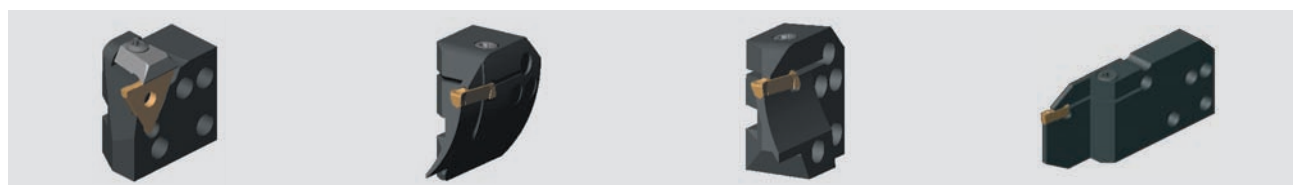
Modular Tooling System

External machining

| Coupling system | HORN Polygon shank ISO 26623-3 | KM | HSK DIN 69893 |
|-----------------|-----------------------------------|----|------------------|
| 0° straight | | | |
| 90° cranked | | | |
| Version | right and left hand | | |

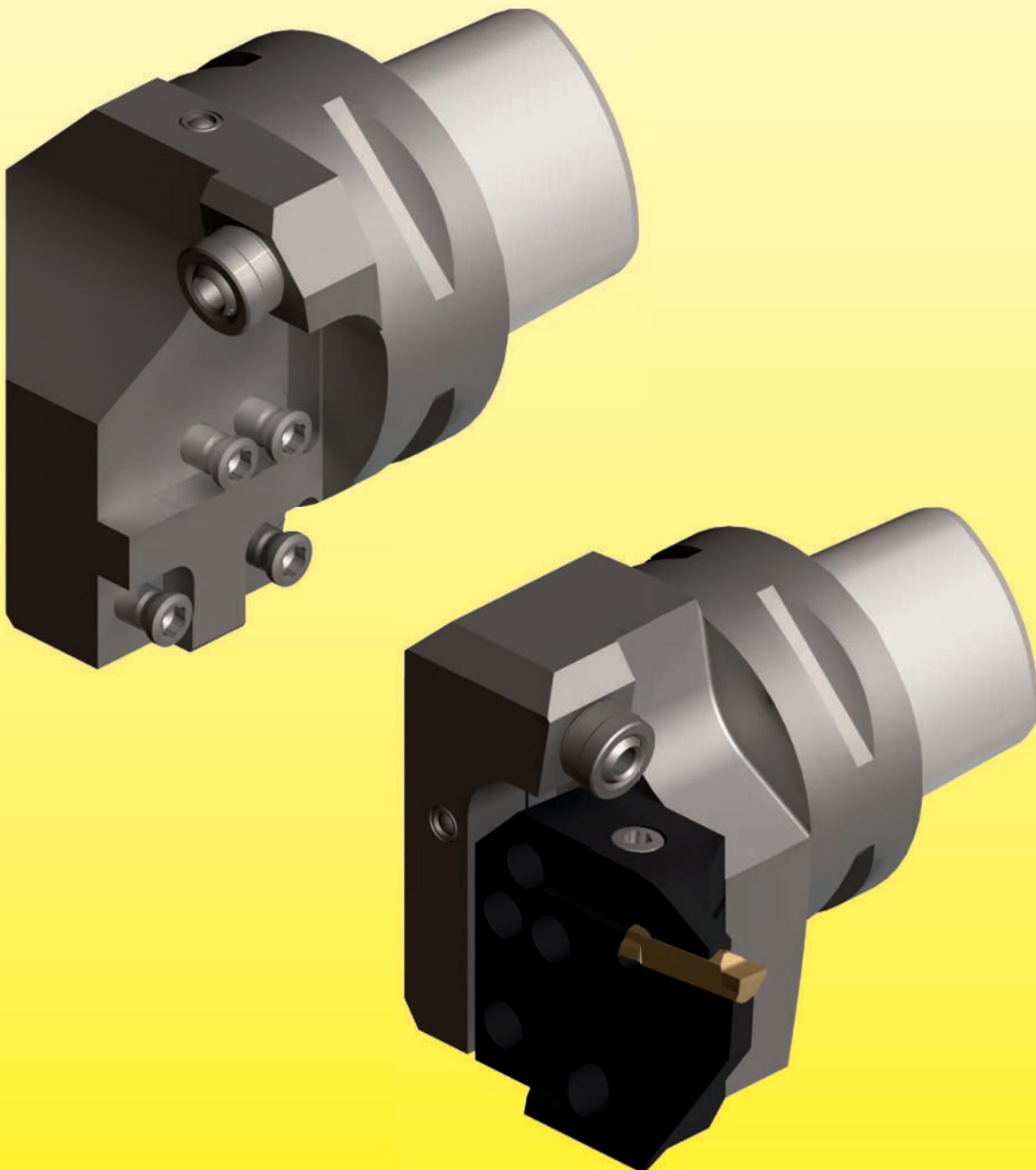
Cassette program

| type | Insert | | RNK/LNK | RIK/LIK | RAK/LAK | Tool length |
|------|--------|--|---------|---------|---------|------------------------------------|
| 360 | 312 | | • | - | - | |
| 224 | S224 | | • | • | • | $l = l_1 + l_k \text{ (Cassette)}$ |
| 220 | S229 | | • | • | • | |
| 220 | S100 | | • | - | - | |



M

HORN Polygon shank according to ISO 26623-3



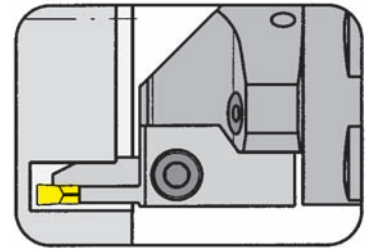
M

M3

BASIC TOOLHOLDER Type

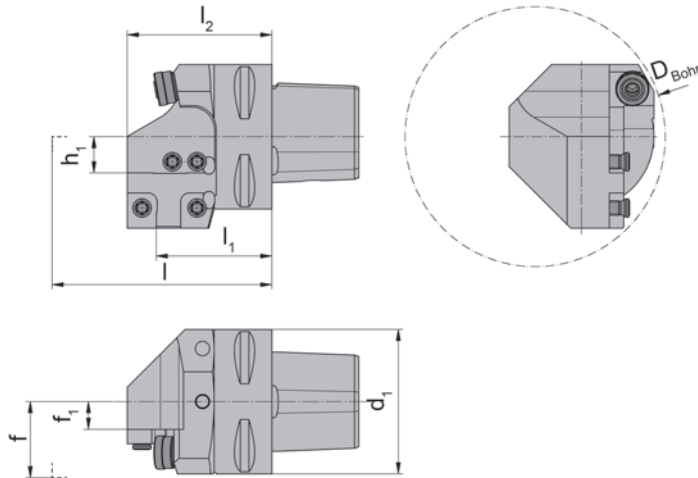
220C

without cassette



Basic toolholder for cassettes type 100/220/224/356/360

with through coolant supply



R = right hand version shown

L = left hand version

HORN Polygon shank according to ISO 26623-3

| Part number | l_1 | h_1 | f_1 | f | l_2 | l |
|----------------|-------|-------|-------|-----------|-------|-----------|
| R/L220.00C3.K1 | 36 | 12.5 | 4.6 | f_1+f_3 | 50 | l_1+l_k |
| R/L220.00C4.K1 | 40 | | 4.6 | | 50 | |
| R/L220.00C5.K1 | 40 | | 9.6 | | 50 | |
| R/L220.00C6.K1 | 42 | | 16.1 | | 52 | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

M

Spare parts

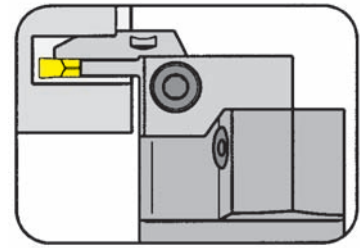
| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle |
|------------------|----------|-------------------|----------------------|
| R/L220.00C... | 5.12T20P | T20PQ | 020.1008.2977 |

M4

BASIC TOOLHOLDER Type

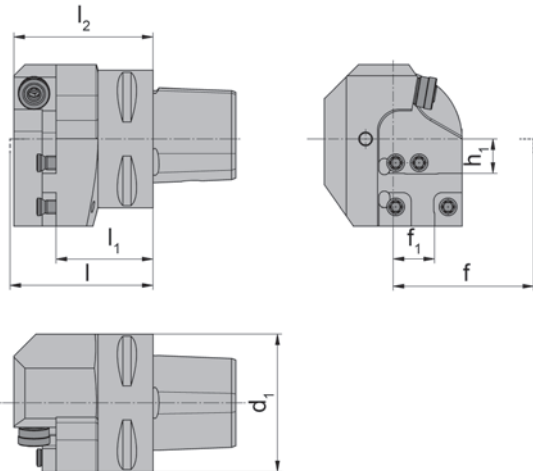
220C

without cassette



Basic toolholder for cassettes type 100/220/224/356/360

with through coolant supply



R = right hand version shown

L = left hand version

HORN Polygon shank according to ISO 26623-3

| Part number | l_1 | h_1 | f_1 | f | l_2 | l |
|----------------|-------|-------|-------|-----------|-------|-----------|
| R/L220.00C3.K2 | 31.2 | | 10.0 | | 46.5 | |
| R/L220.00C4.K2 | 35.2 | 12.5 | 10.0 | | 50.5 | |
| R/L220.00C5.K2 | 35.2 | | 15.0 | f_1+l_k | 50.5 | l_1+f_3 |
| R/L220.00C6.K2 | 37.2 | | 21.5 | | 52.5 | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle |
|------------------|----------|-------------------|----------------------|
| R/L220.00C... | 5.12T20P | T20PQ | 020.1008.2977 |

M

M5

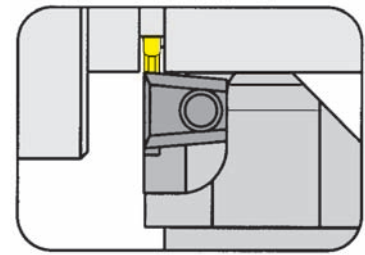
GROOVING (external)



TOOLHOLDER Type

360C

with cassette

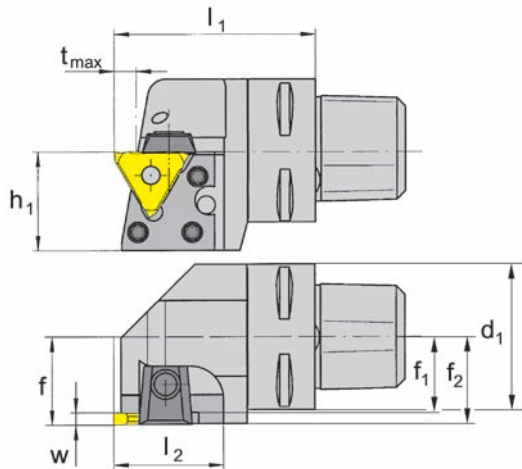


Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .114" (0.5 - 2.9 mm)

with through coolant supply

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

HORN Polygon shank according to ISO 26623-3

| Part number | l_1 | h_1 | f_1 | f | l_2 | t_{max} | f_2 | Size | Clamping range |
|----------------|-------|-------|-------|-------------|-------|-----------|-------|------|----------------|
| R/L360.00C3.K1 | 45 | 27.3 | 15.0 | f_1+w-a_1 | 31 | 4 | 16.5 | 01 | 0.5 - 1.9 |
| R/L360.00C4.K1 | 50 | 27.3 | 19.0 | | | | 20.5 | | |
| R/L360.00C5.K1 | 50 | 27.3 | 24.0 | | | | 25.5 | | |
| R/L360.00C6.K1 | 55 | 31.5 | 30.5 | | | | 32.0 | | |
| R/L360.00C3.K2 | 45 | 27.3 | 14.0 | f_1+w-a_1 | 31 | 6 | 16.5 | 02 | 1.9 - 2.9 |
| R/L360.00C4.K2 | 50 | 27.3 | 18.0 | | | | 20.5 | | |
| R/L360.00C5.K2 | 50 | 27.3 | 23.0 | | | | 25.5 | | |
| R/L360.00C6.K2 | 55 | 31.5 | 29.5 | | | | 32.0 | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | Wrench |
|---------------|-------------|-------|-------------------|---------------|-----------|
| L360.00C...K1 | LK360.00.01 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| L360.00C...K2 | LK360.00.02 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.00C...K1 | RK360.00.01 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.00C...K2 | RK360.00.02 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |

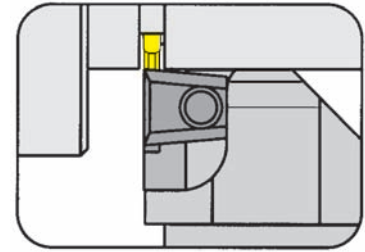
M6

GROOVING (external)



TOOLHOLDER Type

360C
with cassette

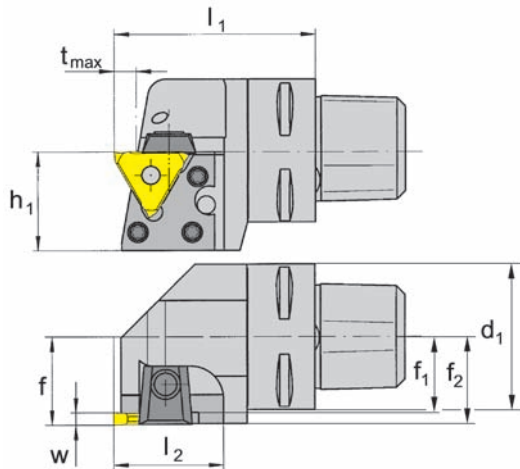


Depth of groove up to .236" (6.0 mm)
Clamping range .114 - .248" (2.9 - 6.3 mm)

with through coolant supply

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

HORN Polygon shank according to ISO 26623-3

| Part number | l_1 | h_1 | f_1 | f | l_2 | t_{max} | f_2 | Size | Clamping range |
|----------------|-------|-------|-------|-------------|-------|-----------|-------|------|----------------|
| R/L360.00C3.K3 | 45 | 27.3 | 13.0 | f_1+w-a_1 | 31 | 6 | 16.5 | 03 | 2.9 - 3.9 |
| R/L360.00C4.K3 | 50 | 27.3 | 17.0 | | | | 20.5 | | |
| R/L360.00C5.K3 | 50 | 27.3 | 22.0 | | | | 25.5 | | |
| R/L360.00C6.K3 | 55 | 31.5 | 28.5 | | | | 32.0 | | |
| R/L360.00C3.K4 | 45 | 27.3 | 11.3 | f_1+w-a_1 | 31 | 6 | 16.5 | 04 | 3.9 - 6.3 |
| R/L360.00C4.K4 | 50 | 27.3 | 15.3 | | | | 20.5 | | |
| R/L360.00C5.K4 | 50 | 27.3 | 20.3 | | | | 25.5 | | |
| R/L360.00C6.K4 | 55 | 31.5 | 26.8 | | | | 32.0 | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

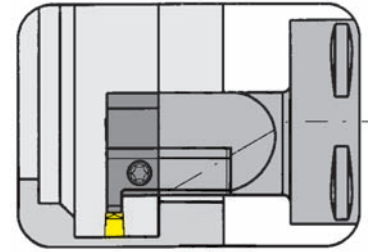
| Toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | Wrench |
|---------------|-------------|-------|-------------------|---------------|-----------|
| L360.00C...K3 | LK360.00.03 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| L360.00C...K4 | LK360.00.04 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.00C...K3 | RK360.00.03 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.00C...K4 | RK360.00.04 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |



BASIC TOOLHOLDER Type

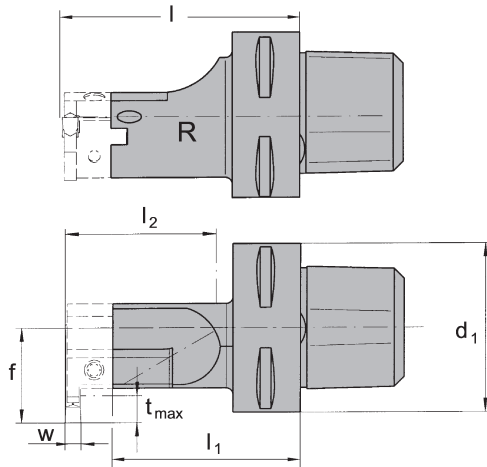
B224C

without cassette



Basic toolholder for cassettes type BK224

with through coolant supply



R = right hand version shown

L = left hand version

HORN Polygon shank according to ISO 26623-3

| Part number | d ₁ | l | l ₁ | l ₂ | f |
|--|----------------|-------------------|----------------|----------------|----|
| R/LB224.00C3.1.K2 R/LB224.00C3.2.K2 | 32 | $l_1 + b_1 + w/2$ | 39.3 54.3 | 35 50 | 32 |
| R/LB224.00C4.1.K2 R/LB224.00C4.2.K2 | 40 | $l_1 + b_1 + w/2$ | 49.3 69.3 | 40 60 | 32 |
| R/LB224.00C5.1.K2 R/LB224.00C5.2.K2 | 50 | $l_1 + b_1 + w/2$ | 59.3 79.3 | 50 70 | 32 |
| R/LB224.00C6.1.K2 R/LB224.00C6.2.K2 | 63 | $l_1 + b_1 + w/2$ | 69.3 89.3 | 58 78 | 32 |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

M

Spare parts

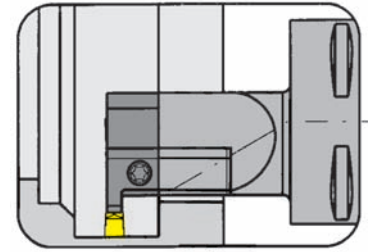
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LB224.00C... | 030.0518.T20P | T20PQ |

M8

BASIC TOOLHOLDER Type

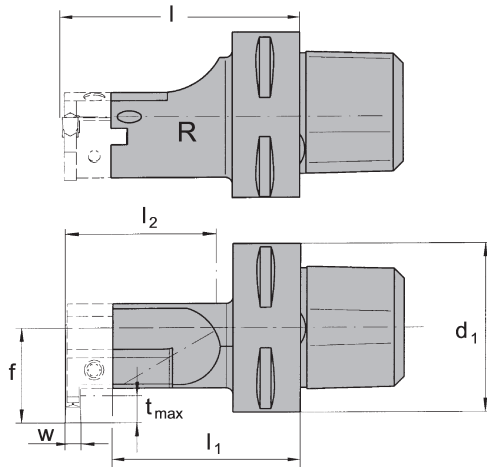
B229C

without cassette



Basic toolholder for cassettes type BK229

with through coolant supply



R = right hand version shown

L = left hand version

HORN Polygon shank according to ISO 26623-3

| Part number | l | l ₁ | l ₂ | f |
|-------------------|-------------------|----------------|----------------|------|
| R/LB229.00C3.1.K2 | $l_1 + b_1 + w/2$ | 38.5 | 35 | 35.5 |
| R/LB229.00C3.2.K2 | | 53.5 | 50 | |
| R/LB229.00C4.1.K2 | $l_1 + b_1 + w/2$ | 48.5 | 40 | 35.5 |
| R/LB229.00C4.2.K2 | | 68.5 | 60 | |
| R/LB229.00C5.1.K2 | $l_1 + b_1 + w/2$ | 58.5 | 50 | 35.5 |
| R/LB229.00C5.2.K2 | | 78.5 | 70 | |
| R/LB229.00C6.1.K2 | $l_1 + b_1 + w/2$ | 68.5 | 58 | 35.5 |
| R/LB229.00C6.2.K2 | | 88.5 | 78 | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

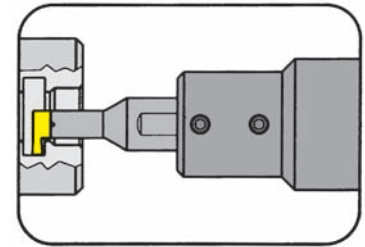
Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LB229.00C... | 030.0518.T20P | T20PQ |

M

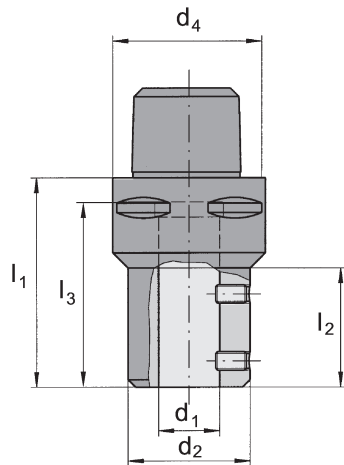
ADAPTOR Type

001C



HORN Polygon shank according ISO 26623-3

for cylindrical shanks with standard clamping flat



| Part number | l_1 | l_2 | l_3 | d_2 | d_1 | d_4 |
|-------------|-------|-------|-------|-------|-------|-------|
| 001.00C3.16 | 65 | - | 55 | 40 | 16 | 32 |
| 001.00C3.20 | 70 | - | 58 | 40 | 20 | 32 |
| 001.00C4.16 | 65 | - | 55 | 40 | 16 | 40 |
| 001.00C4.20 | 70 | - | 58 | 40 | 20 | 40 |
| 001.00C5.16 | 65 | 44 | 55 | 40 | 16 | 50 |
| 001.00C5.20 | 70 | 49 | 58 | 40 | 20 | 50 |
| 001.00C6.20 | 70 | 45 | 58 | 40 | 20 | 63 |

Further sizes upon request

Dimensions in mm

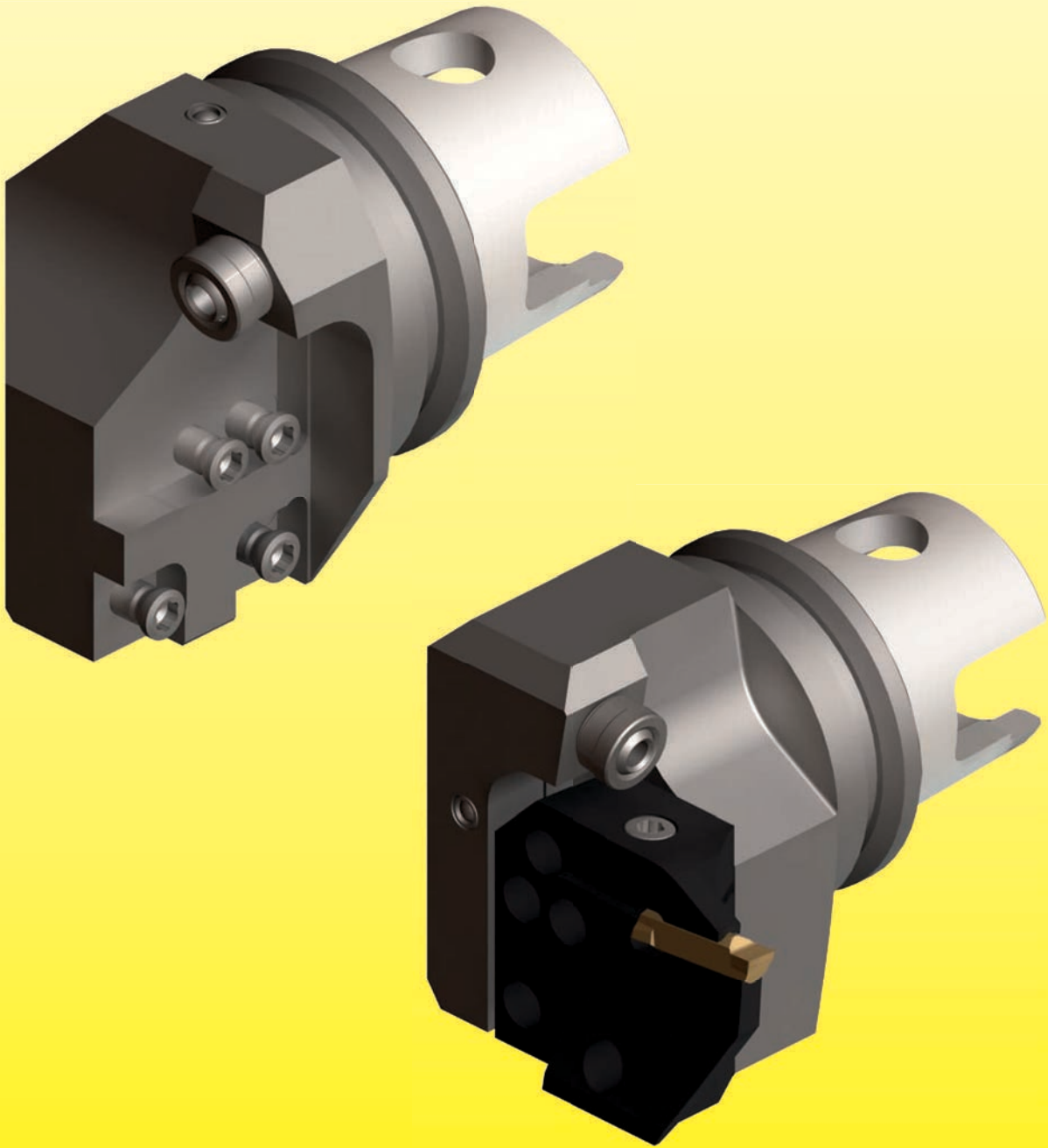
M

Spare parts

| Adaptor | Screw | Wrench |
|------------|------------------|-----------|
| 001.00C... | DIN1835-B M10x12 | SW5DIN911 |

M10

Toolholder HORN-KM

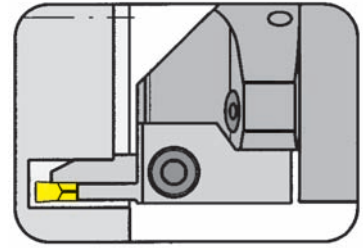


M

BASIC TOOLHOLDER Type

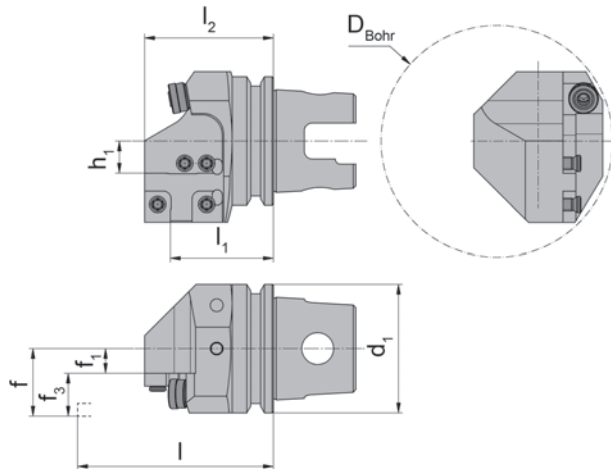
220KM

without cassette



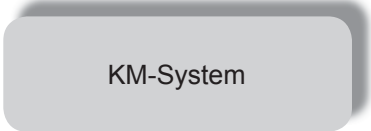
Basic toolholder for cassettes type 100/220/224/356/360

with through coolant supply



R = right hand version shown

L = left hand version



| Part number | l_1 | h_1 | f_1 | f | l_2 | l |
|----------------|-------|-------|-------|-----------|-------|-----------|
| R/L220.KM40.K1 | 40 | 12.5 | 4.6 | f_1+f_3 | 50 | l_1+l_k |
| R/L220.KM50.K1 | | | 9.6 | | | |
| R/L220.KM63.K1 | | | 16.1 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes



Spare parts

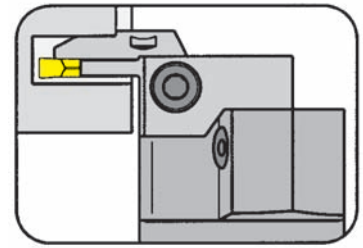
| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle |
|------------------|----------|-------------------|----------------------|
| R/L220.KM... | 5.12T20P | T20PQ | 020.1008.2977 |

M12

BASIC TOOLHOLDER Type

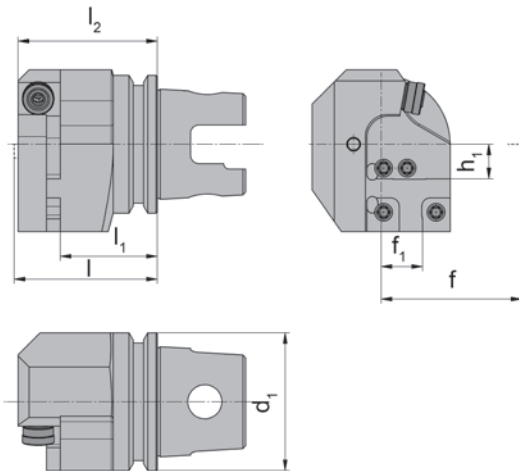
220KM

without cassette



Basic toolholder for cassettes type 100/220/224/356/360

with through coolant supply



R = right hand version shown

L = left hand version

KM-System

| Part number | l_1 | h_1 | f_1 | f | l_2 | l |
|-----------------|-------|-------|-------|-----------|-------|-----------|
| R/L 220.KM40.K2 | | | 10.0 | | | |
| R/L 220.KM50.K2 | 35.2 | 12.5 | 15.0 | f_1+l_k | 50.5 | l_1+f_3 |
| R/L 220.KM63.K2 | | | 21.5 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle |
|------------------|----------|-------------------|----------------------|
| R/L220.KM... | 5.12T20P | T20PQ | 020.1008.2977 |

M

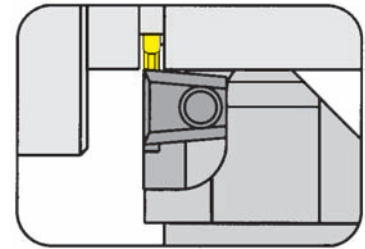
GROOVING (external)



TOOLHOLDER Type

360KM

with cassette

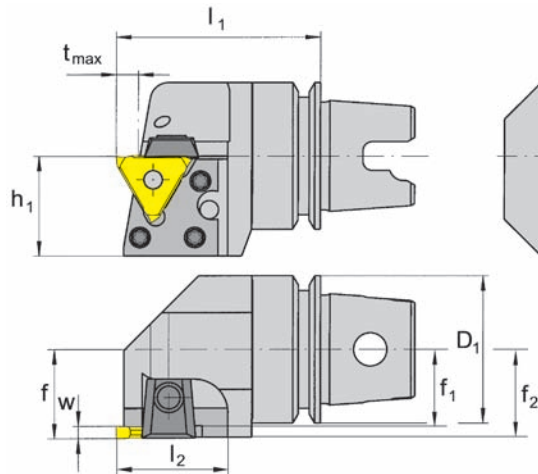


Depth of groove up to .236" (6.0 mm)
Clamping range .020 - .114" (0.5 - 2.9 mm)

with through coolant supply

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

KM-System

| Part number | l_1 | h_1 | f_1 | f | l_2 | t_{max} | f_2 | Size | Clamping range |
|----------------|-------|-------|-------|-----------------|-------|-----------|-------|------|----------------|
| R/L360.KM40.K1 | 40 | 27.3 | 19.0 | $f_1 + w - a_1$ | 31 | 4 | 20.5 | 01 | 0.5 - 1.9 |
| R/L360.KM50.K1 | 45 | 27.3 | 24.0 | | | | 25.5 | | |
| R/L360.KM63.K1 | 50 | 31.5 | 30.5 | | | | 32.0 | | |
| R/L360.KM40.K2 | 40 | 27.3 | 18.0 | $f_1 + w - a_1$ | 31 | 6 | 20.5 | 02 | 1.9 - 2.9 |
| R/L360.KM50.K2 | 45 | 27.3 | 23.0 | | | | 25.5 | | |
| R/L360.KM63.K2 | 50 | 31.5 | 29.5 | | | | 32.0 | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

M

Spare parts

| Toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | Wrench |
|--------------|-------------|-------|-------------------|---------------|-----------|
| L360.KM...K1 | LK360.00.01 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| L360.KM...K2 | LK360.00.02 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.KM...K1 | RK360.00.01 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.KM...K2 | RK360.00.02 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |

M14

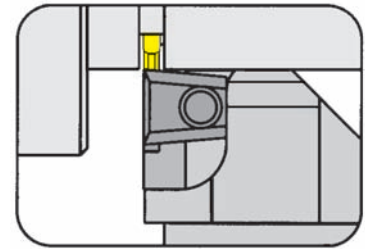
GROOVING (external)



TOOLHOLDER Type

360KM

with cassette

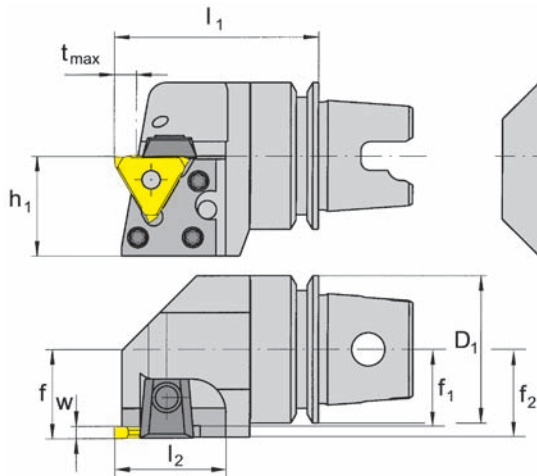


Depth of groove up to .236" (6.0 mm)
Clamping range .114 - .248" (2.9 - 6.3 mm)

with through coolant supply

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

KM-System

| Part number | l_1 | h_1 | f_1 | f | l_2 | t_{max} | f_2 | Size | Clamping range |
|----------------|-------|-------|-------|-------------|-------|-----------|-------|------|----------------|
| R/L360.KM40.K3 | 40 | 27.3 | 17.0 | | | | 20.5 | | |
| R/L360.KM50.K3 | 45 | 27.3 | 22.0 | f_1+w-a_1 | 31 | 6 | 25.5 | 03 | 2.9 - 3.9 |
| R/L360.KM63.K3 | 50 | 31.5 | 28.5 | | | | 32.0 | | |
| R/L360.KM40.K4 | 40 | 27.3 | 15.3 | | | | 20.5 | | |
| R/L360.KM50.K4 | 45 | 27.3 | 20.3 | f_1+w-a_1 | 31 | 6 | 25.5 | 04 | 3.9 - 6.3 |
| R/L360.KM63.K4 | 50 | 31.5 | 26.8 | | | | 32.0 | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Cassette | Clamp | TORX PLUS® Wrench | Screw | Wrench |
|--------------|-------------|-------|-------------------|---------------|-----------|
| L360.KM...K3 | LK360.00.03 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| L360.KM...K4 | LK360.00.04 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.KM...K3 | RK360.00.03 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |
| R360.KM...K4 | RK360.00.04 | 16.4 | T15PQ | 030.0410.T15P | SW3DIN911 |

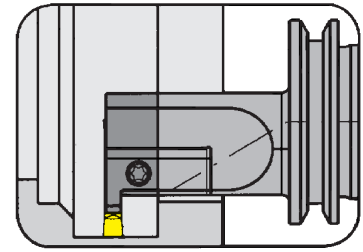
M

M15

BASIC TOOLHOLDER Type

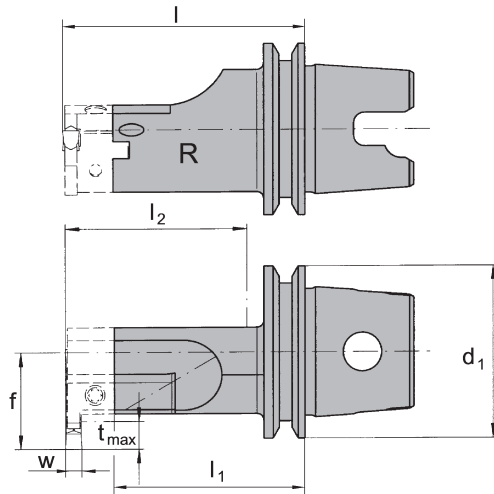
B224KM

without cassette



Basic toolholder for cassettes type BK224

with through coolant supply



R = right hand version shown

L = left hand version

KM-System

| Part number | l | l ₁ | l ₂ | f |
|-------------------|-------------------|----------------|----------------|----|
| R/LB224.KM40.1.K2 | $l_1 + b_1 + w/2$ | 49.3 | 48 | 32 |
| R/LB224.KM40.2.K2 | | 69.3 | 68 | |
| R/LB224.KM50.1.K2 | $l_1 + b_1 + w/2$ | 59.3 | 54 | 32 |
| R/LB224.KM50.2.K2 | | 79.3 | 74 | |
| R/LB224.KM63.1.K2 | $l_1 + b_1 + w/2$ | 69.3 | 62 | 32 |
| R/LB224.KM63.2.K2 | | 89.3 | 82 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

M

Spare parts

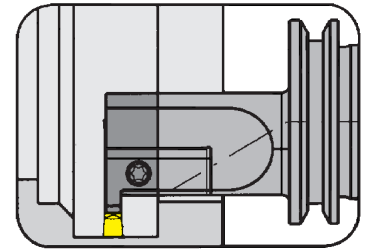
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LB224.KM... | 030.0518.T20P | T20PQ |

M16

BASIC TOOLHOLDER Type

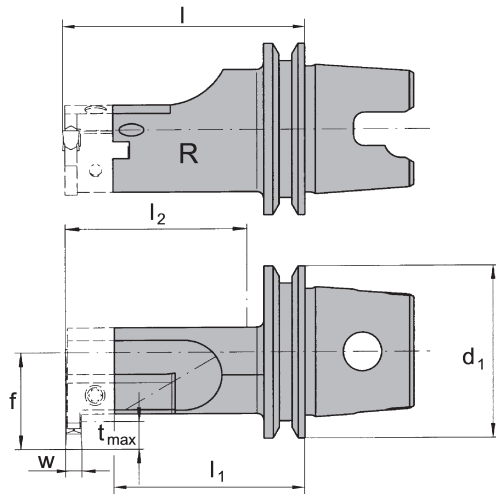
B229KM

without cassette



Basic toolholder for cassettes type BK229

with through coolant supply



R = right hand version shown

L = left hand version

KM-System

| Part number | l | l ₁ | l ₂ | f |
|-------------------|-------------------|----------------|----------------|------|
| R/LB229.KM40.1.K2 | $l_1 + b_1 + w/2$ | 48.5 | 48 | 35.5 |
| R/LB229.KM40.2.K2 | | 68.5 | 68 | |
| R/LB229.KM50.1.K2 | $l_1 + b_1 + w/2$ | 58.5 | 54 | 35.5 |
| R/LB229.KM50.2.K2 | | 78.5 | 74 | |
| R/LB229.KM63.1.K2 | $l_1 + b_1 + w/2$ | 68.5 | 62 | 35.5 |
| R/LB229.KM63.2.K2 | | 88.5 | 82 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LB229.KM... | 030.0518.T20P | T20PQ |

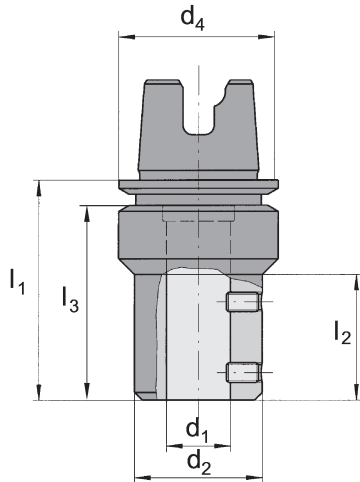
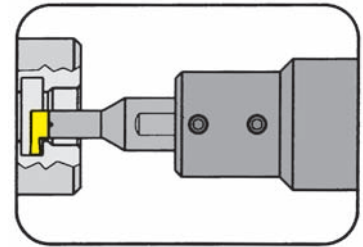
M

ADAPTOR Type

001KM

Cylindrical adapter for boring bars KM-System Ø 16 / 20 mm

for cylindrical shanks with standard clamping flat



| Part number | l_1 | l_2 | l_3 | d_2 | d_1 | d_4 |
|-------------|-------|-------|-------|-------|-------|-------|
| 001.KM40.16 | 65 | - | 55 | 40 | 16 | 40 |
| 001.KM40.20 | 70 | - | 58 | 40 | 20 | 40 |
| 001.KM50.16 | 65 | 44 | 55 | 40 | 16 | 50 |
| 001.KM50.20 | 70 | 49 | 55 | 40 | 20 | 50 |
| 001.KM63.16 | 65 | 40 | 55 | 40 | 16 | 63 |
| 001.KM63.20 | 70 | 45 | 58 | 40 | 20 | 63 |

Further sizes upon request

Dimensions in mm

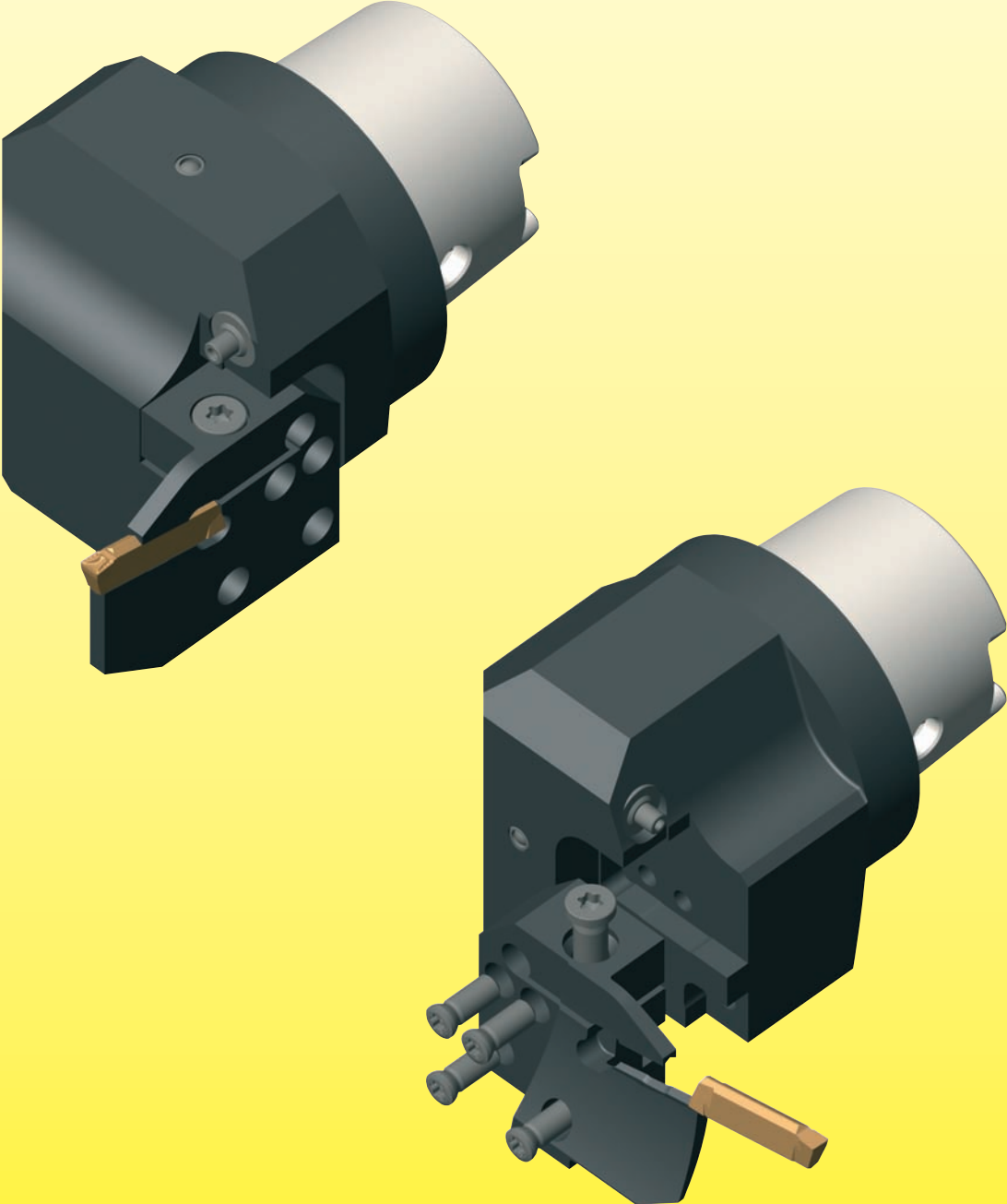
M

Spare parts

| Adaptor | Screw | Wrench |
|-----------|------------------|-----------|
| 001.KM... | DIN1835-B M10x12 | SW5DIN911 |

M18

HORN HSK-C63 DIN 69893

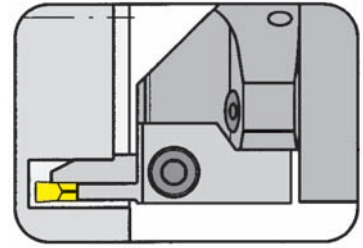


M

BASIC TOOLHOLDER Type

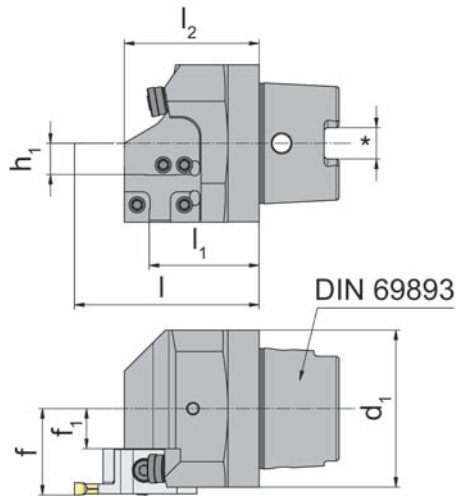
HSK-220

without cassette



Basic toolholder for cassettes type 100/220/224/356/360

for manual tool change, with through coolant supply



R = right hand version shown

L = left hand version

HORN HSK-C63 DIN
69893

| Part number | l_1 | h_1 | f_1 | f | l_2 | l |
|---------------------------|-------|-------|-------|-----------|-------|-----------|
| HSK-R/L220.0063.K1 | 44 | 12.5 | 16.1 | f_1+f_3 | 54 | l_1+l_k |

State R or L version

Dimensions in mm

Further sizes and versions (e.g. HSK-B50) upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

M

Spare parts

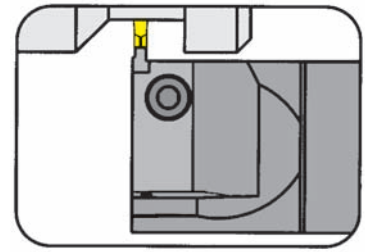
| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle |
|--------------------|-----------------|-------------------|----------------------|
| HSK-R/L220.0063.K1 | 5.12T20P | T20PQ | 020.1008.2977 |

M20

BASIC TOOLHOLDER Type

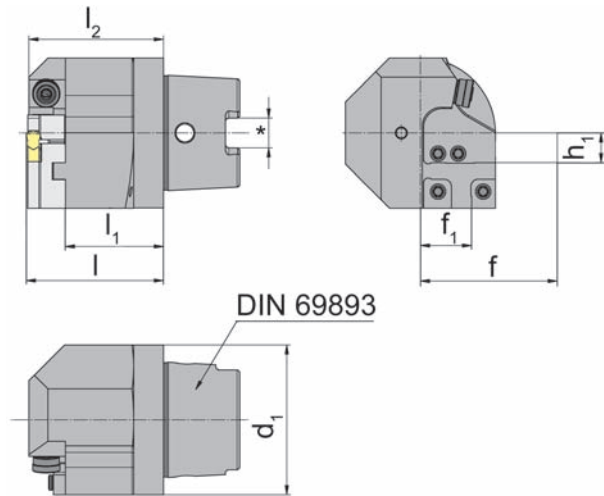
HSK-220

without cassette



Basic toolholder for cassettes type 100/220/224/356/360

for manual tool change, with through coolant supply



R = right hand version shown

L = left hand version

HORN HSK-C63 DIN
69893

| Part number | l_1 | h_1 | f_1 | f | l_2 | l |
|---------------------------|-------|-------|-------|-------------|-------|-------------|
| HSK-R/L220.0063.K2 | 41.2 | 12.5 | 21.5 | $f_1 + l_k$ | 56.5 | $l_1 + f_3$ |

State R or L version

Dimensions in mm

Further sizes and versions (e.g. HSK-B50) upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

Spare parts

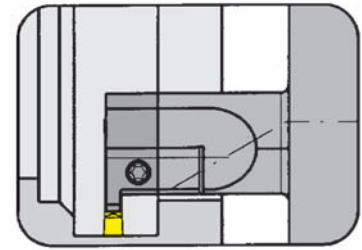
| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle |
|--------------------|-----------------|-------------------|----------------------|
| HSK-R/L220.0063.K2 | 5.12T20P | T20PQ | 020.1008.2977 |

M

BASIC TOOLHOLDER Type

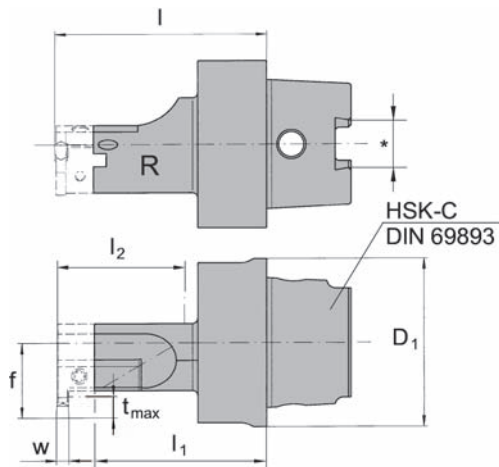
HSK224

without cassette



Basic toolholder for cassettes type BK224

for manual tool change, with through coolant supply



R = right hand version shown

L = left hand version

HORN HSK-C63 DIN 69893

| Part number | l | l ₁ | l ₂ | f |
|---------------------|-------------------|----------------|----------------|----|
| HSKR/L224.0063.1.K2 | $l_1 + b_1 + w/2$ | 70.3 | 58 | 32 |
| HSKR/L224.0063.2.K2 | | 90.3 | 78 | |

State R or L version

Dimensions in mm

Further sizes and versions (e.g. HSK-B50) upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

M

Spare parts

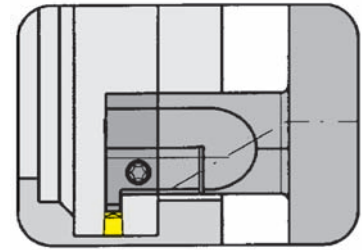
| Basic toolholder | Screw | TORX PLUS® Wrench |
|--------------------|---------------|-------------------|
| HSKR/L224.0063.... | 030.0518.T20P | T20PQ |

M22

BASIC TOOLHOLDER Type

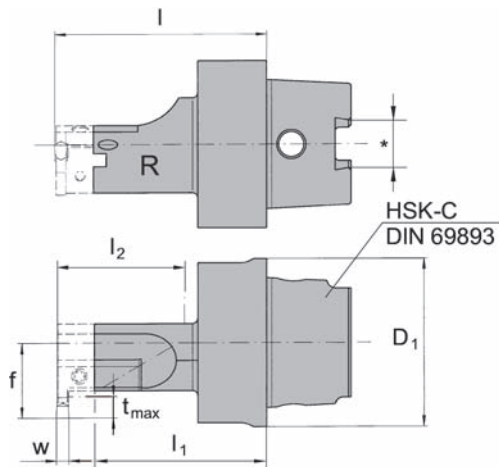
HSK229

without cassette



Basic toolholder for cassettes type BK229

for manual tool change, with through coolant supply



R = right hand version shown

L = left hand version

HORN HSK-C63 DIN 69893

| Part number | l | l ₁ | l ₂ | f |
|---------------------|-------------------|----------------|----------------|------|
| HSKR/L229.0063.1.K2 | $l_1 + b_1 + w/2$ | 70.3 | 58 | 35.5 |
| HSKR/L229.0063.2.K2 | | 90.3 | 78 | |

State R or L version

Dimensions in mm

Further sizes and versions (e.g. HSK-B50) upon request

Note:

Dimensions for D_{min} , t_{max} and w see cassettes

Spare parts

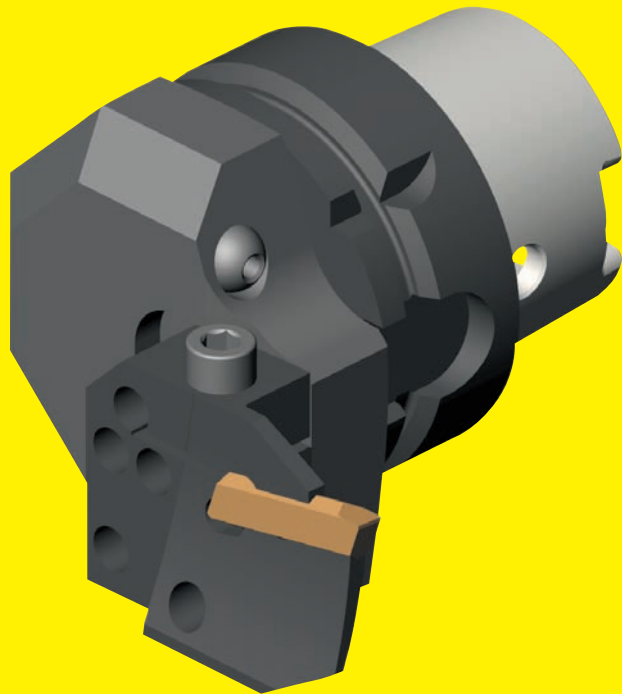
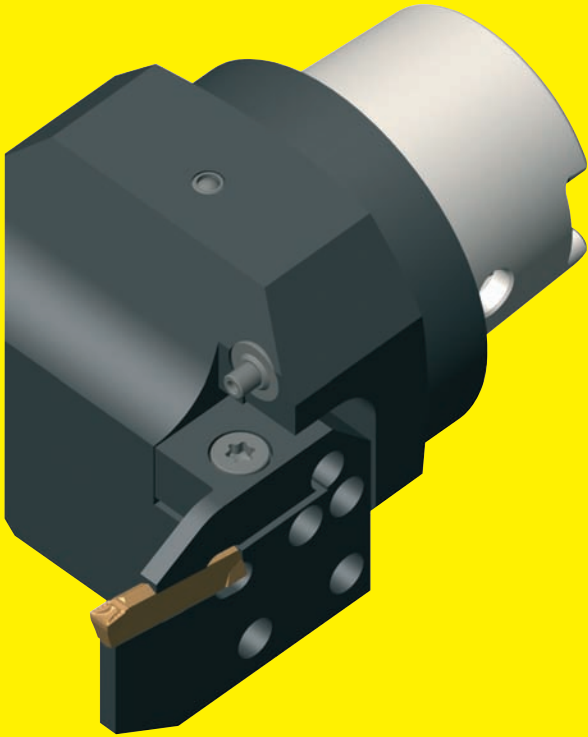
| Basic toolholder | Screw | TORX PLUS® Wrench |
|--------------------|---------------|-------------------|
| HSKR/L229.0063.... | 030.0518.T20P | T20PQ |

M

HORN HSK-C63 DIN 69893

Stock item

- **without** tool changing groove
- with reduced groove tolerance



HORN HSK-T....

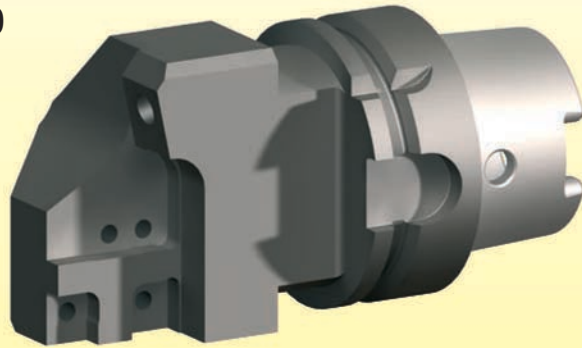
- with reduced groove tolerance

The tool length will be increased compared to type "C" due to the tool changing groove.

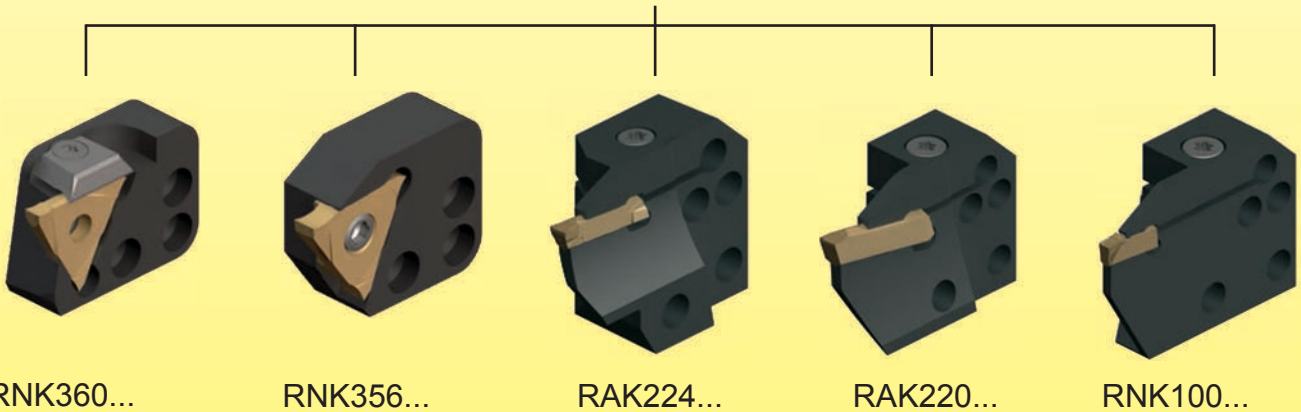
M

HORN HSK-T63 DIN 12164-3

Basic toolholder HSK-T63..220
for external machining



Pocket seat system 220



Basic toolholder HSK-T63...224 / ...229
for internal machining



RBK229...



Pocket seat system B224 / B229
for boring bars

M

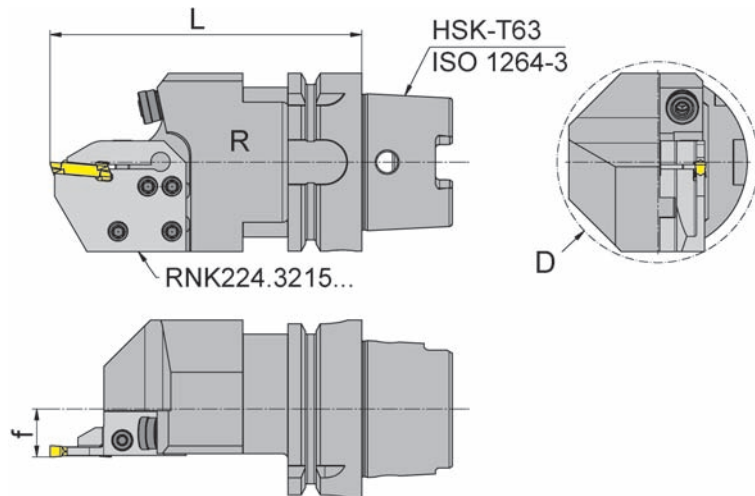
BASIC TOOLHOLDER Type

HSK-T220

without cassette

for using on multi-tasking machines

with through coolant supply



R = right hand version shown

L = left hand version

Pocket seat system 220

| Part number | Cassette | ...NK224... | | | ...NK220... | | | ...NK356... | | | ...NK360... | | |
|-----------------------------|----------|-------------|------|----|-------------|------|----|-------------|------|------|-------------|------|------|
| | | L | D | f | L | D | f | L | D | f | L | D | f |
| HSKT63.L220.110.K1 | L | 110 | | | 117 | | | 110 | | | 100 | | |
| HSKT63.L220.120.K1 | | 120 | | | 127 | | | 120 | | | 110 | | |
| HSKT63.L220.130.K1 | | 130 | 71.2 | 17 | 137 | 71.2 | 17 | 130 | 71.5 | 16.9 | 120 | 74.7 | 19.8 |
| HSKT63.L220.150.K1 | | 150 | | | 157 | | | 150 | | | 140 | | |
| HSKT63.L220.175.K1 | | 175 | | | 182 | | | 175 | | | 165 | | |
| HSKT63.R220.110.K1 | R | 110 | | | 117 | | | 110 | | | 100 | | |
| HSKT63.R220.120.K1 | | 120 | | | 127 | | | 120 | | | 110 | | |
| HSKT63.R220.130.K1 | | 130 | 71.2 | 17 | 137 | 71.2 | 17 | 130 | 71.5 | 16.9 | 120 | 74.7 | 19.8 |
| HSKT63.R220.150.K1 | | 150 | | | 157 | | | 150 | | | 140 | | |
| HSKT63.R220.175.K1 | | 175 | | | 182 | | | 157 | | | 165 | | |
| for Indexable Insert | | S224 | | | S229 | | | 315 | | | 312 | | |

Further sizes upon request

Dimensions in mm

M

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle | Coolant tube |
|--------------------|----------|-------------------|----------------------|--------------|
| HSKT63.R/L220.1... | 5.12T20P | T20PQ | 020.1008.2977 | HSK63KMZ |

M26

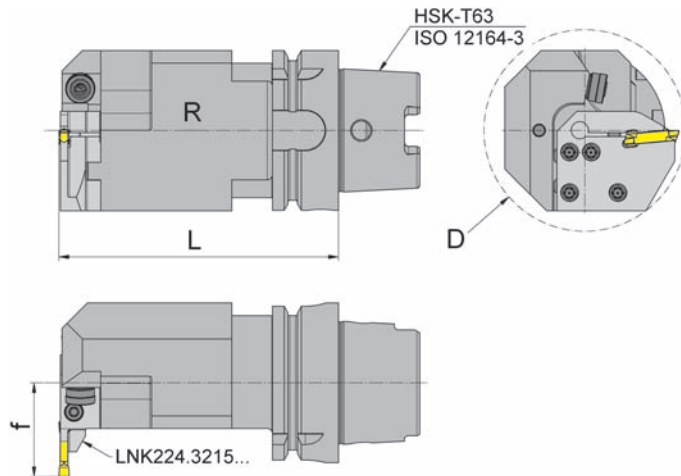
BASIC TOOLHOLDER Type

HSK-T220

without cassette

for using on multi-tasking machines

with through coolant supply



R = right hand version shown

L = left hand version

Pocket seat system 220

| Part number | Cassette | ...AK224... | | | ...AK220... | | | ...NK356... | | | ...NK360... | | |
|-----------------------------|----------|-------------|------|----|-------------|------|----|-------------|----|----|-------------|------|----|
| | | L | D | f | L | D | f | L | D | f | L | D | f |
| HSKT63.L220.110.K2 | R | 110 | | | 110 | | | 109.9 | | | 112.8 | | |
| HSKT63.L220.130.K2 | | 130 | 79.5 | 37 | 130 | 88.1 | 44 | 129.9 | 74 | 37 | 132.8 | 79.2 | 27 |
| HSKT63.L220.150.K2 | | 150 | | | 150 | | | 149.9 | | | 152.8 | | |
| HSKT63.L220.175.K2 | | 175 | | | 175 | | | 174.9 | | | 177.8 | | |
| HSKT63.R220.110.K2 | L | 110 | | | 110 | | | 109.9 | | | 112.8 | | |
| HSKT63.R220.130.K2 | | 130 | 79.5 | 37 | 130 | 88.1 | 44 | 129.9 | 74 | 37 | 132.8 | 79.2 | 27 |
| HSKT63.R220.150.K2 | | 150 | | | 150 | | | 149.9 | | | 152.8 | | |
| HSKT63.R220.175.K2 | | 175 | | | 175 | | | 174.9 | | | 177.8 | | |
| for Indexable Insert | | S224 | | | S229 | | | 315 | | | 312 | | |

Further sizes upon request

Dimensions in mm

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle | Coolant tube |
|--------------------|----------|-------------------|----------------------|--------------|
| HSKT63.R/L220.1... | 5.12T20P | T20PQ | 020.1008.2977 | HSK63KMZ |

M

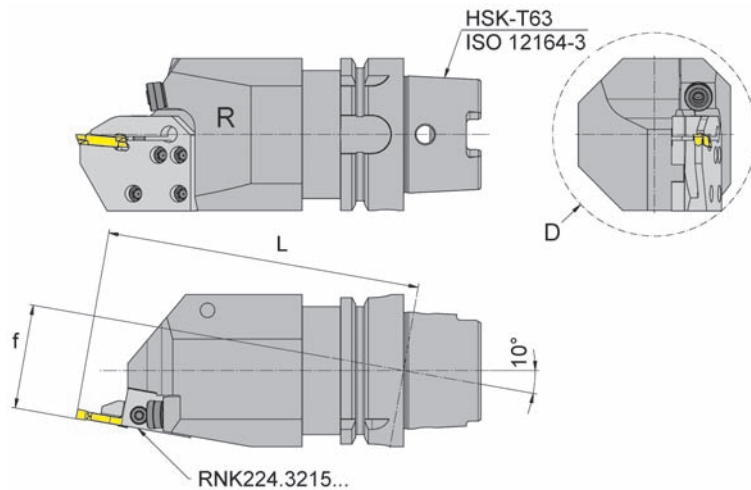
BASIC TOOLHOLDER Type

HSK-T220

without cassette

for using on multi-tasking machines with 10° orientation to spindle

with through coolant supply



R = right hand version shown

L = left hand version

Pocket seat system 220

| Part number | Cassette | ...NK224... | | | ...NK220... | | | ...NK356... | | | ...NK360... | | |
|-----------------------------|----------|-------------|------|------|-------------|------|------|-------------|------|------|-------------|------|------|
| | | L | D | f | L | D | f | L | D | f | L | D | f |
| HSKT63.L220.110.K3 | L | 110 | | | 117 | | | 110 | | | 100 | | |
| HSKT63.L220.120.K3 | | 120 | | | 127 | | | 120 | | | 110 | | |
| HSKT63.L220.130.K3 | | 130 | 83.8 | 39.7 | 137 | 84.1 | 33.7 | 130 | 84.4 | 39.6 | 120 | 88.7 | 42.5 |
| HSKT63.L220.150.K3 | | 150 | | | 157 | | | 150 | | | 140 | | |
| HSKT63.L220.175.K3 | | 175 | | | 182 | | | 175 | | | 165 | | |
| HSKT63.R220.110.K3 | R | 110 | | | 117 | | | 110 | | | 100 | | |
| HSKT63.R220.120.K3 | | 120 | | | 127 | | | 120 | | | 110 | | |
| HSKT63.R220.130.K3 | | 130 | 83.8 | 39.7 | 137 | 84.1 | 33.7 | 130 | 84.4 | 39.6 | 120 | 88.7 | 42.5 |
| HSKT63.R220.150.K3 | | 150 | | | 157 | | | 150 | | | 140 | | |
| HSKT63.R220.175.K3 | | 175 | | | 182 | | | 157 | | | 165 | | |
| for Indexable Insert | | S224 | | | S229 | | | 315 | | | 312 | | |

Further sizes upon request

Dimensions in mm

M

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle | Coolant tube |
|--------------------|----------|-------------------|----------------------|--------------|
| HSKT63.R/L220.1... | 5.12T20P | T20PQ | 020.1008.2977 | HSK63KMZ |

M28

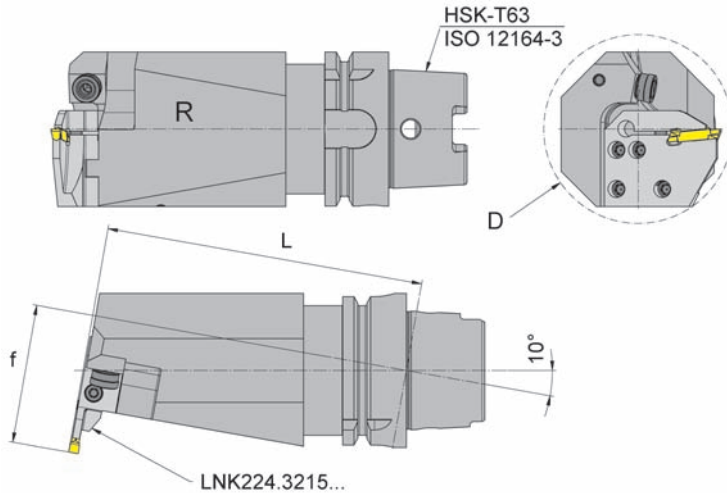
BASIC TOOLHOLDER Type

HSK-T220

without cassette

for using on multi-tasking machines with 10° orientation to spindle

with through coolant supply



R = right hand version shown

L = left hand version

Pocket seat system 220

| Part number | Cassette | ...AK224... | | | ...AK220... | | | ...NK356... | | | ...NK360... | | |
|-----------------------------|----------|-------------|------|------|-------------|------|------|-------------|----|------|-------------|------|------|
| | | L | D | f | L | D | f | L | D | f | L | D | f |
| HSKT63.L220.110.K4 | R | 110 | | | 110 | | | 109.9 | | | 112.8 | | |
| HSKT63.L220.130.K4 | | 130 | 75.8 | 53.2 | 130 | 83.7 | 60.2 | 129.9 | 72 | 33.2 | 132.8 | 76.5 | 43.2 |
| HSKT63.L220.150.K4 | | 150 | | | 150 | | | 149.9 | | | 152.8 | | |
| HSKT63.L220.175.K4 | | 175 | | | 175 | | | 174.9 | | | 177.8 | | |
| HSKT63.R220.110.K4 | L | 110 | | | 110 | | | 109.9 | | | 112.8 | | |
| HSKT63.R220.130.K4 | | 130 | 75.8 | 53.2 | 130 | 83.7 | 60.2 | 129.9 | 72 | 33.2 | 132.8 | 76.5 | 43.2 |
| HSKT63.R220.150.K4 | | 150 | | | 150 | | | 149.9 | | | 152.8 | | |
| HSKT63.R220.175.K4 | | 175 | | | 175 | | | 174.9 | | | 177.8 | | |
| for Indexable Insert | | S224 | | | S229 | | | 315 | | | 312 | | |

Further sizes upon request

Dimensions in mm

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle | Coolant tube |
|--------------------|-----------------|-------------------|----------------------|-----------------|
| HSKT63.R/L220.1... | 5.12T20P | T20PQ | 020.1008.2977 | HSK63KMZ |

M

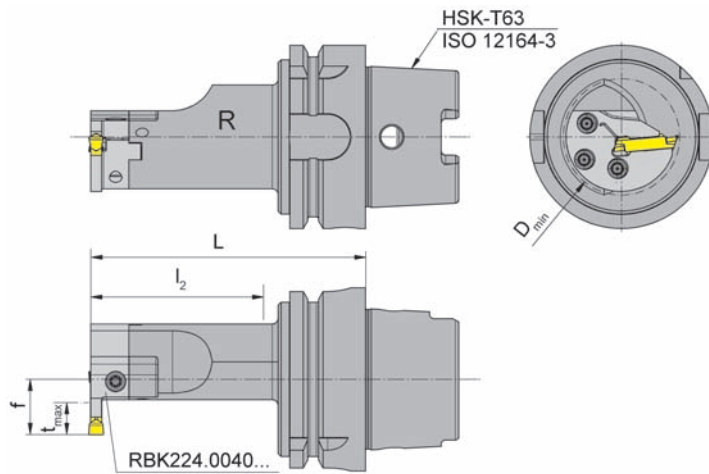
BASIC TOOLHOLDER Type

HSK-T224

without cassette

for using on multi-tasking machines

with through coolant supply



R = right hand version shown

L = left hand version

Pocket seat system 224

| Part number | Cassette | L | D _{min} | t _{max} | f | l ₂ |
|-----------------------------|----------|-----|------------------|------------------|----|----------------|
| HSKT63.LB224.095.K2 | LBK224 | 95 | 39 | 11 | 19 | 60 |
| HSKT63.LB224.115.K2 | | 115 | | | | 80 |
| HSKT63.RB224.095.K2 | RBK224 | 95 | 39 | 11 | 19 | 60 |
| HSKT63.RB224.115.K2 | | 115 | | | | 80 |
| for Indexable Insert | | | S224 | | | |

Further sizes upon request

Dimensions in mm

M

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant tube |
|------------------|----------------------|-------------------|-----------------|
| HSKT63.... | 030.0518.T20P | T20PQ | HSK63KMZ |

M30

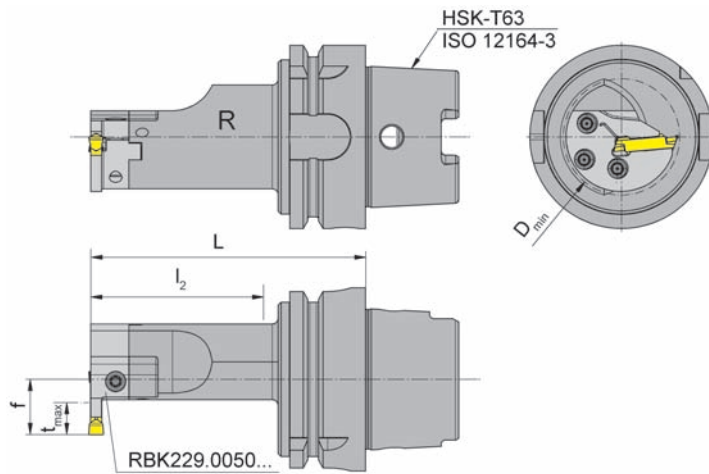
BASIC TOOLHOLDER Type

HSK-T229

without cassette

for using on multi-tasking machines

with through coolant supply



R = right hand version shown

L = left hand version

Pocket seat system 229

| Part number | Cassette | L | D _{min} | t _{max} | D _{min} | t _{max} | f | l ₂ |
|-----------------------------|----------|-------------|------------------|------------------|------------------|------------------|------|----------------|
| HSKT63.LB229.095.K2 | LBK229 | 95 | 50 | 12 | 60 | 15 | 24.2 | 60 |
| HSKT63.LB229.115.K2 | | 115 | | | | | | 80 |
| HSKT63.RB229.095.K2 | RBK229 | 95 | 50 | 12 | 60 | 15 | 24.2 | 60 |
| HSKT63.RB229.115.K2 | | 115 | | | | | | 80 |
| for Indexable Insert | | S229 | | | | | | |

Further sizes upon request

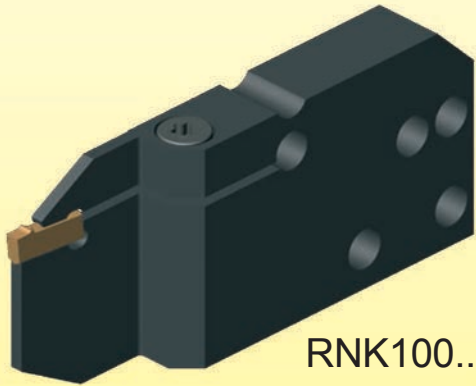
Dimensions in mm

Spare parts

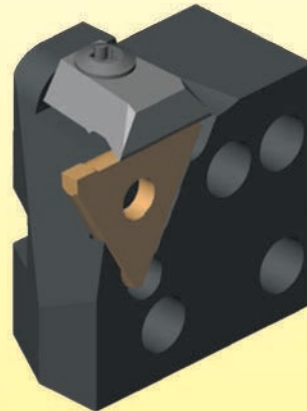
| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant tube |
|--------------------|----------------------|-------------------|-----------------|
| HSKT63.R/LB229.... | 030.0518.T20P | T20PQ | HSK63KMZ |

M

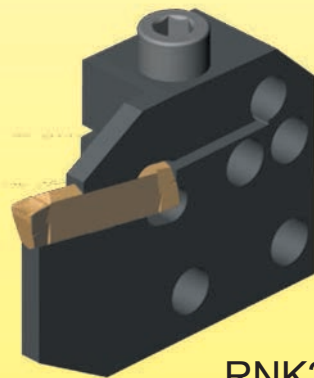
**Cassettes type RNK and LNK
- external -**



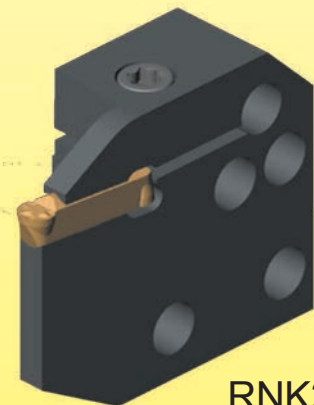
RNK100...



RNK360...



RNK220...

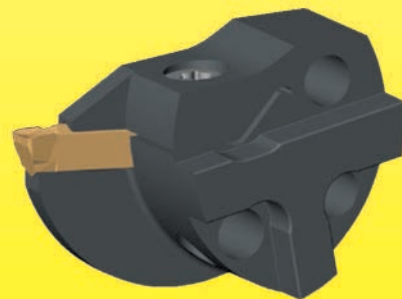


RNK224...

**Cassettes type RBK and LBK
- internal -**



RBK229...

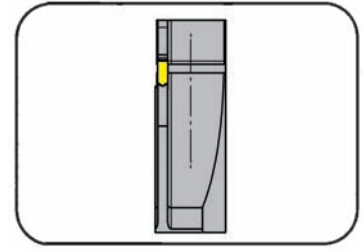


RBK224...

M

CASSETTE Type

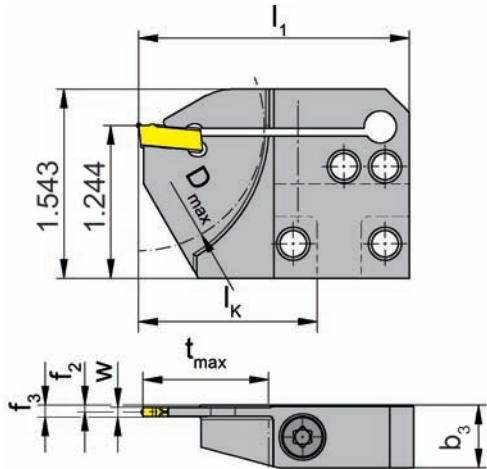
NK100



Depth of groove up to 1.024"
Width of groove .098 - .118"

for use with Insert

Type S100



R = right hand version shown

| Part number | l_1 | t_{max} | D_{max} | f_2 | f_3 | l_k |
|------------------------------------|-------|-----------|-----------|--------------|-----------|-------|
| RNK100.5625.02L RNK100.5625.03L | 2.205 | 1.024 | 2.047 | .055 .065 | $f_2+w/2$ | 1.457 |
| RNK100.7025.02L RNK100.7025.03L | 2.756 | 1.024 | 2.047 | .055 .065 | $f_2+w/2$ | 2.008 |

For basic toolholder R...K1 and L...K2

w see inserts

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

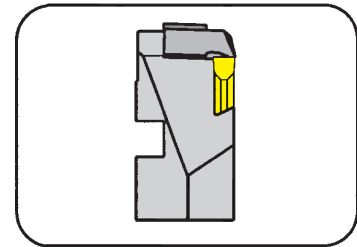
Further sizes upon request

Spare parts

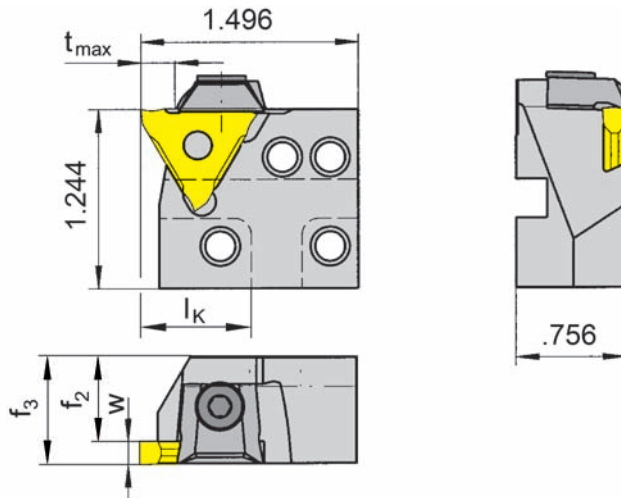
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RNK100.... | 5.13T20P | T20PQ |

CASSETTE Type

NK360



Depth of groove up to .236"
Clamping range .020 - .248"



for use with Indexable insert

Type 312
U312

R = right hand version shown

L = left hand version

| Part number | t_{max} | f_2 | f_3 | l_k | Clamping range |
|------------------|-----------|-------|-----------------|-------|----------------|
| R/LNK360.0220.01 | .157 | .697 | $f_2 + w - a_1$ | .748 | .020 - .075 |
| R/LNK360.0220.02 | .236 | .657 | $f_2 + w - a_1$ | .748 | .075 - .114 |
| R/LNK360.0220.03 | .236 | .618 | $f_2 + w - a_1$ | .748 | .114 - .154 |
| R/LNK360.0220.04 | .236 | .551 | $f_2 + w - a_1$ | .748 | .154 - .248 |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

t_{max} can be reached only with workpiece $\varnothing \leq 1.575$ "

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

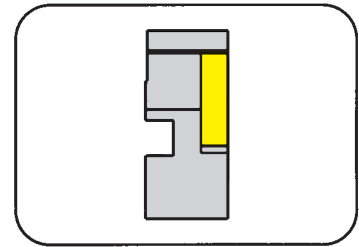
Spare parts

| Cassette | Clamp | TORX PLUS® Wrench |
|--------------------|-------|-------------------|
| R/LNK360.0220.0... | 14.4 | T15PQ |

M34

CASSETTE Type

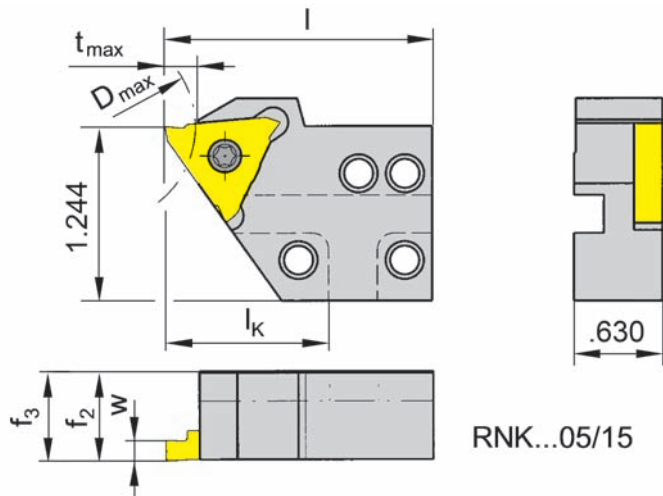
NK356



Depth of groove up to .236"
Clamping range .043 - .260"

for use with Indexable insert

Type 315



R = right hand version shown

L = left hand version

| Part number | t _{max} | D _{max} | f ₂ | f ₃ | l | l _k | Clamping range |
|------------------|------------------|------------------|----------------|--------------------------------|-------|----------------|----------------|
| R/LNK356.0220.05 | .236 | - | | | 1.890 | 1.142 | |
| R/LNK356.0220.15 | .236 | - | .642 | f ₃ =f ₂ | 1.496 | .748 | .043 - .213 |
| R/LNK356.1220.16 | .197 | 1.378 | | | 1.496 | .748 | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

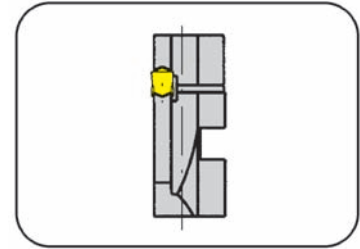
| Cassette | Screw | TORX PLUS® Wrench |
|--------------|----------|-------------------|
| R/LNK356.... | 5.12T20P | T20PQ |

M

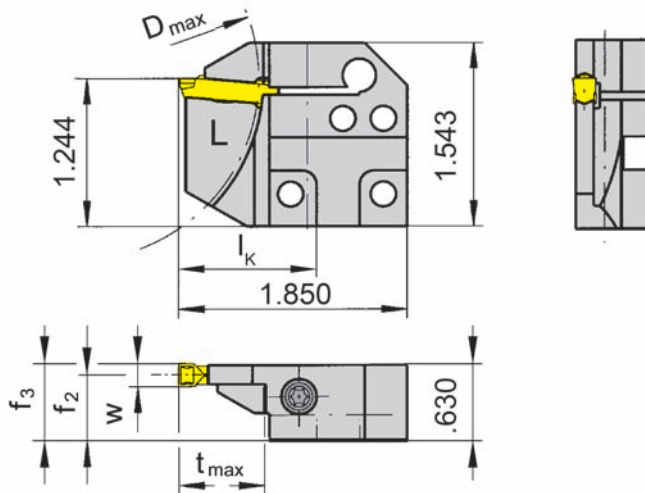
M35

CASSETTE Type

NK224



Depth of groove up to .709"
Clamping range .079 - .236"



L = left hand version shown

R = right hand version

for use with Indexable insert

Type S224

| Part number | t _{max} | D _{max} | f ₂ | f ₃ | I _k | Clamping range |
|------------------|------------------|------------------|----------------|---------------------|----------------|----------------|
| R/LNK224.3215.01 | .709 | 3.150 | .606 | f ₂ +w/2 | 1.142 | .079 - .095 |
| R/LNK224.3215.02 | .709 | 3.150 | .596 | f ₂ +w/2 | 1.142 | .095 - .110 |
| R/LNK224.3215.03 | .709 | 3.150 | .587 | f ₂ +w/2 | 1.142 | .110 - .146 |
| R/LNK224.3215.04 | .709 | 3.150 | .567 | f ₂ +w/2 | 1.142 | .146 - .173 |
| R/LNK224.3215.05 | .709 | 3.150 | .547 | f ₂ +w/2 | 1.142 | .173 - .201 |
| R/LNK224.3215.06 | .709 | 3.150 | .528 | f ₂ +w/2 | 1.142 | .201 - .236 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|----------|-------------------|
| R/LNK224.3215.0... | 5.13T20P | T20PQ |

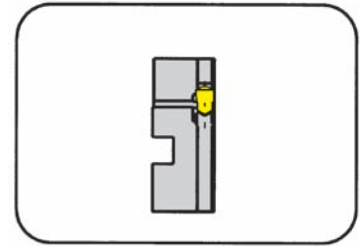
M36

GROOVING (external)

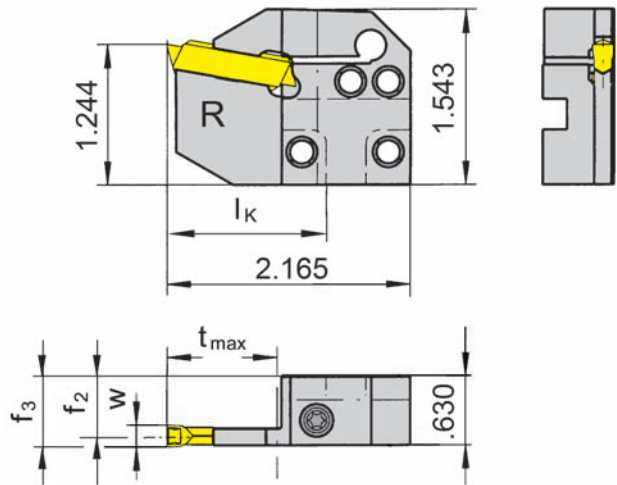


CASSETTE Type

NK220



Depth of groove up to .984"
Clamping range .118 - .240"



R = right hand version shown

L = left hand version

for use with Indexable insert

Type 229
S229

| Part number | t_{max} | f_2 | f_3 | l_k | Clamping range |
|------------------|-----------|-------|-------------|-------|----------------|
| R/LNK220.3215.03 | .984 | .587 | $f_2 + w/2$ | 1.417 | .118 - .150 |
| R/LNK220.3215.04 | .984 | .567 | $f_2 + w/2$ | 1.417 | .150 - .173 |
| R/LNK220.3215.05 | .984 | .547 | $f_2 + w/2$ | 1.417 | .173 - .200 |
| R/LNK220.3215.06 | .984 | .528 | $f_2 + w/2$ | 1.417 | .201 - .240 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

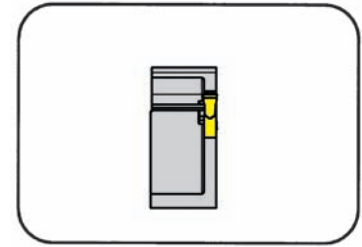
| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|----------|-------------------|
| R/LNK220.3215.0... | 6.23T25P | T25PQ |

M

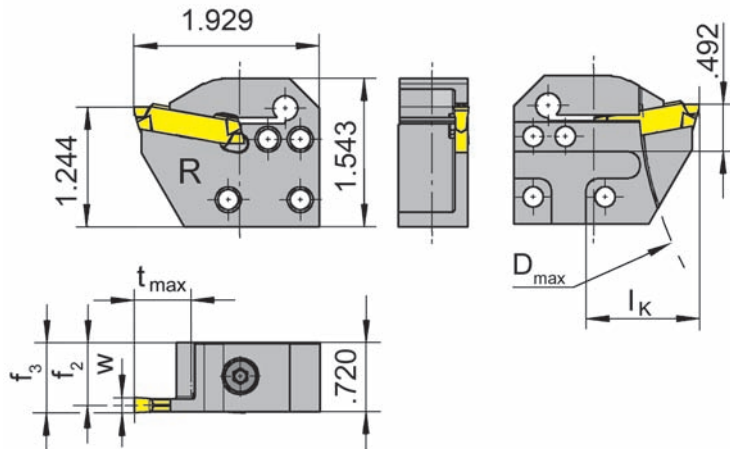
M37

CASSETTE Type

NK220



Depth of groove up to .591"
Clamping range .118 - .240"



for use with Indexable insert

Type 229
N229
S229

R = right hand version shown

L = left hand version

| Part number | t _{max} | D _{max} | f ₂ | f ₃ | l _k | Clamping range |
|------------------|------------------|------------------|----------------|---------------------|----------------|----------------|
| R/LNK220.3218.13 | .591 | 7.087 | .673 | f ₂ +w/2 | 1.181 | .118 - .150 |
| R/LNK220.3218.14 | .591 | 7.087 | .654 | f ₂ +w/2 | 1.181 | .150 - .173 |
| R/LNK220.3218.15 | .591 | 7.087 | .634 | f ₂ +w/2 | 1.181 | .173 - .200 |
| R/LNK220.3218.16 | .591 | 7.087 | .616 | f ₂ +w/2 | 1.181 | .201 - .240 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

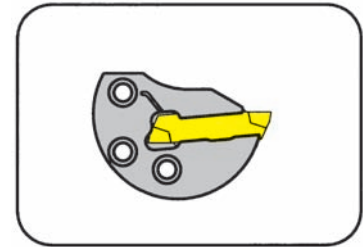
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|----------|-------------------|
| R/LNK220.3218.1... | 6.23T25P | T25PQ |

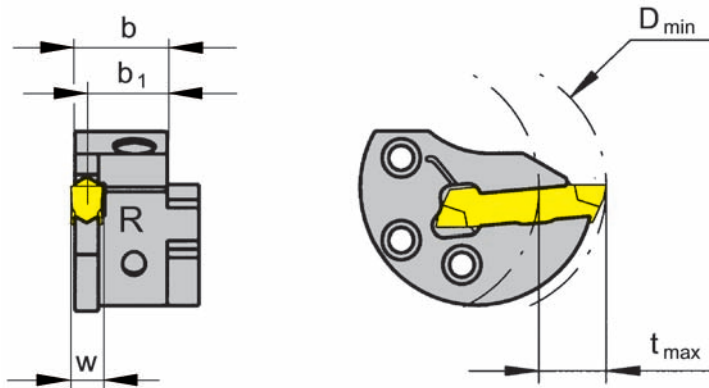
M38

CASSETTE Type

BK224



Bore Ø from 1.575"
 Depth of groove up to .433"
 Clamping range .079 - .240"



for use with Indexable insert

Type S224

R = right hand version shown

L = left hand version

| Part number | b ₁ | b | D _{min} | t _{max} | Size | Clamping range |
|------------------|----------------|------|------------------|------------------|------|----------------|
| R/LBK224.0040.01 | .500 | .528 | 1.575 | .433 | 01 | .079 - .094 |
| R/LBK224.0040.02 | .490 | .526 | 1.575 | .433 | 02 | .094 - .110 |
| R/LBK224.0040.03 | .480 | .524 | 1.575 | .433 | 03 | .110 - .146 |
| R/LBK224.0040.04 | .461 | .518 | 1.575 | .433 | 04 | .146 - .173 |
| R/LBK224.0040.05 | .441 | .514 | 1.575 | .433 | 05 | .173 - .201 |
| R/LBK224.0040.06 | .421 | .510 | 1.575 | .433 | 06 | .201 - .240 |

State R or L version

w see indexable inserts

Dimensions in inch

Use right hand cassettes in right hand basic toolholders and left hand cassettes in left hand basic toolholders.

Ordering note:

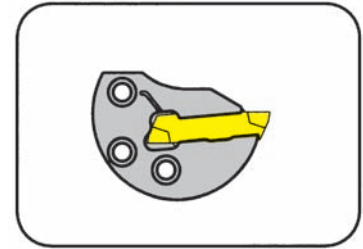
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

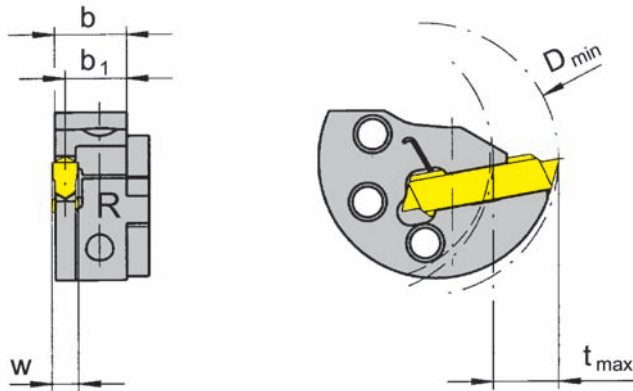
| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|-----------|-------------------|
| R/LBK224.0040.0... | 5.13T20EP | T20PQ |

CASSETTE Type

BK229



Bore Ø from 1.969"
 Depth of groove up to .472"
 Clamping range .118 - .236"



for use with Indexable insert

Type 229
 S229

R = right hand version shown

L = left hand version

| Part number | D _{min} | t _{max} | b ₁ | b | D _{min} | t _{max} | Size | Clamping range |
|------------------|------------------|------------------|----------------|------|------------------|------------------|------|----------------|
| R/LBK229.0050.03 | 2.362 | .591 | .512 | .561 | 1.969 | .472 | 03 | .118 - .158 |
| R/LBK229.0050.04 | 2.362 | .591 | .492 | .559 | 1.969 | .472 | 04 | .158 - .197 |
| R/LBK229.0050.05 | 2.362 | .591 | .453 | .545 | 1.969 | .472 | 05 | .201 - .236 |

State R or L version

w see indexable inserts

Dimensions in inch

Use right hand cassettes in right hand basic toolholders and left hand cassettes in left hand basic toolholders.

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

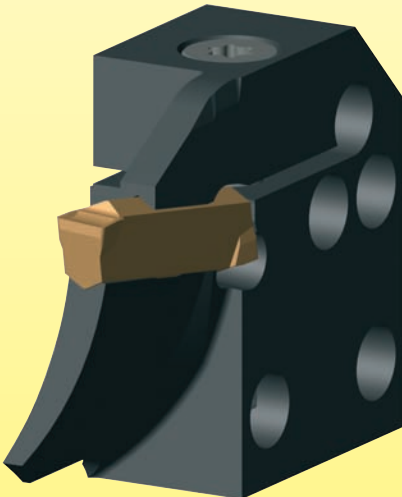
M

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|-----------|-------------------|
| R/LBK229.0050.0... | 5.13T20EP | T20PQ |

M40

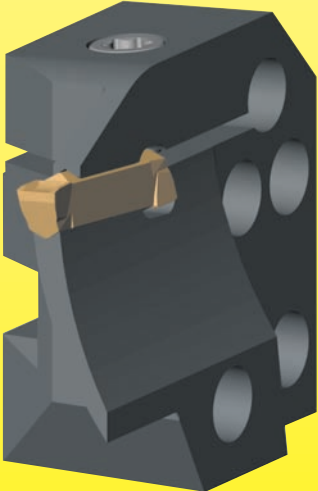
Cassettes for face grooving



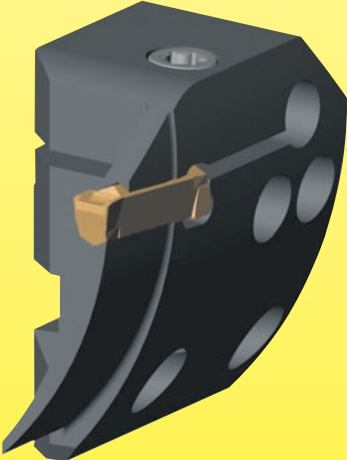
RIK220...



RAK220...



RAK224...

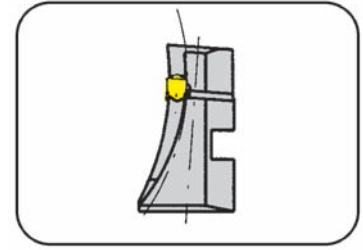


RIK224...

M

CASSETTE Type

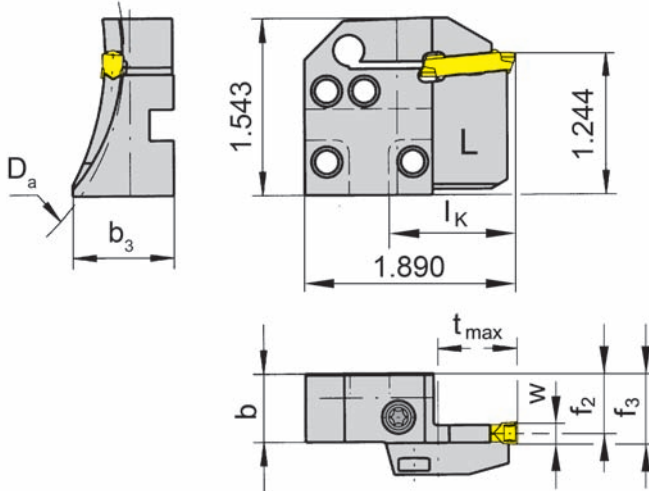
LAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .118 - .157"

for use with Indexable insert

Type S224



L = left hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | b_3 | f_2 | f_3 | w | l_k |
|----------------|--------------|--------------|------------|------|-------|-------|-----------|------|-------|
| LAK224.5060.03 | 1.969 | 2.362 | | | .827 | | | | |
| LAK224.6075.03 | 2.362 | 2.953 | | | .827 | | | | |
| LAK224.7590.03 | 2.953 | 3.543 | | | .827 | | | | |
| LAK224.9011.03 | 3.543 | 4.331 | | | .827 | | | | |
| LAK224.1113.03 | 4.331 | 5.118 | .551 | .618 | .827 | .587 | $f_2+w/2$ | .118 | 1.142 |
| LAK224.1318.03 | 5.118 | 7.087 | | | .787 | | | | |
| LAK224.1830.03 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.03 | 11.811 | 39.370 | | | .646 | | | | |
| LAK224.3847.04 | 1.496 | 1.850 | | | .827 | | | | |
| LAK224.4760.04 | 1.850 | 2.362 | | | .827 | | | | |
| LAK224.6075.04 | 2.362 | 2.953 | | | .827 | | | | |
| LAK224.7590.04 | 2.953 | 3.543 | | | .827 | | | | |
| LAK224.9013.04 | 3.543 | 5.118 | .551 | .618 | .827 | .567 | $f_2+w/2$ | .157 | 1.142 |
| LAK224.1318.04 | 5.118 | 7.087 | | | .827 | | | | |
| LAK224.1830.04 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.04 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

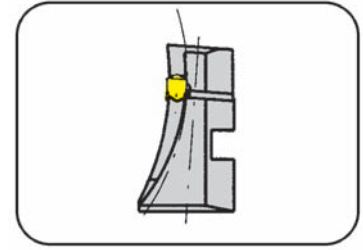
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK224.... | 5.13T20P | T20PQ |

M42

M

CASSETTE Type

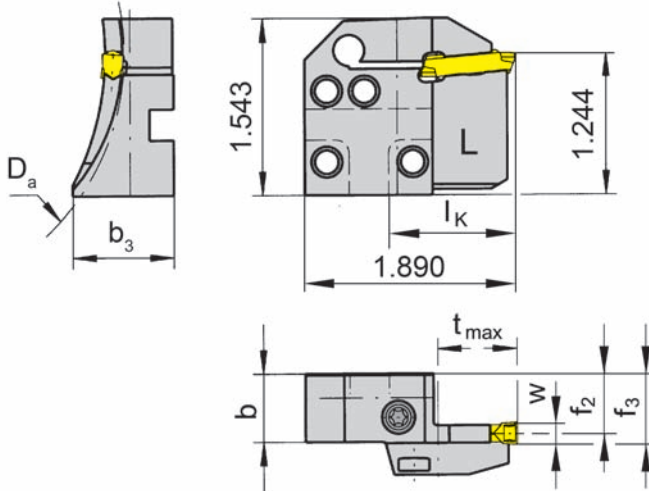
LAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .197 - .236"

for use with Indexable insert

Type S224



L = left hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{max} | b | b_3 | f_2 | f_3 | w | l_K |
|----------------|--------------|--------------|-----------|------|-------|-------|-----------|------|-------|
| LAK224.3847.05 | 1.496 | 1.850 | | | .827 | | | | |
| LAK224.4760.05 | 1.850 | 2.362 | | | .827 | | | | |
| LAK224.6075.05 | 2.362 | 2.953 | | | .827 | | | | |
| LAK224.7590.05 | 2.953 | 3.543 | | | .827 | | | | |
| LAK224.9013.05 | 3.543 | 5.118 | .551 | .618 | .827 | .547 | $f_2+w/2$ | .197 | 1.142 |
| LAK224.1318.05 | 5.118 | 7.087 | | | .827 | | | | |
| LAK224.1830.05 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.05 | 11.811 | 39.370 | | | .657 | | | | |
| LAK224.6075.06 | 2.362 | 2.953 | | | .906 | | | | |
| LAK224.7590.06 | 2.953 | 3.543 | | | .906 | | | | |
| LAK224.9013.06 | 3.543 | 5.118 | | | .827 | | | | |
| LAK224.1318.06 | 5.118 | 7.087 | .551 | .618 | .827 | .528 | $f_2+w/2$ | .236 | 1.142 |
| LAK224.1830.06 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.06 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

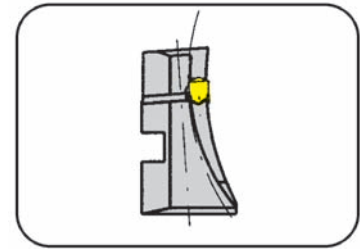
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

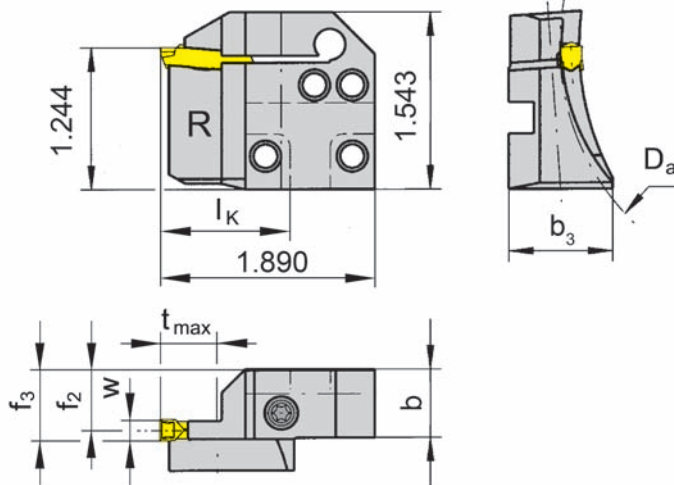
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK224.... | 5.13T20P | T20PQ |

CASSETTE Type

RAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .118 - .157"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | b ₃ | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|----------------|---------------------|------|----------------|
| RAK224.5060.03 | 1.969 | 2.362 | | | .827 | | | | |
| RAK224.6075.03 | 2.362 | 2.953 | | | .827 | | | | |
| RAK224.7590.03 | 2.953 | 3.543 | | | .827 | | | | |
| RAK224.9011.03 | 3.543 | 4.331 | | | .827 | | | | |
| RAK224.1113.03 | 4.331 | 5.118 | .551 | .618 | .827 | .587 | f ₂ +w/2 | .118 | 1.142 |
| RAK224.1318.03 | 5.118 | 7.087 | | | .787 | | | | |
| RAK224.1830.03 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.03 | 11.811 | 39.370 | | | .646 | | | | |
| RAK224.3847.04 | 1.496 | 1.850 | | | .827 | | | | |
| RAK224.4760.04 | 1.850 | 2.362 | | | .827 | | | | |
| RAK224.6075.04 | 2.362 | 2.953 | | | .827 | | | | |
| RAK224.7590.04 | 2.953 | 3.543 | | | .827 | | | | |
| RAK224.9013.04 | 3.543 | 5.118 | .551 | .618 | .827 | .567 | f ₂ +w/2 | .157 | 1.142 |
| RAK224.1318.04 | 5.118 | 7.087 | | | .827 | | | | |
| RAK224.1830.04 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.04 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

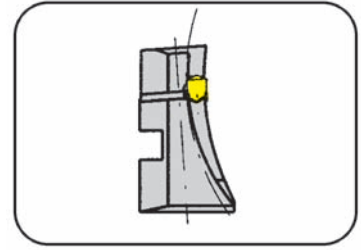
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK224.... | 5.13T20P | T20PQ |

M44

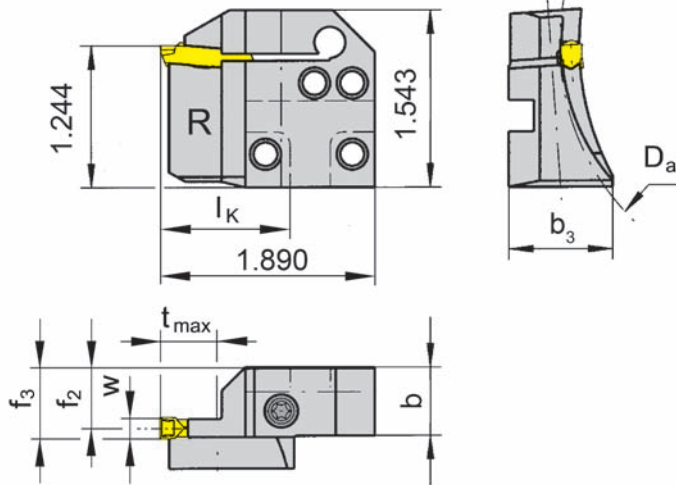
M

CASSETTE Type

RAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .197 - .236"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | b ₃ | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|----------------|---------------------|------|----------------|
| RAK224.3847.05 | 1.496 | 1.850 | | | .827 | | | | |
| RAK224.4760.05 | 1.850 | 2.362 | | | .827 | | | | |
| RAK224.6075.05 | 2.362 | 2.953 | | | .827 | | | | |
| RAK224.7590.05 | 2.953 | 3.543 | | | .827 | | | | |
| RAK224.9013.05 | 3.543 | 5.118 | .551 | .618 | .827 | .547 | f ₂ +w/2 | .197 | 1.142 |
| RAK224.1318.05 | 5.118 | 7.087 | | | .827 | | | | |
| RAK224.1830.05 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.05 | 11.811 | 39.370 | | | .657 | | | | |
| RAK224.6075.06 | 2.362 | 2.953 | | | .906 | | | | |
| RAK224.7590.06 | 2.953 | 3.543 | | | .906 | | | | |
| RAK224.9013.06 | 3.543 | 5.118 | | | .827 | | | | |
| RAK224.1318.06 | 5.118 | 7.087 | .551 | .618 | .827 | .528 | f ₂ +w/2 | .236 | 1.142 |
| RAK224.1830.06 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.06 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

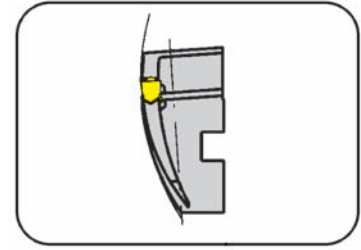
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK224.... | 5.13T20P | T20PQ |

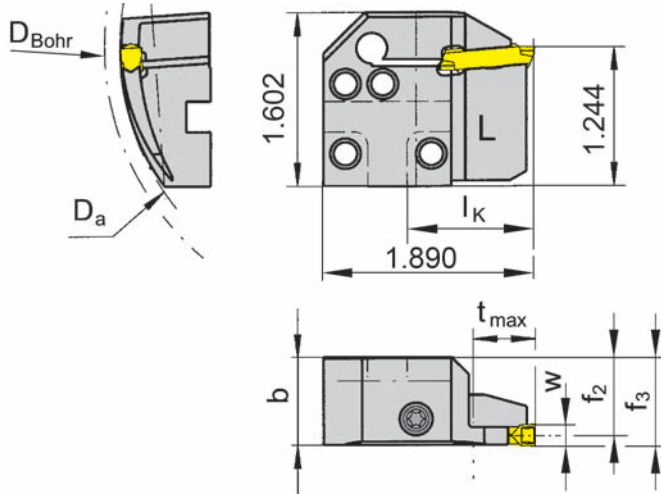
M

CASSETTE Type

LIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .118 - .157"



for use with Indexable insert

Type S224

L = left hand version

| Part number | D _{a min} | D _{a max} | t _{max} | b | f ₂ | f ₃ | D _{Bohr} | w | l _K |
|----------------|--------------------|--------------------|------------------|------|----------------|---------------------|-------------------|------|----------------|
| LIK224.5060.03 | 1.969 | 2.362 | | | | | 3.543 | | |
| LIK224.6075.03 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.03 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9011.03 | 3.543 | 4.331 | .551 | .748 | .705 | f ₂ +w/2 | 3.543 | .118 | 1.142 |
| LIK224.1113.03 | 4.331 | 5.118 | | | | | 4.331 | | |
| LIK224.1318.03 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.03 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3847.04 | 1.496 | 1.850 | | | | | 3.543 | | |
| LIK224.4760.04 | 1.850 | 2.362 | | | | | 3.543 | | |
| LIK224.6075.04 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.04 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9013.04 | 3.543 | 5.118 | .551 | .748 | .685 | f ₂ +w/2 | 3.543 | .157 | 1.142 |
| LIK224.1318.04 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.04 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3000.04 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

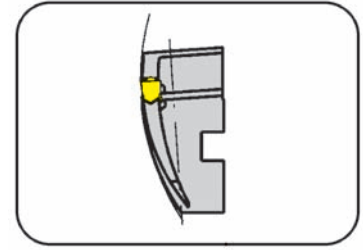
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

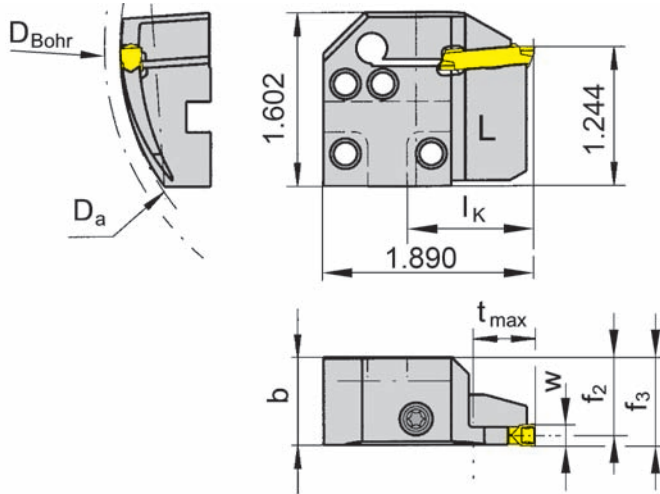
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK224.... | 5.13T20P | T20PQ |

CASSETTE Type

LIK224



| | |
|----------------------------|-----------------|
| Outer groove \varnothing | 1.496 - 39.370" |
| Depth of groove up to | .551" |
| Width of groove | .197 - .236" |



for use with Indexable insert

Type S224

L = left hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | f_2 | f_3 | D_{Bohr} | w | l_K |
|----------------|--------------|--------------|------------|------|-------|-----------|-------------------|------|-------|
| LIK224.3847.05 | 1.496 | 1.850 | | | | | 3.543 | | |
| LIK224.4760.05 | 1.850 | 2.362 | | | | | 3.543 | | |
| LIK224.6075.05 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.05 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9013.05 | 3.543 | 5.118 | .551 | .748 | .665 | $f_2+w/2$ | 3.543 | .197 | 1.142 |
| LIK224.1318.05 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.05 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3000.05 | 11.811 | 39.370 | | | | | 11.811 | | |
| LIK224.6075.06 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.06 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9013.06 | 3.543 | 5.118 | | | | | 3.543 | | |
| LIK224.1318.06 | 5.118 | 7.087 | .551 | .748 | .646 | $f_2+w/2$ | 5.118 | .236 | 1.142 |
| LIK224.1830.06 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3000.06 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

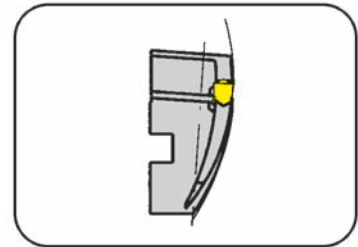
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK224.... | 5.13T20P | T20PQ |

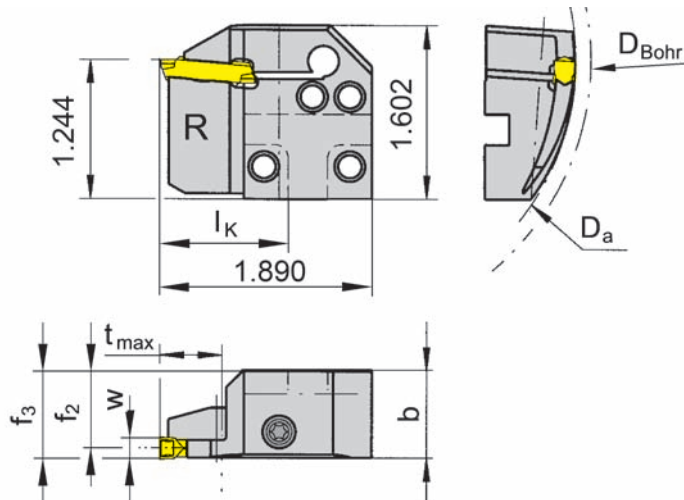
M

CASSETTE Type

RIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .118 - .157"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | f ₂ | f ₃ | D _{Bohr} | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|---------------------|-------------------|------|----------------|
| RIK224.5060.03 | 1.969 | 2.362 | | | | | 3.543 | | |
| RIK224.6075.03 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.03 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9011.03 | 3.543 | 4.331 | .551 | .748 | .705 | f ₂ +w/2 | 3.543 | .118 | 1.142 |
| RIK224.1113.03 | 4.331 | 5.118 | | | | | 4.331 | | |
| RIK224.1318.03 | 5.118 | 7.087 | | | | | 5.118 | | |
| RIK224.1830.03 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3847.04 | 1.496 | 1.850 | | | | | 3.543 | | |
| RIK224.4760.04 | 1.850 | 2.362 | | | | | 3.543 | | |
| RIK224.6075.04 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.04 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9013.04 | 3.543 | 5.118 | .551 | .748 | .685 | f ₂ +w/2 | 3.543 | .157 | 1.142 |
| RIK224.1318.04 | 5.118 | 7.087 | | | | | 5.118 | | |
| RIK224.1830.04 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3000.04 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

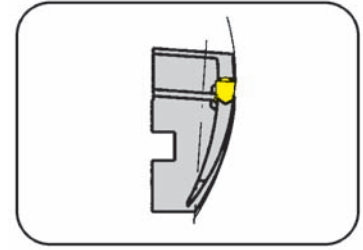
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK224.... | 5.13T20P | T20PQ |

M48

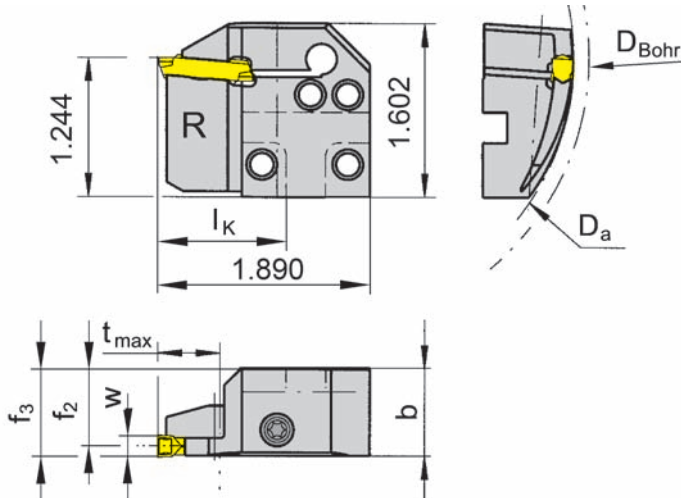
M

CASSETTE Type

RIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove .197 - .236"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | f ₂ | f ₃ | D _{Bohr} | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|---------------------|-------------------|------|----------------|
| RIK224.3847.05 | 1.496 | 1.850 | | | | | 3.543 | | |
| RIK224.4760.05 | 1.850 | 2.362 | | | | | 3.543 | | |
| RIK224.6075.05 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.05 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9013.05 | 3.543 | 5.118 | .551 | .748 | .665 | f ₂ +w/2 | 3.543 | .197 | 1.142 |
| RIK224.1318.05 | 5.118 | 7.087 | | | | | 5.118 | | |
| RIK224.1830.05 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3000.05 | 11.811 | 39.370 | | | | | 11.811 | | |
| RIK224.6075.06 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.06 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9013.06 | 3.543 | 5.118 | | | | | 3.543 | | |
| RIK224.1318.06 | 5.118 | 7.087 | .551 | .748 | .646 | f ₂ +w/2 | 5.118 | .236 | 1.142 |
| RIK224.1830.06 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3000.06 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

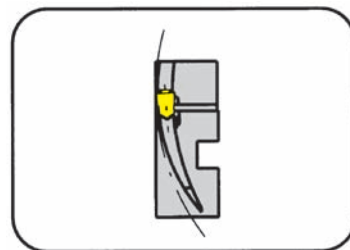
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK224.... | 5.13T20P | T20PQ |

M

CASSETTE Type

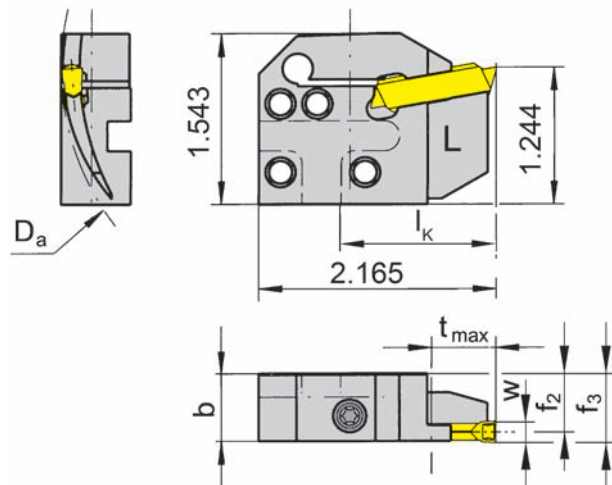
LIK220



Outer groove \varnothing 2.362 - 11.811"
 Depth of groove up to .591"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | b | f_2 | f_3 | w | l_k |
|----------------|---------------------|---------------------|------------------|------|-------|-----------|------|-------|
| LIK220.6575.14 | 2.559 | 2.953 | .394 | | | | | |
| LIK220.7595.14 | 2.953 | 3.740 | .591 | | | | | |
| LIK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .567 | $f_2+w/2$ | .157 | 1.417 |
| LIK220.1318.14 | 5.118 | 7.087 | .591 | | | | | |
| LIK220.1830.14 | 7.087 | 11.811 | .591 | | | | | |
| LIK220.6075.15 | 2.362 | 2.953 | .394 | | | | | |
| LIK220.7595.15 | 2.953 | 3.740 | .591 | | | | | |
| LIK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .547 | $f_2+w/2$ | .197 | 1.417 |
| LIK220.1318.15 | 5.118 | 7.087 | .591 | | | | | |
| LIK220.1830.15 | 7.087 | 11.811 | .591 | | | | | |
| LIK220.6075.16 | 2.362 | 2.953 | .394 | | | | | |
| LIK220.7595.16 | 2.953 | 3.740 | .591 | | | | | |
| LIK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .528 | $f_2+w/2$ | .236 | 1.417 |
| LIK220.1318.16 | 5.118 | 7.087 | .591 | | | | | |
| LIK220.1830.16 | 7.087 | 11.811 | .591 | | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

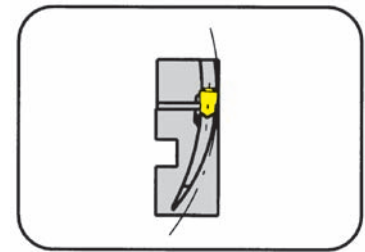
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK220.... | 6.23T25P | T25PQ |

M50

CASSETTE Type

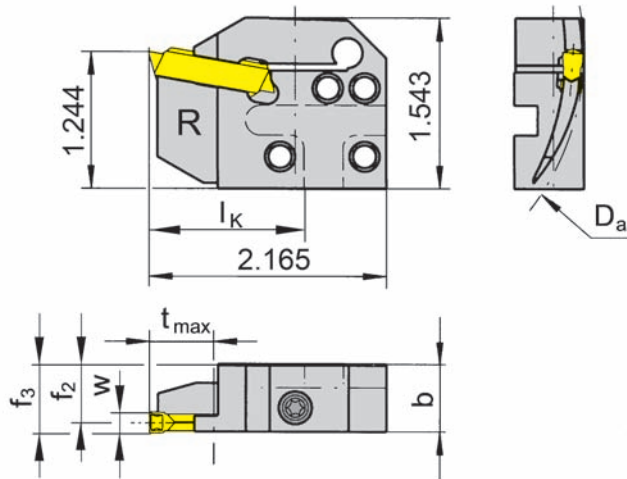
RIK220



Outer groove \varnothing 2.362 - 11.811"
 Depth of groove up to .591"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



R = right hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | f_2 | f_3 | w | l_k |
|----------------|--------------|--------------|------------|------|-------|-----------|------|-------|
| RIK220.6575.14 | 2.559 | 2.953 | .394 | | | | | |
| RIK220.7595.14 | 2.953 | 3.740 | .591 | | | | | |
| RIK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .567 | $f_2+w/2$ | .157 | 1.417 |
| RIK220.1318.14 | 5.118 | 7.087 | .591 | | | | | |
| RIK220.1830.14 | 7.087 | 11.811 | .591 | | | | | |
| RIK220.6075.15 | 2.362 | 2.953 | .394 | | | | | |
| RIK220.7595.15 | 2.953 | 3.740 | .591 | | | | | |
| RIK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .547 | $f_2+w/2$ | .197 | 1.417 |
| RIK220.1318.15 | 5.118 | 7.087 | .591 | | | | | |
| RIK220.1830.15 | 7.087 | 11.811 | .591 | | | | | |
| RIK220.6075.16 | 2.362 | 2.953 | .394 | | | | | |
| RIK220.7595.16 | 2.953 | 3.740 | .591 | | | | | |
| RIK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .528 | $f_2+w/2$ | .236 | 1.417 |
| RIK220.1318.16 | 5.118 | 7.087 | .591 | | | | | |
| RIK220.1830.16 | 7.087 | 11.811 | .591 | | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

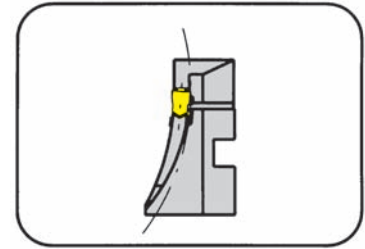
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK220.... | 6.23T25P | T25PQ |

M

CASSETTE Type

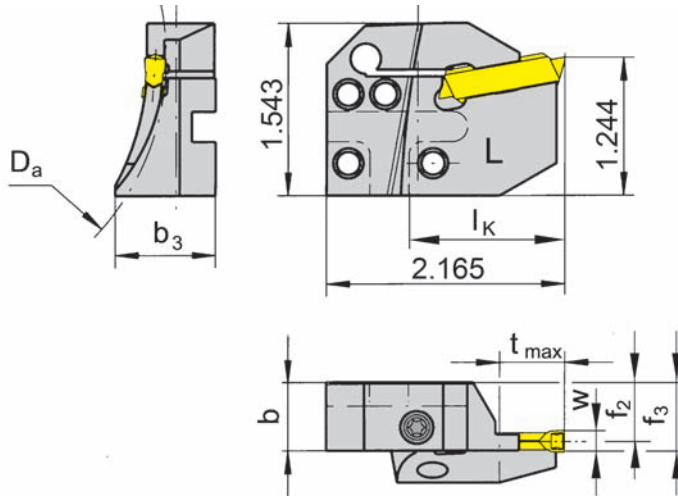
LAK220



Outer groove \varnothing 2.362 - 11.811"
 Depth of groove up to .591"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | b | b_3 | f_2 | f_3 | w | l_K |
|----------------|---------------------|---------------------|------------------|------|-------|-------|-----------|------|-------|
| LAK220.6575.14 | 2.559 | 2.953 | .394 | | .906 | | | | |
| LAK220.7595.14 | 2.953 | 3.740 | .591 | | .906 | | | | |
| LAK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .835 | .567 | $f_2+w/2$ | .157 | 1.417 |
| LAK220.1318.14 | 5.118 | 7.087 | .591 | | .835 | | | | |
| LAK220.1830.14 | 7.087 | 11.811 | .591 | | .748 | | | | |
| LAK220.6075.15 | 2.362 | 2.953 | .394 | | .906 | | | | |
| LAK220.7595.15 | 2.953 | 3.740 | .591 | | .906 | | | | |
| LAK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .906 | .547 | $f_2+w/2$ | .197 | 1.417 |
| LAK220.1318.15 | 5.118 | 7.087 | .591 | | .835 | | | | |
| LAK220.1830.15 | 7.087 | 11.811 | .591 | | .748 | | | | |
| LAK220.6075.16 | 2.362 | 2.953 | .394 | | .906 | | | | |
| LAK220.7595.16 | 2.953 | 3.740 | .591 | | .906 | | | | |
| LAK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .906 | .528 | $f_2+w/2$ | .236 | 1.417 |
| LAK220.1318.16 | 5.118 | 7.087 | .591 | | .835 | | | | |
| LAK220.1830.16 | 7.087 | 11.811 | .591 | | .748 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

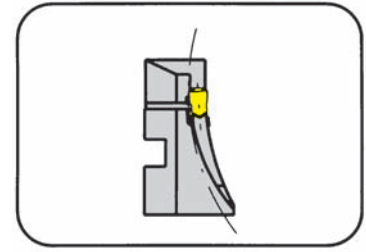
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK220.... | 6.23T25P | T25PQ |

M52

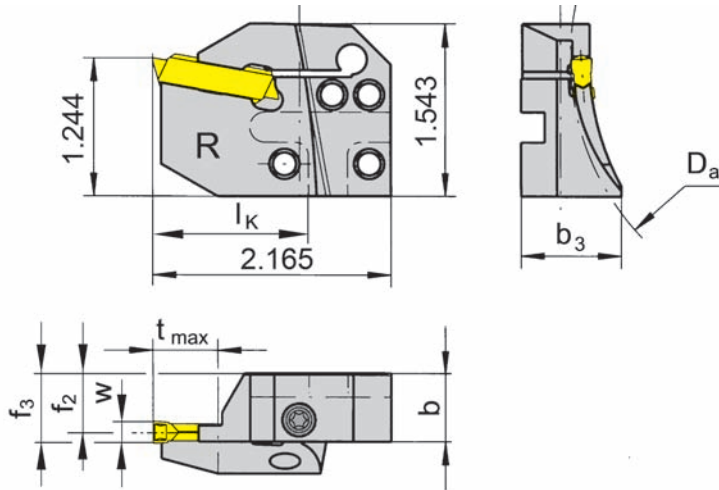
M

CASSETTE Type

RAK220



Outer groove \varnothing 2.362 - 11.811"
 Depth of groove up to .591"
 Width of groove .157 - .236"



for use with Indexable insert

Type S229

R = right hand version shown

| Part number | D _{a min} | D _{a max} | t _{max} | b | b ₃ | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|----------------|---------------------|------|----------------|
| RAK220.6575.14 | 2.559 | 2.953 | .394 | | .906 | | | | |
| RAK220.7595.14 | 2.953 | 3.740 | .591 | | .906 | | | | |
| RAK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .835 | .567 | f ₂ +w/2 | .157 | 1.417 |
| RAK220.1318.14 | 5.118 | 7.087 | .591 | | .835 | | | | |
| RAK220.1830.14 | 7.087 | 11.811 | .591 | | .748 | | | | |
| RAK220.6075.15 | 2.362 | 2.953 | .394 | | .906 | | | | |
| RAK220.7595.15 | 2.953 | 3.740 | .591 | | .906 | | | | |
| RAK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .906 | .547 | f ₂ +w/2 | .197 | 1.417 |
| RAK220.1318.15 | 5.118 | 7.087 | .591 | | .835 | | | | |
| RAK220.1830.15 | 7.087 | 11.811 | .591 | | .748 | | | | |
| RAK220.6075.16 | 2.362 | 2.953 | .394 | | .906 | | | | |
| RAK220.7595.16 | 2.953 | 3.740 | .591 | | .906 | | | | |
| RAK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .906 | .528 | f ₂ +w/2 | .236 | 1.417 |
| RAK220.1318.16 | 5.118 | 7.087 | .591 | | .835 | | | | |
| RAK220.1830.16 | 7.087 | 11.811 | .591 | | .748 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

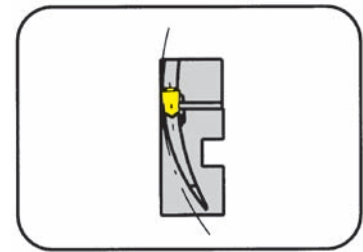
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK220.... | 6.23T25P | T25PQ |

M

CASSETTE Type

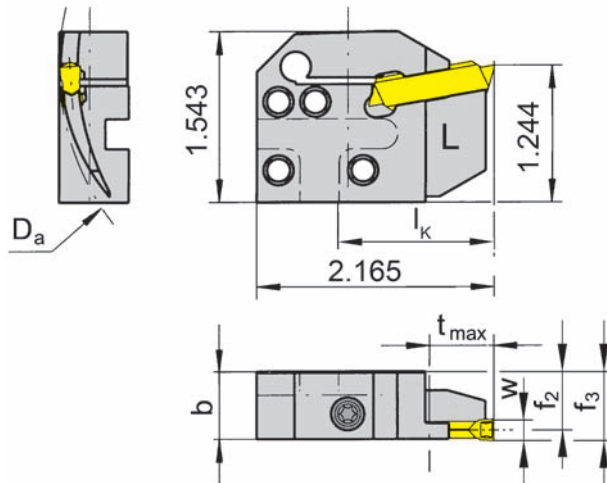
LIK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



L = left hand version

| Part number | D _{a min} | t _{max} | D _{a max} | t _{max} | b | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|------------------|--------------------|------------------|------|----------------|---------------------|------|----------------|
| LIK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | | | | |
| LIK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | | | | |
| LIK220.9513.04 | 3.740 | .984 | 5.118 | .984 | .618 | .567 | f ₂ +w/2 | .157 | 1.417 |
| LIK220.1318.04 | 5.118 | .984 | 7.087 | .984 | | | | | |
| LIK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | | | | |
| LIK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | | | | |
| LIK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | | | | |
| LIK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | | | | |
| LIK220.9513.05 | 3.740 | .984 | 5.118 | .984 | .618 | .547 | f ₂ +w/2 | .197 | 1.417 |
| LIK220.1318.05 | 5.118 | .984 | 7.087 | .984 | | | | | |
| LIK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | | | | |
| LIK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | | | | |
| LIK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | | | | |
| LIK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | | | | |
| LIK220.9513.06 | 3.740 | .984 | 5.118 | .984 | .618 | .528 | f ₂ +w/2 | .236 | 1.417 |
| LIK220.1318.06 | 5.118 | .984 | 7.087 | .984 | | | | | |
| LIK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | | | | |
| LIK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK220.... | 6.23T25P | T25PQ |

Ordering note:

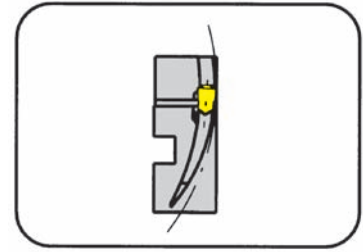
The fastening screw is combined with the basic toolholder - no separate order required.

M54

M

CASSETTE Type

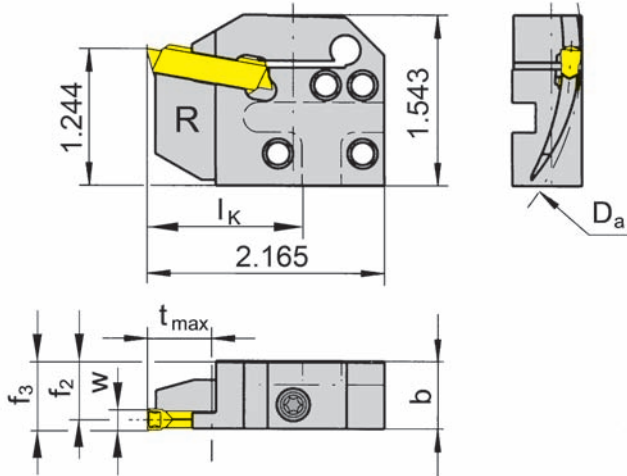
RIK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



R = right hand version

| Part number | D _{a min} | t _{max} | D _{a max} | t _{max} | b | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|------------------|--------------------|------------------|------|----------------|---------------------|------|----------------|
| RIK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | | | | |
| RIK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | | | | |
| RIK220.9513.04 | 3.740 | .984 | 5.118 | .984 | .618 | .567 | f ₂ +w/2 | .157 | 1.417 |
| RIK220.1318.04 | 5.118 | .984 | 7.087 | .984 | | | | | |
| RIK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | | | | |
| RIK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | | | | |
| RIK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | | | | |
| RIK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | | | | |
| RIK220.9513.05 | 3.740 | .984 | 5.118 | .984 | .618 | .547 | f ₂ +w/2 | .197 | 1.417 |
| RIK220.1318.05 | 5.118 | .984 | 7.087 | .984 | | | | | |
| RIK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | | | | |
| RIK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | | | | |
| RIK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | | | | |
| RIK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | | | | |
| RIK220.9513.06 | 3.740 | .984 | 5.118 | .984 | .618 | .528 | f ₂ +w/2 | .236 | 1.417 |
| RIK220.1318.06 | 5.118 | .984 | 7.087 | .984 | | | | | |
| RIK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | | | | |
| RIK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

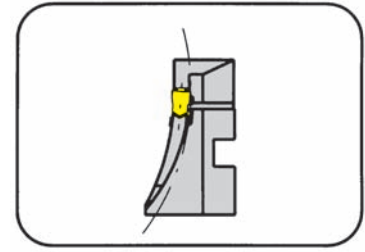
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK220.... | 6.23T25P | T25PQ |

M

CASSETTE Type

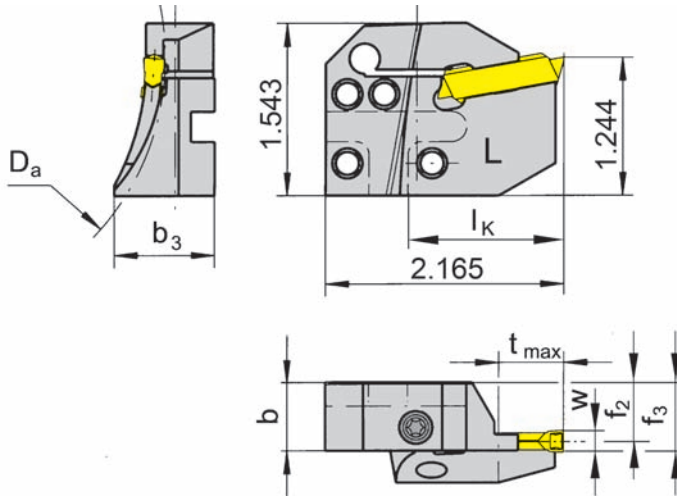
LAK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \min}$ | t_{\max} | $D_{a \max}$ | t_{\max} | b | b_3 | f_2 | f_3 | w | l_K |
|----------------|--------------|------------|--------------|------------|------|-------|-------|-----------|------|-------|
| LAK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | | | | | |
| LAK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | | | | | |
| LAK220.9513.04 | 3.740 | .984 | 5.118 | .984 | | | | | | |
| LAK220.1318.04 | 5.118 | .984 | 7.087 | .984 | .618 | | .567 | $f_2+w/2$ | .157 | 1.417 |
| LAK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | | | | | |
| LAK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | | | | | |
| LAK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | | | | | |
| LAK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | | | | | |
| LAK220.9513.05 | 3.740 | .984 | 5.118 | .984 | | | | | | |
| LAK220.1318.05 | 5.118 | .984 | 7.087 | .984 | .618 | | .547 | $f_2+w/2$ | .197 | 1.417 |
| LAK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | | | | | |
| LAK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | | | | | |
| LAK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | | | | | |
| LAK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | | | | | |
| LAK220.9513.06 | 3.740 | .984 | 5.118 | .984 | | | | | | |
| LAK220.1318.06 | 5.118 | .984 | 7.087 | .984 | .618 | | .528 | $f_2+w/2$ | .236 | 1.417 |
| LAK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | | | | | |
| LAK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

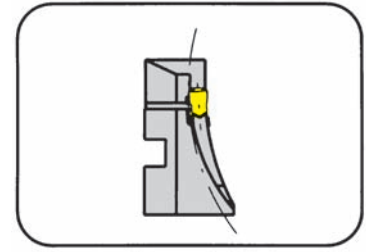
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK220.... | 6.23T25P | T25PQ |

M56

M

CASSETTE Type

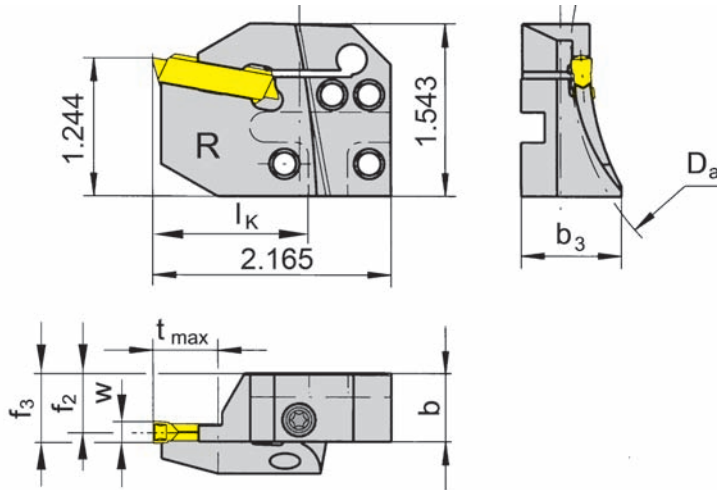
RAK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove .157 - .236"

for use with Indexable insert

Type S229



R = right hand version

| Part number | D _{a min} | t _{max} | D _{a max} | t _{max} | b | b ₃ | f ₂ | f ₃ | w | l _K |
|----------------|--------------------|------------------|--------------------|------------------|------|----------------|----------------|---------------------|------|----------------|
| RAK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | .906 | | | | |
| RAK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | .906 | | | | |
| RAK220.9513.04 | 3.740 | .984 | 5.118 | .984 | | .835 | | | | |
| RAK220.1318.04 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .567 | f ₂ +w/2 | .157 | 1.417 |
| RAK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| RAK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |
| RAK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | .906 | | | | |
| RAK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | .906 | | | | |
| RAK220.9513.05 | 3.740 | .984 | 5.118 | .984 | | .906 | | | | |
| RAK220.1318.05 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .547 | f ₂ +w/2 | .197 | 1.417 |
| RAK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| RAK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |
| RAK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | .906 | | | | |
| RAK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | .906 | | | | |
| RAK220.9513.06 | 3.740 | .984 | 5.118 | .984 | | .906 | | | | |
| RAK220.1318.06 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .528 | f ₂ +w/2 | .236 | 1.417 |
| RAK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| RAK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

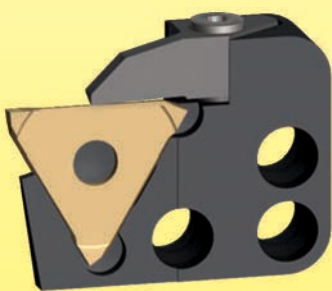
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK220.... | 6.23T25P | T25PQ |

HORN HSK-T40 DIN 12164-3

Basic toolholder HSK-T40..840
for external machining



Pocket seat system 840



RNK368.0840...



RNK360.0840...



RNK264.0840...



RNK356.0840...



RNK274.0840...



RNK224.0840...



RNK100.0840...

M

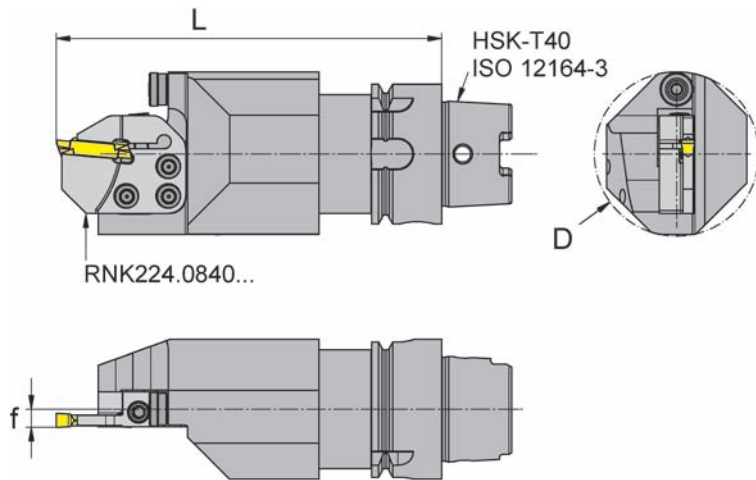
M58

BASIC TOOLHOLDER Type

HSK-T40

with through coolant supply

for using on multi-tasking machines



for use with Indexable insert

Type NS224
S224

Pocket seat system 840

R = right hand version shown

L = left hand version

| Part number | Cassette | ...NK224... | | | ...NK368... | | | ...NK356... | | | ...NK360... | | |
|-----------------------------|----------|-------------|----|-----|-------------|----|-----|-------------|----|-----|-------------|----|---|
| | | L | D | f | L | D | f | L | D | f | L | D | f |
| HSKT40.L840.110.K1 | L | 110 | 47 | 5.2 | 110 | 47 | 3.7 | 110 | 47 | 6.4 | 110 | 47 | * |
| HSKT40.R840.110.K1 | R | | | | | | | | | 7.3 | | | |
| for Indexable Insert | | S224 | | | 312 | | | 315 | | | 312 | | |

* see Cassettes

| Part number | Cassette | ...NK100... | | | ...NK264... | | | ...NK274... | | |
|-----------------------------|----------|-------------|----|-----|-------------|----|-----|-------------|----|-----|
| | | L | D | f | L | D | f | L | D | f |
| HSKT40.L840.110.K1 | L | 110 | 47 | 5,2 | 110 | 47 | 5,2 | 110 | 47 | 5,0 |
| HSKT40.R840.110.K1 | R | | | | | | | | | |
| for Indexable Insert | | S100 | | | S264 | | | S274 | | |

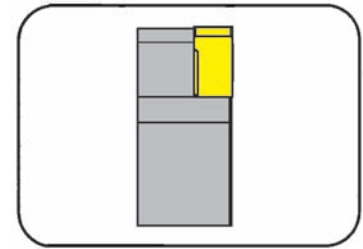
Dimensions in mm

Spare parts

| Basic toolholder | Screw | TORX PLUS® Wrench | Coolant spray nozzle | Coolant tube |
|----------------------|-----------------|-------------------|----------------------|-----------------|
| HSKT40.R/L840.110.K1 | 5.12T20P | T20PQ | 020.1008.2977 | HSK40KMZ |

CASSETTE Type

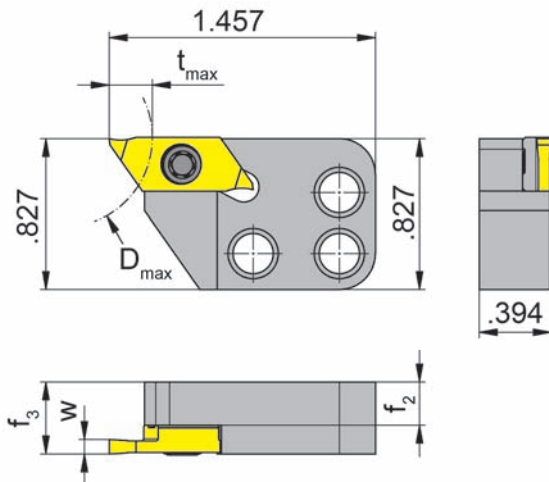
NK274



Depth of groove up to .236"
Clamping range .020 - .157"

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | t_{max} | D_{max} | f_2 | f_3 | Clamping range |
|---------------------------|-----------|-----------|-------|---------|----------------|
| R/LNK274.0840.1.04 | .236 | .984 | .236 | f_2+w | .020 - .158 |

State R or L version

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

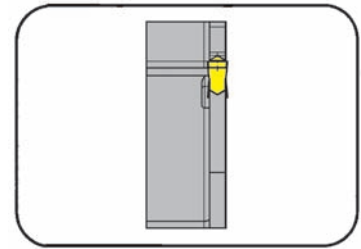
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|--------------------|----------------------|-------------------|
| R/LNK274.0840.1.04 | 030.3509.T15P | T15PQ |

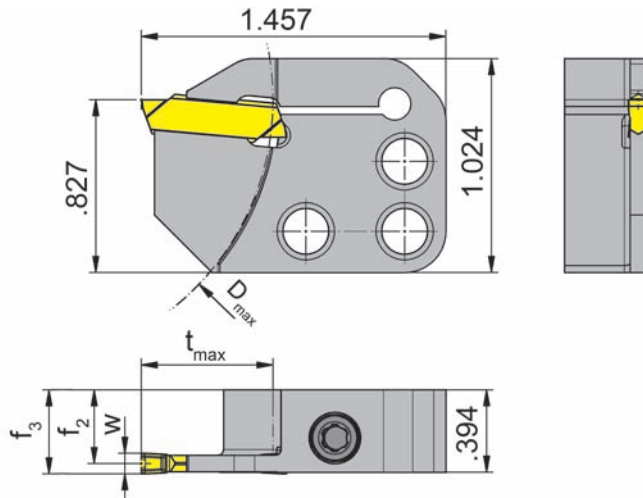
M60

CASSETTE Type

NK264



Depth of groove up to .630"
Clamping range .059 - .118"



for use with Indexable insert

Type S264

R = right hand version shown

L = left hand version

| Part number | t _{max} | D _{max} | f ₂ | f ₃ | Clamping range |
|--------------------|------------------|------------------|----------------|----------------------|----------------|
| R/LNK264.0840.1.01 | .512 | | | | .059 |
| R/LNK264.0840.1.02 | .630 | 2.559 | .402 | f ₂ + w/2 | .079 |
| R/LNK264.0840.1.03 | .630 | | | | .098 |
| R/LNK264.0840.1.04 | .630 | | | | .118 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

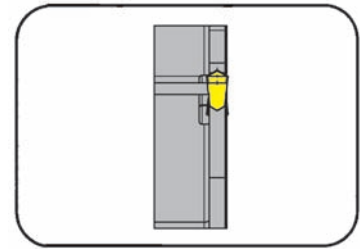
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|----------------------|-----------------|-------------------|
| R/LNK264.0840.1.0... | 4.20T15P | T15PL |

CASSETTE Type

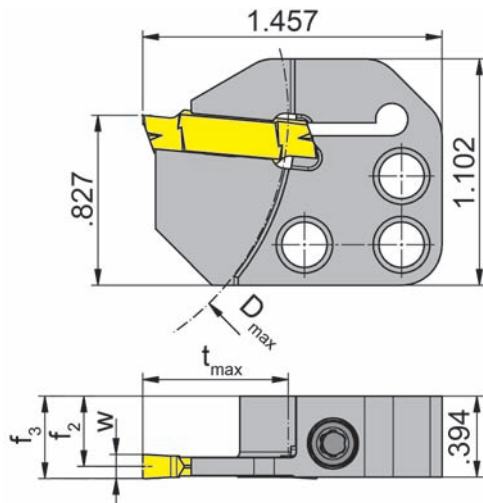
NK224



Depth of groove up to .709"
Clamping range .079 - .236"

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | t _{max} | D _{max} | f ₂ | f ₃ | Clamping range |
|--------------------|------------------|------------------|----------------|---------------------|----------------|
| R/LNK224.0840.1.01 | | | .362 | | .079 - .095 |
| R/LNK224.0840.1.02 | | | .352 | | .095 - .110 |
| R/LNK224.0840.1.03 | | | .343 | | .110 - .146 |
| R/LNK224.0840.1.04 | .709 | 2.559 | .323 | f ₂ +w/2 | .146 - .173 |
| R/LNK224.0840.1.05 | | | .303 | | .173 - .201 |
| R/LNK224.0840.1.06 | | | .283 | | .201 - .236 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|----------------------|----------|-------------------|
| R/LNK224.0840.1.0... | 5.12T20P | T20PQ |

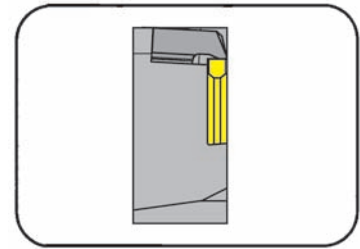
M62

GROOVING (external)



CASSETTE Type

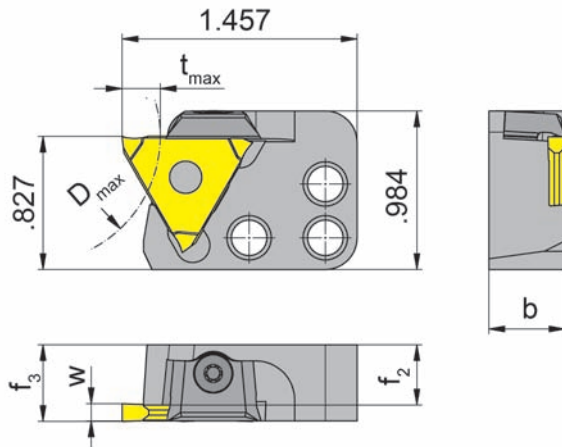
NK360



Depth of groove up to .236"
Clamping range .020 - .248"

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | b | t _{max} | D _{max} | f ₂ | f ₃ | Clamping range |
|--------------------|------|------------------|------------------|----------------|----------------------------------|----------------|
| R/LNK360.0840.1.01 | .472 | .157 | 1.575 | .413 | f ₂ +w-a ₁ | .020 - .075 |
| R/LNK360.0840.1.02 | .472 | .236 | | .374 | | .075 - .114 |
| R/LNK360.0840.1.03 | .472 | .236 | .335 | .114 - .154 | | |
| R/LNK360.0840.1.04 | .630 | .236 | .425 | .154 - .248 | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

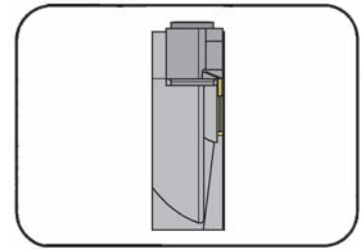
| Cassette | Clamp | Screw | TORX PLUS® Wrench |
|--------------------------|-------|---------------|-------------------|
| R/LNK360.0840.1.01/02/03 | 12.3 | 030.0422.T10P | T10PL |
| R/LNK360.0840.1.04 | 14.4 | 5.32.3T15P | T15PQ |

M

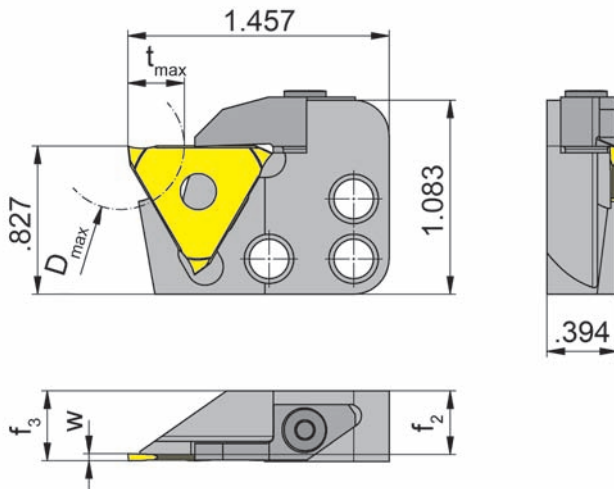
M63

CASSETTE Type

NK368



Depth of groove up to .315"
Clamping range .020 - .059"



for use with Indexable insert

Type 312
U312

R = right hand version shown

L = left hand version

| Part number | t_{max} | D_{max} | f_2 | f_3 | Clamping range |
|--------------------|-----------|-----------|-------|---------|----------------|
| R/LNK368.0840.1.08 | .315 | .709 | .354 | f_2+w | .020 - .047 |
| R/LNK368.0840.1.11 | .315 | .709 | .343 | f_2+w | .047 - .059 |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

Spare parts

| Cassette | Clamp | Screw | TORX PLUS® Wrench |
|---------------------|---------------|---------------|-------------------|
| R/LNK368.0840.1.... | 010.0004.0427 | 030.400P.0602 | T10PL |

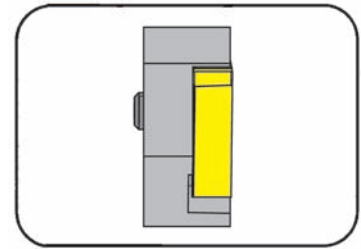
M64

GROOVING (external)



CASSETTE Type

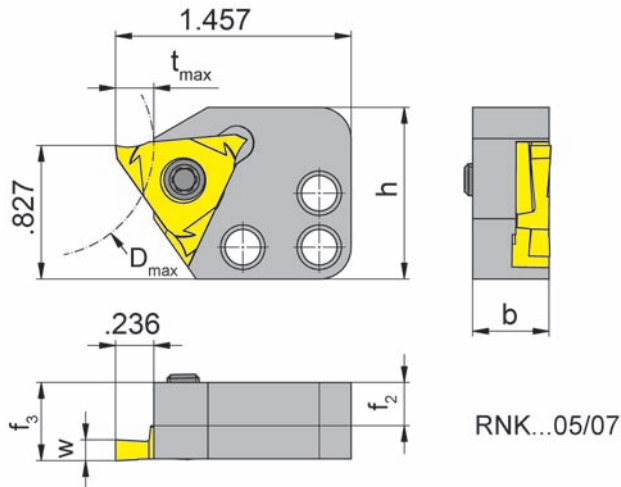
NK356



Depth of groove up to .197"
Clamping range .128 - .295"

for use with Indexable insert

Type 315



R = right hand version shown

L = left hand version

| Part number | h | b | t _{max} | D _{max} | f ₂ | f ₃ | Clamping range |
|--------------------|-------|------|------------------|------------------|----------------|-------------------|----------------|
| R/LNK356.0840.1.05 | 1.063 | .472 | .197 | - | .268 | f ₂ +w | .020 - .209 |
| R/LNK356.0840.1.07 | 1.063 | .512 | .197 | - | .236 | f ₂ +w | .260 - .295 |
| R/LNK356.0840.1.16 | .921 | .472 | .197 | 1.378 | .236 | f ₂ +w | .201 - .260 |
| R/LNK356.0840.1.17 | .921 | .512 | .197 | 1.378 | .240 | f ₂ +w | .260 - .295 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

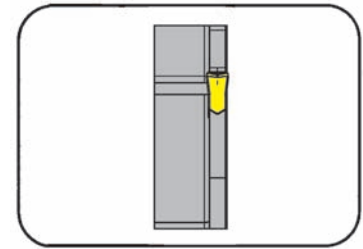
| Cassette | Screw | TORX PLUS® Wrench |
|---------------------|-----------------|-------------------|
| R/LNK356.0840.1.... | 5.12T20P | T20PQ |

M

M65

CASSETTE Type

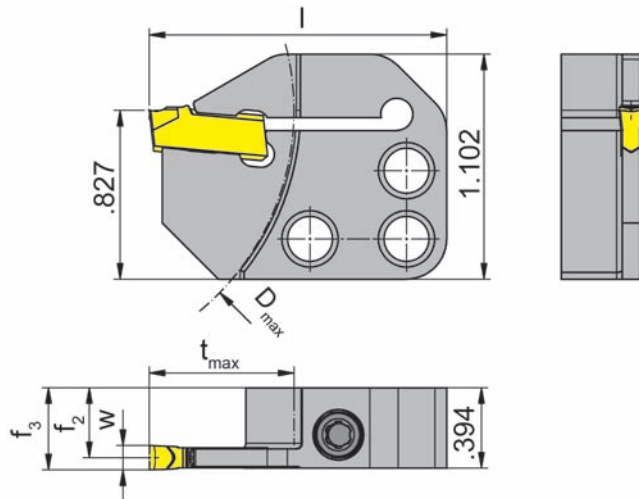
NK100



Depth of groove up to .984"
Clamping range .079 - .197"

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | t_{max} | D_{max} | f_2 | f_3 | l | Clamping range |
|--------------------|-----------|-----------|-------|-------------|-------|----------------|
| R/LNK100.0840.1.01 | | | .362 | | | .079 |
| R/LNK100.0840.1.02 | | | .354 | | | .098 |
| R/LNK100.0840.1.03 | .709 | 2.559 | .343 | $f_2 + w/2$ | 1.457 | .118 |
| R/LNK100.0840.1.04 | | | .323 | | | .157 |
| R/LNK100.0840.1.05 | | | .303 | | | .197 |
| R/LNK100.0840.3.02 | .984 | 2.559 | .354 | $f_2 + w/2$ | 1.732 | .098 |
| R/LNK100.0840.3.03 | | | .343 | | | .118 |

State R or L version

w see inserts

Dimensions in inch

Further sizes upon request

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

M

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|-------------------|-----------------|-------------------|
| R/LNK100.0840.... | 4.20T15P | T15PL |

M66

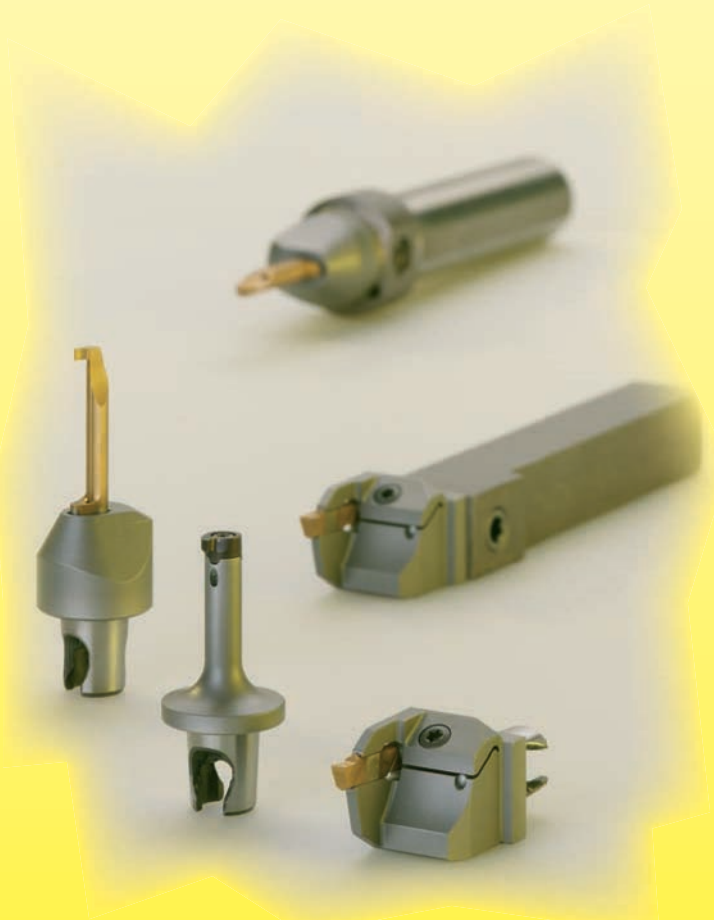
HORN KM16 Micro

for external and internal machining

Supermini® 105 from \varnothing 0.2 mm

Mini 108 from \varnothing 8.0 mm

Grooving system 264



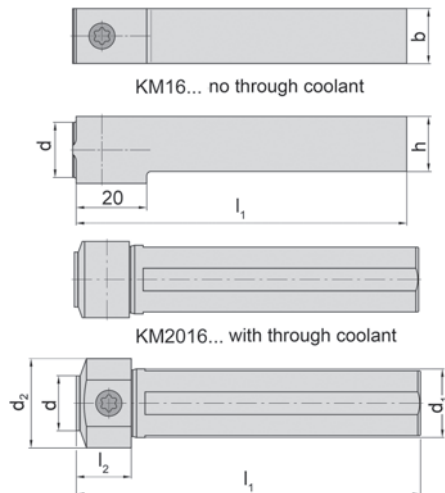
Grooving system 274

for straight and cranked tool-holder



M

Basic toolholder for use with toolholder ...KM16...



System Kennametal
KM16 Micro

| Part number | d | l ₁ | l ₂ | h | b | d ₁ | d ₂ |
|---------------------------|----|----------------|----------------|----|----|----------------|----------------|
| KM16 NCM 1616 100 | 16 | 100 | - | 16 | 16 | - | - |
| KM2016 NCM SS20 16 | 20 | 100 | 16 | - | - | 20 | 26 |
| KM2016 NCM SS22 16 | 20 | 100 | 16 | - | - | 22 | 28 |

Dimensions in mm

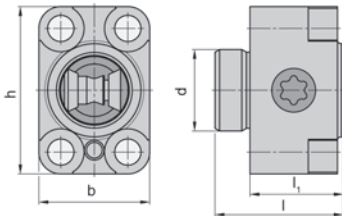
M

Spare parts

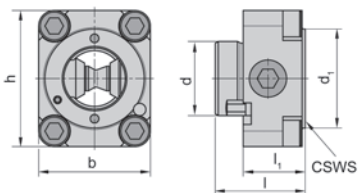
| Basic toolholder | Screw | TORX PLUS® Blade |
|-------------------|-------------------|------------------|
| KM16 NCM 1616 100 | KM16-NSPKG | DT27PQ |
| KM2016 NCM SS2... | KM16-NAPKG | DT27PQ |

M68

Basic toolholder for use with toolholder ...KM16...



KM16... no through coolant



KM2016... with through coolant

System Kennametal
KM16 Micro

| Part number | d | l | l ₁ | h | b | d ₁ |
|------------------------|----|----|----------------|------|----|----------------|
| KM16NCMSF1928 | 14 | 22 | 16 | 27.5 | 19 | - |
| KM2016NCMSF2434 | 20 | 22 | 16 | 33.0 | 25 | 20 |

Further sizes upon request

Dimensions in mm

Spare parts

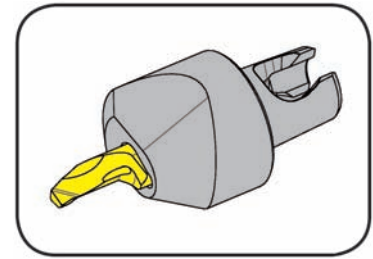
| Flange | Screw | TORX PLUS® Blade |
|----------------------------------|--|--------------------------------|
| KM16NCMSF1928 KM2016NCMSF2434 | KM16-NSPKG KM16-NAPKG | DT27PQ DT27PQ |

M

TOOLHOLDER Type

B105KM

with through coolant supply

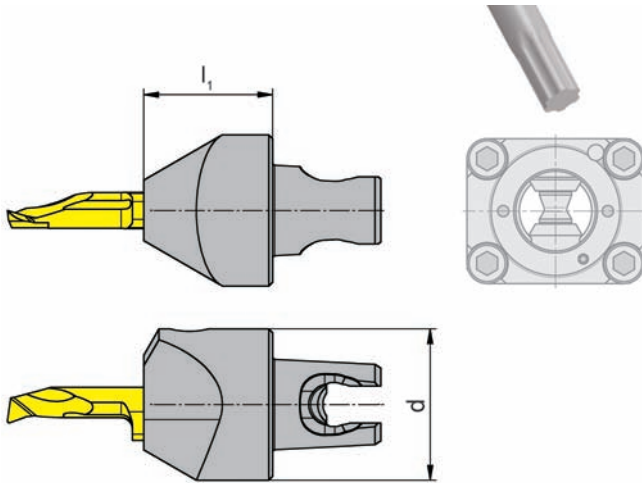


Bore Ø from

.008" (0.2 mm)

for use with Insert

Type 105
U105



System Kennametal
KM16 Micro

| Part number | d | l ₁ |
|------------------------|----|----------------|
| B105.KM16.90.01 | 20 | 17 |

Further sizes upon request

Dimensions in mm

M

Spare parts

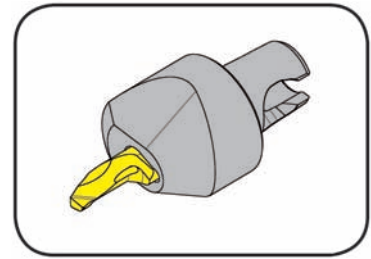
| Toolholder | Screw | TORX PLUS® Wrench |
|-----------------|------------------|-------------------|
| B105.KM16.90.01 | 6.075T15P | T15PQ |

M70

TOOLHOLDER Type

B105KM

with through coolant supply

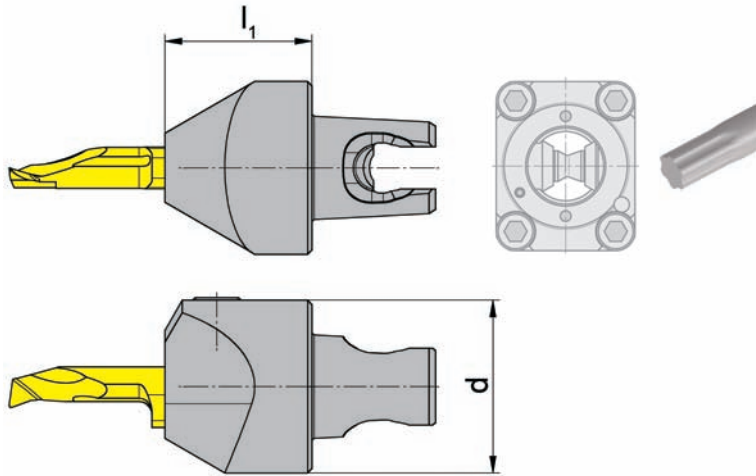


Bore Ø from

.008" (0.2 mm)

for use with Insert

Type 105
U105



System Kennametal
KM16 Micro

| Part number | d | l ₁ |
|---------------------|----|----------------|
| B105.KM16.01 | 20 | 17 |

Further sizes upon request

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|------------------|-------------------|
| B105.KM16.01 | 6.075T15P | T15PQ |

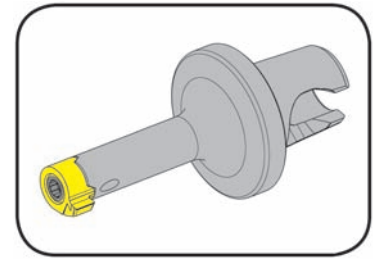
M

M71

TOOLHOLDER Type

B108KM

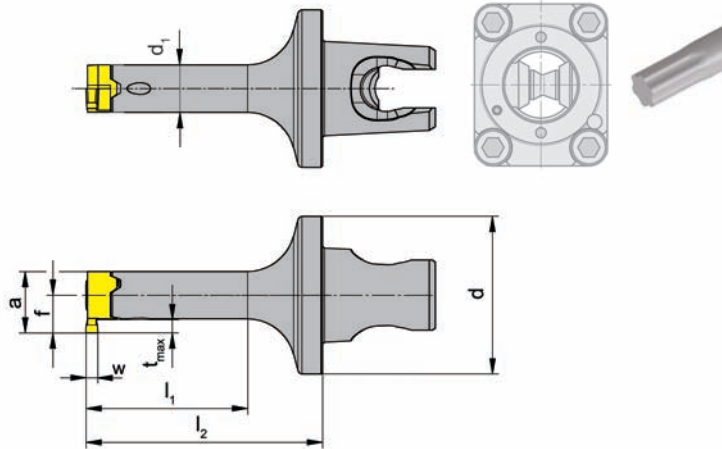
with through coolant supply



Bore Ø from .315" (8.0 mm)

for use with Insert

Type 108
U108



System Kennametal
KM16 Micro

| Part number | d | l ₁ | l ₂ | f | t _{max} | a |
|--------------|----|----------------|----------------|-----|------------------|-----|
| B108.KM16.01 | 20 | 21 | 30 | 4.8 | 1 | 7.8 |
| B108.KM16.02 | 20 | 26 | 35 | 4.8 | 1 | 7.8 |

Further sizes upon request

w see inserts

Dimensions in mm

M

Spare parts

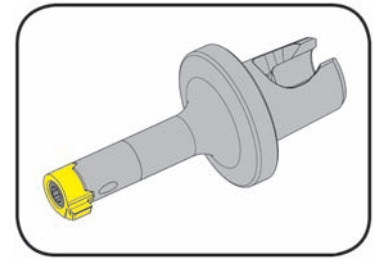
| Toolholder | Screw | TORX PLUS® Wrench |
|----------------|-----------|-------------------|
| B108.KM16.0... | 2.6.5T8EP | T8PL |

M72

TOOLHOLDER Type

B108KM

with through coolant supply

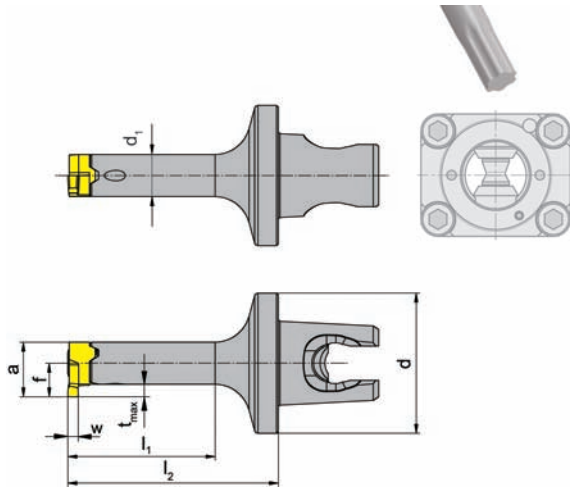


Bore Ø from

.315" (8.0 mm)

for use with Insert

Type 108
U108



System Kennametal
KM16 Micro

| Part number | d | l ₁ | l ₂ | f | t _{max} | a |
|-----------------|----|----------------|----------------|-----|------------------|-----|
| B108.KM16.90.01 | 20 | 21 | 30 | 4.8 | 1 | 7.8 |
| B108.KM16.90.02 | | 26 | 35 | | | |

Further sizes upon request

w see inserts

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|------------------|-------------------|
| B108.KM16.90.0... | 2.6.5T8EP | T8PL |

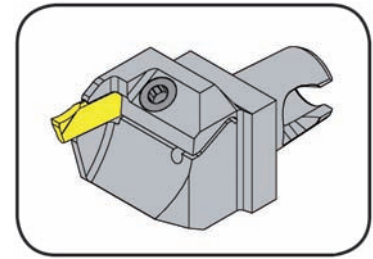
M

GROOVING and TURNING (external)



TOOLHOLDER Type

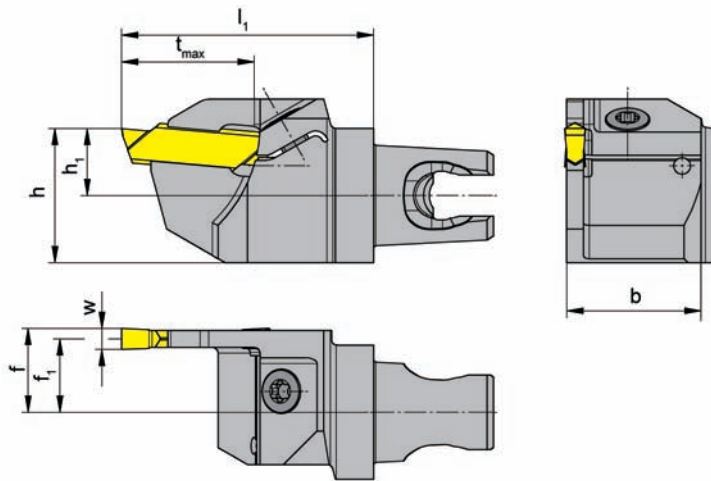
H264KM



Width of groove .059 - .079" (1.5 - 2.0 mm)

for use with Indexable insert

Type 264
S264



L = left hand version shown

R = right hand version

System Kennametal
KM16 Micro

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | t _{max} | D _{max} | Size |
|-----------------|----|----|----------------|----------------|----|----------------|------------------|------------------|------|
| R/LH264.KM16.01 | 16 | 16 | 24 | 8 | 10 | 9.25 | 4 | 32 | 01 |
| R/LH264.KM16.11 | | | 24 | | | | 10 | | |
| R/LH264.KM16.21 | | | 27 | | | | 13 | | |
| R/LH264.KM16.02 | 16 | 16 | 24 | 8 | 10 | 9.00 | 4 | 32 | 02 |
| R/LH264.KM16.12 | | | 24 | | | | 10 | | |
| R/LH264.KM16.22 | | | 30 | | | | 16 | | |

State R or L version

w see indexable inserts

Dimensions in mm

M

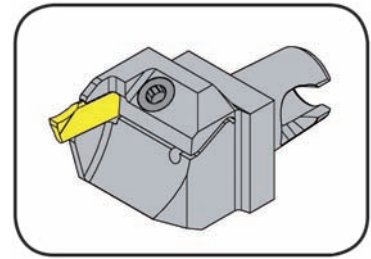
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|-------------|-------------------|
| R/LH264.KM16.... | 3.5.12T10EP | T10PL |

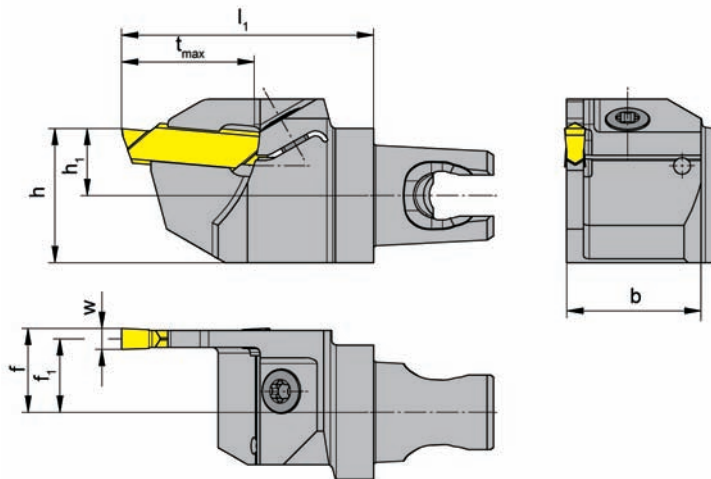
M74

TOOLHOLDER Type

H264KM



Width of groove .098 - .118" (2.5 - 3.0 mm)



for use with Indexable insert

Type 264
S264

System Kennametal
KM16 Micro

L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | t _{max} | D _{max} | Size |
|-----------------|----|----|----------------|----------------|----|----------------|------------------|------------------|------|
| R/LH264.KM16.03 | 16 | 16 | 24 | 8 | 10 | 8.75 | 4 | 32 | 03 |
| R/LH264.KM16.13 | | | 24 | | | | 10 | | |
| R/LH264.KM16.23 | | | 30 | | | | 16 | | |
| R/LH264.KM16.04 | 16 | 16 | 24 | 8 | 10 | 8.50 | 5 | 32 | 04 |
| R/LH264.KM16.14 | | | 24 | | | | 10 | | |
| R/LH264.KM16.24 | | | 30 | | | | 16 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Spare parts

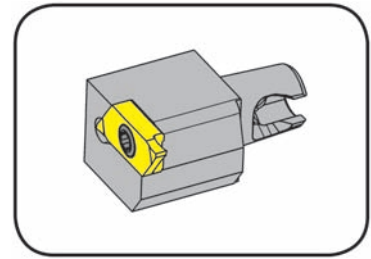
| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|-------------|-------------------|
| R/LH264.KM16.... | 3.5.12T10EP | T10PL |

M

M75

TOOLHOLDER Type

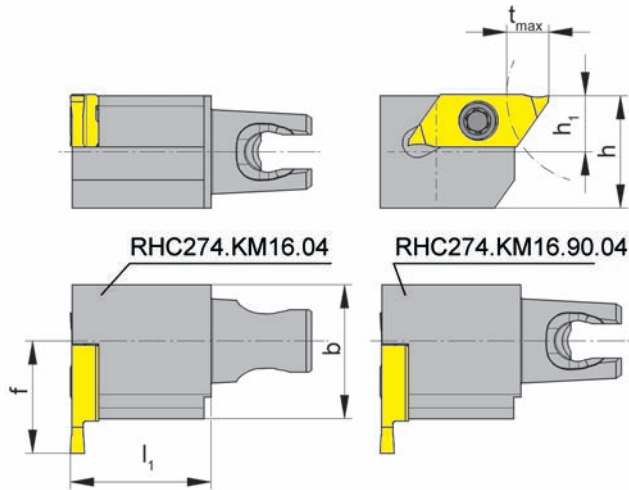
HC274KM



Width of groove .020 - .079" (0.5 - 2.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

System Kennametal
KM16 Micro

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|---|----|------|----------------|----------------|----|------------------|------------------|------|
| R/LHC274.KM16.04 R/LHC274.KM16.90.04 | 16 | 19.1 | 20 | 8 | 16 | 6 | 25 | 04 |

State R or L version

w see indexable inserts

Dimensions in mm

M

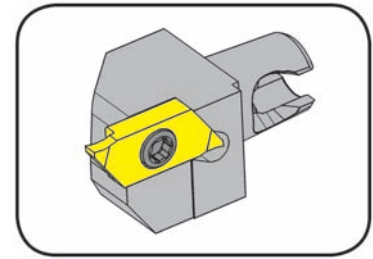
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|---------------|-------------------|
| R/LHC274.KM16.... | 030.3509.T15P | T15PQ |

M76

TOOLHOLDER Type

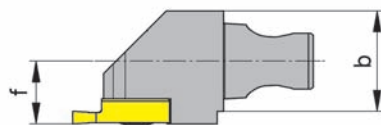
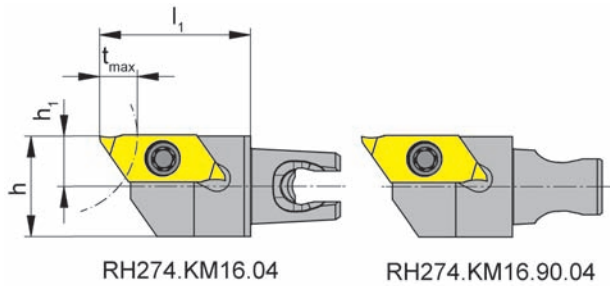
H274KM



Width of groove .020 - .079" (0.5 - 2.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

System Kennametal
KM16 Micro

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|---------------------------------------|----|----|----------------|----------------|----|------------------|------------------|------|
| R/LH274.KM16.04 R/LH274.KM16.90.04 | 16 | 16 | 24 | 8 | 10 | 6 | 25 | 04 |

State R or L version

w see indexable inserts

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| R/LH274.KM16.... | 030.3509.T15P | T15PQ |

M



Torque screw driver with scale
 - variable torque setting
 - adjusted torque is shown on display

D 15 VL

Model 1-5 Nm

The Torque can be adjusted with a special torque setter (id.)
 Ergonomical form gives perfect handling abilities. Acoustic signal when setted torque is reached.
 (Standard: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)
 (Precision: $\pm 6 \%$)



D 28 VL

Model 2-8 Nm



Torque setter

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface

Blade: Octogonal (8 flats) blade, hardened galvanized

ED 28 VL



Blade for TORX-Plus® screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated. Wiha Chrome Blade guarantees maximum precision.

Colored code green

Utilization: For controlled screw setting with definite torque in combination with Wiha torque screw driver handle.

DT8PK

DT10PK

DT15PK

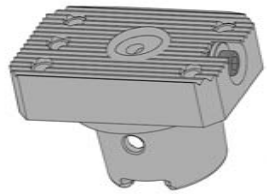
DT20PK

DT25PK

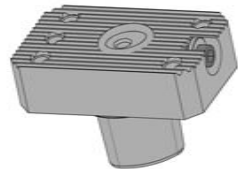
M



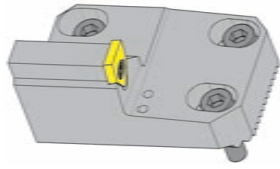
HSKW...849
Page M90



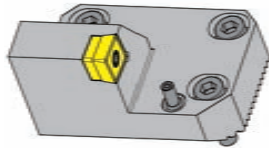
OR



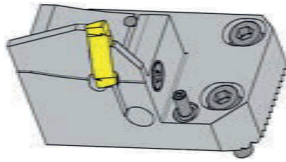
N849.00C...
Page M91



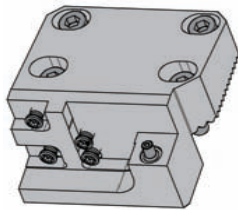
N849.0117...
Page M92-93



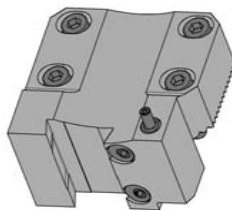
R849...
Page M94



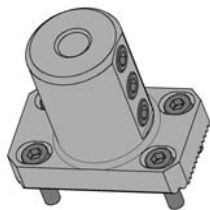
R/L849.0226...
Page M95



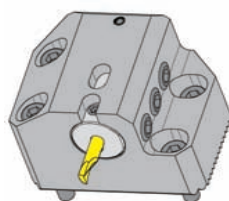
R/L849.0220...
Page M96



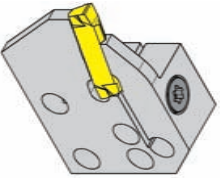
R849.26008R.13.00
Page M97



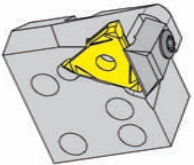
N849.00...N60.K1
Page M98



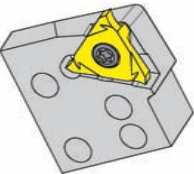
N849.00...R50.K2
Page M99



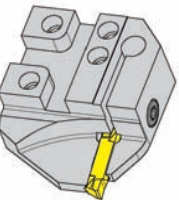
220...



360...



356...



224...

Cassettes



Monobloc, height-adjustable

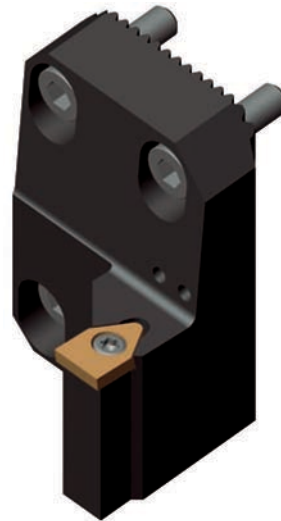
R849.SCLCR...

for DIN Insert



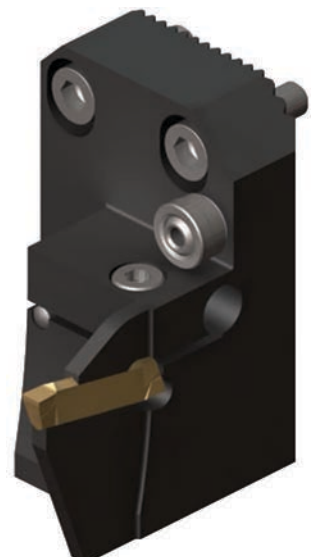
N849.0117R...

for Profiled insert S117...



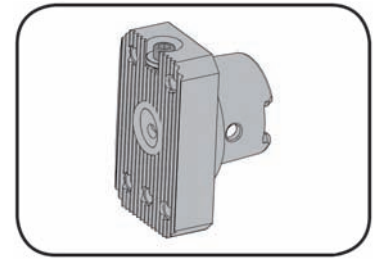
R849.0226R...

for Insert S229...

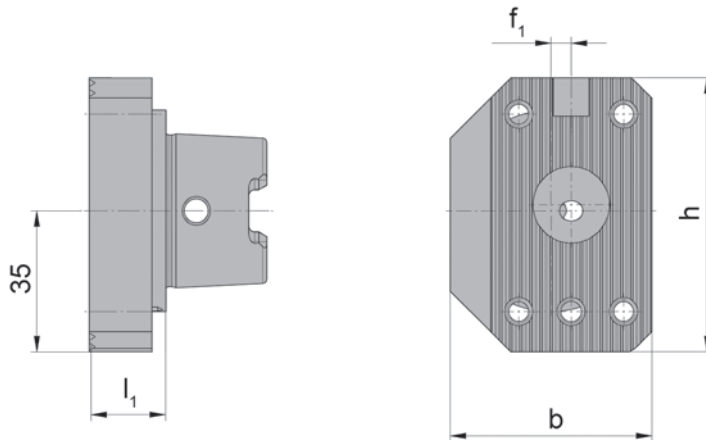


M

BASIC TOOLHOLDER Type **849**



Multispindle Serie SCX



Drive slots with reduced tolerance per ICTM

| Part number | Coupling System | h | b | f ₁ | Cassette |
|-------------------|-----------------|----|----|----------------|-------------|
| HSKW-N849.0040.01 | HSK-C40 ICTM | 68 | 40 | - | N/R/L849... |
| HSKW-L849.0050.01 | HSK-C50 ICTM | | 50 | 5 | N/L849... |
| HSKW-R849.0050.01 | HSK-C50 ICTM | | 50 | 5 | N/R849... |

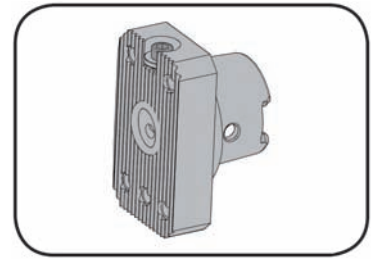
Dimensions in mm

Spare parts

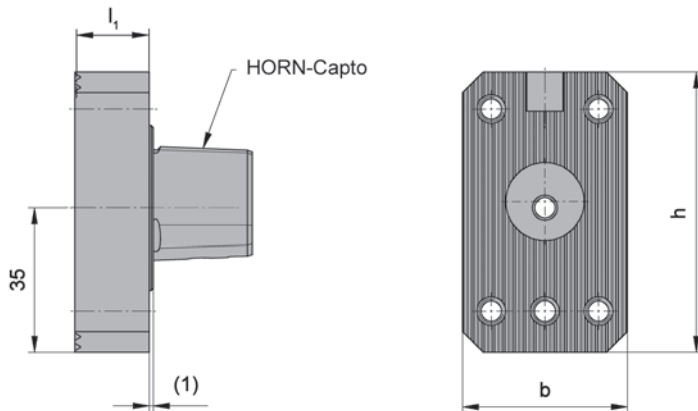
| Basic toolholder | Adjust screw axial | Wrench | O-ring |
|------------------|--------------------|-----------|------------------|
| HSKW-... | 030.0006.0503 | SW4DIN911 | DIN3771-14x2.65B |

M

BASIC TOOLHOLDER Type **849C**



Multispindle Serie SCX



HORN-Capto

| Part number | Coupling System | h | b | l ₁ | Cassette |
|--------------|-----------------|----|----|----------------|-------------|
| N849.00C3.01 | C3 | 68 | 40 | 18.5 | N/L/R849... |
| N849.00C4.01 | C4 | 68 | 40 | 18.5 | N/L/R849... |

Dimensions in mm

M

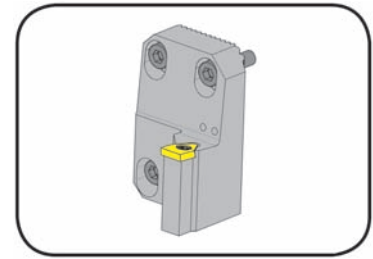
Spare parts

| Basic toolholder | Adjust screw axial | Wrench | O-ring |
|------------------|--------------------|-----------|------------------|
| N849.00C... | 030.0006.0503 | SW4DIN911 | DIN3771-14x2.65B |

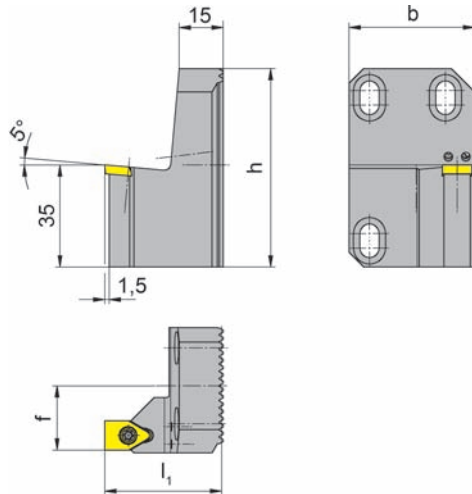
M82

CASSETTE Type

849



Multispindle Serie SCX



Height-adjustable
+3,0/-1,0 mm

| Part number | h | b | l ₁ | f | Insert |
|------------------|----|----|----------------|-----------|--------------------|
| N849.0117R.10.00 | 68 | 43 | 40 | 22.0 | S117...10... |
| N849.0117R.12.00 | | 43 | 40 | 22.0 | S117...12... |
| N849.0117R.16.00 | | 43 | 45 | 21.0/22.0 | S117...14.../16... |
| N849.0117R.20.00 | | 43 | 50 | 21.0/22.5 | S117...18/...20... |
| N849.0117R.26.00 | | 43 | 55 | 22.0 | S117...26... |
| N849.0117R.32.00 | | 41 | 40 | 22.0 | S117...32... |

Dimensions in mm

For available inserts, geometries and carbide grades please see the **Chapter O / Profiling**.

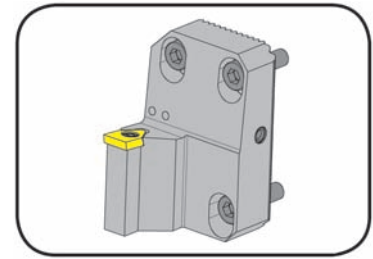
Spare parts

| Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|-------------------|--------------|----------|-----------|-------------------|
| N849.0117R.1...00 | DIN912-M6x20 | 4.09T15P | SW5DIN911 | T15PQ |
| N849.0117R....00 | DIN912-M6x20 | 5.12T20P | SW5DIN911 | T20PQ |
| N849.0117R.2...00 | DIN912-M6x20 | 6.17T20P | SW5DIN911 | T20PQ |

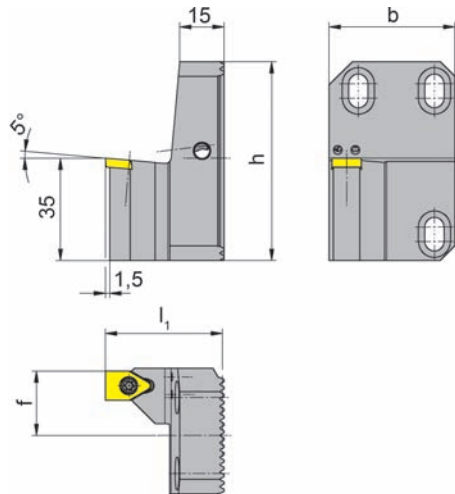
M

CASSETTE Type

849



Multispindle Serie SCX



Height-adjustable
+3,0/-1,0 mm

| Part number | h | b | l ₁ | f | Insert |
|------------------|----|----|----------------|-----------|--------------------|
| N849.0117L.10.00 | 68 | 43 | 40 | 22.0 | S117...10... |
| N849.0117L.12.00 | | 43 | 40 | 22.0 | S117...12... |
| N849.0117L.16.00 | | 43 | 45 | 21.0/22.0 | S117...14.../16... |
| N849.0117L.20.00 | | 43 | 50 | 21.0/22.5 | S117...18.../20... |
| N849.0117L.26.00 | | 43 | 55 | 22.0 | S117...26... |
| N849.0117L.32.00 | | 41 | 40 | 22.0 | S117...32... |

Dimensions in mm

For available inserts, geometries and carbide grades please see the **Chapter O / Profiling**.

M

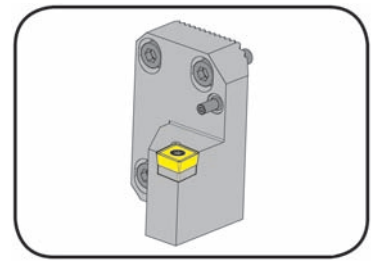
Spare parts

| Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|-------------------|--------------|----------|-----------|-------------------|
| N849.0117L.1...00 | DIN912-M6x20 | 4.09T15P | SW5DIN911 | T15PQ |
| N849.0117L....00 | DIN912-M6x20 | 5.12T20P | SW5DIN911 | T20PQ |
| N849.0117L.2...00 | DIN912-M6x20 | 6.17T20P | SW5DIN911 | T20PQ |

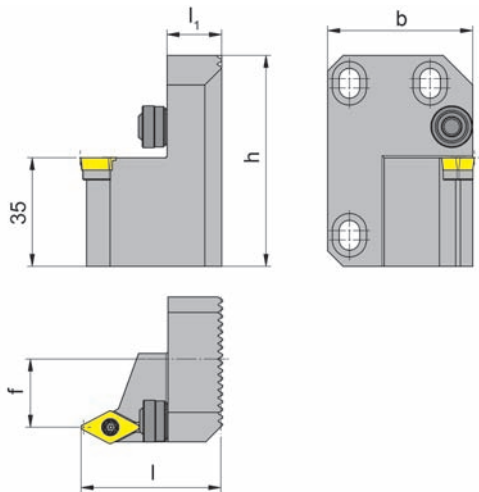
M84

CASSETTE Type

849



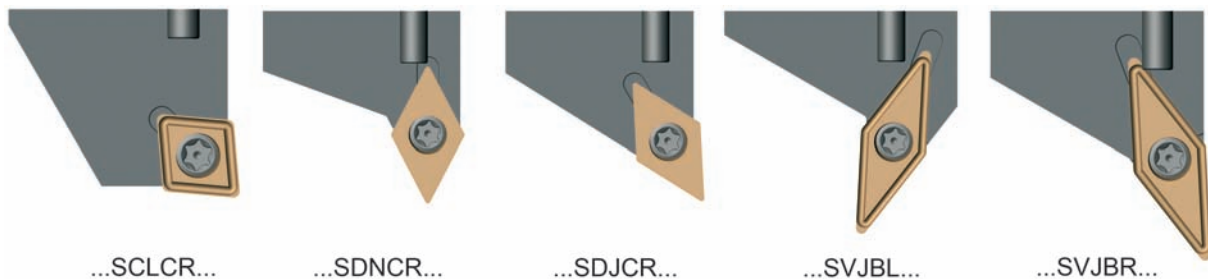
Multispindle Serie SCX



Height-adjustable
± 1,0 mm

| Part number | h | b | l ₁ | f | l | Insert |
|------------------|----|------|----------------|------|----|-------------|
| R849.SCLCR.12.00 | 68 | 45.1 | 17 | 27.0 | 45 | CCMT 120408 |
| R849.SCLCR.09.00 | | 45.5 | | 27.0 | 45 | CCMT 09T308 |
| R849.SDNCR.11.00 | | 45.5 | | 22.0 | 45 | DCMT 11T308 |
| R849.SVJBR.16.00 | | 46.2 | | 27.0 | 50 | VBMT 160408 |
| R849.SDJCR.11.00 | | 46.7 | | 27.0 | 45 | DCMT 11T308 |
| R849.SVJBL.16.00 | | 49.5 | | 14.9 | 50 | VBMT 160408 |

Dimensions in mm



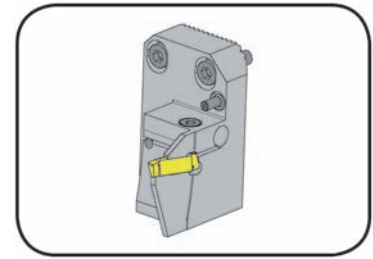
Spare parts

| Cassette | Coolant spray nozzle |
|-----------|----------------------|
| R849.S... | 020.1210.2966 |

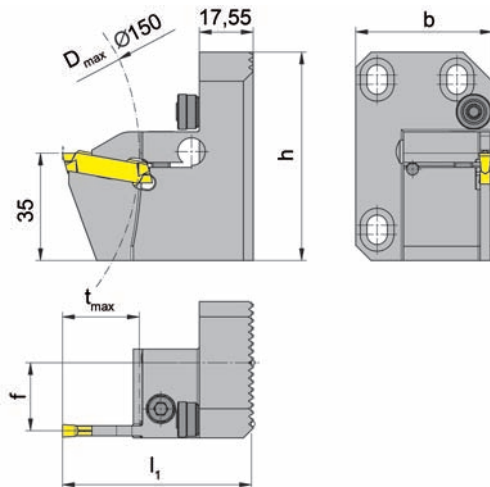
M

CASSETTE Type

849



Multispindle Serie SCX



Height-adjustable
± 1,0 mm

| Part number | h | b | l ₁ | f | t _{max} | Insert |
|------------------|----|------|----------------|------|------------------|-------------------|
| L849.0226L.00.03 | 68 | 45.5 | 61.5 | 23.0 | 25 | S229.0300/0400... |
| L849.0226L.00.04 | | | | 22.2 | | S229.0400/0500... |
| L849.0226L.00.05 | | | | 21.7 | | S229.0600... |
| L849.0226L.00.07 | | | | 20.7 | | S229.0800... |
| R849.0226R.00.03 | 68 | 45.5 | 61.5 | 23.0 | 25 | S229.0300/0400... |
| R849.0226R.00.04 | | | | 22.2 | | S229.0400/0500... |
| R849.0226R.00.05 | | | | 21.7 | | S229.0600... |
| R849.0226R.00.07 | | | | 20.7 | | S229.0800... |

Dimensions in mm

For available inserts, geometries and carbide grades please see the **Chapter G / System 229**.

M

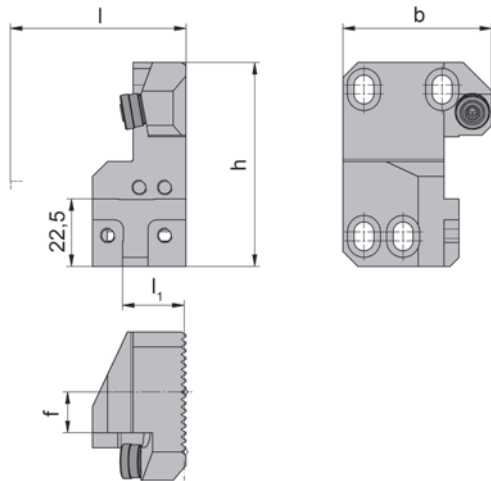
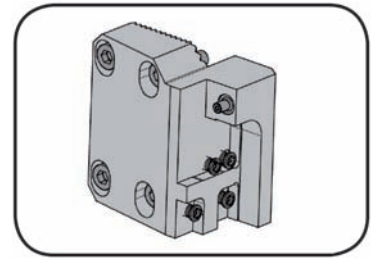
Spare parts

| Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench | Coolant spray nozzle |
|------------------------|--------------|----------|-----------|----------------------|----------------------|
| R/L849.0226R/L.00.0... | DIN912-M6x20 | 6.23T25P | SW5DIN911 | T25PQ | 020.1008.2976 |

M86

ADAPTER FOR CASSETTES Type 849

Multispindle Serie SCX



Height-adjustable
± 1,0 mm

| Part number | h | b | l ₁ | f | l | Cassette |
|--------------------------------------|----|------|----------------|------|--------------------------------|------------------|
| L849.0220L.49.00 R849.0220R.49.00 | 68 | 49.5 | 20.5 | 13.6 | l ₁ +l _k | LNK... RNK... |
| L849.0220L.41.00 R849.0220R.41.00 | 68 | 65.5 | 14.5 | 30.6 | l ₁ +l _k | LNK... RNK... |

l_k see cassettes

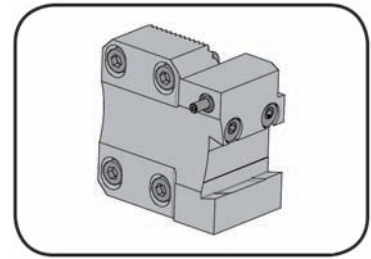
Dimensions in mm

Spare parts

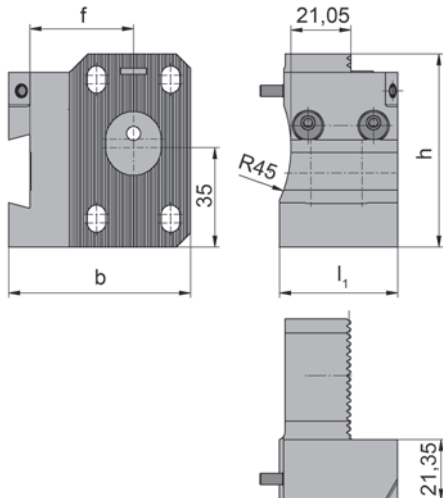
| Adapter for cassettes | Screw | Screw | Wrench | TORX PLUS® Wrench | Coolant spray nozzle |
|-----------------------|--------------|----------|-----------|----------------------|-------------------------|
| R/L849.0220R/L.4... | DIN912-M6x20 | 5.12T20P | SW5DIN911 | T20PQ | 020.1008.2976 |

M

ADAPTOR FOR BLADES Type **849**



Multispindle Serie SCX



Height-adjustable
± 1,0 mm

| Part number | h | b | l ₁ | f | Blade |
|-------------------------|----|------|----------------|------|------------|
| R849.2608R.13.00 | 68 | 63.8 | 41.5 | 36.3 | ...2608... |

Dimensions in mm

For the available blades please see the **Chapter P / Parting off**.

M

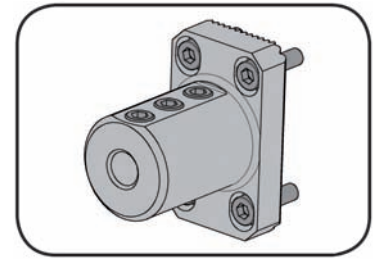
Spare parts

| Adaptor for blades | Screw | Wrench | Wedge | Coolant spray nozzle |
|-------------------------|---------------------|------------------|----------------------|----------------------|
| R849.2608R.13.00 | DIN912-M6x25 | SW5DIN911 | 020.0011.1002 | 020.1008.2977 |

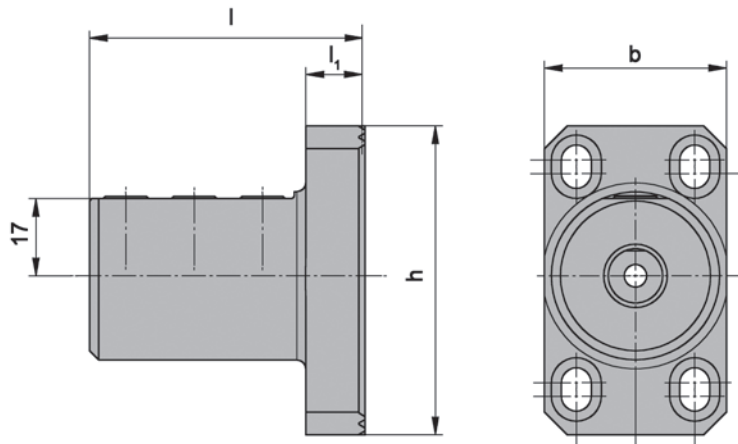
M88

CASSETTE Type

849



Multispindle Serie SCX



Height-adjustable
± 1,0 mm

| Part number | h | b | l ₁ | l | Boring bar |
|------------------|----|----|----------------|----|------------|
| N849.0012N.60.K1 | 68 | 40 | 12.45 | 60 | Ø 12 |
| N849.0016N.60.K1 | | | | | Ø 16 |
| N849.0020N.60.K1 | | | | | Ø 20 |

Dimensions in mm

For the available boring bars please see our SuperMini & Mini catalog (KMINI100US)

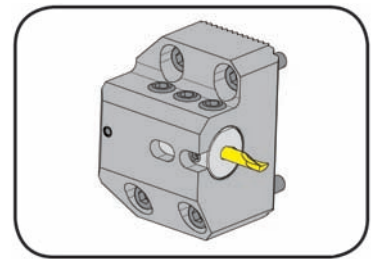
Spare parts

| Cassette | Screw | Wrench | Threaded pin |
|------------|--------------|-----------|----------------|
| N849.00... | DIN912-M6x20 | SW5DIN911 | DIN1835-M10x12 |

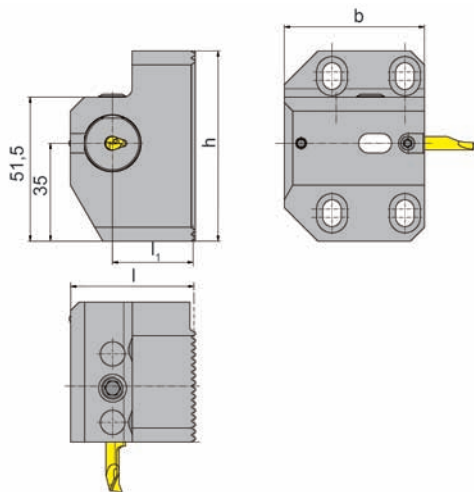
M

CASSETTE Type

849



Multispindle Serie SCX



Length adjustable + 2 mm

Height-adjustable
± 1,0 mm

| Part number | h | b | l ₁ | l | Boring bar |
|------------------|----|----|----------------|----|----------------|
| R849.0012R.50.K2 | 68 | 50 | 29 | 40 | B105.0012.0351 |
| R849.0016R.50.K2 | | | | 42 | B105.0016.0352 |
| R849.0020R.50.K2 | | | | 44 | B105.0020.0325 |

Dimensions in mm

Ordering note:

Boring bars are not included - separate order required!

For the available inserts please see our Supermini® & Mini catalog (KMINI100US)

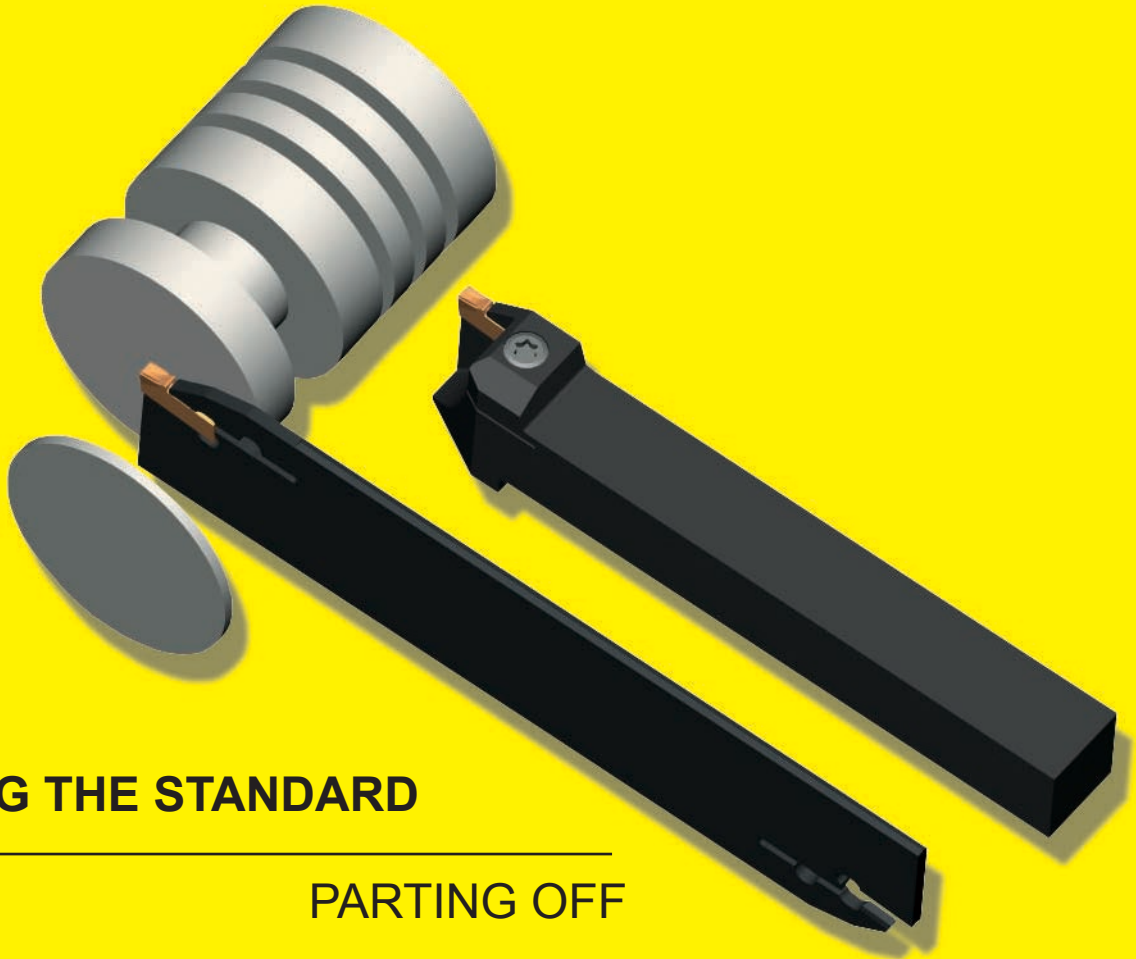
M

Spare parts

| Cassette | Screw | Screw | Screw | Adjust screw axial | Wrench | Threaded pin | Wrench |
|------------------|--------------|--------------|--------------|--------------------|-------------|---------------|-----------|
| R849.0012R.50.K2 | DIN912-M6x20 | DIN912-M6x40 | DIN913-M8x12 | 030.5060.0596 | SW2,5DIN911 | | SW4DIN911 |
| R849.0016R.50.K2 | DIN912-M6x20 | DIN912-M6x40 | DIN913-M8x12 | 030.5060.0596 | SW5DIN911 | | SW4DIN911 |
| R849.0020R.50.K2 | DIN912-M6x20 | DIN912-M6x40 | DIN913-M8x12 | 030.5060.0596 | SW5DIN911 | 030.1008.0648 | SW4DIN911 |

M90

HORN - THE LEADERS IN GROOVING TECHNOLOGY



SETTING THE STANDARD

PARTING OFF

HORN Toolholder and blades

HORN - INTELLIGENT TOOL DESIGN AT WORK.



M

For further information, please see chapter "P".

HCG - HORN Catalog Guide

FACE GROOVING

| Outer groove Ø | Product line | | | | | | | |
|---------------------|--------------|------|------|-----|-----|----------|------|------|
| | 105 | A105 | A110 | 114 | 312 | 231/N231 | S224 | S229 |
| from .204" (5 mm) | • | | | | | | | |
| from .394" (10 mm) | | • | | | | | | |
| from .472" (12 mm) | | | | • | | | | |
| from .787" (20 mm) | | | • | | • | | | |
| from 1.496" (38 mm) | | | | | | | • | |
| from 1.575" (40 mm) | | | | | | • | | |
| from 2.362" (60 mm) | | | | | | | | • |

| Depth of groove | Product line | | | | | | | |
|----------------------|--------------|------|------|-----|-----|----------|------|------|
| | 105 | A105 | A110 | 114 | 312 | 231/N231 | S224 | S229 |
| up to .118" (3 mm) | | | | | • | | | |
| up to .236" (6 mm) | • | | | • | | | | |
| up to .315" (8 mm) | | | | | | • | | |
| up to .551" (14 mm) | | | | | | | | |
| up to .591" (15 mm) | | • | | | | | | |
| up to .709" (18 mm) | | | | | | | • | |
| up to .984" (25 mm) | | | | | | | | • |
| up to 1.181" (30 mm) | | | • | | | | | |

| | | | | | | | | |
|----------------------|-------------|-------------|------|-------------|-------------|-------------|-------------|-------------|
| Width of groove inch | .039 - .125 | .079 - .118 | .118 | .039 - .125 | .059 - .125 | .118 - .394 | .118 - .236 | .157 - .236 |
|----------------------|-------------|-------------|------|-------------|-------------|-------------|-------------|-------------|

| | | | | | | | | |
|--------------------|------------|-----------|-----|------------|------------|------------|-----------|-----------|
| Width of groove mm | 1.0 - 3.18 | 2.0 - 3.0 | 3.0 | 1.0 - 3.18 | 1.5 - 3.18 | 3.0 - 10.0 | 3.0 - 6.0 | 4.0 - 6.0 |
|--------------------|------------|-----------|-----|------------|------------|------------|-----------|-----------|

| | |
|---------|----------|
| Chapter | N |
|---------|----------|

Special tools upon request

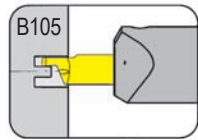
FACE GROOVING **N**

Range

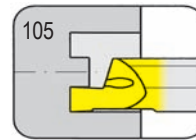
Toolholder

Inserts

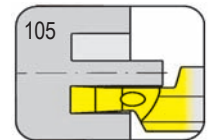
Outer groove Ø $\geq .197''$
 Depth of groove max. $.236''$
 Width of groove up to $.125''$



Page N2-N7

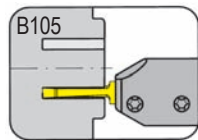


Page N8-N13

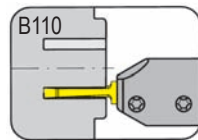


Page N14

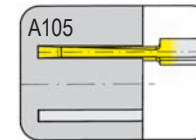
Outer groove Ø $\geq .394 / .787''$
 Depth of groove max. $.591 / 1.181''$
 Width of groove up to $.118''$



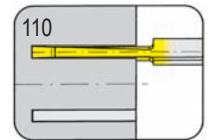
Page N16-N17



Page N20-N21

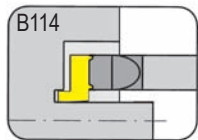


Page N18

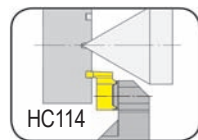


Page N22-N23

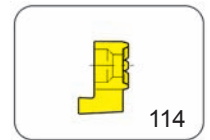
Outer groove Ø $\geq .472''$
 Depth of groove max. $.236''$
 Width of groove up to $.125''$



Page N26-N29

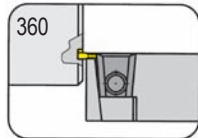


Page N30-N31

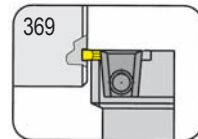


Page N32-N39

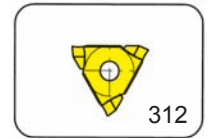
Outer groove Ø $\geq .787''$
 Depth of groove max. $.118''$
 Width of groove up to $.125''$



Page N42-N43

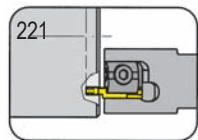


Page N44-N45

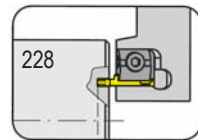


Page N46-N47

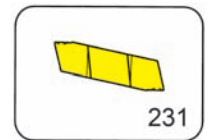
Outer groove Ø $\geq 1.575''$
 Depth of groove max. $.709''$
 Width of groove up to $3 - .394''$



Page N50-N51

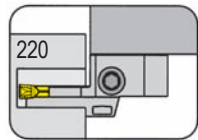


Page N52-N53

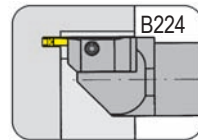


Page N54

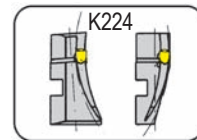
Outer groove Ø $1.496 - 39.370''$
 Depth of groove max. $.709''$
 Width of groove up to $.236''$



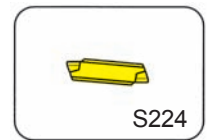
Page N56-N59



Page N60-N61

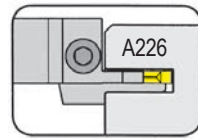


Page N62-N69

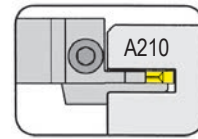


Page N70-N72

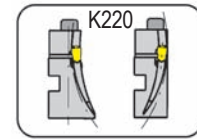
Outer groove Ø $2.362 - 39.370''$
 Depth of groove max. $.984''$
 Width of groove up to $.236''$



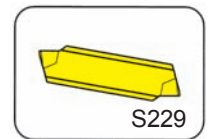
Page N74-N77



Page N78-N81



Page N82-N97



Page N98-N101

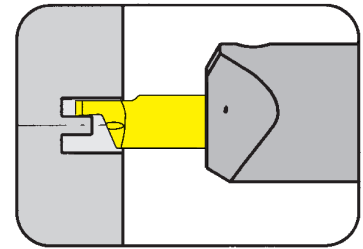
For Technical Information please see chapter Q

TOOLHOLDER Type

BU105

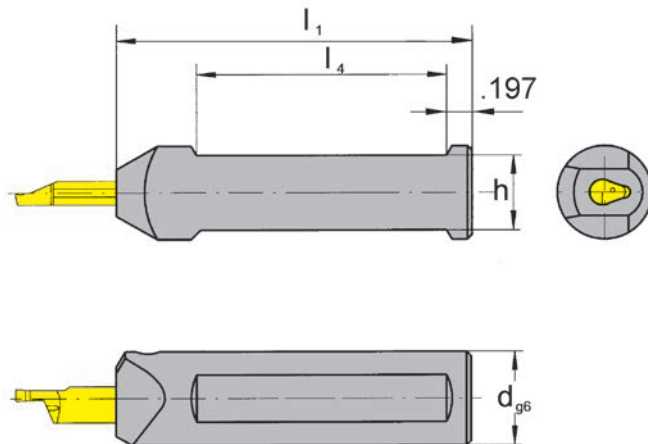
with through coolant supply

| | |
|-------------------------------|-------|
| from outer groove \emptyset | .197" |
| Depth of groove up to | .236" |
| Width of groove up to | .125" |



for use with Insert

Type 105
U105



Picture = left hand cutting version shown

| Part number | d | l ₁ | h | l ₄ |
|---------------|-------|----------------|------|----------------|
| BU105.0500.01 | .500 | 2.950 | .433 | 2.160 |
| BU105.0625.01 | .625 | 2.950 | .551 | 2.160 |
| BU105.0750.01 | .750 | 3.540 | .671 | 2.750 |
| BU105.1000.01 | 1.000 | 3.540 | .921 | 2.750 |

Further sizes upon request

Dimensions in inch

Ordering note:

Toolholders can be used with right and left hand inserts.

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------|-------------------|
| BU105.... | 6.075T15P | T15PQ |

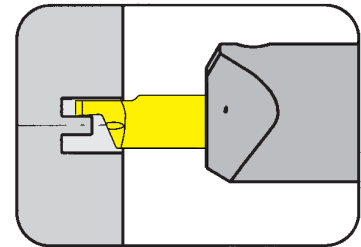
N2

TOOLHOLDER Type

B105

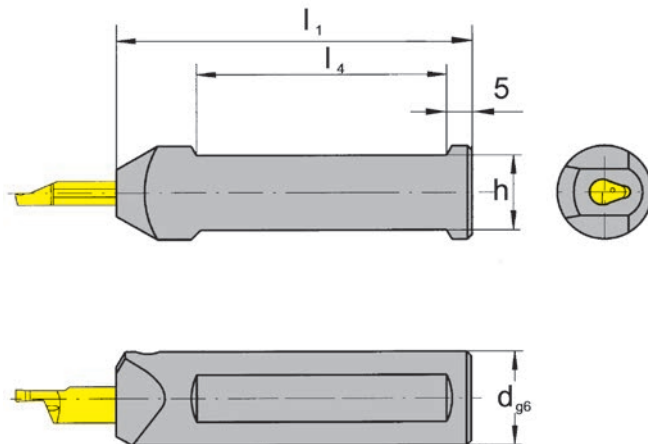
with through coolant supply

| | |
|---------------------------------|-----------------|
| from outer groove \varnothing | .197" (5.0 mm) |
| Depth of groove up to | .236" (6.0 mm) |
| Width of groove up to | .125" (3.18 mm) |



for use with Insert

Type 105
U105



Picture = left hand cutting version shown

| Part number | d | l ₁ | h | l ₄ |
|--------------|----|----------------|----|----------------|
| B105.0010.01 | 10 | 75 | 9 | 50 |
| B105.0012.01 | 12 | 75 | 11 | 50 |
| B105.0016.01 | 16 | 75 | 14 | 50 |
| B105.0020.01 | 20 | 90 | 18 | 55 |
| B105.0025.01 | 25 | 100 | 23 | 55 |

Further sizes upon request

Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.

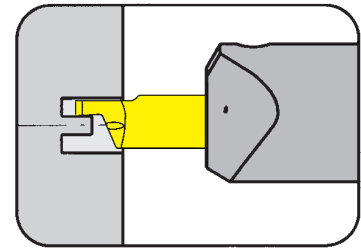
Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|------------|-----------|-------------------|
| B105.00... | 6.075T15P | T15PQ |

TOOLHOLDER Type

B105/BU105

with through coolant supply

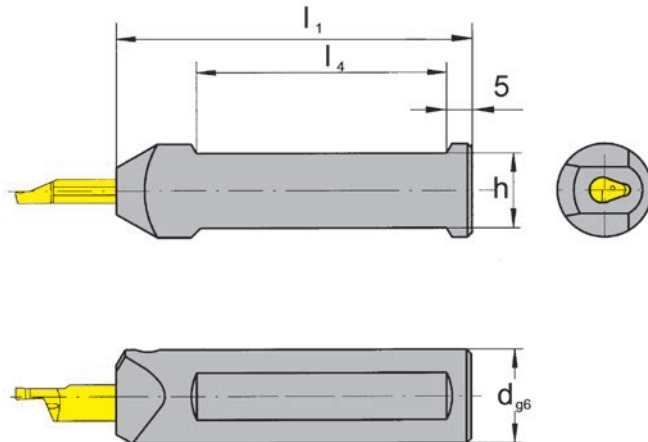


from outer groove \varnothing
Depth of groove up to
Width of groove up to

.197" (5.0 mm)
.236" (6.0 mm)
.125" (3.18 mm)

for use with Insert

Type 105
U105



Picture = left hand cutting version shown

| Part number | d | l_1 | h | l_4 | l_5 | Remark |
|-----------------|-------|-------|-------|-------|-------|--------|
| B105.0022.01 | 22.00 | 90 | 20.00 | 55 | 5 | - |
| B105.0028.01 | 28.00 | 120 | 26.00 | 72 | 12 | ** |
| BU105.0750.5.01 | 3/4" | 90 | 17.04 | 70 | 5 | ** |
| BU105.1000.5.01 | 1" | 90 | 23.40 | 65 | 5 | ** |

Further sizes upon request

Dimensions in mm and inch

** Adapter of cooling M12x1,5 for Traub

Ordering note:

Toolholders can be used with right and left hand inserts.

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|------------|-----------|-------------------|
| B/BU105... | 6.075T15P | T15PQ |

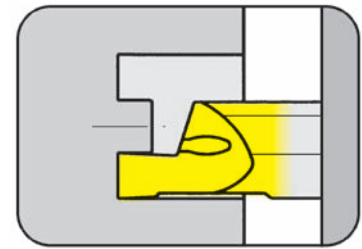
TOOLHOLDER Type

H105

with screwed clamping

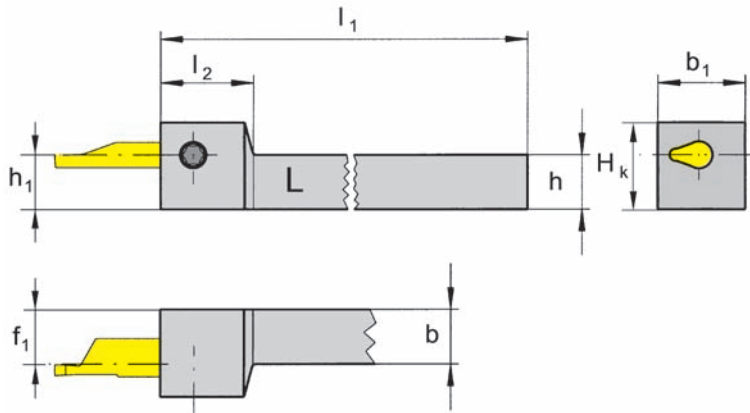
from outer groove \varnothing .197" (5.0 mm)
 Depth of groove up to .236" (6.0 mm)
 Width of groove up to .125" (3.18 mm)

with through coolant supply



for use with Insert

Type 105
 U105



L = left hand toolholder shown

R = right hand toolholder

| Part number | l_1 | l_2 | h | h_1 | f_1 | b | b_1 | H_k |
|-----------------|-------|-------|-----|-------|-------|-----|-------|-------|
| R/LH105.0808.01 | 90 | 17 | 8 | 8 | 7.5 | 8 | 16 | 14 |
| R/LH105.1010.01 | 90 | 17 | 10 | 10 | 7.5 | 10 | 16 | 16 |
| R/LH105.1212.01 | 90 | 17 | 12 | 12 | 7.5 | 12 | 16 | 18 |
| R/LH105.1616.01 | 110 | 17 | 16 | 16 | 7.5 | 16 | 16 | 22 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| R/LH105.... | 6.075T15P | T15PQ |



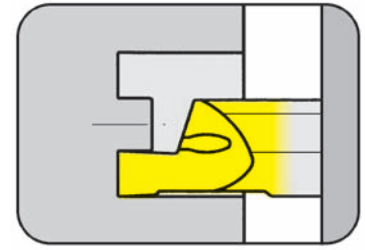
TOOLHOLDER Type

HC105

with screwed clamping

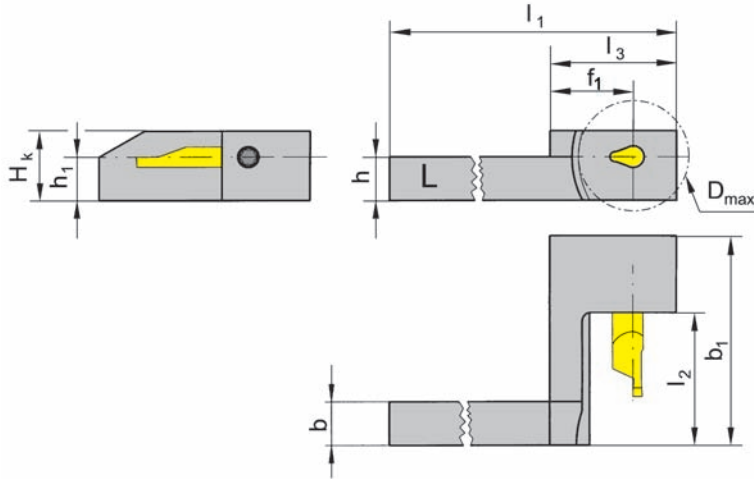
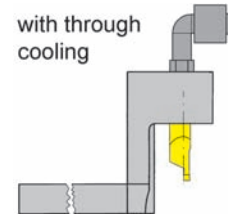
| | |
|---------------------------------|-----------------|
| from outer groove \varnothing | .197" (5.0 mm) |
| Depth of groove up to | .236" (6.0 mm) |
| Width of groove up to | .125" (3.18 mm) |

Coolant supply through cranked fitting



for use with Insert

Type 105
U105



L = left hand toolholder shown

R = right hand toolholder

| Part number | l_1 | l_2 | h | h_1 | f_1 | l_3 | b | b_1 | D_{max} | H_k | Remark |
|------------------|-------|-------|-----|-------|-------|-------|-----|-------|-----------|-------|--------|
| R/LHC105.0707.21 | 99 | 18 | 7 | 7 | 19 | 29 | 7 | 32.0 | 26 | 13 | * |
| R/LHC105.0808.21 | 99 | 18 | 8 | 8 | 19 | 29 | 8 | 32.0 | 26 | 13 | * |
| RHC105.1010.11 | 99 | 8 | 10 | 10 | 19 | 29 | 10 | 22.7 | 26 | 16 | * |
| R/LHC105.1010.21 | 99 | 18 | 10 | 10 | 19 | 29 | 10 | 38.0 | 26 | 16 | |
| R/LHC105.1010.41 | | 28 | | | | | | 48.0 | | | |
| R/LHC105.1212.21 | 99 | 18 | 12 | 12 | 19 | 29 | 12 | 38.0 | 26 | 18 | |
| R/LHC105.1212.41 | | 28 | | | | | | 48.0 | | | |
| R/LHC105.1616.21 | 104 | 18 | 16 | 16 | 24 | 34 | 16 | 38.0 | 36 | 22 | |
| R/LHC105.1616.41 | | 28 | | | | | | 48.0 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

Note:

* = no through coolant supply!

Spare parts

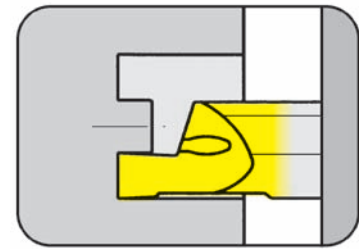
| Toolholder | Screw | TORX PLUS® Wrench | Screwed angle fitting |
|----------------------|------------------|-------------------|-----------------------|
| R/LHC105...07./08... | 6.075T15P | T15PQ | - |
| RHC105...11 | 6.075T15P | T15PQ | - |
| R/LHC105.1...21/41 | 6.075T15P | T15PQ | KQ2L06-M5 |

TOOLHOLDER Type

VDI

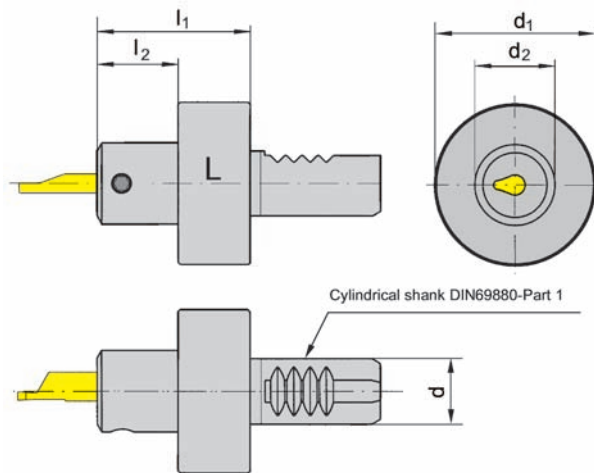
with through coolant supply

from outer groove \varnothing .197" (5.0 mm)
 Depth of groove up to .236" (6.0 mm)
 Width of groove up to .125" (3.18 mm)



for use with Insert

Type 105
 U105



L = left hand toolholder shown

R = right hand toolholder

| Part number | d | l_1 | l_2 | d_2 | d_1 |
|--------------------|----|-------|-------|-------|-------|
| VDI16.R/L105.20.01 | 16 | 38 | 20 | 20 | 40 |
| VDI20.R/L105.20.01 | 20 | 38 | 20 | 20 | 50 |
| VDI25.R/L105.20.01 | 25 | 38 | 20 | 20 | 58 |
| VDI30.R/L105.20.01 | 30 | 38 | 20 | 20 | 68 |
| VDI40.R/L105.20.01 | 40 | 38 | 20 | 20 | 83 |

State R or L version

Dimensions in mm

Further sizes upon request

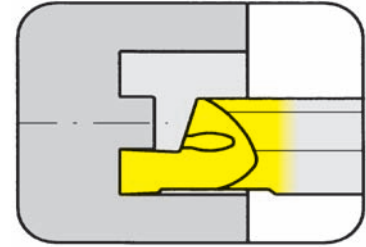
Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|------------|-----------|-------------------|
| VDI... | 6.075T15P | T15PQ |



INSERT Type

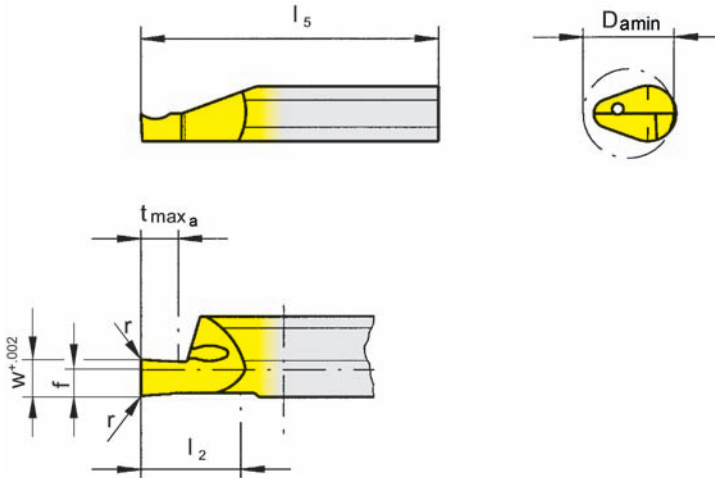
105



from outer groove \emptyset .197"
 Depth of groove up to .197"
 Width of groove up to .079"

for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | | |
|-----------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|---|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 | |
| R/L105.0510.1.8 | .039 | | | | | .079 | | ▲/▲ | | ▲/▲ | | | |
| R/L105.0515.1.8 | .059 | .002 | .079 | .394 | .984 | .118 | .197 | ▲/▲ | | ▲/▲ | | | |
| R/L105.0520.1.8 | .079 | | | | | .197 | | ▲/▲ | | ▲/▲ | | | |
| R/L105.0510.2.8 | .039 | | | | | .079 | | ▲/▲ | | ▲/▲ | | | |
| R/L105.0515.2.8 | .059 | .002 | .079 | .591 | 1.378 | .118 | .197 | ▲/▲ | | ▲/▲ | | | |
| R/L105.0520.2.8 | .079 | | | | | .197 | | ▲/▲ | | ▲/▲ | | | |
| | | | | | | | | P | o | • | • | • | • |
| | | | | | | | | M | • | • | • | • | • |
| | | | | | | | | K | • | • | • | • | • |
| | | | | | | | | S | • | • | • | • | • |
| | | | | | | | | N | • | • | • | • | • |
| | | | | | | | | H | | | | | |

▲ on stock Δ 4 weeks
 • main recommendation
 o alternative recommendation
 □ uncoated grades
 ■ coated grades
 ■ brazed/Cermet

Dimensions in inch

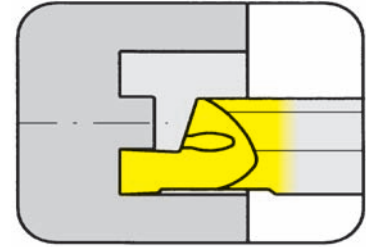
State R or L version

Carbide grades



INSERT Type

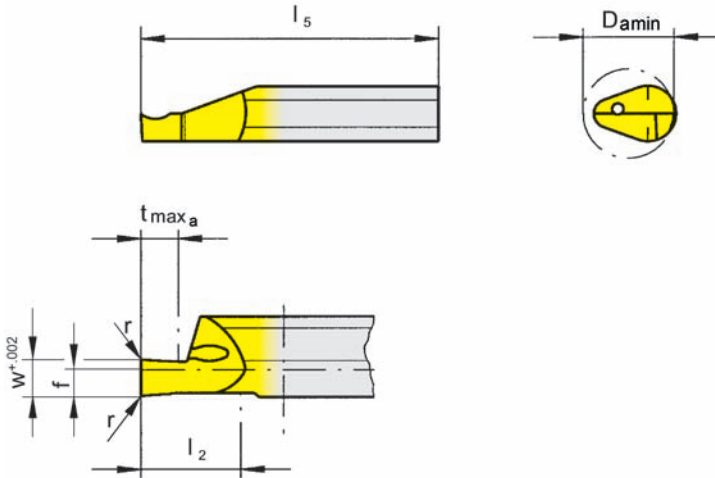
105



from outer groove \emptyset .236"
 Depth of groove up to .197"
 Width of groove up to .079"

for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | | |
|-----------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|---|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 | |
| R/L105.0610.1.8 | .039 | | | | | .079 | | ▲/▲ | | ▲/▲ | | | |
| R/L105.0615.1.8 | .059 | .002 | .079 | .394 | .984 | .118 | .236 | △△ | | ▲/▲ | | | |
| R/L105.0620.1.8 | .079 | | | | | .197 | | ▲/△ | | ▲/▲ | | | |
| R/L105.0610.2.8 | .039 | | | | | .079 | | △△ | | △/▲ | | | |
| R/L105.0615.2.8 | .059 | .002 | .079 | .591 | 1.378 | .118 | .236 | △/△ | | ▲/△ | | | |
| R/L105.0620.2.8 | .079 | | | | | .197 | | △△ | | ▲/▲ | | | |
| | | | | | | | | P | ○ | • | • | • | • |
| | | | | | | | | M | • | • | • | • | • |
| | | | | | | | | K | • | • | • | • | • |
| | | | | | | | | S | • | • | • | • | • |
| | | | | | | | | N | • | • | • | • | • |
| | | | | | | | | H | • | • | • | • | • |

▲ on stock △ 4 weeks
 • main recommendation
 ○ alternative recommendation
 □ uncoated grades
 ■ coated grades
 ■ brazed/Cermet

Dimensions in inch

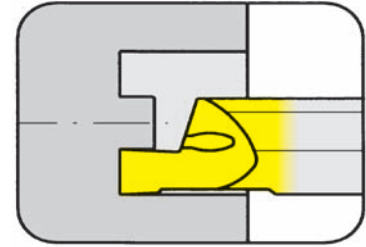
State R or L version

Carbide grades



INSERT Type

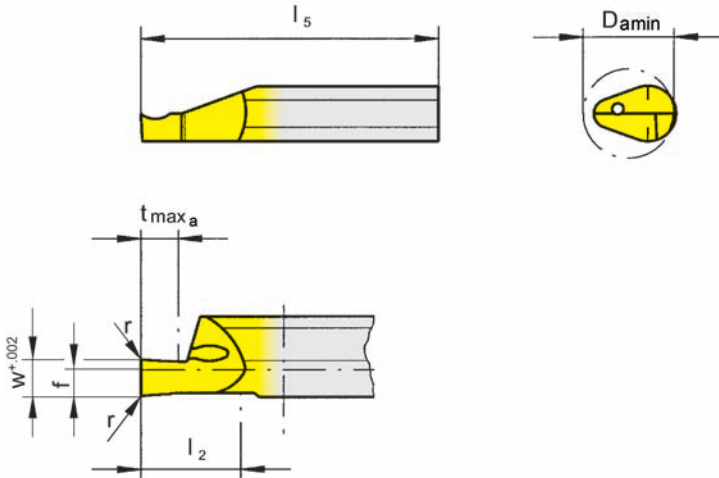
105



from outer groove \emptyset .315"
 Depth of groove up to .236"
 Width of groove up to .118"

for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | |
|-----------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 |
| R/L105.0810.1.8 | .039 | | | | | .079 | | | | ▲/▲ | | |
| R/L105.0815.1.8 | .059 | | | | | .118 | | | | ▲/▲ | | |
| R/L105.0820.1.8 | .079 | .006 | .079 | .394 | .984 | .157 | .315 | | | ▲/▲ | | |
| R/L105.0825.1.8 | .098 | | | | | .197 | | | | ▲/▲ | | |
| R/L105.0830.1.8 | .118 | | | | | .236 | | | | ▲/▲ | | |
| R/L105.0810.2.8 | .039 | | | | | .079 | | | | ▲/▲ | | |
| R/L105.0815.2.8 | .059 | | | | | .118 | | | | ▲/▲ | | |
| R/L105.0820.2.8 | .079 | .006 | .079 | .591 | 1.378 | .157 | .315 | | | ▲/▲ | | |
| R/L105.0825.2.8 | .098 | | | | | .197 | | | | ▲/▲ | | |
| R/L105.0830.2.8 | .118 | | | | | .236 | | | | ▲/▲ | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | P | M | K | S | N | H |
|------|---|---|---|---|---|---|
| MG12 | ■ | ■ | ■ | ■ | ■ | ■ |
| TN35 | ■ | ■ | ■ | ■ | ■ | ■ |
| TI25 | ● | ● | ● | ● | ● | ● |
| TF45 | ■ | ■ | ■ | ■ | ■ | ■ |
| TH35 | ■ | ■ | ■ | ■ | ■ | ■ |

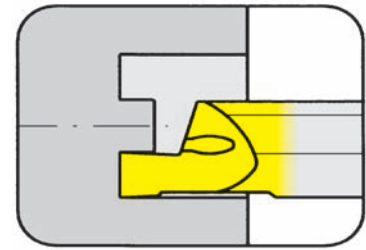
Dimensions in inch

Carbide grades

State R or L version

INSERT Type

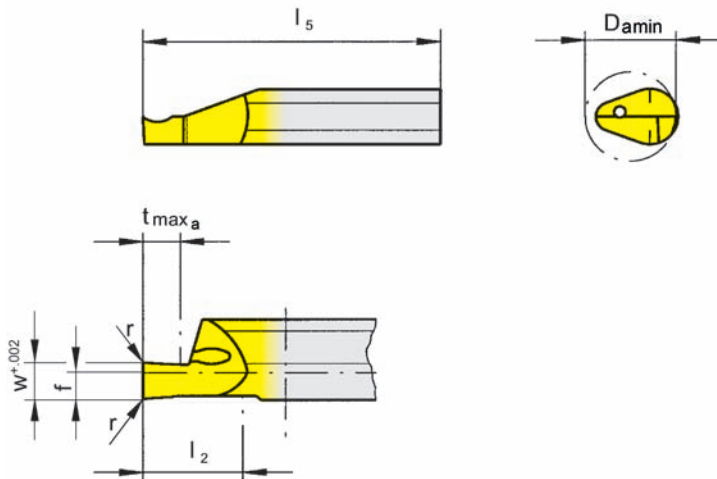
U105



from outer groove \emptyset .315"
 Depth of groove up to .236"
 Width of groove up to .125"

for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | |
|------------------------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 |
| R/LU105.0846.1.8 | .046 | | | | | .098 | | | ▲/▲ | | ▲/ | |
| R/LU105.0862.1.8 | .062 | | | | | .118 | | | ▲/▲ | | ▲/ | |
| R/LU105.0878.1.8 | .078 | .006 | .079 | .394 | .984 | .157 | .315 | | ▲/▲ | | ▲/ | |
| R/LU105.0894.1.8 | .094 | | | | | .197 | | | ▲/▲ | | ▲/ | |
| R/LU105.0812.1.8 | .125 | | | | | .236 | | | ▲/▲ | | ▲/ | |
| R/LU105.0846.2.8 | .046 | | | | | .098 | | | ▲/▲ | | ▲/ | |
| R/LU105.0862.2.8 | .062 | | | | | .118 | | | ▲/▲ | | ▲/ | |
| R/LU105.0878.2.8 | .078 | .006 | .079 | .591 | 1.378 | .157 | .315 | | ▲/▲ | | ▲/ | |
| R/LU105.0894.2.8 | .094 | | | | | .197 | | | ▲/▲ | | ▲/ | |
| R/LU105.0812.2.8 | .125 | | | | | .236 | | | ▲/▲ | | ▲/ | |
| ▲ on stock Δ 4 weeks | | | | | | | | | P | • | • | |
| • main recommendation | | | | | | | | | M | • | • | |
| o alternative recommendation | | | | | | | | | K | • | • | |
| ■ uncoated grades | | | | | | | | | S | • | • | |
| ■ coated grades | | | | | | | | | N | • | • | |
| ■ brazed/Cermet | | | | | | | | | H | | | |

Dimensions in inch

State R or L version

Carbide grades



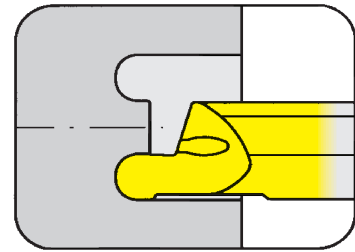
FACE GROOVING



INSERT Type

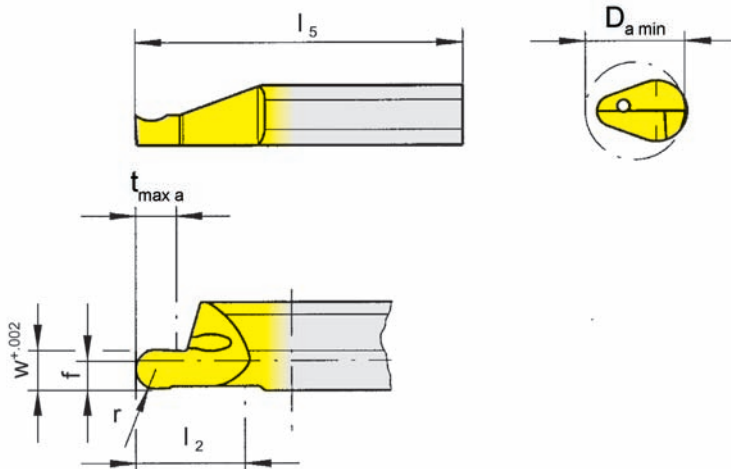
105

from outer groove \emptyset .315"
 Depth of groove up to .236"
 Width of groove up to .118"



for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

Full radius

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | |
|-----------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 |
| R/L105.8V10.1.8 | .039 | .020 | | | | .079 | | | ▲/▲ | | | |
| R/L105.8V16.1.8 | .063 | .031 | | | | .118 | | | ▲/▲ | | | |
| R/L105.8V20.1.8 | .079 | .039 | .079 | .394 | .984 | .157 | .315 | | ▲/▲ | | | |
| R/L105.8V25.1.8 | .098 | .049 | | | | .197 | | | ▲/▲ | | | |
| R/L105.8V30.1.8 | .118 | .059 | | | | .236 | | | ▲/▲ | | | |
| R/L105.8V10.2.8 | .039 | .020 | | | | .079 | | | ▲/▲ | | | |
| R/L105.8V16.2.8 | .063 | .031 | | | | .118 | | | ▲/▲ | | | |
| R/L105.8V20.2.8 | .079 | .039 | .079 | .591 | 1.378 | .157 | .315 | | ▲/▲ | | | |
| R/L105.8V25.2.8 | .098 | .049 | | | | .197 | | | ▲/▲ | | | |
| R/L105.8V30.2.8 | .118 | .059 | | | | .236 | | | ▲/▲ | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | P | M | K | S | N | H |
|------|---|---|---|---|---|---|
| MG12 | ■ | ■ | ■ | ■ | ■ | ■ |
| TN35 | ■ | ■ | ■ | ■ | ■ | ■ |
| TI25 | ● | ● | ● | ● | ● | ● |
| TF45 | ■ | ■ | ■ | ■ | ■ | ■ |
| TH35 | ■ | ■ | ■ | ■ | ■ | ■ |

Dimensions in inch

Carbide grades

State R or L version

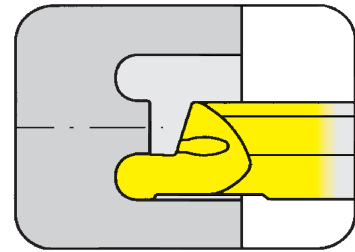


N12

INSERT Type

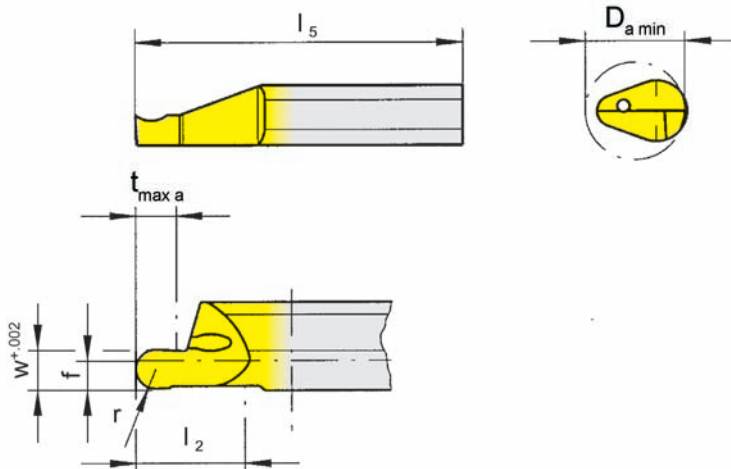
U105

from outer groove \emptyset .315"
 Depth of groove up to .236"
 Width of groove up to .125"



for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

Full radius

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | |
|------------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | | MG12 | TN35 | T125 | TF45 | TH35 |
| R/LU105.FF46.1.8 | .046 | .023 | | | | .098 | | | ▲/▲ | | ▲/ | |
| R/LU105.FF62.1.8 | .062 | .031 | | | | .118 | | | ▲/▲ | | ▲/ | |
| R/LU105.FF78.1.8 | .078 | .039 | .079 | .394 | .984 | .157 | .315 | | ▲/▲ | | ▲/ | |
| R/LU105.FF94.1.8 | .094 | .047 | | | | .197 | | | ▲/ | | ▲/ | |
| R/LU105.FF12.1.8 | .125 | .062 | | | | .236 | | | ▲/▲ | | ▲/ | |
| R/LU105.FF46.2.8 | .046 | .023 | | | | .098 | | | | ▲/ | ▲/ | |
| R/LU105.FF62.2.8 | .062 | .031 | | | | .118 | | | | ▲/ | ▲/ | |
| R/LU105.FF78.2.8 | .078 | .039 | .079 | .591 | 1.378 | .157 | .315 | | ▲/ | | ▲/ | |
| R/LU105.FF94.2.8 | .094 | .047 | | | | .197 | | | ▲/ | | ▲/ | |
| R/LU105.FF12.2.8 | .125 | .062 | | | | .236 | | | ▲/ | | ▲/ | |
| | | | | | | | | | P | • | • | |
| | | | | | | | | | M | • | • | |
| | | | | | | | | | K | • | • | |
| | | | | | | | | | S | • | • | |
| | | | | | | | | | N | • | • | |
| | | | | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

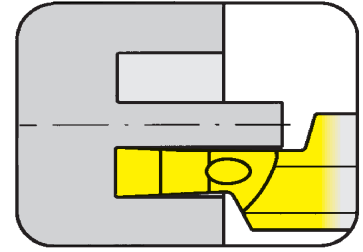
State R or L version

Carbide grades



INSERT Type

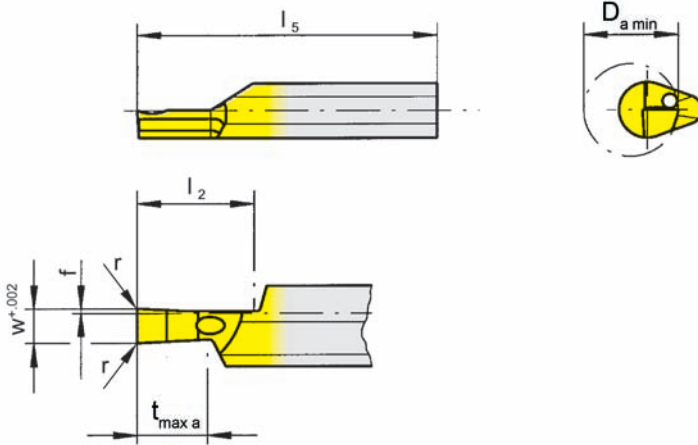
105



from outer groove \varnothing .315"
 Depth of groove up to .236"
 Width of groove up to .118"

for use with Toolholder

Type BU105
 B105
 H105
 HC105
 VDI



R = right hand version shown

L = left hand version

| Part number | w | r | f | l ₂ | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | |
|-----------------|------|------|------|----------------|----------------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 |
| R/L105.0810.1.9 | .039 | | | | | .079 | | | ▲/▲ | | | |
| R/L105.0815.1.9 | .059 | | | | | .118 | | | ▲/▲ | | | |
| R/L105.0820.1.9 | .079 | .006 | .016 | .394 | .984 | .157 | .315 | | ▲/▲ | | | |
| R/L105.0825.1.9 | .098 | | | | | .197 | | | ▲/▲ | | | |
| R/L105.0830.1.9 | .118 | | | | | .236 | | | ▲/▲ | | | |
| | | | | | | | | P | | • | | |
| | | | | | | | | M | | • | | |
| | | | | | | | | K | | • | | |
| | | | | | | | | S | | • | | |
| | | | | | | | | N | | • | | |
| | | | | | | | | H | | | | |

Dimensions in inch

State R or L version

Insert Type A105 - precision ground -



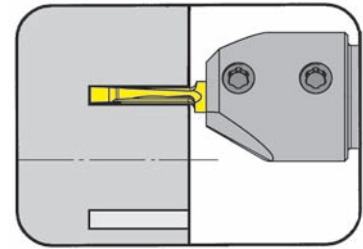
| | |
|---------------------------------|-----------------------------|
| from Outer groove \varnothing | .394" (10.0 mm) |
| Depth of groove up to | .591" (15.0 mm) |
| Width of groove | .079 - .118" (2.0 - 3.0 mm) |

TOOLHOLDER Type

BU105

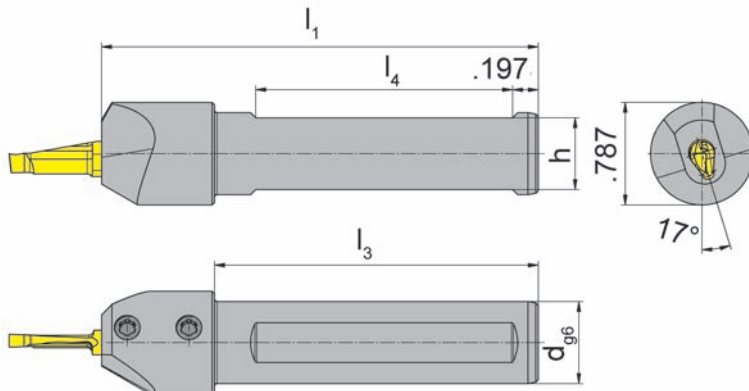
with through coolant supply

from outer groove \varnothing .394"
 Depth of groove up to .591"
 Width of groove up to .118"



for use with Insert

Type A105



L = left hand version shown

R = right hand version

| Part number | d | l_1 | h | l_3 | l_4 |
|--------------------|-------|-------|------|-------|-------|
| R/LBU105.0625.12.2 | .625 | 3.347 | .546 | 2.480 | 1.969 |
| R/LBU105.0750.12.2 | .750 | 3.937 | .671 | - | 2.165 |
| R/LBU105.1000.12.2 | 1.000 | | .921 | | |

State R or L version

Dimensions in inch

Further sizes upon request

Spare parts

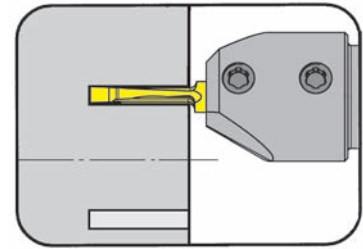
| Toolholder | Screw | TORX PLUS®-Wrench |
|--------------|-----------|-------------------|
| R/LBU105.... | 6.075T15P | T15PQ |



TOOLHOLDER Type

B105

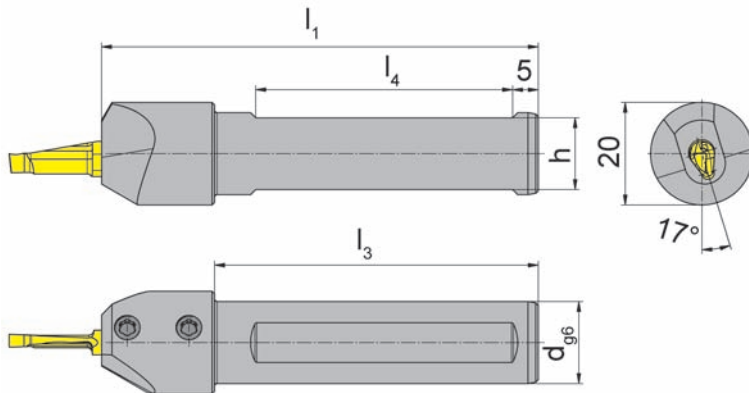
with through coolant supply



| | |
|---------------------|-----------------------------|
| from outer groove Ø | .394" (10.0 mm) |
| Depth of groove | .591" (15.0 mm) |
| Width of groove | .079 - .118" (2.0 - 3.0 mm) |

for use with Insert

Type A105



L = left hand version shown

R = right hand version

| Part number | d | l ₁ | h | l ₃ | l ₄ |
|-------------------|----|----------------|----|----------------|----------------|
| R/LB105.0016.12.2 | 16 | 85 | 14 | 63 | 50 |
| R/LB105.0020.12.2 | 20 | 100 | 18 | - | 55 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

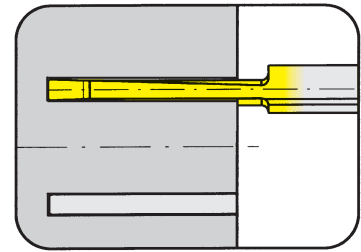
| Toolholder | Screw | TORX PLUS®-Wrench |
|---------------|-----------|-------------------|
| R/LB105.00... | 6.075T15P | T15PQ |



INSERT Type

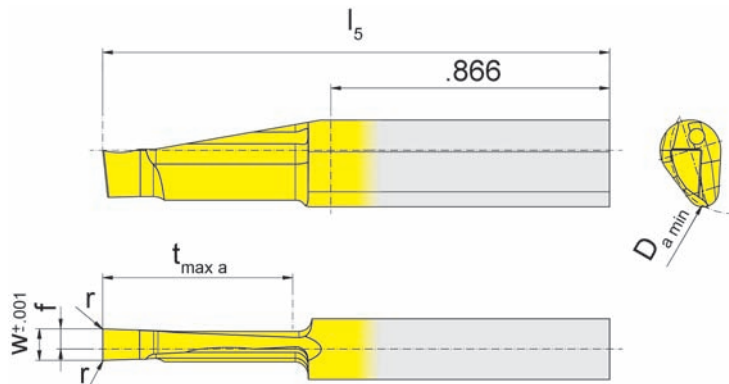
A105

from outer groove \emptyset .394"
 Depth of groove up to .591"
 Width of groove up to .118"



for use with Toolholder

Type R/LBU105...12.2
 R/LB105...12.2



L = left hand version shown

R = right hand version

| Part number | w | r | f | l_5 | $t_{max a}$ | $D_{a min}$ | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------|------|------|------|-------|-------------|-------------|--|------|------|------|------|------|
| R/LA105.1020.2.2 | .079 | | .055 | | | | | | | ▲/▲ | | |
| R/LA105.1025.2.2 | .098 | .004 | .063 | 1.575 | .591 | .394 | | | | ▲/▲ | | |
| R/LA105.1030.2.2 | .118 | | .075 | | | | | | | ▲/▲ | | |
| | | | | | | | | P | | • | | |
| | | | | | | | | M | | • | | |
| | | | | | | | | K | | • | | |
| | | | | | | | | S | | • | | |
| | | | | | | | | N | | • | | |
| | | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Carbide grades

Dimensions in inch

State R or L version

Note:

Use insert RA105 in toolholder RB105
 Use insert LA105 in toolholder LB105

Face grooving with full width of the full depth only possible between D_{amin} .394" - 1.575"!



**Insert Type A110
- precision ground -**



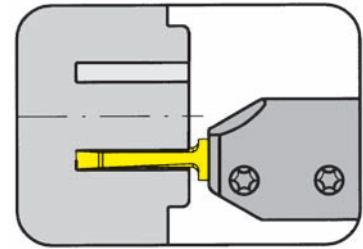
from Outer groove \varnothing .787" (20 mm)
Depth of groove up to 1.181" (30 mm)

TOOLHOLDER Type

BU110

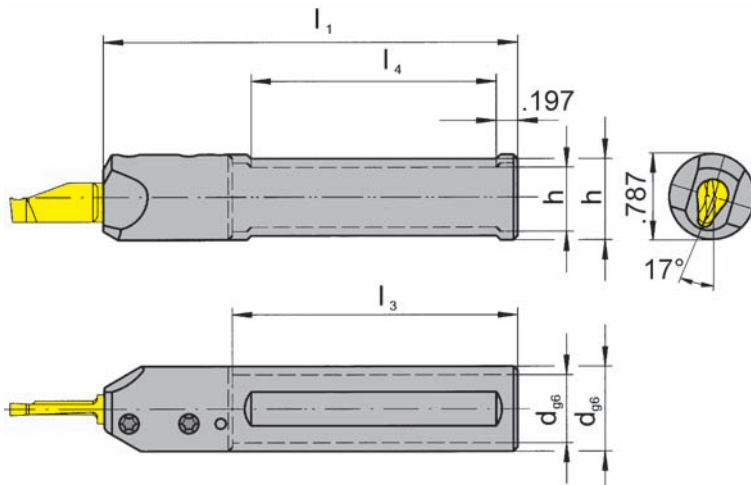
with through coolant supply

| | |
|---------------------------------|--------|
| from outer groove \varnothing | .787" |
| Depth of groove up to | 1.181" |
| Width of groove up to | .118" |



for use with Insert

Type A110



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | h | l ₃ | l ₄ |
|--------------------|------|----------------|------|----------------|----------------|
| R/LBU110.0625.16.2 | .625 | 3.397 | .551 | 2.756 | 2.165 |
| R/LBU110.0750.16.2 | .750 | | .709 | - | |

State R or L version

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|---------------|-----------|-------------------|
| R/LBU110.0... | 6.075T15P | T15PQ |

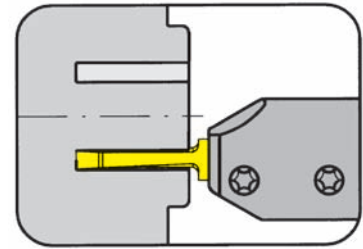
N20

TOOLHOLDER Type

B110

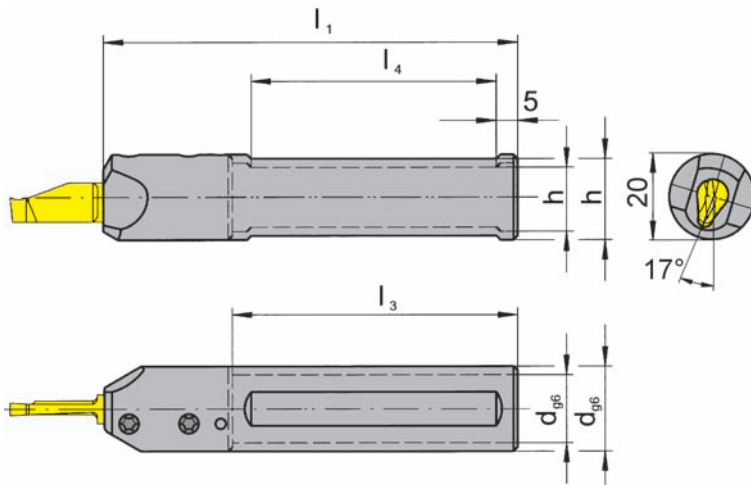
with through coolant supply

| | |
|---------------------------------|------------------|
| from outer groove \varnothing | .787" (20.0 mm) |
| Depth of groove | 1.181" (30.0 mm) |
| Width of groove up to | .118" (3.0 mm) |



for use with Insert

Type A110



R = right hand version shown

L = left hand version

| Part number | d | l_1 | h | l_3 | l_4 |
|-------------------|----|-------|----|-------|-------|
| R/LB110.0016.16.2 | 16 | 100 | 14 | 70 | 55 |
| R/LB110.0020.16.2 | 20 | 100 | 18 | - | 55 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

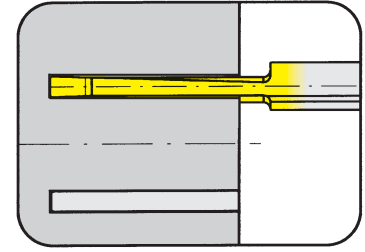
| Toolholder | Screw | TORX PLUS®-Wrench |
|---------------|-----------|-------------------|
| R/LB110.00... | 6.075T15P | T15PQ |



INSERT Type

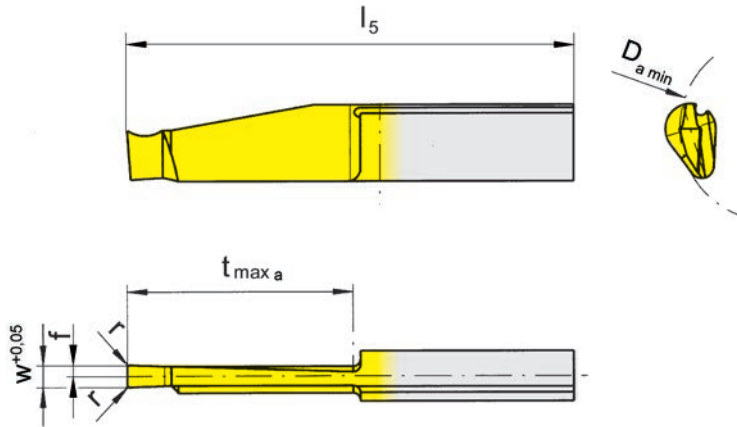
A110

from outer groove \emptyset .787"
 Depth of groove up to 1.181"
 Width of groove up to .118"



for use with Toolholder

Type R/LB110...16.2
 R/LBU110...16.2



L = left hand version shown

R = right hand version

| Part number | w | r | f | l ₅ | t _{max a} | D _{a min} | Carbide grades | | | | |
|------------------|------|------|------|----------------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 |
| R/LA110.2030.3.0 | .118 | .008 | .059 | 1.969 | .787 | .787 | | ▲/▲ | ▲/▲ | | ▲/▲ |
| R/LA110.2030.5.0 | | | | | | | ▲/▲ | ▲/▲ | | ▲/▲ | |
| R/LA110.5030.3.0 | .118 | .008 | .059 | 1.969 | .787 | 1.969 | | | ▲/▲ | | |
| R/LA110.5030.5.0 | | | | | | | | ▲/▲ | | | |
| | | | | | | | P | • | • | • | • |
| | | | | | | | M | • | • | • | • |
| | | | | | | | K | • | • | • | • |
| | | | | | | | S | • | • | • | • |
| | | | | | | | N | • | • | • | • |
| | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

State R or L version

Note:

Use insert RA110 in toolholder RB110
 Use insert LA110 in toolholder LB110

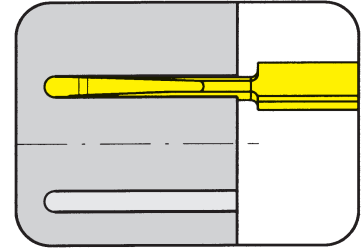
Face grooving with full width of the full depth only possible between D_{amin} .787" - 1.969".



INSERT Type

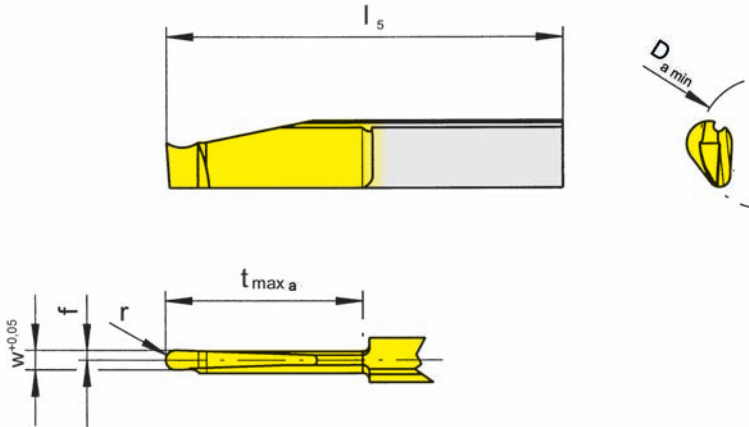
A110

from outer groove \emptyset .787"
 Depth of groove up to 1.181"
 Width of groove up to .118"



for use with Toolholder

Type R/LB110...16.2
 R/LBU110...16.2



L = left hand version shown

R = right hand version

Full radius

| Part number | w | r | f | l_5 | $t_{max a}$ | $D_{a min}$ | | MG12 | TN35 | Ti25 | TF45 | TH35 |
|----------------------------|------|------|------|-------|-------------|-------------|--|------|------|------|------|------|
| R/LA110.2030.15.5.0 | .118 | .059 | .059 | 2.362 | 1.181 | .787 | | | ▲/▲ | | | |
| | | | | | | | | P | • | | | |
| | | | | | | | | M | • | | | |
| | | | | | | | | K | • | | | |
| | | | | | | | | S | • | | | |
| | | | | | | | | N | • | | | |
| | | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Note:

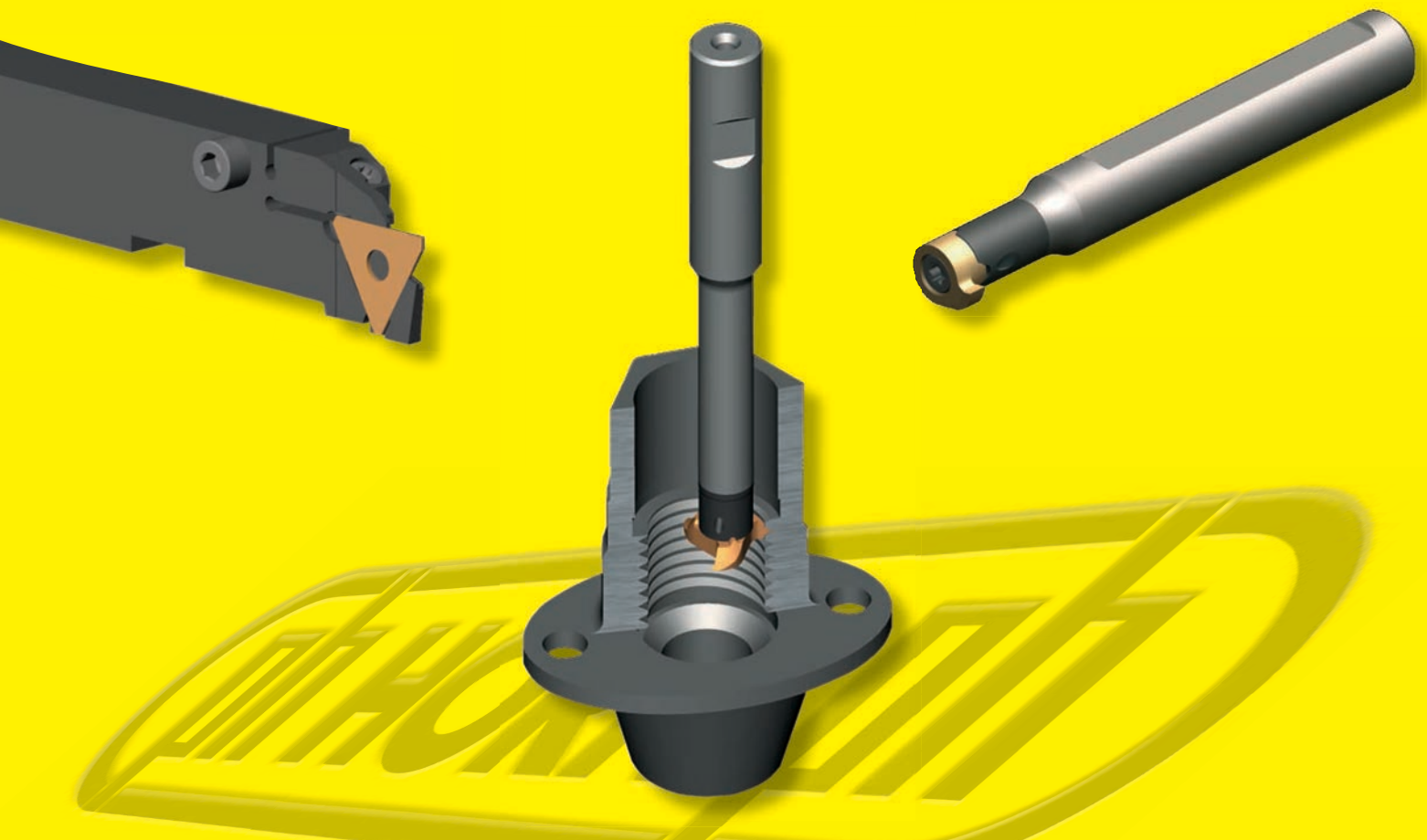
Use insert RA110 in toolholder RB110
 Use insert LA110 in toolholder LB110

Face grooving with full width of the full depth only possible between D_{amin} .787" - 1.969".

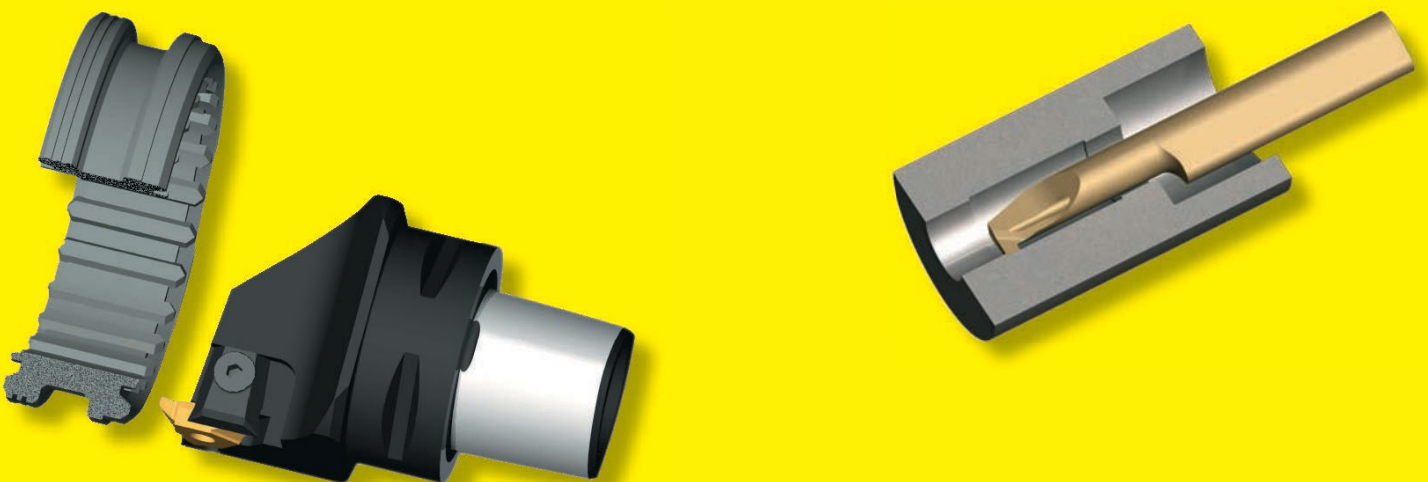
Carbide grades



SOLUTIONS PLUS Program

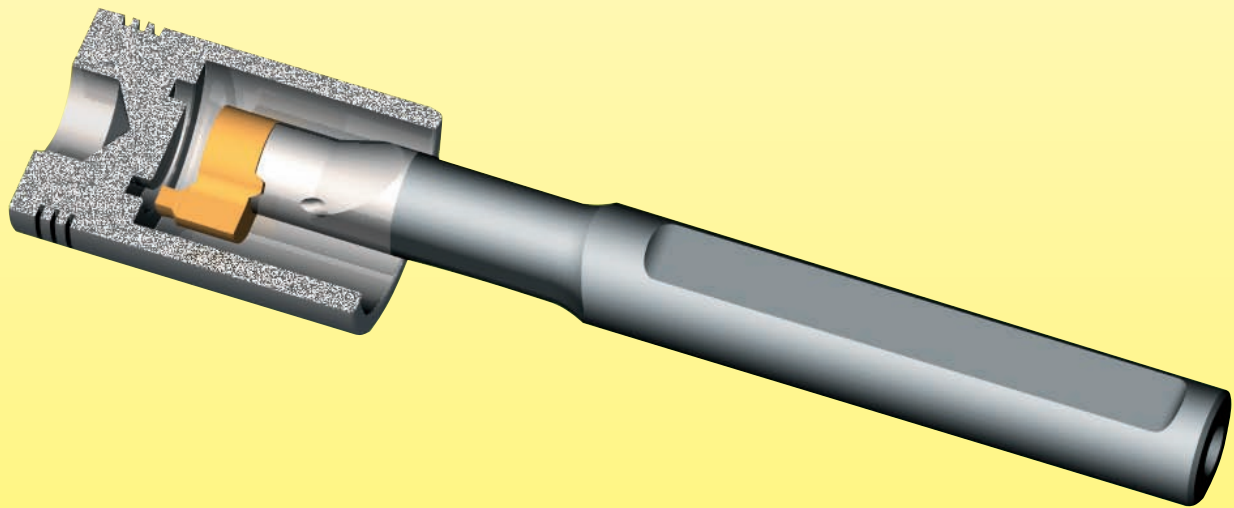


**Need faster delivery?
Inquire about our Solutions Plus Program.**



N

**Insert Type 114
- precision ground -**



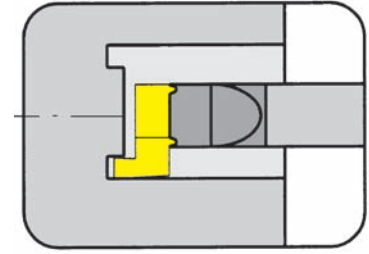
from Outer groove \varnothing
Depth of groove up to

.472" (12 mm)
.236" (6 mm)

TOOLHOLDER Type

BU114

with through coolant supply

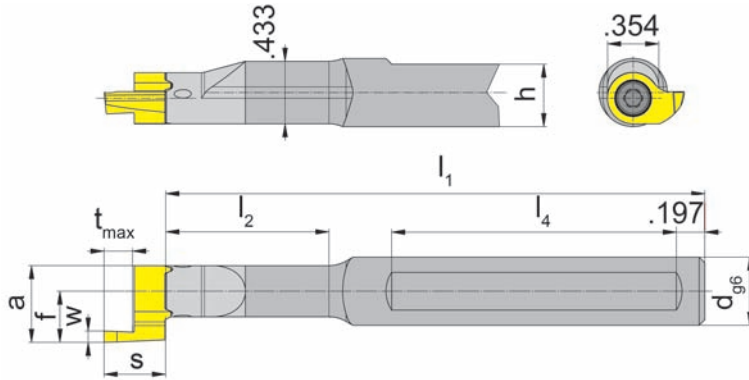


| | |
|-----------------------|--------|
| Depth of bore up to | 2.520" |
| Depth of groove up to | .256" |
| Width of groove up to | .125" |

Material of shank: Carbide - Giving a good vibration resistance

for use with Insert

Type 114
S114
U114



Picture = right hand cutting version shown

| Part number | d | l ₁ | l ₂ | h | l ₄ | Remark |
|---------------|------|----------------|----------------|------|----------------|--------------------|
| BU114.ST05.00 | .500 | 2.744 | .559 | .460 | 1.570 | * Steel toolholder |
| BU114.0500.01 | | 3.728 | 1.130 | | | |
| BU114.0500.02 | .500 | 4.122 | 1.563 | .460 | 1.970 | |
| BU114.0500.03 | | 4.909 | 2.311 | | | |
| BU114.ST06.00 | .625 | 2.941 | .559 | .585 | 1.570 | * Steel toolholder |
| BU114.0625.01 | | 3.728 | 1.130 | | | |
| BU114.0625.02 | .625 | 4.122 | 1.563 | .585 | 1.970 | |
| BU114.0625.03 | | 4.909 | 2.311 | | | |

Further sizes upon request

w, a, s, t_{max} and f see inserts

Dimensions in inch

Note:

Toolholders can be used in right and left hand inserts.
Toolholders with damaged seating can be repaired by HORN.

* Steel toolholder is not repairable.

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------|-------------------|
| BU114.... | 4.12T15EP | T15PQ |

N26

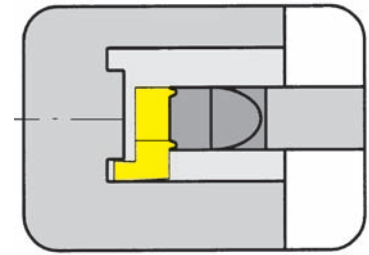
TOOLHOLDER Type

B114

with through coolant supply

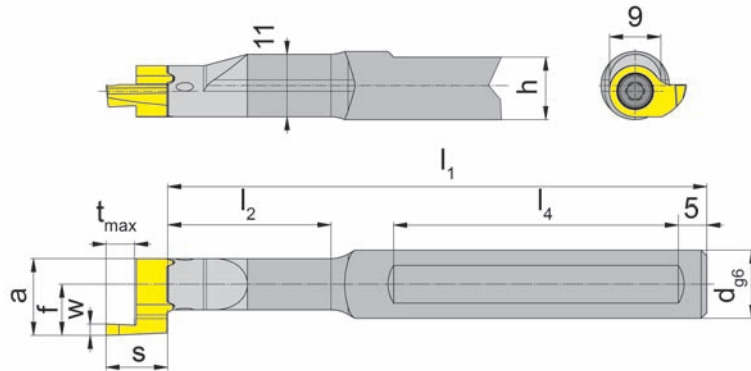
| | |
|-----------------------|------------------|
| Depth of bore up to | 2.520" (64.0 mm) |
| Depth of groove up to | .236" (6.0 mm) |
| Width of groove up to | .125" (3.18 mm) |

Material of shank: Carbide - Giving a good vibration resistance



for use with Insert

Type 114
S114
U114



Picture = right hand cutting version shown

| Part number | d | l ₁ | l ₂ | h | l ₄ |
|--------------|----|----------------|----------------|----|----------------|
| B114.0012.00 | 12 | 69.7 | 14.2 | 11 | 40 |
| B114.0012.01 | | 94.7 | 28.7 | | 50 |
| B114.0012.02 | | 104.7 | 39.7 | | 50 |
| B114.0012.03 | | 124.7 | 58.7 | | 50 |
| B114.0016.00 | 16 | 74.7 | 14.2 | 15 | 40 |
| B114.0016.01 | | 94.7 | 28.7 | | 50 |
| B114.0016.02 | | 104.7 | 39.7 | | 50 |
| B114.0016.03 | | 124.7 | 58.7 | | 50 |

Further sizes upon request

w, a, s, t_{max} and f see inserts

Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.
Toolholders with damaged seating can be repaired by HORN.

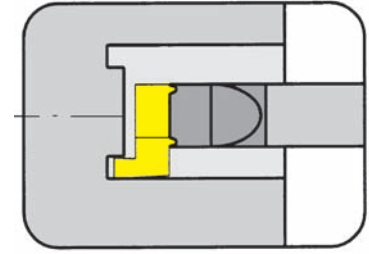
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| B114.001... | 4.12T15EP | T15PQ |

TOOLHOLDER Type

B114

with through coolant supply

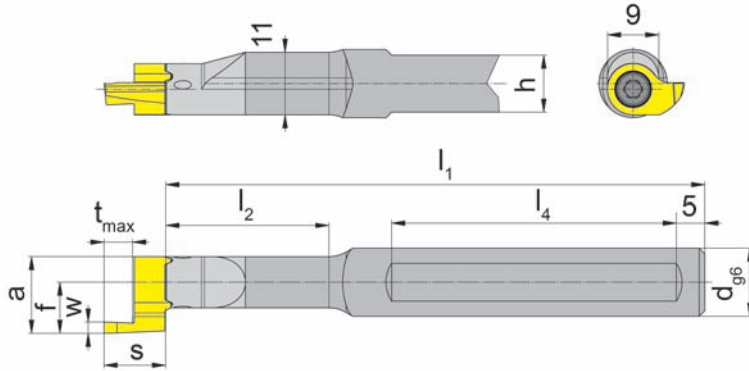


| | |
|-----------------------|-----------------|
| Bore Ø from | .551" (14.0 mm) |
| Depth of groove up to | .256" (6.5 mm) |
| Width of groove up to | .125" (3.18 mm) |

Material of shank: Carbide - Giving a good vibration resistance

for use with Insert

Type 114
S114
U114



Picture = right hand cutting version shown

with 2 clamping flats

| Part number | d | l ₁ | l ₂ | h | l ₄ |
|----------------|----|----------------|----------------|----|----------------|
| B114.0012.2.00 | 12 | 69.7 | 14.2 | 11 | 40 |
| B114.0012.2.01 | | 94.7 | 28.7 | | 50 |
| B114.0012.2.02 | | 104.7 | 39.7 | | 50 |
| B114.0012.2.03 | | 124.7 | 58.7 | | 50 |
| B114.0016.2.00 | 16 | 74.7 | 14.2 | 15 | 40 |
| B114.0016.2.01 | | 94.7 | 28.7 | | 50 |
| B114.0016.2.02 | | 104.7 | 39.7 | | 50 |
| B114.0016.2.03 | | 124.7 | 58.7 | | 50 |

Further sizes upon request

w, a, s, t_{max} and f see inserts

Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.
Toolholders with damaged seating can be repaired by HORN.

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| B114.001... | 4.12T15EP | T15PQ |

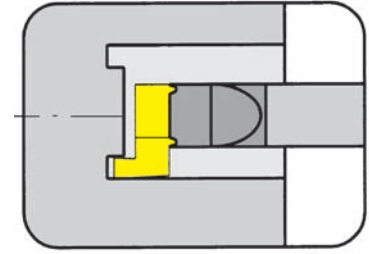
N28



TOOLHOLDER Type

B114

with through coolant supply

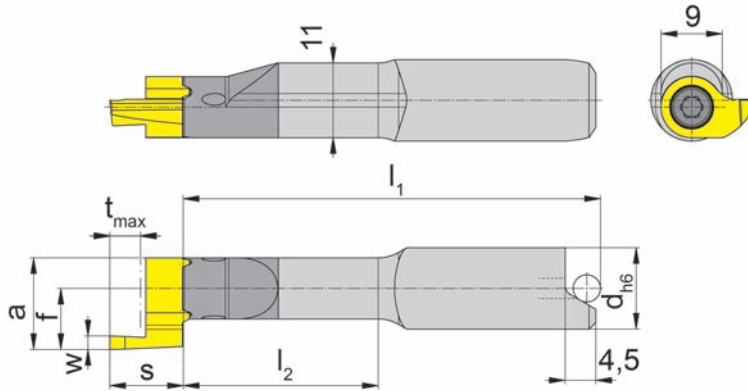


| | |
|-----------------------|-----------------|
| Bore Ø from | .551" (14.0 mm) |
| Depth of groove up to | .256" (6.5 mm) |
| Width of groove up to | .125" (3.18 mm) |

Material of shank: Carbide - Giving a good vibration resistance

for use with Insert

Type 114
S114
U114



Picture = right hand cutting version shown

for shrinkage location
S = orientation

| Part number | d | l ₁ | l ₂ |
|---------------|----|----------------|----------------|
| B114.0012.00S | 12 | 47.4 | 14.2 |
| B114.0012.01S | | 61.4 | 28.7 |
| B114.0012.02S | | 72.4 | 39.7 |
| B114.0012.03S | | 91.4 | 58.7 |

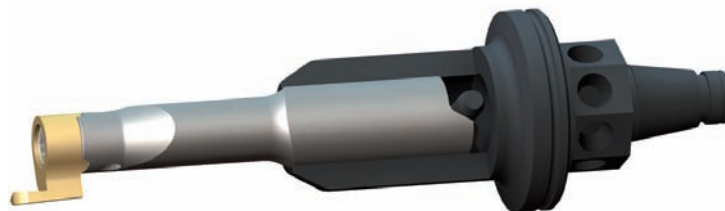
Further sizes upon request

w, a, s, t_{max} and f see inserts

Dimensions in mm

Ordering note:

Toolholders can be used with right and left hand inserts.
Toolholders with damaged seating can be repaired by HORN.



Example of assembly System „W&F“

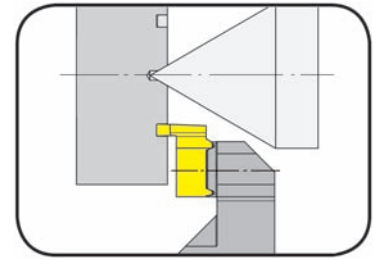
Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|----------------|-----------|-------------------|
| B114.0012.0... | 4.12T15EP | T15PQ |

TOOLHOLDER Type

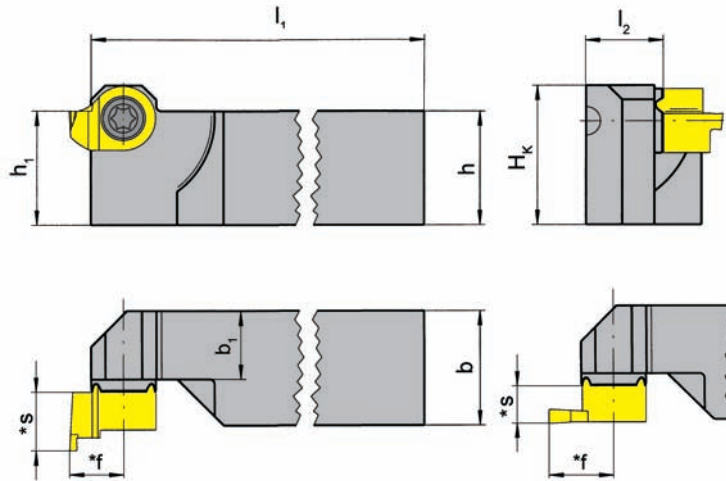
HCU114

from outer groove \varnothing .472"
 Depth of groove up to .236"
 Width of groove up to .125"



for use with Insert

Type 114
 S114
 U114



R = right hand version shown

L = left hand version

axial and radial

| Part number | h | h ₁ | l ₁ | l ₂ | b | b ₁ | H _k |
|-------------------|-------|----------------|----------------|----------------|-------|----------------|----------------|
| R/LHCU114.0500.01 | .500 | .500 | 3.819 | .441 | .500 | .374 | .642 |
| R/LHCU114.0625.01 | .625 | .625 | 4.803 | .441 | .625 | .374 | .768 |
| R/LHCU114.0750.01 | .750 | .750 | 4.803 | .559 | .750 | .492 | .894 |
| R/LHCU114.1000.01 | 1.000 | 1.000 | 5.787 | .815 | 1.000 | .728 | 1.142 |

Further sizes upon request

* see inserts

Dimensions in inch

State R or L version

Right hand toolholders use left hand inserts.
 Left hand toolholders use right hand inserts.

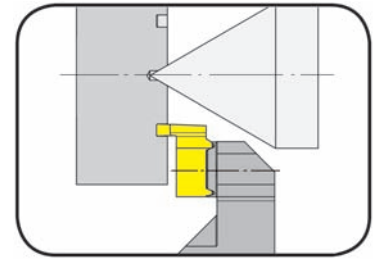
Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|---------------|-----------|-------------------|
| R/LHCU114.... | 4.12T15EP | T15PQ |

N30

TOOLHOLDER Type

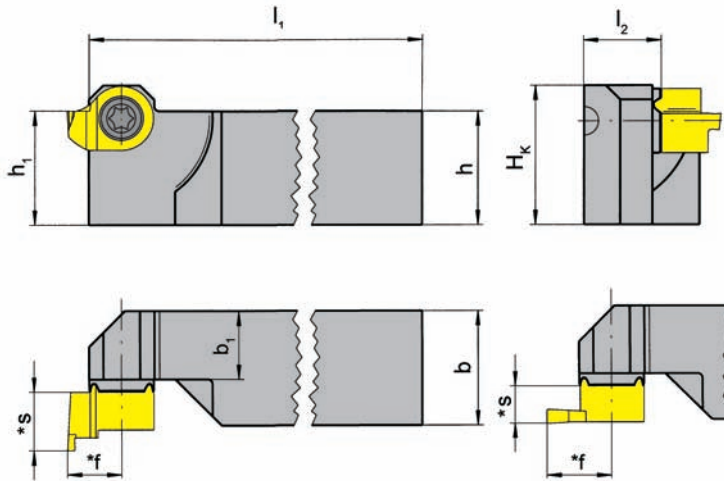
HC114



from outer groove \varnothing .472" (12.0 mm)
 Depth of groove up to .236" (6.0 mm)
 Width of groove up to .125" (3.18 mm)

for use with Insert

Type 114
 S114
 U114



R = right hand version shown

L = left hand version

axial and radial

| Part number | h | h ₁ | l ₁ | l ₂ | b | b ₁ | H _k |
|------------------|----|----------------|----------------|----------------|----|----------------|----------------|
| R/LHC114.1212.01 | 12 | 12 | 122 | 11.2 | 12 | 9.5 | 15.6 |
| R/LHC114.1616.01 | 16 | 16 | 122 | 11.2 | 16 | 9.5 | 19.6 |
| R/LHC114.2020.01 | 20 | 20 | 122 | 15.2 | 20 | 13.5 | 23.6 |
| R/LHC114.2525.01 | 25 | 25 | 147 | 20.2 | 25 | 18.5 | 28.6 |

Further sizes upon request

* see inserts

Dimensions in mm

State R or L version

Right hand toolholders use left hand inserts.
 Left hand toolholders use right hand inserts.

Spare parts

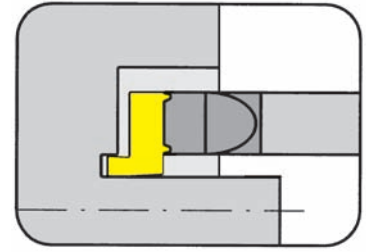
| Toolholder | Screw | TORX PLUS®-Wrench |
|--------------|-----------|-------------------|
| R/LHC114.... | 4.12T15EP | T15PQ |



INSERT Type

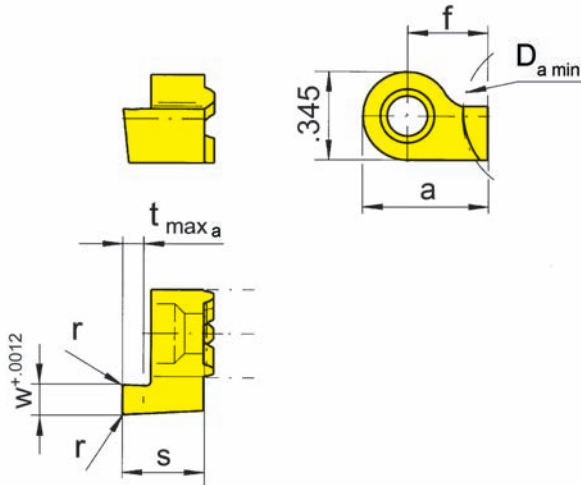
U114

| | |
|---------------------------------|--------------|
| from outer groove \varnothing | .472" |
| Depth of groove up to | .118" |
| Width of groove | .046 - .125" |



for use with Toolholder

Type B114
BU114
HC114
HCU114



R = right hand version shown

L = left hand version

Machining **BEHIND**
centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------------------|------|------|------|------|------|--------------------|--------------------|--|------|------|------|------|------|
| R/LU114.1246.00 | .046 | | | | | .059 | | | | ▲/▲ | | | |
| R/LU114.1262.00 | .062 | | | | | .098 | | | | ▲/▲ | | | |
| R/LU114.1278.00 | .078 | .008 | .327 | .295 | .472 | .118 | .472 | | | ▲/▲ | | | |
| R/LU114.1294.00 | .094 | | | | | .118 | | | | ▲/▲ | | | |
| R/LU114.1225.00 | .125 | | | | | .118 | | | | ▲/▲ | | | |
| ▲ on stock Δ 4 weeks | | | | | | | | | P | • | | | |
| • main recommendation | | | | | | | | | M | • | | | |
| o alternative recommendation | | | | | | | | | K | • | | | |
| ■ uncoated grades | | | | | | | | | S | • | | | |
| ■ coated grades | | | | | | | | | N | • | | | |
| ■ brazed/Cermet | | | | | | | | | H | | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

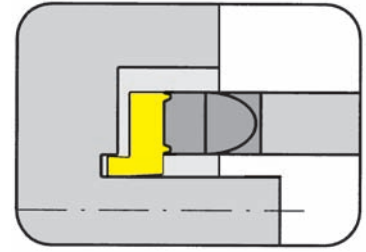
R = rotation counter clockwise!

Using the face grooving insert type 114 on toolholder type B114 the size l_1 and l_2 will be extended by .327".

INSERT Type

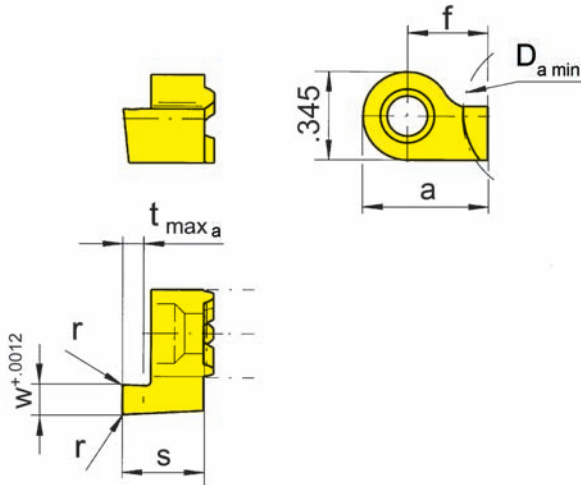
114

from outer groove \emptyset .472"
 Depth of groove up to .236"
 Width of groove .039 - .118"



for use with Toolholder

Type B114
 BU114
 HC114
 HCU114



R = right hand version shown

L = left hand version

Machining **BEHIND**
 centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | Carbide grades | | | | | | |
|------------------|------|------|------|------|------|--------------------|--------------------|----------------|------|------|------|------|--|--|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 | | |
| R/L114.1210.00 | .039 | - | | | | .059 | | | ▲/▲ | | | | | |
| R/L114.1215.00 | .059 | .008 | | | | .098 | | | ▲/▲ | | | | | |
| R/L114.1220.00 | .079 | .008 | .327 | .295 | .472 | .118 | .472 | | ▲/▲ | | | | | |
| R/L114.1225.00 | .098 | .008 | | | | .118 | | | ▲/▲ | | | | | |
| R/L114.1230.00 | .118 | .008 | | | | .118 | | | ▲/▲ | | | | | |
| R/L114.1220.5.00 | .079 | .008 | .425 | .295 | .472 | .197 | .472 | | ▲/▲ | | | | | |
| R/L114.1225.5.00 | .098 | .008 | | | | | | | ▲/▲ | | | | | |
| R/L114.1230.6.00 | .118 | .008 | .465 | .295 | .472 | .236 | .472 | | ▲/▲ | | | | | |
| | | | | | | | | | P | • | | | | |
| | | | | | | | | | M | • | | | | |
| | | | | | | | | | K | • | | | | |
| | | | | | | | | | S | • | | | | |
| | | | | | | | | | N | • | | | | |
| | | | | | | | | | H | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

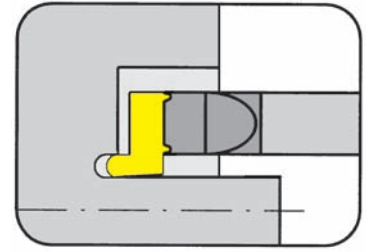
Note:
 R = rotation counter clockwise!
 Using face grooving insert type 114 on toolholder type B114, the size I₁ and I₂ will be extended by:
 .327" for inserts R/L114...00
 .425" for inserts R/L114...5.00
 .465" for inserts R/L114...6.00



INSERT Type

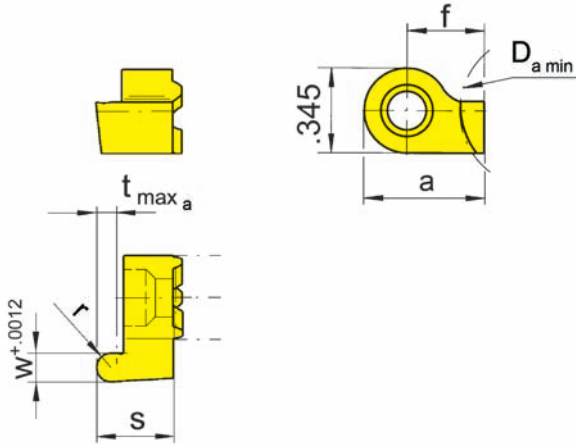
U114

| | |
|-------------------------------|--------------|
| from outer groove \emptyset | .472" |
| Depth of groove up to | .118" |
| Depth of groove | .046 - .125" |



for use with Toolholder

Type B114
BU114
HC114
HCU114



R = right hand version shown

L = left hand version

Full radius
Machining **BEHIND**
centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------------------|------|------|------|------|------|--------------------|--------------------|--|------|------|------|------|------|
| R/LU114.1223.46 | .046 | .023 | | | | .059 | | | | ▲/▲ | | | |
| R/LU114.1231.62 | .062 | .031 | | | | .098 | | | | ▲/▲ | | | |
| R/LU114.1239.78 | .078 | .039 | .327 | .295 | .472 | .118 | .472 | | | ▲/▲ | | | |
| R/LU114.1247.94 | .094 | .047 | | | | .118 | | | | ▲/▲ | | | |
| R/LU114.1262.12 | .125 | .062 | | | | .118 | | | | ▲/▲ | | | |
| ▲ on stock Δ 4 weeks | | | | | | | | | P | • | | | |
| • main recommendation | | | | | | | | | M | • | | | |
| o alternative recommendation | | | | | | | | | K | • | | | |
| ■ uncoated grades | | | | | | | | | S | • | | | |
| ■ coated grades | | | | | | | | | N | • | | | |
| ■ brazed/Cermet | | | | | | | | | H | | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

R = rotation counter clockwise!

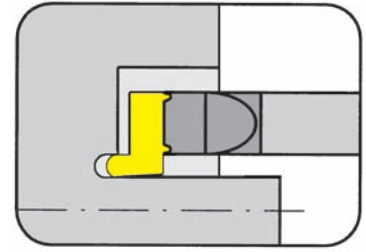
Using the face grooving insert type 114 on toolholder type B114 the size l_1 and l_2 will be extended by .327".



INSERT Type

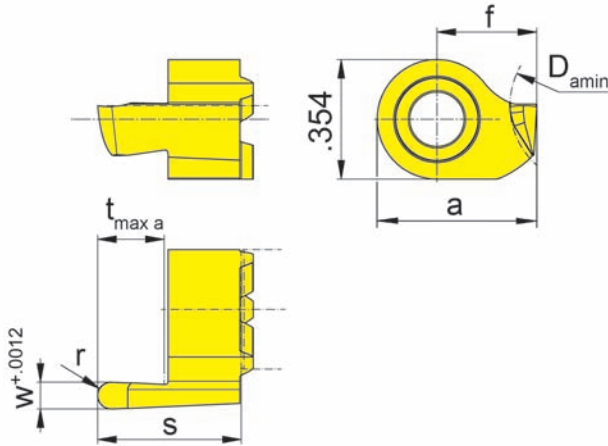
114

from outer groove \emptyset .472"
 Depth of groove up to .236"
 Width of groove .079 - .118"



for use with Toolholder

Type B114
 BU114
 HC114
 HCU114



R = right hand version shown

L = left hand version

Full radius
 Machining **BEHIND**
 centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------|------|------|------|------|------|--------------------|--------------------|--|------|------|------|------|------|
| R/L114.1220.5.10 | .079 | .039 | .425 | | | .197 | | | | ▲/▲ | | | |
| R/L114.1225.5.12 | .098 | .049 | .425 | .295 | .472 | .197 | .472 | | | ▲/▲ | | | |
| R/L114.1230.6.15 | .118 | .059 | .465 | | | .236 | | | | ▲/▲ | | | |
| | | | | | | | | | P | • | | | |
| | | | | | | | | | M | • | | | |
| | | | | | | | | | K | • | | | |
| | | | | | | | | | S | • | | | |
| | | | | | | | | | N | • | | | |
| | | | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Note:

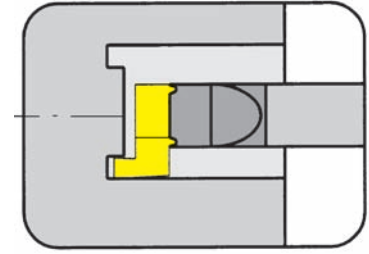
R = rotation counter clockwise!
 Using the face grooving insert type 114 on toolholder type B114 the size I₁ and I₂ will be extended by:
 .425" for inserts R/L114...10/12
 .465" for inserts R/L114...15

Carbide grades



INSERT Type

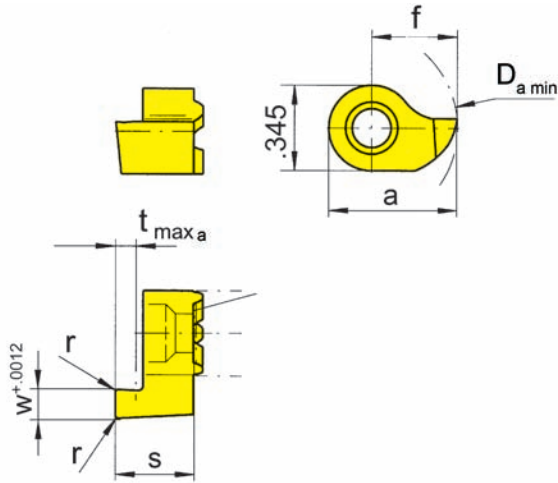
U114



from outer groove \emptyset .551"
 Depth of groove up to .118"
 Width of groove .046 - .125"

for use with Toolholder

Type B114
 BU114
 HC114
 HCU114



R = right hand version shown

L = left hand version

Machining **IN-FRONT** of centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------------------|------|------|------|------|------|--------------------|--------------------|--|------|------|------|------|------|
| R/LU114.1446.00 | .046 | - | | | | .059 | | | | ▲/▲ | | | |
| R/LU114.1462.00 | .062 | .008 | | | | .098 | | | | ▲/▲ | | | |
| R/LU114.1478.00 | .078 | .008 | .327 | .354 | .531 | .118 | .551 | | | ▲/▲ | | | |
| R/LU114.1494.00 | .094 | .008 | | | | .118 | | | | ▲/▲ | | | |
| R/LU114.1425.00 | .125 | .008 | | | | .118 | | | | ▲/▲ | | | |
| ▲ on stock Δ 4 weeks | | | | | | | | | P | • | | | |
| • main recommendation | | | | | | | | | M | • | | | |
| o alternative recommendation | | | | | | | | | K | • | | | |
| ■ uncoated grades | | | | | | | | | S | • | | | |
| ■ coated grades | | | | | | | | | N | • | | | |
| ■ brazed/Cermet | | | | | | | | | H | | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

R = rotation clockwise!

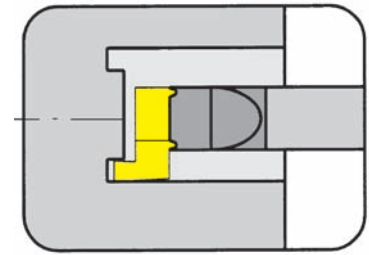
Using the face grooving insert type 114 on toolholder type B114 the size l_1 and l_2 will be extended by .327".



INSERT Type

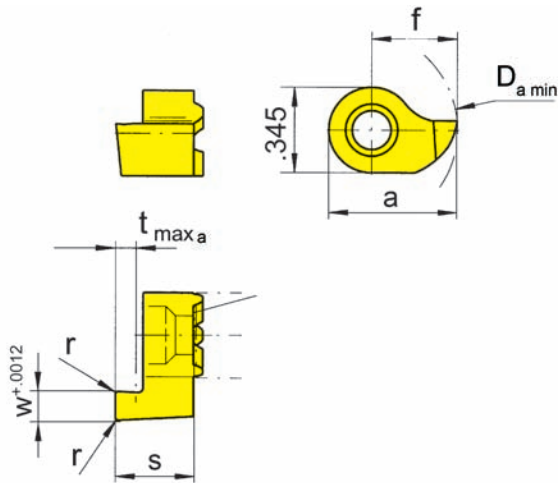
114

from outer groove \emptyset .551"
 Depth of groove up to .236"
 Width of groove .039 - .118"



for use with Toolholder

Type B114
 BU114
 HC114
 HCU114



R = right hand version shown

L = left hand version

Machining **IN-FRONT** of centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------|------|------|------|------|------|--------------------|--------------------|--|------|------|------|------|------|
| R/L114.1410.00 | .039 | - | | | | .059 | | | ▲/ | ▲/▲ | | | |
| R/L114.1415.00 | .059 | .008 | | | | .098 | | | | ▲/▲ | | | |
| R/L114.1420.00 | .079 | .008 | .327 | .354 | .531 | .118 | .551 | | | ▲/▲ | | | |
| R/L114.1425.00 | .098 | .008 | | | | .118 | | | | ▲/▲ | | | |
| R/L114.1430.00 | .118 | .008 | | | | .118 | | | ▲/ | ▲/▲ | | | |
| R/L114.1420.5.00 | .079 | .008 | .425 | .354 | .531 | .197 | .551 | | | ▲/▲ | | | |
| R/L114.1425.5.00 | .098 | .008 | | | | | | | | ▲/▲ | | | |
| R/L114.1430.6.00 | .118 | .008 | .465 | .354 | .531 | .236 | .551 | | | ▲/▲ | | | |
| | | | | | | | | | P | o | • | | |
| | | | | | | | | | M | • | • | | |
| | | | | | | | | | K | • | • | | |
| | | | | | | | | | S | • | • | | |
| | | | | | | | | | N | • | • | | |
| | | | | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Note:

R = rotation clockwise!

Using face grooving insert type 114 on toolholder type B114, the size I₁ and I₂ will be extended by:

- .327" for inserts R/L114...00
- .425" for inserts R/L114...5.00
- .465" for inserts R/L114...6.00

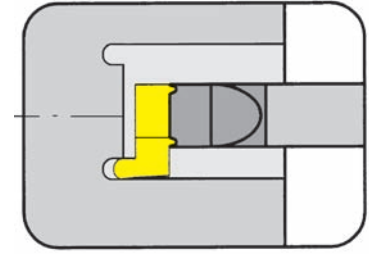
| | | | | |
|---|---|---|--|--|
| P | o | • | | |
| M | • | • | | |
| K | • | • | | |
| S | • | • | | |
| N | • | • | | |
| H | | | | |

Carbide grades



INSERT Type

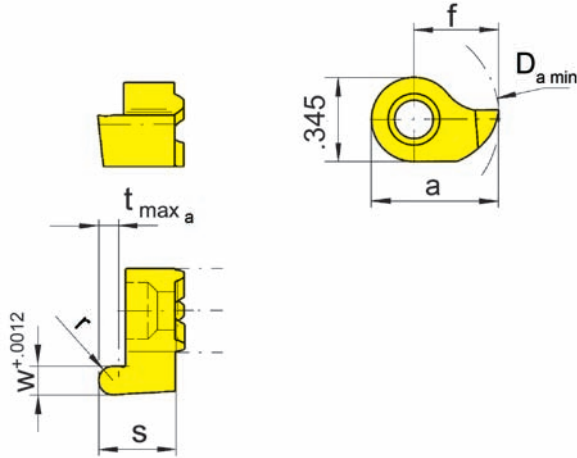
U114



| | |
|---------------------------------|--------------|
| from outer groove \varnothing | .551" |
| Depth of groove up to | .118" |
| Width of groove | .046 - .125" |

for use with Toolholder

Type B114
BU114
HC114
HCU114



R = right hand version shown

L = left hand version

Full radius
Machining **IN-FRONT** of centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | | MG12 | TN35 | TI25 | TF45 | TH35 |
|------------------------------|------|------|------|------|------|--------------------|--------------------|--|------|------|------|------|------|
| R/LU114.1423.46 | .046 | .023 | | | | .059 | | | | ▲/ | | | |
| R/LU114.1431.62 | .062 | .031 | | | | .098 | | | | ▲/▲ | | | |
| R/LU114.1439.78 | .078 | .039 | .327 | .354 | .531 | .118 | .551 | | | ▲/▲ | | | |
| R/LU114.1447.94 | .094 | .047 | | | | .118 | | | | ▲/▲ | | | |
| R/LU114.1462.12 | .125 | .062 | | | | .118 | | | | ▲/▲ | | | |
| ▲ on stock Δ 4 weeks | | | | | | | | | P | • | | | |
| ● main recommendation | | | | | | | | | M | • | | | |
| ○ alternative recommendation | | | | | | | | | K | • | | | |
| ■ uncoated grades | | | | | | | | | S | • | | | |
| ■ coated grades | | | | | | | | | N | • | | | |
| ■ brazed/Cermet | | | | | | | | | H | | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

R = rotation clockwise!

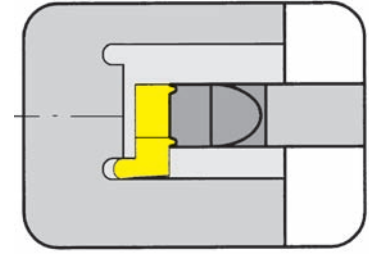
Using the face grooving insert type 114 on toolholder type B114 the size l_1 and l_2 will be extended by .327".



INSERT Type

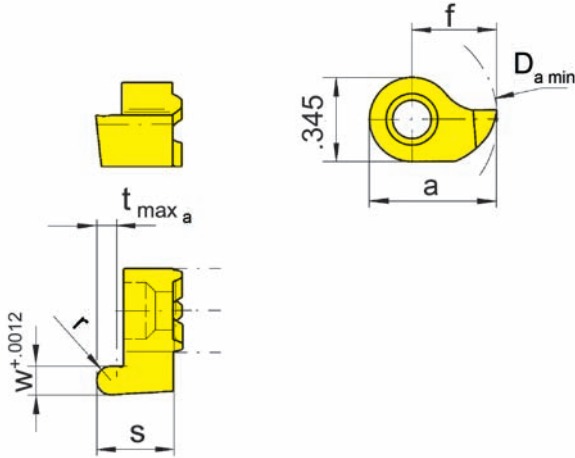
114

from outer groove \varnothing .551"
 Depth of groove up to .118"
 Width of groove .039 - .118"



for use with Toolholder

Type B114
 BU114
 HC114
 HCU114



R = right hand version shown

L = left hand version

Full radius
 Machining **IN-FRONT** of
 centerline

| Part number | w | r | s | f | a | t _{max a} | D _{a min} | Carbide grades | | | | |
|--|------|------|------|------|------|--------------------|--------------------|----------------|------|------|------|------|
| | | | | | | | | MG12 | TN35 | TI25 | TF45 | TH35 |
| R/L114.1410.05 | .039 | .020 | | | | .059 | | ▲/▲ | | | | |
| R/L114.1416.08 | .063 | .031 | | | | .098 | | ▲/▲ | | | | |
| R/L114.1420.10 | .079 | .039 | .327 | .354 | .531 | .118 | .551 | ▲/▲ | | | | |
| R/L114.1425.12 | .098 | .049 | | | | .118 | | ▲/▲ | | | | |
| R/L114.1430.15 | .118 | .059 | | | | .118 | | ▲/▲ | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | | P | • | | | |
| | | | | | | | | M | • | | | |
| | | | | | | | | K | • | | | |
| | | | | | | | | S | • | | | |
| | | | | | | | | N | • | | | |
| | | | | | | | | H | | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

R = rotation counter clockwise!

Using the face grooving insert type 114 on toolholder type B114 the size l_1 and l_2 will be extended by:

.425" for inserts R/L114...10/12

.465" for inserts R/L114...15



Torque screw driver with scale
 - variable torque setting
 - adjusted torque is shown on display

D 15 VL

Model 1-5 Nm

The Torque can be adjusted with a special torque setter (id.)
 Ergonomical form gives perfect handling abilities. Acoustic signal when setted torque is reached.
 (Standard: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)
 (Precision: $\pm 6 \%$)



D 28 VL

Model 2-8 Nm



Torque setter

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface
 Blade: Octogonal (8 flats) blade, hardened galvanized

ED 28 VL



Blade for TORX-Plus® screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Wiha Chrome Blade guarantees maximum precision.

Colored code green

Utilization: For controlled screw setting with definite torque in combination with Wiha torque screw driver handle.

DT8PK

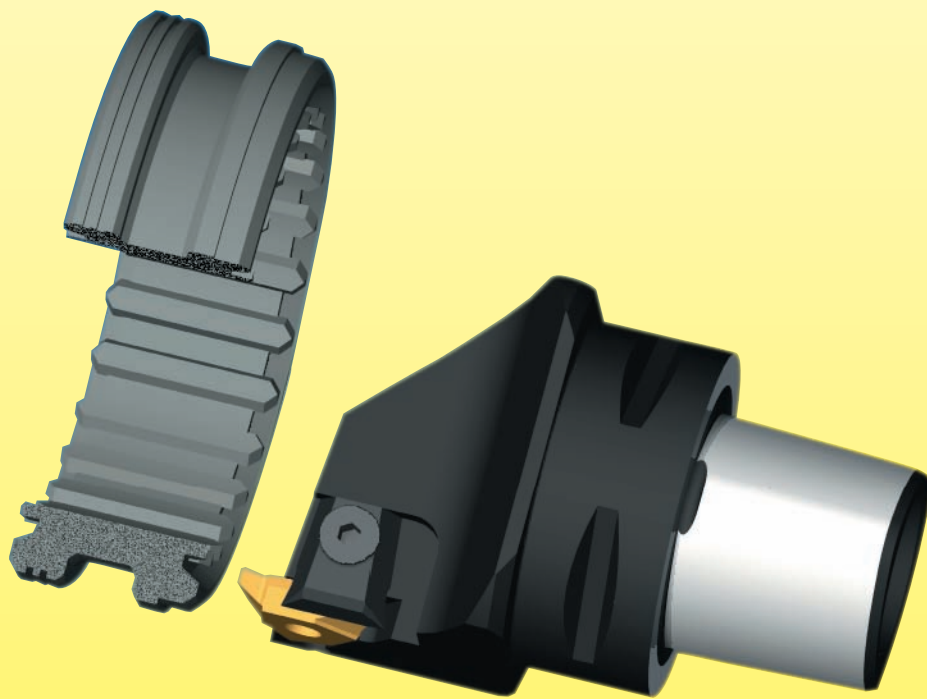
DT10PK

DT15PK

DT20PK

DT25PK

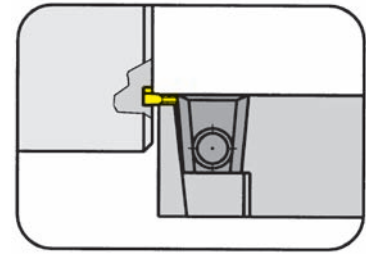
Indexable Insert Type 312 - precision ground -



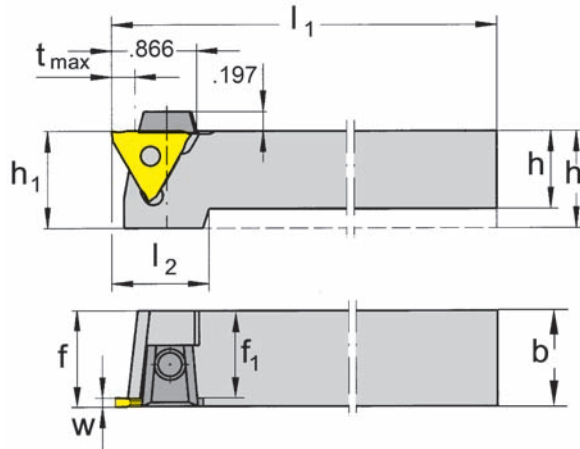
from Outer groove \varnothing .787" (20 mm)
Depth of groove up to .118" (3 mm)

TOOLHOLDER Type

U360



from outer groove \emptyset .787"
 Depth of groove up to .118"
 Clamping range .075 - .154"



for use with Indexable insert

Type 312
 U312

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | $t_{max a}$ | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------------|-------|-------------|------|----------------|
| R/LU360.0500.02 | .500 | .500 | 4.000 | 1.000 | .402 | f_1+w-a_1 | .944 | .118 | 02 | .075 - .114 |
| R/LU360.0625.02 | .625 | .625 | 5.000 | 1.000 | .527 | | .866 | | | |
| R/LU360.0750.02 | .750 | .750 | 5.000 | 1.000 | .652 | | .826 | | | |
| R/LU360.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | .902 | | - | | | |
| R/LU360.1250.02 | 1.250 | 1.250 | 6.625 | 1.250 | 1.152 | | - | | | |
| R/LU360.0500.03 | .500 | .500 | 4.000 | 1.000 | .362 | f_1+w-a_1 | .944 | .118 | 03 | .114 - .154 |
| R/LU360.0625.03 | .625 | .625 | 5.000 | 1.000 | .487 | | .866 | | | |
| R/LU360.0750.03 | .750 | .750 | 5.000 | 1.000 | .612 | | .826 | | | |
| R/LU360.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | .862 | | - | | | |
| R/LU360.1250.03 | 1.250 | 1.250 | 6.625 | 1.250 | 1.112 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

Further sizes upon request

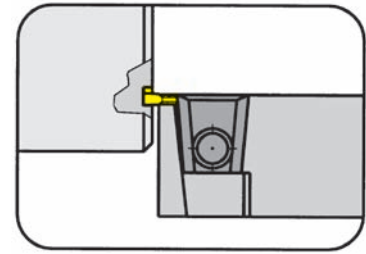
Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------------|-------|-------|-----------|
| R/LU360.0...02/03 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360....02/03 | 16.4 | 6.25 | SW3DIN911 |

TOOLHOLDER Type

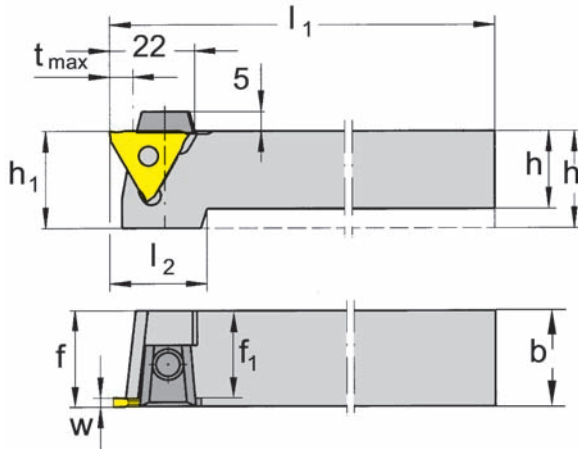
360

from outer groove \varnothing .787" (20.0 mm)
 Depth of groove up to .118" (3.0 mm)
 Clamping range .075 - .154" (1.9 - 3.9 mm)



for use with Indexable insert

Type 312
 U312



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | $t_{max a}$ | Size | Clamping range |
|----------------|----|----|-------|-------|-------|-----------------|-------|-------------|------|----------------|
| R/L360.1212.02 | 12 | 12 | 100 | 25 | 9.5 | $f_1 + w - a_1$ | 24 | 3 | 02 | 1.9 - 2.9 |
| R/L360.1616.02 | 16 | 16 | 125 | 25 | 13.5 | | 22 | | | |
| R/L360.2020.02 | 20 | 20 | 125 | 25 | 17.5 | | 21 | | | |
| R/L360.2525.02 | 25 | 25 | 150 | 25 | 22.5 | | - | | | |
| R/L360.3232.02 | 32 | 32 | 170 | 32 | 29.5 | | - | | | |
| R/L360.1212.03 | 12 | 12 | 100 | 25 | 8.5 | $f_1 + w - a_1$ | 24 | 3 | 03 | 2.9 - 3.9 |
| R/L360.1616.03 | 16 | 16 | 125 | 25 | 12.5 | | 22 | | | |
| R/L360.2020.03 | 20 | 20 | 125 | 25 | 16.5 | | 21 | | | |
| R/L360.2525.03 | 25 | 25 | 150 | 25 | 21.5 | | - | | | |
| R/L360.3232.03 | 32 | 32 | 170 | 32 | 28.5 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

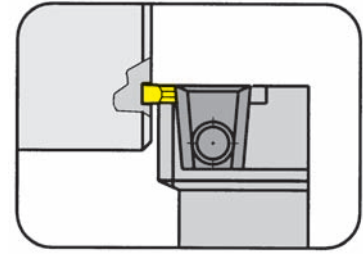
| Toolholder | Clamp | Screw | Wrench |
|------------------|-------|-------|-----------|
| R/L360.1...02/03 | 11.3 | 6.25 | SW3DIN911 |
| R/L360....02/03 | 16.4 | 6.25 | SW3DIN911 |

GROOVING (external)



TOOLHOLDER Type

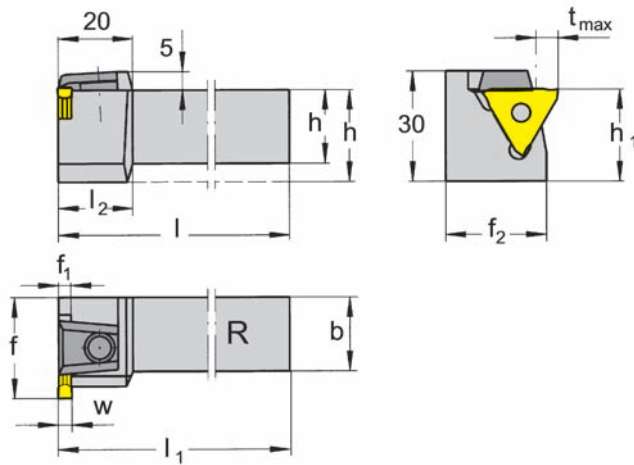
U369



from outer groove \emptyset .787"
 Depth of groove up to .118"
 Clamping range .075 - .154"

for use with Indexable insert

Type 312
 U312



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | f ₂ | t _{max a} | Size | Clamping range |
|-----------------|-------|----------------|-------|-------|----------------|----------------|-------|----------------|----------------|--------------------|------|----------------|
| R/LU369.0750.02 | .750 | 1.000 | .750 | 5.000 | $l-f_1+w-a_1$ | .750 | 1.026 | .098 | .927 | .118 | 02 | .075 - .114 |
| R/LU369.1000.02 | 1.000 | 1.000 | 1.000 | 6.000 | $l-f_1+w-a_1$ | - | 1.276 | .098 | .177 | .118 | 02 | .075 - .114 |
| R/LU369.0750.03 | .750 | 1.000 | .750 | 5.000 | $l-f_1+w-a_1$ | .750 | 1.026 | .137 | .927 | .118 | 03 | .114 - .154 |
| R/LU369.1000.03 | 1.000 | 1.000 | 1.000 | 6.000 | $l-f_1+w-a_1$ | - | 1.276 | .137 | .177 | .118 | 03 | .114 - .154 |

State R or L version

w, a₁ see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-----------|
| R/LU369.... | 16.4 | 6.25 | SW3DIN911 |

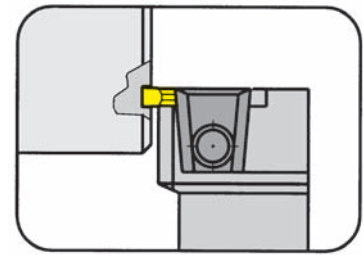
N44



TOOLHOLDER Type

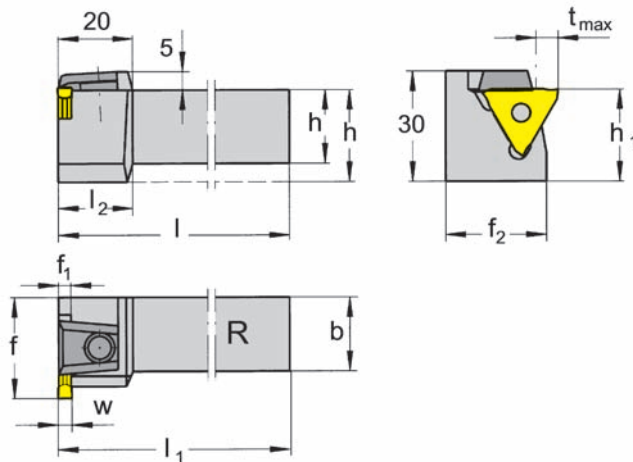
369

from outer groove \varnothing .787" (20.0 mm)
 Depth of groove up to .118" (3.0 mm)
 Clamping range .075 - .154" (1.9 - 3.9 mm)



for use with Indexable insert

Type 312
 U312



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | b | l | l ₁ | l ₂ | f | f ₁ | f ₂ | t _{max a} | Size | Clamping range |
|-----------------|----|----------------|----|-----|------------------------------------|----------------|----|----------------|----------------|--------------------|------|----------------|
| R/L 369.2020.02 | 20 | 25 | 20 | 125 | l-f ₁ +w-a ₁ | 20 | 27 | 2.5 | 23.5 | 3 | 02 | 1.9 - 2.9 |
| R/L 369.2525.02 | 25 | 25 | 25 | 150 | l-f ₁ +w-a ₁ | - | 32 | 2.5 | 28.5 | 3 | 02 | 1.9 - 2.9 |
| R/L 369.2020.03 | 20 | 25 | 20 | 125 | l-f ₁ +w-a ₁ | 20 | 27 | 3.5 | 23.5 | 3 | 03 | 2.9 - 3.9 |
| R/L 369.2525.03 | 25 | 25 | 25 | 150 | l-f ₁ +w-a ₁ | - | 32 | 3.5 | 28.5 | 3 | 03 | 2.9 - 3.9 |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

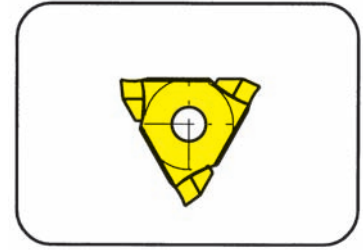
Further sizes upon request

Spare parts

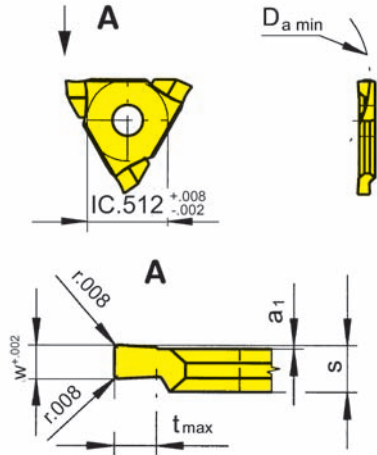
| Toolholder | Clamp | Screw | Wrench |
|-------------|-------|-------|-----------|
| R/L369.2... | 16.4 | 6.25 | SW3DIN911 |

INDEXABLE INSERT Type

U312



from outer groove \varnothing .787"
 Depth of groove up to .118"
 Width of groove .062 - .125"



for use with Toolholder

Type 360
 369
 U360
 U369

R = right hand version shown

L = left hand version

Indexability length
 $\pm .0008"$

| Part number | w | s | t _{max} | D _{a min} | a ₁ | Size | Carbide grades | | | |
|-----------------|------|------|------------------|--------------------|----------------|------|----------------|------|------|------|
| | | | | | | | TN32 | TN35 | T122 | TA45 |
| R/LU312.2062.08 | .062 | .106 | .079 | .787 | .008 | 02 | | ▲/▲ | | |
| R/LU312.3094.08 | .094 | .146 | .118 | 1.181 | .008 | 03 | | Δ/Δ | | |
| R/LU312.3125.08 | .125 | .146 | .118 | 1.181 | .008 | 03 | | ▲/▲ | | |
| | | | | | | | P | • | | |
| | | | | | | | M | • | | |
| | | | | | | | K | • | | |
| | | | | | | | S | • | | |
| | | | | | | | N | • | | |
| | | | | | | | H | | | |

Dimensions in inch

State R or L version

Note for toolholder type 360

Use right hand inserts in left hand toolholders and left hand inserts in right hand toolholders

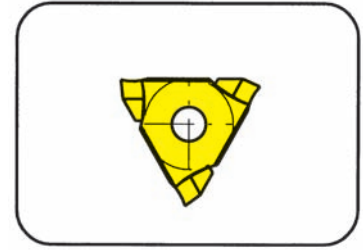
Note for toolholder type 369

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders



INDEXABLE INSERT Type

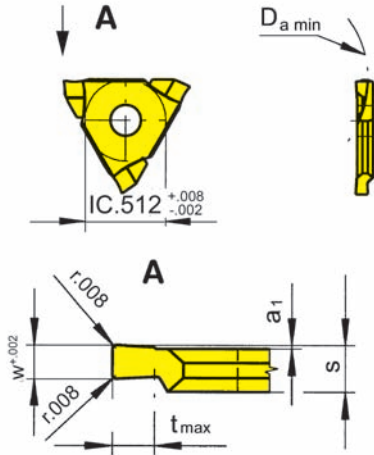
312



| | |
|-------------------------------|--------------|
| from outer groove \emptyset | .787" |
| Depth of groove up to | .118" |
| Width of groove | .059 - .118" |

for use with Toolholder

Type 360
369
U360
U369



R = right hand version shown

L = left hand version

Indexability length
 $\pm .0008$ "

| Part number | w | s | t _{max} | D _{a min} | a ₁ | Size | Carbide grades | | |
|----------------|------|------|------------------|--------------------|----------------|------|----------------|------|------|
| | | | | | | | TN35 | TI25 | TA45 |
| R/L312.2015.02 | .059 | .106 | .079 | .787 | .008 | 02 | ▲/▲ | | |
| R/L312.3020.02 | .079 | .106 | .118 | 1.181 | .008 | 02 | ▲/▲ | | |
| R/L312.3030.02 | .118 | .146 | .118 | 1.181 | .008 | 03 | ▲/▲ | | |
| | | | | | | | P | • | |
| | | | | | | | M | • | |
| | | | | | | | K | • | |
| | | | | | | | S | • | |
| | | | | | | | N | • | |
| | | | | | | | H | • | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Note for toolholder type 360

Use right hand inserts in left hand toolholders and left hand inserts in right hand toolholders

Note for toolholder type 369

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders



HORN - THE LEADERS IN GROOVING TECHNOLOGY



HIGH POLISH TURNING

MCD TOOLS

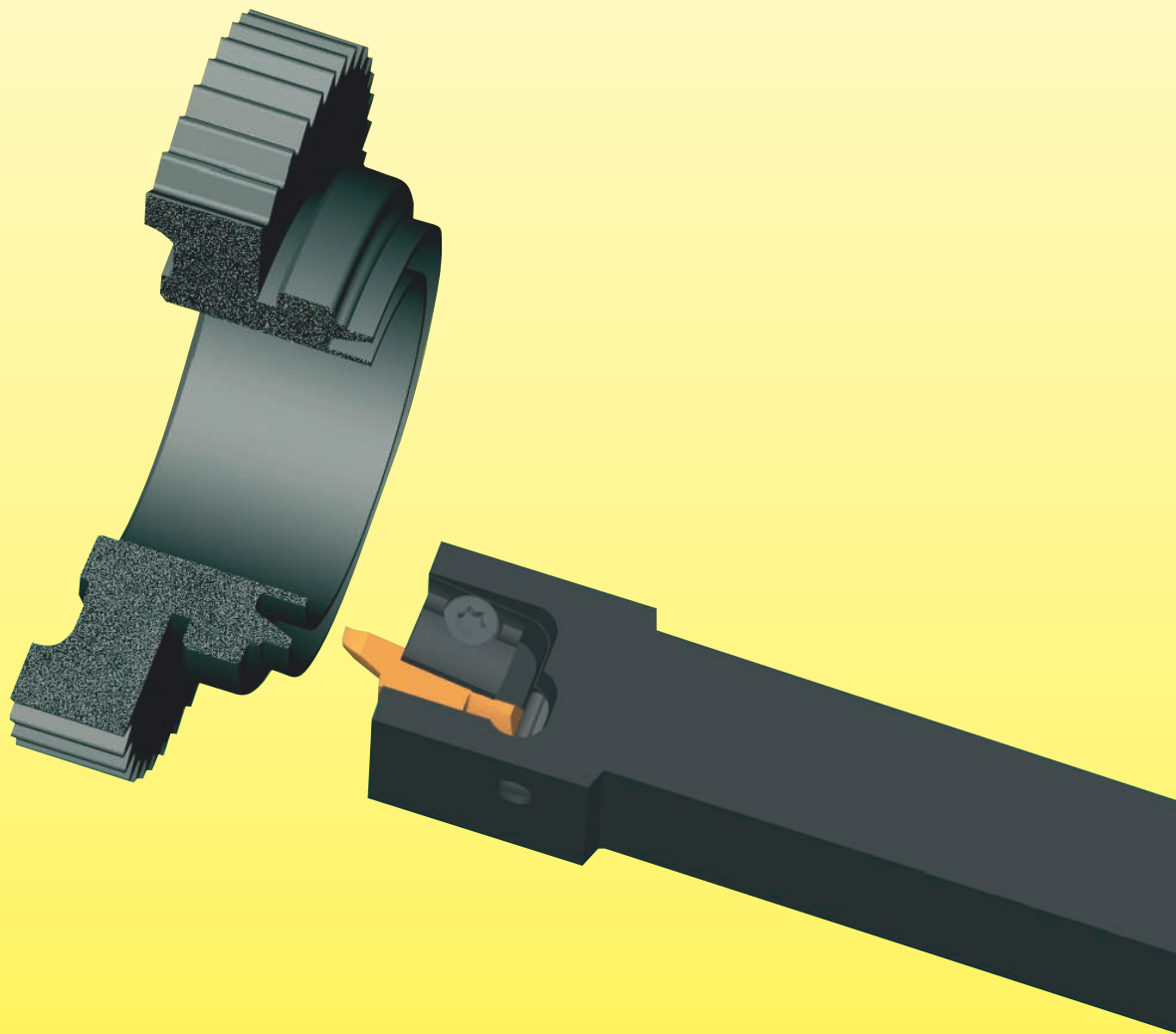
HORN - INTELLIGENT TOOL DESIGN AT WORK.



N

For further information, please see CHAPTER "S".

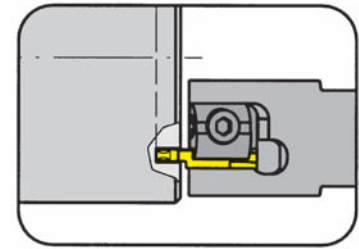
Indexable Insert Type 231 - precision ground -



from Outer groove \varnothing 1.574" (40 mm)
Depth of groove up to .315" (8 mm)

TOOLHOLDER Type

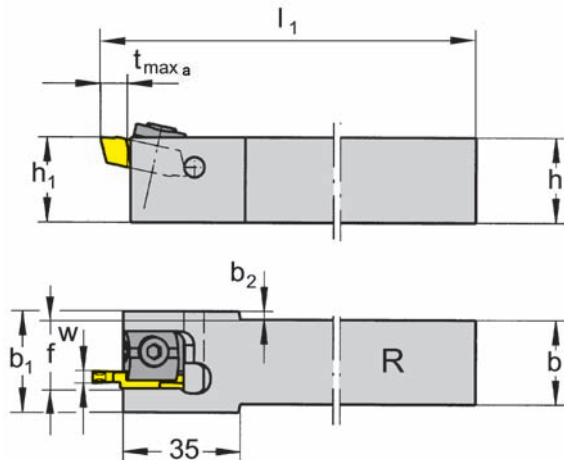
U221



from outer groove \varnothing 1.575"
 Depth of groove up to .315"
 Clamping range .118 - .394"

for use with Indexable insert

Type 231
 N231



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | l ₁ | b | b ₁ | b ₂ | f | t _{max a} | Size | Clamping range |
|-----------------|-------|----------------|----------------|-------|----------------|----------------|------|--------------------|------|----------------|
| R/LU221.0750.04 | .750 | .750 | 5.000 | .750 | 1.102 | .157 | .705 | .315 | 04 | .118 - .157 |
| R/LU221.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | 1.102 | .059 | .803 | .315 | 04 | .118 - .157 |
| R/LU221.0750.05 | .750 | .750 | 5.000 | .750 | 1.181 | .197 | .744 | .315 | 05 | .161 - .236 |
| R/LU221.1000.05 | 1.000 | 1.000 | 6.000 | 1.000 | 1.181 | .098 | .843 | .315 | 05 | .161 - .236 |
| R/LU221.0750.07 | .750 | .750 | 5.000 | .750 | 1.260 | .236 | .783 | .315 | 07 | .240 - .315 |
| R/LU221.1000.07 | 1.000 | 1.000 | 6.000 | 1.000 | 1.260 | .138 | .882 | .315 | 07 | .240 - .315 |
| R/LU221.0750.09 | .750 | .750 | 5.000 | .750 | 1.339 | .275 | .823 | .315 | 09 | .319 - .394 |
| R/LU221.1000.09 | 1.000 | 1.000 | 6.000 | 1.000 | 1.339 | .177 | .921 | .315 | 09 | .319 - .394 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Position Pin |
|--------------|----------|---------|--------------|
| R/LU221..... | 01.60.12 | 6.20.70 | 3.6.28 |

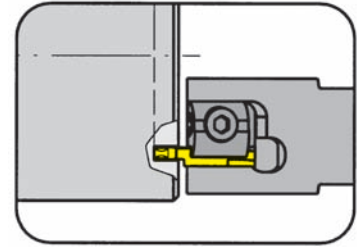
N50



TOOLHOLDER Type

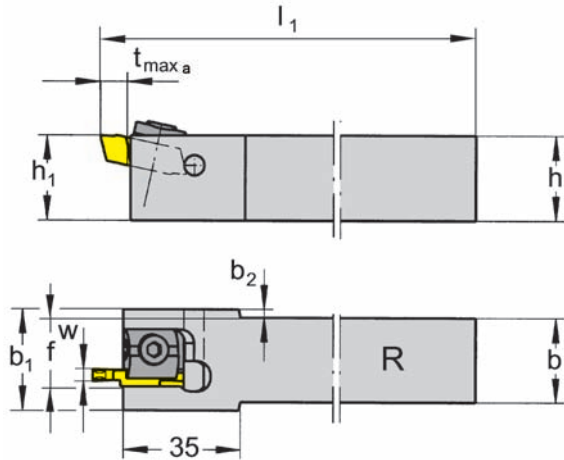
221

from outer groove \varnothing 1.575" (40.0 mm)
 Depth of groove up to .315" (8.0 mm)
 Clamping range .118 - .394" (3.0 - 10.0 mm)



for use with Indexable insert

Type 231
 N231



R = right hand version shown

L = left hand version

| Part number | h | h ₁ | l ₁ | b | b ₁ | b ₂ | f | t _{max a} | Size | Clamping range |
|----------------|----|----------------|----------------|----|----------------|----------------|------|--------------------|------|----------------|
| R/L221.2020.04 | 20 | 20 | 125 | 20 | 28 | 4.0 | 17.9 | 8 | 04 | 3.0 - 4.0 |
| R/L221.2525.04 | 25 | 25 | 150 | 25 | 28 | 1.5 | 20.4 | 8 | 04 | 3.0 - 4.0 |
| R/L221.2020.05 | 20 | 20 | 125 | 20 | 30 | 5.0 | 18.9 | 8 | 05 | 4.1 - 6.0 |
| R/L221.2525.05 | 25 | 25 | 150 | 25 | 30 | 2.5 | 21.4 | 8 | 05 | 4.1 - 6.0 |
| R/L221.2020.07 | 20 | 20 | 125 | 20 | 32 | 6.0 | 19.9 | 8 | 07 | 6.1 - 8.0 |
| R/L221.2525.07 | 25 | 25 | 150 | 25 | 32 | 3.5 | 22.4 | 8 | 07 | 6.1 - 8.0 |
| R/L221.2020.09 | 20 | 20 | 125 | 20 | 34 | 7.0 | 20.9 | 8 | 09 | 8.1 - 10.0 |
| R/L221.2525.09 | 25 | 25 | 150 | 25 | 34 | 4.5 | 23.4 | 8 | 09 | 8.1 - 10.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

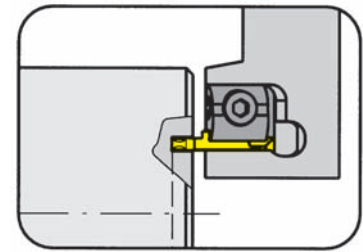
| Toolholder | Clamp | Screw | Position Pin |
|-------------|----------|---------|--------------|
| R/L221.2... | 01.60.12 | 6.20.70 | 3.6.28 |



TOOLHOLDER Type

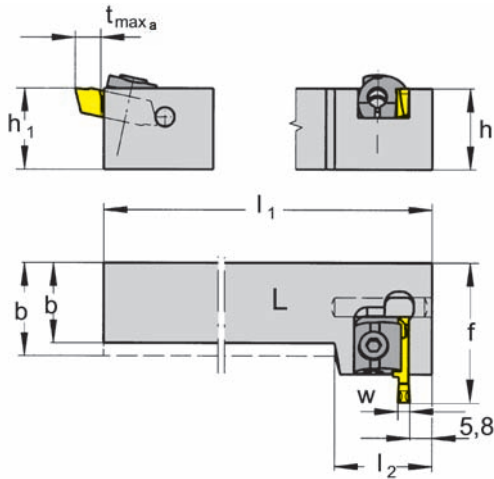
U228

| | |
|---------------------------------|--------|
| from outer groove \varnothing | 1.575" |
| Depth of groove up to | .315" |
| Clamping range up to | .394" |



for use with Cassette

Type 231
N231



L = left hand version shown

R = right hand version

| Part number | l_1 | l_2 | h | h_1 | b | f | $t_{max a}$ | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------|-------------|------|----------------|
| R/LU228.0750.04 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 04 | .118 - .157 |
| R/LU228.1000.04 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 04 | .118 - .157 |
| R/LU228.0750.05 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 05 | .161 - .236 |
| R/LU228.1000.05 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 05 | .161 - .236 |
| R/LU228.0750.07 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 07 | .240 - .315 |
| R/LU228.1000.07 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 07 | .240 - .315 |
| R/LU228.0750.09 | 5.000 | 1.398 | .750 | .750 | .750 | 1.516 | .315 | 09 | .319 - .394 |
| R/LU228.1000.09 | 6.000 | 1.398 | 1.000 | 1.000 | 1.000 | 1.516 | .315 | 09 | .319 - .394 |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Spare parts

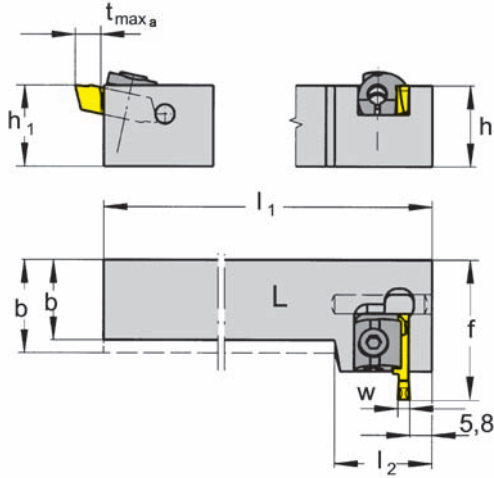
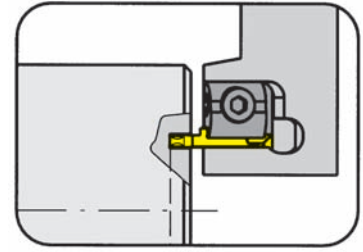
| Toolholder | Clamp | Screw | Position Pin |
|-------------|----------|---------|--------------|
| R/LU228.... | 01.60.12 | 6.20.70 | 3.6.28 |

N52

TOOLHOLDER Type

228

from outer groove \varnothing 1.575" (40.0 mm)
 Depth of groove up to .315" (8.0 mm)
 Clamping range up to .394" (10.0 mm)



for use with Indexable insert

Type 231
N231

L = left hand version shown

R = right hand version

| Part number | l_1 | l_2 | h | h_1 | b | f | $t_{max a}$ | Size | Clamping range |
|----------------|-------|-------|----|-------|----|------|-------------|------|----------------|
| R/L228.2020.04 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 04 | 3.0 - 4.0 |
| R/L228.2525.04 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 04 | 3.0 - 4.0 |
| R/L228.2020.05 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 05 | 4.1 - 6.0 |
| R/L228.2525.05 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 05 | 4.1 - 6.0 |
| R/L228.2020.07 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 07 | 6.1 - 8.0 |
| R/L228.2525.07 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 07 | 6.1 - 8.0 |
| R/L228.2020.09 | 125 | 35.5 | 20 | 20 | 20 | 38.5 | 8 | 09 | 8.1 - 10.0 |
| R/L228.2525.09 | 150 | 35.5 | 25 | 25 | 25 | 38.5 | 8 | 09 | 8.1 - 10.0 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Clamp | Screw | Position Pin |
|-------------|----------|---------|--------------|
| R/L228.2... | 01.60.12 | 6.20.70 | 3.6.28 |



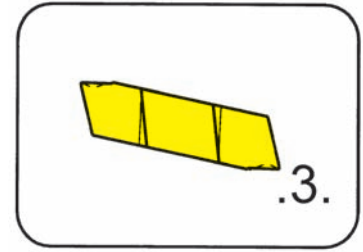
FACE GROOVING



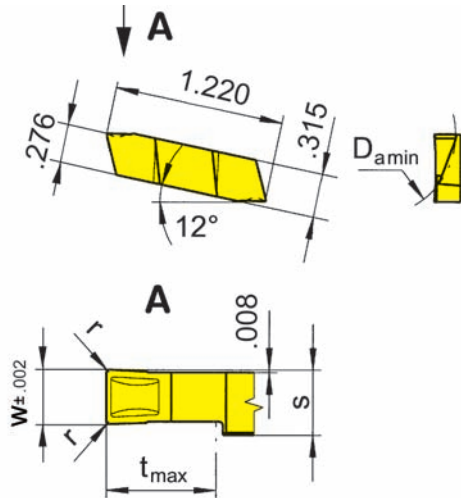
INDEXABLE INSERT Type

231/N231

with chip former



from outer groove \emptyset 1.575"
 Depth of groove up to .315"
 Width of groove .118 - .394"



for use with Toolholder

Type 221
 228
 U221
 U228

Indexability length
 ± .001"

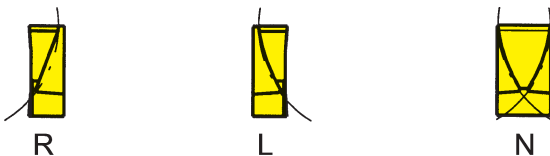
| Part number | w | s | r | t _{max} | D _{a min} | Size | Carbide grades | | | | | | |
|----------------|------|------|------|------------------|--------------------|------|----------------|-----|------|------|------|------|------|
| | | | | | | | MG12 | P20 | TN32 | TN35 | TI22 | TF45 | TC92 |
| R/L231.4030.32 | .118 | .150 | .008 | .315 | 1.575 | 04 | | | | ▲/▲ | | | |
| R/L231.4040.32 | .157 | .150 | .008 | .315 | 1.575 | 04 | | | | ▲/▲ | | | |
| R/L231.4050.34 | .197 | .228 | .016 | .315 | 1.575 | 05 | | | | ▲/▲ | | | |
| N231.4060.34 | .236 | .228 | .016 | .315 | 1.575 | 05 | | | | ▲ | | | |
| N231.4070.36 | .276 | .307 | .024 | .315 | 1.575 | 07 | | | | ▲ | | | |
| N231.4080.36 | .315 | .307 | .024 | .315 | 1.575 | 07 | | | | ▲ | | | |
| N231.4090.38 | .354 | .386 | .031 | .315 | 1.575 | 09 | | | | ▲ | | | |
| N231.4100.38 | .394 | .386 | .031 | .315 | 1.575 | 09 | | | | ▲ | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R, L or N version

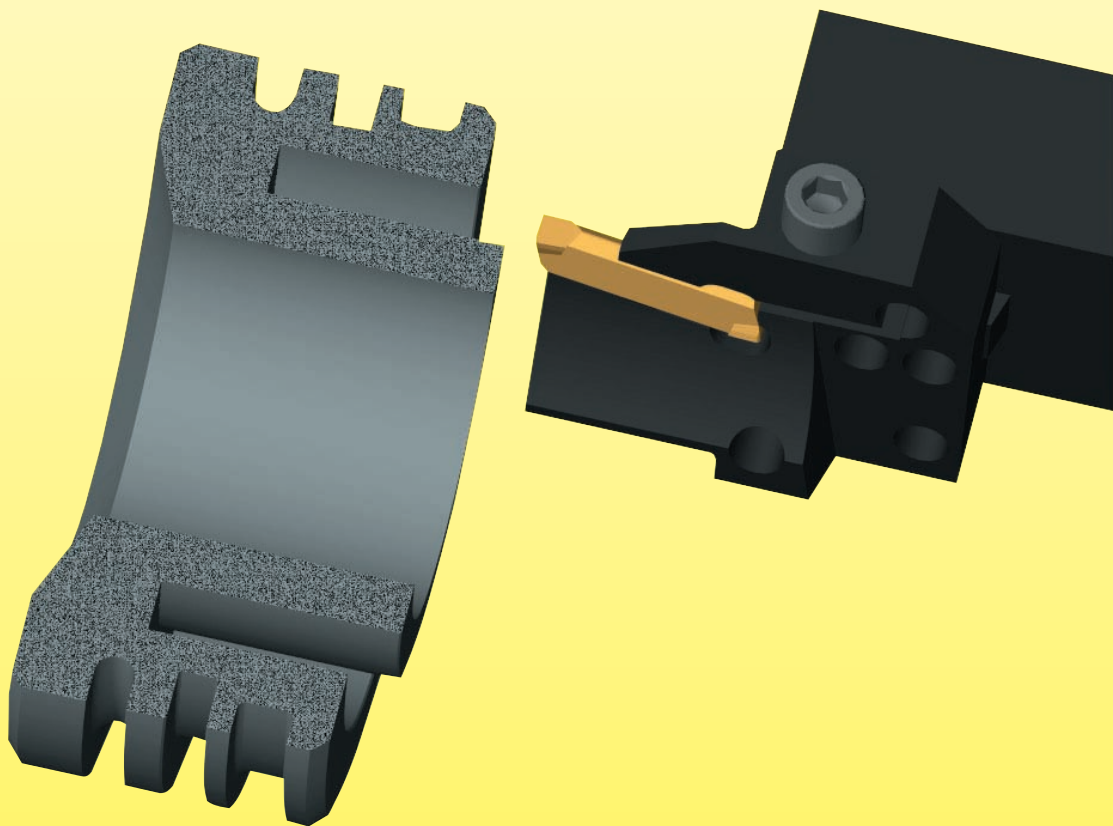
Outer- \emptyset of groove < 40 mm upon request.



R = right hand version L = left hand version N = right and left hand version

N54

Indexable Insert Type S224 + S229 - precision sintered -

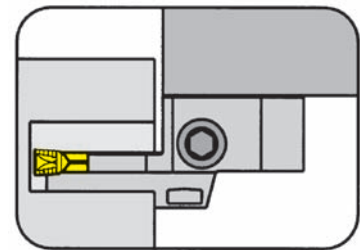


Outer groove \varnothing 1.496 - 39.370" (38 - 1000 mm)
Depth of groove up to .984" (25 mm)

BASIC TOOLHOLDER Type

U220

without cassette

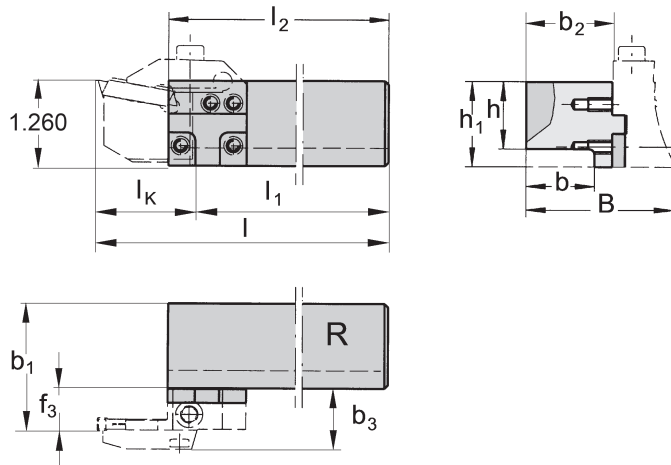


Basic toolholder for cassettes type 220/224

Shank parallel to the axis of workpiece

for use with Cassette

Type R/L/NAK220
R/L/NAK224



R = right hand version shown

L = left hand version

| Part number | h | l_1 | h_1 | b | b_1 | b_2 | l_2 | l | B |
|-----------------|-------|----------|-------|-------|-----------|-------|-------|-----------|-----------|
| R/LU220.0625.K1 | .625 | | | .625 | | 1.000 | 2.500 | | |
| R/LU220.0750.K1 | .750 | | | .750 | | 1.000 | 3.000 | | |
| R/LU220.1000.K1 | 1.000 | l_2-10 | 1.250 | 1.000 | b_2+f_3 | 1.250 | 3.750 | l_1+l_k | b_2+b_3 |
| R/LU220.1250.K1 | 1.250 | | | - | | 1.250 | 4.250 | | |

State R or L version

l_k , b_3 and f_3 see cassettes

Dimensions in inch

Further sizes upon request

Use right hand basic toolholder for right hand cassettes and left hand basic toolholder for left hand cassettes.

Spare parts

| Basic toolholder | Screw | TORX PLUS®-Wrench |
|------------------|----------|-------------------|
| R/LU220.... | 5.12T20P | T20PQ |

N56

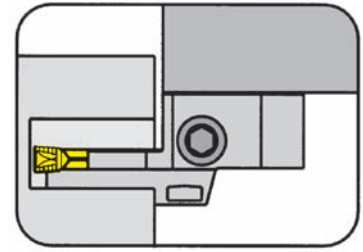
FACE GROOVING



BASIC TOOLHOLDER Type

220

without cassette

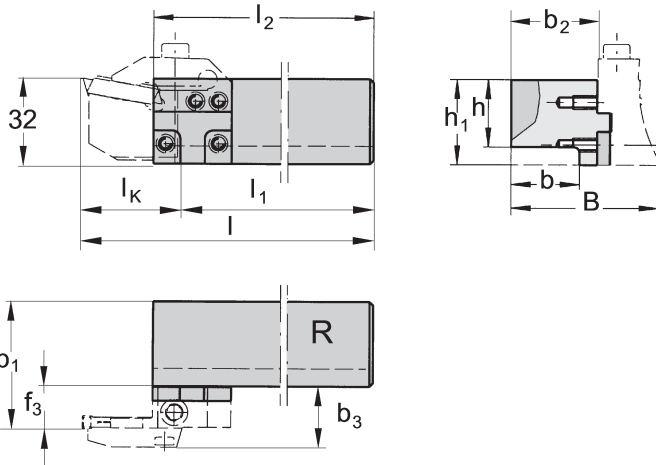


Basic toolholder for cassettes type 220/224

Shank parallel to the axis of workpiece

for use with Cassette

Type R/L/NAK220
R/L/NAK224



R = right hand version shown

L = left hand version

| Part number | h | l ₁ | h ₁ | b | b ₁ | b ₂ | l ₂ | l | B |
|----------------|----|--------------------|----------------|----|--------------------------------|----------------|----------------|--------------------------------|--------------------------------|
| R/L220.1616.K1 | 16 | | | 16 | | 25 | 64 | | |
| R/L220.2020.K1 | 20 | | | 20 | | 27 | 74 | | |
| R/L220.2525.K1 | 25 | l ₂ -10 | 32 | 25 | b ₂ +f ₃ | 32 | 94 | l ₁ +l _K | b ₂ +b ₃ |
| R/L220.3225.K1 | 32 | | | - | | 25 | 109 | | |
| R/L220.3232.K1 | 32 | | | - | | 32 | 109 | | |

State R or L version

l_K, b₃ and f₃ see cassettes

Dimensions in mm

Further sizes upon request

Use right hand basic toolholder for right hand cassettes and left hand basic toolholder for left hand cassettes.

Spare parts

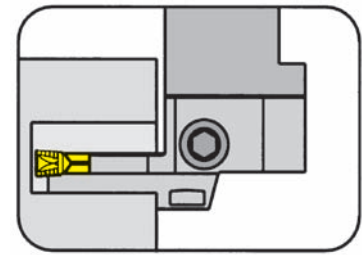
| Basic toolholder | Screw | TORX PLUS®-Wrench |
|------------------|----------|-------------------|
| R/L220.... | 5.12T20P | T20PQ |



BASIC TOOLHOLDER Type

U220

without cassette

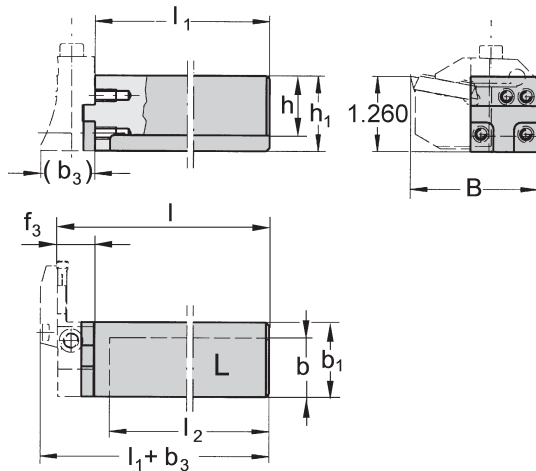


Basic toolholder for cassettes type 220/224

Shank 90° to the axis of workpiece

for use with Cassette

Type R/L/NAK220
R/L/NAK224



L = left hand version shown

R = right hand version

| Part number | h | h ₁ | l ₁ | b | b ₁ | l ₂ | l | B |
|-----------------|-------|----------------|----------------|-------|----------------|----------------|--------------------------------|-----------------------|
| R/LU220.0625.K2 | .625 | | 2.750 | .625 | 1.000 | 2.375 | | l _k + .748 |
| R/LU220.0750.K2 | .750 | | 3.350 | .750 | 1.000 | 3.000 | | l _k + .748 |
| R/LU220.1000.K2 | 1.000 | 1.250 | 4.000 | 1.000 | 1.250 | 3.625 | l ₁ +f ₃ | l _k + .866 |
| R/LU220.1250.K2 | 1.250 | | 4.500 | - | 1.250 | 4.500 | | l _k + .866 |

State R or L version

l_k, b₃ and f₃ see cassettes

Dimensions in inch

Further sizes upon request

Use right hand basic toolholder for left hand cassettes and left hand basic toolholder for right hand cassettes.

Spare parts

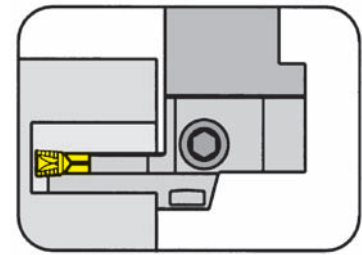
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------|-------------------|
| R/LU220.... | 5.12T20P | T20PQ |

N58

BASIC TOOLHOLDER Type

220

without cassette

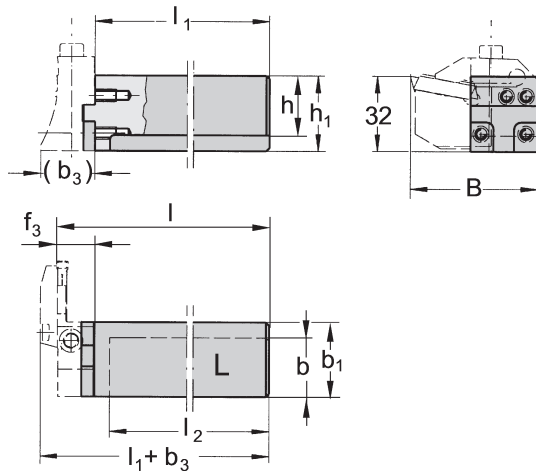


Basic toolholder for cassettes type 220/224

Shank 90° to the axis of workpiece

for use with Cassette

Type R/L/NAK220
R/L/NAK224



L = left hand version shown

R = right hand version

| Part number | h | h ₁ | l ₁ | b | b ₁ | l ₂ | l | B |
|----------------|----|----------------|----------------|----|----------------|----------------|--------------------------------|--------------------|
| R/L220.1616.K2 | 16 | | 70 | 16 | 29 | 60 | | l _k +19 |
| R/L220.2020.K2 | 20 | | 85 | 20 | 29 | 75 | | l _k +19 |
| R/L220.2525.K2 | 25 | 32 | 100 | 25 | 32 | 93 | l ₁ +f ₃ | l _k +22 |
| R/L220.3225.K2 | 32 | | 115 | - | 29 | 108 | | l _k +19 |
| R/L220.3232.K2 | 32 | | 115 | - | 32 | 115 | | l _k +22 |

State R or L version

l_k, b₃ and f₃ see cassettes

Dimensions in mm

Further sizes upon request

Use right hand basic toolholder for left hand cassettes and left hand basic toolholder for right hand cassettes.

Spare parts

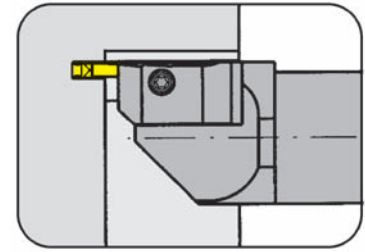
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------|-------------------|
| R/L220.... | 5.12T20P | T20PQ |



BASIC TOOLHOLDER Type

BU224

without cassette

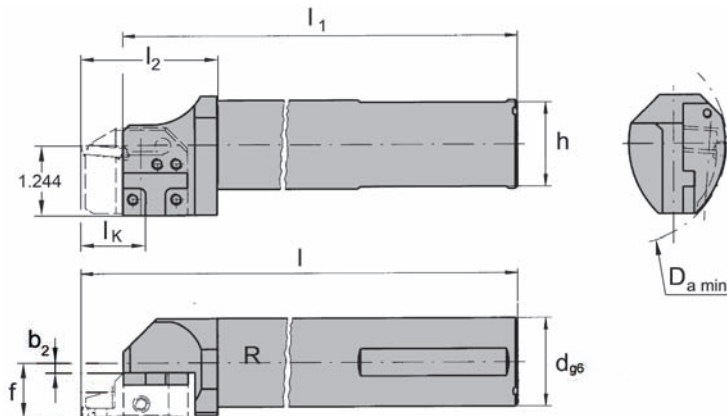


Basic toolholder for cassettes type 220/224

with through coolant supply

for use with Cassette

Type RIK224
LIK224



R = right hand version shown

L = left hand version

| Part number | h | l ₁ | b ₂ | f | D _{Bohr} | l ₂ | d | l |
|------------------|-------|----------------|----------------|------|-------------------|----------------|-------|-------|
| R/LBU224.1250.K1 | 1.171 | 7.126 | .016 | .780 | 3.543 | 2.323 | 1.250 | 7.874 |
| R/LBU224.1500.K1 | 1.421 | 9.094 | .173 | .937 | 3.543 | 2.323 | 1.500 | 9.843 |

State R or L version

D_{a min} / f₃ see cassettes

Dimensions in inch

Further sizes upon request

Spare parts

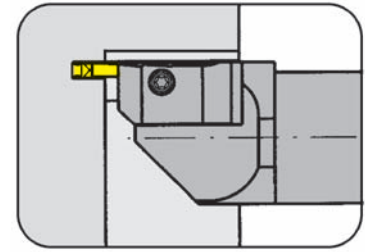
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------|-------------------|
| R/LBU224.1... | 5.12T20P | T20PQ |

N60

BASIC TOOLHOLDER Type

B224

without cassette

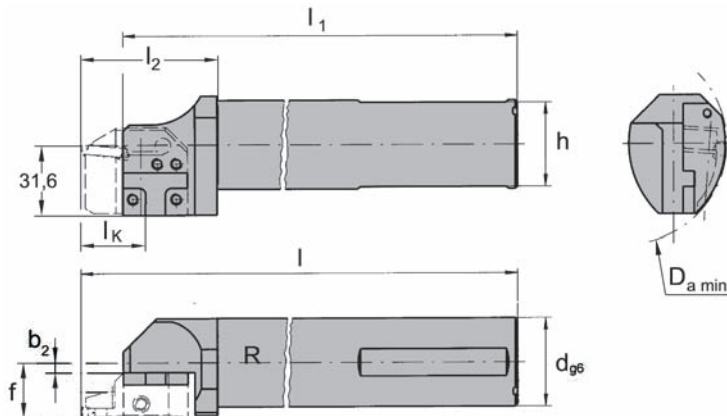


Basic toolholder for cassettes type RIK/LIK224

with through coolant supply

for use with Cassette

Type RIK224
LIK224



R = right hand version shown

L = left hand version

| Part number | h | l ₁ | b ₂ | f | D _{Bohr} | l ₂ | d | l |
|-----------------|----|----------------|----------------|--------------------------------|-------------------|----------------|----|-----|
| R/LB224.0032.K1 | 30 | 181 | 0.41 | b ₂ +f ₃ | 90 | 59 | 32 | 200 |
| R/LB224.0040.K1 | 38 | 231 | 4.41 | b ₂ +f ₃ | 90 | 59 | 40 | 250 |

State R or L version

D_{a min} / f₃ see cassettes

Dimensions in mm

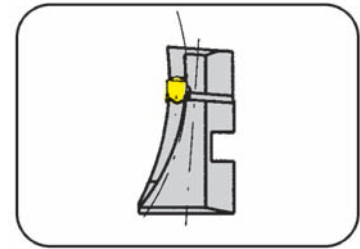
Further sizes upon request

Spare parts

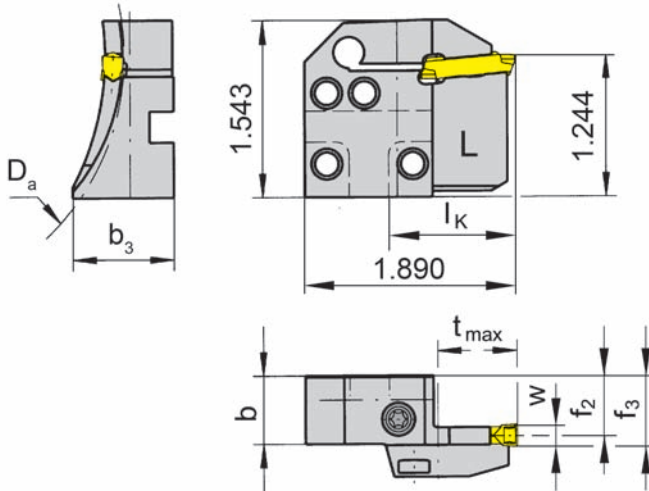
| Basic toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------|-------------------|
| R/LB224.00... | 5.12T20P | T20PQ |

CASSETTE Type

LAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .157"



for use with Indexable insert

Type S224

L = left hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | b | b_3 | f_2 | f_3 | w | l_k |
|----------------|---------------------|---------------------|------------------|------|-------|-------|-----------|------|-------|
| LAK224.5060.03 | 1.969 | 2.362 | | | .827 | | | | |
| LAK224.6075.03 | 2.362 | 2.953 | | | .827 | | | | |
| LAK224.7590.03 | 2.953 | 3.543 | | | .827 | | | | |
| LAK224.9011.03 | 3.543 | 4.331 | | | .827 | | | | |
| LAK224.1113.03 | 4.331 | 5.118 | .551 | .618 | .827 | .587 | $f_2+w/2$ | .118 | 1.142 |
| LAK224.1318.03 | 5.118 | 7.087 | | | .787 | | | | |
| LAK224.1830.03 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.03 | 11.811 | 39.370 | | | .646 | | | | |
| LAK224.3847.04 | 1.496 | 1.850 | | | .827 | | | | |
| LAK224.4760.04 | 1.850 | 2.362 | | | .827 | | | | |
| LAK224.6075.04 | 2.362 | 2.953 | | | .827 | | | | |
| LAK224.7590.04 | 2.953 | 3.543 | | | .827 | | | | |
| LAK224.9013.04 | 3.543 | 5.118 | .551 | .618 | .827 | .567 | $f_2+w/2$ | .157 | 1.142 |
| LAK224.1318.04 | 5.118 | 7.087 | | | .827 | | | | |
| LAK224.1830.04 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.04 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

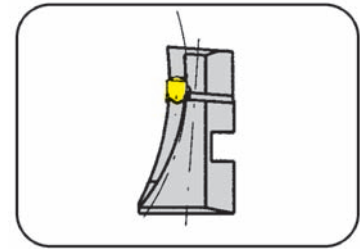
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK224.... | 5.13T20P | T20PQ |

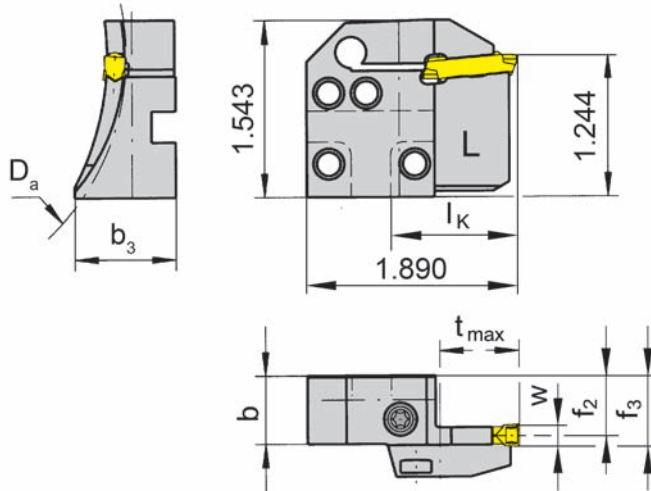
N62

CASSETTE Type

LAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .236"



L = left hand version

for use with Indexable insert

Type S224

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | b_3 | f_2 | f_3 | w | l_k |
|----------------|--------------|--------------|------------|------|-------|-------|-----------|------|-------|
| LAK224.3847.05 | 1.496 | 1.850 | | | .827 | | | | |
| LAK224.4760.05 | 1.850 | 2.362 | | | .827 | | | | |
| LAK224.6075.05 | 2.362 | 2.953 | | | .827 | | | | |
| LAK224.7590.05 | 2.953 | 3.543 | | | .827 | | | | |
| LAK224.9013.05 | 3.543 | 5.118 | .551 | .618 | .827 | .547 | $f_2+w/2$ | .197 | 1.142 |
| LAK224.1318.05 | 5.118 | 7.087 | | | .827 | | | | |
| LAK224.1830.05 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.05 | 11.811 | 39.370 | | | .657 | | | | |
| LAK224.6075.06 | 2.362 | 2.953 | | | .906 | | | | |
| LAK224.7590.06 | 2.953 | 3.543 | | | .906 | | | | |
| LAK224.9013.06 | 3.543 | 5.118 | | | .827 | | | | |
| LAK224.1318.06 | 5.118 | 7.087 | .551 | .618 | .827 | .528 | $f_2+w/2$ | .236 | 1.142 |
| LAK224.1830.06 | 7.087 | 11.811 | | | .748 | | | | |
| LAK224.3000.06 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

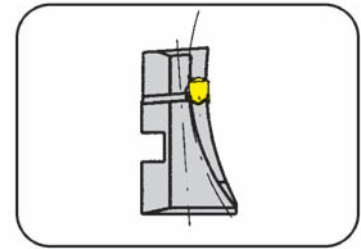
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

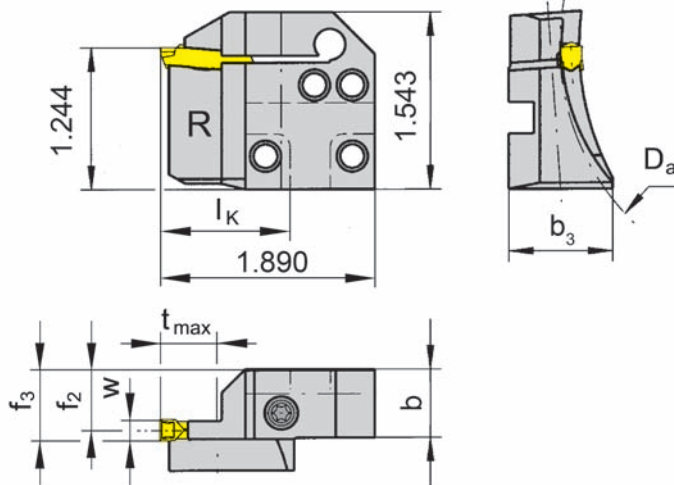
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK224.... | 5.13T20P | T20PQ |

CASSETTE Type

RAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .157"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | b ₃ | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|----------------|---------------------|------|----------------|
| RAK224.5060.03 | 1.969 | 2.362 | | | .827 | | | | |
| RAK224.6075.03 | 2.362 | 2.953 | | | .827 | | | | |
| RAK224.7590.03 | 2.953 | 3.543 | | | .827 | | | | |
| RAK224.9011.03 | 3.543 | 4.331 | | | .827 | | | | |
| RAK224.1113.03 | 4.331 | 5.118 | .551 | .618 | .827 | .587 | f ₂ +w/2 | .118 | 1.142 |
| RAK224.1318.03 | 5.118 | 7.087 | | | .787 | | | | |
| RAK224.1830.03 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.03 | 11.811 | 39.370 | | | .646 | | | | |
| RAK224.3847.04 | 1.496 | 1.850 | | | .827 | | | | |
| RAK224.4760.04 | 1.850 | 2.362 | | | .827 | | | | |
| RAK224.6075.04 | 2.362 | 2.953 | | | .827 | | | | |
| RAK224.7590.04 | 2.953 | 3.543 | | | .827 | | | | |
| RAK224.9013.04 | 3.543 | 5.118 | .551 | .618 | .827 | .567 | f ₂ +w/2 | .157 | 1.142 |
| RAK224.1318.04 | 5.118 | 7.087 | | | .827 | | | | |
| RAK224.1830.04 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.04 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

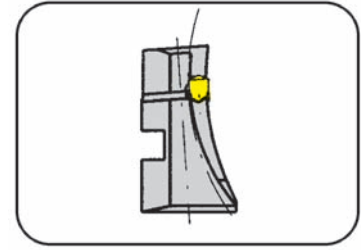
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK224.... | 5.13T20P | T20PQ |

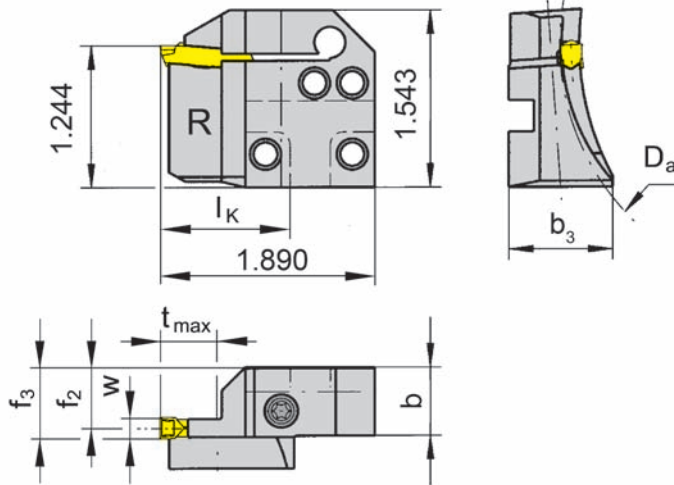
N64

CASSETTE Type

RAK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .236"



R = right hand version

for use with Indexable insert

Type S224

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | b_3 | f_2 | f_3 | w | l_k |
|----------------|--------------|--------------|------------|------|-------|-------|-----------|------|-------|
| RAK224.3847.05 | 1.496 | 1.850 | | | .827 | | | | |
| RAK224.4760.05 | 1.850 | 2.362 | | | .827 | | | | |
| RAK224.6075.05 | 2.362 | 2.953 | | | .827 | | | | |
| RAK224.7590.05 | 2.953 | 3.543 | | | .827 | | | | |
| RAK224.9013.05 | 3.543 | 5.118 | .551 | .618 | .827 | .547 | $f_2+w/2$ | .197 | 1.142 |
| RAK224.1318.05 | 5.118 | 7.087 | | | .827 | | | | |
| RAK224.1830.05 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.05 | 11.811 | 39.370 | | | .657 | | | | |
| RAK224.6075.06 | 2.362 | 2.953 | | | .906 | | | | |
| RAK224.7590.06 | 2.953 | 3.543 | | | .906 | | | | |
| RAK224.9013.06 | 3.543 | 5.118 | | | .827 | | | | |
| RAK224.1318.06 | 5.118 | 7.087 | .551 | .618 | .827 | .528 | $f_2+w/2$ | .236 | 1.142 |
| RAK224.1830.06 | 7.087 | 11.811 | | | .748 | | | | |
| RAK224.3000.06 | 11.811 | 39.370 | | | .657 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

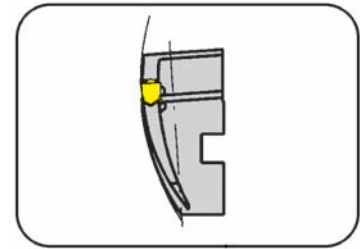
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

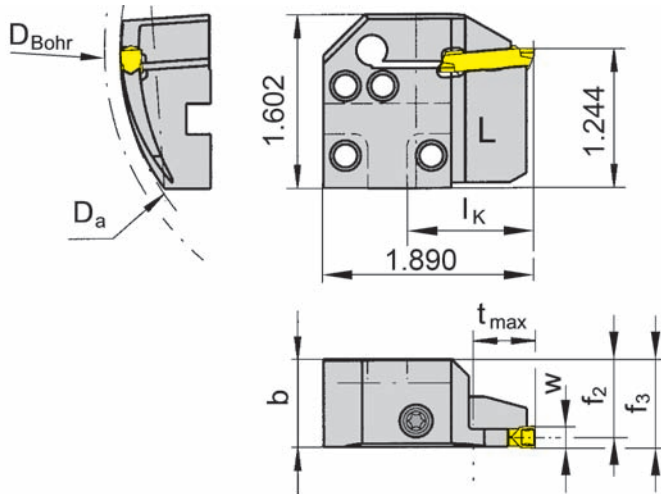
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK224.... | 5.13T20P | T20PQ |

CASSETTE Type

LIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .157"



for use with Indexable insert

Type S224

L = left hand version

| Part number | D _{a min} | D _{a max} | t _{max} | b | f ₂ | f ₃ | D _{Bohr} | w | l _K |
|----------------|--------------------|--------------------|------------------|------|----------------|---------------------|-------------------|------|----------------|
| LIK224.5060.03 | 1.969 | 2.362 | | | | | 3.543 | | |
| LIK224.6075.03 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.03 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9011.03 | 3.543 | 4.331 | .551 | .748 | .705 | f ₂ +w/2 | 3.543 | .118 | 1.142 |
| LIK224.1113.03 | 4.331 | 5.118 | | | | | 4.331 | | |
| LIK224.1318.03 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.03 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3847.04 | 1.496 | 1.850 | | | | | 3.543 | | |
| LIK224.4760.04 | 1.850 | 2.362 | | | | | 3.543 | | |
| LIK224.6075.04 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.04 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9013.04 | 3.543 | 5.118 | .551 | .748 | .685 | f ₂ +w/2 | 3.543 | .157 | 1.142 |
| LIK224.1318.04 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.04 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3000.04 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

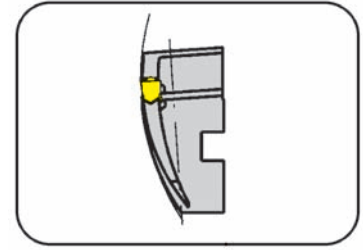
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK224.... | 5.13T20P | T20PQ |

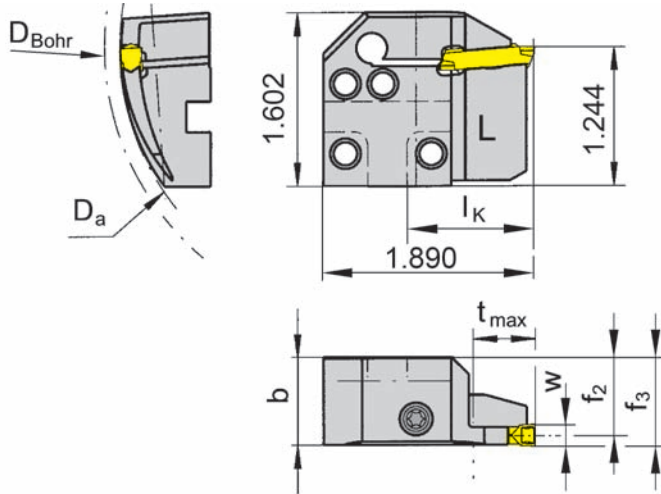


CASSETTE Type

LIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .236"



for use with Indexable insert

Type S224

L = left hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | f_2 | f_3 | D_{Bohr} | w | l_K |
|----------------|--------------|--------------|------------|------|-------|-----------|-------------------|------|-------|
| LIK224.3847.05 | 1.496 | 1.850 | | | | | 3.543 | | |
| LIK224.4760.05 | 1.850 | 2.362 | | | | | 3.543 | | |
| LIK224.6075.05 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.05 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9013.05 | 3.543 | 5.118 | .551 | .748 | .665 | $f_2+w/2$ | 3.543 | .197 | 1.142 |
| LIK224.1318.05 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.05 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3000.05 | 11.811 | 39.370 | | | | | 11.811 | | |
| LIK224.6075.06 | 2.362 | 2.953 | | | | | 3.543 | | |
| LIK224.7590.06 | 2.953 | 3.543 | | | | | 3.543 | | |
| LIK224.9013.06 | 3.543 | 5.118 | .551 | .748 | .646 | $f_2+w/2$ | 3.543 | .236 | 1.142 |
| LIK224.1318.06 | 5.118 | 7.087 | | | | | 5.118 | | |
| LIK224.1830.06 | 7.087 | 11.811 | | | | | 7.087 | | |
| LIK224.3000.06 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

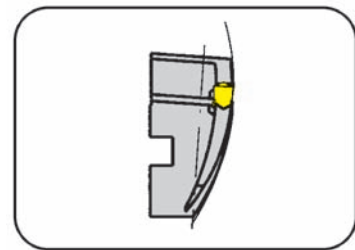
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK224.... | 5.13T20P | T20PQ |

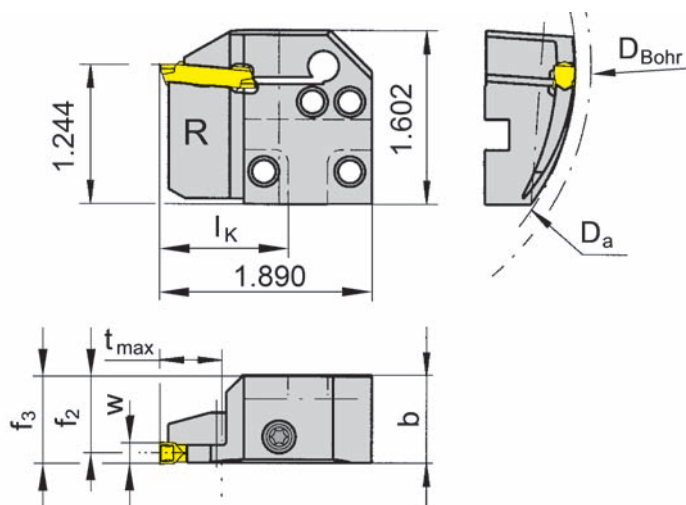


CASSETTE Type

RIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .157"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | f ₂ | f ₃ | D _{Bohr} | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|---------------------|-------------------|------|----------------|
| RIK224.5060.03 | 1.969 | 2.362 | | | | | 3.543 | | |
| RIK224.6075.03 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.03 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9011.03 | 3.543 | 4.331 | .551 | .748 | .705 | f ₂ +w/2 | 3.543 | .118 | 1.142 |
| RIK224.1113.03 | 4.331 | 5.118 | | | | | 4.331 | | |
| RIK224.1318.03 | 5.118 | 7.087 | | | | | 5.118 | | |
| RIK224.1830.03 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3847.04 | 1.496 | 1.850 | | | | | 3.543 | | |
| RIK224.4760.04 | 1.850 | 2.362 | | | | | 3.543 | | |
| RIK224.6075.04 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.04 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9013.04 | 3.543 | 5.118 | .551 | .748 | .685 | f ₂ +w/2 | 3.543 | .157 | 1.142 |
| RIK224.1318.04 | 5.118 | 7.087 | | | | | 5.118 | | |
| RIK224.1830.04 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3000.04 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

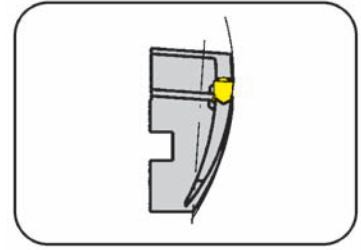
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK224.... | 5.13T20P | T20PQ |

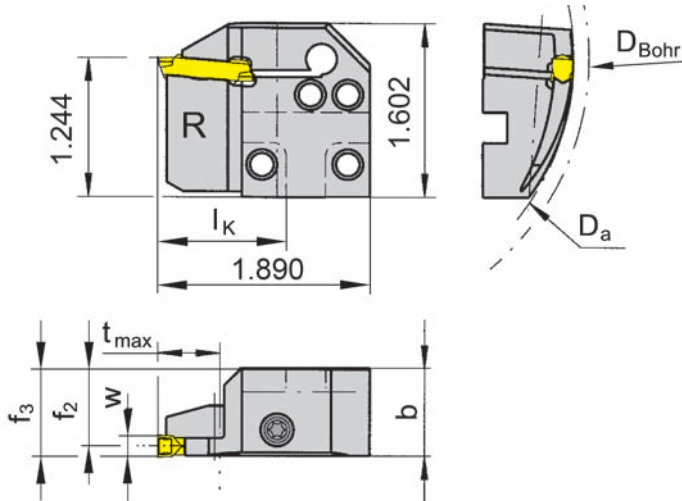
N68

CASSETTE Type

RIK224



Outer groove \varnothing 1.496 - 39.370"
 Depth of groove up to .551"
 Width of groove up to .236"



R = right hand version

for use with Indexable insert

Type S224

| Part number | D _{a min} | D _{a max} | t _{max} | b | f ₂ | f ₃ | D _{Bohr} | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|---------------------|-------------------|------|----------------|
| RIK224.3847.05 | 1.496 | 1.850 | | | | | 3.543 | | |
| RIK224.4760.05 | 1.850 | 2.362 | | | | | 3.543 | | |
| RIK224.6075.05 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.05 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9013.05 | 3.543 | 5.118 | .551 | .748 | .665 | f ₂ +w/2 | 3.543 | .197 | 1.142 |
| RIK224.1318.05 | 5.118 | 7.087 | | | | | 5.118 | | |
| RIK224.1830.05 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3000.05 | 11.811 | 39.370 | | | | | 11.811 | | |
| RIK224.6075.06 | 2.362 | 2.953 | | | | | 3.543 | | |
| RIK224.7590.06 | 2.953 | 3.543 | | | | | 3.543 | | |
| RIK224.9013.06 | 3.543 | 5.118 | | | | | 3.543 | | |
| RIK224.1318.06 | 5.118 | 7.087 | .551 | .748 | .646 | f ₂ +w/2 | 5.118 | .236 | 1.142 |
| RIK224.1830.06 | 7.087 | 11.811 | | | | | 7.087 | | |
| RIK224.3000.06 | 11.811 | 39.370 | | | | | 11.811 | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK224.... | 5.13T20P | T20PQ |



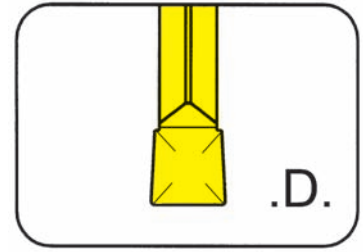
FACE GROOVING



INDEXABLE INSERT Type

S224

with chip forming

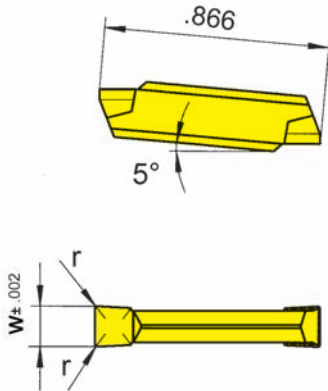


Depth of groove up to .709"
Width of groove .118 - .157"

D2 precision sintered / D2.G precision ground

for use with Cassette

Type L/RAK224
L/RIK224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | |
|--|------|------|------|----------------|------|------|------|------|------|------|---|
| | | | | H54 | TN32 | TN35 | TI22 | TI25 | TF45 | TF46 | |
| S224.0300.D2.G S224.0300.D2 | .118 | .008 | 03 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.D2.G S224.0400.D2 | .157 | .008 | 04 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● | ● | ● | ● | ● |
| | | | | M | ● | ● | ● | ● | ● | ● | ○ |
| | | | | K | ● | ● | ● | ● | ● | ● | ● |
| | | | | S | ● | ● | ● | ● | ● | ● | ○ |
| | | | | N | ● | ● | ● | ● | ● | ● | ● |
| | | | | H | ● | ● | ● | ● | ● | ● | ● |

Dimensions in mm

Carbide grades

Indexable inserts can be used in right and left hand cassettes L/RAK224 and L/RIK224.



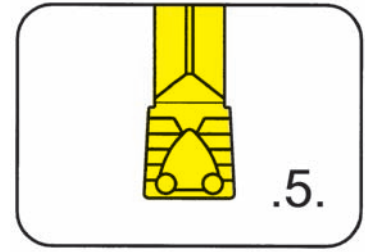
FACE GROOVING



INDEXABLE INSERT Type

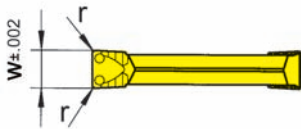
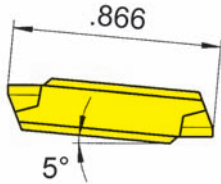
S224

with chip forming



Depth of groove up to .709"
Width of groove .118 - .197"

precision sintered



for use with Cassette

Type L/RAK224
L/RIK224

Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | |
|--------------|------|------|------|----------------|------|------|------|------|
| | | | | TN32 | TN35 | TI25 | TF45 | AL96 |
| S224.0300.52 | .118 | .008 | 03 | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0300.54 | | .016 | | ▲ | ▲ | ▲ | ▲ | |
| S224.0400.52 | .157 | .008 | 04 | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0400.54 | | .016 | | ▲ | ▲ | ▲ | ▲ | |
| S224.0500.54 | .197 | .016 | 05 | ▲ | ▲ | ▲ | ▲ | ▲ |
| S224.0500.58 | | .031 | | ▲ | ▲ | ▲ | ▲ | |
| | | | | P | • | • | • | • |
| | | | | M | • | • | • | • |
| | | | | K | • | • | • | • |
| | | | | S | • | • | • | • |
| | | | | N | • | • | • | • |
| | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

Indexable inserts can be used in right and left hand cassettes L/RAK224 and L/RIK224.



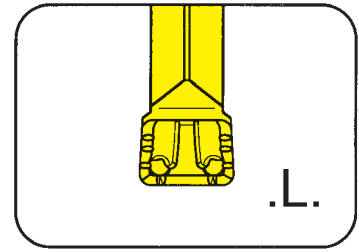
FACE GROOVING



INDEXABLE INSERT Type

S224

with chip forming

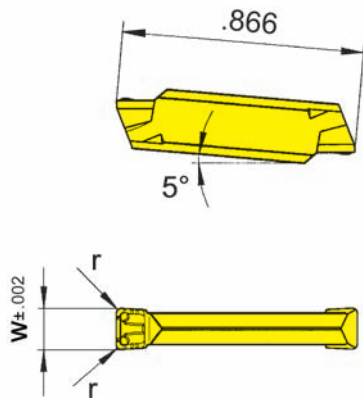


Depth of groove up to .709"
Width of groove .157 - .236"

precision sintered

for use with Cassette

Type L/RAK224
L/RIK224



Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | |
|--|------|------|------|----------------|------|------|
| | | | | Ti22 | TF42 | AL96 |
| S224.0400.L4 | .157 | .016 | 04 | ▲ | ▲ | ▲ |
| S224.0500.L4 | .197 | .016 | 05 | ▲ | ▲ | ▲ |
| S224.0500.L6 | | .024 | | ▲ | ▲ | ▲ |
| S224.0600.L4 | .236 | .016 | 06 | ▲ | ▲ | ▲ |
| S224.0600.L6 | | .024 | | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● |
| | | | | M | ■ | ■ |
| | | | | K | ■ | ● |
| | | | | S | ■ | ■ |
| | | | | N | ■ | ● |
| | | | | H | ■ | ■ |

Dimensions in mm

Carbide grades

Indexable inserts can be used in right and left hand cassettes L/RAK224 and L/RIK224.



HORN - THE LEADERS IN GROOVING TECHNOLOGY



From bore \varnothing .276" (7.0 mm)

Mini SYSTEM 107

HORN - INTELLIGENT TOOL DESIGN AT WORK.



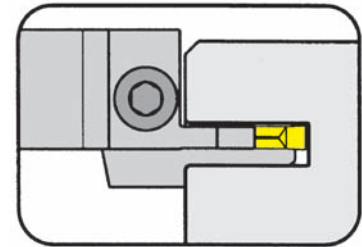
For further information, please contact HORN USA.

N

N73

TOOLHOLDER Type

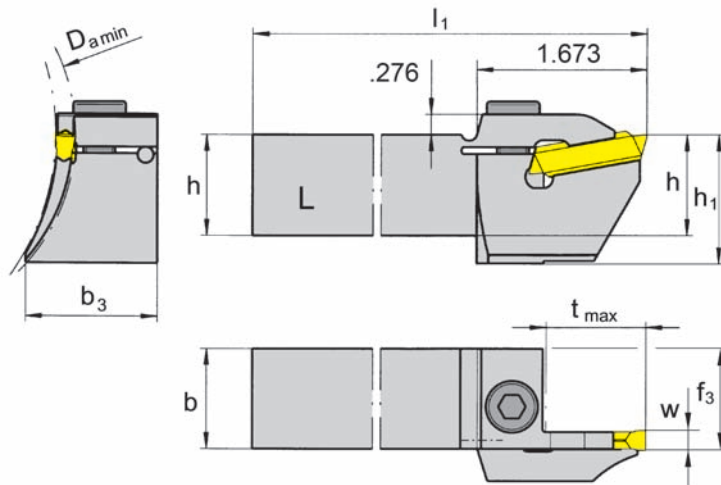
LAU226



from outer groove \varnothing 3.740"
 Depth of groove up to .984"
 Width of groove up to .197"

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | h | h_1 | l_1 | b | b_3 | f_3 | Size |
|-------------------|--------------|--------------|------------|-------|-------|-------|-------|-------|-------|------|
| LAU226.07.1318.04 | 5.118 | 7.087 | | .750 | | | .750 | .984 | 205.0 | 04 |
| LAU226.07.9513.04 | 3.740 | 5.118 | | .750 | | | .750 | 1.024 | 205.0 | |
| LAU226.10.1318.04 | 5.118 | 7.087 | .984 | 1.000 | 1.260 | 6.004 | 1.000 | 1.197 | 259.0 | |
| LAU226.10.9513.04 | 3.740 | 5.118 | | 1.000 | | | 1.000 | 1.236 | 259.0 | |
| LAU226.07.1318.05 | 5.118 | 7.087 | | .750 | | | .750 | .984 | 205.0 | 05 |
| LAU226.07.9513.05 | 3.740 | 5.118 | | .750 | | | .750 | 1.102 | 205.0 | |
| LAU226.10.1318.05 | 5.118 | 7.087 | .984 | 1.000 | 1.260 | 6.004 | 1.000 | 1.197 | 259.0 | |
| LAU226.10.9513.05 | 3.740 | 5.118 | | 1.000 | | | 1.000 | 1.315 | 259.0 | |

Further sizes upon request

w see indexable inserts

Dimensions in inch

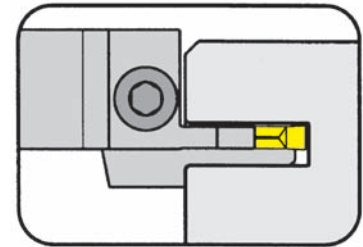
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|---------|
| LAU226.... | 218.3 | SW6.911 |

N74

TOOLHOLDER Type

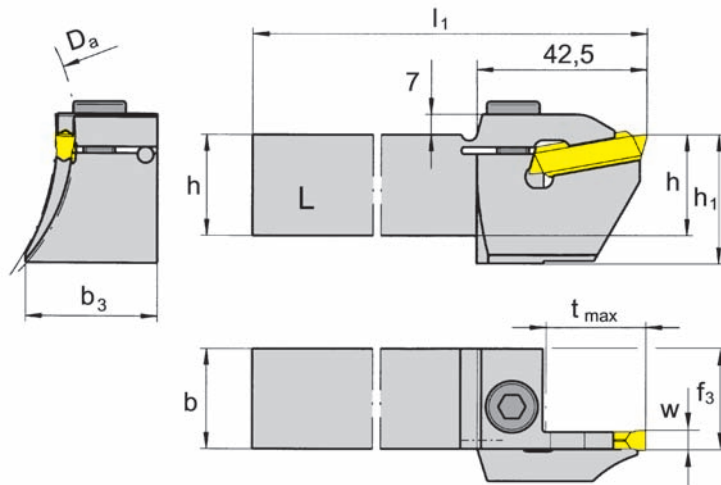
LA226



from outer groove \emptyset 3.740" (95.0 mm)
 Depth of groove up to .984" (25.0 mm)
 Width of groove up to .197" (5.0 mm)

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | h | h_1 | l_1 | b | b_3 | f_3 | Size |
|------------------|---------------------|---------------------|------------------|----|-------|-------|----|-------|-------|------|
| LA226.20.1318.04 | 130 | 180 | | 20 | | | 20 | 25 | 205.0 | 04 |
| LA226.20.9513.04 | 95 | 130 | 25 | 20 | 32 | 150 | 20 | 26 | 205.0 | |
| LA226.25.1318.04 | 130 | 180 | | 25 | | | 25 | 30 | 255.0 | |
| LA226.25.9513.04 | 95 | 130 | | 25 | | | 25 | 31 | 255.0 | |
| LA226.20.1318.05 | 130 | 180 | | 20 | | | 20 | 25 | 205.0 | 05 |
| LA226.20.9513.05 | 95 | 130 | 25 | 20 | 32 | 150 | 20 | 28 | 205.0 | |
| LA226.25.1318.05 | 130 | 180 | | 25 | | | 25 | 30 | 255.0 | |
| LA226.25.9513.05 | 95 | 130 | | 25 | | | 25 | 33 | 255.0 | |

Further sizes upon request

w see indexable inserts

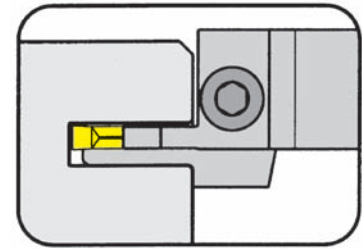
Dimensions in mm

Spare parts

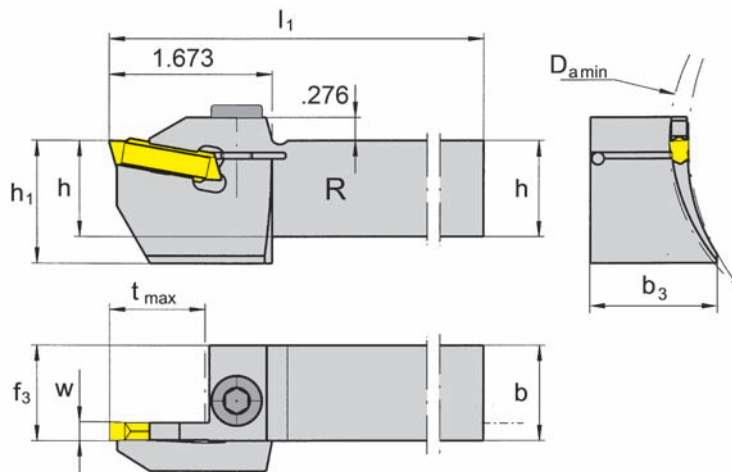
| Toolholder | Screw | Wrench |
|------------|-------|---------|
| LA226.2... | 218.3 | SW6.911 |

TOOLHOLDER Type

RAU226



from outer groove \emptyset 3.740"
 Depth of groove up to .984"
 Width of groove up to .197"



for use with Indexable insert

Type S229

R = right hand version

| Part number | D _{a min} | D _{a max} | t _{max} | h | h ₁ | l ₁ | b | b ₃ | f ₃ | Size |
|-------------------|--------------------|--------------------|------------------|-------|----------------|----------------|-------|----------------|----------------|------|
| RAU226.07.1318.04 | 5.118 | 7.087 | | .750 | | | .750 | .984 | 205.0 | 04 |
| RAU226.07.9513.04 | 3.740 | 5.118 | | .750 | | | .750 | 1.024 | 205.0 | |
| RAU226.10.1318.04 | 5.118 | 7.087 | .984 | 1.000 | 1.260 | 6.004 | 1.000 | 1.197 | 259.0 | |
| RAU226.10.9513.04 | 3.740 | 5.118 | | 1.000 | | | 1.000 | 1.236 | 259.0 | |
| RAU226.07.1318.05 | 5.118 | 7.087 | | .750 | | | .750 | .984 | 205.0 | 05 |
| RAU226.07.9513.05 | 3.740 | 5.118 | | .750 | | | .750 | 1.102 | 205.0 | |
| RAU226.10.1318.05 | 5.118 | 7.087 | .984 | 1.000 | 1.260 | 6.004 | 1.000 | 1.197 | 259.0 | |
| RAU226.10.9513.05 | 3.740 | 5.118 | | 1.000 | | | 1.000 | 1.315 | 259.0 | |

Further sizes upon request

w see indexable inserts

Dimensions in inch

Spare parts

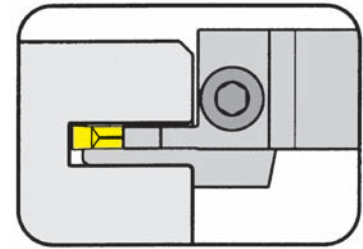
| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| RAU226.... | 218.3 | SW6DIN911 |

N76

TOOLHOLDER Type

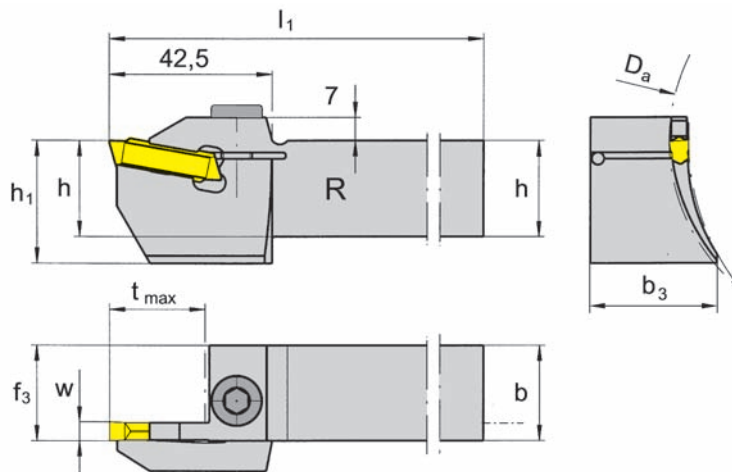
RA226

from outer groove \varnothing 3.740" (95.0 mm)
 Depth of groove up to .984" (25.0 mm)
 Width of groove up to .197" (5.0 mm)



for use with Indexable insert

Type S229



R = right hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | h | h_1 | l_1 | b | b_3 | f_3 | Size |
|------------------|---------------------|---------------------|------------------|----|-------|-------|----|-------|-------|------|
| RA226.20.1318.04 | 130 | 180 | | 20 | | | 20 | 25 | 205.0 | 04 |
| RA226.20.9513.04 | 95 | 130 | 25 | 20 | 32 | 150 | 20 | 26 | 205.0 | |
| RA226.25.1318.04 | 130 | 180 | | 25 | | | 25 | 30 | 255.0 | |
| RA226.25.9513.04 | 95 | 130 | | 25 | | | 25 | 31 | 255.0 | |
| RA226.20.1318.05 | 130 | 180 | | 20 | | | 20 | 25 | 205.0 | 05 |
| RA226.20.9513.05 | 95 | 130 | 25 | 20 | 32 | 150 | 20 | 28 | 205.0 | |
| RA226.25.1318.05 | 130 | 180 | | 25 | | | 25 | 30 | 255.0 | |
| RA226.25.9513.05 | 95 | 130 | | 25 | | | 25 | 33 | 255.0 | |

Further sizes upon request

w see indexable inserts

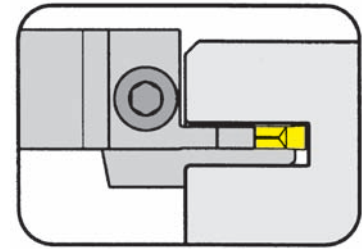
Dimensions in mm

Spare parts

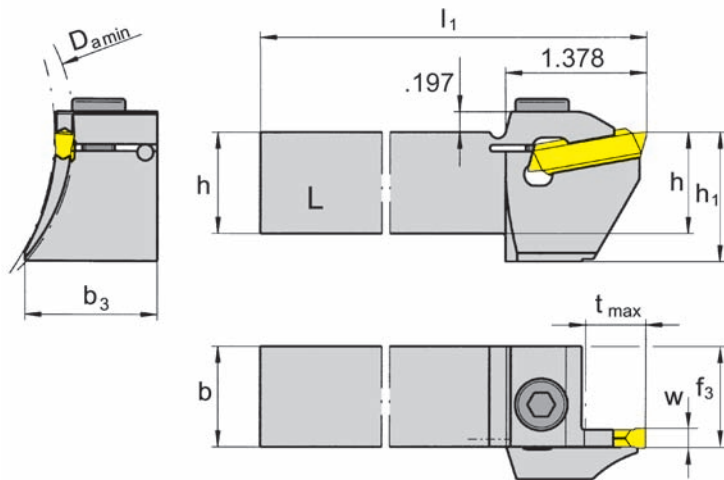
| Toolholder | Screw | Wrench |
|------------|-------|---------|
| RA226.2... | 218.3 | SW6.911 |

TOOLHOLDER Type

LAU210



from outer groove \varnothing 3.740"
 Depth of groove up to .591"
 Width of groove up to .197"



for use with Indexable insert

Type 229
 N229
 S229

L = left hand version

| Part number | D _{a min} | D _{a max} | t _{max} | h | h ₁ | l ₁ | b | b ₃ | f ₃ | Size |
|-------------------|--------------------|--------------------|------------------|-------|----------------|----------------|-------|----------------|----------------|------|
| LAU210.07.1318.14 | 5.118 | 7.087 | | .750 | | 6.004 | .750 | .984 | 205.0 | 04 |
| LAU210.07.9513.14 | 3.740 | 5.118 | | .750 | | 6.004 | .750 | 1.024 | 205.0 | |
| LAU210.10.1318.14 | 5.118 | 7.087 | .591 | 1.000 | 1.260 | 6.000 | 1.000 | 1.197 | 259.0 | |
| LAU210.10.9513.14 | 3.740 | 5.118 | | 1.000 | | 6.004 | 1.000 | 1.236 | 259.0 | |
| LAU210.07.1318.15 | 5.118 | 7.087 | | .750 | | | .750 | .984 | 205.0 | 05 |
| LAU210.07.9513.15 | 3.740 | 5.118 | | .750 | | 6.004 | .750 | 1.102 | 205.0 | |
| LAU210.10.1318.15 | 5.118 | 7.087 | .591 | 1.000 | 1.260 | | 1.000 | 1.197 | 259.0 | |
| LAU210.10.9513.15 | 3.740 | 5.118 | | 1.000 | | | 1.000 | 1.315 | 259.0 | |

Further sizes upon request

w see indexable inserts

Dimensions in inch

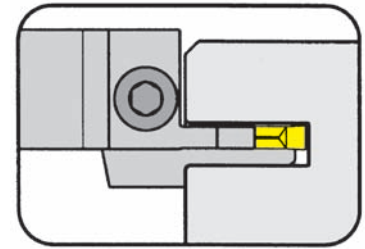
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|---------|
| LAU210.... | 218.3 | SW6.911 |

N78

TOOLHOLDER Type

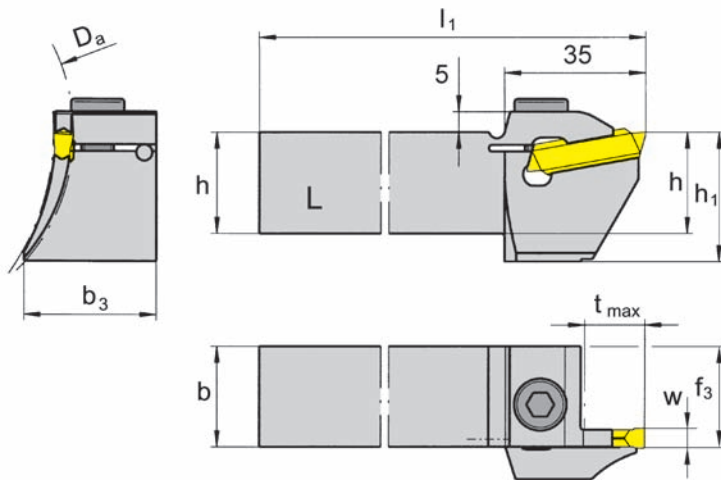
LA210



from outer groove \varnothing 3.740" (95.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Width of groove up to .315" (8.0 mm)

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | h | h_1 | l_1 | b | b_3 | f_3 | w |
|------------------|---------------------|---------------------|------------------|----|-------|-------|------|-------|-------|---|
| LA210.20.1318.14 | 130 | 180 | 15 | 20 | 32 | 150 | 20 | 25.0 | 205.0 | 4 |
| LA210.20.9513.14 | 95 | 130 | | 20 | | | 26.0 | 205.0 | | |
| LA210.25.1318.14 | 130 | 180 | 15 | 25 | 32 | 150 | 25 | 30.0 | 255.0 | 5 |
| LA210.25.9513.14 | 95 | 130 | | 25 | | | 31.0 | 255.0 | | |
| LA210.20.1318.15 | 130 | 180 | 15 | 20 | 32 | 150 | 20 | 25.0 | 205.0 | 8 |
| LA210.20.9513.15 | 95 | 130 | | 20 | | | 28.0 | 205.0 | | |
| LA210.25.1318.15 | 130 | 180 | 15 | 25 | 32 | 150 | 25 | 30.0 | 255.0 | 8 |
| LA210.25.9513.15 | 95 | 130 | | 25 | | | 33.0 | 255.0 | | |
| LA210.25.1318.18 | 130 | 180 | 15 | 25 | 32 | 150 | 25 | 30.5 | 255.0 | 8 |

Further sizes upon request

w see indexable inserts

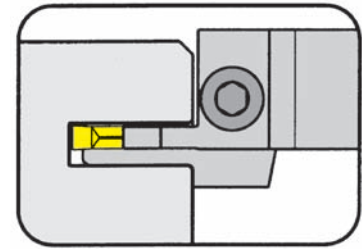
Dimensions in mm

Spare parts

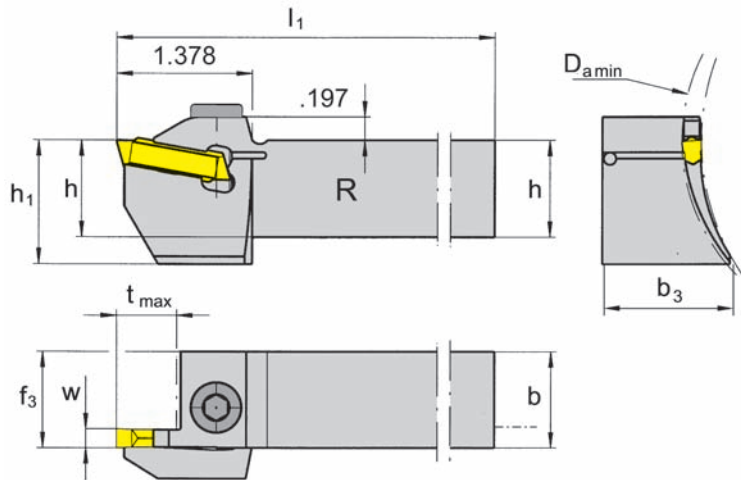
| Toolholder | Screw | Wrench |
|------------|-------|---------|
| LA210.2... | 218.3 | SW6.911 |

TOOLHOLDER Type

RAU210



from outer groove \emptyset 3.740"
 Depth of groove up to .591"
 Width of groove up to .197"



for use with Indexable insert

Type 229
 N229
 S229

R = right hand version

| Part number | D _{a min} | D _{a max} | t _{max} | h | h ₁ | l ₁ | b | b ₃ | f ₃ | Size |
|-------------------|--------------------|--------------------|------------------|-------|----------------|----------------|-------|----------------|----------------|------|
| RAU210.07.1318.14 | 5.118 | 7.087 | | .750 | | 6.004 | .750 | .984 | 205.0 | 04 |
| RAU210.07.9513.14 | 3.740 | 5.118 | | .750 | 1.260 | 6.004 | .750 | 1.024 | 205.0 | |
| RAU210.10.1318.14 | 5.118 | 7.087 | .591 | 1.000 | | 6.000 | 1.000 | 1.197 | 259.0 | |
| RAU210.10.9513.14 | 3.740 | 5.118 | | 1.000 | | 6.004 | 1.000 | 1.236 | 259.0 | |
| RAU210.07.1318.15 | 5.118 | 7.087 | | .750 | | | .750 | .984 | 205.0 | 05 |
| RAU210.07.9513.15 | 3.740 | 5.118 | | .750 | 1.260 | 6.004 | .750 | 1.102 | 205.0 | |
| RAU210.10.1318.15 | 5.118 | 7.087 | .591 | 1.000 | | | 1.000 | 1.197 | 259.0 | |
| RAU210.10.9513.15 | 3.740 | 5.118 | | 1.000 | | | 1.000 | 1.315 | 259.0 | |

Further sizes upon request

w see indexable inserts

Dimensions in inch

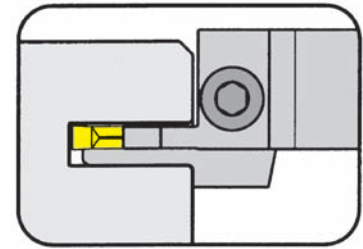
Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| RAU210.... | 218.3 | SW6DIN911 |

N80

TOOLHOLDER Type

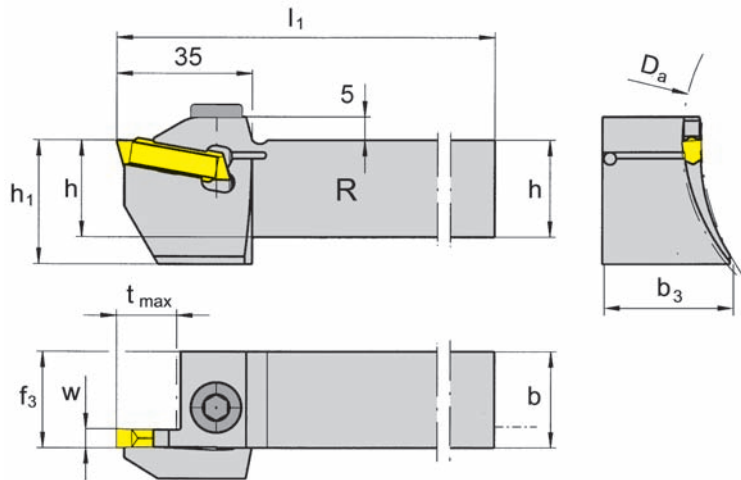
RA210



from outer groove \varnothing 3.740" (95.0 mm)
 Depth of groove up to .591" (15.0 mm)
 Width of groove up to .315" (8.0 mm)

for use with Indexable insert

Type S229



R = right hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | h | h_1 | l_1 | b | b_3 | f_3 | Size |
|------------------|---------------------|---------------------|------------------|----|-------|-------|----|-------|-------|------|
| RA210.20.1318.14 | 130 | 180 | | 20 | | | 20 | 25.0 | 205.0 | 04 |
| RA210.20.9513.14 | 95 | 130 | 15 | 20 | 32 | 150 | 20 | 26.0 | 205.0 | |
| RA210.25.1318.14 | 130 | 180 | | 25 | | | 25 | 30.0 | 255.0 | |
| RA210.25.9513.14 | 95 | 130 | | 25 | | | 25 | 31.0 | 255.0 | |
| RA210.20.1318.15 | 130 | 180 | | 20 | | | 20 | 25.0 | 205.0 | 05 |
| RA210.20.9513.15 | 95 | 130 | | 20 | | | 20 | 28.0 | 205.0 | |
| RA210.25.1318.15 | 130 | 180 | 15 | 25 | 32 | 150 | 25 | 30.0 | 255.0 | |
| RA210.25.9513.15 | 95 | 130 | | 25 | | | 25 | 33.0 | 255.0 | |
| RA210.32.1318.15 | 130 | 180 | | 32 | | | 32 | 37.0 | 325.0 | |
| RA210.25.1318.18 | 130 | 180 | 15 | 25 | 32 | 150 | 25 | 30.5 | 255.0 | 08 |

Further sizes upon request

w see indexable inserts

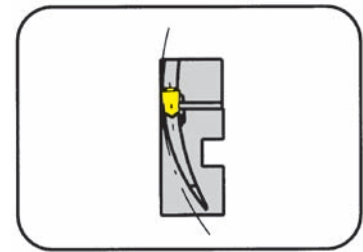
Dimensions in mm

Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|---------|
| RA210.... | 218.3 | SW6.911 |

CASSETTE Type

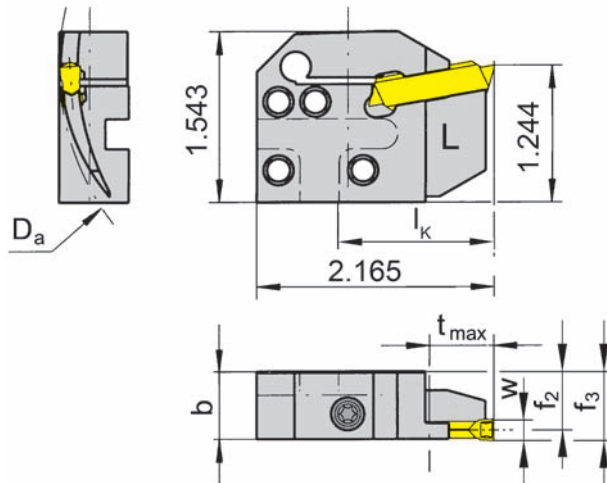
LIK220



| | |
|----------------------------|-----------------|
| Outer groove \varnothing | 2.362 - 11.811" |
| Depth of groove up to | .591" |
| Width of groove up to | .236" |

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | f_2 | f_3 | w | l_k |
|----------------|--------------|--------------|------------|------|-------|-----------|------|-------|
| LIK220.6575.14 | 2.559 | 2.953 | .394 | | | | | |
| LIK220.7595.14 | 2.953 | 3.740 | .591 | | | | | |
| LIK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .567 | $f_2+w/2$ | .157 | 1.417 |
| LIK220.1318.14 | 5.118 | 7.087 | .591 | | | | | |
| LIK220.1830.14 | 7.087 | 11.811 | .591 | | | | | |
| LIK220.6075.15 | 2.362 | 2.953 | .394 | | | | | |
| LIK220.7595.15 | 2.953 | 3.740 | .591 | | | | | |
| LIK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .547 | $f_2+w/2$ | .197 | 1.417 |
| LIK220.1318.15 | 5.118 | 7.087 | .591 | | | | | |
| LIK220.1830.15 | 7.087 | 11.811 | .591 | | | | | |
| LIK220.6075.16 | 2.362 | 2.953 | .394 | | | | | |
| LIK220.7595.16 | 2.953 | 3.740 | .591 | | | | | |
| LIK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .528 | $f_2+w/2$ | .236 | 1.417 |
| LIK220.1318.16 | 5.118 | 7.087 | .591 | | | | | |
| LIK220.1830.16 | 7.087 | 11.811 | .591 | | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

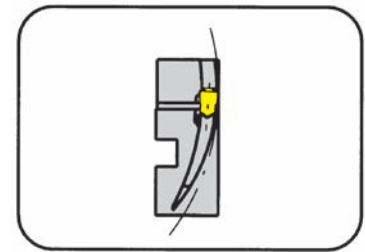
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK220.... | 6.23T25P | T25PQ |

N82

CASSETTE Type

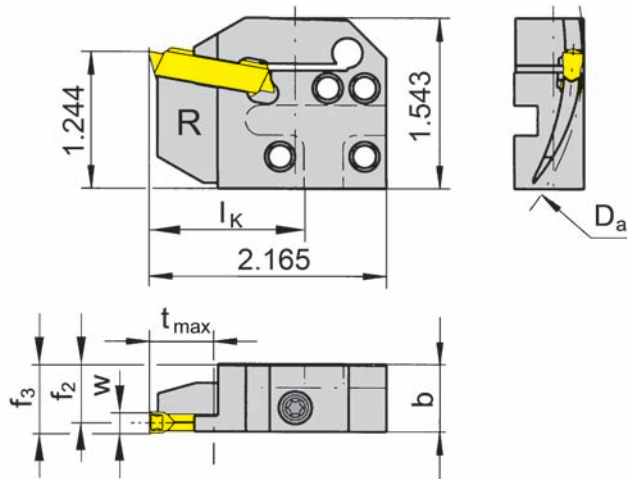
RIK220



| | |
|--------------------------|-----------------|
| Outer groove \emptyset | 2.362 - 11.811" |
| Depth of groove up to | .591" |
| Width of groove up to | .236" |

for use with Indexable insert

Type S229



R = right hand version

| Part number | $D_{a \min}$ | $D_{a \max}$ | t_{\max} | b | f_2 | f_3 | w | l_k |
|-----------------------|--------------|--------------|------------|------|-------|-----------|------|-------|
| RIK220.6575.14 | 2.559 | 2.953 | .394 | | | | | |
| RIK220.7595.14 | 2.953 | 3.740 | .591 | | | | | |
| RIK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .567 | $f_2+w/2$ | .157 | 1.417 |
| RIK220.1318.14 | 5.118 | 7.087 | .591 | | | | | |
| RIK220.1830.14 | 7.087 | 11.811 | .591 | | | | | |
| RIK220.6075.15 | 2.362 | 2.953 | .394 | | | | | |
| RIK220.7595.15 | 2.953 | 3.740 | .591 | | | | | |
| RIK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .547 | $f_2+w/2$ | .197 | 1.417 |
| RIK220.1318.15 | 5.118 | 7.087 | .591 | | | | | |
| RIK220.1830.15 | 7.087 | 11.811 | .591 | | | | | |
| RIK220.6075.16 | 2.362 | 2.953 | .394 | | | | | |
| RIK220.7595.16 | 2.953 | 3.740 | .591 | | | | | |
| RIK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .528 | $f_2+w/2$ | .236 | 1.417 |
| RIK220.1318.16 | 5.118 | 7.087 | .591 | | | | | |
| RIK220.1830.16 | 7.087 | 11.811 | .591 | | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

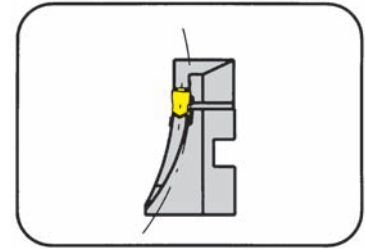
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| RIK220.... | 6.23T25P | T25PQ |

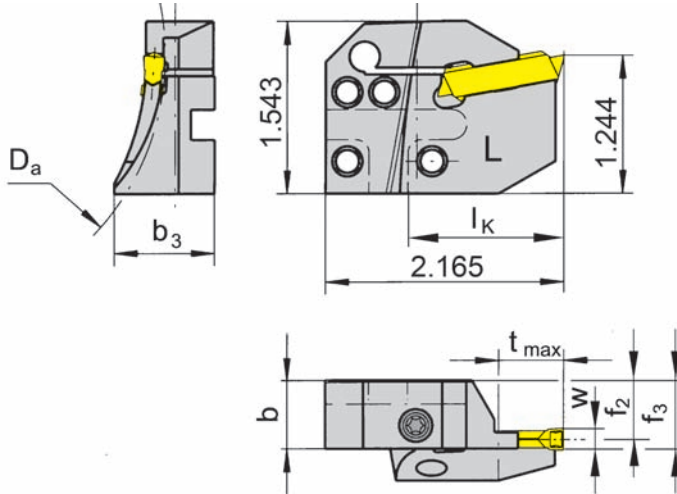


CASSETTE Type

LAK220



Outer groove \varnothing 2.362 - 11.811"
 Depth of groove up to .591"
 Width of groove up to .236"



for use with Indexable insert

Type S229

L = left hand version

| Part number | $D_{a \text{ min}}$ | $D_{a \text{ max}}$ | t_{max} | b | b_3 | f_2 | f_3 | w | l_K |
|----------------|---------------------|---------------------|------------------|------|-------|-------|-----------|------|-------|
| LAK220.6575.14 | 2.559 | 2.953 | .394 | | .906 | | | | |
| LAK220.7595.14 | 2.953 | 3.740 | .591 | | .906 | | | | |
| LAK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .835 | .567 | $f_2+w/2$ | .157 | 1.417 |
| LAK220.1318.14 | 5.118 | 7.087 | .591 | | .835 | | | | |
| LAK220.1830.14 | 7.087 | 11.811 | .591 | | .748 | | | | |
| LAK220.6075.15 | 2.362 | 2.953 | .394 | | .906 | | | | |
| LAK220.7595.15 | 2.953 | 3.740 | .591 | | .906 | | | | |
| LAK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .906 | .547 | $f_2+w/2$ | .197 | 1.417 |
| LAK220.1318.15 | 5.118 | 7.087 | .591 | | .835 | | | | |
| LAK220.1830.15 | 7.087 | 11.811 | .591 | | .748 | | | | |
| LAK220.6075.16 | 2.362 | 2.953 | .394 | | .906 | | | | |
| LAK220.7595.16 | 2.953 | 3.740 | .591 | | .906 | | | | |
| LAK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .906 | .528 | $f_2+w/2$ | .236 | 1.417 |
| LAK220.1318.16 | 5.118 | 7.087 | .591 | | .835 | | | | |
| LAK220.1830.16 | 7.087 | 11.811 | .591 | | .748 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

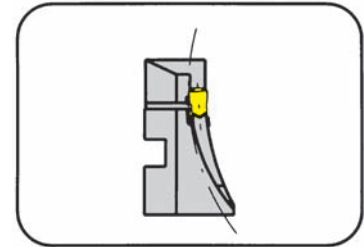
Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK220.... | 6.23T25P | T25PQ |

N84

CASSETTE Type

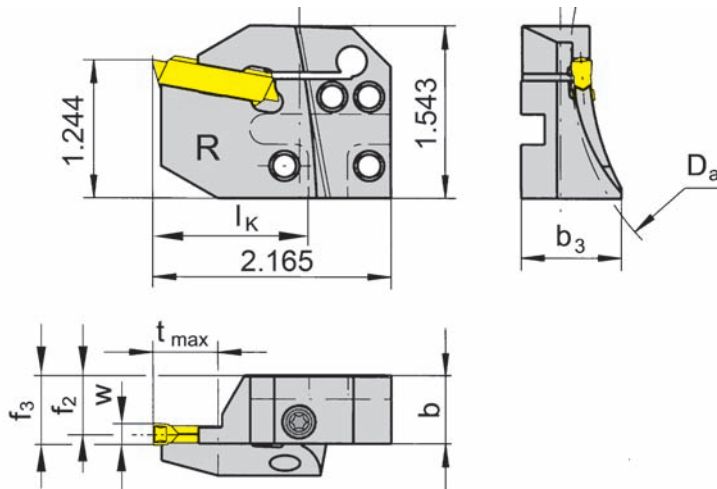
RAK220



Outer groove \varnothing 2.362 - 11.811"
 Depth of groove up to .591"
 Width of groove up to .236"

for use with Indexable insert

Type S229



R = right hand version shown

| Part number | D _{a min} | D _{a max} | t _{max} | b | b ₃ | f ₂ | f ₃ | w | l _k |
|----------------|--------------------|--------------------|------------------|------|----------------|----------------|---------------------|------|----------------|
| RAK220.6575.14 | 2.559 | 2.953 | .394 | | .906 | | | | |
| RAK220.7595.14 | 2.953 | 3.740 | .591 | | .906 | | | | |
| RAK220.9513.14 | 3.740 | 5.118 | .591 | .618 | .835 | .567 | f ₂ +w/2 | .157 | 1.417 |
| RAK220.1318.14 | 5.118 | 7.087 | .591 | | .835 | | | | |
| RAK220.1830.14 | 7.087 | 11.811 | .591 | | .748 | | | | |
| RAK220.6075.15 | 2.362 | 2.953 | .394 | | .906 | | | | |
| RAK220.7595.15 | 2.953 | 3.740 | .591 | | .906 | | | | |
| RAK220.9513.15 | 3.740 | 5.118 | .591 | .618 | .906 | .547 | f ₂ +w/2 | .197 | 1.417 |
| RAK220.1318.15 | 5.118 | 7.087 | .591 | | .835 | | | | |
| RAK220.1830.15 | 7.087 | 11.811 | .591 | | .748 | | | | |
| RAK220.6075.16 | 2.362 | 2.953 | .394 | | .906 | | | | |
| RAK220.7595.16 | 2.953 | 3.740 | .591 | | .906 | | | | |
| RAK220.9513.16 | 3.740 | 5.118 | .591 | .618 | .906 | .528 | f ₂ +w/2 | .236 | 1.417 |
| RAK220.1318.16 | 5.118 | 7.087 | .591 | | .835 | | | | |
| RAK220.1830.16 | 7.087 | 11.811 | .591 | | .748 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

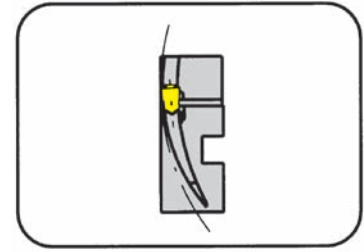
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK220.... | 6.23T25P | T25PQ |

CASSETTE Type

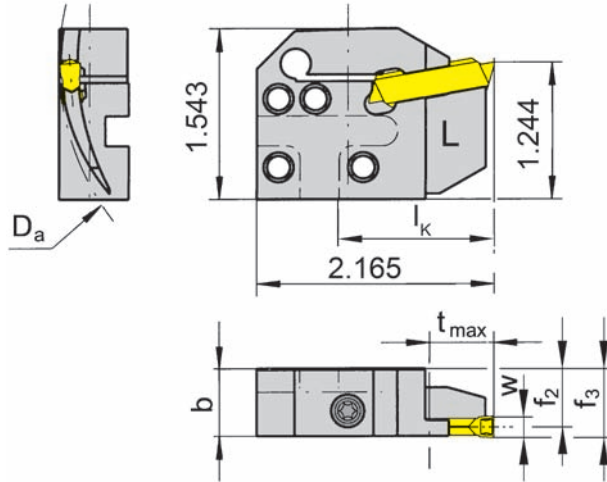
LIK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove up to .236"

for use with Indexable insert

Type S229



L = left hand version

| Part number | $D_{a \text{ min}}$ | t_{max} | $D_{a \text{ max}}$ | t_{max} | b | f_2 | f_3 | w | l_k |
|----------------|---------------------|------------------|---------------------|------------------|------|-------|-----------|------|-------|
| LIK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | | | | |
| LIK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | | | | |
| LIK220.9513.04 | 3.740 | .984 | 5.118 | .984 | .618 | .567 | $f_2+w/2$ | .157 | 1.417 |
| LIK220.1318.04 | 5.118 | .984 | 7.087 | .984 | | | | | |
| LIK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | | | | |
| LIK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | | | | |
| LIK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | | | | |
| LIK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | | | | |
| LIK220.9513.05 | 3.740 | .984 | 5.118 | .984 | .618 | .547 | $f_2+w/2$ | .197 | 1.417 |
| LIK220.1318.05 | 5.118 | .984 | 7.087 | .984 | | | | | |
| LIK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | | | | |
| LIK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | | | | |
| LIK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | | | | |
| LIK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | | | | |
| LIK220.9513.06 | 3.740 | .984 | 5.118 | .984 | .618 | .528 | $f_2+w/2$ | .236 | 1.417 |
| LIK220.1318.06 | 5.118 | .984 | 7.087 | .984 | | | | | |
| LIK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | | | | |
| LIK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

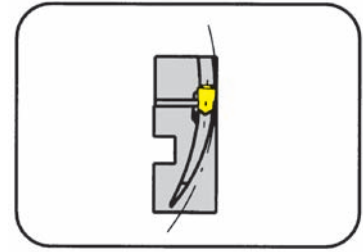
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LIK220.... | 6.23T25P | T25PQ |

N86



CASSETTE Type

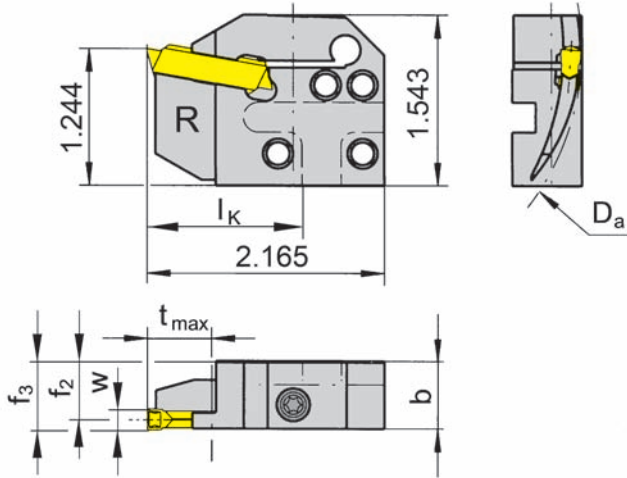
RIK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove up to .236"

for use with Indexable insert

Type S229



R = right hand version

| Part number | $D_{a \min}$ | t_{\max} | $D_{a \max}$ | t_{\max} | b | f_2 | f_3 | w | l_k |
|----------------|--------------|------------|--------------|------------|------|-------|-----------|------|-------|
| RIK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | | | | |
| RIK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | | | | |
| RIK220.9513.04 | 3.740 | .984 | 5.118 | .984 | .618 | .567 | $f_2+w/2$ | .157 | 1.417 |
| RIK220.1318.04 | 5.118 | .984 | 7.087 | .984 | | | | | |
| RIK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | | | | |
| RIK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | | | | |
| RIK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | | | | |
| RIK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | | | | |
| RIK220.9513.05 | 3.740 | .984 | 5.118 | .984 | .618 | .547 | $f_2+w/2$ | .197 | 1.417 |
| RIK220.1318.05 | 5.118 | .984 | 7.087 | .984 | | | | | |
| RIK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | | | | |
| RIK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | | | | |
| RIK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | | | | |
| RIK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | | | | |
| RIK220.9513.06 | 3.740 | .984 | 5.118 | .984 | .618 | .528 | $f_2+w/2$ | .236 | 1.417 |
| RIK220.1318.06 | 5.118 | .984 | 7.087 | .984 | | | | | |
| RIK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | | | | |
| RIK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

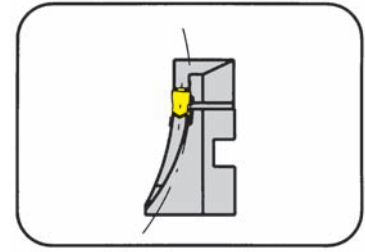
The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

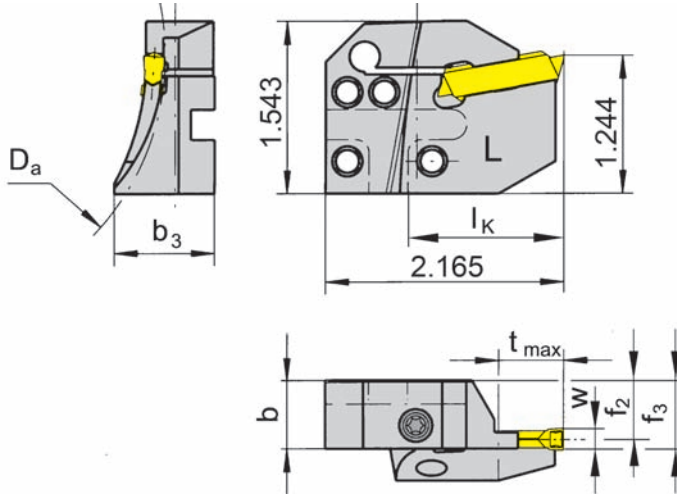
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RIK220.... | 6.23T25P | T25PQ |

CASSETTE Type

LAK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove up to .236"



for use with Indexable insert

Type S229

L = left hand version

| Part number | $D_{a \text{ min}}$ | t_{max} | $D_{a \text{ max}}$ | t_{max} | b | b_3 | f_2 | f_3 | w | l_k |
|----------------|---------------------|------------------|---------------------|------------------|------|-------|-------|-----------|------|-------|
| LAK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | .906 | | | | |
| LAK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | .906 | | | | |
| LAK220.9513.04 | 3.740 | .984 | 5.118 | .984 | | .835 | | | | |
| LAK220.1318.04 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .567 | $f_2+w/2$ | .157 | 1.417 |
| LAK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| LAK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |
| LAK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | .906 | | | | |
| LAK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | .906 | | | | |
| LAK220.9513.05 | 3.740 | .984 | 5.118 | .984 | | .906 | | | | |
| LAK220.1318.05 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .547 | $f_2+w/2$ | .197 | 1.417 |
| LAK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| LAK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |
| LAK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | .906 | | | | |
| LAK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | .906 | | | | |
| LAK220.9513.06 | 3.740 | .984 | 5.118 | .984 | | .906 | | | | |
| LAK220.1318.06 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .528 | $f_2+w/2$ | .236 | 1.417 |
| LAK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| LAK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |

For basic toolholder L...K1 and R...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

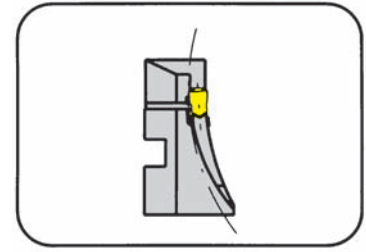
| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| LAK220.... | 6.23T25P | T25PQ |

N88



CASSETTE Type

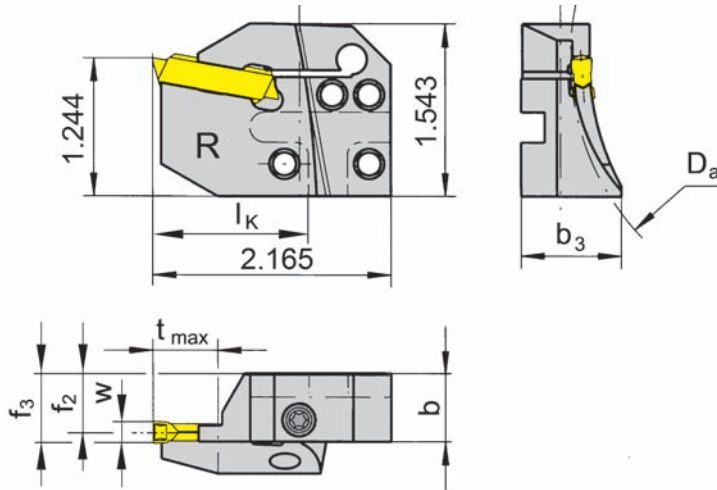
RAK220



Outer groove \varnothing 2.362 - 39.370"
 Depth of groove up to .984"
 Width of groove up to .236"

for use with Indexable insert

Type S229



R = right hand version

| Part number | $D_{a \min}$ | t_{\max} | $D_{a \max}$ | t_{\max} | b | b_3 | f_2 | f_3 | w | l_k |
|----------------|--------------|------------|--------------|------------|------|-------|-------|-----------|------|-------|
| RAK220.6575.04 | 2.559 | .394 | 2.953 | .591 | | .906 | | | | |
| RAK220.7595.04 | 2.953 | .591 | 3.740 | .984 | | .906 | | | | |
| RAK220.9513.04 | 3.740 | .984 | 5.118 | .984 | | .835 | | | | |
| RAK220.1318.04 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .567 | $f_2+w/2$ | .157 | 1.417 |
| RAK220.1830.04 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| RAK220.3000.04 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |
| RAK220.6075.05 | 2.362 | .394 | 2.953 | .669 | | .906 | | | | |
| RAK220.7595.05 | 2.953 | .669 | 3.740 | .984 | | .906 | | | | |
| RAK220.9513.05 | 3.740 | .984 | 5.118 | .984 | | .906 | | | | |
| RAK220.1318.05 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .547 | $f_2+w/2$ | .197 | 1.417 |
| RAK220.1830.05 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| RAK220.3000.05 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |
| RAK220.6075.06 | 2.362 | .394 | 2.953 | .669 | | .906 | | | | |
| RAK220.7595.06 | 2.953 | .669 | 3.740 | .984 | | .906 | | | | |
| RAK220.9513.06 | 3.740 | .984 | 5.118 | .984 | | .906 | | | | |
| RAK220.1318.06 | 5.118 | .984 | 7.087 | .984 | .618 | .835 | .528 | $f_2+w/2$ | .236 | 1.417 |
| RAK220.1830.06 | 7.087 | .984 | 11.811 | .984 | | .835 | | | | |
| RAK220.3000.06 | 11.811 | .984 | 39.370 | .984 | | .661 | | | | |

For basic toolholder R...K1 and L...K2

Further sizes upon request

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RAK220.... | 6.23T25P | T25PQ |

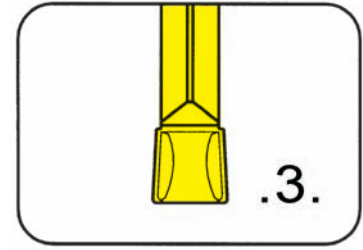
FACE GROOVING



INDEXABLE INSERT Type

S229

with chip former

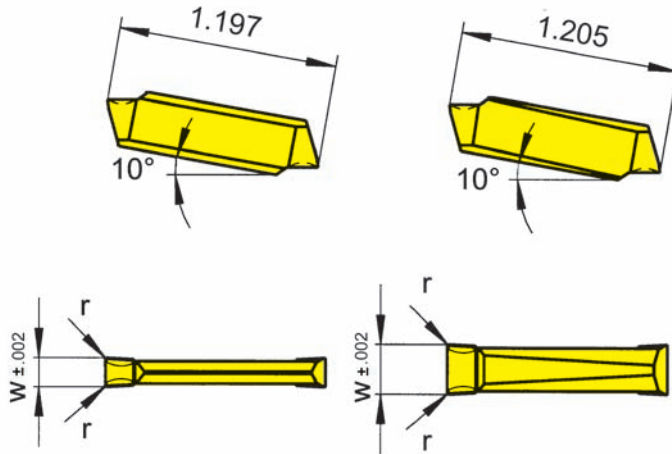


Depth of groove up to .984"
Width of groove .157 - .236"

precision sintered

for use with Cassette

Type L/RAK220
L/RIK220



Width = .157" - .197"

Width = .236"

Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | | | |
|------------------------------|------|------|---------|----------------|------|------|------|------|------|------|------|------|------|
| | | | | H54 | TN32 | TN35 | Ti22 | Ti25 | TF42 | TF45 | TC92 | AS62 | AS66 |
| S229.0400.32 | .157 | .008 | 03 / 04 | ▲ | ▲ | ▲ | ▲ | ▲ | | ▲ | △ | ▲ | ▲ |
| S229.0400.34 | | .016 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0500.34 | .197 | .016 | 04 | | ▲ | ▲ | ▲ | ▲ | | ▲ | △ | ▲ | ▲ |
| S229.0600.34 | .236 | .016 | 05 | | ▲ | ▲ | ▲ | ▲ | | ▲ | △ | ▲ | ▲ |
| S229.0600.38 | | .031 | | | | | | | | | ▲ | ▲ | ▲ |
| S229.0600.36 | .236 | .024 | 06 / 16 | | | | ▲ | | | | | | |
| ▲ on stock △ 4 weeks | | | | P | • | • | • | • | • | • | • | • | • |
| ● main recommendation | | | | M | • | • | • | • | • | • | • | • | ○ |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • | • | • | • |
| ■ uncoated grades | | | | S | • | • | • | • | • | • | • | • | ○ |
| ■ coated grades | | | | N | • | • | • | • | • | • | • | • | • |
| ■ brazed/Cermet | | | | H | | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in right and left hand cassettes L/RAK220 and L/RIK220.



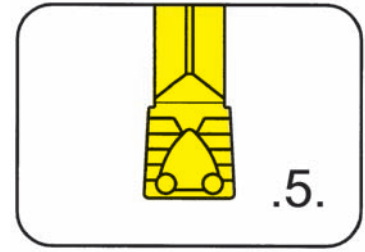
FACE GROOVING



INDEXABLE INSERT Type

S229

with chip forming

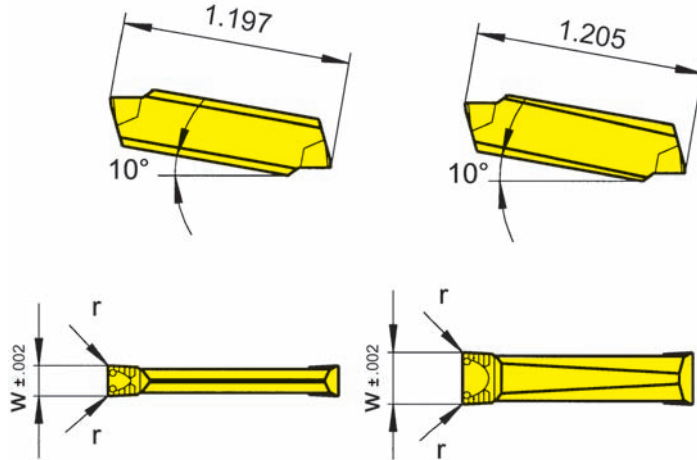


Depth of groove up to .984"
Width of groove .157 - .236"

precision sintered

for use with Cassette

Type L/RAK220
L/RIK220



Width = .157" - .197"

Width = .236"

Indexability length
± .002"

| Part number | w | r | Size | TN32 | TN35 | T122 | T125 | TF45 | TC92 | AS62 |
|------------------------------|------|------|------|--------------|------|------|---------|------|------|------|
| | | | | S229.0400.52 | .157 | .008 | 03 / 04 | ▲ | ▲ | ▲ |
| S229.0400.54 | ▲ | ▲ | ▲ | ▲ | | | | ▲ | ▲ | ▲ |
| S229.0500.54 | .197 | .016 | 04 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.54 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.58 | .236 | .016 | 05 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.58 | | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • | • | • | • |
| ● main recommendation | | | | M | • | • | • | • | • | • |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • |
| ■ uncoated grades | | | | S | • | • | • | • | • | • |
| ■ coated grades | | | | N | • | • | • | • | • | • |
| ■ brazed/Cermet | | | | H | • | • | • | • | • | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in right and left hand cassettes L/RAK220 and L/RIK220.



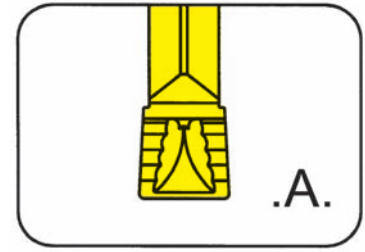
FACE GROOVING



INDEXABLE INSERT Type

S229

with chip forming

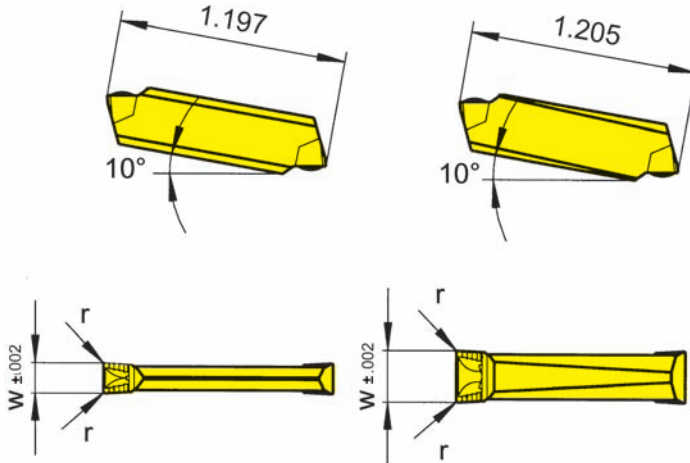


Depth of groove up to .984"
Width of groove .157 - .236"

precision sintered

for use with Cassette

Type L/RAK220
L/RIK220



Width = .157" - .197"

Width = .236"

Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | |
|------------------------------|------|------|---------|----------------|------|------|------|------|------|------|------|
| | | | | TN32 | TN35 | T122 | T125 | TF42 | TF45 | TC92 | AS62 |
| S229.0400.A2 | .157 | .008 | 03 / 04 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0400.A4 | | .016 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0500.A4 | .197 | .016 | 04 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0500.A6 | | .024 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.A4 | .236 | .016 | 05 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0600.A8 | | .031 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • | • | • | • | • |
| ● main recommendation | | | | M | • | • | • | • | • | • | • |
| ○ alternative recommendation | | | | K | • | • | • | • | • | • | • |
| ■ uncoated grades | | | | S | • | • | • | • | • | • | • |
| ■ coated grades | | | | N | • | • | • | • | • | • | • |
| ■ brazed/Cermet | | | | H | • | • | • | • | • | • | • |

Dimensions in inch

Carbide grades

Indexable inserts can be used in right and left hand cassettes L/RAK220 and L/RIK220.



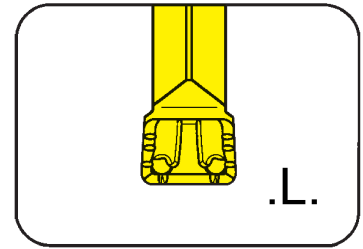
FACE GROOVING



INDEXABLE INSERT Type

S229

with chip forming

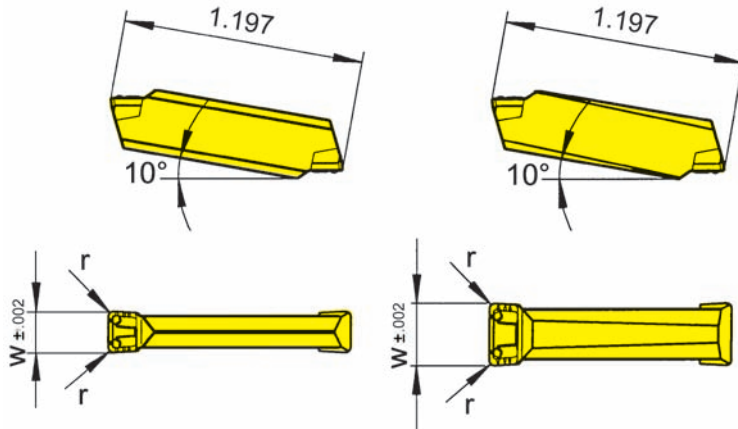


Depth of groove up to .984"
Width of groove .157 - .236"

precision sintered

for use with Cassette

Type L/RAK220
L/RIK220



Width = .157" - .197"

Width = .236"

Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | |
|--|------|--------------|---------|----------------|------|------|------|
| | | | | Tl22 | TF42 | AS62 | AS66 |
| S229.0400.L4 | .157 | .016 | 03 / 04 | ▲ | ▲ | ▲ | |
| S229.0500.L4 S229.0500.L6 | .197 | .016 .024 | 04 | ▲ | ▲ | ▲ | |
| S229.0600.L4 S229.0600.L6 | .236 | .016 .024 | 05 | ▲ | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● |
| | | | | M | ■ | ■ | ○ |
| | | | | K | ■ | ■ | ● |
| | | | | S | ■ | ■ | ○ |
| | | | | N | ■ | ■ | ● |
| | | | | H | ■ | ■ | ■ |

Dimensions in inch

Indexable inserts can be used in right and left hand cassettes L/RAK220 and L/RIK220.



HCG - HORN Catalogue Guide

PROFILING

| Width of profile | Inserts S117... | | | | | | | | |
|------------------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | .0010... | .0012... | .0014... | .0016... | .0018... | .0020... | .0026... | .0032... | .0045... |
| up to inch | .394 | .472 | .551 | .630 | .709 | .787 | 1.024 | 1.260 | 1.772 |
| up to mm | 10 | 12 | 14 | 16 | 18 | 20 | 26 | 32 | 45 |

| Depth of profile | Inserts S117... Angle 5° | | | | | | | | |
|----------------------|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | .0010.00 | .0012.00 | .0014.00 | .0016.00 | .0018.00 | .0020.00 | .0026.00 | .0032.00 | .0045.00 |
| up to .138" (3.5 mm) | • | | | | | | | | |
| up to .177" (4.5 mm) | | • | | | | | | | |
| up to .236" (6 mm) | | | • | • | | | | | |
| up to .256" (6.5 mm) | | | | | | | | • | • |
| up to .354" (9 mm) | | | | | • | • | | | |
| up to .394" (10 mm) | | | | | | | • | | |

| Depth of profile | Inserts S117... Angle 0° | | | | |
|----------------------|-----------------------------|-------------|-------------|-------------|-------------|
| | .0010.02.00 | .0012.02.00 | .0016.02.00 | .0020.02.00 | .0026.02.00 |
| up to .256" (6.5 mm) | • | | | | |
| up to .295" (7.5 mm) | | • | | | |
| up to .354" (9 mm) | | | • | | |
| up to .472" (12 mm) | | | | • | |
| up to .512" (13 mm) | | | | | • |

Chapter

0

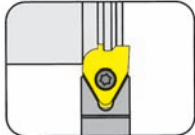
Profiling ○

Angle / Width

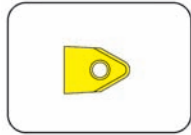
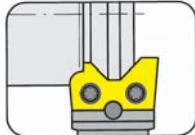
Toolholder

Inserts

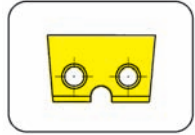
System H117
5° / 10 - 45 mm



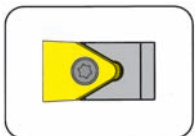
Page O2-O13



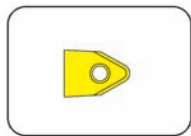
Page O16-O17



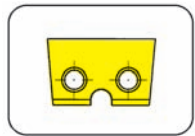
System H117 for PWP
5° / 10 - 45 mm



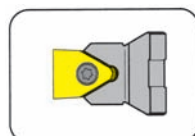
Page O14



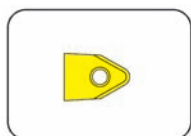
Page O16-O17



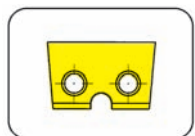
System H117 for AWN
5° / 10 - 45 mm



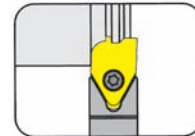
Page O15



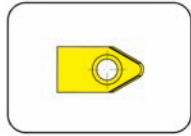
Page O16-O17



System H117
0° / 10 - 26 mm



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Page O23

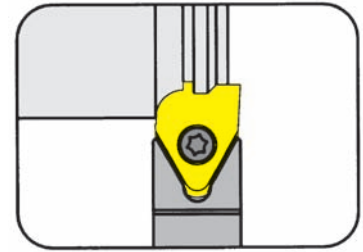
For Technical Information please see chapter Q



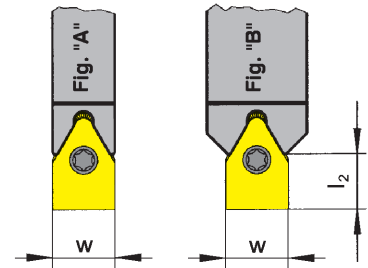
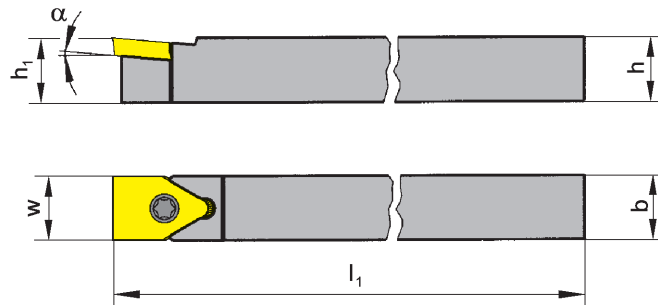
TOOLHOLDER Type

HU117

5° rake angle



Depth of profile up to .138"
Width of profile up to .394"



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|---------------|----------|--------|------|-------|------|-------|-------|------|----------------------|
| HU117.0375.10 | 5° | A | .375 | .375 | .375 | 4.000 | - | | |
| HU117.0500.10 | 5° | B | .500 | .500 | .500 | 5.000 | .354 | .394 | S117.0010.00 |
| HU117.0625.10 | 5° | B | .625 | .625 | .635 | 6.000 | .354 | | |

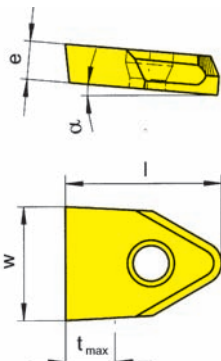
Dimensions in inch

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-----------------------------|---|------------------------------|
| HU117.0375.10 HU117...10 | 030.400P.0227 4.09T15P | T15PQ T15PQ |

INSERT Type

S117.0010.00



Semi finished insert: Only contact areas and main cutting edge ground.

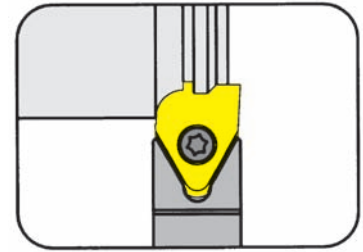
Dimensions in inch

| Part number | α | w | e | l | t_{max} | Toolholder |
|--------------|----------|------|------|------|-----------|------------|
| S117.0010.00 | 5° | .394 | .118 | .630 | .138 | HU117...10 |

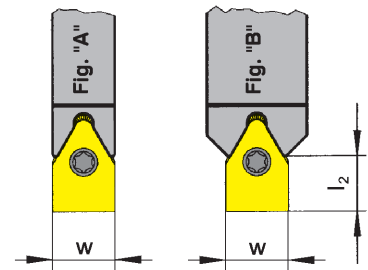
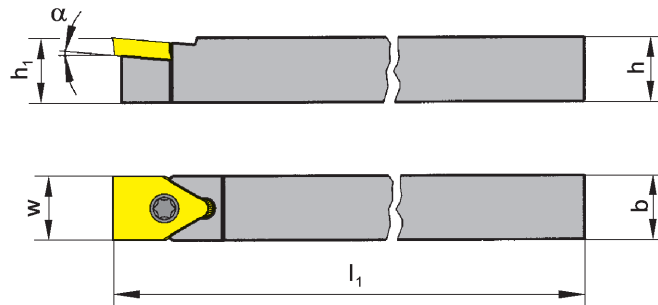
TOOLHOLDER Type

H117

5° rake angle



Depth of profile up to .138" (3.5 mm)
Width of profile up to .394" (10.0 mm)



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|--------------|----------|--------|----|-------|----|-------|-------|----|----------------------|
| H117.1010.10 | 5° | A | 10 | 10 | 10 | 100 | - | | |
| H117.1212.10 | 5° | B | 12 | 12 | 12 | 125 | 9 | 10 | S117.0010.00 |
| H117.1616.10 | 5° | B | 16 | 16 | 16 | 125 | 9 | | |

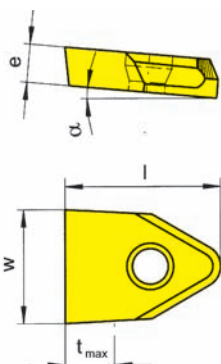
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|----------------------|-------------------|
| H117.1010.10 | 030.400P.0227 | T15PQ |
| H117...10 | 4.09T15P | T15PQ |

INSERT Type

S117.0010.00



Semi finished insert: Only contact areas and main cutting edge ground.

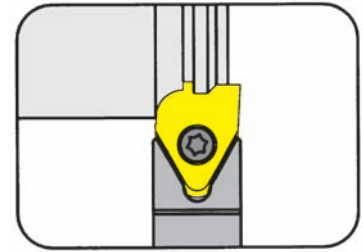
Dimensions in mm

| Part number | α | w | e | l | t_{max} | Toolholder |
|--------------|----------|----|---|----|-----------|------------|
| S117.0010.00 | 5° | 10 | 3 | 16 | 3,5 | H117...10 |

TOOLHOLDER Type

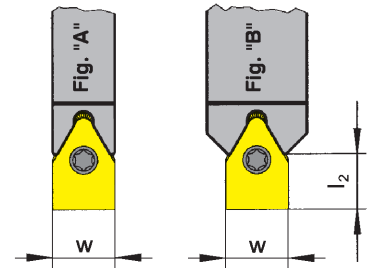
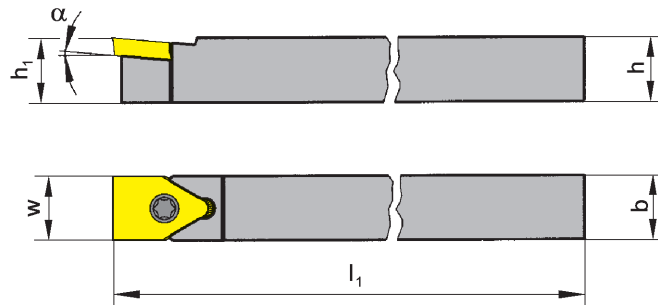
HU117

5° rake angle



Depth of profile up to
Width of profile up to

.177"
.472"



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|---------------|----------|--------|------|-------|------|-------|-------|------|----------------------|
| HU117.0500.12 | 5° | A | .500 | .500 | .500 | 5.000 | - | | |
| HU117.0625.12 | 5° | B | .625 | .625 | .625 | 5.000 | .315 | .472 | S117.0012.00 |
| HU117.0750.12 | 5° | B | .750 | .750 | .750 | 6.000 | .315 | | |

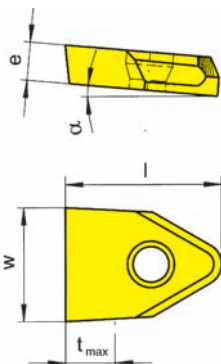
Dimensions in inch

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| HU117...12 | 4.09T15P | T15PQ |

INSERT Type

S117.0012.00



Semi finished insert: Only contact areas and main cutting edge ground.

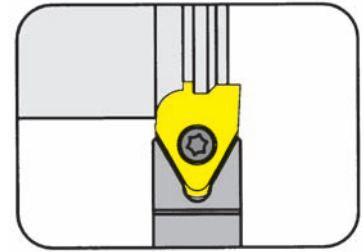
Dimensions in inch

| Part number | α | w | e | l | t_{max} | Toolholder |
|-----------------|----------|------|------|------|-----------|------------|
| S117.0012.02.00 | 5° | .472 | .177 | .669 | .177 | HU117...12 |

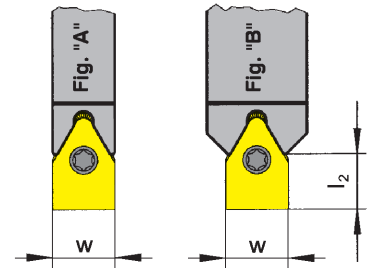
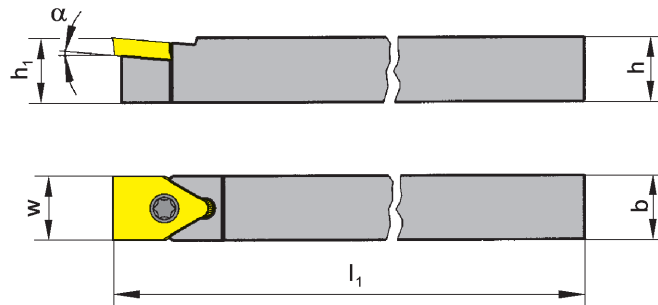
TOOLHOLDER Type

H117

5° rake angle



Depth of profile up to .177" (4.5 mm)
Width of profile up to .472" (12.0 mm)



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|--------------|----------|--------|----|-------|----|-------|-------|----|----------------------|
| H117.1212.12 | 5° | A | 12 | 12 | 12 | 125 | - | 12 | S117.0012.00 |
| H117.1414.12 | 5° | B | 14 | 14 | 14 | 125 | 8 | | |
| H117.1612.12 | 5° | A | 16 | 16 | 12 | 125 | - | | |
| H117.1616.12 | 5° | B | 16 | 16 | 16 | 125 | 8 | | |
| H117.2020.12 | 5° | B | 20 | 20 | 20 | 150 | 8 | | |

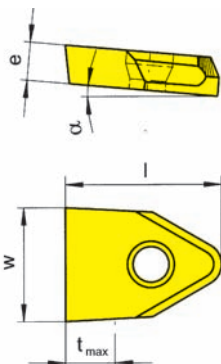
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| H117...12 | 4.09T15P | T15PQ |

INSERT Type

S117.0012.00



Semi finished insert: Only contact areas and main cutting edge ground.

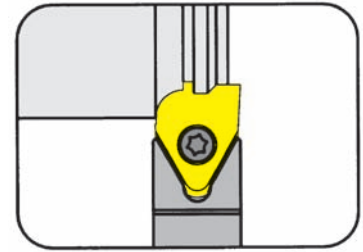
Dimensions in mm

| Part number | α | w | e | l | t_{max} | Toolholder |
|--------------|----------|----|-----|----|-----------|------------|
| S117.0012.00 | 5° | 12 | 4,5 | 17 | 4,5 | H117...12 |

TOOLHOLDER Type

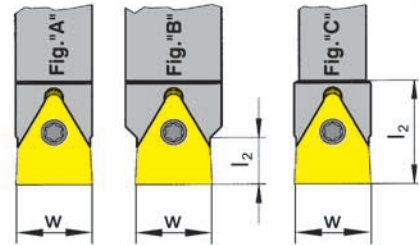
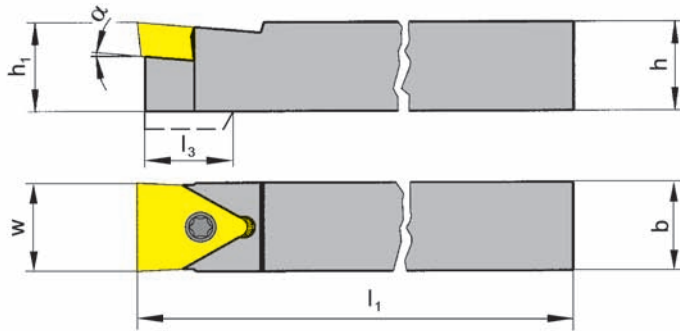
HU117

5° rake angle



Depth of profile up to
Width of profile up to

.236"
.630"



| Part number | α | Figure | h | h ₁ | b | l ₁ | l ₂ | l ₃ | w | Semi finished insert |
|---------------|----------|--------|------|----------------|------|----------------|----------------|----------------|--------------|------------------------------|
| HU117.0500.16 | 5° | C | .500 | .500 | .500 | 5.000 | .866 | .709 | .551 .630 | S117.0014.00 S117.0016.00 |
| HU117.0625.16 | 5° | B A | .625 | .625 | .625 | 5.000 | .393 - | - | .551 .630 | S117.0014.00 S117.0016.00 |
| HU117.0750.16 | 5° | B | .750 | .750 | .750 | 6.000 | .393 .433 | - | .551 .630 | S117.0014.00 S117.0016.00 |

Dimensions in inch

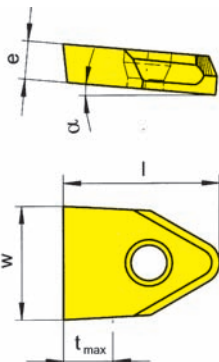
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| HU117...16 | 5.12T20P | T20PQ |

INSERT Type

S117.0014.00

S117.0016.00



Semi finished insert: Only contact areas and main cutting edge ground.

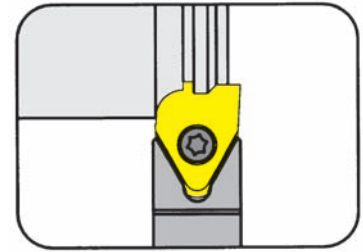
Dimensions in inch

| Part number | α | w | e | l | t _{max} | Toolholder |
|------------------------------|----------|----------|---|----|------------------|------------|
| S117.0014.00 S117.0016.00 | 5° | 14 16 | 6 | 21 | 6 | HU117...16 |

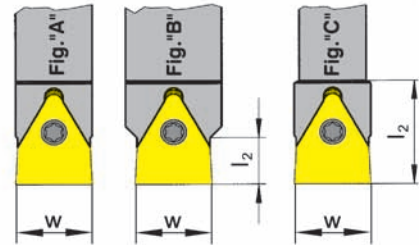
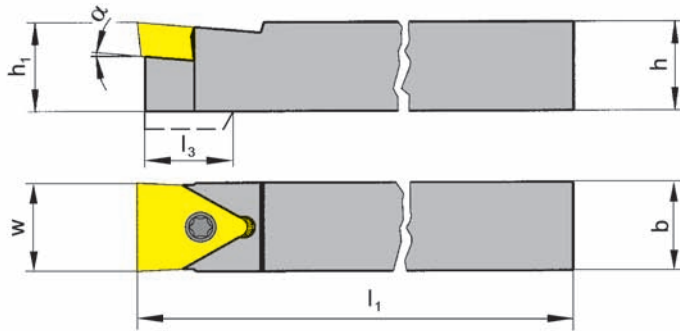
TOOLHOLDER Type

H117

5° rake angle



Depth of profile up to .236" (6 mm)
Width of profile up to 630" (16 mm)



| Part number | α | Figure | h | h ₁ | b | l ₁ | l ₂ | l ₃ | w | Semi finished insert |
|---------------------|----------|--------|----|----------------|----|----------------|----------------|----------------|----------|------------------------------|
| H117.1414.16 | 5° | C | 14 | 14 | 14 | 125 | 22 | 18 | 14 16 | S117.0014.00 S117.0016.00 |
| H117.1616.16 | 5° | B A | 16 | 16 | 16 | 125 | 11 - | - | 14 16 | S117.0014.00 S117.0016.00 |
| H117.2020.16 | 5° | B | 20 | 20 | 20 | 150 | 11 11 | - | 14 16 | S117.0014.00 S117.0016.00 |
| H117.2525.16 | 5° | B | 25 | 25 | 25 | 150 | 11 | - | 14 16 | S117.0014.00 S117.0016.00 |

Spare parts

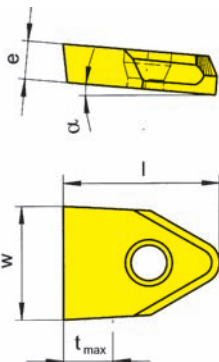
Dimensions in mm

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| H117...16 | 5.12T20P | T20PQ |

INSERT Type

S117.0014.00

S117.0016.00



Semi finished insert: Only contact areas and main cutting edge ground.

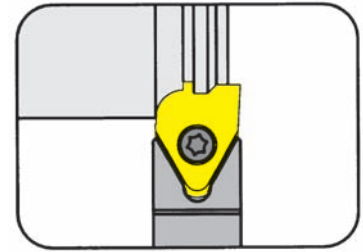
Dimensions in mm

| Part number | α | w | e | l | t _{max} | Toolholder |
|--|----------|----------|---|----|------------------|------------|
| S117.0014.00 S117.0016.00 | 5° | 14 16 | 6 | 21 | 6 | H117...16 |

TOOLHOLDER Type

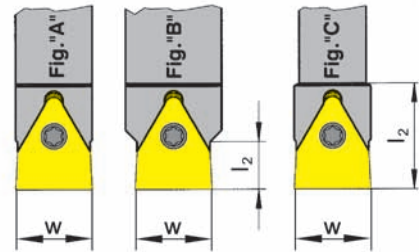
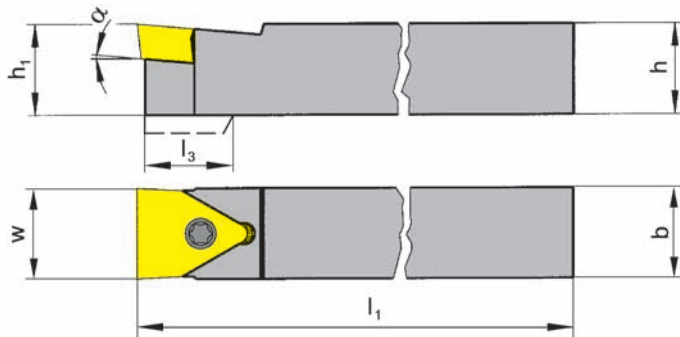
HU117

5° rake angle



Depth of profile up to
Width of profile up to

.354"
.787"



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | l_3 | w | Semi finished insert |
|---------------|----------|--------|-------|-------|-------|-------|--------------|--------|--------------|------------------------------|
| HU117.0625.20 | 5° | C | .625 | .625 | .625 | 5.000 | 1.181 | .906 | .708 .787 | S117.0018.00 S117.0020.00 |
| HU117.0750.20 | 5° | B A | .750 | .750 | .750 | 6.000 | .591 - | - - | .708 .787 | S117.0018.00 S117.0020.00 |
| HU117.1000.20 | 5° | B | 1.000 | 1.000 | 1.000 | 6.000 | .591 .630 | - - | .708 .787 | S117.0018.00 S117.0020.00 |

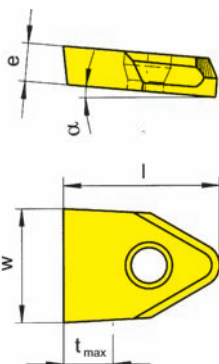
Dimensions in inch

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| HU117...20 | 6.17T20P | T20PQ |

INSERT Type

S117.0018.00 S117.0020.00



Semi finished insert: Only contact areas and main cutting edge ground.

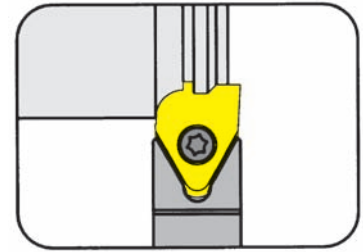
Dimensions in inch

| Part number | α | w | e | l | t_{max} | Toolholder |
|------------------------------|----------|--------------|------|-------|-----------|------------|
| S117.0018.00 S117.0020.00 | 5° | .708 .787 | .276 | 1.142 | .354 | HU117...20 |

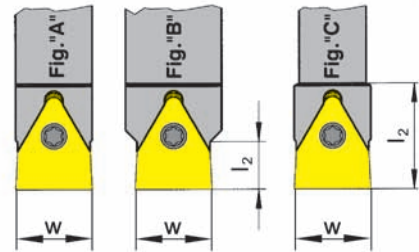
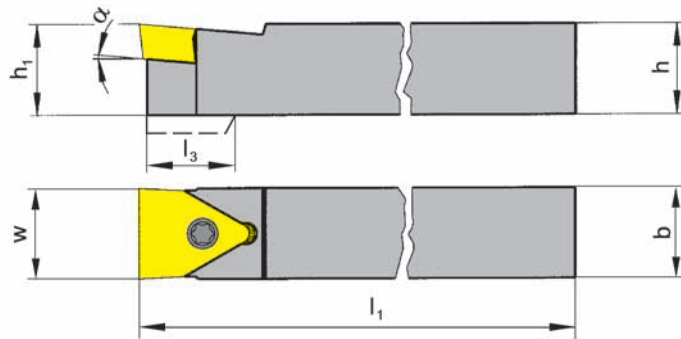
TOOLHOLDER Type

H117

5° rake angle



Depth of profile up to .354" (9 mm)
Width of profile up to .787" (20 mm)



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | l_3 | w | Semi finished insert |
|--------------|----------|--------|----|-------|----|-------|----------|--------|----------|------------------------------|
| H117.1616.20 | 5° | C | 16 | 16 | 16 | 125 | 30 | 23 | 18 20 | S117.0018.00 S117.0020.00 |
| H117.2020.20 | 5° | B A | 20 | 20 | 20 | 150 | 15 - | - - | 18 20 | S117.0018.00 S117.0020.00 |
| H117.2525.20 | 5° | B | 25 | 25 | 25 | 150 | 15 16 | - - | 18 20 | S117.0018.00 S117.0020.00 |

Dimensions in mm

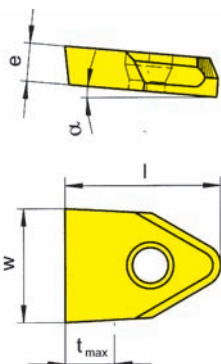
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| H117...20 | 6.17T20P | T20PQ |

INSERT Type

S117.0018.00

S117.0020.00



Semi finished insert: Only contact areas and main cutting edge ground.

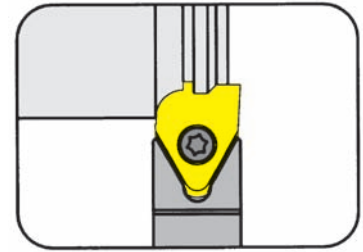
Dimensions in mm

| Part number | α | w | e | l | t_{max} | Toolholder |
|------------------------------|----------|----------|---|----|-----------|------------|
| S117.0018.00 S117.0020.00 | 5° | 18 20 | 7 | 29 | 9 | H117...20 |

TOOLHOLDER Type

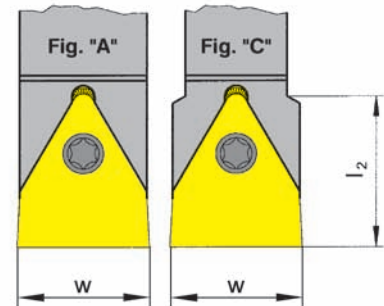
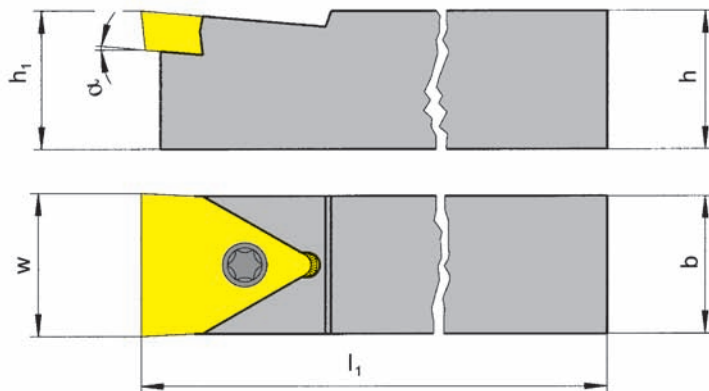
HU117

5° rake angle



Depth of profile up to
Width of profile up to

.394"
1.024"



| Part number | α | Figure | h | h ₁ | b | l ₁ | l ₂ | w | Semi finished insert |
|---------------|----------|--------|-------|----------------|-------|----------------|----------------|-------|----------------------|
| HU117.0750.26 | 5° | C | .750 | .750 | .750 | 6.000 | 1.181 | 1.024 | S117.0026.00 |
| HU117.1000.26 | | A | 1.000 | 1.000 | 1.000 | | - | | |

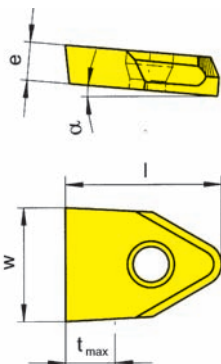
Dimensions in inch

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------------|-------------------|
| H117...26 | 6.17T20P | T20PQ |

INSERT Type

S117.0026.00



Semi finished insert: Only contact areas and main cutting edge ground.

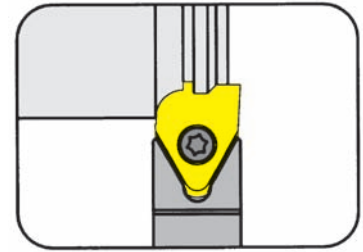
Dimensions in inch

| Part number | α | w | e | l | t _{max} | Toolholder |
|---------------------|----------|-------|------|-------|------------------|------------|
| S117.0026.00 | 5° | 1.024 | .278 | 1.260 | .394 | HU117...26 |

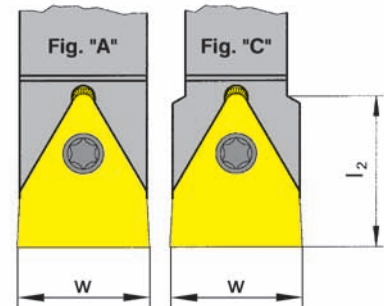
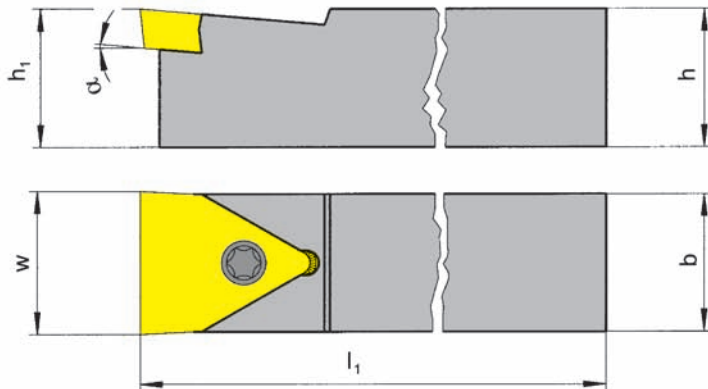
TOOLHOLDER Type

H117

5° rake angle



Depth of profile up to .394" (13 mm)
Width of profile up to 1.024" (26 mm)



| Part number | α | Figure | h | h ₁ | b | l ₁ | l ₂ | w | Semi finished insert |
|--------------|----------|--------|----|----------------|----|----------------|----------------|----|----------------------|
| H117.2020.26 | 5° | C | 20 | 20 | 20 | 150 | 30 | 26 | S117.0026.00 |
| H117.2525.26 | 5° | A | 25 | 25 | 25 | 150 | - | 26 | |

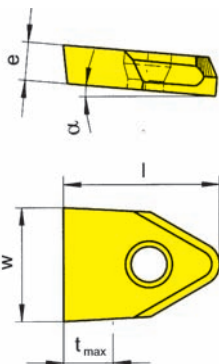
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| H117...26 | 6.17T20P | T20PQ |

INSERT Type

S117.0026.00



Semi finished insert: Only contact areas and main cutting edge ground.

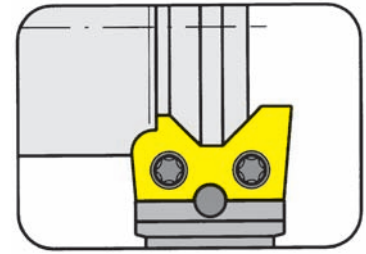
Dimensions in mm

| Part number | α | w | e | l | t _{max} | Toolholder |
|--------------|----------|----|---|----|------------------|------------|
| S117.0026.00 | 5° | 26 | 7 | 32 | 10 | H117...26 |

TOOLHOLDER Type

HU117

5° rake angle

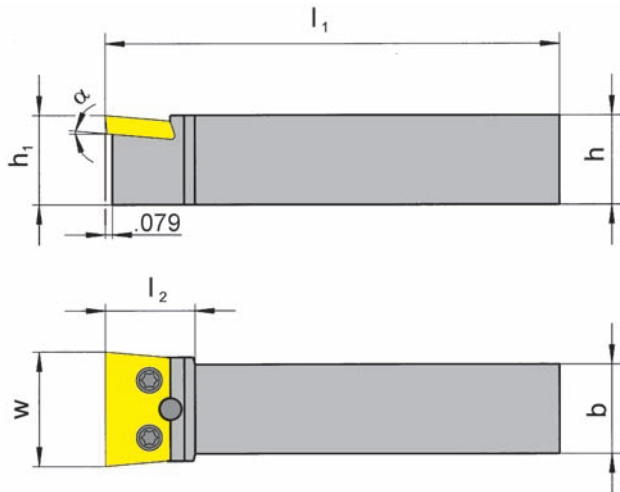


Depth of form up to
Width of form up to

.255"
1.772"

for use with Insert

Type S117



| Part number | α | h | h ₁ | b | l ₁ | l ₂ | w | Semi finished insert |
|---------------|----------|-------|----------------|-------|----------------|----------------|-------|----------------------|
| HU117.0750.32 | 5° | .750 | .750 | .750 | 5.000 | 1.000 | 1.260 | S117.0032.00 |
| HU117.1000.32 | | 1.000 | 1.000 | 1.000 | | | | |
| HU117.1000.45 | 5° | 1.000 | 1.000 | 1.000 | 5.000 | 1.063 | 1.772 | S117.0045.00 |
| HU117.1250.45 | | 1.250 | 1.250 | 1.250 | | | | |

Further angles upon request

Dimensions in inch

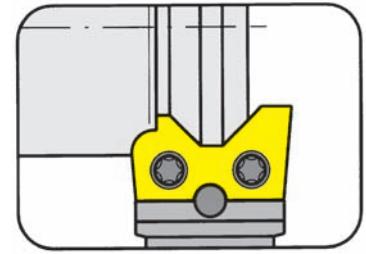
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| HU117.... | 5.12T20P | T20PQ |

TOOLHOLDER Type

H117

5° rake angle

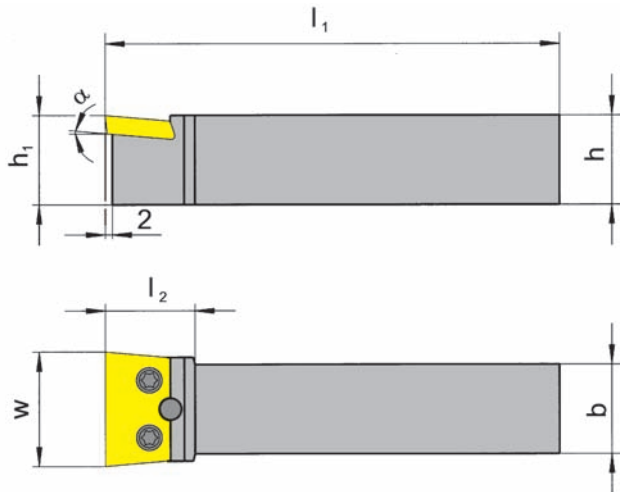


Depth of form up to
Width of form up to

.256" (6.5 mm)
1.772" (45.0 mm)

for use with Insert

Type S117



| Part number | α | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|--------------|----------|----|-------|----|-------|-------|----|----------------------|
| H117.2020.32 | 5° | 20 | 20 | 20 | 150 | 25 | 32 | S117.0032.00 |
| H117.2525.32 | | 25 | 25 | 25 | | | | |
| H117.2525.45 | 5° | 25 | 25 | 25 | 150 | 27 | 45 | S117.0045.00 |
| H117.3232.45 | | 32 | 32 | 32 | | | | |

Further angles upon request

Dimensions in mm

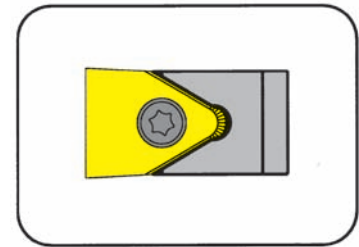
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| H117.... | 5.12T20P | T20PQ |

TOOLHOLDER Type

H117

5° rake angle

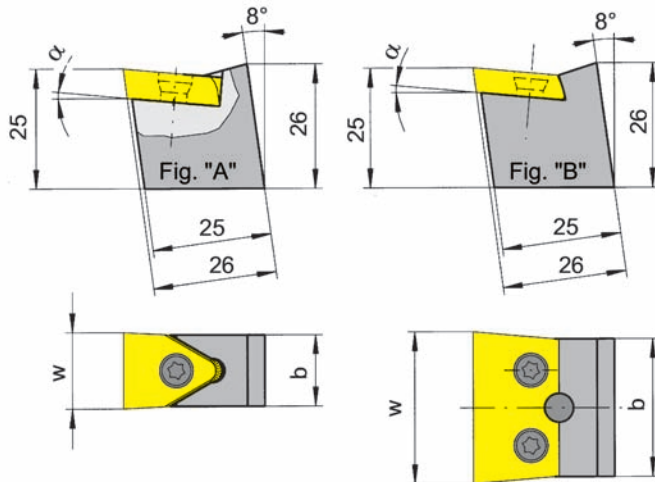


Depth of form up to
Width of form up to

.256" (6.5 mm)
1.772" (45.0 mm)

for use with Insert

Type S117



with PWP-System

| Part number | α | Figure | b | w | Semi finished insert |
|-------------|----------|--------|----|----|----------------------|
| H117.PWP.10 | 5° | A | 10 | 10 | S117.0010.00 |
| H117.PWP.12 | 5° | A | 12 | 12 | S117.0012.00 |
| H117.PWP.16 | 5° | A | 16 | 16 | S117.0014/16.00 |
| H117.PWP.32 | 5° | B | 28 | 32 | S117.0032.00 |
| H117.PWP.45 | 5° | B | 42 | 45 | S117.0045.00 |

Further angles upon request

Dimensions in mm

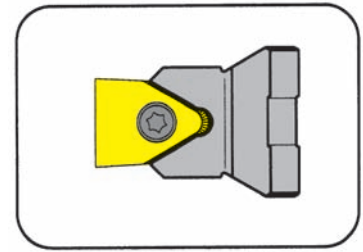
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|----------|-------------------|
| H117.PWP.10/12 | 4.09T15P | T15PQ |
| H117.PWP.16/32/45 | 5.12T20P | T20PQ |

TOOLHOLDER Type

H117

5° rake angle

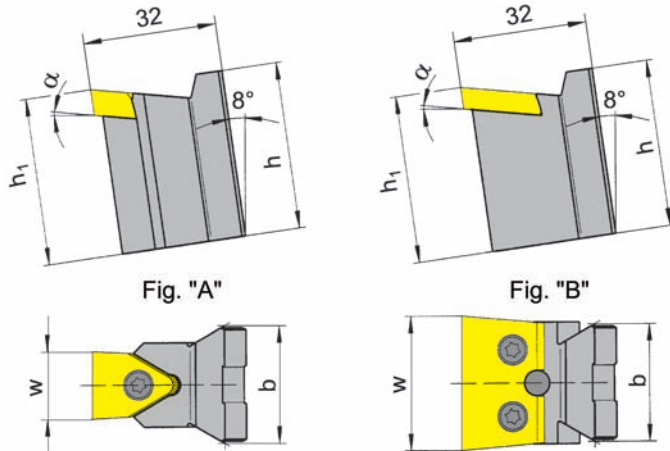


Depth of form up to
Width of form up to

.394" (10.0 mm)
1.772" (45.0 mm)

for use with Insert

Type S117



with AWN-System

| Part number | α | Figure | h | h_1 | b | w | t_{max} | Semi finished insert |
|------------------------------|----------|--------|----|-------|----------|----|-----------|----------------------|
| H117.AW20.10 H117.AW28.10 | 5° | A | 36 | 40 | 20 28 | 10 | 3.5 | S117.0010.00 |
| H117.AW20.12 H117.AW28.12 | 5° | A | 36 | 40 | 20 28 | 12 | 4.5 | S117.0012.00 |
| H117.AW20.16 H117.AW28.16 | 5° | A | 36 | 40 | 20 28 | 16 | 6.5 | S117.0014/16.00 |
| H117.AW28.20 | 5° | A | 36 | 40 | 28 | 20 | 9.0 | S117.0018/20.00 |
| H117.AW28.26 | 5° | A | 36 | 40 | 28 | 26 | 10.0 | S117.0026.00 |
| H117.AW28.32 | 5° | B | 36 | 40 | 28 | 32 | 6.5 | S117.0032.00 |
| H117.AW40.45 | 5° | B | 50 | 50 | 40 | 45 | 6.5 | S117.0045.00 |

Further angles upon request

Dimensions in mm

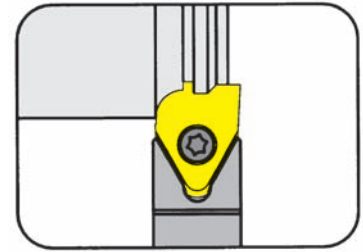
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------------|-----------------|-------------------|
| H117.AW2...10/12 | 4.09T15P | T15PQ |
| H117.AW...16/32/45 | 5.12T20P | T20PQ |
| H117.AW28.20/26 | 6.17T20P | T20PQ |

INSERT Type

S117

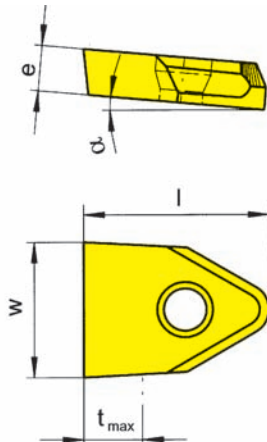
5° rake angle



Depth of form up to .394"
Width of form up to 1.024"

for use with Toolholder

Type H117
HU117



OVERVIEW
Semi finished insert

| Part number | α | w | e | l | t _{max} | Toolholder | MG12 | H54 |
|--------------|----------|-------|------|-------|------------------|------------|------|-----|
| S117.0010.00 | 5° | .394 | .118 | .630 | .138 | H117...10 | ▲ | |
| S117.0012.00 | 5° | .472 | .177 | .669 | .177 | H117...12 | ▲ | ▲ |
| S117.0014.00 | 5° | .551 | .236 | .827 | .236 | H117...16 | ▲ | |
| S117.0016.00 | 5° | .630 | .236 | .827 | .236 | H117...16 | ▲ | |
| S117.0018.00 | 5° | .709 | .276 | 1.142 | .354 | H117...20 | ▲ | |
| S117.0020.00 | 5° | .787 | .276 | 1.142 | .354 | H117...20 | ▲ | |
| S117.0026.00 | 5° | 1.024 | .276 | 1.260 | .394 | H117...26 | ▲ | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | |
|---|---|---|
| P | ○ | ● |
| M | ● | ● |
| K | ● | ● |
| S | ● | ● |
| N | ● | ● |
| H | | |

Further sizes upon request

Dimensions in inch

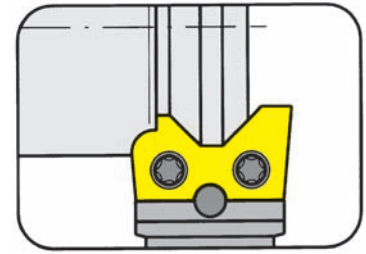


Profile inserts upon request

INSERT Type

S117

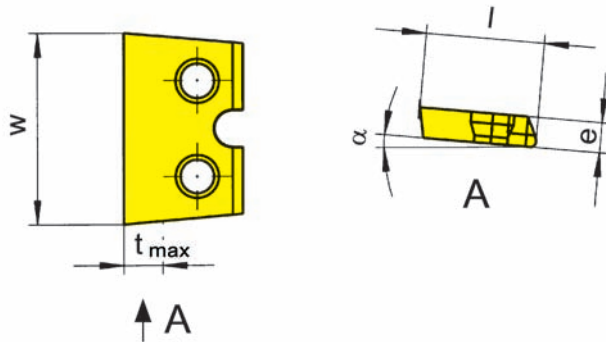
5° rake angle



Depth of form up to .256"
Width of form up to 1.772"

for use with Toolholder

Type H117
HU117



OVERVIEW
Semi finished insert

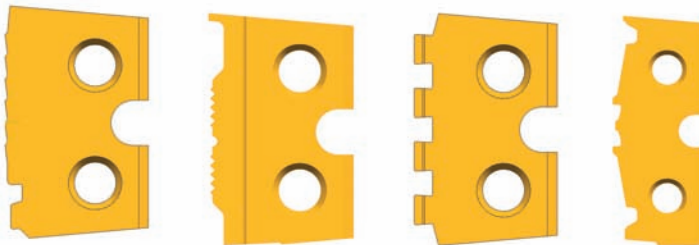
| Part number | α | w | e | l | t _{max} | Toolholder | MG12 |
|--------------|----------|-------|------|------|------------------|------------|------|
| S117.0032.00 | 5° | 1.260 | .197 | .776 | .256 | H117...32 | ▲ |
| S117.0045.00 | 5° | 1.772 | .197 | .776 | .256 | H117...45 | ▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | |
|---|---|
| P | ○ |
| M | ● |
| K | ● |
| S | ● |
| N | ● |
| H | ● |

Further sizes upon request

Dimensions in inch

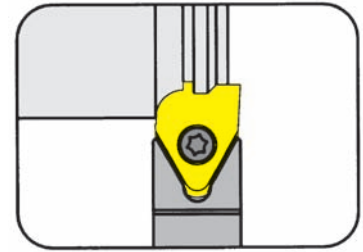


Profile inserts upon request

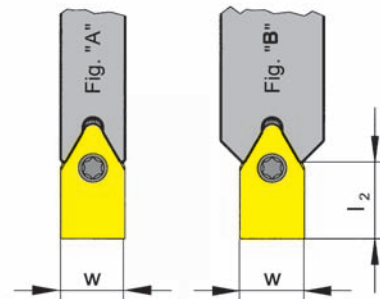
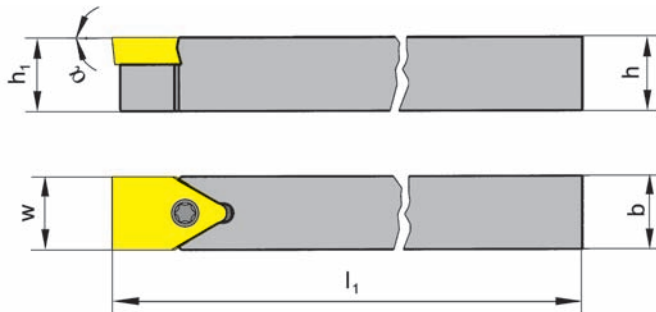
TOOLHOLDER Type

H117

0° rake angle



Depth of profile up to .256" (6.5 mm)
Width of profile up to .394" (10.0 mm)



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|-----------------|----------|--------|----|-------|----|-------|-------|----|----------------------|
| H117.1010.02.10 | 0° | A | 10 | 10 | 10 | 100 | - | | |
| H117.1212.02.10 | 0° | B | 12 | 12 | 12 | 125 | 12 | 10 | S117.0010.02.00 |
| H117.1616.02.10 | 0° | B | 16 | 16 | 16 | 125 | 12 | | |

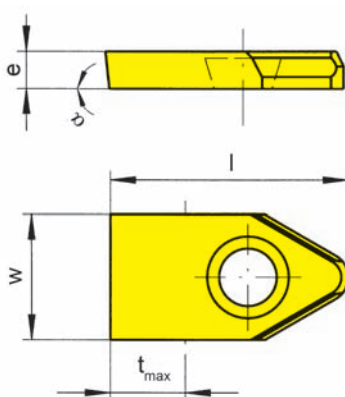
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| H117...02.10 | 4.09T15P | T15PQ |

INSERT Type

S117.0010.02.00



Semi finished insert: Only contact areas and main cutting edge ground.

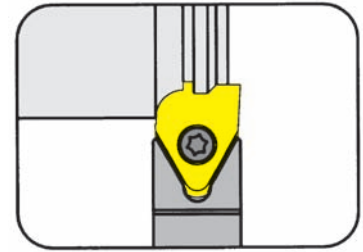
Dimensions in mm

| Part number | α | w | e | l | t_{max} | Toolholder |
|-----------------|----------|----|---|----|-----------|--------------|
| S117.0010.02.00 | 0° | 10 | 3 | 19 | 6,5 | H117...02.10 |

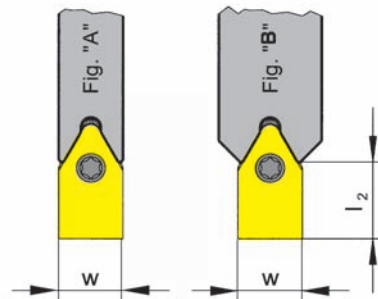
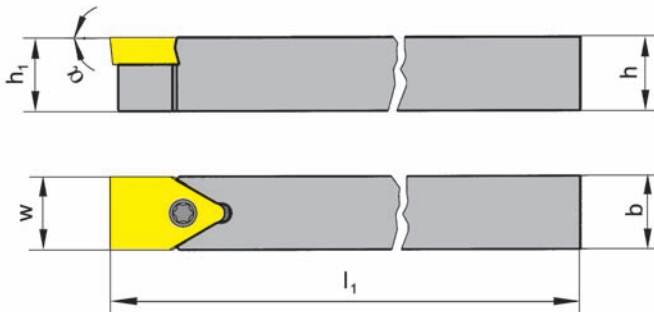
TOOLHOLDER Type

H117

0° rake angle



Depth of profile up to .295" (7.5 mm)
Width of profile up to .472" (12.0 mm)



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|-----------------|----------|--------|----|-------|----|-------|-------|----|----------------------|
| H117.1212.02.12 | 0° | A | 12 | 12 | 12 | 125 | - | | S117.0012.02.00 |
| H117.1616.02.12 | 0° | B | 16 | 16 | 16 | 125 | 11 | 12 | |
| H117.2020.02.12 | 0° | B | 20 | 20 | 20 | 150 | 11 | | |

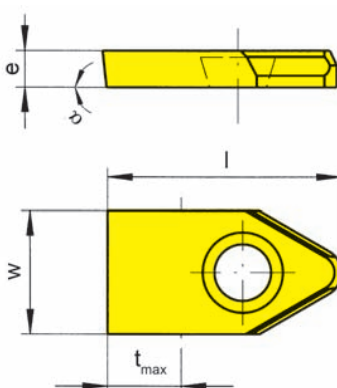
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| H117...02.12 | 4.09T15P | T15PQ |

INSERT Type

S117.0012.02.00



Semi finished insert: Only contact areas and main cutting edge ground.

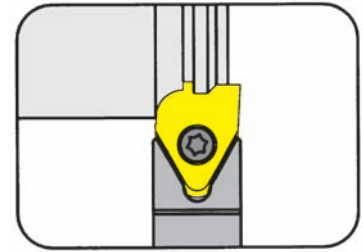
Dimensions in mm

| Part number | α | w | e | l | t_{max} | Toolholder |
|-----------------|----------|----|-----|----|-----------|--------------|
| S117.0012.02.00 | 0° | 12 | 4,5 | 20 | 7,5 | H117...02.12 |

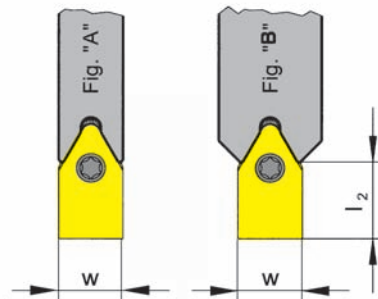
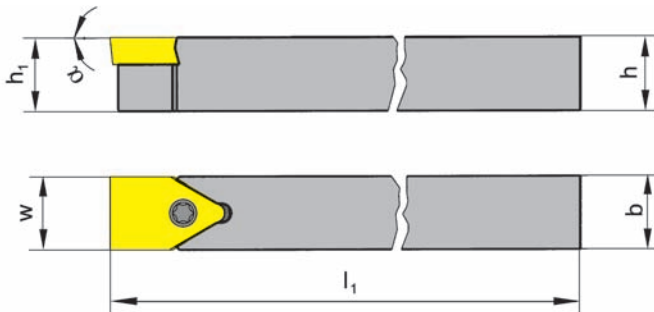
TOOLHOLDER Type

H117

0° rake angle



Depth of profile up to .354" (9 mm)
Width of profile up to .630" (16 mm)



| Part number | α | Figure | h | h_1 | b | l_1 | l_2 | w | Semi finished insert |
|-----------------|----------|--------|----|-------|----|-------|-------|----|----------------------|
| H117.1616.02.16 | 0° | A | 16 | 16 | 16 | 125 | - | 16 | S117.0016.02.00 |
| H117.2020.02.16 | 0° | B | 20 | 20 | 20 | 150 | 14 | 16 | |

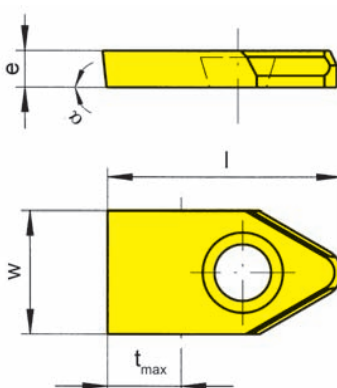
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| H117...02.16 | 5.12T20P | T20PQ |

INSERT Type

S117.0016.02.00



Semi finished insert: Only contact areas and main cutting edge ground.

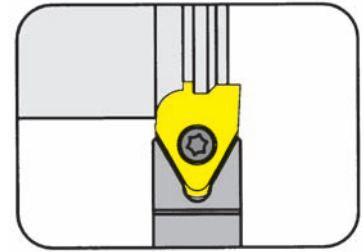
Dimensions in mm

| Part number | α | w | e | l | t_{max} | Toolholder |
|-----------------|----------|----|---|----|-----------|--------------|
| S117.0016.02.00 | 0° | 16 | 6 | 24 | 9 | H117...02.16 |

TOOLHOLDER Type

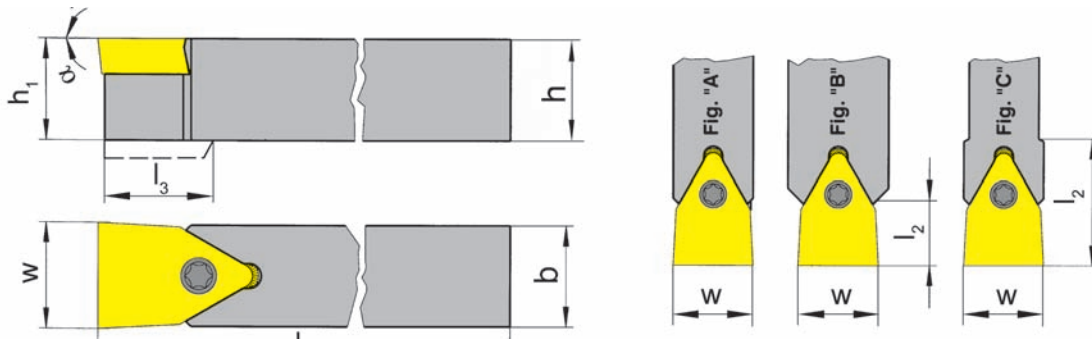
H117

0° rake angle



Depth of profile up to
Width of profile up to

.472" (12 mm)
.787" (20 mm)



| Part number | α | Figure | h | h ₁ | b | l ₁ | l ₂ | l ₃ | w | Semi finished insert |
|-----------------|----------|--------|----|----------------|----|----------------|----------------|----------------|----|----------------------|
| H117.1616.02.20 | 0° | C | 16 | 16 | 16 | 125 | 33 | 26 | | |
| H117.2020.02.20 | 0° | A | 20 | 20 | 20 | 150 | - | - | 20 | S117.0020.02.00 |
| H117.2525.02.20 | 0° | B | 25 | 25 | 25 | 150 | 19 | - | | |

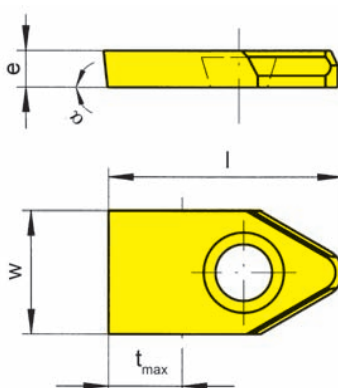
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| H117...02.20 | 6.17T20P | T20PQ |

INSERT Type

S117.0020.02.00



Semi finished insert: Only contact areas and main cutting edge ground.

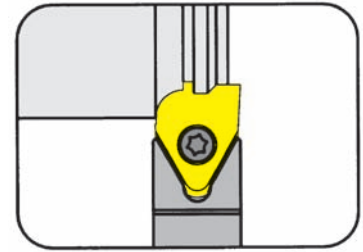
Dimensions in mm

| Part number | α | w | e | l | t _{max} | Toolholder |
|-----------------|----------|----|---|----|------------------|--------------|
| S117.0020.02.00 | 0° | 20 | 7 | 32 | 12 | H117...02.20 |

TOOLHOLDER Type

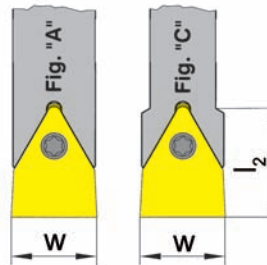
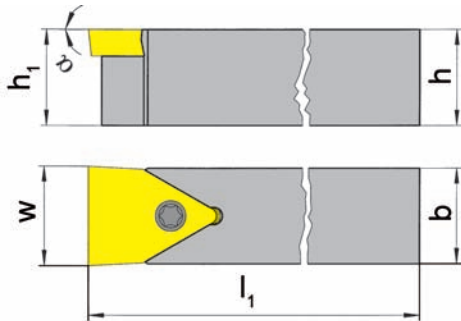
H117

0° rake angle



Depth of profile up to
Width of profile up to

.512" (13 mm)
1.024" (26 mm)



| Part number | α | Figure | h | h ₁ | b | l ₁ | l ₂ | w | Semi finished insert |
|-----------------|----------|--------|----|----------------|----|----------------|----------------|----|----------------------|
| H117.2020.02.26 | 0° | C | 20 | 20 | 20 | 150 | 33 | 26 | S117.0026.02.00 |
| H117.2525.02.26 | 0° | A | 25 | 25 | 25 | 150 | - | | |

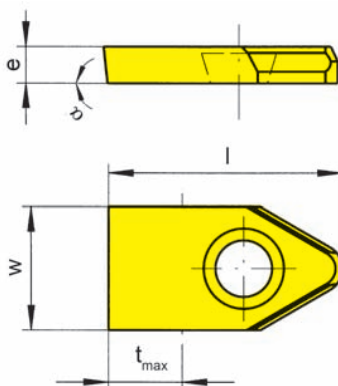
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| H117...02.26 | 6.17T20P | T20PQ |

INSERT Type

S117.0026.02.00



Semi finished insert: Only contact areas and main cutting edge ground.

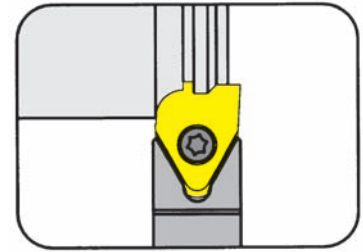
Dimensions in mm

| Part number | α | w | e | l | t _{max} | Toolholder |
|-----------------|----------|----|---|----|------------------|--------------|
| S117.0026.02.00 | 0° | 26 | 7 | 35 | 13 | H117...02.26 |

INSERT Type

S117

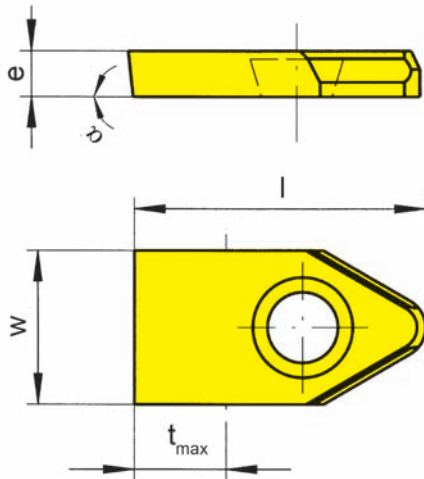
0° rake angle



Depth of form up to .512"
Width of form up to 1.024"

for use with Toolholder

Type H117...02...



OVERVIEW Semi finished insert

| Part number | α | w | e | l | t _{max} | Toolholder | MG12 |
|-----------------|----------|-------|------|-------|------------------|--------------|------|
| S117.0010.02.00 | 0° | .394 | .118 | .748 | .256 | H117...02.10 | ▲ |
| S117.0012.02.00 | 0° | .472 | .177 | .787 | .295 | H117...02.12 | ▲ |
| S117.0016.02.00 | 0° | .630 | .236 | .945 | .354 | H117...02.16 | ▲ |
| S117.0020.02.00 | 0° | .787 | .276 | 1.260 | .472 | H117...02.20 | ▲ |
| S117.0026.02.00 | 0° | 1.024 | .276 | 1.378 | .512 | H117...02.26 | ▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | |
|---|---|
| P | ○ |
| M | ● |
| K | ● |
| S | ● |
| N | ● |
| H | ● |

Further sizes upon request

Dimensions in inch



Profile inserts upon request

HCG - HORN Catalog Guide

PARTING OFF

| Depth of groove up to | Product line | | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|----------|-----------|
| | 217 | 264 | S274 | S223 | S224 | | S229/229 | S312/312 | | S316 |
| .157" (4 mm) | • | • | • | • | • | | • | • | | • |
| .236" (6 mm) | | • | • | • | • | | • | • | | • |
| .315" (8 mm) | | • | | • | • | | • | • | | • |
| .394" (10 mm) | | • | | • | • | | • | | | |
| .433" (11 mm) | | • | | • | • | | • | | | |
| .551" (14 mm) | | • | | • | • | | • | | | |
| .630" (16 mm) | | • | | • | • | | • | | | |
| .709" (18 mm) | | | | • | • | | • | | | |
| .984" (25 mm) | | | | • | | | • | | | |
| 1.000" (25.4 mm) | | | | | | | • | | | |
| Operation Type | | | | | | | | | | |
| Grooving | • | • | • | • | • | | • | • | | • |
| Side Turning | | • | • | • | • | | • | • | | |
| Parting Off | • | • | • | • | • | | • | • | | • |
| Threading | | • | • | | | | • | | | |
| Profiling | | | • | | • | | • | • | | • |
| Axial Grooving | | | | | | | | | | |
| Width of groove inch | .022-.209 | .059-.118 | .020-.118 | .049-.118 | .079-.236 | | .098-.394 | .020-.250 | | .059-.118 |
| Width of groove mm | 0.56-5.3 | 1.5-3.0 | 0.5-3.0 | 1.25-3.0 | 2.0-6.0 | | 2.5-10.0 | 0.5-6.35 | | 1.5-3.0 |
| Chapter | A | B | C | D | E | F | G | H | J | K |

PARTING OFF P

| Insert type | S274 | 264 | 312 S312 | S316 | S123 | S223 | S224 | 229 S229 | S100 | HCC |
|-----------------|-------|-------|-------------|-------|-------|-------|-------|-------------|--------|----------|
| Depth of groove | | | | | | | | | | |
| up to mm | 6 mm | 16 mm | 8 mm | 8 mm | 25 mm | 11 mm | 18 mm | 25 mm | 55 mm | > 50 mm |
| up to inch | .236" | .630" | .315" | .315" | .984" | .433" | .709" | .984" | 2.165" | > 1.968" |

| Width of groove | | | | | | | | | | |
|-------------------|-------|--------|---------|---------|---------|--------------------|---------|---------|----------|-----------|
| ~.057" (~1.44 mm) | • | | • | | | | | | | |
| .059" (1.5 mm) | • | • | • | | | | | | | |
| .079" (2.0 mm) | • | • | • | • | • | • | • | | • | |
| .098" (2.5 mm) | | • | • | • | | • | • | | • | |
| .118" (3.0 mm) | | • | • | • | • | • | • | • | • | |
| .158" (4.0 mm) | | | | | | | | • | • | |
| .197" (5.0 mm) | | | | | | | | • | • | |
| .236" (6.0 mm) | | | | | | | | • | • | |
| .315" (8.0 mm) | | | | | | | | | • | |
| .394" (10.0 mm) | | | | | | | | | • | |
| .472" (12.0 mm) | | | | | | | | | • | |
| Page | P2-P5 | P8-P13 | P16-P28 | P30-P31 | P34-P38 | P34-P36 P39-P41 | P44-P58 | P60-P72 | P74-P107 | P108-P109 |

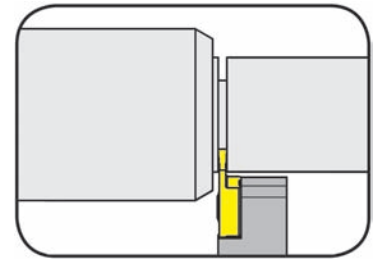
| Toolholder type | H274 | H264 | 360 368 391 | H316 | H223 | H224 | 218 226 | H100 NK100 220/300 |
|------------------------|-------|--------|-------------------|------|---------|---------|------------|--------------------------|
| DIN-Shank | • | • | • | • | • | • | • | • |
| Reinforced blade | | | | | • | • | • | • |
| Blade | | | | | | | • | • |
| Circular part-off tool | | | | | | | | • |
| Page | P2-P3 | P8-P11 | P16-P20 | P30 | P34-P36 | P44-P53 | P60-P66 | P74-P103 |

For Technical Information please see chapter Q

TOOLHOLDER Type

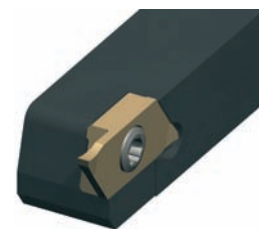
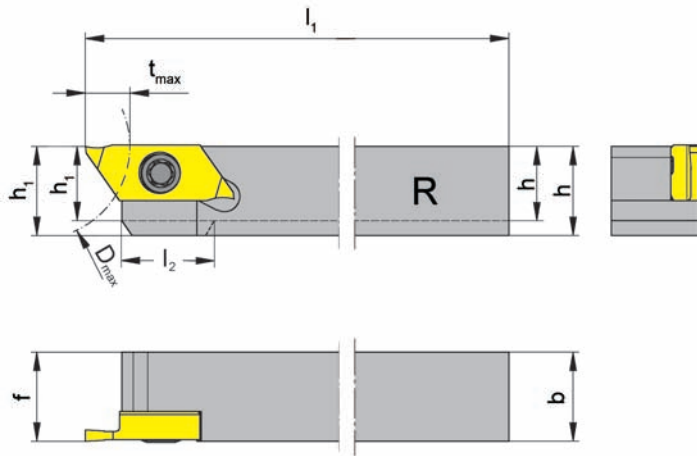
HU274

Depth of groove up to .236"
Width of groove up to .118"



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|------------------|------|------|----------------|----------------|------|------------------|------------------|------|
| R/LHU274.0312.04 | .312 | .312 | 3.996 | .312 | .312 | .236 | .984 | 04 |
| R/LHU274.0375.04 | .375 | .375 | 3.996 | .375 | .375 | | | |
| R/LHU274.0500.04 | .500 | .500 | 3.996 | .500 | .500 | | | |
| R/LHU274.0625.04 | .625 | .625 | 5.118 | .625 | .625 | | | |
| R/LHU274.0750.04 | .750 | .750 | 5.000 | .750 | .750 | | | |

State R or L version

Dimensions in inch

Further sizes upon request

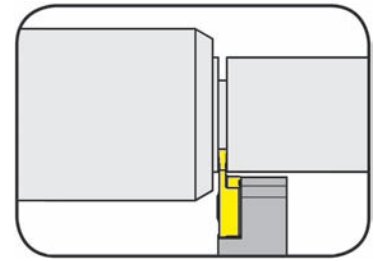
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|---------------|-------------------|
| R/LHU274.0... | 030.3509.T15P | T15PQ |

TOOLHOLDER Type

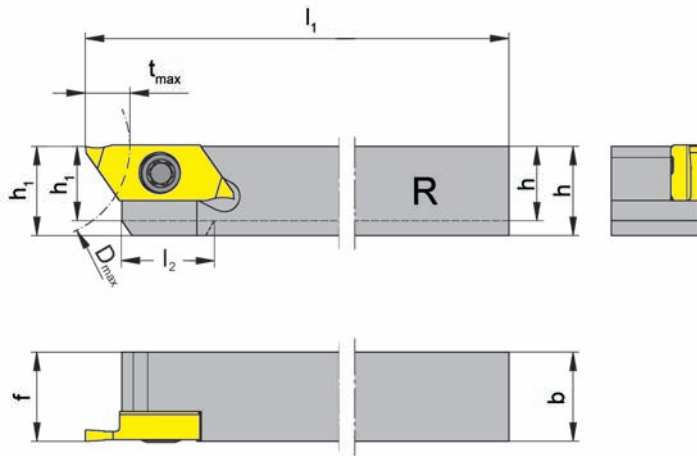
H274

Depth of groove up to .236" (6.0 mm)
 Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size |
|-----------------|----|----|----------------|----------------|----|------------------|------------------|------|
| R/LH274.0808.04 | 8 | 8 | 100 | 8 | 8 | 6 | 25 | 04 |
| R/LH274.1010.04 | 10 | 10 | 100 | 10 | 10 | | | |
| R/LH274.1212.04 | 12 | 12 | 100 | 12 | 12 | | | |
| R/LH274.1414.04 | 14 | 14 | 100 | 14 | 14 | | | |
| R/LH274.1616.04 | 16 | 16 | 125 | 16 | 16 | | | |
| R/LH274.2020.04 | 20 | 20 | 125 | 20 | 20 | | | |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

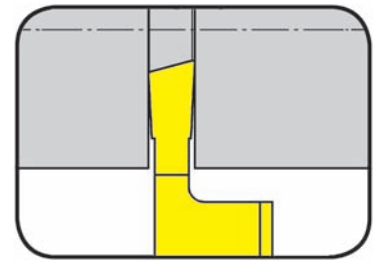
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|---------------|-------------------|
| R/LH274.... | 030.3509.T15P | T15PQ |

INDEXABLE INSERT Type

S274

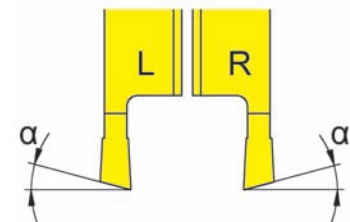
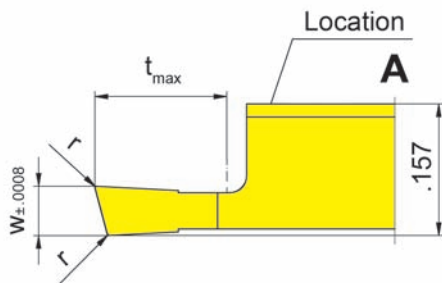
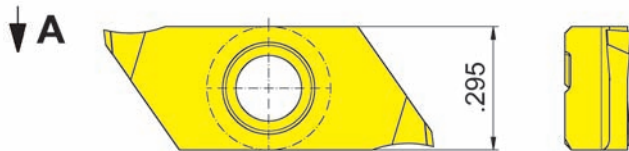
Depth of groove up to .236"
Width of groove .031 - .079"

precision ground



for use with Toolholder

Type H274
HU274



Indexability length
± .0006"

R = right hand version shown

L = left hand version

| Part number | w | r | α | t _{max} | Size | Carbide grades | | | | | |
|--|------|------|-----|------------------|------|----------------|-----|------|------|------|------|
| | | | | | | MG12 | H54 | TN35 | TI25 | TF46 | TH35 |
| R/LS274.1508.03.10 | .031 | | | .118 | 04 | | | | | | ▲/▲ |
| R/LS274.1510.03.10 | .039 | .002 | 15° | .118 | | | | | | | ▲/▲ |
| R/LS274.1515.04.10 | .059 | | | .157 | | | | | | | ▲/▲ |
| R/LS274.1520.06.10 | .079 | | | .236 | | | | | | | ▲/▲ |
| <ul style="list-style-type: none"> ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | | | | | ● |
| | | | | | | M | | | | | ● |
| | | | | | | K | | | | | ● |
| | | | | | | S | | | | | ● |
| | | | | | | N | | | | | ● |
| | | | | | | H | | | | | |

Dimensions in inch

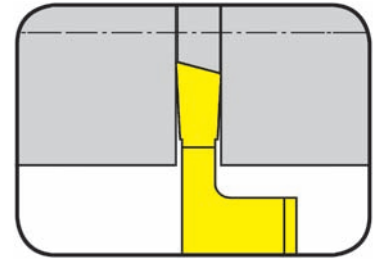
Carbide grades

State R or L version

t_{max} = .236" can be reached only with workpiece Ø ≤ .984"

INDEXABLE INSERT Type

S274

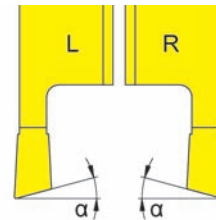
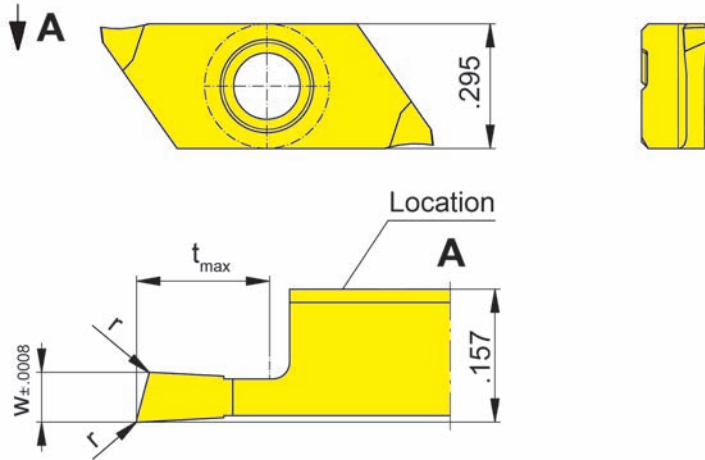


Depth of groove up to .236"
 Width of groove .031 - .079"

precision ground

for use with Toolholder

Type H274
 HU274



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | α | t _{max} | Size | Carbide grades | | |
|-------------------|------|------|-----|------------------|------|----------------|------|------|
| | | | | | | TN35 | TI25 | TH35 |
| LS274.1508.03.10R | .031 | | | .118 | 04 | | | ▲ |
| LS274.1510.03.10R | .039 | | | .118 | | | | ▲ |
| LS274.1515.04.10R | .059 | .002 | 15° | .157 | | | | ▲ |
| LS274.1520.06.10R | .079 | | | .236 | | | | ▲ |
| RS274.1508.03.10L | .031 | | | .118 | 04 | | | ▲ |
| RS274.1510.03.10L | .039 | | | .118 | | | | ▲ |
| RS274.1515.04.10L | .059 | .002 | 15° | .157 | | | | ▲ |
| RS274.1520.06.10L | .079 | | | .236 | | | | ▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | |
|---|--|---|
| P | | ● |
| M | | ● |
| K | | ● |
| S | | ● |
| N | | ● |
| H | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

t_{max} = .236" can be reached only with workpiece Ø ≤ .984"

HORN - THE LEADERS IN GROOVING TECHNOLOGY



High Performance Reaming

SYSTEM DR

URMA Licence

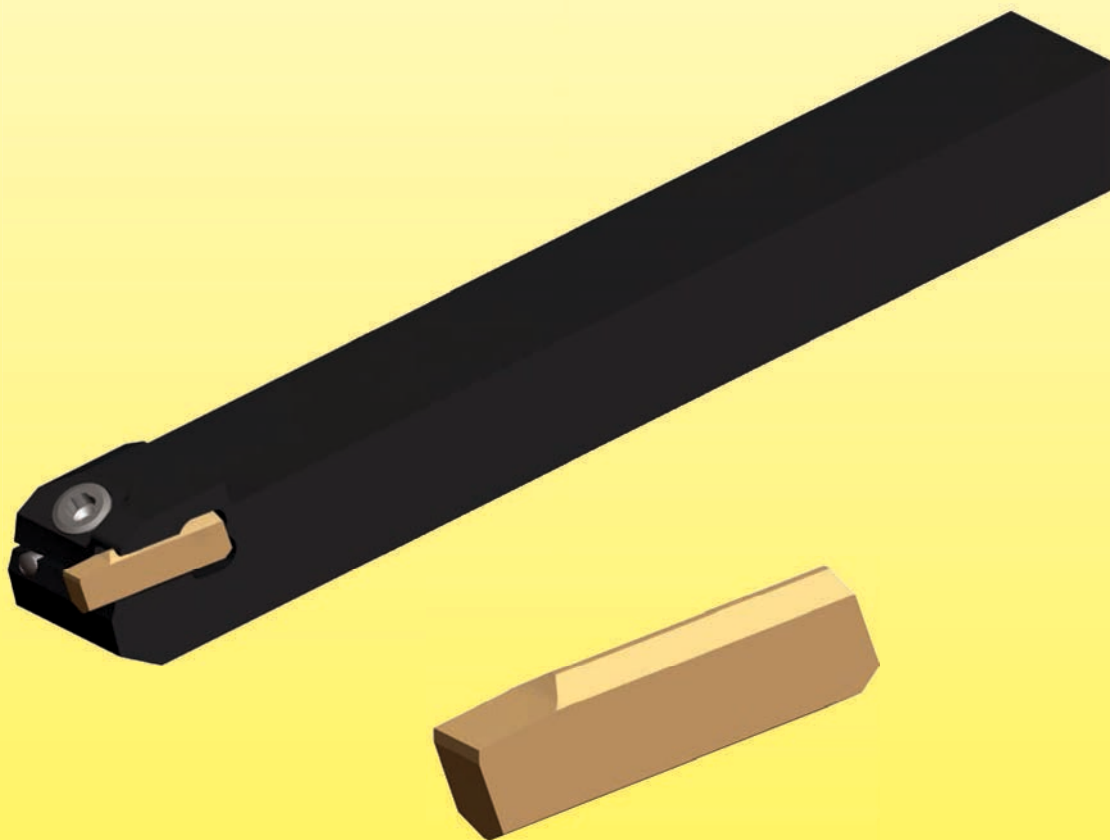
Large selection of base material, coatings and geometries.
High repeatability when replacing inserts
Diameters from 11.9 mm - 140.6 mm.

HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please contact HORN USA.

Grooving and Parting off with Toolholder type H264 and Indexable Inserts type 264

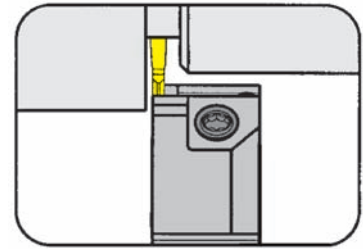


TOOLHOLDER Type

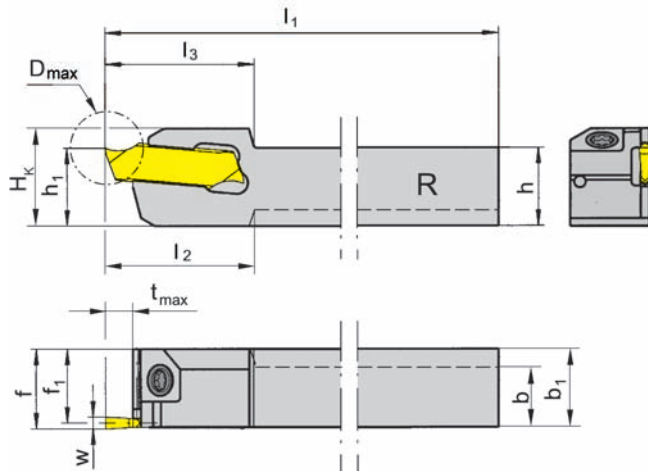
H264

with screwed clamping

Depth of groove up to .630" (16.0 mm)
Width of groove up to .079" (2.0 mm)



for use with Indexable insert

Type 264
S264

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | f | l ₂ | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----------------|----|----------------|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.0808.01 | 8 | 8 | | 8 | 10 | 9.25 | 10 | 17.5 | | | 22 | | 12.5 | |
| R/LH264.1010.01 | 10 | 10 | 120 | 10 | - | 9.25 | 10 | - | 4 | 1.5 | 22 | 17.5 | 12.5 | 01 |
| R/LH264.1212.01 | 12 | 12 | | 12 | - | 11.25 | 12 | - | | | 22 | | 14.5 | |
| R/LH264.1616.01 | 16 | 16 | | 16 | - | 15.25 | 16 | - | | | 32 | | 18.5 | |
| R/LH264.1010.11 | 10 | 10 | | 10 | - | 9.25 | 10 | | | | 20 | | 12.5 | |
| R/LH264.1212.11 | 12 | 12 | 120 | 12 | - | 11.25 | 12 | - | 10 | 1.5 | 20 | 19.0 | 14.5 | 01 |
| R/LH264.1616.11 | 16 | 16 | | 16 | | 15.25 | 16 | | | | 32 | | 18.5 | |
| R/LH264.1212.21 | 12 | 12 | 120 | 12 | - | 11.25 | 12 | - | | | 26 | 22.0 | 15.5 | 01 |
| R/LH264.1616.21 | 16 | 16 | | 16 | - | 15.25 | 16 | | 13 | 1.5 | 32 | | 19.5 | |
| R/LH264.1010.02 | 10 | 10 | | 10 | | 9.00 | 10 | | | | | | 12.5 | |
| R/LH264.1212.02 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | 4 | 2.0 | 32 | 17.5 | 14.5 | 02 |
| R/LH264.1616.02 | 16 | 16 | | 16 | | 15.00 | 16 | | | | | | 18.5 | |
| R/LH264.1010.12 | 10 | 10 | | 10 | | 9.00 | 10 | | | | | | 12.5 | |
| R/LH264.1212.12 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | 10 | 2.0 | 32 | 19.0 | 14.5 | 02 |
| R/LH264.1616.12 | 16 | 16 | | 16 | | 15.00 | 16 | | | | | | 18.5 | |
| R/LH264.1212.22 | 12 | 12 | 120 | 12 | - | 11.00 | 12 | - | | | | 25.0 | 14.5 | 02 |
| R/LH264.1616.22 | 16 | 16 | | 16 | - | 15.00 | 16 | - | 16 | 2.0 | 32 | | 19.5 | |

State R or L version

Further sizes upon request

Dimensions in mm

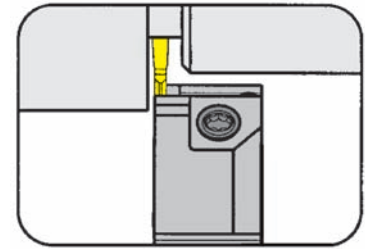
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-------------|-------------------|
| R/LH264.... | 3.5.12T10EP | T10PL |

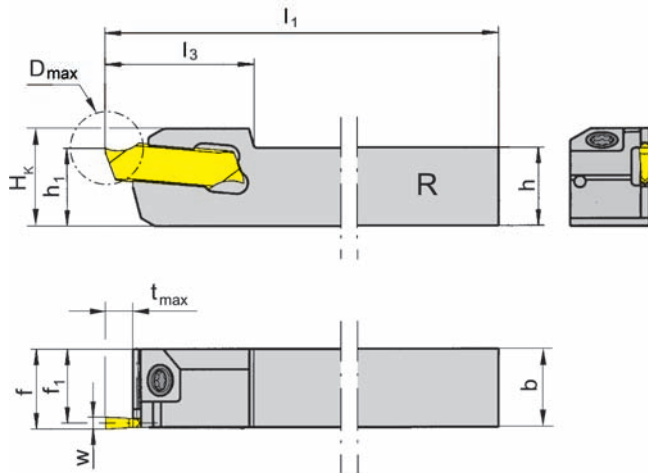
TOOLHOLDER Type

H264

with screwed clamping



Depth of groove up to .630" (16.0 mm)
Width of groove .098" (2.5 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.1212.03 | 12 | 12 | 120 | 12 | 10.75 | 12 | 4 | 2.5 | 32 | 17.5 | 14.5 | 03 |
| R/LH264.1616.03 | 16 | 16 | 120 | 16 | 14.75 | 16 | 4 | 2.5 | 32 | 17.5 | 18.5 | 03 |
| R/LH264.1212.13 | 12 | 12 | 120 | 12 | 10.75 | 12 | 10 | 2.5 | 32 | 19.0 | 14.5 | 03 |
| R/LH264.1616.13 | 16 | 16 | 120 | 16 | 14.75 | 16 | 10 | 2.5 | 32 | 19.0 | 18.5 | 03 |
| R/LH264.1212.23 | 12 | 12 | 120 | 12 | 10.75 | 12 | 16 | 2.5 | 32 | 25.0 | 14.5 | 03 |
| R/LH264.1616.23 | 16 | 16 | 120 | 16 | 14.75 | 16 | 16 | 2.5 | 32 | 25.0 | 18.5 | 03 |

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

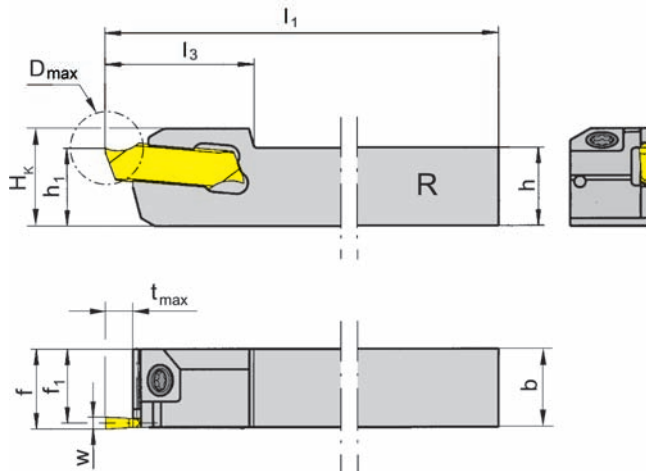
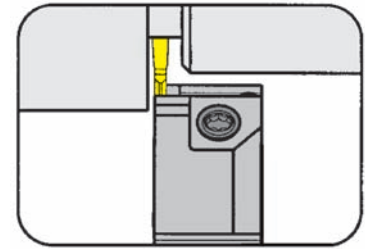
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-------------|-------------------|
| R/LH264.1... | 3.5.12T10EP | T10PL |

TOOLHOLDER Type

H264

with screwed clamping

Depth of groove up to .630" (16.0 mm)
Width of groove .118" (3.0 mm)



for use with Indexable insert

Type 264
S264

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | w | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|------------------|---|------------------|----------------|----------------|------|
| R/LH264.1212.04 | 12 | 12 | 120 | 12 | 10.5 | 12 | 5 | 3 | 32 | 17.5 | 15 | 04 |
| R/LH264.1616.04 | 16 | 16 | 120 | 16 | 14.5 | 16 | 5 | 3 | 32 | 17.5 | 19 | 04 |
| R/LH264.1212.14 | 12 | 12 | 120 | 12 | 10.5 | 12 | 10 | 3 | 32 | 19.0 | 15 | 04 |
| R/LH264.1616.14 | 16 | 16 | 120 | 16 | 14.5 | 16 | 10 | 3 | 32 | 19.0 | 19 | 04 |
| R/LH264.1212.24 | 12 | 12 | 120 | 12 | 10.5 | 12 | 16 | 3 | 32 | 25.0 | 15 | 04 |
| R/LH264.1616.24 | 16 | 16 | 120 | 16 | 14.5 | 16 | 16 | 3 | 32 | 25.0 | 19 | 04 |

State R or L version

Dimensions in mm

Further sizes upon request

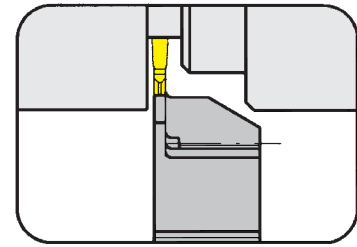
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-------------|-------------------|
| R/LH264.1... | 3.5.12T10EP | T10PL |

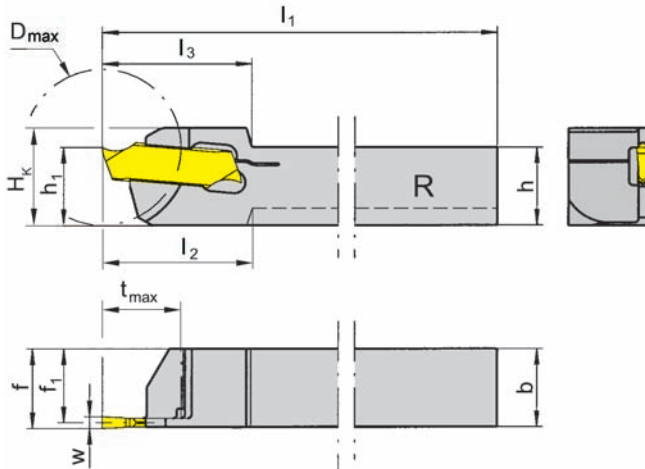
TOOLHOLDER Type

H264

with self clamping



Depth of groove up to .394" (10.0 mm)
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type 264
S264



R = right hand version shown

L = left hand version

| Part number | h | b | I ₁ | h ₁ | f ₁ | f | I ₂ | t _{max} | w | D _{max} | I ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|----|----------------|------------------|-----|------------------|----------------|----------------|------|
| R/LH264.0808.51 | 8 | 8 | 120 | 10 | 7.25 | 8 | 18 | 7 | 1.5 | 20 | 18 | 12.5 | 01 |
| R/LH264.1010.61 | 10 | 10 | 120 | 10 | 9.25 | 10 | - | 10 | 1.5 | 20 | 19 | 12.5 | 01 |
| R/LH264.1010.62 | 10 | 10 | 120 | 10 | 9.00 | 10 | - | 10 | 2.0 | 20 | 19 | 12.5 | 02 |
| R/LH264.1212.62 | 12 | 12 | 120 | 12 | 11.00 | 12 | - | 10 | 2.0 | 20 | 19 | 14.5 | 02 |
| R/LH264.1212.63 | 12 | 12 | 120 | 12 | 10.75 | 12 | - | 10 | 2.5 | 32 | 19 | 14.5 | 03 |
| R/LH264.1212.64 | 12 | 12 | 120 | 12 | 10.50 | 12 | - | 10 | 3.0 | 32 | 19 | 14.5 | 04 |

State R or L version

Dimensions in mm

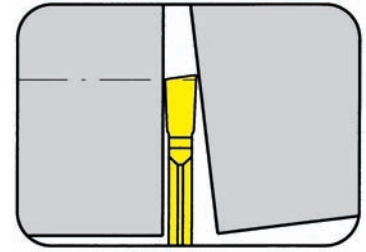
Further sizes upon request

Spare parts

| Toolholder | Wrench |
|-------------|-------------|
| R/LH264.... | P39L |

INDEXABLE INSERT Type

264

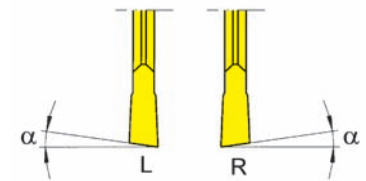
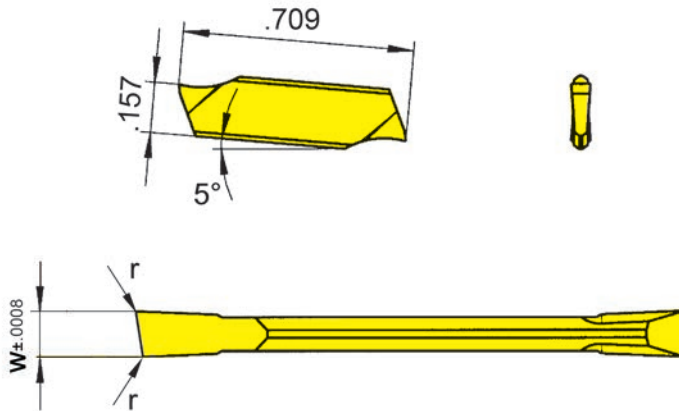


Depth of groove up to .630"
Width of groove .059 - .118"

precision ground

for use with Toolholder

Type H264



Indexability length
± .0006"

R = right hand version shown

L = left hand version

| Part number | w | r | α | Size | Carbide grades | | | |
|--|------|------|-----------|------|----------------|------------|------|------|
| | | | | | MG12 | TN35 | T125 | TA45 |
| R/L264.0815.10 R/L264.1515.10 | .059 | .002 | 15° | 01 | Δ/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0820.10 R/L264.1520.10 | .079 | .002 | 8° 15° | 02 | ▲/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0825.10 R/L264.1525.10 | .098 | .004 | 8° 15° | 03 | | ▲/▲ ▲/▲ | | |
| R/L264.0830.10 R/L264.1530.10 | .118 | .004 | 8° 15° | 04 | | ▲/▲ ▲/▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ○ | ● | |
| | | | | | M | ● | ● | |
| | | | | | K | ● | ● | |
| | | | | | S | ● | ● | |
| | | | | | N | ● | ● | |
| | | | | | H | | | |

Dimensions in inch

State R or L version

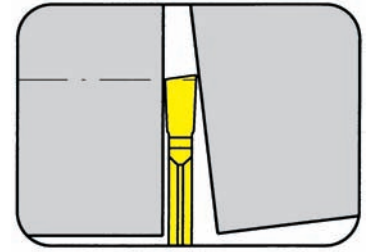
Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

264

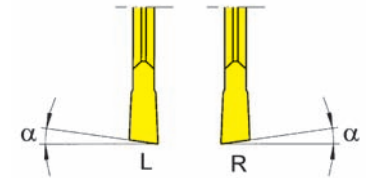
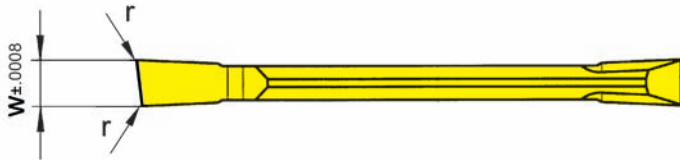
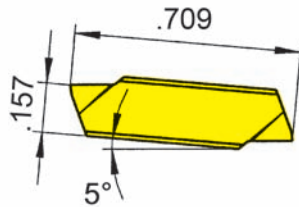
Depth of groove up to .630"
Width of groove .059 - .118"

precision ground



for use with Toolholder

Type H264



R = right hand version shown

L = left hand version

Indexability length
± .0006"

| Part number | w | r | α | Size | Carbide grades | | | |
|---|------|------|-----------|------|----------------|------------|------|------|
| | | | | | MG12 | TN35 | Ti25 | TA45 |
| R/L264.0815.M0 R/L264.1515.M0 | .059 | .002 | 8° 15° | 01 | ▲/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0820.M0 R/L264.1520.M0 | .079 | .002 | 8° 15° | 02 | ▲/▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| R/L264.0825.M0 R/L264.1525.M0 | .098 | .004 | 8° 15° | 03 | /▲ ▲/▲ | ▲/▲ ▲/ | | |
| R/L264.0830.M0 R/L264.1530.M0 | .118 | .004 | 8° 15° | 04 | /▲ ▲/▲ | ▲/▲ ▲/▲ | | |
| <ul style="list-style-type: none"> ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ○ | ● | |
| | | | | | M | ● | ● | |
| | | | | | K | ● | ● | |
| | | | | | S | ● | ● | |
| | | | | | N | ● | ● | |
| | | | | | H | | | |

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

Carbide grades

HORN - THE LEADERS IN GROOVING TECHNOLOGY



GROOVE MILLING BY CIRCULAR INTERPOLATION

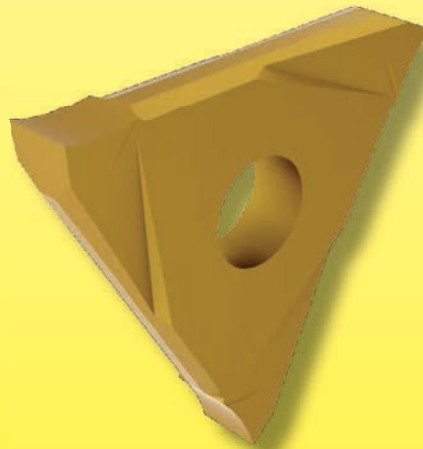
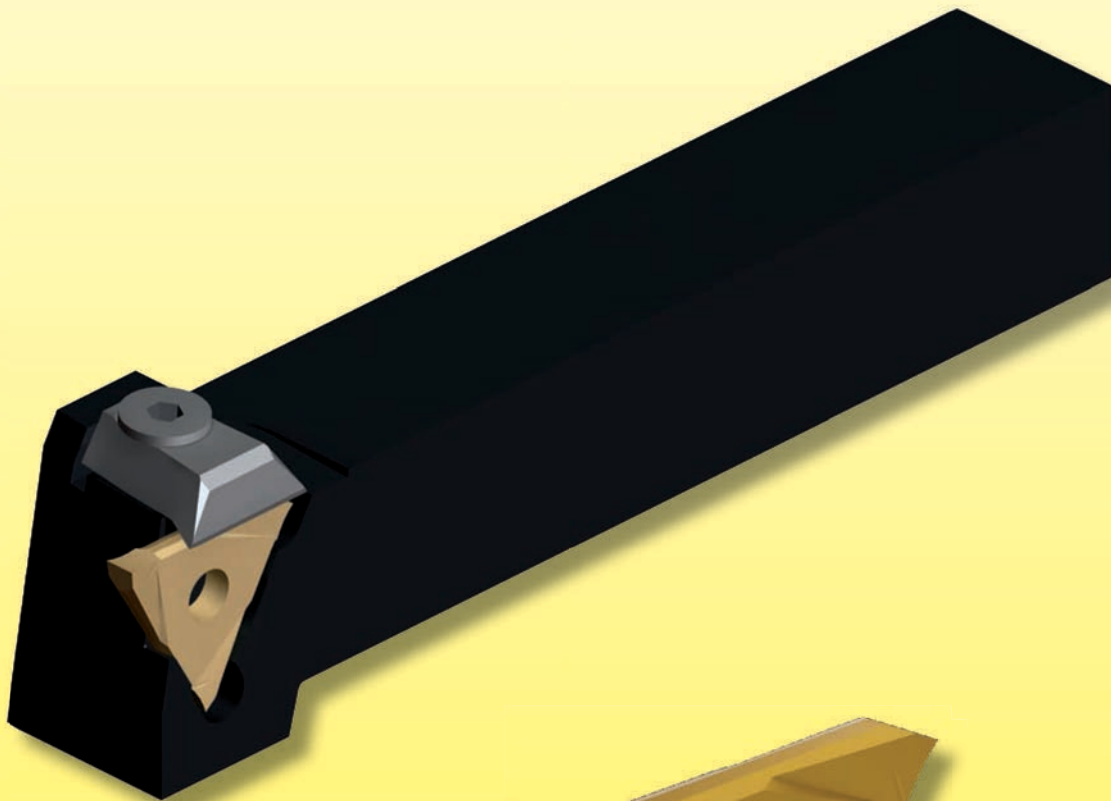
SYSTEM DC

- Thread Milling Partial Profile
- Thread Milling Full Profile
- Groove Milling
- Chamfer Milling

HORN - INTELLIGENT TOOL DESIGN AT WORK.

For further information, please contact HORN USA.

Grooving and Parting off with Indexable Inserts type 312

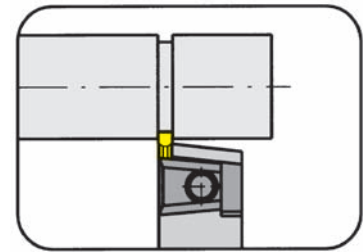


TOOLHOLDER Type

U360

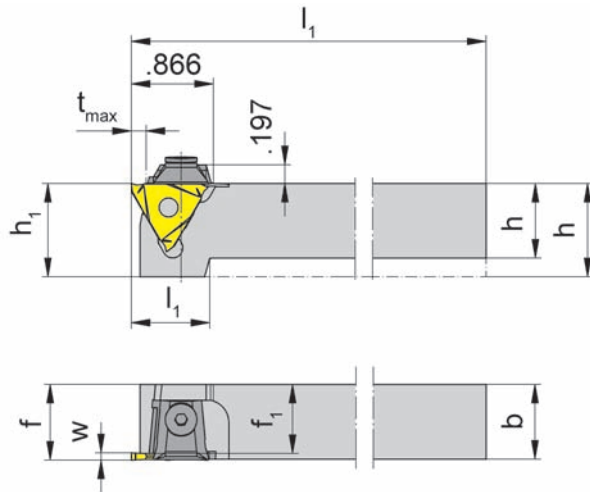
Depth of groove up to
Clamping range

.236"
.075 - .114"



for use with Indexable
insert

Type 312
U312
S312
US312



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | Size | Clamping range |
|-----------------|-------|-------|-------|-------|-------|-------------|-------|-----------|------|----------------|
| R/LU360.0500.02 | .500 | .500 | 4.000 | 1.000 | .402 | | .944 | | | |
| R/LU360.0625.02 | .625 | .625 | 5.000 | 1.000 | .527 | | .866 | | | |
| R/LU360.0750.02 | .750 | .750 | 5.000 | 1.000 | .652 | f_1+w-a_1 | .826 | .236 | 02 | .075 - .114 |
| R/LU360.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | .902 | | - | | | |
| R/LU360.1250.02 | 1.250 | 1.250 | 6.625 | 1.250 | 1.152 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in inch

Further sizes upon request

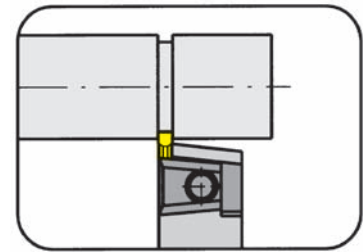
t_{max} can be reached only with workpiece $\varnothing \leq 1.575"$

Spare parts

| Toolholder | Clamp | Screw | Wrench |
|-------------------|-------|-------|-----------|
| R/LU360.0500...02 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360.0625...02 | 11.3 | 6.25 | SW3DIN911 |
| R/LU360....02 | 16.4 | 6.25 | SW3DIN911 |

TOOLHOLDER Type

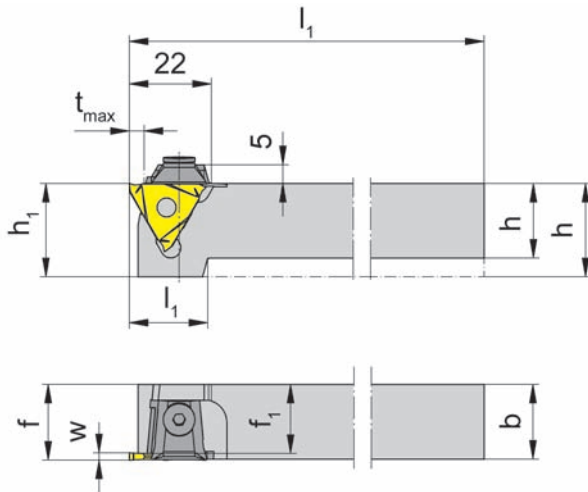
360



Depth of groove up to .236" (6.0 mm)
Clamping range .075 - .114" (1.9 - 2.9 mm)

for use with Indexable insert

Type 312
S312
U312
US312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|----------------------------------|----------------|------------------|------|----------------|
| R/L360.1212.02 | 12 | 12 | 100 | 25 | 9.5 | | 24 | | | |
| R/L360.1616.02 | 16 | 16 | 125 | 25 | 13.5 | | 22 | | | |
| R/L360.2020.02 | 20 | 20 | 125 | 25 | 17.5 | f ₁ +w-a ₁ | 21 | 6 | 02 | 1.9 - 2.9 |
| R/L360.2525.02 | 25 | 25 | 150 | 25 | 22.5 | | - | | | |
| R/L360.3232.02 | 32 | 32 | 170 | 32 | 29.5 | | - | | | |

State R or L version

w, a₁ see indexable inserts

Dimensions in mm

Further sizes upon request

t_{max} can be reached only with workpiece Ø ≤ 40 mm

Spare parts

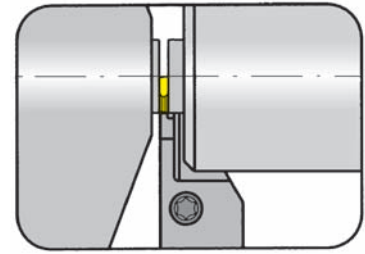
| Toolholder | Clamp | Screw | Wrench |
|----------------|-------|-------|-----------|
| R/L360.1212.02 | 11.3 | 6.25 | SW3DIN911 |
| R/L360.1616.02 | 11.3 | 6.25 | SW3DIN911 |
| R/L360....02 | 16.4 | 6.25 | SW3DIN911 |

TOOLHOLDER Type

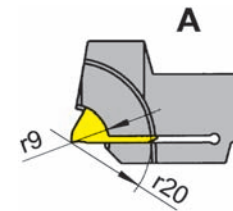
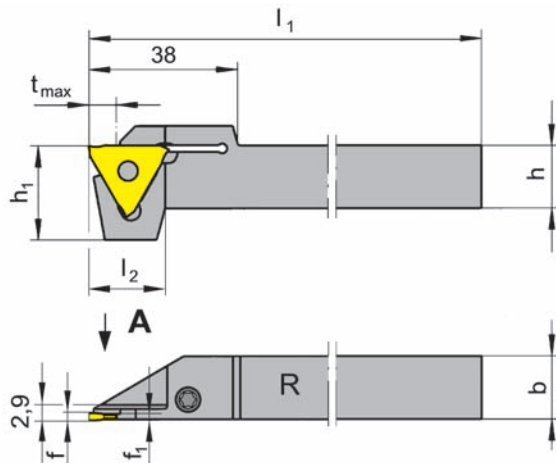
368

Depth of groove up to .315" (8.0 mm)
Clamping range .020 - .059" (0.5 - 1.5 mm)

for machines TRAUB (TNL12/7)



for use with Indexable insert

Type 312
U312

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|----------------|--------------------------------|----------------|------------------|------|----------------|
| R/L368.1212.08 | 12 | 12 | | | 1.0 | | | | | |
| R/L368.1212.11 | 12 | 12 | | | 1.3 | | | | | |
| R/L368.1616.08 | 16 | 16 | 95 | 24 | 1.0 | f ₁ +a ₁ | 19.5 | 8 | 01 | 0.5 - 1.9 |
| R/L368.1616.11 | 16 | 16 | | | 1.3 | | | | | |

State R or L version

a₁ see indexable inserts

Dimensions in mm

Toolholder R/L368...08 for indexable inserts:R/L312.0805... / R/L312.0808... / R/L312.0510...
R/L312.0512... / R/L312.1210... / R/L312.0012...**Toolholder R/L368...11 for indexable inserts:**

R/L312.0515... / R/L312.0015...

Further sizes upon request

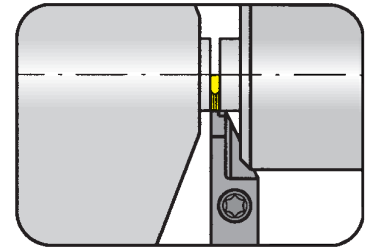
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------------|-------------------|
| R/L368.1... | 4.15T15P | T15PQ |

TOOLHOLDER Type

368

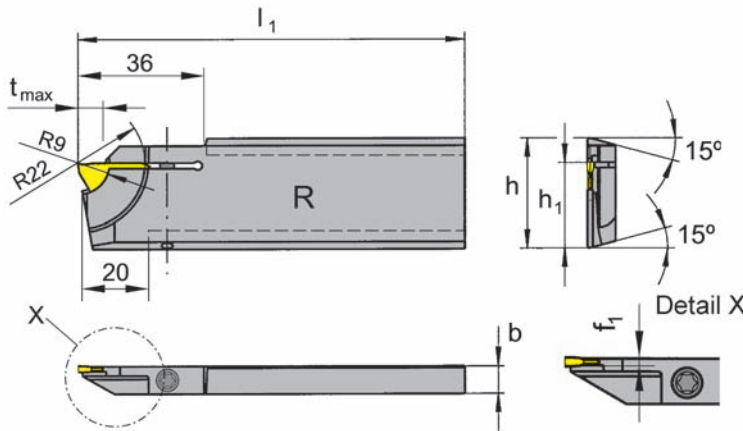
reinforced version



| | |
|-----------------------|-----------------------------|
| Depth of groove up to | .315" (8.0 mm) |
| Clamping range | .020 - .059" (0.5 - 1.5 mm) |

for use with Indexable insert

Type 312
U312



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | Size | Clamping range |
|----------------|----|---|----------------|----------------|----------------|------------------|------|----------------|
| R/L368.2608.08 | 26 | | | 21.4 | 1.0 | | | |
| R/L368.3208.08 | 32 | | | 24.8 | 1.0 | | | |
| R/L368.2608.11 | 26 | 8 | 110 | 21.4 | 1.3 | 8 | 01 | 0.5 - 1.9 |
| R/L368.3208.11 | 32 | | | 24.8 | 1.3 | | | |

State R or L version

Dimensions in mm

Toolholder R/L368...08 for indexable inserts:

R/L312.0805... / R/L312.0808... / R/L312.0510...
R/L312.0512... / R/L312.1210... / R/L312.0012...

Toolholder R/L368...11 for indexable inserts:

R/L312.0515... / R/L312.0015...

Further sizes upon request

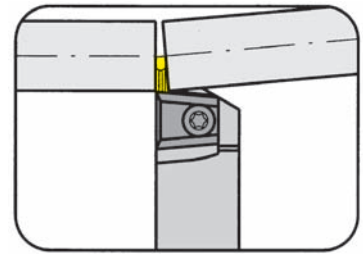
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| R/L368.... | 4.15T15P | T15PQ |

TOOLHOLDER Type

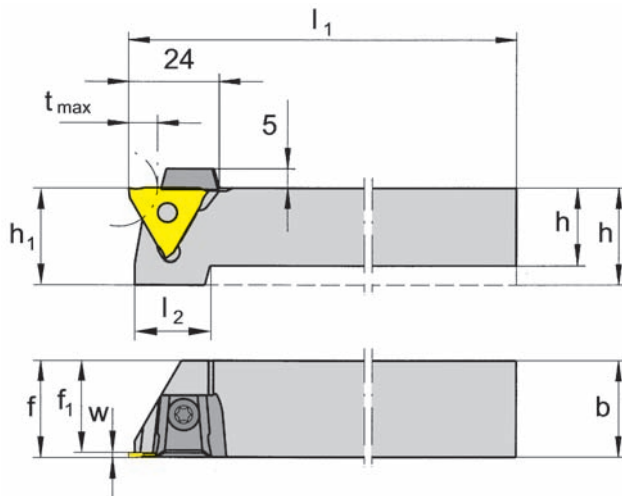
391

Depth of groove up to $.315''$ (8.0 mm)
Clamping range $.020 - .075''$ (0.5 - 1.9 mm)



for use with Indexable insert

Type 312
N312
S312
U312
US312



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-------|-----------------|-------|-----------|------|----------------|
| R/L391.1212.01 | 12 | 12 | 100 | 21 | 10.5 | $f_1 + w - a_1$ | 21 | 8 | 01 | 0.5-1.9 |
| R/L391.1616.01 | 16 | 16 | 125 | 21 | 14.5 | | 21 | | | |
| R/L391.2020.01 | 20 | 20 | 125 | 21 | 18.5 | | 21 | | | |
| R/L391.2525.01 | 25 | 25 | 150 | 25 | 23.8 | | - | | | |

State R or L version

w, a_1 see indexable inserts

Dimensions in mm

Further sizes upon request

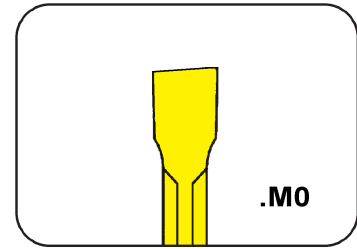
 t_{max} can be reached only with workpiece $\varnothing \leq 20$ mm**Spare parts**

| Toolholder | Clamp | Screw | Wrench | TORX PLUS® Wrench |
|----------------|-------|---------------|-----------|-------------------|
| R/L391.1212.01 | 12.3 | 030.0422.T10P | SW3DIN911 | T10PL |
| R/L391.1616.01 | 14.4 | 5.32.3T15P | | T15PQ |
| R/L391.2...01 | 16.4 | 6.25 | | |

INDEXABLE INSERT Type

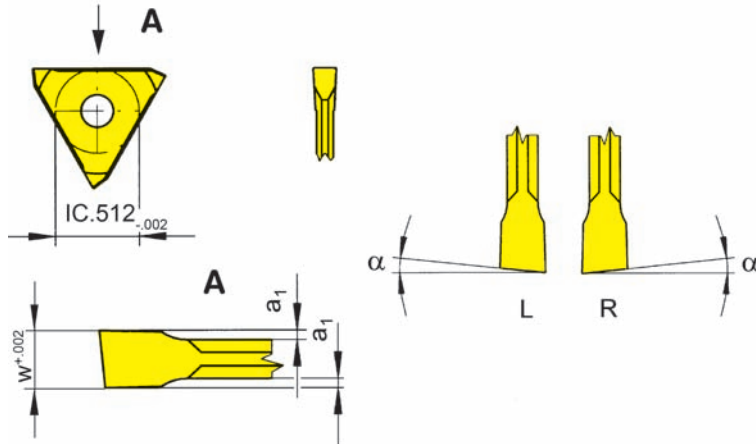
312

Depth of groove up to .315"
 Width of groove .047 - .059"



for use with Toolholder

Type 368 / U368



R = right hand version shown

L = left hand version

| Part number | w | a ₁ | α | Size | Carbide grades | | | |
|----------------|------|----------------|----|------|----------------|------|------|------|
| | | | | | K10 | TN35 | TF45 | TC92 |
| R/L312.0512.M0 | .047 | .008 | 5° | 01 | /Δ | | ▲/Δ | |
| R/L312.0515.M0 | .059 | .008 | 5° | 01 | ▲/ | | ▲/Δ | |
| | | | | | P | • | • | • |
| | | | | | M | ○ | • | • |
| | | | | | K | • | • | • |
| | | | | | S | ○ | • | • |
| | | | | | N | • | • | • |
| | | | | | H | | | |

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

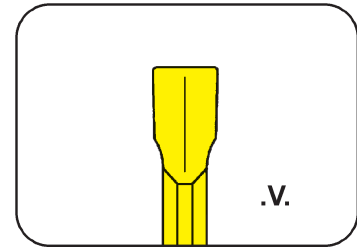
- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Carbide grades

INDEXABLE INSERT Type

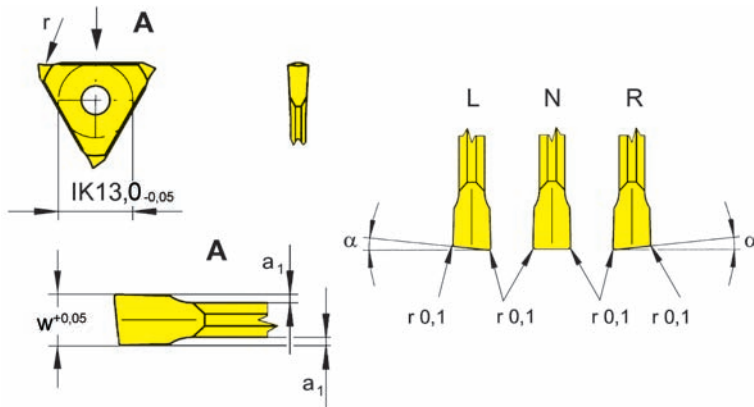
312

Depth of groove up to .315"
 Width of groove .047 - .079"



for use with Toolholder

Type 368



R = right hand version shown

L = left hand version

| Part number | w | a ₁ | α | Size | TN35 | TI25 | TF45 | TH35 |
|--|------|----------------|----------|------|------|------|----------|------|
| | | | | | | | | |
| 312.0012.V1 R/L312.0512.V1 | .047 | .008 | 0° 5° | 01 | | | ▲ ▲/Δ | |
| 312.0015.V1 R/L312.0515.V1 | .059 | .008 | 0° 5° | 01 | | | ▲ ▲/▲ | |
| R/L312.0520.V2 | .079 | .008 | 5° | 01 | | | | ▲/ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | | ● | ● |
| | | | | | M | | ● | ● |
| | | | | | K | | ● | ● |
| | | | | | S | | ● | ● |
| | | | | | N | | ● | ● |
| | | | | | H | | | |

Dimensions in mm

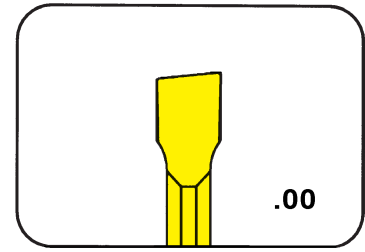
State R or L version

Carbide grades

INDEXABLE INSERT Type

312

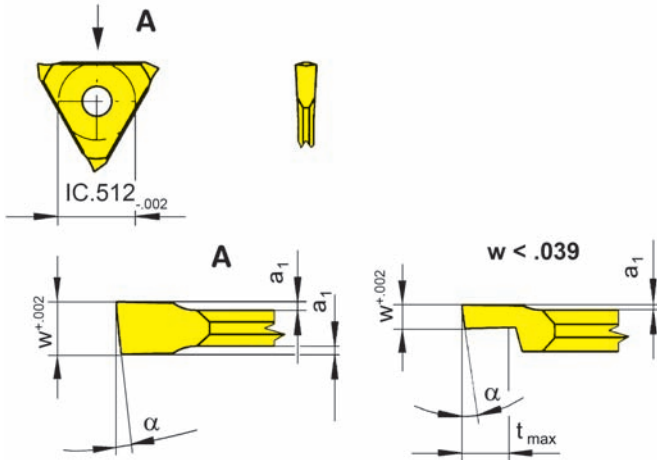
with round chip breaker



Depth of groove up to .315"
Width of groove .020 - .059"

for use with Toolholder

Type 368 / U368



R = right hand version shown

L = left hand version

| Part number | w | t _{max} | a ₁ | α | Size | Carbide grades | | | |
|--|------|------------------|----------------|-----|------|----------------|------|------|------|
| | | | | | | K10 | TN35 | TF45 | TC92 |
| R/L312.0805.00 | .020 | .039 | .004 | 8° | 01 | | | ▲/▲ | |
| R/L312.0808.00 | .031 | .059 | .004 | 8° | | | | ▲/▲ | |
| R/L312.1210.00 | .039 | .315 | .004 | 12° | | | ▲/▲ | ▲/▲ | |
| R/L312.0510.00 | .039 | .315 | .004 | 5° | | | | ▲/▲ | |
| R/L312.0512.00 | .047 | .315 | .008 | 5° | | | | ▲/▲ | |
| R/L312.0515.00 | .059 | .315 | .008 | 5° | | | | ▲/▲ | |
| <ul style="list-style-type: none"> ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | ● | ● | |
| | | | | | | M | ● | ● | |
| | | | | | | K | ● | ● | |
| | | | | | | S | ● | ● | |
| | | | | | | N | ● | ● | |
| | | | | | | H | | | |

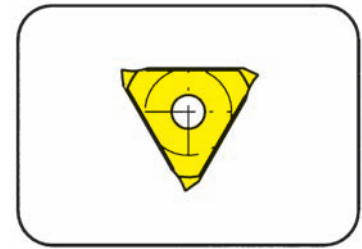
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

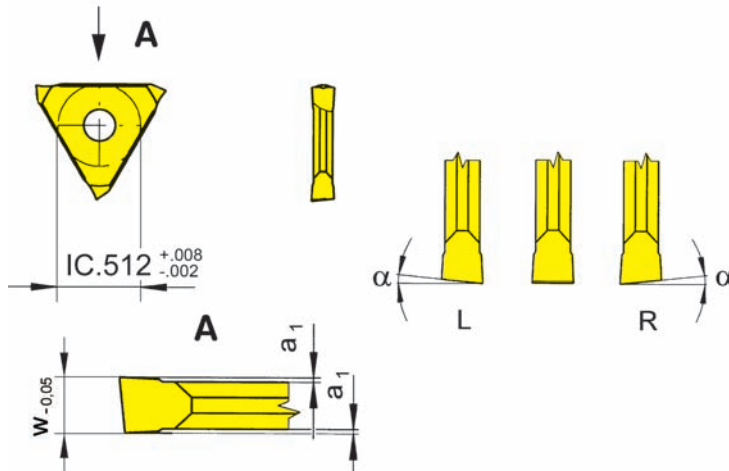
312



Depth of groove up to .197"
 Width of groove .042 - .057"

for use with Toolholder

Type 360 / U360



| Part number | w | α | a ₁ | Size | Carbide grades | | | | | | | | | |
|--|------|----|----------------|---------|----------------|------|-----|-----|------|------|------|------|------|------|
| | | | | | K10 | MG12 | P20 | H54 | TN32 | TN35 | TI25 | TF45 | TF46 | TC92 |
| 312.0100.00 | .042 | 0° | .004 | 01 / 02 | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | |
| 312.0130.00 | .057 | 0° | .008 | 01 / 02 | ▲ | | ▲ | | ▲ | ▲ | | ▲ | ▲ | ▲ |
| R/L312.0614.00 | | 6° | | | | | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | ○ | | | ● | ● | ● | ● | ○ | |
| | | | | | K | ● | | | ● | ● | ● | ● | ● | ● |
| | | | | | S | ○ | | | | ● | ● | ● | ○ | |
| | | | | | N | ● | | | | ● | ● | ● | ● | |
| | | | | | H | | | | | | | | | |

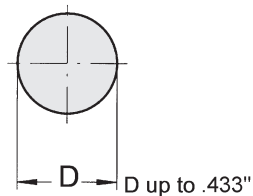
Dimensions in inch

State R or L version

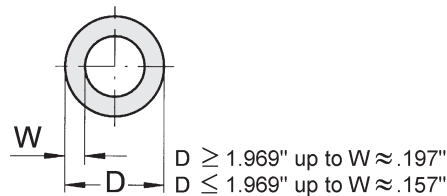
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

Parting off solid bars



Parting off tubes

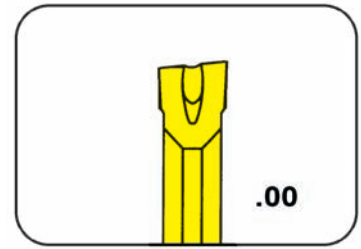


GROOVING and PARTING OFF



INDEXABLE INSERT Type

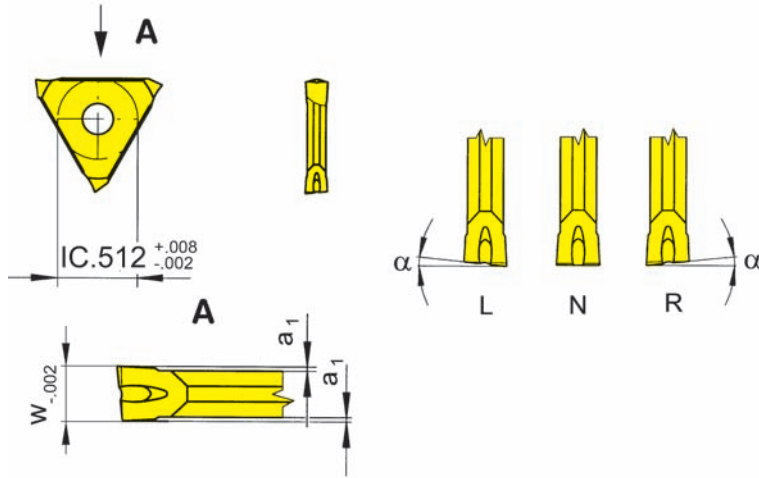
312



Depth of groove up to .197"
Width of groove .057 - .090"

for use with Toolholder

Type 360 / U360



R = right hand version shown

L = left hand version

| Part number | w | a ₁ | α | Size | Carbide grades | | | | | | | | |
|----------------|------|----------------|----|---------|----------------|-----|------|------|------|------|------|------|---|
| | | | | | K10 | P20 | TN32 | TN35 | TI25 | TF45 | TF46 | TC92 | |
| N312.0014.00 | .057 | .008 | 0° | 01 / 02 | | | | | | ▲ | | | |
| N312.0018.00 | .078 | | 0° | | | | | | | ▲ | | | ▲ |
| R/L312.0518.00 | .078 | | 5° | | ▲▲ | ▲▲ | ▲▲ | | | | | | |
| N312.0021.00 | .090 | .008 | 0° | 02 | | | | ▲ | | | | | |
| R/L312.0521.00 | .090 | | 5° | | ▲▲ | ▲▲ | ▲▲ | | | | | | |
| | | | | | P | • | • | • | | • | | | • |
| | | | | | M | | | • | | • | | | |
| | | | | | K | | | • | | • | | | |
| | | | | | S | | | • | | • | | | |
| | | | | | N | | | • | | • | | | |
| | | | | | H | | | | | | | | |

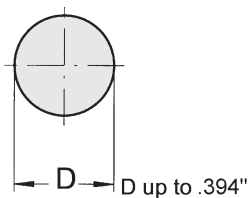
- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

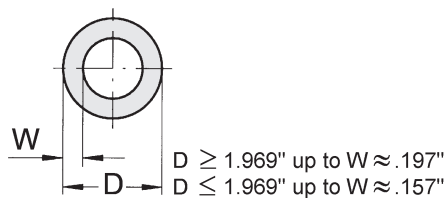
State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

Parting off solid bars



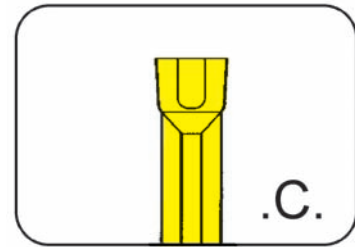
Parting off tubes



INDEXABLE INSERT Type

S312

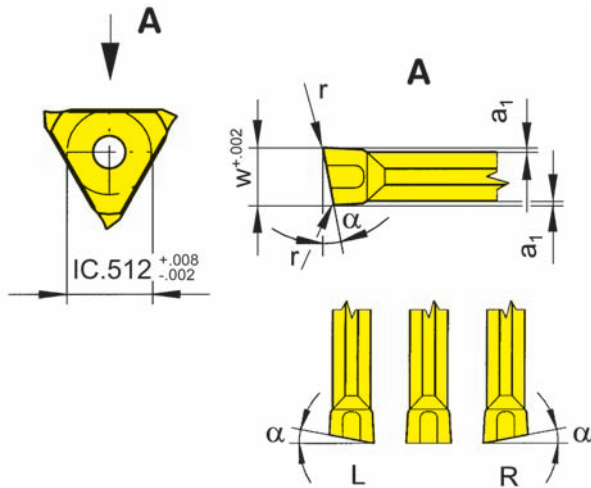
with sintered geometries



Depth of groove up to $.197''$
 Width of groove $.079 - .118''$

for use with Toolholder

Type 360 / U360
 361
 369 / U369



R = right hand version shown

L = left hand version

Geometry .C

| Part number | w | r | a ₁ | α | Size | Carbide grades | | | | | | |
|---------------------------------|------|------|----------------|----------|------|----------------|-----|------|------|------|------|------|
| | | | | | | K10 | P20 | TN32 | TI25 | TF45 | TF46 | TC92 |
| S312.0200.C2 R/LS312.0520.C2 | .079 | .008 | .010 | 0° 5° | 02 | | | | ▲ | | ▲ | |
| S312.0250.C2 R/LS312.0525.C2 | .098 | .008 | .010 | 0° 5° | 02 | | | | ▲ | | ▲ | |
| S312.0300.C2 R/LS312.0530.C2 | .118 | .008 | .010 | 0° 5° | 03 | | | | ▲ | | ▲ | |
| ▲ on stock Δ 4 weeks | | | | | | P | | | • | | • | |
| • main recommendation | | | | | | M | | | • | | • | |
| ○ alternative recommendation | | | | | | K | | | • | | • | |
| ■ uncoated grades | | | | | | S | | | • | | • | |
| ■ coated grades | | | | | | N | | | • | | • | |
| ■ brazed/Cermet | | | | | | H | | | | | | |

Dimensions in inch

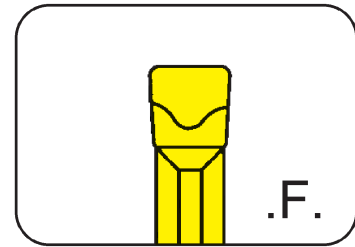
State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S312

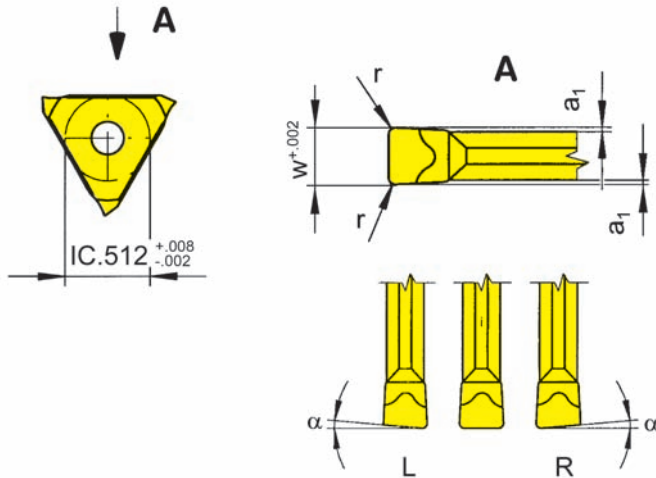
with sintered geometries



Depth of groove up to $.197''$
 Width of groove $.079 - .098''$

for use with Toolholder

- Type 330 / U330
 360 / U360
 361
 369 / U369
 390 / U390



R = right hand version

L = left hand version

Geometry .F.

| Part number | w | r | a ₁ | α | Size | Carbide grades | | | | | | | | | |
|--|------|------|----------------|----------|------|----------------|------|-----|------|------|----------|------|----------|------|------|
| | | | | | | K10 | MG12 | P20 | TN32 | TN35 | TI25 | TF45 | TF46 | TC92 | AL96 |
| R/LS312.0520.F2 S312.0200.F2 | .079 | .008 | .010 | 5° 0° | 02 | | | | | | ▲/▲ ▲ | | ▲/▲ ▲ | | |
| R/LS312.0525.F2 S312.0250.F2 | .098 | .008 | .010 | 5° 0° | 02 | | | | | | ▲/▲ ▲ | | ▲/▲ ▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | | | | | ● | | ● | | |
| | | | | | | M | | | | | ● | | ○ | | |
| | | | | | | K | | | | | ● | | ● | | |
| | | | | | | S | | | | | ● | | ○ | | |
| | | | | | | N | | | | | ● | | ● | | |
| | | | | | | H | | | | | | | | | |

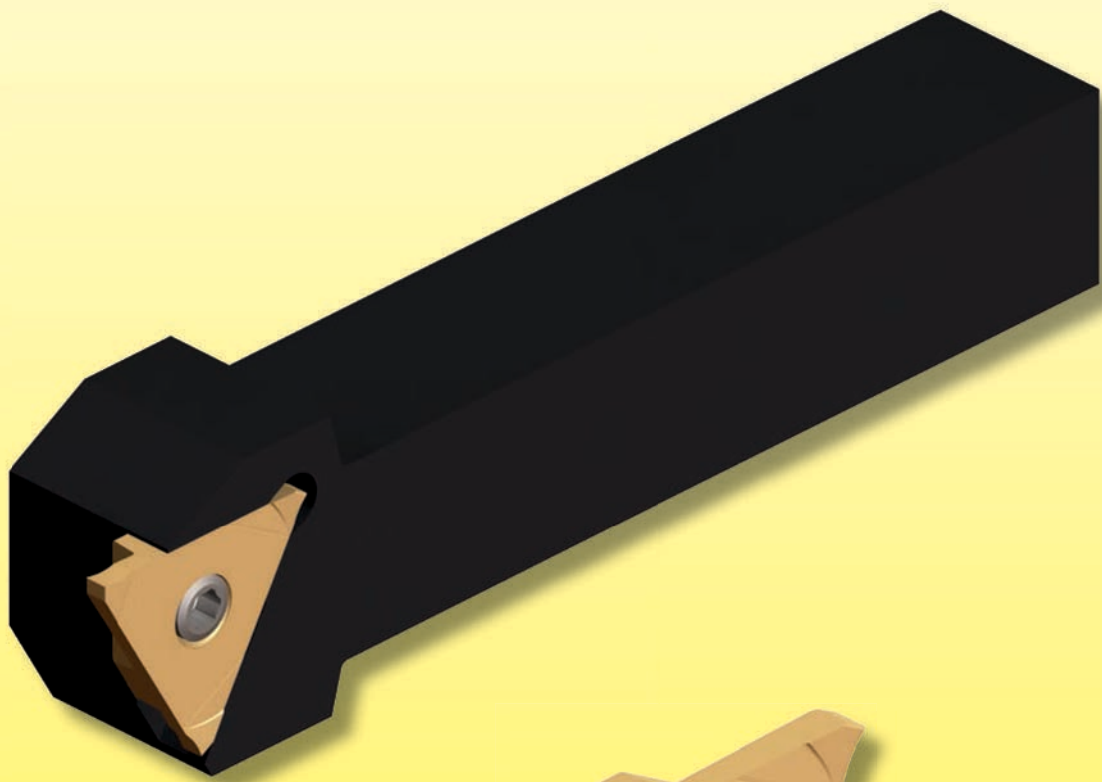
Dimensions in mm

Carbide grades

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

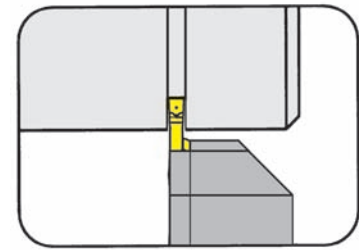
Grooving and Parting off with Indexable Inserts type 316



TOOLHOLDER Type

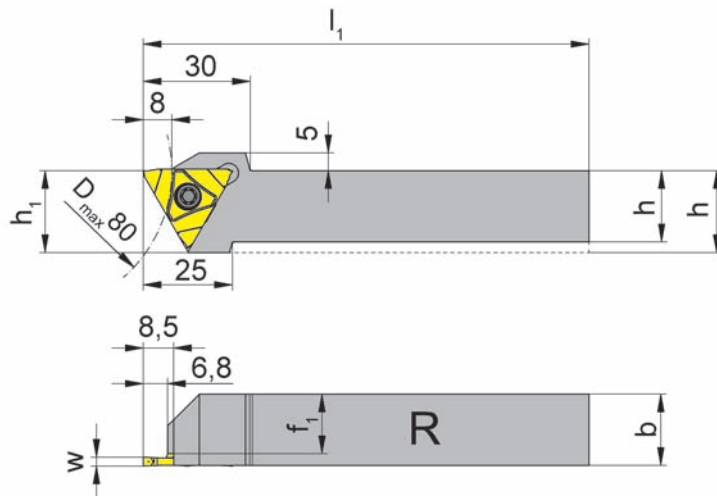
H316

Depth of groove up to .315" (8.0 mm)
 Width of groove up to .059 - .118" (1.5 - 3.0 mm)



for use with Indexable insert

Type S316



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | Size |
|--------------------|----|----|----------------|----------------|----------------|------|
| R/LH316.1616.S3.03 | 16 | 16 | 125 | 23 | 12.7 | 03 |
| R/LH316.2020.S3.03 | 20 | 20 | 125 | 23 | 16.7 | |
| R/LH316.2525.S3.03 | 25 | 25 | 150 | 25 | 21.7 | |
| R/LH316.3225.S3.03 | 32 | 25 | 150 | 32 | 21.7 | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Spare parts

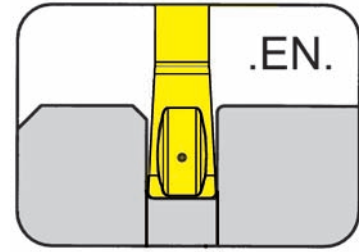
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH316.... | 5.12T20P | T20PQ |

GROOVING and PARTING OFF



INDEXABLE INSERT Type

S316

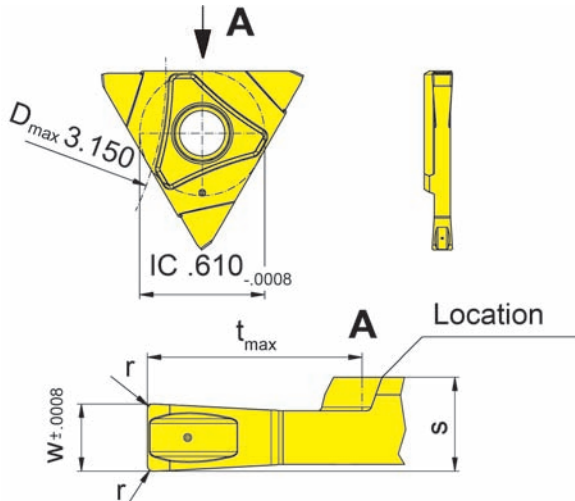


Depth of groove up to .315"
Width of groove .079 - .118"

precision sintered

for use with Toolholder

Type H316...S3.03



R = right hand version shown

L = left hand version

Indexability length
± .001"

| Part number | w | r | s | t _{max} | Size | TN35 | TI25 | TF45 | TF46 | AS6G |
|------------------------------|------|------|------|------------------|------|------|------|------|------|------|
| R/LS316.0200.EN2 | .079 | | | | | | | | | ▲/▲ |
| R/LS316.0250.EN2 | .098 | .008 | .138 | .315 | 03 | | | | | ▲/▲ |
| R/LS316.0300.EN2 | .118 | | | | | | | | | ▲/▲ |
| ▲ on stock Δ 4 weeks | | | | | | P | | | | • |
| • main recommendation | | | | | | M | | | | • |
| o alternative recommendation | | | | | | K | | | | • |
| ■ uncoated grades | | | | | | S | | | | • |
| ■ coated grades | | | | | | N | | | | • |
| ■ brazed/Cermet | | | | | | H | | | | • |

Dimensions in inch

Carbide grades

State R or L version

External machining:

Use right hand inserts in right hand toolholders and left hand inserts in left hand toolholders

HORN - THE LEADERS IN GROOVING TECHNOLOGY



Maximize your milling advantage

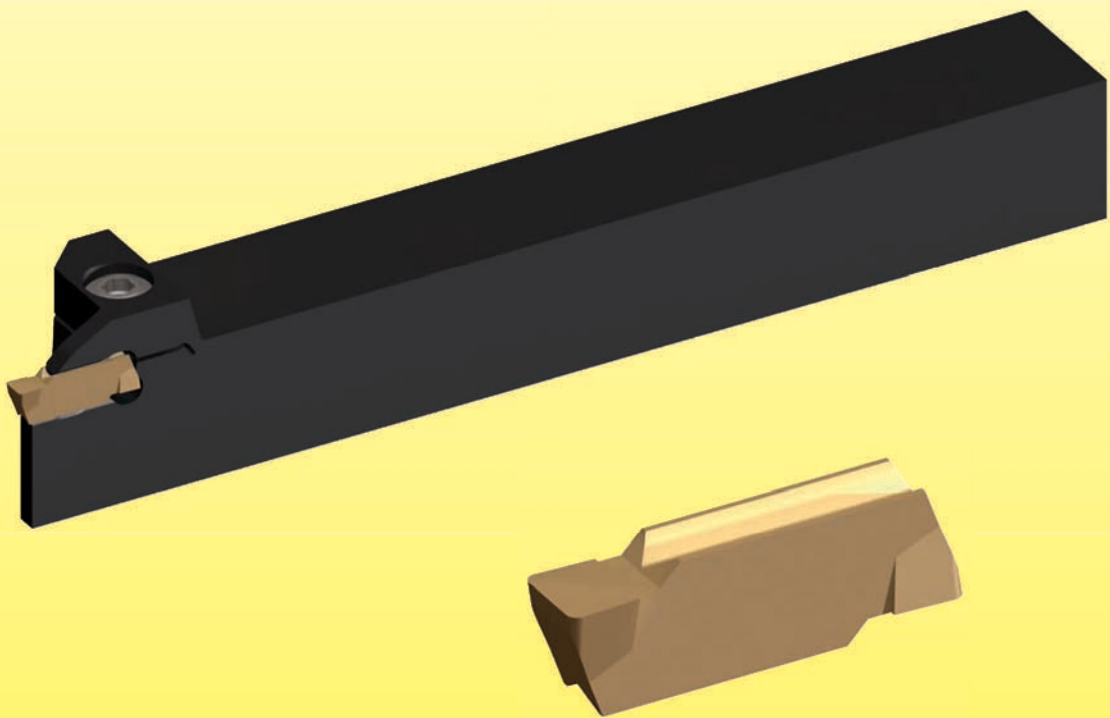
SYSTEM DA

HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

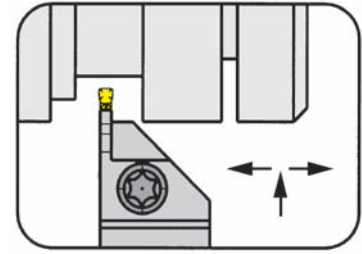
**Indexable Insert type S223 + S123
with chip forming
- precision sintered -**



Width of groove .079 - .118"
Depth of groove up to .984"

TOOLHOLDER Type

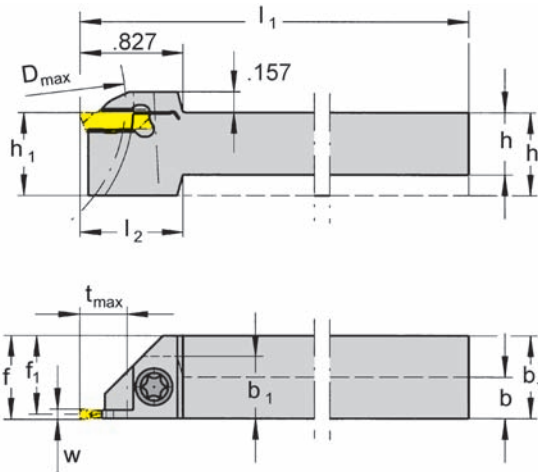
HU223



Depth of groove up to .394"
Clamping range .079 - .118"

for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | b ₁ | t _{max} | D _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LHU223.0375.01 | .375 | .375 | 3.125 | .500 | f ₁ +w/2 | .344 | .750 | .500 | .315 | .984 | 01 | .079 |
| R/LHU223.0500.01 | .500 | .500 | 4.000 | .500 | | .469 | - | - | .394 | 1.968 | | |
| R/LHU223.0625.01 | .625 | .625 | 5.000 | .625 | | .594 | - | - | .394 | 1.968 | | |
| R/LHU223.0750.01 | .750 | .750 | 5.000 | .750 | | .719 | - | - | .394 | 1.968 | | |
| R/LHU223.1000.01 | 1.000 | 1.000 | 6.000 | 1.000 | | .969 | - | - | .394 | 1.968 | | |
| R/LHU223.0375.02 | .375 | .375 | 3.125 | .500 | f ₁ +w/2 | .344 | .750 | .500 | .315 | .984 | 02 | .098 |
| R/LHU223.0500.02 | .500 | .500 | 4.000 | .500 | | .469 | - | - | .394 | 1.968 | | |
| R/LHU223.0625.02 | .625 | .625 | 5.000 | .625 | | .594 | - | - | .394 | 1.968 | | |
| R/LHU223.0750.02 | .750 | .750 | 5.000 | .750 | | .719 | - | - | .394 | 1.968 | | |
| R/LHU223.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | | .969 | - | - | .394 | 1.968 | | |
| R/LHU223.0500.03 | .500 | .500 | 4.000 | .500 | f ₁ +w/2 | .469 | - | - | .394 | 1.968 | 03 | .118 |
| R/LHU223.0625.03 | .625 | .625 | 5.000 | .625 | | .594 | | | | | | |
| R/LHU223.0750.03 | .750 | .750 | 5.000 | .750 | | .719 | | | | | | |
| R/LHU223.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .969 | | | | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

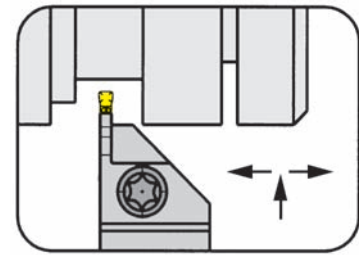
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| R/LHU223.... | 5.11T15P | T15PL |

TOOLHOLDER Type

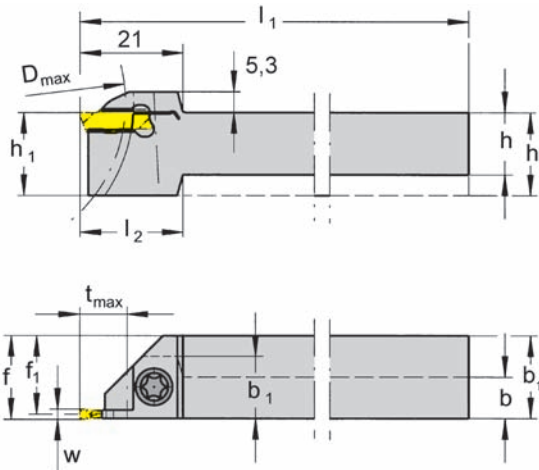
H223

Depth of groove up to .394" (10.0 mm)
Clamping range 2.0 - 3.0 mm



for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | b ₁ | t _{max} | D _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|---------------------|----------------|----------------|----------------|------------------|------------------|------|----------------|
| R/LH223.1010.01 | 10 | 10 | 80 | 12 | f ₁ +w/2 | 9.20 | 20 | 12 | 8 | 25 | 01 | 2.0 |
| R/LH223.1212.01 | 12 | 12 | 100 | 16 | | 11.20 | 21 | - | 10 | 50 | | |
| R/LH223.1616.01 | 16 | 16 | 125 | 16 | | 15.20 | - | - | 10 | 50 | | |
| R/LH223.2020.01 | 20 | 20 | 125 | 20 | | 19.20 | - | - | 10 | 50 | | |
| R/LH223.2525.01 | 25 | 25 | 150 | 25 | | 24.20 | - | - | 10 | 50 | | |
| R/LH223.1010.02 | 10 | 10 | 80 | 12 | f ₁ +w/2 | 9.05 | 20 | 12 | 8 | 25 | 02 | 2.5 |
| R/LH223.1212.02 | 12 | 12 | 100 | 16 | | 11.05 | 21 | - | 10 | 50 | | |
| R/LH223.1616.02 | 16 | 16 | 125 | 16 | | 15.05 | - | - | 10 | 50 | | |
| R/LH223.2020.02 | 20 | 20 | 125 | 20 | | 19.05 | - | - | 10 | 50 | | |
| R/LH223.2525.02 | 25 | 25 | 150 | 25 | | 24.05 | - | - | 10 | 50 | | |
| R/LH223.1010.03 | 10 | 10 | 80 | 12 | f ₁ +w/2 | 8.80 | 20 | 12 | 8 | 25 | 03 | 3.0 |
| R/LH223.1212.03 | 12 | 12 | 100 | 16 | | 10.80 | 21 | - | 10 | 50 | | |
| R/LH223.1616.03 | 16 | 16 | 125 | 16 | | 14.80 | - | - | 10 | 50 | | |
| R/LH223.2020.03 | 20 | 20 | 125 | 20 | | 18.80 | - | - | 10 | 50 | | |
| R/LH223.2525.03 | 25 | 25 | 150 | 25 | | 23.80 | - | - | 10 | 50 | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

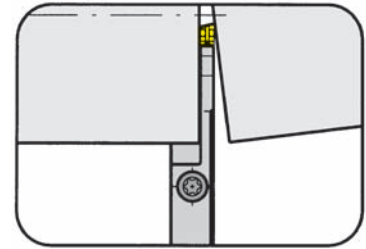
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------------|-------------------|
| R/LH223.... | 5.11T15P | T15PL |

TOOLHOLDER Type

H223

reinforced version

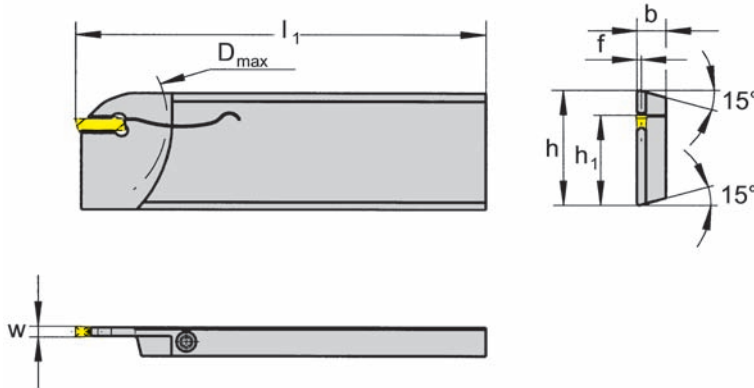


Depth of groove up to
Clamping range up to

.984" (25.0 mm)
.118" (3.0 mm)

for use with Insert

Type S123
S223



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | D _{max} | Size | Clamping range |
|------------------------------------|----------|-----|----------------|----------------|------|------------------|------|----------------|
| R/LH223.2608.01 R/LH223.3208.01 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.80 | 50 | 01 | 2.0 |
| R/LH223.2608.02 R/LH223.3208.02 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.95 | 50 | 02 | 2.5 |
| R/LH223.2608.03 R/LH223.3208.03 | 26 32 | 7.9 | 110 | 21.4 24.8 | 1.20 | 50 | 03 | 3.0 |

State R or L version

w see indexable inserts

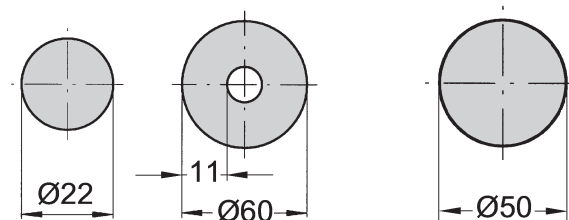
Dimensions in mm

Further sizes upon request

Parting off:

Solid bars or Tubes (S223)

Solid bars (S123)



Spare parts

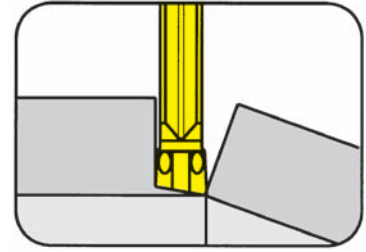
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH223.... | 4.15T15P | T15PL |

GROOVING and PARTING OFF



INSERT Type

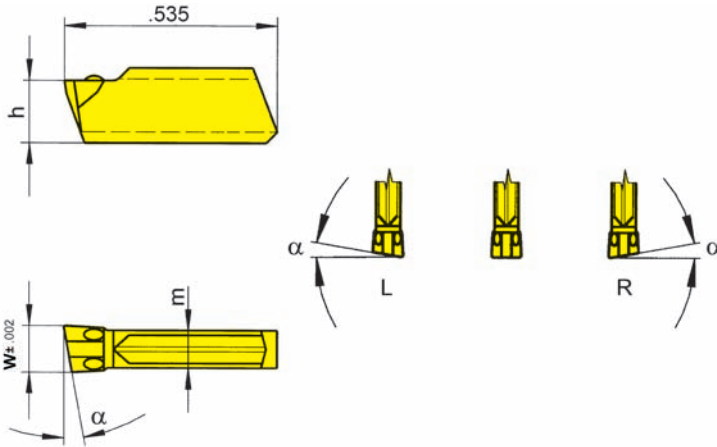
S123



Depth of groove up to .984"
 Width of groove .079 - .118"

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | α | m | h | Size | Carbide grades | | | |
|--|------|-----|------|------|------|----------------|------|------|------|
| | | | | | | MG12 | TN35 | TI25 | TF45 |
| S123.0020.C0 R/LS123.1520.C0 R/LS123.0420.C0 R/LS123.0820.C0 | .079 | 0° | .063 | .144 | 01 | | Δ | | Δ |
| 15° | | Δ/ | | | | /▲ | ▲/Δ | | |
| 4° | | Δ/Δ | | | | Δ/ | Δ/ | | |
| 8° | | Δ/Δ | | | | Δ/▲ | /Δ | | |
| S123.0030.C0 R/LS123.0430.C0 | .118 | 0° | .094 | .156 | 03 | | Δ | | |
| 4° | | | | | | Δ/ | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | • | • | • |
| | | | | | | M | • | • | • |
| | | | | | | K | • | • | • |
| | | | | | | S | • | • | • |
| | | | | | | N | • | • | • |
| | | | | | | H | | | |

Dimensions in inch

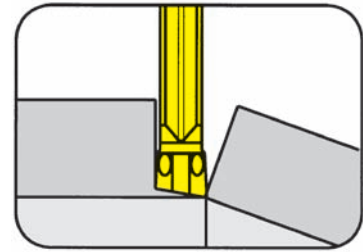
Carbide grades

State R or L version

Indexable inserts can be used in **right and left** hand toolholders.

INSERT Type

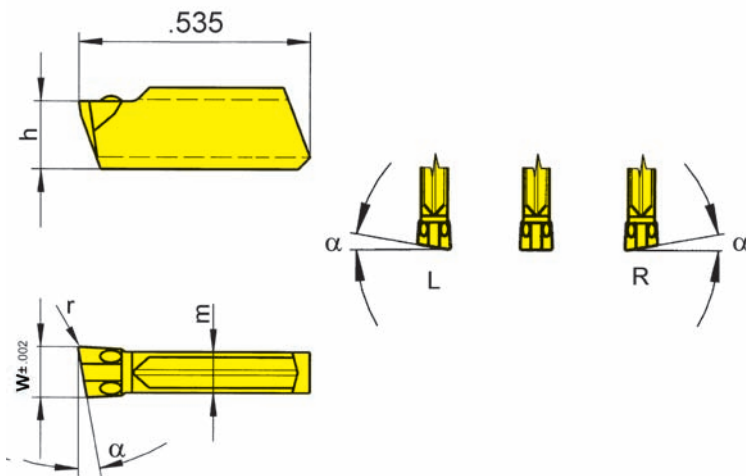
S123



Depth of groove up to .984"
 Width of groove .079 - .118"

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | r | α | m | h | Size | Carbide grades | | | |
|-----------------|------|------|-----|------|------|------|----------------|------|------|------|
| | | | | | | | MG12 | TN35 | TI25 | TF45 |
| S123.0020.C1 | .079 | .006 | 0° | .063 | .144 | 01 | | Δ | Δ | Δ |
| R/LS123.1520.C1 | | | 15° | | | | Δ/ | Δ/ | Δ/ | |
| R/LS123.0420.C1 | | | 4° | | | | Δ/ | Δ/Δ | Δ/ | |
| R/LS123.0820.C1 | | | 8° | | | | Δ/ | Δ/ | | |
| S123.0030.C1 | .118 | .006 | 0° | .094 | .156 | 03 | | Δ | | |
| R/LS123.0830.C1 | | | 8° | | | | | Δ/ | | |
| | | | | | | | P | • | • | • |
| | | | | | | | M | • | • | • |
| | | | | | | | K | • | • | • |
| | | | | | | | S | • | • | • |
| | | | | | | | N | • | • | • |
| | | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

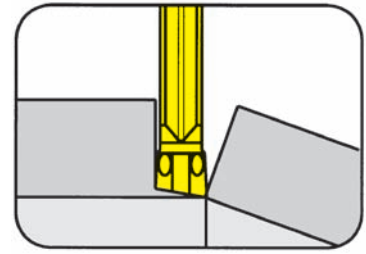
Indexable inserts can be used in **right and left** hand toolholders.

GROOVING and PARTING OFF



INDEXABLE INSERT Type

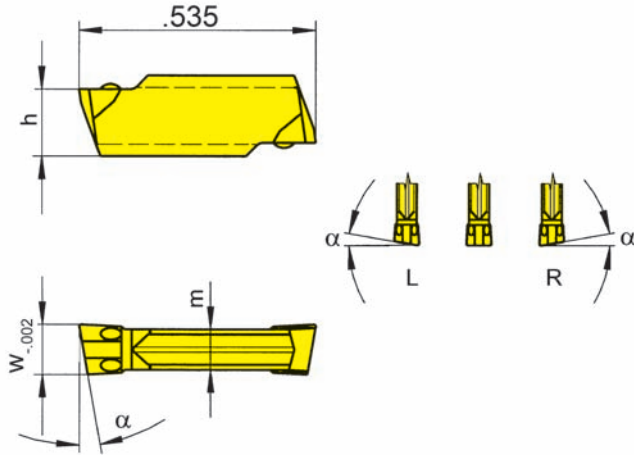
S223



Depth of groove up to .433"
 Width of groove .079 - .118"

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | α | m | h | Size | Carbide grades | | | |
|---|------|-----|------|------|------|----------------|------|------|------|
| | | | | | | MG12 | TN35 | TI25 | TF45 |
| S223.0020.C0 | .079 | 0° | .063 | .144 | 01 | | ▲ | ▲ | ▲ |
| R/LS223.1520.C0 | | 15° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS223.0420.C0 | | 4° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS223.0820.C0 | | 8° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| S223.0025.C0 | .098 | 0° | .075 | .148 | 02 | | | ▲ | |
| R/LS223.0425.C0 | | 4° | | | | ▲/▲ | ▲/ | | |
| R/LS223.0825.C0 | | 8° | | | | ▲/▲ | ▲/ | ▲/▲ | |
| S223.0030.C0 | .118 | 0° | .094 | .156 | 03 | | ▲ | ▲ | ▲ |
| R/LS223.0430.C0 | | 4° | | | | ▲/▲ | | ▲/ | |
| R/LS223.0830.C0 | | 8° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| ▲ on stock ▲ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | P | ● | ● | ● |
| | | | | | | M | ● | ● | ● |
| | | | | | | K | ● | ● | ● |
| | | | | | | S | ● | ● | ● |
| | | | | | | N | ● | ● | ● |
| | | | | | | H | | | |

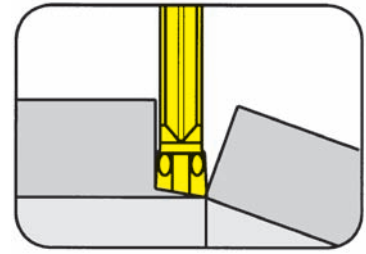
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

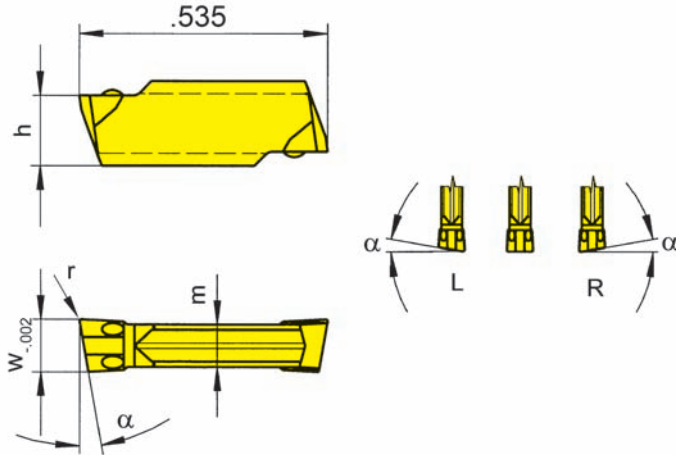
S223



Depth of groove up to .433"
 Width of groove .079 - .118"

for use with Toolholder

Type H223
 HU223



R = right hand version shown

L = left hand version

| Part number | w | r | α | m | h | Size | Carbide grades | | | |
|-----------------|------|------|-----|------|------|------|----------------|------|------|------|
| | | | | | | | MG12 | TN35 | TI25 | TF45 |
| S223.0020.C1 | .079 | .006 | 0° | .063 | .144 | 01 | | ▲ | ▲ | ▲ |
| R/LS223.1520.C1 | | | 15° | | | | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS223.0420.C1 | | | 4° | | | | ▲/▲ | ▲/ | ▲/ | |
| R/LS223.0820.C1 | | | 8° | | | | ▲/▲ | ▲/ | ▲/▲ | |
| S223.0025.C1 | .098 | .006 | 0° | .075 | .148 | 02 | | ▲ | ▲ | ▲ |
| R/LS223.0425.C1 | | | 4° | | | | /▲ | ▲/ | | |
| R/LS223.0825.C1 | | | 8° | | | | | ▲/ | ▲/▲ | |
| S223.0030.C1 | .118 | .006 | 0° | .094 | .156 | 03 | | ▲ | ▲ | ▲ |
| R/LS223.0430.C1 | | | 4° | | | | ▲/▲ | ▲/ | | |
| R/LS223.0830.C1 | | | 8° | | | | ▲/ | ▲/ | ▲/ | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

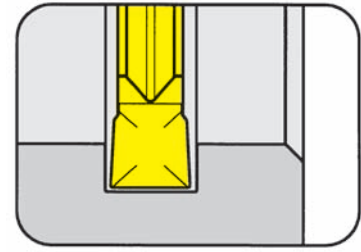
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

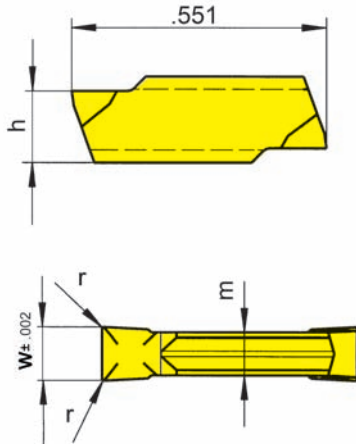
S223



Depth of groove up to .433"
Width of groove .079 - .118"

for use with Toolholder

Type H223
HU223



| Part number | w | r | m | h | Size | Carbide grades | | | | |
|--------------|------|------|------|------|------|----------------|-----|------|------|------|
| | | | | | | MG12 | H54 | TN35 | TI25 | TF45 |
| S223.0200.32 | .079 | .008 | .063 | .144 | 01 | ▲ | ▲ | ▲ | ▲ | |
| S223.0250.32 | .098 | .008 | .079 | .148 | 02 | ▲ | ▲ | ▲ | ▲ | |
| S223.0300.32 | .118 | .008 | .094 | .156 | 03 | ▲ | ▲ | ▲ | ▲ | |
| | | | | | | P | ○ | ● | ● | ● |
| | | | | | | M | ● | ● | ● | ● |
| | | | | | | K | ● | ● | ● | ● |
| | | | | | | S | ● | ● | ● | ● |
| | | | | | | N | ● | ● | ● | ● |
| | | | | | | H | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

HORN - THE LEADERS IN GROOVING TECHNOLOGY



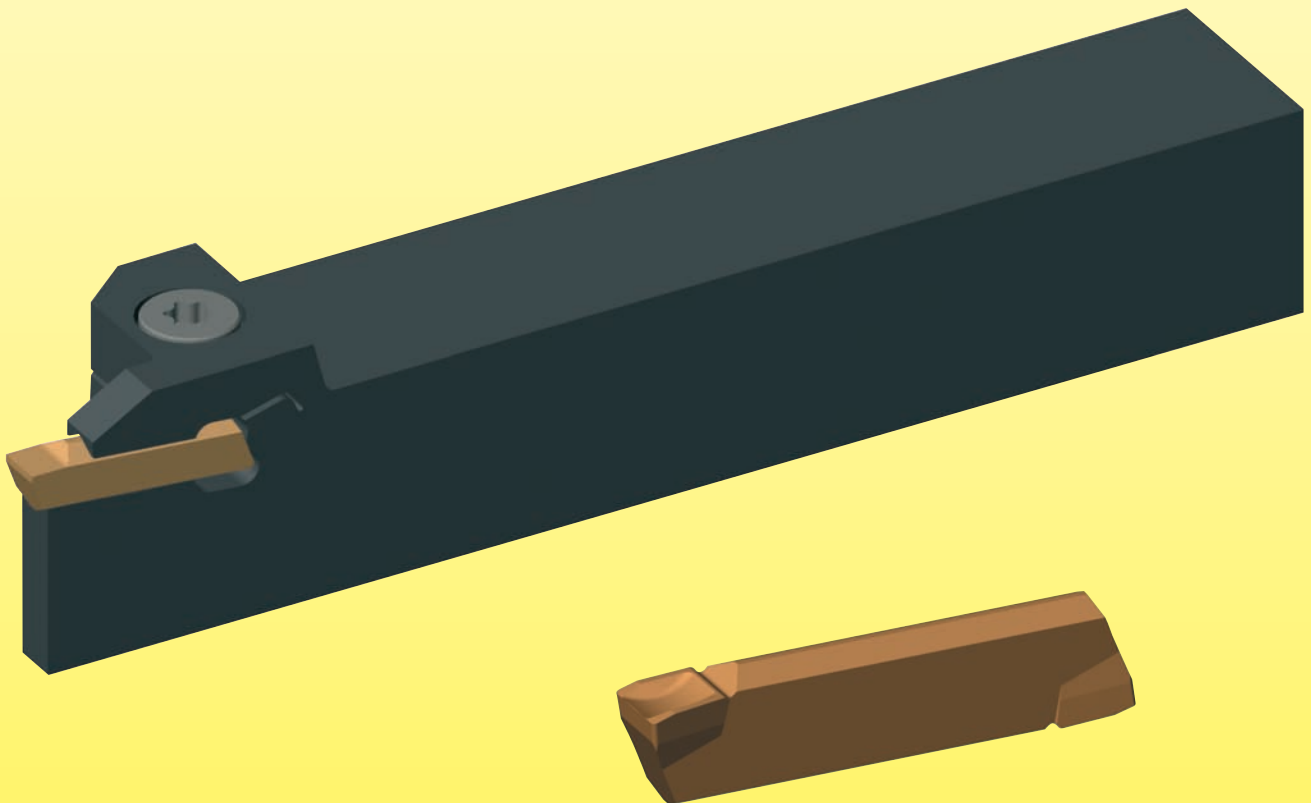
Thread whirling

HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

**Indexable Insert Type S224
with chip forming
- precision sintered -**



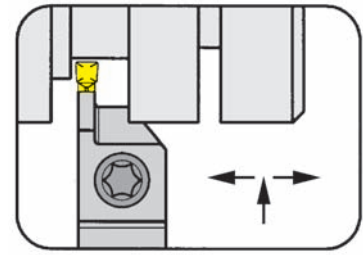
| | |
|-----------------------|--------------|
| Width of groove | .079 - .118" |
| Depth of groove up to | .709" |

TOOLHOLDER Type

HU224

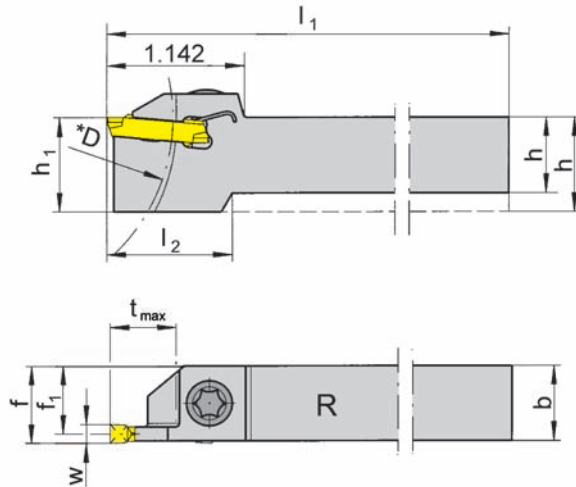
Depth of groove up to
Clamping range up to

.551"
.146"



for use with Indexable
insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LHU224.0625.01 | .625 | .625 | 5.000 | .750 | | .595 | 1.000 | | | |
| R/LHU224.0750.01 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .720 | - | .551 | 01 | .079 - .094 |
| R/LHU224.1000.01 | 1.000 | 1.000 | 6.000 | 1.000 | | .970 | - | | | |
| R/LHU224.0625.02 | .625 | .625 | 5.000 | .750 | | .588 | 1.000 | | | |
| R/LHU224.0750.02 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .713 | - | .551 | 02 | .094 - .110 |
| R/LHU224.1000.02 | 1.000 | 1.000 | 6.000 | 1.000 | | .963 | - | | | |
| R/LHU224.0625.03 | .625 | .625 | 5.000 | .750 | | .580 | 1.000 | | | |
| R/LHU224.0750.03 | .750 | .750 | 5.000 | .750 | f ₁ +w/2 | .705 | - | .551 | 03 | .110 - .146 |
| R/LHU224.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .955 | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

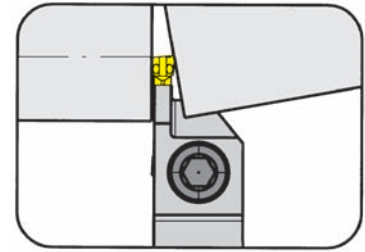
* t_{max} up to D = 3.150"

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| R/LHU224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

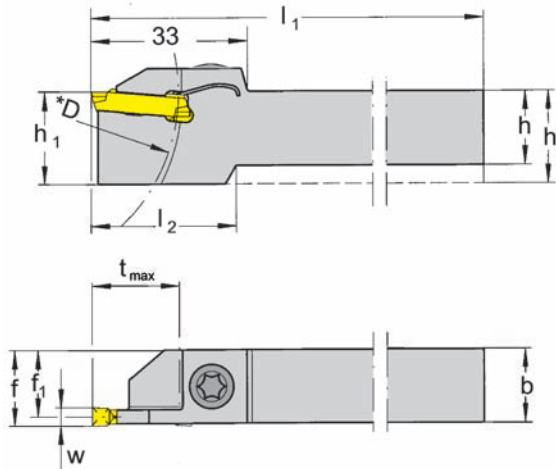
H224



Depth of groove up to .551" (14.0 mm)
Clamping range up to .146" (3.7 mm)

for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LH224.1616.01 | 16 | 16 | 125 | 20 | | 15.3 | 25 | | | |
| R/LH224.2020.01 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 19.3 | - | 14 | 01 | 2.0 - 2.4 |
| R/LH224.2525.01 | 25 | 25 | 150 | 25 | | 24.3 | - | | | |
| R/LH224.1616.02 | 16 | 16 | 125 | 20 | | 15.1 | 25 | | | |
| R/LH224.2020.02 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 19.1 | - | 14 | 02 | 2.4 - 2.8 |
| R/LH224.2525.02 | 25 | 25 | 150 | 25 | | 24.1 | - | | | |
| R/LH224.1616.03 | 16 | 16 | 125 | 20 | | 14.9 | 25 | | | |
| R/LH224.2020.03 | 20 | 20 | 125 | 20 | f ₁ +w/2 | 18.9 | - | 14 | 03 | 2.8 - 3.7 |
| R/LH224.2525.03 | 25 | 25 | 150 | 25 | | 23.9 | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

* t_{max} up to D = 80 mm

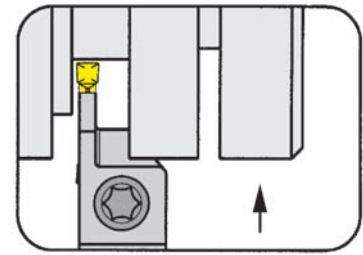
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|----------|-------------------|
| R/LH224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

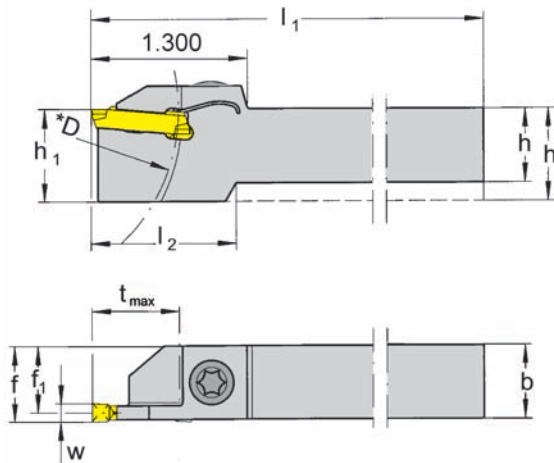
HU224

Depth of groove up to .709"
Clamping range up to .146"



for use with Indexable
insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|------------------|-------|-------|----------------|---------------------|----------------|------------------|------|----------------|
| R/LHU224.0625.21 | .625 | .625 | .595 | | 1.125 | | | |
| R/LHU224.0750.21 | .750 | .750 | .720 | f ₁ +w/2 | - | .709 | 01 | .079 - .094 |
| R/LHU224.1000.21 | 1.000 | 1.000 | .970 | | - | | | |
| R/LHU224.0625.22 | .625 | .625 | .588 | | 1.125 | | | |
| R/LHU224.0750.22 | .750 | .750 | .713 | f ₁ +w/2 | - | .709 | 02 | .094 - .110 |
| R/LHU224.1000.22 | 1.000 | 1.000 | .963 | | - | | | |
| R/LHU224.0625.23 | .625 | .625 | .580 | | 1.125 | | | |
| R/LHU224.0750.23 | .750 | .750 | .705 | f ₁ +w/2 | - | .709 | 03 | .110 - .146 |
| R/LHU224.1000.23 | 1.000 | 1.000 | .955 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

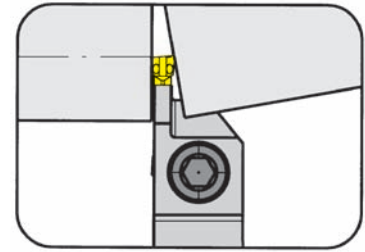
* t_{max} up to D = 3.150"

Spare parts

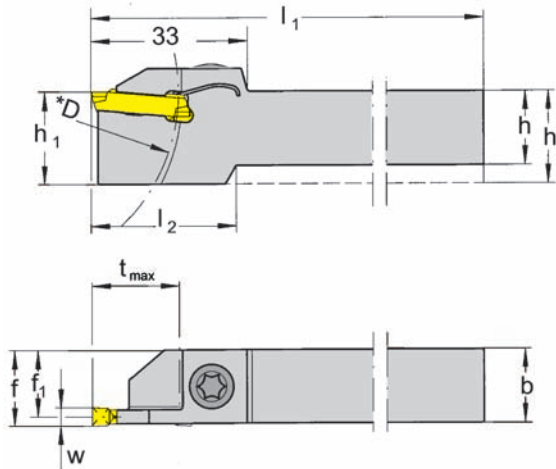
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------------|-------------------|
| R/LHU224.... | 6.23T25P | T25PQ |

TOOLHOLDER Type

H224



Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type S224

R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | Size | Clamping range |
|-----------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|------|----------------|
| R/LH224.1616.21 | 16 | 16 | 125 | 20 | 15.3 | f ₁ +w/2 | 30 | 18 | 01 | 2.0 - 2.4 |
| R/LH224.2020.21 | 20 | 20 | 125 | 20 | 19.3 | | - | | | |
| R/LH224.2525.21 | 25 | 25 | 150 | 25 | 24.3 | | - | | | |
| R/LH224.1616.22 | 16 | 16 | 125 | 20 | 15.1 | f ₁ +w/2 | 30 | 18 | 02 | 2.4 - 2.8 |
| R/LH224.2020.22 | 20 | 20 | 125 | 20 | 19.1 | | - | | | |
| R/LH224.2525.22 | 25 | 25 | 150 | 25 | 24.1 | | - | | | |
| R/LH224.1608.23 | 16 | 8 | 100 | 20 | 6.9 | f ₁ +w/2 | - | 18 | 03 | 2.8 - 3.7 |
| R/LH224.1616.23 | 16 | 16 | 125 | 20 | 14.9 | | 30 | | | |
| R/LH224.2020.23 | 20 | 20 | 125 | 20 | 18.9 | | - | | | |
| R/LH224.2525.23 | 25 | 25 | 150 | 25 | 23.9 | | - | | | |

State R or L version

w see indexable inserts

Dimensions in mm

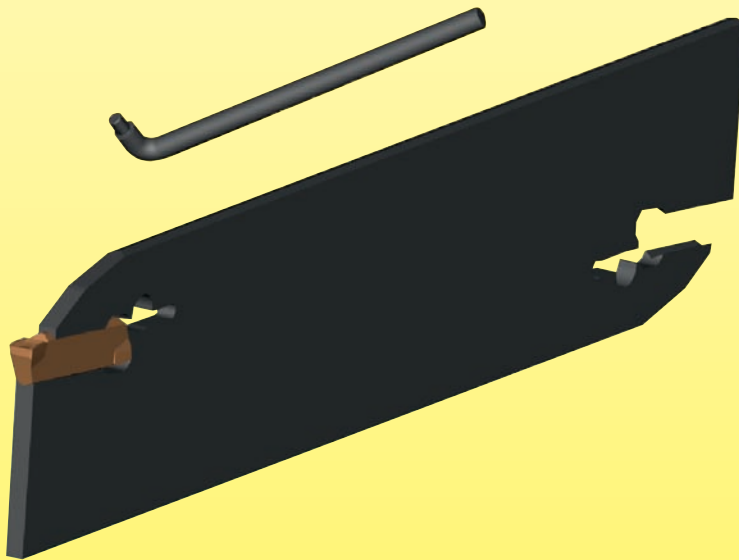
Further sizes upon request

* t_{max} up to D = 80 mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|----------------------|-----------------|-------------------|
| R/LH224.1608.23 | 4.15T15P | T15PQ |
| R/LH224.....21/22/23 | 6.23T25P | T25PQ |

CUTTER BODY Type H224 with self clamping, double seatings

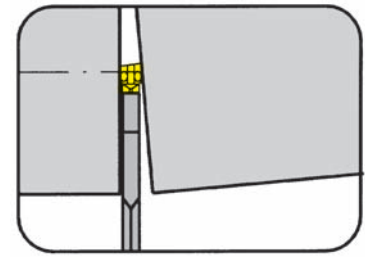


| | |
|-----------------------|-------|
| Width of groove | .118" |
| Depth of groove up to | .709" |

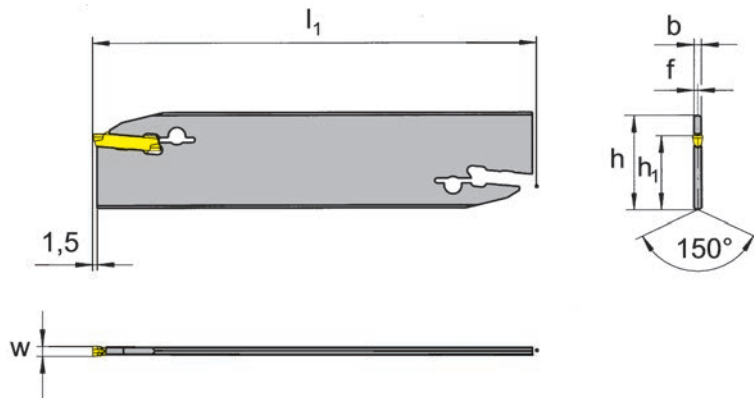
TOOLHOLDER Type

H224

with self clamping



Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type S224

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | Size | Clamping range |
|--------------|----|-----|----------------|----------------|------|------------------|------|----------------|
| H224.2602.02 | 26 | 1.9 | 110 | 21.4 | 0.95 | 18 | 02 | 2.4 - 2.8 |
| H224.2603.03 | 26 | 2.3 | 110 | 21.4 | 1.15 | 18 | 03 | 2.8 - 3.7 |
| H224.3203.03 | 32 | 2.3 | 150 | 24.8 | 1.15 | 18 | 03 | 2.8 - 3.7 |

Further sizes upon request

w see indexable inserts

Dimensions in mm

Spare parts

| Toolholder | Wrench |
|------------|--------|
| H224.... | P39L |

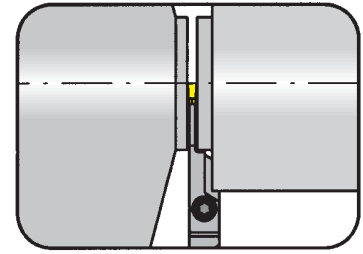
TOOLHOLDER Type

H224

reinforced version

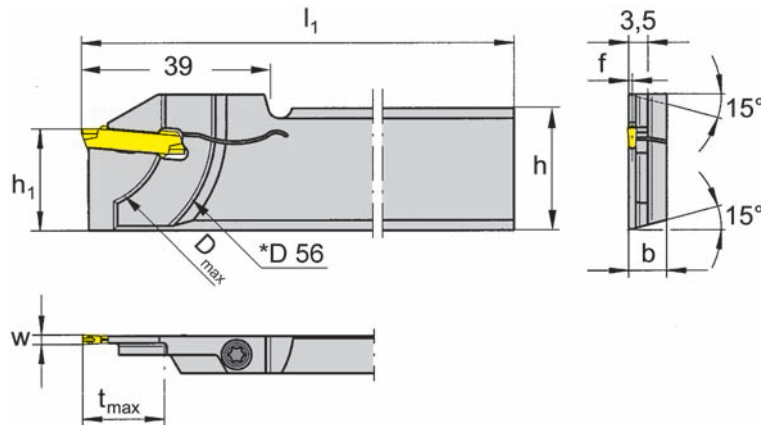
Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)

for machines TRAUB (TNK28/TNK36/TNL26)



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | t_{max} | D_{max} | Size | Clamping range |
|-----------------|----|-----|-------|-------|------|-----------|-----------|------|----------------|
| R/LH224.2608.81 | 26 | 7.9 | 110 | 21.4 | 0.75 | 18 | 36 | 01 | 2.0 - 2.4 |
| R/LH224.2608.82 | 26 | 7.9 | 110 | 21.4 | 0.95 | 18 | 36 | 02 | 2.4 - 2.8 |
| R/LH224.2608.83 | 26 | 7.9 | 110 | 21.4 | 1.10 | 18 | 36 | 03 | 2.8 - 3.7 |

State R or L version

w see indexable inserts

Dimensions in mm

*D 56 = D_{max} of the subspindle

Further sizes upon request

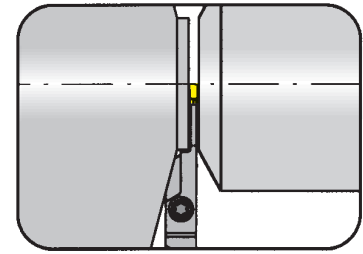
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|-----------------|-------------------|
| R/LH224.2608.8... | 4.15T15P | T15PL |

TOOLHOLDER Type

H224

reinforced version

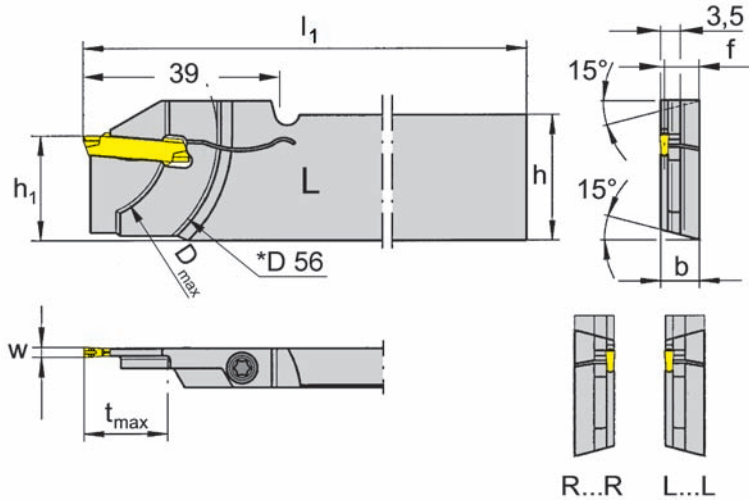


Depth of groove up to .827" (21.0 mm)
Clamping range up to .110" (2.8 mm)

for machines TRAUB (TNK28/TNK36/TNL26)

for use with Indexable insert

Type S224



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size | Clamping range |
|--------------------|----|-----|----------------|----------------|------|------------------|------------------|------|----------------|
| R/LH224.2608.81R/L | 26 | 7.9 | 110 | 21.4 | 7.15 | 18 | 36 | 01 | 2.0 - 2.4 |
| R/LH224.2608.82R/L | 26 | 7.9 | 110 | 21.4 | 6.95 | 18 | 36 | 02 | 2.4 - 2.8 |
| R/LH224.2608.83R/L | 26 | 7.9 | 110 | 21.4 | 6.75 | 18 | 36 | 03 | 2.8 - 3.7 |
| RH224.3208.83R | 28 | 7.9 | 110 | 24.8 | 6.80 | 21 | 42 | | |

State R or L version

w see indexable inserts

Dimensions in mm

*D 56 = D_{max} of the subspindle

* For specific clamping device on subspindle (e.g. HAINBUCH Axfixchuck)

Further sizes upon request

Spare parts

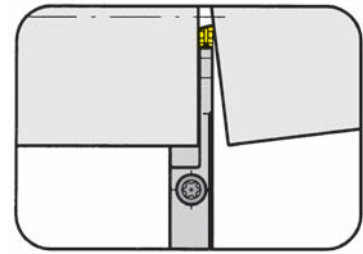
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------------------------|----------|-------------------|
| R/LH224.2608.81R/L/82R/L/83R/L | 4.15T15P | T15PL |
| RH224.3208.83R | 5.13T20P | T20PQ |

TOOLHOLDER Type

H224

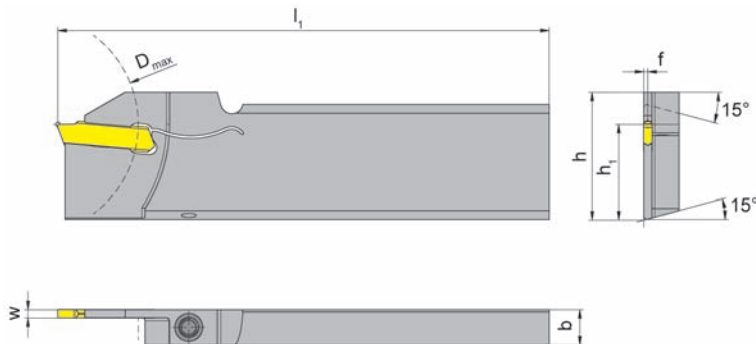
reinforced version

Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type S224



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | t _{max} | D _{max} | Size | Clamping range |
|------------------------------------|----------|-----|----------------|----------------|-----|------------------|------------------|------|----------------|
| R/LH224.2608.01 R/LH224.3208.01 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.7 | 18 | 50 | 01 | 2.0 - 2.4 |
| R/LH224.2608.02 R/LH224.3208.02 | 26 32 | 7.9 | 110 | 21.4 24.8 | 0.9 | 18 | 50 | 02 | 2.4 - 2.8 |
| R/LH224.2608.03 R/LH224.3208.03 | 26 32 | 7.9 | 110 | 21.4 24.8 | 1.1 | 18 | 50 | 03 | 2.8 - 3.7 |

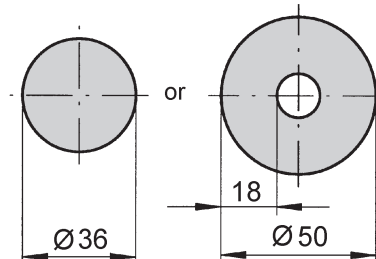
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Parting off solid bars Parting off tubes



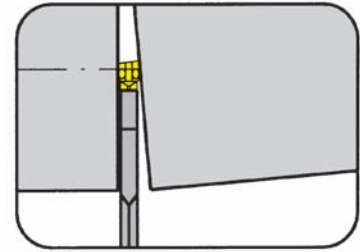
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------------|-------------------|
| R/LH224.... | 4.20T15P | T15PL |

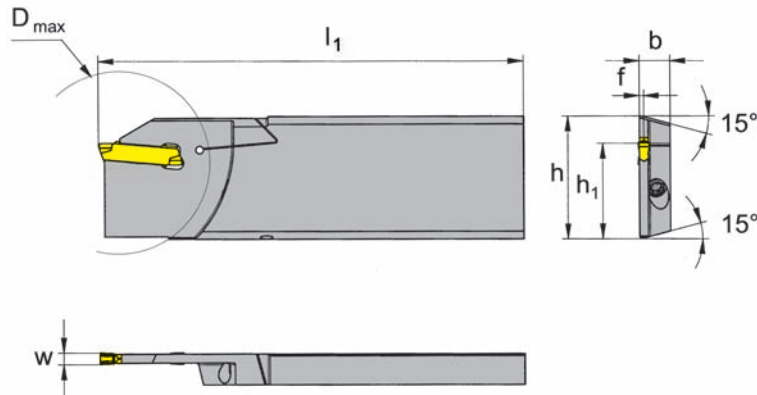
TOOLHOLDER Type

H224

with screwed clamping



Depth of groove up to .709" (18.0 mm)
Clamping range up to .146" (3.7 mm)



for use with Indexable insert

Type S224

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | t_{max} | D_{max} | Size | Clamping range |
|------------------------|----|---|-------|-------|------|-----------|-----------|------|----------------|
| R/LH224.3208.93 | 32 | 8 | 112 | 24.8 | 1.15 | 18 | 50 | 03 | 2.8 - 3.7 |

State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

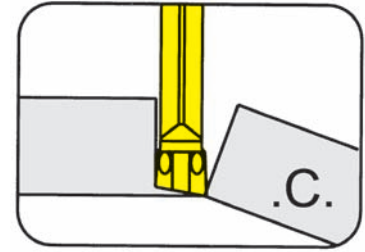
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench | Pin |
|-----------------|----------------------|-------------------|----------------------|
| R/LH224.3208.93 | 030.0413.T15P | T15PQ | 020.0040.0999 |

INDEXABLE INSERT Type

S224

with chip forming

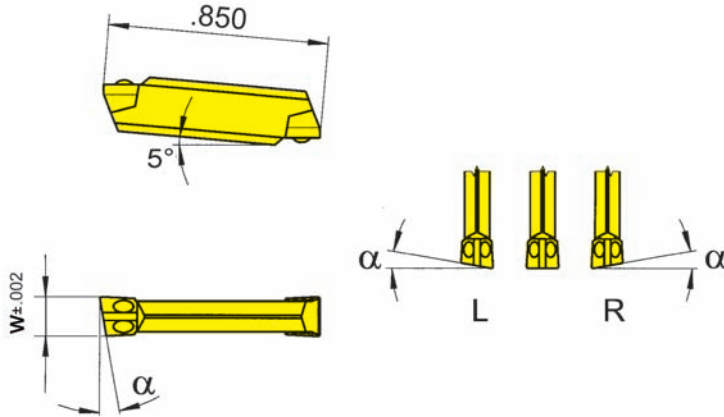


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .118" |

precision sintered

for use with Toolholder

Type H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | α | Size | TN35 | TI25 | TF45 | TC92 |
|------------------------------|------|-----|------|------|------|------|------|
| | | | | | | | |
| S224.0020.C0 | .079 | 0° | 01 | ▲ | ▲ | ▲ | |
| R/LS224.1520.C0 | | 15° | | ▲/▲ | | ▲/▲ | Δ/Δ |
| R/LS224.0520.C0 | | 5° | | ▲/▲ | | ▲/▲ | |
| R/LS224.0820.C0 | | 8° | | ▲/▲ | | ▲/▲ | |
| S224.0025.C0 | .098 | 0° | 02 | ▲ | ▲ | ▲ | |
| R/LS224.0525.C0 | | 5° | | ▲/▲ | ▲/ | ▲/Δ | |
| R/LS224.0825.C0 | | 8° | | ▲/▲ | | Δ/ | |
| S224.0030.C0 | .118 | 0° | 03 | ▲ | ▲ | ▲ | |
| R/LS224.0530.C0 | | 5° | | ▲/▲ | | ▲/▲ | ▲/Δ |
| R/LS224.0830.C0 | | 8° | | ▲/▲ | | ▲/▲ | |
| ▲ on stock Δ 4 weeks | | | | P | • | • | • |
| • main recommendation | | | | M | • | • | • |
| o alternative recommendation | | | | K | • | • | • |
| ■ uncoated grades | | | | S | • | • | • |
| ■ coated grades | | | | N | • | • | • |
| ■ brazed/Cermet | | | | H | | | |

Carbide grades

Dimensions in inch

State R or L version

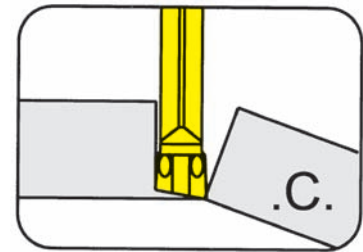
Further sizes upon request

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S224

with chip forming

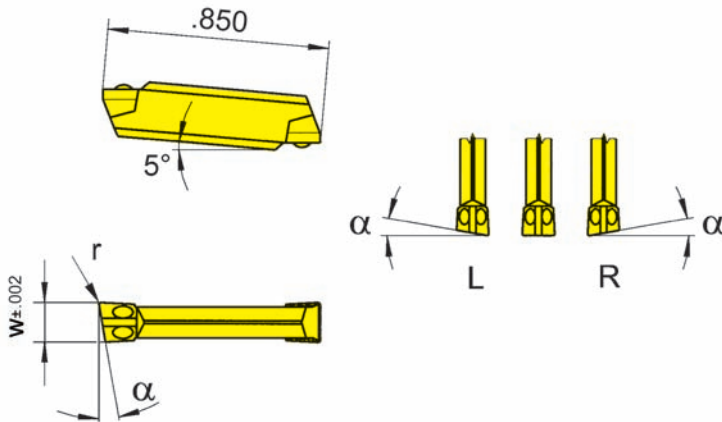


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .118" |

precision sintered

for use with Toolholder

Type H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | r | α | Size | TN35 | TI25 | TF45 | TC92 | |
|---|------|------|-----|------|------|------|------|------|---|
| | | | | | | | | | |
| S224.0020.C1 | .079 | .006 | 0° | 01 | ▲ | ▲ | ▲ | ▲ | |
| R/LS224.1520.C1 | | | ▲/▲ | | | ▲/▲ | | | |
| R/LS224.0520.C1 | | | ▲/▲ | | | ▲/▲ | | | |
| R/LS224.0820.C1 | | | | | | ▲/▲ | | | |
| S224.0025.C1 | .098 | .006 | 0° | 02 | ▲ | ▲ | ▲ | | |
| R/LS224.0525.C1 | | | ▲/▲ | | | ▲/▲ | ▲ | | |
| R/LS224.0825.C1 | | | | | | ▲/▲ | | | |
| S224.0030.C1 | .118 | .006 | 0° | 03 | ▲ | ▲ | ▲ | ▲ | |
| R/LS224.0530.C1 | | | ▲/▲ | | | ▲/▲ | | | |
| R/LS224.0830.C1 | | | ▲/▲ | | | ▲/▲ | | | |
| ▲ on stock ▲ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | ● | ● | ● |
| | | | | | M | ● | ● | ● | ● |
| | | | | | K | ● | ● | ● | ● |
| | | | | | S | ● | ● | ● | ● |
| | | | | | N | ● | ● | ● | ● |
| | | | | | H | | | | |

Carbide grades

Dimensions in inch

State R or L version

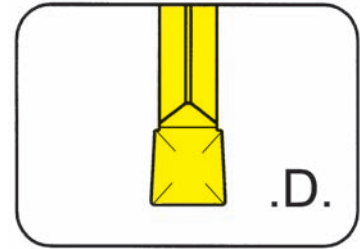
Further sizes upon request

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S224

with chip forming

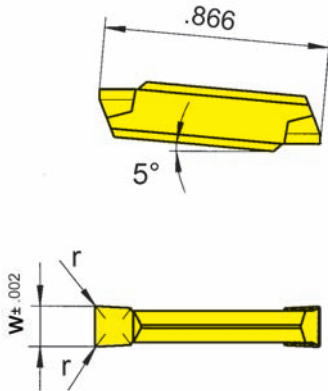


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .118" |

D2 precision sintered / D2.G precision ground

for use with Toolholder

Type H224
HU224



Indexability length
± .002"

| Part number | w | r | Size | K10 | H54 | TN32 | TN35 | TI22 | TI25 | TF45 | TF46 | TC92 |
|--|------|------|------|-----|-----|------|------|------|------|------|------|------|
| S224.0200.D2.G S224.0200.D2 | .079 | .008 | 01 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0250.D2.G S224.0250.D2 | .098 | .008 | 02 | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| S224.0300.D2.G S224.0300.D2 | .118 | .008 | 03 | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● | ● | ● | ● | ● | |
| | | | | M | ● | | ● | ● | ● | ● | ○ | |
| | | | | K | | | ● | ● | ● | ● | ● | |
| | | | | S | | | ● | ● | ● | ● | ○ | |
| | | | | N | | | ● | ● | ● | ● | ● | |
| | | | | H | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

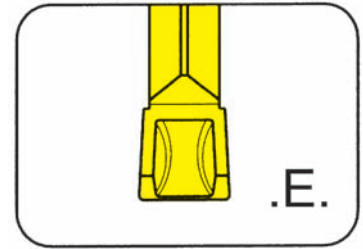
GROOVING and PARTING OFF



INDEXABLE INSERT Type

S224

with chip former

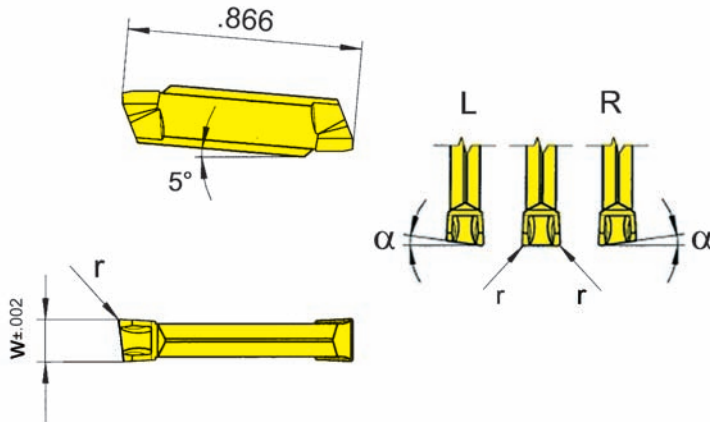


| | |
|-----------------------|--------------|
| Depth of groove up to | .709" |
| Width of groove | .079 - .118" |

precision sintered

for use with Toolholder

Type H224
HU224



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | r | α | Size | T122 | T125 | TF43 | TF45 | TC92 | TC93 | AS62 |
|---|------|----------------------|----------------|------|------|------|------|------|------|------|------|
| S224.0200.E2 R/LS224.0520.E2 | .079 | .008 | 0° 5° | 01 | | | ▲ | ▲ | ▲ | ▲ | ▲/▲ |
| S224.0250.E2 R/LS224.0525.E2 | .098 | .008 | 0° 5° | 02 | | | ▲ | ▲ | ▲ | | ▲/▲ |
| S224.0300.E2 S224.0300.E4 R/LS224.0530.E2 | .118 | .008 .016 .008 | 0° 0° 5° | 03 | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| M | | ● | | ● | | | | | | | |
| K | | ● | | ● | | | | | | | |
| S | | ● | | ● | | | | | | | |
| N | | ● | | ● | | | | | | | |
| H | | | | | | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Further sizes upon request

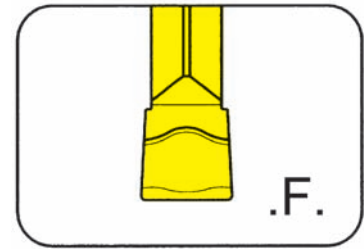
Indexable inserts can be used in **right and left hand** toolholders.

Carbide grades

INDEXABLE INSERT Type

S224

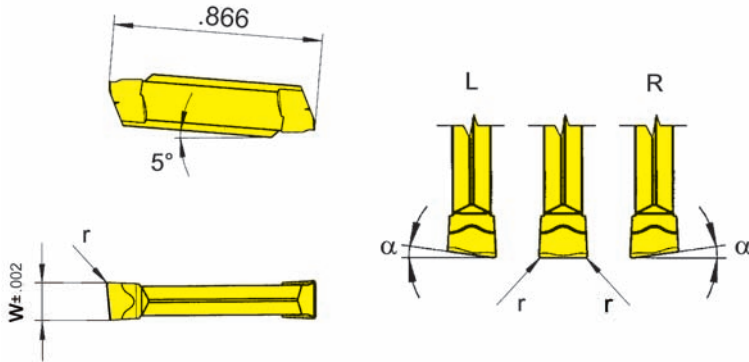
with chip forming



Depth of groove up to .709"
 Width of groove .079 - .118"

for use with Toolholder

Type H224
 HU224



R = right hand version shown

L = left hand version

Indexability length
 ± .002"

| Part number | w | r | α | Size | T122 | T125 | TF42 | TF43 | TF45 | TF46 |
|--|------|------|----------|------|------|------|------|------|------|------|
| S224.0200.F2 R/LS224.0520.F2 | .079 | .008 | 0° 5° | 01 | ▲ | ▲ | | ▲ | ▲ | ▲ |
| S224.0250.F2 R/LS224.0525.F2 | .098 | .008 | 0° 5° | 02 | ▲ | | | ▲ | ▲ | ▲ |
| S224.0300.F2 R/LS224.0530.F2 | .118 | .008 | 0° 5° | 03 | ▲/▲ | ▲ | | ▲ | ▲ | ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | ● | ● | ● | ● |
| | | | | | M | ● | ● | ● | ○ | ○ |
| | | | | | K | ● | ● | ● | ● | ● |
| | | | | | S | ● | ● | ● | ○ | ○ |
| | | | | | N | ● | ● | ● | ● | ● |
| | | | | | H | | | | | |

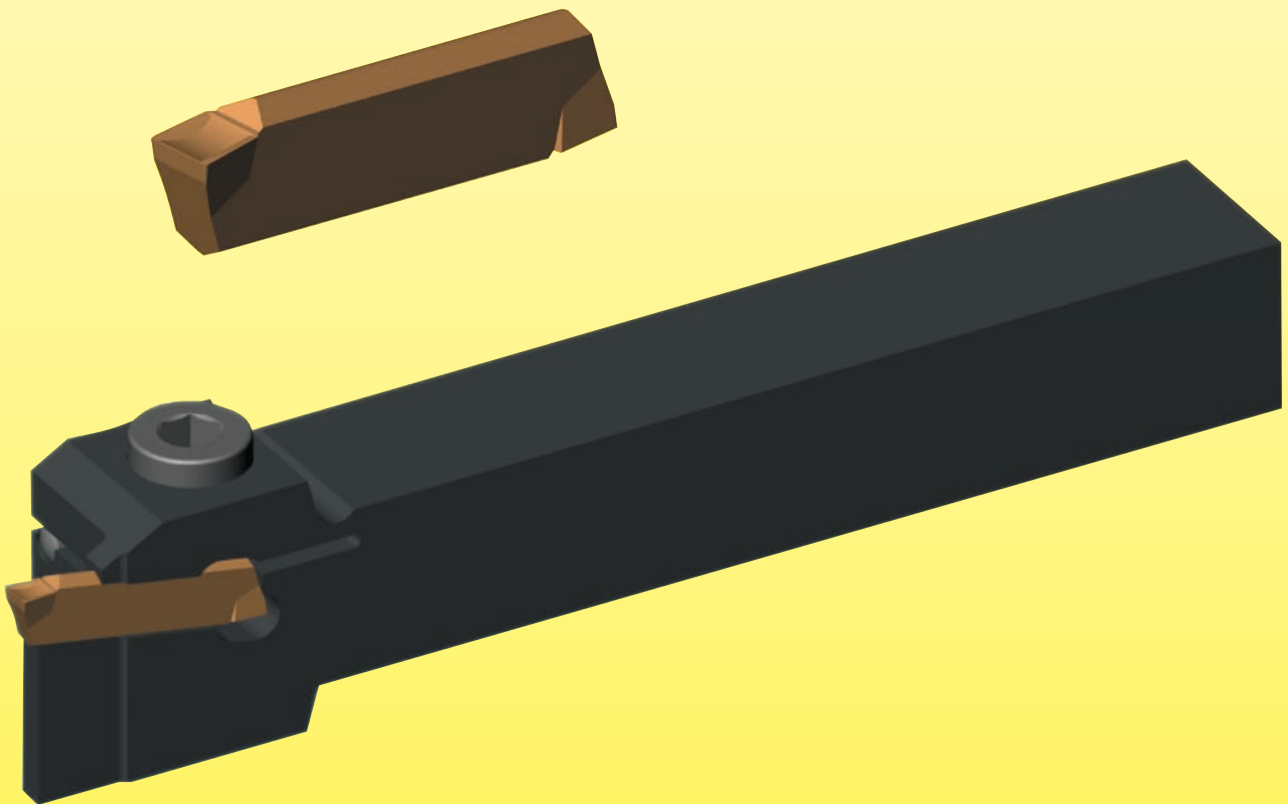
Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

Carbide grades

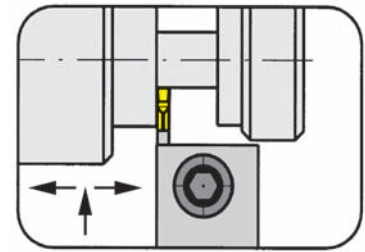
**Indexable Insert Type S229
with chip forming
- precision sintered -**



Width of groove .118 - .197"
Depth of groove up to .984"

TOOLHOLDER Type

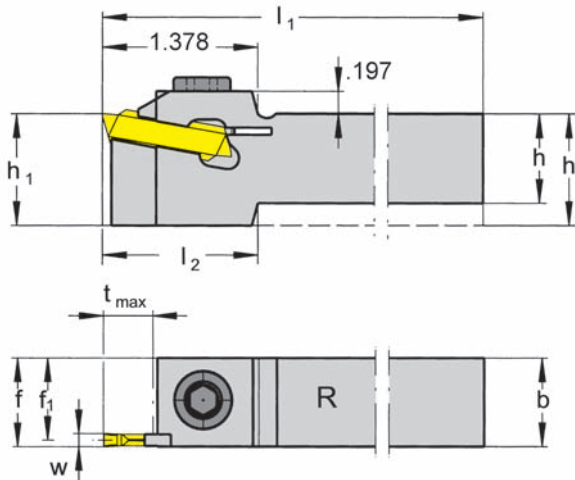
U210



Depth of groove up to **.433"**
Clamping range **.118 - .197"**

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU210.0625.03 | .625 | .625 | 6.000 | 1.000 | f ₁ +w/2 | .568 | 1.750 | .433 | 03 | .118 - .157 |
| R/LU210.0750.03 | .750 | .750 | 6.000 | 1.000 | | .693 | 1.375 | | | |
| R/LU210.1000.03 | 1.000 | 1.000 | 6.000 | 1.000 | | .943 | - | | | |
| R/LU210.1250.03 | 1.250 | 1.000 | 6.625 | 1.250 | .943 | - | - | - | - | - |
| R/LU210.0750.04 | .750 | .750 | 6.000 | 1.000 | f ₁ +w/2 | .659 | 1.375 | .433 | 04 | .157 - .197 |
| R/LU210.1000.04 | 1.000 | 1.000 | 6.000 | 1.000 | | .909 | - | | | |
| R/LU210.1250.04 | 1.250 | 1.000 | 6.625 | 1.250 | | .909 | - | | | |

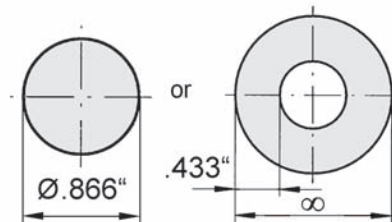
State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Parting off solid bars Parting off tubes

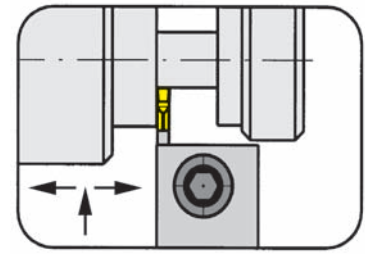


Spare parts

| Toolholder | Screw | Wrench |
|-------------|--------------|------------------|
| R/LU210.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

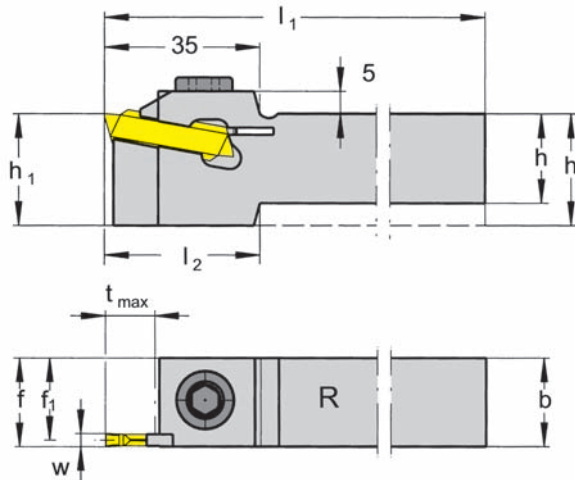
210



Depth of groove up to .433" (11.0 mm)
Clamping range .118 - .197" (3.0 - 5.0 mm)

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f | f_1 | l_2 | t_{max} | Size | Clamping range |
|----------------|----|----|-------|-------|-------------|-------|-------|-----------|------|----------------|
| R/L210.1616.03 | 16 | 16 | 150 | 25 | $f_1 + w/2$ | 14.55 | 45 | 11 | 03 | 3.0 - 4.0 |
| R/L210.2020.03 | 20 | 20 | 150 | 25 | | 18.55 | 35 | | | |
| R/L210.2525.03 | 25 | 25 | 150 | 25 | | 23.55 | - | | | |
| R/L210.3225.03 | 32 | 25 | 170 | 32 | 23.55 | - | - | - | - | - |
| R/L210.2020.04 | 20 | 20 | 150 | 25 | $f_1 + w/2$ | 17.70 | 35 | 11 | 04 | 4.0 - 5.0 |
| R/L210.2525.04 | 25 | 25 | 150 | 25 | | 22.70 | - | | | |
| R/L210.3225.04 | 32 | 25 | 170 | 32 | | 22.70 | - | | | |

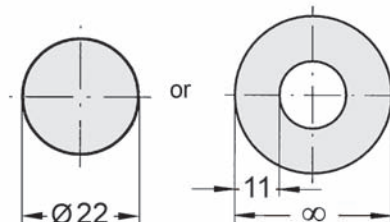
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

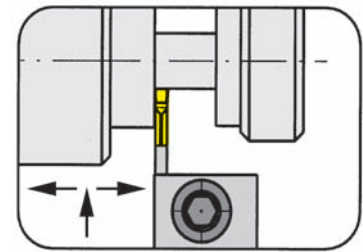
Parting off solid bars Parting off tubes



Spare parts

| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L210.... | 218.3 | SW6DIN911 |

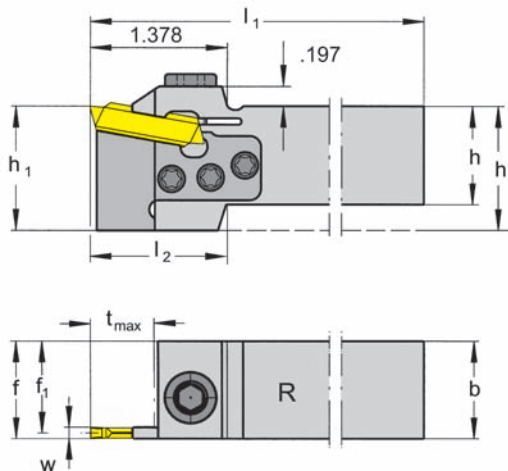
BASIC TOOLHOLDER Type **U218**



Depth of groove up to **.709"**
 Width of groove **.118 - .197"**

for use with Indexable
 Insert

Type 229
 S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU218.1000.K3 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .943 | 2.000 | .709 | 03 | .118 - .157 |
| R/LU218.1250.K3 | 1.250 | 1.000 | 6.625 | 1.250 | f ₁ +w/2 | .943 | - | .709 | 03 | .118 - .157 |
| R/LU218.1000.K4 | 1.000 | 1.000 | 6.000 | 1.250 | f ₁ +w/2 | .909 | 2.000 | .709 | 04 | .157 - .197 |
| R/LU218.1250.K4 | 1.250 | 1.000 | 6.625 | 1.250 | f ₁ +w/2 | .909 | - | .709 | 04 | .157 - .197 |

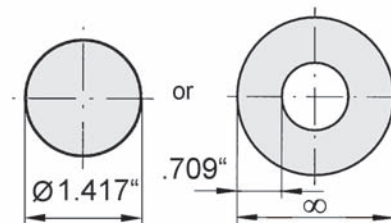
State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Parting off solid bars Parting off tubes



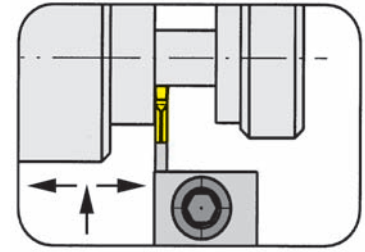
Spare parts

| Basic toolholder | Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|------------------|--------------------|----------------------|--------------|------------------|-------------------|
| R/LU218.1...K3 | NK218.32.03 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/LU218.1...K4 | NK218.32.04 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |

BASIC TOOLHOLDER Type

218

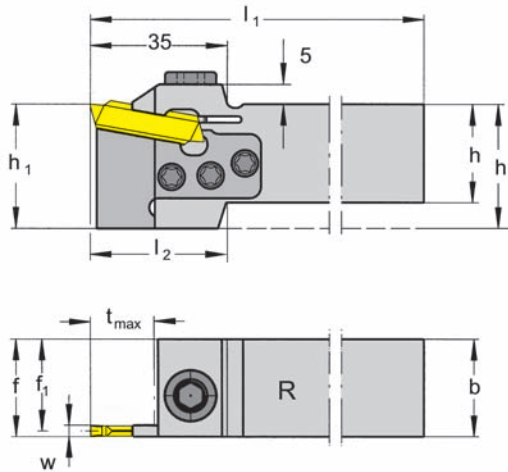
with changeable cassette



Depth of groove up to .709" (18.0 mm)
Width of groove .118 - .197" (3.0 - 5.0 mm)

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L218.2525.K3 | 25 | 25 | 150 | 32 | f ₁ +w/2 | 23.55 | 35 | 18 | 03 | 3.0 - 4.0 |
| R/L218.3225.K3 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 23.55 | - | 18 | 03 | 3.0 - 4.0 |
| R/L218.2525.K4 | 25 | 25 | 150 | 32 | f ₁ +w/2 | 22.70 | 35 | 18 | 04 | 4.0 - 5.0 |
| R/L218.3225.K4 | 32 | 25 | 170 | 32 | f ₁ +w/2 | 22.70 | - | 18 | 04 | 4.0 - 5.0 |

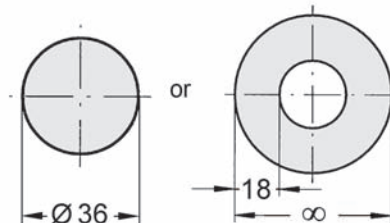
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Parting off solid bars Parting off tubes

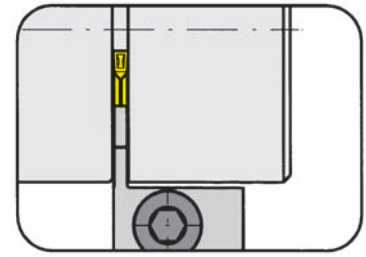


Spare parts

| Basic toolholder | Cassette | Screw | Screw | Wrench | TORX PLUS® Wrench |
|------------------|-------------|---------------|-------|-----------|-------------------|
| R/L218....K3 | NK218.32.03 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |
| R/L218....K4 | NK218.32.04 | 030.0518.T20P | 218.3 | SW6DIN911 | T20PQ |

TOOLHOLDER Type

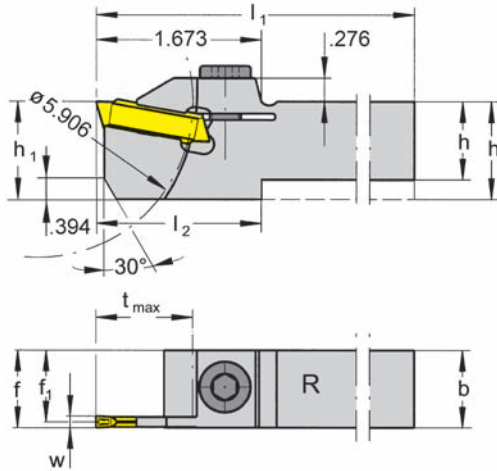
U226



Depth of groove up to 1.000"
Clamping range .118 - .197"

for use with Insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|-----------------|-------|-------|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/LU226.0625.03 | .625 | .625 | 6.000 | | | .568 | 2.000 | | | |
| R/LU226.0750.03 | .750 | .750 | 6.000 | 1.250 | f ₁ +w/2 | .693 | 1.675 | 1.000 | 03 | .118 - .157 |
| R/LU226.1000.03 | 1.000 | 1.000 | 6.000 | | | .943 | 1.675 | | | |
| R/LU226.1250.03 | 1.250 | 1.000 | 6.625 | | | .943 | - | | | |
| R/LU226.0625.04 | .625 | .625 | 6.000 | | | .534 | 2.000 | | | |
| R/LU226.0750.04 | .750 | .750 | 6.000 | 1.250 | f ₁ +w/2 | .659 | 1.675 | 1.000 | 04 | .157 - .197 |
| R/LU226.1000.04 | 1.000 | 1.000 | 6.000 | | | .909 | 1.675 | | | |
| R/LU226.1250.04 | 1.250 | 1.000 | 6.625 | | | .909 | - | | | |

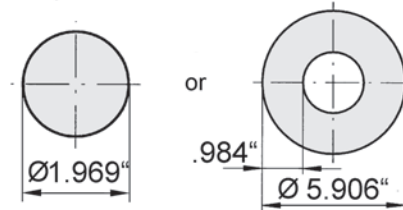
State R or L version

w see indexable inserts

Dimensions in inch

Further sizes upon request

Parting off solid bars Parting off tubes

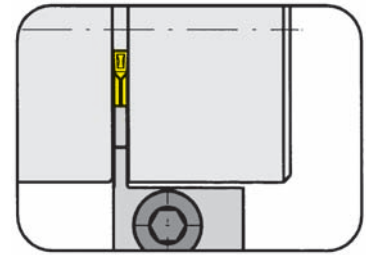


Spare parts

| Toolholder | Screw | Wrench |
|-------------|-------|-----------|
| R/LU226.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

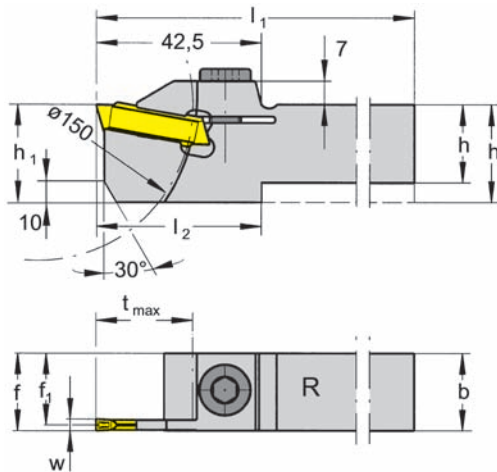
226



Depth of groove up to .984" (25.0 mm)
Clamping range .118 - .197" (3.0 - 5.0 mm)

for use with Indexable insert

Type 229
S229



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f | f ₁ | l ₂ | t _{max} | Size | Clamping range |
|----------------|----|----|----------------|----------------|---------------------|----------------|----------------|------------------|------|----------------|
| R/L226.1616.03 | 16 | 16 | 150 | | | 18.55 | 52.5 | | | |
| R/L226.2020.03 | 20 | 20 | 150 | 32 | f ₁ +w/2 | 18.55 | 42.5 | 25 | 03 | 3.0 - 4.0 |
| R/L226.2525.03 | 25 | 25 | 150 | | | 23.55 | - | | | |
| R/L226.3225.03 | 32 | 25 | 170 | | | 23.55 | - | | | |
| R/L226.1616.04 | 16 | 16 | 150 | | | 13.70 | 52.5 | | | |
| R/L226.2020.04 | 20 | 20 | 150 | 32 | f ₁ +w/2 | 17.70 | 42.5 | 25 | 04 | 4.0 - 5.0 |
| R/L226.2525.04 | 25 | 25 | 150 | | | 22.70 | - | | | |
| R/L226.3225.04 | 32 | 25 | 170 | | | 22.70 | - | | | |

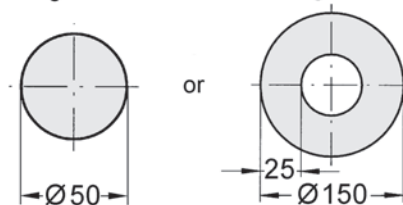
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

Parting off solid bars Parting off tubes



Spare parts

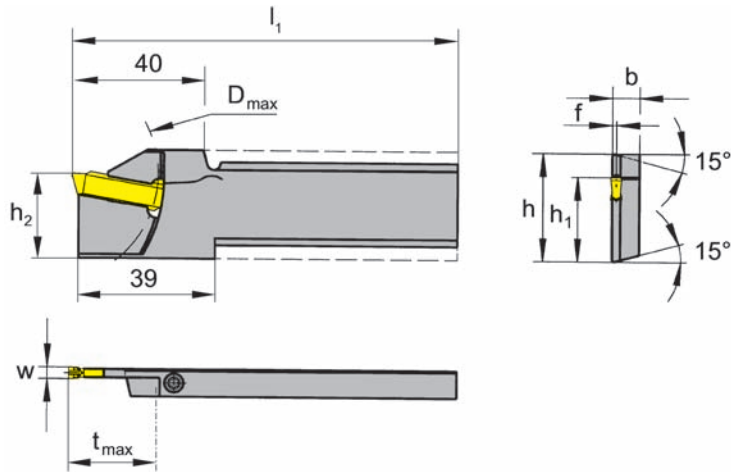
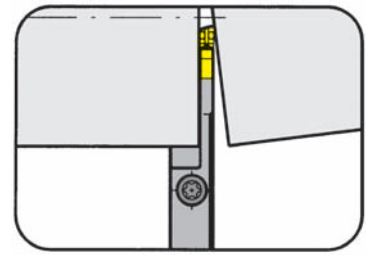
| Toolholder | Screw | Wrench |
|------------|-------|-----------|
| R/L226.... | 218.3 | SW6DIN911 |

TOOLHOLDER Type

226

reinforced version

Depth of groove up to .984" (25.0 mm)
Clamping range .118 - .157" (3.0 - 4.0 mm)



for use with Indexable insert

Type 229
S229

R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | h_2 | f | t_{max} | D_{max} | Size | Clamping range |
|----------------|----|---|-------|-------|-------|-----|-----------|-----------|------|----------------|
| R/L226.2608.03 | 26 | 8 | 110 | 21.4 | 24.8 | 1.2 | 25 | 150 | 03 | 3 |
| R/L226.3208.03 | 32 | 8 | 110 | 24.8 | 24.8 | 1.2 | 25 | 150 | 03 | 3 |
| R/L226.2608.04 | 26 | 8 | 110 | 21.4 | 24.8 | 1.7 | 25 | 150 | 04 | 4 |
| R/L226.3208.04 | 32 | 8 | 110 | 24.8 | 24.8 | 1.7 | 25 | 150 | 04 | 4 |

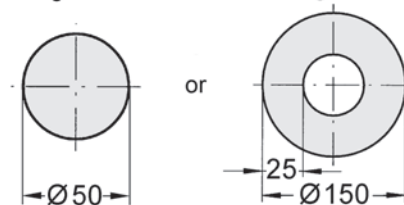
State R or L version

w see indexable inserts

Dimensions in mm

Further sizes upon request

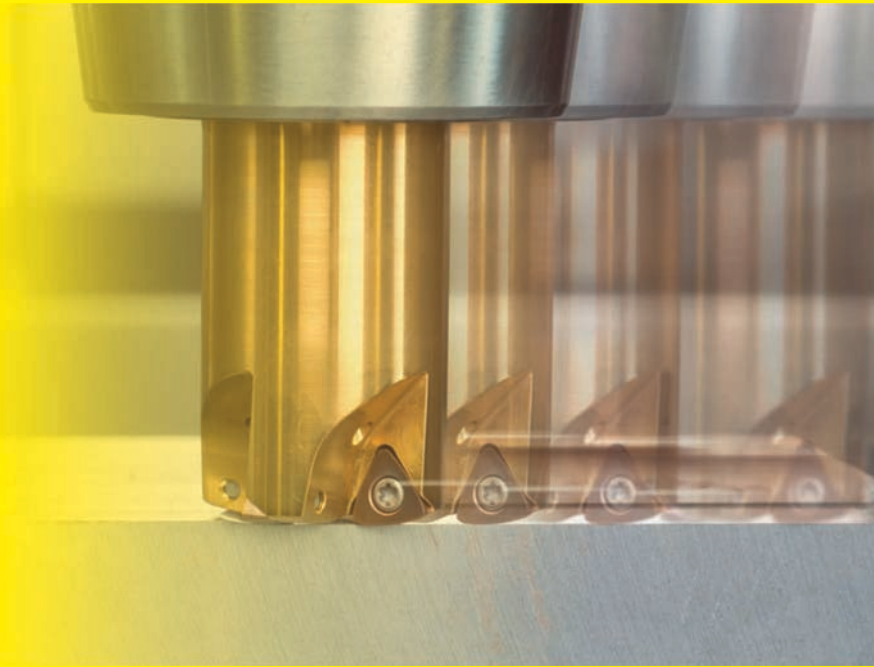
Parting off solid bars Parting off tubes



Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| R/L226.... | 4.15T15P | T15PQ |

HORN - THE LEADERS IN GROOVING TECHNOLOGY



EXTREME FEED RATES

SYSTEM DAH

Remove material fast through high feed milling.
Not only for the stamping and mold industry.

HORN - INTELLIGENT TOOL DESIGN AT WORK.

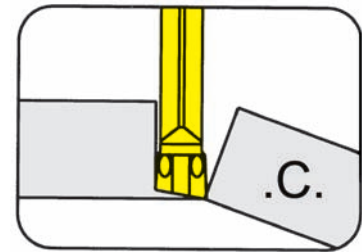


For further information, please see HORN catalog "CARBIDE MILLING TOOLS".

INDEXABLE INSERT Type

S229

with chip forming

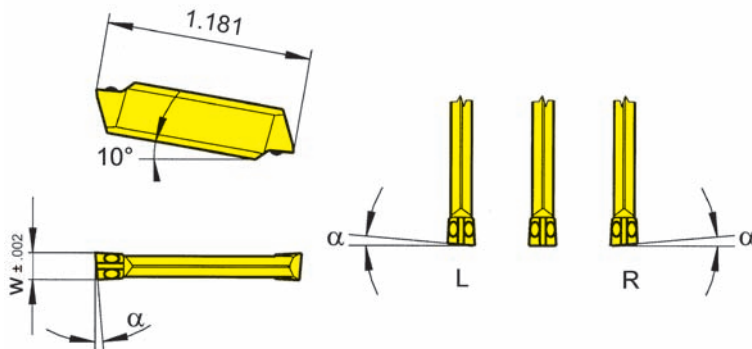


| | |
|-----------------------|--------------|
| Depth of groove up to | 1.000" |
| Width of groove | .118 - .157" |

precision sintered

for use with Toolholder

- Type
- 210
 - 218
 - 226
 - U210
 - U218
 - U226



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | α | Size | Carbide grades | | | | | | |
|-----------------|------|----|---------|----------------|------|------|------|------|------|------|
| | | | | TN32 | TN35 | TI22 | TI25 | TA45 | TF45 | TC92 |
| R/LS229.0530.C0 | .118 | 5° | 03 | | ▲/▲ | | ▲/▲ | | ▲/▲ | |
| R/LS229.0830.C0 | | 8° | | ▲/▲ | | ▲/▲ | | ▲/▲ | ▲/▲ | |
| S229.0030.C0 | | 0° | | ▲ | | ▲ | | ▲ | | |
| R/LS229.0540.C0 | .157 | 5° | 03 / 04 | | ▲/▲ | | Δ/ | | | |
| R/LS229.0840.C0 | | 8° | | ▲/Δ | | ▲/ | | | Δ/ | |
| S229.0040.C0 | | 0° | | ▲ | | ▲ | | | | |
| | | | | P | • | | • | | • | • |
| | | | | M | • | | • | | • | |
| | | | | K | • | | • | | • | |
| | | | | S | • | | • | | • | |
| | | | | N | • | | • | | • | |
| | | | | H | | | | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

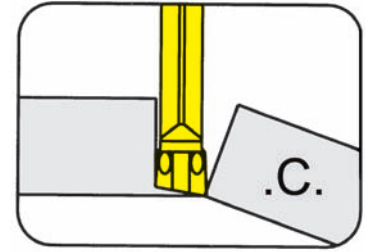
PARTING OFF



INDEXABLE INSERT Type

S229

with chip forming

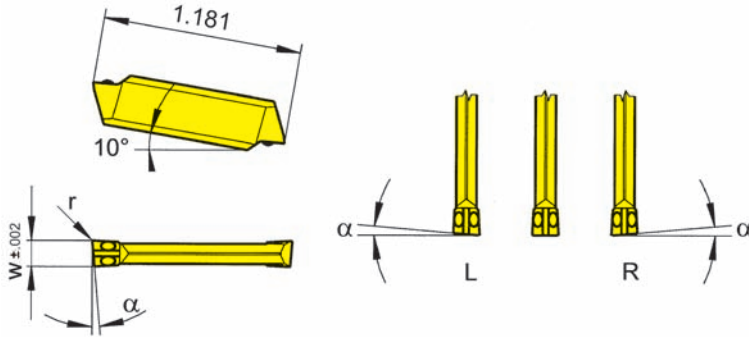


| | |
|-----------------------|--------------|
| Depth of groove up to | 1.000" |
| Width of groove | .118 - .157" |

precision sintered

for use with Toolholder

- Type
- 210
 - 218
 - 226
 - U210
 - U218
 - U226



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | r | α | Size | TN32 | TN35 | TI22 | TI25 | TF45 | TC92 |
|---|------|------|----------------|---------|--|------------|------|----------------|------|--------|
| | | | | | R/LS229.0530.C1 R/LS229.0830.C1 S229.0030.C1 | .118 | .006 | 5° 8° 0° | 03 | |
| R/LS229.0540.C1 R/LS229.0840.C1 S229.0040.C1 | .157 | .006 | 5° 8° 0° | 03 / 04 | | ▲/▲ ▲/▲ | | ▲/▲ ▲/▲ | | ▲ ▲ |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | ● | ● | ● | ● |
| | | | | | M | ● | ● | ● | ● | ● |
| | | | | | K | ● | ● | ● | ● | ● |
| | | | | | S | ● | ● | ● | ● | ● |
| | | | | | N | ● | ● | ● | ● | ● |
| | | | | | H | ● | ● | ● | ● | ● |

Dimensions in inch

Carbide grades

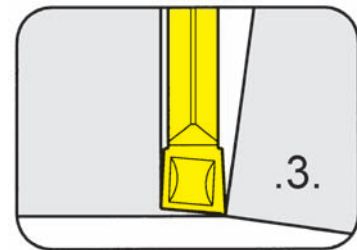
State R or L version

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

229/S229

with chip former

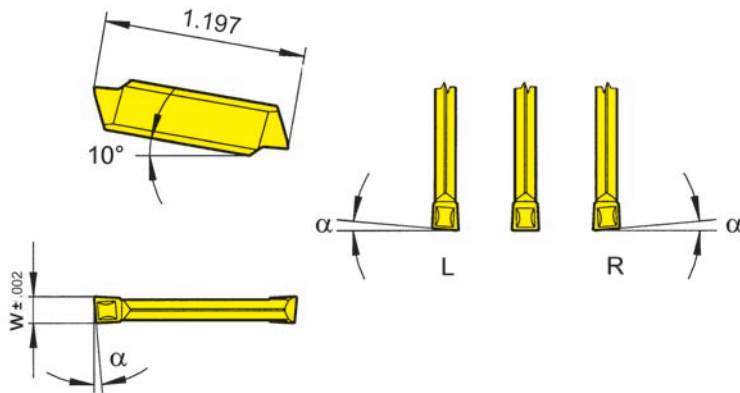


| | |
|-----------------------|--------------|
| Depth of groove up to | 1.000" |
| Width of groove | .118 - .157" |

precision sintered

for use with Toolholder

- Type 210
218
226
U210
U218
U226



R = right hand version shown

L = left hand version

Indexability length
± .002"

| Part number | w | α | Size | Carbide grades | | | | | | | | | | | | | |
|-----------------|------|----|---------|----------------|-----|-----|------|------|------|------|------|------|------|------|------|-----|-----|
| | | | | MG12 | P20 | H54 | TN32 | TN35 | T122 | T125 | TA45 | TF45 | TC92 | AL96 | AS62 | | |
| R/L229.5300.31 | .118 | 5° | 03 | ▲/▲ | | | ▲/▲ | ▲/▲ | | ▲/▲ | | | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | |
| R/LS229.0530.32 | | 5° | | ▲/▲ | | | | ▲/▲ | ▲/▲ | | ▲/▲ | | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ | ▲/▲ |
| S229.0300.32 | | 0° | | ▲ | | ▲ | | ▲ | ▲ | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ |
| R/LS229.0540.32 | .157 | 5° | 03 / 04 | | | | ▲/▲ | | | ▲/▲ | | | ▲/▲ | | | ▲/▲ | |
| S229.0400.32 | | 0° | | | | ▲ | | ▲ | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ | ▲ |
| | | | | P | o | • | • | • | • | • | • | • | • | • | • | • | |
| | | | | M | • | • | • | • | • | • | • | • | • | • | • | • | |
| | | | | K | • | • | • | • | • | • | • | • | • | • | • | • | |
| | | | | S | • | • | • | • | • | • | • | • | • | • | • | • | |
| | | | | N | • | • | • | • | • | • | • | • | • | • | • | • | |
| | | | | H | | | | | | | | | | | | | |

Dimensions in inch

Carbide grades

State R or L version

Note:

R/L229.5300.31 **precision ground**, length 1.181"

Indexable inserts can be used in **right and left hand** toolholders.

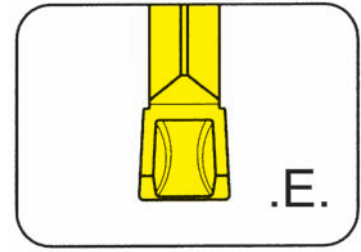
GROOVING and PARTING OFF



INDEXABLE INSERT Type

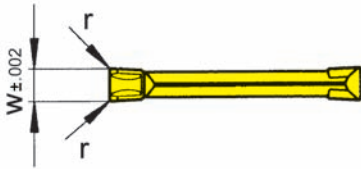
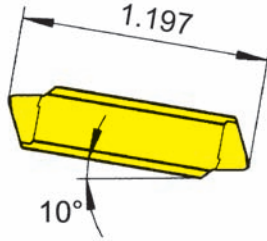
S229

with chip former



Depth of groove up to 1.000"
Width of groove .118 - .157"

precision sintered



for use with Toolholder

- Type 210
218
226
U210
U218
U226

Indexability length
± .002"

| Part number | w | r | Size | Carbide grades | | | | | | | | | |
|---|------|------|---------|----------------|-----|------|------|------|------|------|------|------|------|
| | | | | MG12 | P20 | TN32 | TN35 | T122 | T125 | TF45 | TF46 | TC92 | AS62 |
| S229.0300.E2 | .118 | .008 | 03 | | | | | | ▲ | ▲ | ▲ | ▲ | ▲ |
| S229.0300.E4 | | .016 | | | | | | | | ▲ | ▲ | ▲ | ▲ |
| S229.0400.E2 | .157 | .008 | 03 / 04 | | | | | | ▲ | ▲ | | | ▲ |
| S229.0400.E4 | | .016 | | | | | | | | ▲ | ▲ | ▲ | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | | | | | ● | ● | ● | ● | ● |
| | | | | M | | | | | ● | ● | ○ | | ● |
| | | | | K | | | | | ● | ● | ● | | ● |
| | | | | S | | | | | ● | ● | ○ | | ● |
| | | | | N | | | | | ● | ● | ● | | ● |
| | | | | H | | | | | | | | | |

Dimensions in inch

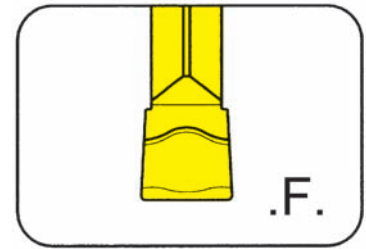
Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

INDEXABLE INSERT Type

S229

with chip forming

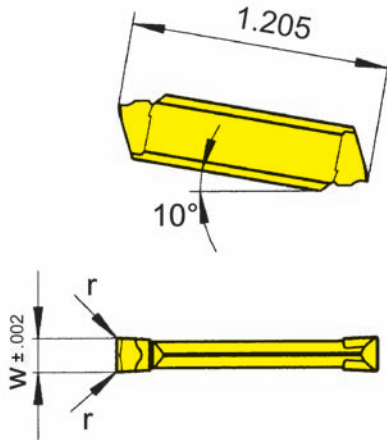


| | |
|-----------------------|--------------|
| Depth of groove up to | 1.000" |
| Width of groove | .118 - .157" |

precision sintered

for use with Toolholder

- Type
- 210
 - 218
 - 226
 - U210
 - U218
 - U226



Indexability length
± .002"

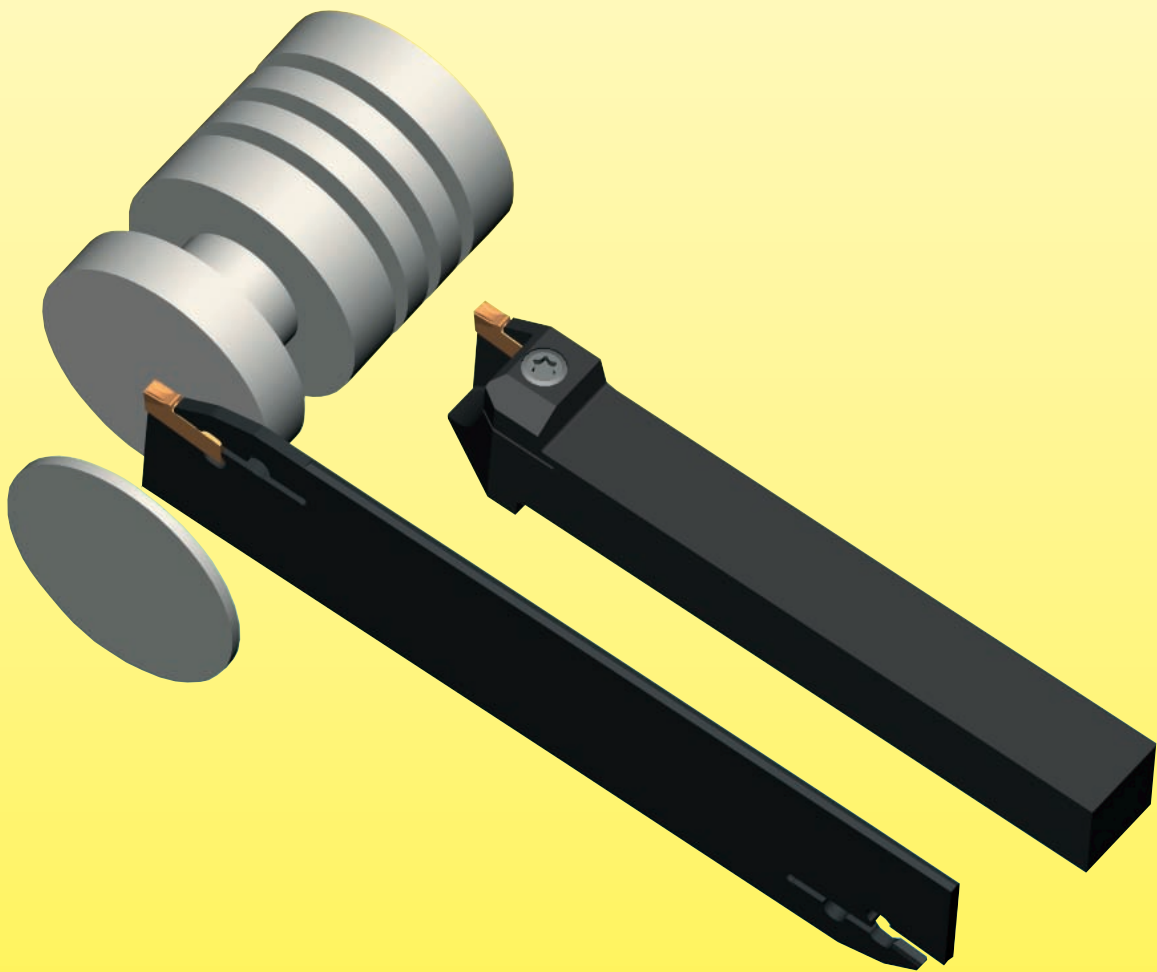
| Part number | w | r | Size | Carbide grades | | | | | | | | |
|--|------|------|---------|----------------|------|-----|------|------|------|------|------|------|
| | | | | K10 | MG12 | P20 | T122 | T125 | TF43 | TF45 | TF46 | AS62 |
| S229.0300.F2 | .118 | .008 | 03 | | | | ▲ | | ▲ | ▲ | ▲ | |
| S229.0300.F4 | | .016 | | | | | | | | ▲ | ▲ | |
| S229.0400.F2 | .157 | .008 | 03 / 04 | | | | | | | ▲ | ▲ | |
| S229.0400.F4 | | .016 | | | | | | | | ▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | | | ● | | ● | ● | ● | |
| | | | | M | | | | | | ● | ○ | |
| | | | | K | | | | | | ● | ● | |
| | | | | S | | | | | | ● | ○ | |
| | | | | N | | | | | | ● | ● | |
| | | | | H | | | | | | | | |

Dimensions in inch

Carbide grades

Indexable inserts can be used in **right and left hand** toolholders.

CUTTER BODY Type H100 - with screwed or self clamping -



| | |
|-----------------------|--------------|
| Width of groove | .079 - .197" |
| Depth of groove up to | 2.165" |

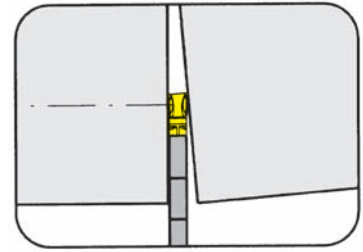
TOOLHOLDER Type

H100

with self clamping

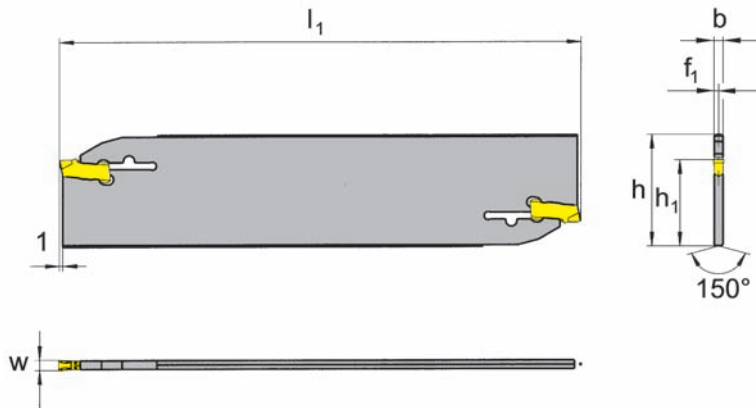
Depth of groove up to
Width of groove

2.165" (55.0 mm)
.079 - .197" (2.0 - 5.0 mm)



for use with Insert

Type S100



| Part number | h | b | l_1 | h_1 | f_1 | t_{max} | D_{max} | Size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|----|-----|-------|-------|-------|-----------|-----------|------|--------------|----|-----|-----|------|------|------|-----|----|--------------|----|-----|------|--------------|----|-----|-----|------|------|------|-----|----|--------------|----|-----|------|--------------|----|-----|-----|------|------|------|-----|----|--------------|----|-----|------|--------------|----|-----|-----|
| H100.2601.01 | 26 | 1.5 | 110 | 21.4 | 0.75 | 25.0 | 50 | 01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H100.3201.01 | 32 | | 150 | 24.8 | | | | | H100.2602.02 | 26 | 1.9 | 110 | 21.4 | 0.95 | 37.5 | 75 | 02 | H100.3202.02 | 32 | 150 | 24.8 | H100.2603.03 | 26 | 2.3 | 110 | 21.4 | 1.15 | 37.5 | 75 | 03 | H100.3203.03 | 32 | 150 | 24.8 | H100.2604.04 | 26 | 3.1 | 110 | 21.8 | 1.65 | 40.0 | 80 | 04 | H100.3204.04 | 32 | 160 | 24.8 | H100.3205.05 | 32 | 3.9 | 160 |
| H100.2602.02 | 26 | 1.9 | 110 | 21.4 | 0.95 | 37.5 | 75 | 02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H100.3202.02 | 32 | | 150 | 24.8 | | | | | H100.2603.03 | 26 | 2.3 | 110 | 21.4 | 1.15 | 37.5 | 75 | 03 | H100.3203.03 | 32 | 150 | 24.8 | H100.2604.04 | 26 | 3.1 | 110 | 21.8 | 1.65 | 40.0 | 80 | 04 | H100.3204.04 | 32 | 160 | 24.8 | H100.3205.05 | 32 | 3.9 | 160 | 24.8 | 2.00 | 55.0 | 110 | 05 | | | | | | | | |
| H100.2603.03 | 26 | 2.3 | 110 | 21.4 | 1.15 | 37.5 | 75 | 03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H100.3203.03 | 32 | | 150 | 24.8 | | | | | H100.2604.04 | 26 | 3.1 | 110 | 21.8 | 1.65 | 40.0 | 80 | 04 | H100.3204.04 | 32 | 160 | 24.8 | H100.3205.05 | 32 | 3.9 | 160 | 24.8 | 2.00 | 55.0 | 110 | 05 | | | | | | | | | | | | | | | | | | | | | |
| H100.2604.04 | 26 | 3.1 | 110 | 21.8 | 1.65 | 40.0 | 80 | 04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H100.3204.04 | 32 | | 160 | 24.8 | | | | | H100.3205.05 | 32 | 3.9 | 160 | 24.8 | 2.00 | 55.0 | 110 | 05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H100.3205.05 | 32 | 3.9 | 160 | 24.8 | 2.00 | 55.0 | 110 | 05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Further sizes upon request

w see inserts

Dimensions in mm

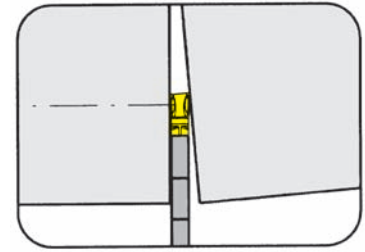
Spare parts

| Toolholder | Wrench |
|------------|-------------|
| H100.... | P39L |

TOOLHOLDER Type

H100

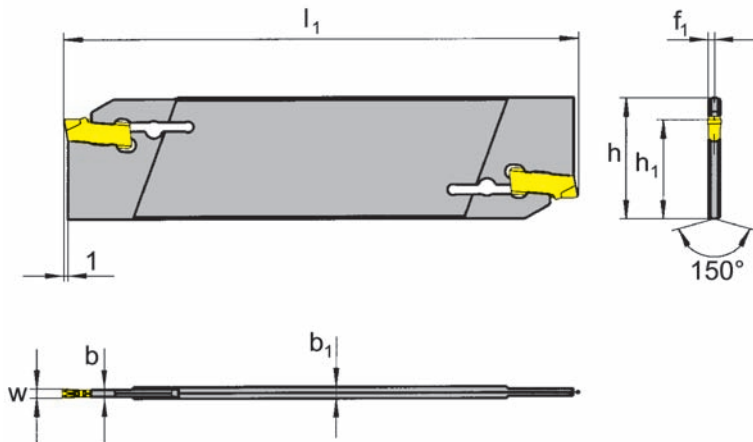
with self clamping



Depth of groove up to .984" (25.0 mm)
Width of groove .079 - .098" (2.0 - 2.5 mm)

for use with Insert

Type S100



| Part number | h | b | l ₁ | h ₁ | b ₁ | f ₁ | t _{max} | D _{max} | Size |
|--------------|----|-----|----------------|----------------|----------------|----------------|------------------|------------------|------|
| H100.2603.01 | 26 | 1.5 | 110 | 21.4 | 2.3 | 1.15 | 21 | 42 | 01 |
| H100.3203.01 | 32 | | 150 | 24.8 | | | 25 | 50 | |
| H100.2603.02 | 26 | 1.9 | 110 | 21.4 | 2.3 | 1.15 | 21 | 42 | 02 |
| H100.3203.02 | 32 | | 150 | 24.8 | | | 25 | 50 | |

Further sizes upon request

w see inserts

Dimensions in mm

Spare parts

| Toolholder | Wrench |
|------------|--------|
| H100.... | P39L |

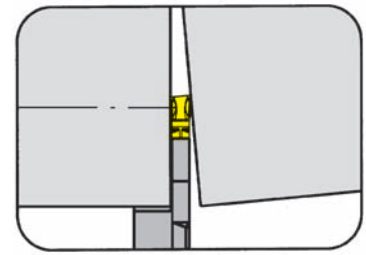
TOOLHOLDER Type

H100

with self clamping

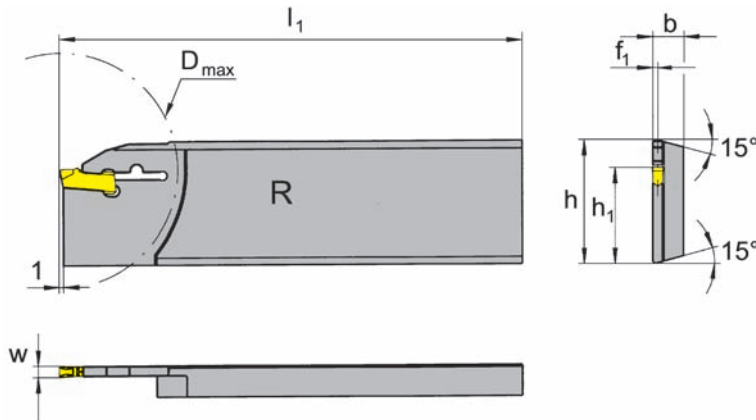
Depth of groove up to
Width of groove

1.280" (32.5 mm)
.079 - .157" (2.0 - 4.0 mm)



for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | t_{max} | D_{max} | Size |
|-----------------|----|-----|-------|-------|-------|-----------|-----------|------|
| R/LH100.2608.31 | 26 | 7.9 | 110 | 21.4 | 0.75 | 21.0 | 42 | 01 |
| R/LH100.3208.31 | 32 | | 112 | 24.8 | | 25.0 | 50 | |
| R/LH100.2608.32 | 26 | 7.9 | 110 | 21.4 | 0.95 | 25.0 | 50 | 02 |
| R/LH100.3208.32 | 32 | | 112 | 24.8 | | 32.5 | 65 | |
| R/LH100.2608.33 | 26 | 7.9 | 110 | 21.4 | 1.15 | 25.0 | 50 | 03 |
| R/LH100.3208.33 | 32 | | 112 | 24.8 | | 32.5 | 65 | |
| R/LH100.2608.34 | 26 | 7.9 | 110 | 21.4 | 1.55 | 25.0 | 50 | 04 |
| R/LH100.3208.34 | 32 | | 112 | 24.8 | | 32.5 | 65 | |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Wrench |
|-------------|-------------|
| R/LH100.... | P39L |

Recommended for Traub machines type:

R/L100.2608.31-34**R/LH100.3208.31-34**

TNC 30
TNM 28
TNS 26
TNS 30/42
TNA 300
TNK 28/36
TNL 26

TNC 42/65
TNM 42/65
TNS 65
TNS 60
TNA 400
TNA 300

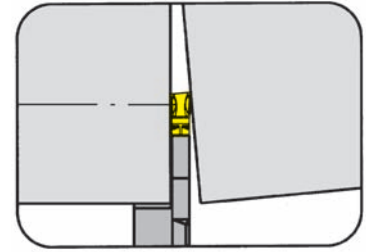
GROOVING and PARTING OFF



TOOLHOLDER Type

H100

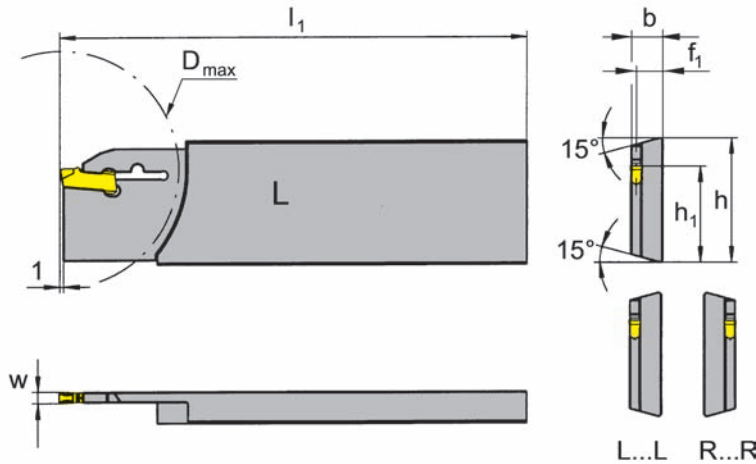
with self clamping



Depth of groove up to 1.280" (32.5 mm)
Width of groove .079 - .157" (2.0 - 4.0 mm)

for use with Insert

Type S100



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | Size |
|--------------------|----|-----|----------------|----------------|----------------|------------------|------------------|------|
| R/LH100.2608.31R/L | 26 | 7.9 | 110 | 21.4 | 7.15 | 21.0 | 42 | 01 |
| R/LH100.3208.31R/L | 32 | | 112 | 24.8 | | 25.0 | 50 | |
| R/LH100.2608.32R/L | 26 | 7.9 | 110 | 21.4 | 6.95 | 25.0 | 50 | 02 |
| R/LH100.3208.32R/L | 32 | | 112 | 24.8 | | 32.5 | 65 | |
| R/LH100.2608.33R/L | 26 | 7.9 | 110 | 21.4 | 6.75 | 25.0 | 50 | 03 |
| R/LH100.3208.33R/L | 32 | | 112 | 24.8 | | 32.5 | 65 | |
| R/LH100.2608.34R/L | 26 | 7.9 | 110 | 21.4 | 6.35 | 25.0 | 50 | 04 |
| R/LH100.3208.34R/L | 32 | | 112 | 24.8 | | 32.5 | 65 | |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Wrench |
|-------------|-------------|
| R/LH100.... | P39L |

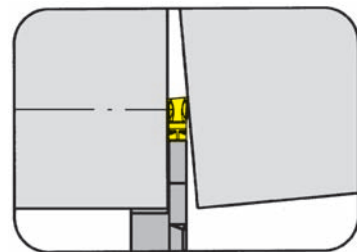
TOOLHOLDER Type

H100

with self clamping

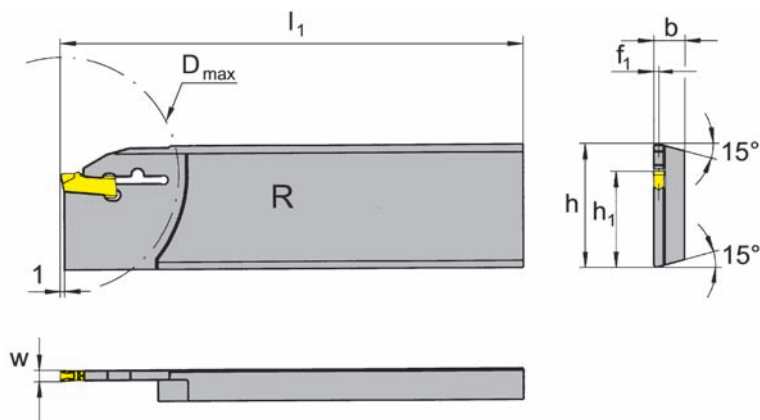
Depth of groove up to
Width of groove

1.614" (41.0 mm)
.157" (4.0 mm)



for use with Insert

Type S100



R = right hand version

| Part number | h | b | l_1 | h_1 | f_1 | t_{max} | D_{max} | Size |
|-----------------|----|-----|-------|-------|-------|-----------|-----------|------|
| RH100.3208.2.44 | 32 | 7.9 | 160 | 24.8 | 1.55 | 41 | 80 | 04 |
| RH100.3208.44 | | | 130 | | | | | |

Further sizes upon request

w see inserts

Dimensions in mm

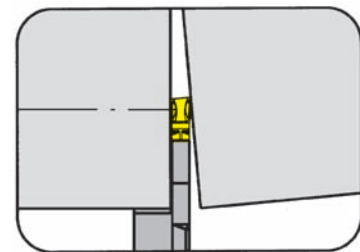
Spare parts

| Toolholder | Wrench |
|----------------|-------------|
| RH100.3208.... | P39L |

TOOLHOLDER Type

H100

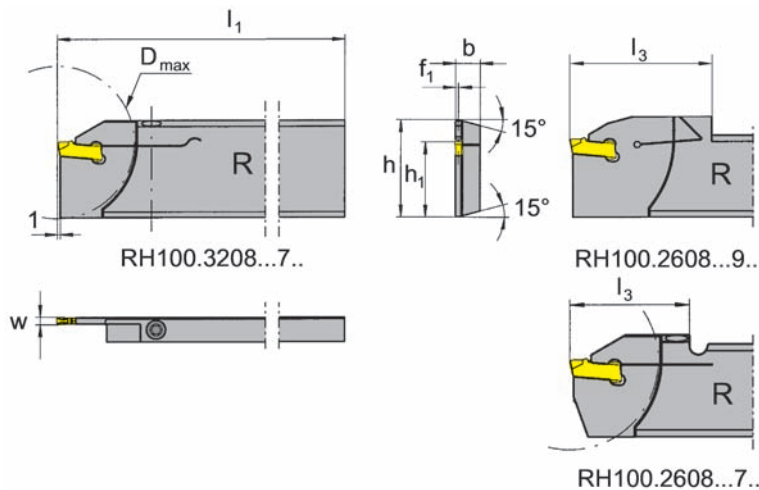
with screwed clamping



Depth of groove up to 1.280" (32.5 mm)
Width of groove .079 - .118" (2.0 - 3.0 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | l ₃ | Size |
|-----------------|----|-----|----------------|----------------|----------------|------------------|------------------|----------------|------|
| R/LH100.2608.71 | 26 | 7.9 | 110 | 21.4 | 0.75 | 25.0 | 50 | 33.8 | 01 |
| R/LH100.3208.71 | 32 | | 112 | 24.8 | | | | | |
| R/LH100.2608.72 | 26 | 7.9 | 110 | 21.4 | 0.95 | 25.0 | 50 | 33.8 | 02 |
| R/LH100.3208.72 | 32 | | 112 | 24.8 | | | | | |
| R/LH100.2608.93 | 26 | 8.0 | 112 | 21.4 | 1.15 | 25.0 | 50 | 40.0 | 03 |
| R/LH100.3208.93 | 32 | | | | | | | | |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench | Pin |
|------------------|----------------------|-------------------|----------------------|
| R/LH100....71/72 | 4.15T15P | T15PQ | 020.0040.0999 |
| R/LH100....93 | 030.0413.T15P | T15PQ | |

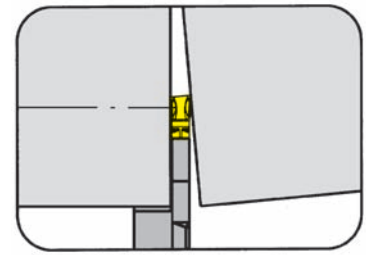
TOOLHOLDER Type

H100

with screwed clamping

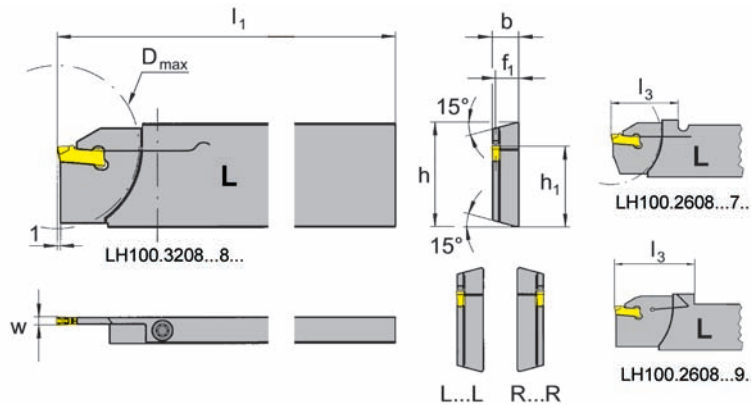
Depth of groove up to
Width of groove

1.280" (32.5 mm)
.079 - .118" (2.0 - 3.0 mm)



for use with Insert

Type S100



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | l ₃ | Size |
|--|----------|-----|----------------|----------------|----------------|------------------|------------------|----------------|------|
| R/LH100.2608.71R/L R/LH100.3208.71R/L | 26 32 | 7.9 | 110 112 | 21.4 24.8 | 7.15 | 25.0 | 50 | 33.8 | 01 |
| R/LH100.2608.72R/L R/LH100.3208.72R/L | 26 32 | 7.9 | 110 112 | 21.4 24.8 | 6.95 | 25.0 | 50 | 33.8 | 02 |
| R/LH100.2608.93R/L R/LH100.3208.93R/L | 26 32 | 8.0 | 115 | 21.4 24.8 | 6.85 | 25.0 32.5 | 50 65 | 40.0 42.0 | 03 |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

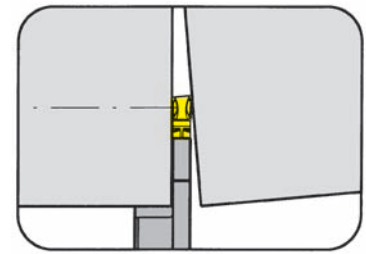
| Toolholder | Screw | TORX PLUS®-Wrench | Pin |
|--|---------------------------|-------------------|---------------|
| R/LH100....71R/L/72R/L R/LH100....93R/L | 4.15T15P 030.0413.T15P | T15PQ T15PQ | 020.0040.0999 |

TOOLHOLDER Type

H100

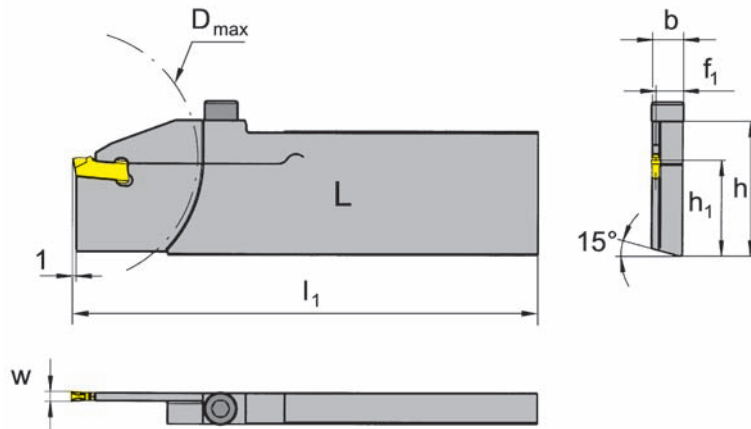
Depth of groove up to 1.280" (32.5 mm)
Width of groove .118 - .157" (3.0 - 4.0 mm)

for machines TRAUB (TNX65)



for use with Insert

Type S100



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | Size |
|--------------------|----|-----|----------------|----------------|----------------|------------------|------------------|------|
| R/LH100.3280.73R/L | 32 | 7.9 | 130 | 24.8 | 6.75 | 32.5 | 65 | 03 |
| R/LH100.3280.74R/L | 32 | 7.9 | 130 | 24.8 | 6.35 | 32.5 | 65 | 04 |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | Wrench |
|-------------------|--------------|-----------|
| R/LH100.3280.7... | DIN912-M5x20 | SW4DIN911 |

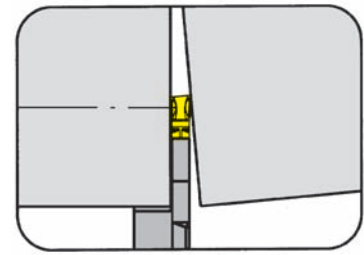
TOOLHOLDER Type

H100

with screwed clamping

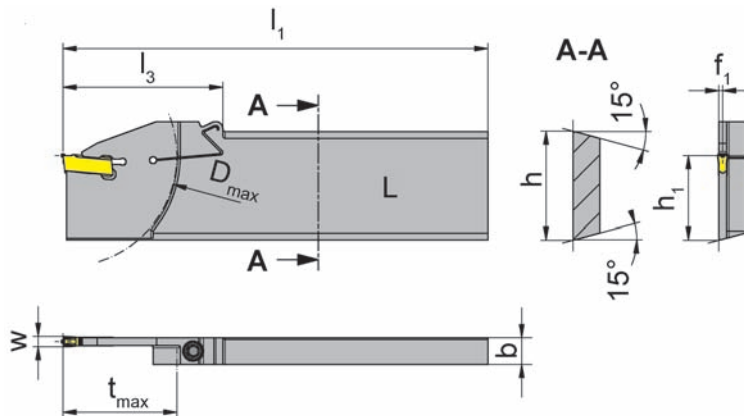
Depth of groove up to
Width of groove

1.319" (33.5 mm)
.118 - .157" (3.0 - 4.0 mm)



for use with Insert

Type S100



R = right hand version shown

L = left hand version

for machines TRAUB and
INDEX

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | l ₃ | Size | Type of machine |
|-----------------|----|---|----------------|----------------|----------------|------------------|------------------|----------------|------|------------------------|
| R/LH100.3208.83 | 32 | 8 | 125 | 24.8 | 1.15 | 33.5 | 65 | 47 | 03 | TraubTNX65/42.IndexC65 |
| R/LH100.3208.84 | 32 | 8 | 125 | 24.8 | 1.50 | 33.5 | 65 | 47 | 04 | TraubTNX65/42.IndexC65 |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|----------------------|-------------------|
| R/LH100.3208.8... | 030.505P.0718 | T15PQ |

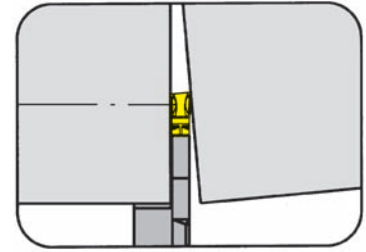
GROOVING and PARTING OFF



TOOLHOLDER Type

H100

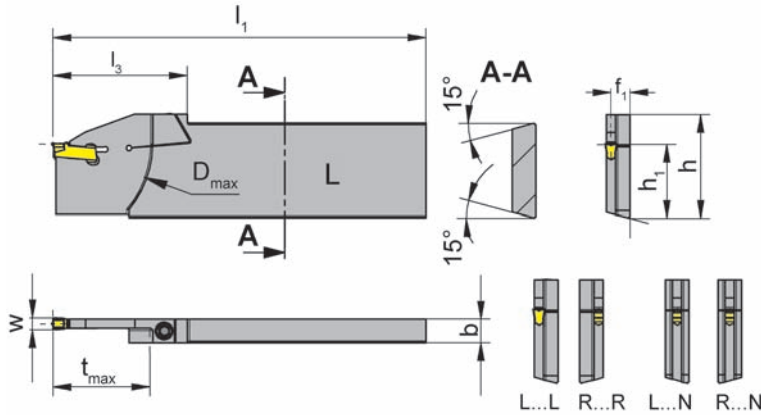
with screwed clamping



Depth of groove up to 1.614" (41.0 mm)
Width of groove .118 - .157" (3.0 - 4.0 mm)

for use with Insert

Type S100



L = left hand version shown

R = right hand version

for machines TRAUB and INDEX

| Part number | h | b | l ₁ | h ₁ | f ₁ | t _{max} | D _{max} | l ₃ | Size | Type of machine |
|--------------------|----|---|----------------|----------------|----------------|------------------|------------------|----------------|------|------------------------|
| R/LH100.3208.83R/L | 32 | 8 | 125 | 24.8 | 6.75 | 33.5 | 65 | 47.0 | 03 | TraubTNX65/42.IndexC65 |
| R/LH100.3208.84R/L | 32 | 8 | 125 | 24.8 | 6.35 | 33.5 | 65 | 47.0 | 04 | TraubTNX65/42.IndexC65 |
| R/LH100.3208.84N | 32 | 8 | 134 | 24.8 | 4.00 | 41.0 | 80 | 54.5 | 04 | TraubTNX80/65 |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|-------------------|---------------|-------------------|
| R/LH100.3208.8... | 030.505P.0660 | T15PQ |

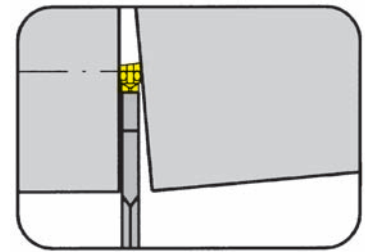
TOOLHOLDER Type

H100

with self clamping

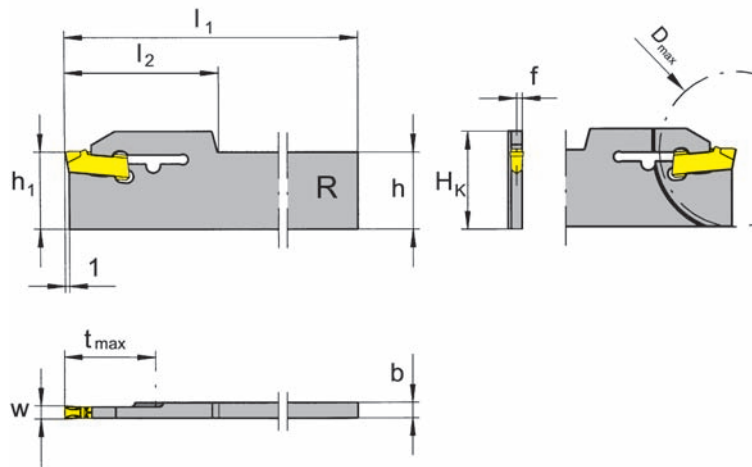
Depth of groove up to
Width of groove

1.496" (38.0 mm)
.079 - .118" (2.0 - 3.0 mm)



for use with Insert

Type S100



R = right hand version

| Part number | h | b | l ₁ | h ₁ | f | l ₂ | t _{max} | D _{max} | H _k | Size |
|---------------|------|-----|----------------|----------------|------|----------------|------------------|------------------|----------------|------|
| RH100.1703.21 | 17.4 | 3.2 | 110 | 17.4 | 0.75 | 32.0 | 17.5 | 35 | 22.1 | 01 |
| RH100.2203.21 | 22.1 | | 150 | 22.2 | | | 38.0 | 50 | 26.9 | |
| RH100.1703.33 | 17.4 | 3.2 | 110 | 17.4 | 1.15 | 34.5 | 30.0 | 60 | 22.1 | 03 |
| RH100.2203.33 | 22.1 | | 150 | 22.2 | | | 38.0 | 76 | 26.9 | |

Further sizes upon request

w see inserts

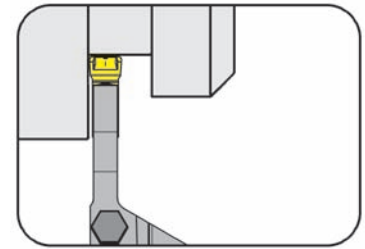
Dimensions in mm

Spare parts

| Toolholder | Wrench |
|------------|-------------|
| RH100.... | P39L |

TOOLHOLDER Type

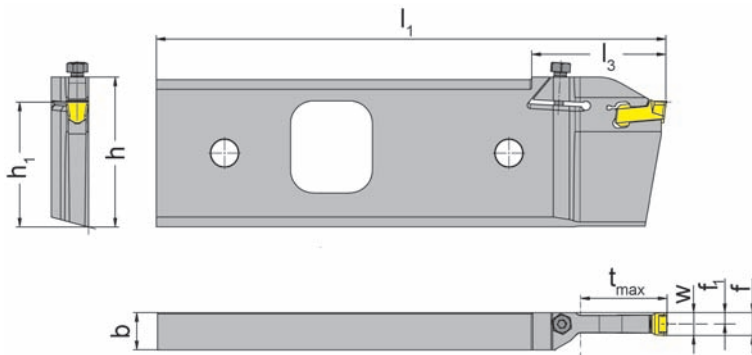
H100



Depth of groove up to 2.559" (65.0 mm)
 Width of groove .315 - .472" (8.0 - 12.0 mm)

for use with Insert

Type S100



L = left hand version shown

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | l ₃ | Size |
|--|----|------|----------------|----------------|----------------|---------------------|------------------|----------------|------|
| LH100.5517.38.8.08 LH100.5517.54.8.08 | 65 | 16.4 | 224 | 55 | 4 | f ₁ +w/2 | 38 54 | 59 75 | 08 |
| LH100.5517.38.8.10 LH100.5517.54.8.10 | 65 | 16.4 | 224 | 55 | 5 | f ₁ +w/2 | 38 54 | 59 75 | 10 |
| LH100.5517.44.8.12 LH100.5517.65.8.12 | 65 | 16.4 | 224 | 55 | 6 | f ₁ +w/2 | 44 65 | 65 86 | 12 |

Further sizes upon request

w see inserts

Dimensions in mm

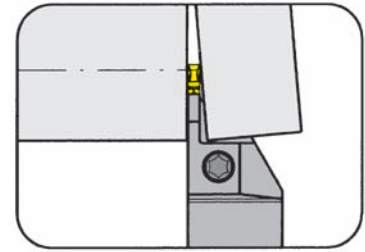
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|----------------|---------------|-------------------|
| LH100.5517.... | 030.6075.T20P | T20PQ |

TOOLHOLDER Type

HU100

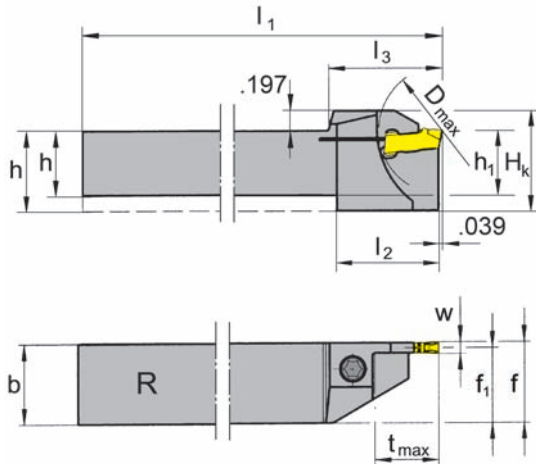
with screwed clamping



| | |
|-----------------------|-------|
| Depth of groove up to | .827" |
| Width of groove | .079" |

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | D _{max} | l ₃ | H _k | Size |
|------------------|------|------|----------------|----------------|----------------|---------------------|----------------|------------------|------------------|----------------|----------------|------|
| R/LHU100.0500.01 | .500 | .500 | 5.125 | .500 | .470 | f ₁ +w/2 | .827 | .512 | 1.024 | .906 | .822 | 01 |
| R/LHU100.0500.11 | .500 | .500 | 5.125 | .500 | .470 | f ₁ +w/2 | .827 | .630 | 1.654 | 1.024 | .822 | 01 |
| R/LHU100.0625.11 | .625 | .625 | 5.125 | .625 | .595 | f ₁ +w/2 | .945 | .630 | 1.654 | 1.024 | .947 | 01 |
| R/LHU100.0625.21 | .625 | .625 | 5.125 | .625 | .595 | f ₁ +w/2 | 1.181 | .827 | 1.654 | 1.319 | .947 | 01 |
| R/LHU100.0750.11 | .750 | .750 | 5.125 | .750 | .720 | f ₁ +w/2 | - | .630 | 1.654 | 1.024 | .947 | 01 |
| R/LHU100.0750.21 | .750 | .750 | 5.125 | .750 | .720 | f ₁ +w/2 | - | .827 | 1.654 | 1.319 | .947 | 01 |

State R or L version

w see inserts

Dimensions in inch

Further sizes upon request

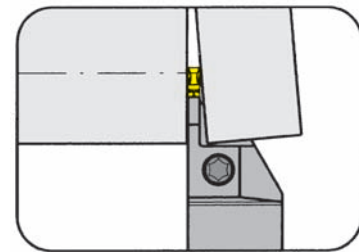
Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|-----------------|-------------------|
| R/LHU100.0... | 4.15T15P | T15PQ |

TOOLHOLDER Type

H100

with screwed clamping

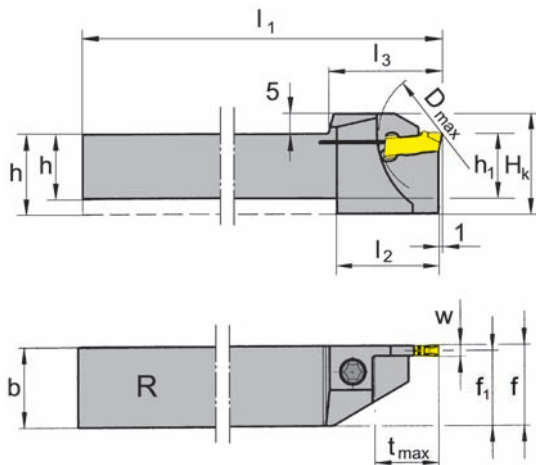


Depth of groove up to
Width of groove

.827" (21.0 mm)
.079" (2.0 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | D_{max} | l_3 | H_k | Size |
|------------------------------------|----|----|-------|-------|-------|-----------|----------|--------------|-----------|--------------|----------|------|
| R/LH100.1010.01 R/LH100.1010.11 | 10 | 10 | 125 | 10 | 9.25 | $f_1+w/2$ | 19 21 | 10.5 13.0 | 21 42 | 21.0 23.0 | 18 21 | 01 |
| R/LH100.1212.01 R/LH100.1212.11 | 12 | 12 | 125 | 12 | 11.25 | $f_1+w/2$ | 21 | 13.0 16.0 | 26 42 | 23.0 26.0 | 21 | 01 |
| R/LH100.1616.11 R/LH100.1616.21 | 16 | 16 | 125 | 16 | 15.25 | $f_1+w/2$ | 24 30 | 16.0 21.0 | 42 | 26.0 33.5 | 25 | 01 |
| R/LH100.2020.11 R/LH100.2020.21 | 20 | 20 | 125 | 20 | 19.25 | $f_1+w/2$ | - | 16.0 21.0 | 42 | 33.5 | 25 | 01 |
| R/LH100.2525.21 | 25 | 25 | 150 | 25 | 24.30 | $f_1+w/2$ | - | 21.0 | 42 | 33.5 | 30 | 01 |

State R or L version

w see inserts

Dimensions in mm

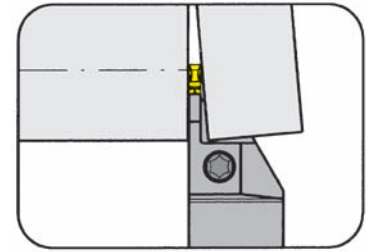
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|-------------|----------|-------------------|
| R/LH100.... | 4.15T15P | T15PQ |

TOOLHOLDER Type

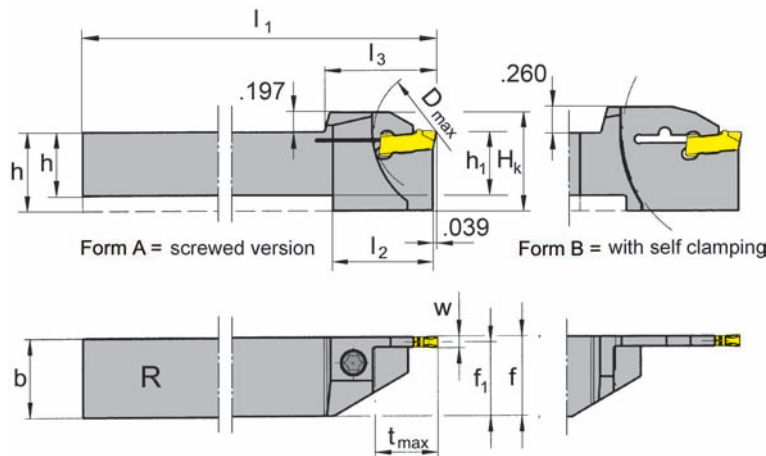
HU100



Depth of groove up to 1.280"
Width of groove .098"

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | D _{max} | l ₃ | H _k | Size | Form |
|------------------|------|------|----------------|----------------|---------------------|---------------------|----------------|------------------|------------------|----------------|----------------|------|------|
| R/LHU100.0625.02 | .625 | .625 | 5.125 | .625 | .588 | f ₁ +w/2 | .748 | .413 | 1.654 | .827 | .947 | 02 | A |
| R/LHU100.0500.02 | .500 | .500 | | .500 | .463 | f ₁ +w/2 | .827 | .512 | .984 | .906 | .823 | | |
| R/LHU100.0500.12 | .500 | .500 | 5.125 | .500 | .463 | f ₁ +w/2 | .945 | .630 | 1.654 | 1.024 | .947 | 02 | A |
| R/LHU100.0625.12 | .625 | .625 | | .625 | .588 | f ₁ +w/2 | .945 | | | | | | |
| R/LHU100.0750.12 | .750 | .750 | 5.125 | .750 | .713 | f ₁ +w/2 | - | .827 | 1.654 | 1.319 | .947 | 02 | A |
| R/LHU100.0625.22 | .625 | .625 | | .625 | .588 | f ₁ +w/2 | 1.181 | | | | | | |
| R/LHU100.0750.22 | .750 | .750 | .750 | .713 | f ₁ +w/2 | - | 1.378 | 1.280 | 2.559 | 1.516 | 1.260 | 02 | B |
| R/LHU100.0750.32 | .750 | .750 | .750 | .713 | f ₁ +w/2 | | | | | | | | |

State R or L version

w see inserts

Dimensions in inch

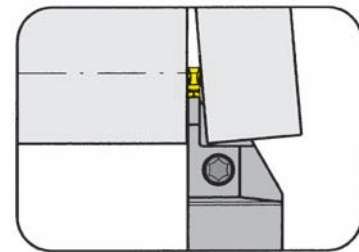
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench | Wrench |
|---|-----------------|-------------------|-------------|
| R/LHU100.0...02/12/22 R/LHU100.0750.32 | 4.15T15P | T15PQ | P39L |

TOOLHOLDER Type

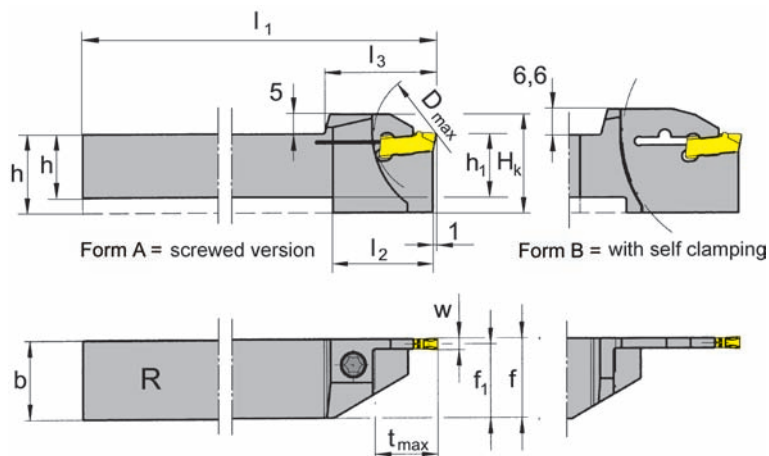
H100



Depth of groove up to 1.280" (32.5 mm)
Width of groove .098" (2.5 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | D_{max} | l_3 | H_k | Size | Form | |
|-----------------|----|----|-------|-------|-------|-----------|-------|-----------|-----------|-------|-------|------|------|------|
| R/LH100.1212.02 | 12 | 12 | 125 | 16 | 11.05 | $f_1+w/2$ | 21 | 13.0 | 25 | 23.0 | 21.0 | 02 | A | |
| R/LH100.1616.02 | 16 | 16 | | 20 | 15.05 | $f_1+w/2$ | 19 | 10.5 | 42 | 21.0 | 25.0 | | | |
| R/LH100.1212.12 | 12 | 12 | 125 | 16 | 11.05 | $f_1+w/2$ | 24 | - | 42 | 26.0 | 25.0 | 02 | A | |
| R/LH100.1616.12 | 16 | 16 | | 20 | 15.05 | | 24 | | | | | | | 16.0 |
| R/LH100.2020.12 | 20 | 20 | | 20 | 19.05 | | - | | | | | | | - |
| R/LH100.1616.22 | 16 | 16 | 125 | 20 | 15.05 | $f_1+w/2$ | 30 | 21.0 | 42 | 33.5 | 25.0 | 02 | A | |
| R/LH100.2020.22 | 20 | 20 | 125 | 20 | 19.05 | | - | | | | 21.0 | | | 25.0 |
| R/LH100.2525.22 | 25 | 25 | 150 | 25 | 24.05 | | - | | | | - | | | 30.0 |
| R/LH100.2020.32 | 20 | 20 | 125 | 25 | 19.05 | $f_1+w/2$ | 35 | 32.5 | 65 | 38.5 | 31.6 | 02 | B | |

State R or L version

w see inserts

Dimensions in mm

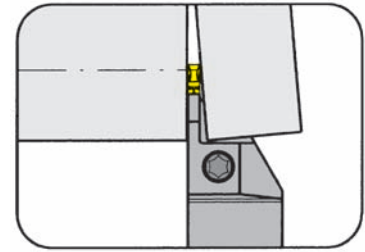
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench | Wrench |
|--|----------|-------------------|--------|
| R/LH100....02/12/22 R/LH100.2020.32 | 4.15T15P | T15PQ | P39L |

TOOLHOLDER Type

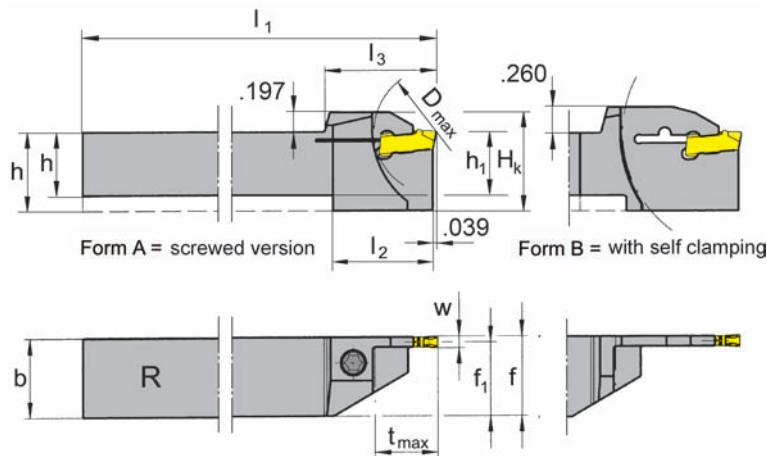
HU100



Depth of groove up to 1.280"
Width of groove .118"

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | D _{max} | l ₃ | H _k | Size | Form |
|----------------|-------|-------|----------------|----------------|----------------|---------------------|----------------|------------------|------------------|----------------|----------------|------|------|
| RHU100.0500.03 | .500 | .500 | 5.125 | .500 | .455 | f ₁ +w/2 | .827 | .512 | 1.024 | .906 | .822 | 03 | A |
| RHU100.0625.03 | .625 | .625 | | .625 | .580 | - | .768 | .413 | 1.654 | | .947 | | |
| RHU100.0625.13 | .625 | .625 | 5.125 | .625 | .580 | f ₁ +w/2 | .984 | .630 | 1.654 | 1.122 | .947 | 03 | A |
| RHU100.0750.13 | .750 | .750 | 5.125 | .750 | .705 | | - | | | | .947 | | |
| RHU100.1000.13 | 1.000 | 1.000 | 6.000 | 1.000 | .955 | - | - | - | - | 1.197 | - | - | - |
| RHU100.0625.23 | .625 | .625 | 5.125 | .625 | .580 | f ₁ +w/2 | 1.181 | .827 | 1.654 | 1.319 | .947 | 03 | A |
| RHU100.0750.23 | .750 | .750 | | .750 | .705 | | - | | | | | | |
| RHU100.0750.33 | .750 | .750 | 5.125 | .750 | .705 | f ₁ +w/2 | 1.378 | 1.280 | 2.559 | 1.516 | 1.260 | 03 | B |
| RHU100.1000.33 | 1.000 | 1.000 | | 6.000 | 1.000 | | .955 | | | | - | | |

State R or L version

w see inserts

Dimensions in inch

Further sizes upon request

Spare parts

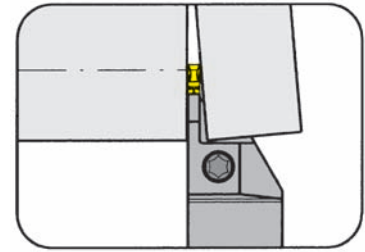
| Toolholder | Screw | TORX PLUS® Wrench | Wrench |
|------------------------------------|-----------------|-------------------|-------------|
| RHU100....03/13/23 RHU100....33 | 5.17T20P | T20PQ | P39L |

GROOVING and PARTING OFF



TOOLHOLDER Type

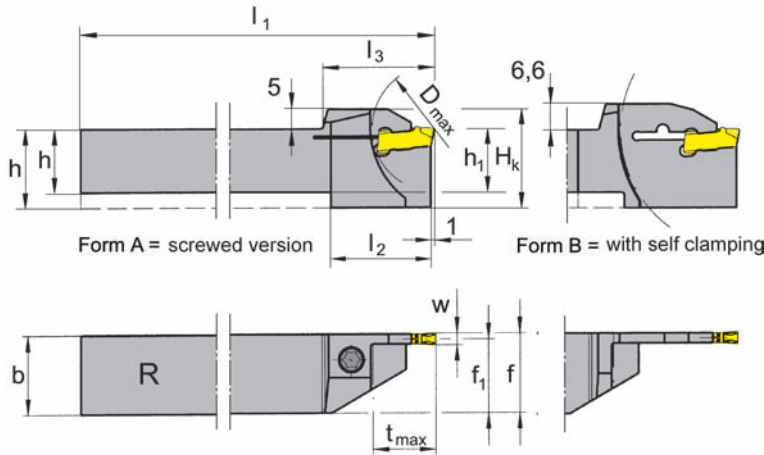
H100



Depth of groove up to 1.280" (32.5 mm)
Width of groove .118" (3.0 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | D _{max} | l ₃ | H _k | Size | Form |
|-----------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|------------------|----------------|----------------|------|------|
| R/LH100.1616.03 | 16 | 16 | 125 | 20 | 14.85 | f ₁ +w/2 | 19.5 | 10.5 | 42 | 23.0 | 25.0 | 03 | A |
| R/LH100.1212.03 | 12 | 12 | 125 | 16 | 10.85 | f ₁ +w/2 | 21.0 | 13.0 | 26 | 23.0 | 25.0 | 03 | A |
| R/LH100.1616.13 | 16 | 16 | 125 | 20 | 14.85 | f ₁ +w/2 | 25.0 | - | 42 | 28.5 | 25.0 | 03 | A |
| R/LH100.2020.13 | 20 | 20 | 125 | 20 | 18.85 | f ₁ +w/2 | - | 16.0 | 42 | 28.5 | 25.0 | 03 | A |
| R/LH100.2525.13 | 25 | 25 | 150 | 25 | 23.85 | f ₁ +w/2 | - | - | 42 | 30.0 | 30.0 | 03 | A |
| R/LH100.1616.23 | 16 | 16 | 125 | 20 | 14.85 | f ₁ +w/2 | 30.0 | 21.0 | 42 | 33.5 | 25.0 | 03 | A |
| R/LH100.2020.23 | 20 | 20 | 125 | 20 | 18.85 | f ₁ +w/2 | - | 21.0 | 42 | 33.5 | 25.0 | 03 | A |
| R/LH100.2020.33 | 20 | 20 | 125 | 25 | 18.85 | f ₁ +w/2 | 35.0 | 32.5 | 65 | 38.5 | 31.6 | 03 | B |
| R/LH100.2525.33 | 25 | 25 | 150 | 25 | 23.85 | f ₁ +w/2 | - | 32.5 | 65 | 38.5 | 31.6 | 03 | B |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

Spare parts

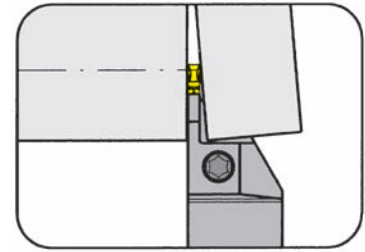
| Toolholder | Screw | TORX PLUS®-Wrench | Wrench |
|---------------------------------------|----------|-------------------|--------|
| R/LH100....03/13/23 R/LH100.2...33 | 5.17T20P | T20PQ | P39L |

TOOLHOLDER Type

HU100

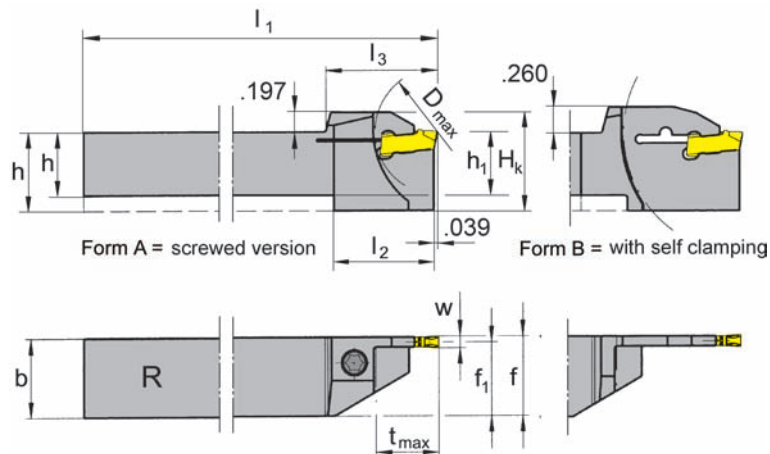
Depth of groove up to
Width of groove

1.594"
.157"



for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | D_{max} | l_3 | H_k | Size | Form |
|------------------|-------|-------|-------|-------|-------|-----------|-------|-----------|-----------|-------|-------|------|------|
| R/LHU100.0625.04 | .625 | .625 | 5.125 | .625 | .564 | $f_1+w/2$ | .768 | .413 | 1.654 | .906 | .947 | 04 | A |
| R/LHU100.0750.14 | .750 | .750 | 5.125 | .750 | .685 | $f_1+w/2$ | - | .630 | 1.654 | 1.122 | .947 | 04 | A |
| R/LHU100.1000.14 | 1.000 | 1.000 | 6.000 | 1.000 | .939 | $f_1+w/2$ | - | .630 | 1.654 | 1.122 | 1.197 | 04 | A |
| R/LHU100.0625.24 | .625 | .625 | 5.125 | .625 | .564 | $f_1+w/2$ | 1.181 | .827 | 1.654 | 1.319 | .947 | 04 | A |
| R/LHU100.0750.34 | .750 | .750 | 5.125 | .750 | .689 | $f_1+w/2$ | 1.378 | 1.280 | 2.559 | 1.516 | 1.260 | 04 | B |
| R/LHU100.1000.34 | 1.000 | 1.000 | 6.000 | 1.000 | .939 | $f_1+w/2$ | 1.575 | 1.594 | 3.189 | 1.831 | 1.510 | 04 | B |

State R or L version

w see inserts

Dimensions in inch

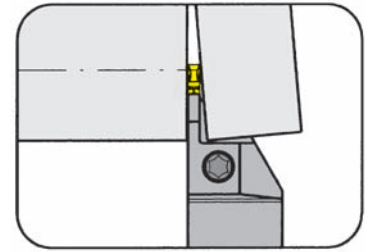
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench | Wrench |
|--|-----------------|-------------------|-------------|
| R/LHU100....04/14/24 R/LHU100....34 | 5.17T20P | T20PQ | P39L |

TOOLHOLDER Type

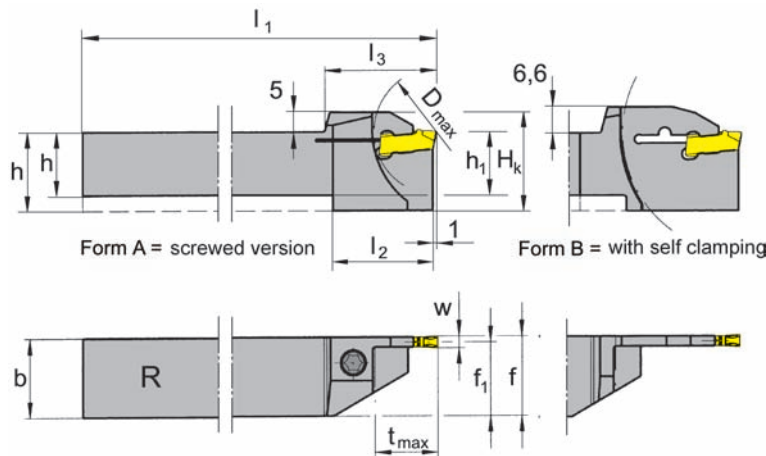
H100



Depth of groove up to 1.594" (40.5 mm)
Width of groove .157" (4.0 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | D_{max} | l_3 | H_k | Size | Form |
|-----------------|----|----|-------|-------|-------|-----------|-------|-----------|-----------|-------|-------|------|------|
| R/LH100.1616.04 | 16 | 16 | 125 | 20 | 14.45 | $f_1+w/2$ | 19.5 | 10.5 | 42 | 23.0 | 25.0 | 04 | A |
| R/LH100.1616.14 | 16 | 16 | 125 | 20 | 14.45 | $f_1+w/2$ | 25.0 | - | - | - | 25.0 | - | - |
| R/LH100.2020.14 | 20 | 20 | 125 | 20 | 18.45 | $f_1+w/2$ | - | 16.0 | 42 | 28.5 | 25.0 | 04 | A |
| R/LH100.2525.14 | 25 | 25 | 150 | 25 | 23.45 | $f_1+w/2$ | - | - | - | - | 30.0 | - | - |
| R/LH100.1616.24 | 16 | 16 | 125 | 20 | 14.45 | $f_1+w/2$ | 30.0 | 21.0 | 42 | 33.5 | 25.0 | 04 | A |
| R/LH100.2020.34 | 20 | 20 | 125 | 25 | 18.45 | $f_1+w/2$ | 35.0 | 32.5 | 65 | 38.5 | 31.6 | 04 | B |
| R/LH100.2525.34 | 25 | 25 | 150 | 32 | 23.45 | $f_1+w/2$ | 40.0 | 40.5 | 81 | 46.5 | 31.6 | 04 | B |

State R or L version

w see inserts

Dimensions in mm

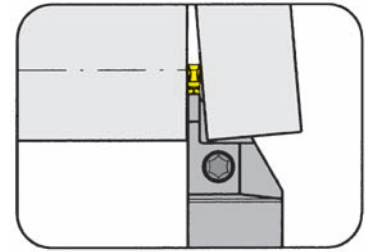
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench | Wrench |
|---------------------------------------|----------|-------------------|--------|
| R/LH100....04/14/24 R/LH100.2...34 | 5.17T20P | T20PQ | P39L |

TOOLHOLDER Type

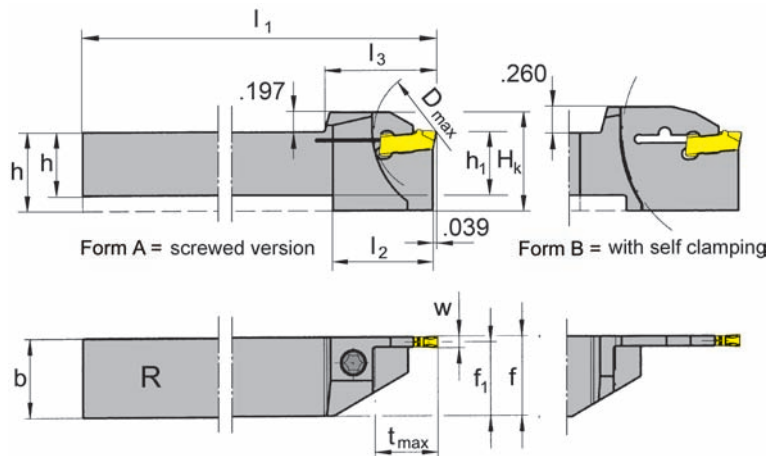
HU100



Depth of groove up to 1.594"
Width of groove .197"

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | D _{max} | l ₃ | H _k | Size | Form |
|------------------|-------|-------|----------------|----------------|----------------|---------------------|----------------|------------------|------------------|----------------|----------------|------|------|
| R/LHU100.0750.15 | .750 | .750 | 5.125 | .750 | .673 | f ₁ +w/2 | - | .630 | 1.654 | 1.122 | .947 | 05 | A |
| R/LHU100.1000.15 | 1.000 | 1.000 | 6.000 | 1.000 | .923 | f ₁ +w/2 | - | .630 | 1.654 | 1.122 | 1.197 | 05 | A |
| R/LHU100.0750.35 | .750 | .750 | 5.125 | .750 | .673 | f ₁ +w/2 | 1.378 | 1.280 | 2.559 | 1.516 | 1.260 | 05 | B |
| R/LHU100.1000.35 | 1.000 | 1.000 | 6.000 | 1.000 | .923 | f ₁ +w/2 | 1.575 | 1.594 | 3.189 | 1.831 | 1.510 | 05 | B |

State R or L version

w see inserts

Dimensions in inch

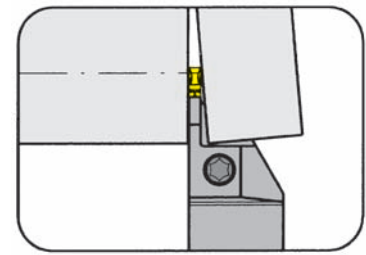
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench | Wrench |
|----------------------------------|-----------------|-------------------|-------------|
| R/LHU100....15 R/LHU100....35 | 5.17T20P | T20PQ | P39L |

TOOLHOLDER Type

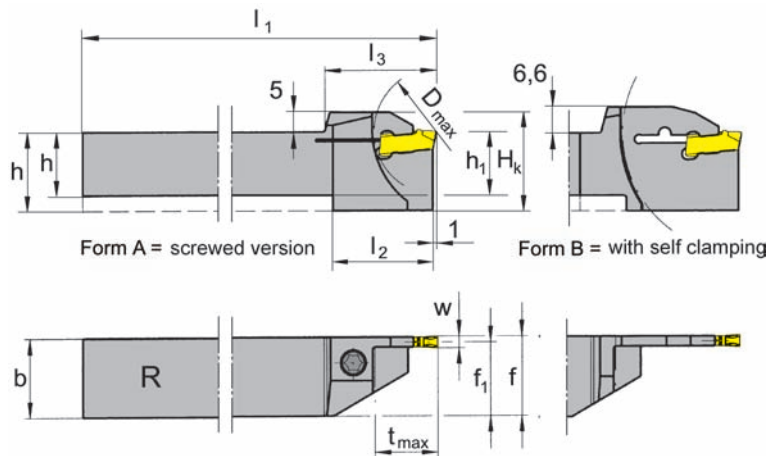
H100



Depth of groove up to 1.594" (40.5 mm)
Width of groove .197" (5.0 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l_1 | h_1 | f_1 | f | l_2 | t_{max} | D_{max} | l_3 | H_k | Size | Form |
|-----------------|----|----|-------|-------|-------|-----------|-------|-----------|-----------|-------|-------|------|------|
| R/LH100.2020.15 | 20 | 20 | 125 | 20 | 18.05 | $f_1+w/2$ | - | 16.0 | 42 | 28.5 | 25.0 | 05 | A |
| R/LH100.2525.15 | 25 | 25 | 150 | 25 | 23.05 | $f_1+w/2$ | - | 16.0 | 42 | 28.5 | 30.0 | 05 | A |
| R/LH100.2020.35 | 20 | 20 | 125 | 25 | 18.05 | $f_1+w/2$ | 35 | 32.5 | 65 | 38.5 | 31.6 | 05 | B |
| R/LH100.2525.35 | 25 | 25 | 150 | 32 | 23.05 | $f_1+w/2$ | 40 | 40.5 | 81 | 46.5 | 38.6 | 05 | B |

State R or L version

w see inserts

Dimensions in mm

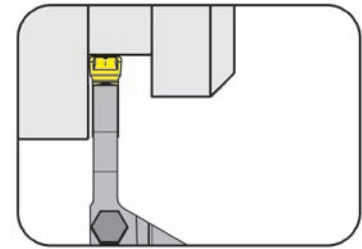
Further sizes upon request

Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench | Wrench |
|----------------------------------|----------|-------------------|--------|
| R/LH100.2...15 R/LH100.2...35 | 5.17T20P | T20PQ | P39L |

TOOLHOLDER Type

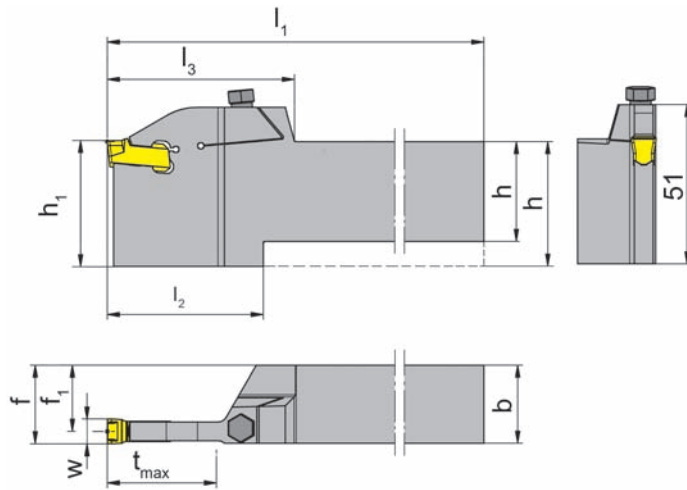
H100



Depth of groove up to 1.575" (40.0 mm)
 Width of groove .236 - .472" (6.0 - 12.0 mm)

for use with Insert

Type S100



R = right hand version shown

L = left hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | l ₂ | t _{max} | l ₃ | Size |
|-------------------|----|----|----------------|----------------|----------------|---------------------|----------------|------------------|----------------|------|
| R/LH100.2525.36 | 25 | 25 | 150 | 40 | 22.2 | f ₁ +w/2 | 50 | 33 | 60 | 06 |
| R/LH100.3225.36 | 32 | | | | | | | | | |
| R/LH100.3225.38 | 32 | 25 | 170 | 40 | 21.2 | f ₁ +w/2 | 50 | 35 | 60 | 08 |
| R/LH100.3225.4.10 | 32 | 25 | 170 | 40 | 20.3 | f ₁ +w/2 | 55 | 41 | 65 | 10 |
| R/LH100.3225.4.12 | 32 | 25 | 170 | 40 | 19.3 | f ₁ +w/2 | 55 | 41 | 65 | 12 |

State R or L version

w see inserts

Dimensions in mm

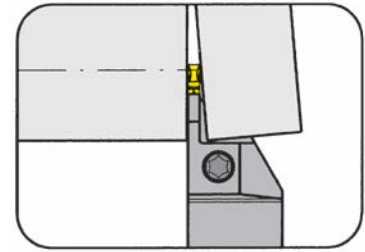
Further sizes upon request

Spare parts

| Toolholder | Screw |
|-------------|---------------|
| R/LH100.... | 030.6075.T20P |

TOOLHOLDER Type

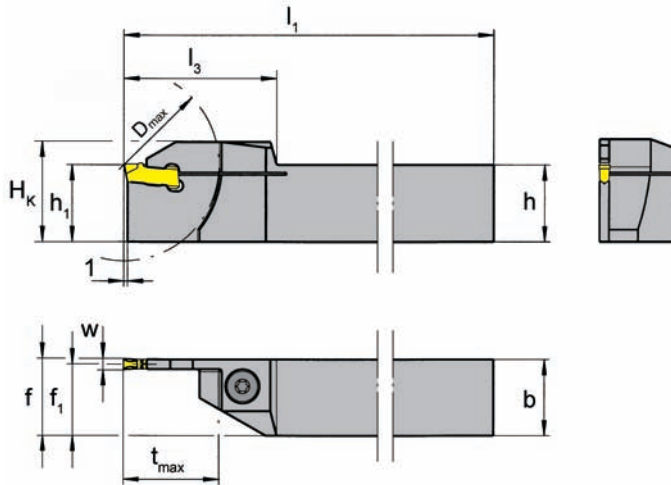
H100



Depth of groove up to .984" (25.0 mm)
Width of groove .118 - .157" (3.0 - 4.0 mm)

for use with Insert

Type S100



L = left hand version shown

R = right hand version

| Part number | h | b | l ₁ | h ₁ | f ₁ | f | t _{max} | D _{max} | l ₃ | H _k | Size |
|-----------------|----|----|----------------|----------------|----------------|---------------------|------------------|------------------|----------------|----------------|------|
| R/LH100.2020.73 | 20 | 20 | 125 | 20 | 18.85 | f ₁ +w/2 | 25 | 50 | 40 | 26 | 03 |
| R/LH100.2525.73 | 25 | 25 | 150 | 25 | 23.85 | f ₁ +w/2 | 25 | 50 | 40 | 31 | 03 |
| R/LH100.2020.74 | 20 | 20 | 125 | 20 | 18.85 | f ₁ +w/2 | 25 | 50 | 40 | 26 | 04 |

State R or L version

w see inserts

Dimensions in mm

Further sizes upon request

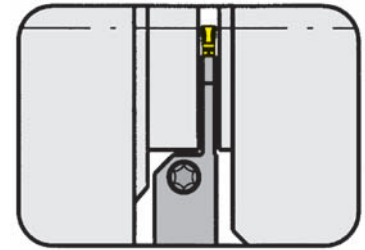
Spare parts

| Toolholder | Screw | TORX PLUS®-Wrench |
|--------------|----------|-------------------|
| R/LH100.2... | 6.23T25P | T25PQ |

BASIC TOOLHOLDER Type

220

without cassette

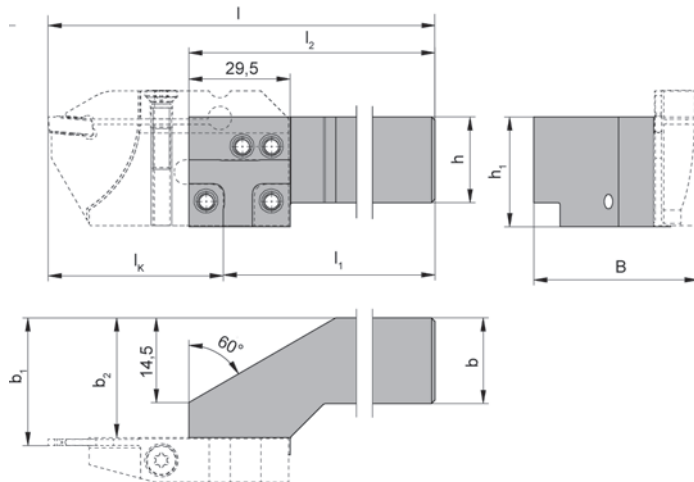


Basic adapter for cassettes type RNK100

Shank parallel to the axis of workpiece

for use with Cassette

Type RNK100



R = right hand version

Multi spindle system
MS52

| Part number | h | l_1 | h_1 | b | b_1 | b_2 | l_2 | l | B |
|-----------------|----|----------|-------|----|-----------|-------|-------|-----------|-----------|
| R220.2529.60.K1 | 25 | l_2-10 | 32 | 25 | b_2+f_3 | 29.5 | 160 | l_1+l_K | b_2+b_3 |
| R220.2535.60.K1 | | | | | | 34.9 | | | |

Further sizes upon request

 l_K , b_3 and f_3 see cassettes

Dimensions in mm

Spare parts

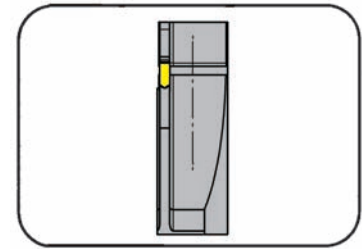
| Basic toolholder | Screw | TORX PLUS®-Wrench |
|------------------|----------|-------------------|
| R220.25... | 5.12T20P | T20PQ |

GROOVING and PARTING OFF (external)



CASSETTE Type

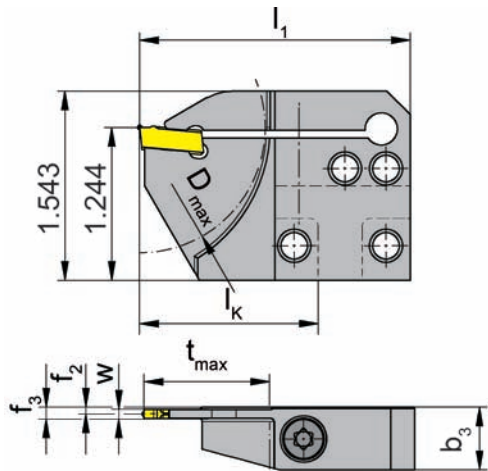
NK100



Depth of groove up to 1.024"
Width of groove .098 - .118"

for use with Insert

Type S100



R = right hand version shown

| Part number | l_1 | t_{max} | D_{max} | b_3 | f_2 | f_3 | l_k |
|------------------------------------|-------|-----------|-----------|-------|--------------|-----------|-------|
| RNK100.5625.02L RNK100.5625.03L | 2.205 | 1.024 | 2.047 | .512 | .055 .065 | $f_2+w/2$ | 1.457 |
| RNK100.7025.02L RNK100.7025.03L | 2.756 | 1.024 | 2.047 | .512 | .055 .065 | $f_2+w/2$ | 2.008 |

For basic toolholder R...K1 and L...K2

w see inserts

Dimensions in inch

Ordering note:

The fastening screw is combined with the basic toolholder - no separate order required.

Further sizes upon request

Spare parts

| Cassette | Screw | TORX PLUS® Wrench |
|------------|----------|-------------------|
| RNK100.... | 5.13T20P | T20PQ |

Machine examples - Multispindle machines

- ▶ INDEX
- ▶ Gildemeister
- ▶ Wickmann
- ▶ Schütte
- ▶ Tornos



Further types upon request.

Machine examples - high production lathes

- ▶ INDEX
- ▶ Gildemeister
- ▶ Tornos
- ▶ Traub
- ▶ Miyano
- ▶ MORI SEIKI

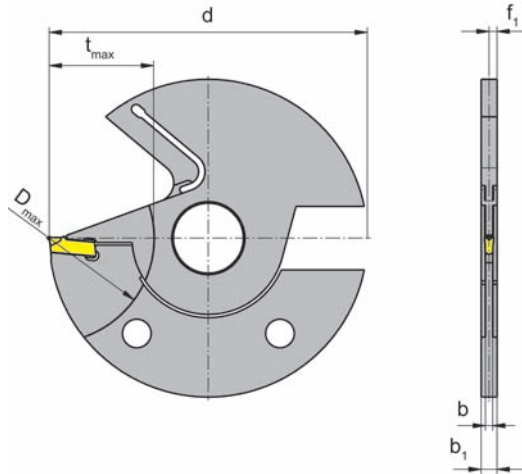


Further types upon request.

CIRCULAR PART-OFF TOOL Type 300.2...

with through coolant supply

| | |
|-----------------|-----------------------------|
| Depth of groove | .512 / .709" (13 / 18 mm) |
| Width of groove | .079 - .197" (2.0 - 5.0 mm) |



for use with Insert

Type S100

| Part number | b | b ₁ | f ₁ | t _{max} | w | D _{max} | d | Size |
|------------------------------|---|----------------|----------------|------------------|---------|------------------|----------|------|
| 300.20.20.00 300.21.20.00 | 5 | 1.5 | 2.5 | 13 18 | 2.0/2.2 | 26 36 | 50 63 | 01 |
| 300.20.25.00 300.21.25.00 | 5 | 1.9 | 2.5 | 13 18 | 2.5 | 26 36 | 50 63 | 02 |
| 300.20.30.00 300.21.30.00 | 5 | 2.3 | 2.5 | 13 18 | 3.0 | 26 36 | 50 63 | 03 |
| 300.20.40.00 300.21.40.00 | 5 | 3.1 | 2.5 | 13 18 | 4.0 | 26 36 | 50 63 | 04 |
| 300.20.50.00 300.21.50.00 | 5 | 3.9 | 2.5 | 13 18 | 5.0 | 26 36 | 50 63 | 05 |

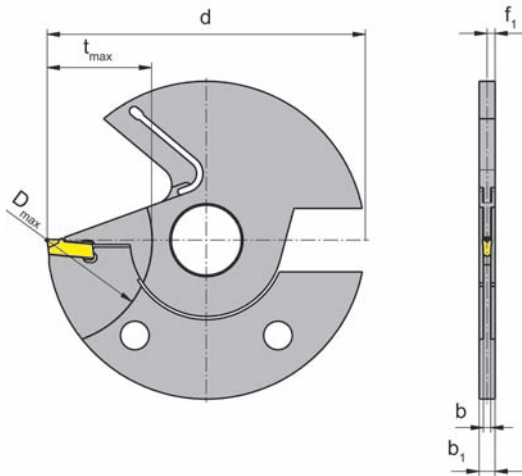
Further sizes upon request

Dimensions in mm

CIRCULAR PART-OFF TOOL Type **300.2...**

with through coolant supply

Depth of groove 1.102 / 1.299" (28 / 33 mm)
 Width of groove .079 - .197" (2.0 - 5.0 mm)



for use with Insert

Type S100

| Part number | b | b ₁ | f ₁ | t _{max} | w | D _{max} | d | Size |
|------------------------------|---|----------------|----------------|------------------|---------|------------------|-----------|------|
| 300.22.20.00 300.23.20.00 | 5 | 1.5 | 2.5 | 28 33 | 2.0/2.2 | 56 66 | 80 100 | 01 |
| 300.22.25.00 300.23.25.00 | 5 | 1.9 | 2.5 | 28 33 | 2.5 | 56 66 | 80 100 | 02 |
| 300.22.30.00 300.23.30.00 | 5 | 2.3 | 2.5 | 28 33 | 3.0 | 56 66 | 80 100 | 03 |
| 300.22.40.00 300.23.40.00 | 5 | 3.1 | 2.5 | 28 33 | 4.0 | 56 66 | 80 100 | 04 |
| 300.22.50.00 300.23.50.00 | 5 | 3.9 | 2.5 | 28 33 | 5.0 | 56 66 | 80 100 | 05 |

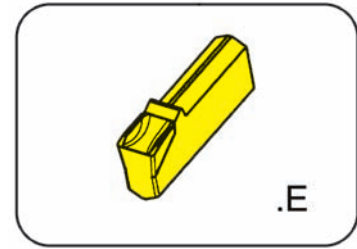
Further sizes upon request

Dimensions in mm

INSERT Type

S100

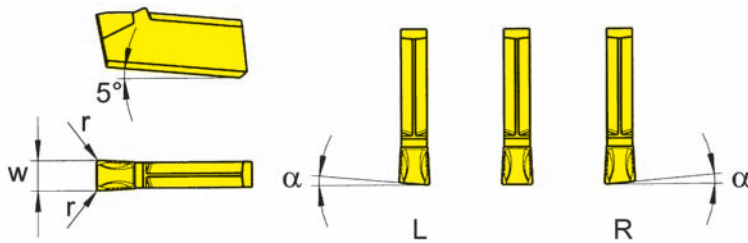
with chip former



Width of groove .079 - .157"

for use with Toolholder

Type 300.2...
H100
HU100
NK100



R = right hand version

L = left hand version

| Part number | w | r | α | Size | Ti22 | TF42 | TF43 | TF45 | TF46 | TC92 | ALX2 | ALX3 | AS6G |
|--|------|------|----------|------|----------|----------|----------|----------|----------|----------|------|------|------|
| S100.0200.E2 R/LS100.0520.E2 | .079 | .008 | 0° 5° | 01 | ▲ ▲/▲ | | ▲ ▲/▲ | ▲ ▲/▲ | ▲ ▲/▲ | ▲ | | | |
| S100.0250.E2 R/LS100.0525.E2 | .098 | .008 | 0° 5° | 02 | ▲ /Δ | | ▲ ▲/▲ | ▲ ▲/▲ | ▲ ▲/▲ | | | | |
| S100.0300.E2 R/LS100.0530.E2 | .118 | .008 | 0° 5° | 03 | ▲ ▲/▲ | ▲ ▲/▲ | ▲ ▲/▲ | ▲ ▲/▲ | ▲ ▲/▲ | ▲ ▲/▲ | ▲ | ▲ | |
| R/LS100.0540.E2 | .157 | .008 | 5° | 04 | ▲/Δ | | ▲/▲ | ▲/▲ | ▲/▲ | | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | M | | | ● | ○ | | | | |
| | | | | | K | | | ● | ● | | | | |
| | | | | | S | | | ● | ○ | | | | |
| | | | | | N | | | ● | ● | | | | |
| | | | | | H | | | | | | | | |

Dimensions in mm

State R or L version

Carbide grades

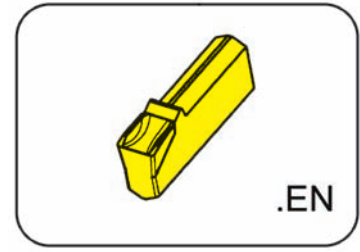
GROOVING and PARTING OFF



INSERT Type

S100

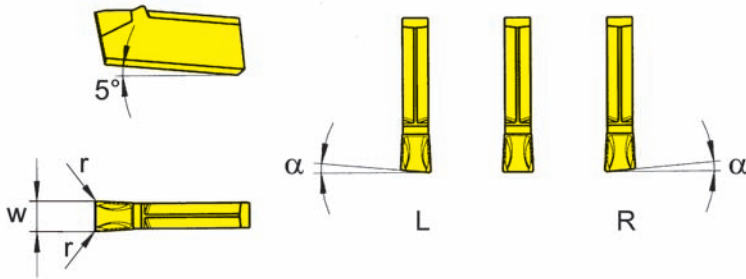
with chip former



Width of groove .079 - .472"

for use with Toolholder

Type 300.2...
H100
HU100
NK100



R = right hand version

L = left hand version

| Part number | w | r | α | Size | Carbide grades | | | | | |
|--|------|------|----|------|----------------|------|------|------|------|------|
| | | | | | T122 | TA45 | ALX3 | AS6G | AS62 | AS66 |
| S100.0200.EN2 | .079 | .008 | 0° | 01 | | | ▲ | ▲ | | |
| S100.0220.EN2 | .087 | .008 | 0° | | | | ▲ | ▲ | | |
| S100.0250.EN2 | .098 | .008 | 0° | 02 | | | ▲ | ▲ | | |
| S100.0300.EN2 | .118 | .008 | 0° | 03 | | | ▲ | ▲ | | Δ |
| RS100.0530.EN2 | .118 | .008 | 5° | | | | | | Δ | Δ |
| S100.0400.EN3 | .157 | .012 | 0° | 04 | | | ▲ | ▲ | | |
| R/LS100.0540.EN2 | .157 | .008 | 5° | | | | ▲/▲ | | | |
| S100.0500.EN3 | .197 | .012 | 0° | 05 | | | ▲ | | | |
| S100.0600.EN6 | .236 | .031 | 0° | 06 | | | | ▲ | | |
| S100.0800.EN8 | .315 | .031 | 0° | 08 | | | | ▲ | | |
| S100.1000.EN8 | .394 | .031 | 0° | 10 | | | | ▲ | | |
| S100.1200.EN8 | .472 | .031 | 0° | 12 | | | | ▲ | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | P | | ● | ● | | ● |
| | | | | | M | | | ● | | ○ |
| | | | | | K | | | ● | | ● |
| | | | | | S | | | ● | | ○ |
| | | | | | N | | | ● | | ● |
| | | | | | H | | | | | |

Dimensions in mm

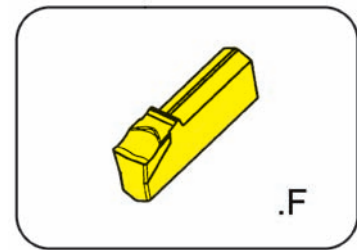
State R or L version

Carbide grades

INSERT Type

S100

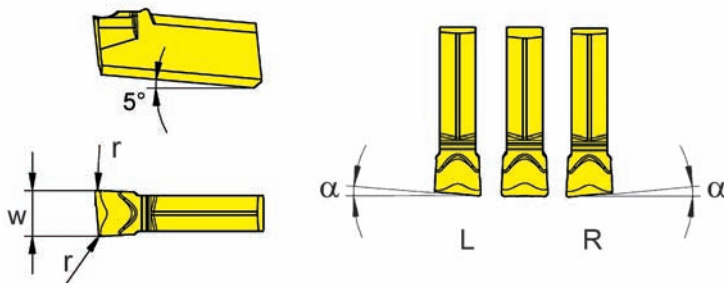
with chip forming



Width of groove .079 - .197"

for use with Toolholder

Type 300.2...
H100
HU100
NK100



R = right hand version shown

L = left hand version

| Part number | w | r | α | Size | Tl22 | TF42 | TF43 | TF45 | TF46 | TC92 | AS6G |
|---------------------------------|------|--------------|----------|------|----------|------|------|------|------|------|------|
| S100.0200.F2 R/LS100.0520.F2 | .079 | .008 | 0° 5° | 01 | ▲ | | ▲ | ▲ | ▲ | ▲ | |
| S100.0250.F2 R/LS100.0525.F2 | .098 | .008 | 0° 5° | 02 | ▲ | | ▲ | ▲ | ▲ | ▲ | |
| S100.0300.F2 R/LS100.0530.F2 | .118 | .008 | 0° 5° | 03 | ▲ ▲/▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| S100.0400.F3 R/LS100.0540.F2 | .157 | .012 .008 | 0° 5° | 04 | ▲ | | ▲ | ▲ | ▲ | | |
| S100.0500.F3 | .197 | .012 | 0° | 05 | ▲ | | ▲ | ▲ | ▲ | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

State R or L version

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| M | | | | ● | ○ | | | | | | |
| K | | | | ● | ● | | | | | | |
| S | | | | ● | ○ | | | | | | |
| N | | | | ● | ● | | | | | | |
| H | | | | | | | | | | | |

Carbide grades

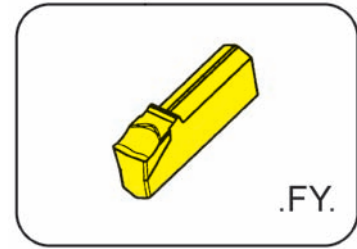
GROOVING and PARTING OFF



INSERT Type

S100

with chip forming

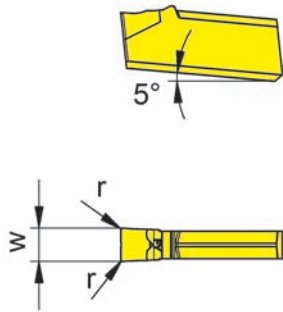


Width of groove .079 - .157" (2.0 - 4.0 mm)

precision sintered

for use with Toolholder

Type 300.2...
H100
HU100
NK100



| Part number | w | r | Size | Carbide grades | | | |
|--|-----|-----|------|----------------|------|------|------|
| | | | | Tl25 | TF45 | TF46 | AS45 |
| S100.0200.FY2 | 2.0 | 0.2 | 01 | ▲ | | | |
| S100.0220.FY2 | 2.2 | | | ▲ | | | |
| S100.0250.FY2 | 2.5 | 0.2 | 02 | ▲ | | | |
| S100.0300.FY2 | 3.0 | 0.2 | 03 | ▲ | | | |
| S100.0400.FY3 | 4.0 | 0.3 | 04 | ▲ | | | |
| ▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet | | | | P | ● | ● | ● |
| | | | | M | ● | ● | ● |
| | | | | K | ● | ● | ● |
| | | | | S | ● | ● | ● |
| | | | | N | ● | ● | ● |
| | | | | H | ● | ● | ● |

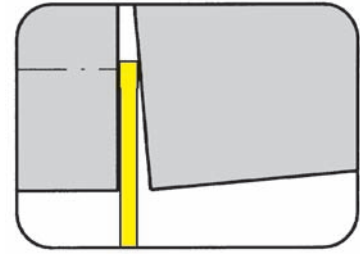
Dimensions in mm

Carbide grades

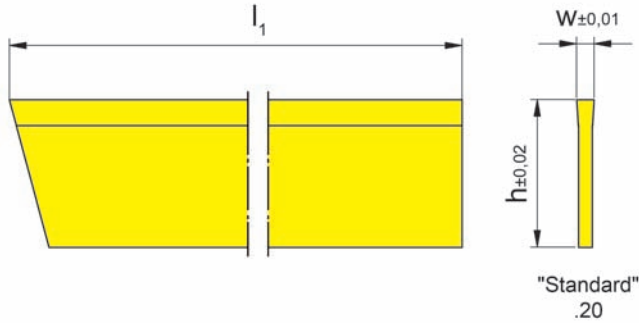
Indexable inserts can be used in **right and left** hand toolholders.

BLADE Type

HCC...20



| | |
|-----------------|------------------------------|
| Width of groove | .020 - .197" (0.5 - 5.0 mm) |
| Length of blade | 2.756 - 6.496" (70 - 165 mm) |



for use with all attachments

| Part number | w | h | l ₁ | MG12 | TN35 | TH35 |
|-------------------|-----|-------|----------------|------|------|------|
| HCC.0050.05.01.20 | 0.5 | 5.00 | 70 | ▲ | ▲ | ▲ |
| HCC.0100.12.05.20 | 1.0 | 12.09 | 90 | ▲ | ▲ | ▲ |
| HCC.0100.17.12.20 | 1.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0130.17.12.20 | 1.3 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0150.17.12.20 | 1.5 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0160.12.10.20 | 1.6 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0160.17.12.20 | 1.6 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0200.12.10.20 | 2.0 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0200.17.12.20 | 2.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0250.12.10.20 | 2.5 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0250.17.12.20 | 2.5 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0300.12.10.20 | 3.0 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0300.17.12.20 | 3.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0320.22.17.20 | 3.2 | 22.00 | 150 | ▲ | ▲ | ▲ |
| HCC.0320.28.20.20 | 3.2 | 28.00 | 165 | ▲ | ▲ | ▲ |
| HCC.0400.17.12.20 | 4.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0400.22.17.20 | 4.0 | 22.00 | 150 | ▲ | ▲ | ▲ |
| HCC.0400.28.20.20 | 4.0 | 28.00 | 165 | ▲ | ▲ | ▲ |
| HCC.0480.22.17.20 | 4.8 | 22.00 | 150 | ▲ | ▲ | ▲ |
| HCC.0500.17.12.20 | 5.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0500.28.20.20 | 5.0 | 28.00 | 165 | ▲ | ▲ | ▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | | |
|---|---|---|---|
| P | ○ | ● | ● |
| M | ● | ● | ● |
| K | ● | ● | ● |
| S | ● | ● | ● |
| N | ● | ● | ● |
| H | | | |

Carbide grades

All blades are manufactured in a neutral version

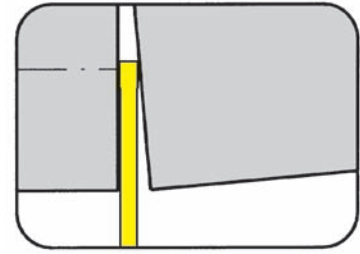
Further sizes upon request

GROOVING and PARTING OFF

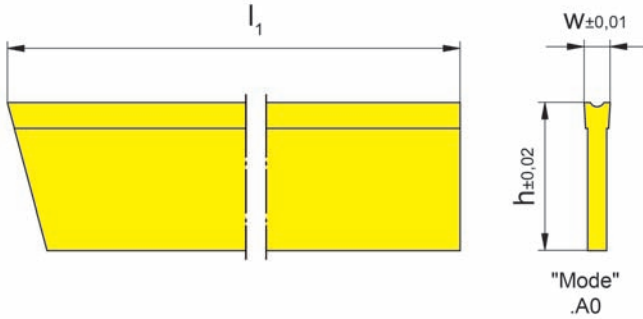


BLADE Type

HCC...A0



| | |
|-----------------|-------------------------------|
| Width of groove | .059 - .197" (1.5 - 5.0 mm) |
| Length of blade | 4.528 - 4.921" (115 - 125 mm) |



for use with all attachments

| Part number | w | h | l ₁ | MG12 | TN35 | TH35 |
|-------------------|-----|-------|----------------|------|------|------|
| HCC.0150.17.12.A0 | 1.5 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0160.12.10.A0 | 1.6 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0160.17.12.A0 | 1.6 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0200.12.10.A0 | 2.0 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0200.17.12.A0 | 2.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0250.12.10.A0 | 2.5 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0250.17.12.A0 | 2.5 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0300.12.10.A0 | 3.0 | 12.09 | 115 | ▲ | ▲ | ▲ |
| HCC.0300.17.12.A0 | 3.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0400.17.12.A0 | 4.0 | 17.17 | 125 | ▲ | ▲ | ▲ |
| HCC.0500.17.12.A0 | 5.0 | 17.17 | 125 | ▲ | ▲ | ▲ |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

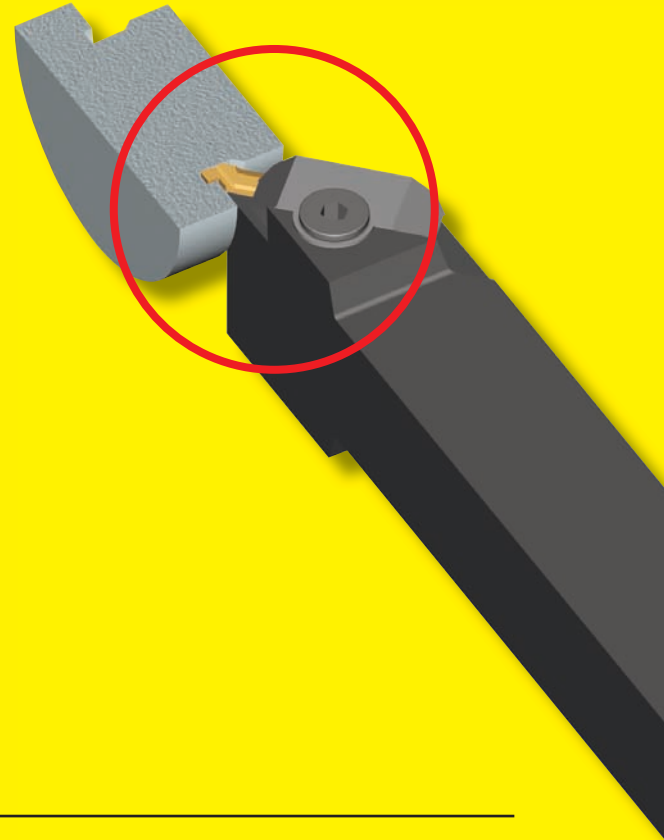
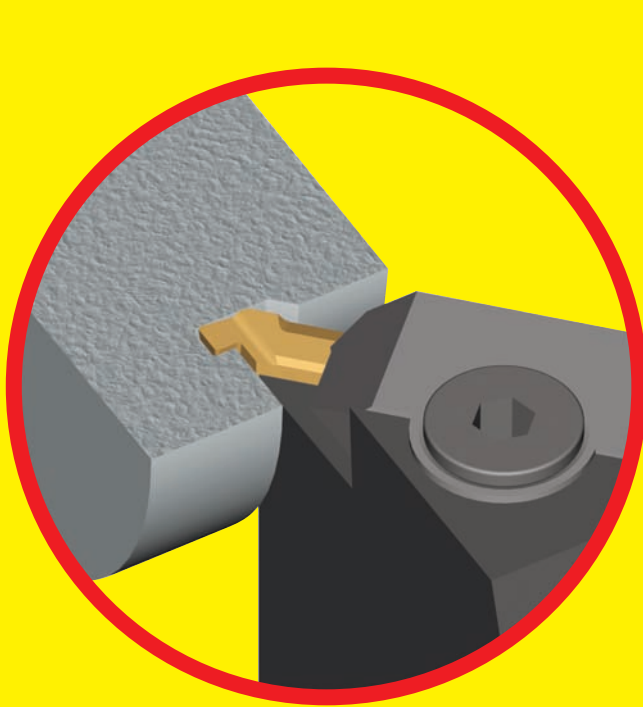
| | | | |
|---|---|---|---|
| P | ○ | ● | ● |
| M | ● | ● | ● |
| K | ● | ● | ● |
| S | ● | ● | ● |
| N | ● | ● | ● |
| H | | | |

Carbide grades

All blades are manufactured in a neutral version

Further sizes upon request

HORN - THE LEADERS IN GROOVING TECHNOLOGY



FACE GROOVING

INDEXABLE INSERTS TYPE 312

The economic way to produce axial o-ring grooves

HORN - INTELLIGENT TOOL DESIGN AT WORK.



For further information, please contact HORN USA.

TECHNICAL INSTRUCTIONS **Q**

Technical Information

Page

- Grooving / Side turning Q2 - Q5
- Face grooving Q6
- Profiling Q7
- Threading Q8 - Q9
- Parting off Q10 - Q11

Geometries and feed rates

- Inserts type
 - 217 Q12
 - 264 / S264 Q13
 - 274 Q14
 - S119 / S223 Q15
 - S224 Q16
 - 229 / S229 Q17
 - 231 Q18
 - 312 / S312 Q19
 - 315 Q20
 - S316 Q21
- Parting off Q22

Cutting data

- Grooving and parting off Q23
- Face grooving Q23
- Profiling Q25

Carbide grades for grooving and parting off

Q26 - Q27

Description carbide grades

Q28 - Q29

Q

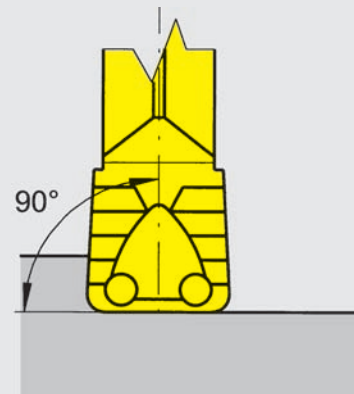
SIDE TURNING

HORN-Grooving Tools will give you absolute accuracy of profile and angles, even when profiling with one-sided cutting forces.

A flexible cutting edge would be desirable for turning, but not useful for precision grooving.

Please note when setting tool:

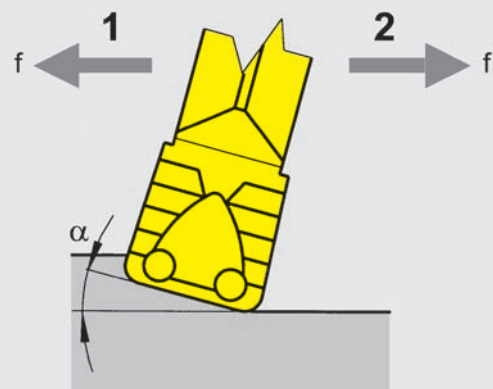
Always ensure that the tool is perpendicular to the axis of the workpiece.



Improper setting:

Feed direction **1** will create vibrations. The tendency to vibrate will increase on rigid workpieces.

Feed direction **2** is suitable for turning and will have no negative effects to the operation.



SIDE TURNING

The grooving tool should not be seen as a replacement for a turning tool with ISO-inserts. On certain operations, for instance grooving and turning can reduce the number of tool changes and offer reduced cycle time.

Width of insert:

The width 4, 5 and 6 mm are recommended for side turning. The profile and rigidity of the workpiece determines the width of insert. Always choose the largest possible edge radius.

| Width | 4 mm | 5 mm | 6 mm | |
|-------------------|------------------------|------------------------|------------------------|------------|
| a_{pmax} f | 2,8 0,15 - 0,30 | 3,5 0,15 - 0,40 | 4,0 0,15 - 0,40 | .3. |
| a_{pmax} f | 2,8 0,15 - 0,30 | 3,5 0,15 - 0,50 | 4,0 0,15 - 0,60 | .5. |
| a_{pmax} f | 2,8 0,10 - 0,25 | 3,5 0,10 - 0,30 | 4,0 0,10 - 0,30 | .A. |

Cutting depth a_p :

When side turning the cutting depth is dependent upon the width of insert as well as on the material and the rigidity of the workpiece. The max. depth would be limited by the length of the cutting edge.

Rute of thumb for calculation:

$$a_{pmax} = w \times 0,7 \text{ or max. } 3,0 \text{ mm}$$

$$a_{pmin} = \text{corner radius (r)}$$

The smallest cutting depth a_{pmin} is governed by the edge radius of the insert. Cutting depth below the corner radius will create poor cutting conditions.

Max. feed rate f_{max} :

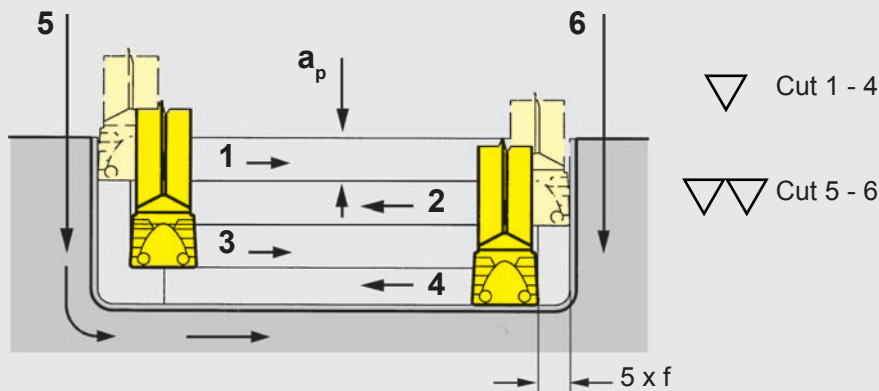
Rute of thumb for calculation:

$$f_{max} = w \times 0,1$$

Q

SIDE TURNING

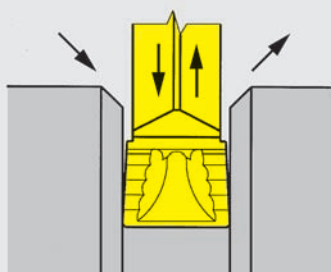
Side turning between shoulders



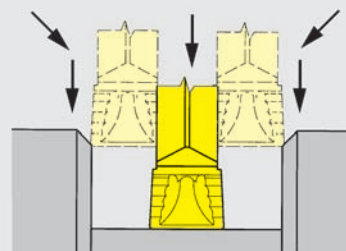
When side turning, do not work from shoulder to shoulder. Turning in this manner negatively influences the run off of chips and risks breaking the insert.

Grooving and turning with suggested a_p and f is recommended. Leave $5 \times f$ to the shoulder for cut 2 and subsequent cuts. This will help prevent swarf from being trapped under the advancing cutting edge.

CHAMFERING with standard inserts



Width of groove and insert are equal



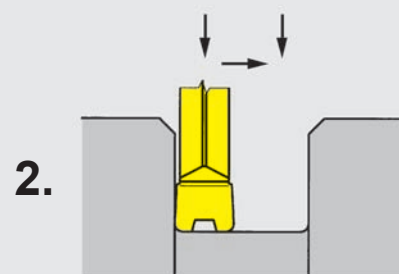
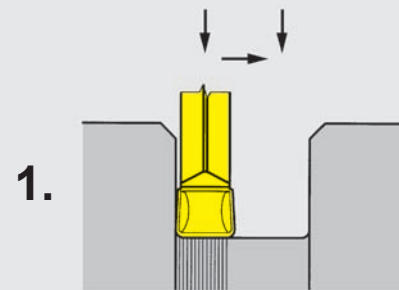
Groove wider than insert

FINISHING OF GROOVES

(Sealing grooves)

This process requires both turning and grooving where very high quality surface finishes are required.

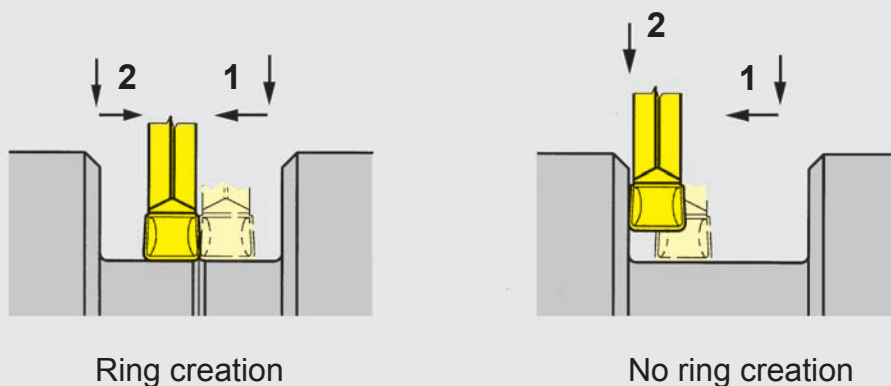
Diagram 2 shows the modified insert type S224... NC...D2.



SWARF RING CREATION

Swarf ring creation can be avoided by turning across the smaller diameter in one continuous pass.

Well defined cutting edges and small corner radii will reduce the tendency to create rings.



Ring creation

No ring creation

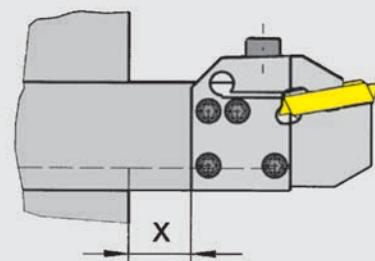
FACE GROOVING

Cassette Selection

Select the cassette to suit the major diameter of the face groove to be cut.

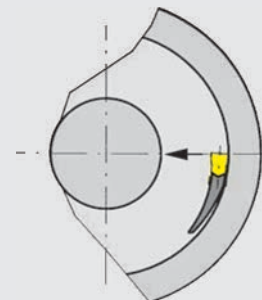
Stable Setup

The tool should be set to give the minimum overhang to achieve maximum stability.



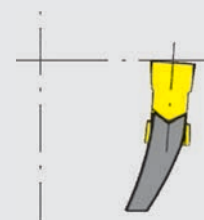
Working Practice

When turning to open up the face groove the cut should be taken from the major \varnothing towards the minor \varnothing .

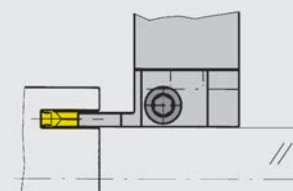


Tool Setup

The tool should be set to center height to ensure correct cutting and support clearance.



The tool must be parallel to the rotation axis of the workpiece.



PROFILED INSERTS

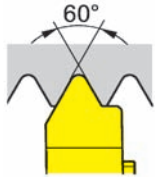
Examples of profiles

Profiled inserts are manufactured according to customer special requirements. It is also possible to supply inserts with different relief angles. If the customer wants to regrind or resharpen the insert, we recommend to use small relief angles around the cutting edge profile. How many times the customer can regrind the insert, depends on the condition of each individual insert.

PCD- or CBN-tipped inserts upon request.

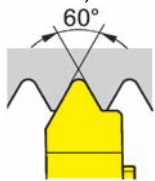
Q

Metric ISO standard thread (external)



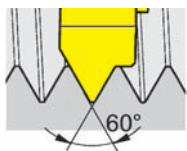
| Thread | Partial profile | Page | Full profile | Page |
|---------------|-----------------|------|----------------|------|
| M6 (M7) | R/L315.0610.01 | J15 | R/L315.0610.02 | J16 |
| M8 (M9) | R/L315.0712.01 | J15 | R/L315.0712.02 | J16 |
| M10 (M11) | R/L315.0915.01 | J15 | R/L315.0915.02 | J16 |
| M12 | R/L315.1017.01 | J15 | R/L315.1017.02 | J16 |
| M14; M16 | R/L315.1220.01 | J15 | R/L315.1220.02 | J16 |
| M18; M20; M22 | R/L315.1525.01 | J15 | R/L315.1525.02 | J16 |
| M24; M27 | R/L315.1830.01 | J15 | R/L315.1525.02 | J16 |
| M30; M33 | R/L315.2135.01 | J15 | R/L315.2135.02 | J16 |
| M36 | - | - | R/L315.2440.02 | J16 |
| M24 - M68 | R/L315.3060.01 | J15 | - | - |
| M48; M52 | - | - | R/L315.3050.02 | J16 |
| M64; M68 | - | - | R/L315.3660.02 | J16 |

Metric ISO fine thread (external)



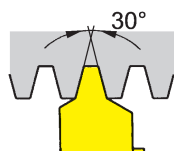
| Thread | Partial profile | Page | Full profile | Page |
|----------|-----------------|------|----------------|------|
| M7,5x1 | R/L315.0610.01 | J15 | R/L315.0610.02 | J16 |
| M10x1,25 | R/L315.0712.01 | J15 | R/L315.0712.02 | J16 |
| M12x1,5 | R/L315.0915.01 | J15 | R/L315.0915.02 | J16 |
| M17x2 | R/L315.1220.01 | J15 | R/L315.1220.02 | J16 |
| M24x2,5 | R/L315.1525.01 | J15 | R/L315.1525.02 | J16 |
| M30x3 | R/L315.1830.01 | J15 | R/L315.1525.02 | J16 |

Metric ISO fine thread (internal)



| Thread | Partial profile | Page | Full profile | Page |
|---------|-----------------|------|----------------|------|
| M45x1 | R/L315.0510.01 | J17 | R/L315.0510.02 | J18 |
| M45x1,5 | R/L315.0815.01 | J17 | R/L315.0815.02 | J18 |
| M48x2 | R/L315.1020.01 | J17 | R/L315.1020.02 | J18 |
| M48x2,5 | R/L315.1325.01 | J17 | R/L315.1325.02 | J18 |
| M48x3 | R/L315.1630.01 | J17 | R/L315.1630.02 | J18 |
| M48x3,5 | R/L315.1835.01 | J17 | R/L315.1835.02 | J18 |

Metric ISO trapezoidal thread DIN103 (external)

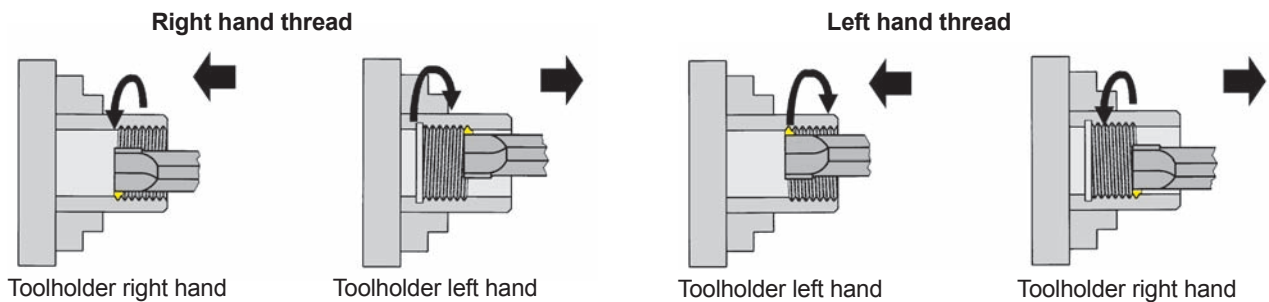


| Thread | Full profile | Page |
|-----------|----------------|------|
| Tr8x1,5 | R/L315.1015.02 | J19 |
| Tr9-10x2 | R/L315.1320.02 | J19 |
| Tr12-14x3 | R/L315.1730.02 | J19 |
| Tr16-20x4 | R/L315.2240.02 | J19 |
| Tr22-28x5 | R/L315.2750.02 | J19 |
| Tr30-36x6 | R/L315.3560.02 | J19 |

RECOMMENDED NUMBER OF PASSES

| Carbide grade TN35 Nmm ² lb/in ² | Steel (Tensile strength) | | | | | stainl. steel | Cast iron | Aluminium | |
|--|--------------------------|-------------------|--------------------|---------------------|----------------|---------------|------------|------------|----|
| | 400-500 58-72 | 500-700 72-101 | 700-850 101-123 | 850-1150 123-167 | > 1150 >167 | | | | |
| V _{max} m/min V _{max} feet/min | 160 525 | 140 460 | 120 390 | 90 300 | 70 230 | 90 300 | 100 330 | 300 980 | |
| Pitch | | Number of passes | | | | | | | |
| mm | tpi | | | | | | | | |
| 0,8 | 32 | 8 | 8 | 9 | 9 | 10 | 10 | 9 | 8 |
| 1,0 | 24 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 10 |
| 1,25 | 20-19 | 12 | 12 | 14 | 14 | 15 | 15 | 14 | 12 |
| 1,5 | 16 | 15 | 15 | 17 | 17 | 18 | 18 | 17 | 15 |
| 1,75 | 14 | 17 | 17 | 19 | 19 | 21 | 21 | 18 | 17 |
| 2,0 | 12-11 | 19 | 20 | 22 | 22 | 25 | 25 | 20 | 18 |
| 2,5 | 10 | 22 | 24 | 26 | 26 | 31 | 31 | 22 | 20 |
| 3,0-3,5 | 8 | 28 | 30 | 32 | 32 | 38 | 38 | 24 | 22 |

FEED RATE internal threading



IN-FEED

RADIAL IN-FEED

Metal removed on both sides of the insert simultaneously. The most commonly used method for thread production.



MODIFIED FLANK IN-FEED

Less wear of the trailing edge and better surface finish on corresponding flank.



ALTERNATING FLANK IN-FEED

Both edges are being fully utilised which means longer insert life.



FLANK IN-FEED

More easily formed chip and better heat dissipation.



PARTING OFF

Indexable inserts with square cutting edge

The best selection for applications are inserts with a square cutting edge, wherever possible to use them.

Advantages: - increased tool life
- better swarf control and a high surface quality will be obtained
- possibility to choose the maximum cutting data

Feed rates

The feed rate when cutting with front cutting angle will need to be reduced up to 40 %. This may also be influenced by the tensile strength of the material to be cut.

Swarf control

Best swarf control and highest surface finish will be obtained by choosing the right speed and feed rate.

Avoiding nibs

By using right or left handed inserts and the correct center height, occurrences of part off nibs and burrs can be reduced.

Parting off with a sub spindle or part catcher

The cutting edge will be protected by having a second spindle or fixture to pick up the workpiece. Parting off without a support requires the feed rate to be reduced as the tool approaches center.

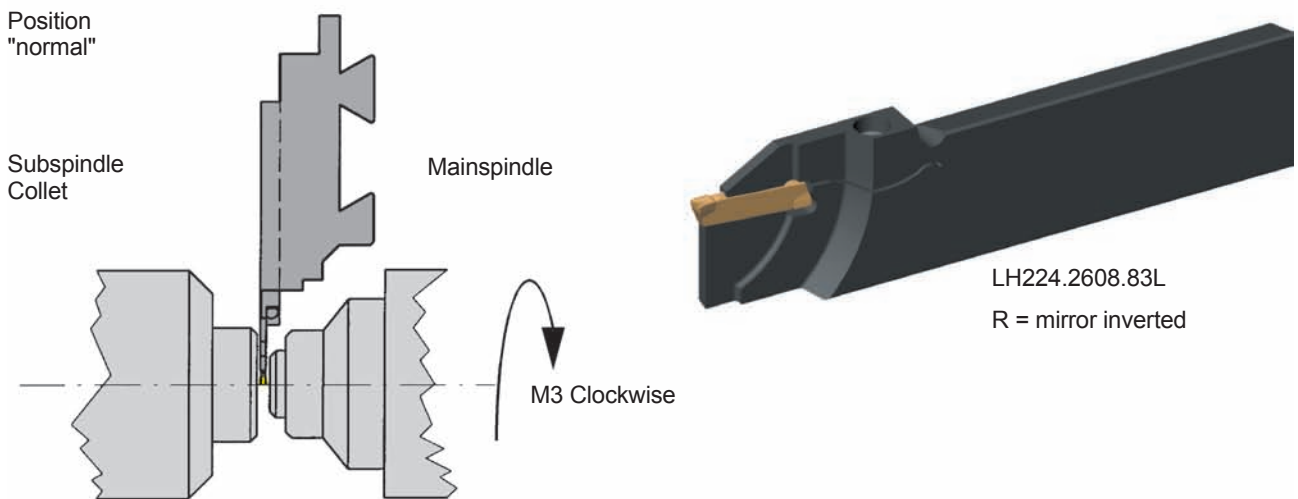
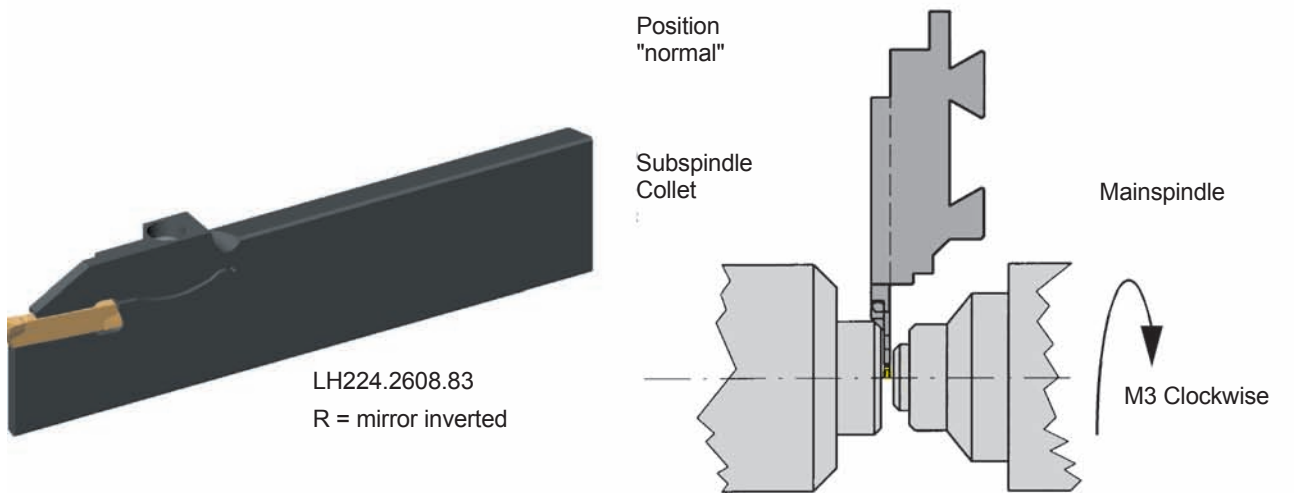
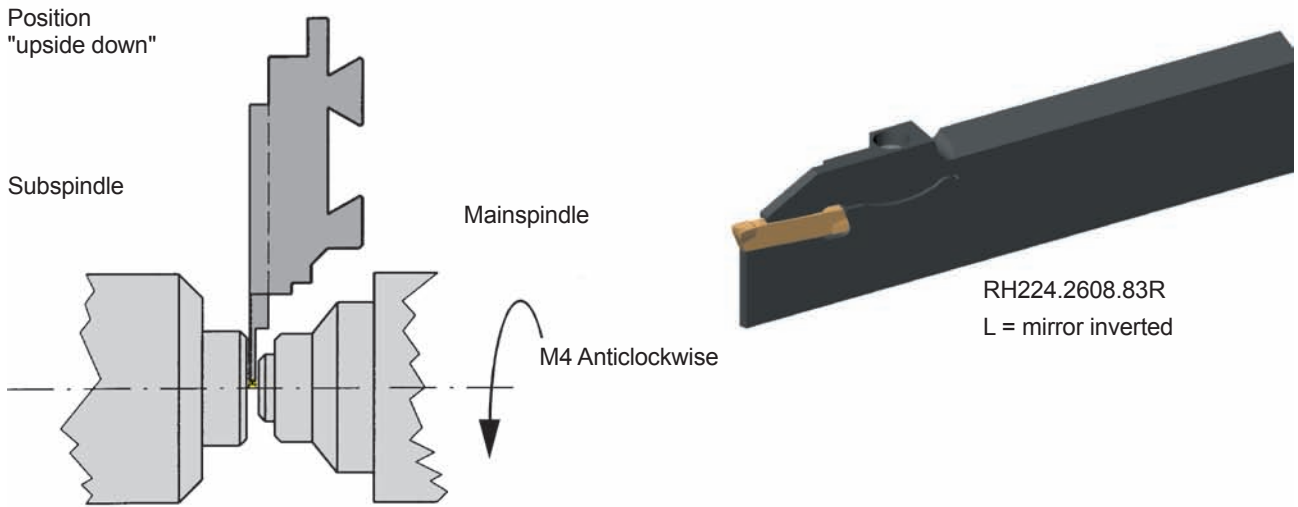
Convex or concave surfaces

Convex or concave surfaces will be avoided when using right or left hand inserts by reducing the feed rate.

Coolant



A copious well aimed coolant supply will give long tool life.

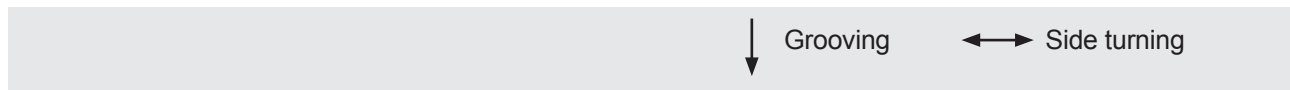
Reinforced Blades - Positioning








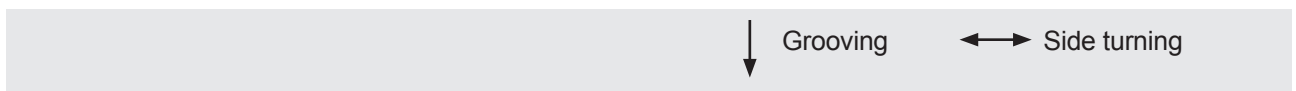
These special reinforced form can be produced on all blades.

Q

| Geometry | Applications | Feed rate | |
|--|---|-----------|-----------------------------|
| | | mm/rev | in/rev |
| .00  | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.02 - 0.12 .0008 - .005 |
| Chipbreaker for special inserts  | grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength | ↓ | 0.02 - 0.12 .0008 - .005 |

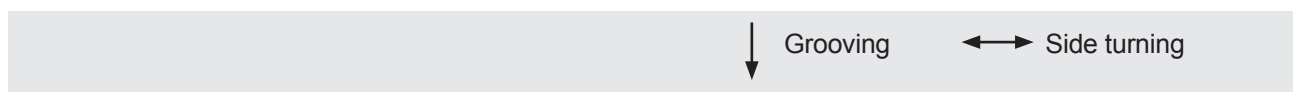


| Geometry | Applications | Feed rate | |
|--|--|-----------|---|
| | | mm/rev | in/rev |
| .10  | Grooving and parting off | ↓ | 0.02 - 0.08 .0008 - .003 |
| .20  | Grooving and parting off for materials high tensile strength | ↓ | 0.02 - 0.08 .0008 - .003 |
| .D1  | Grooving and turning | ↓ ↔ | 0.02 - 0.08 .0008 - .003 0.02 - 0.04 .0008 - .002 $a_{pmax} = 1.5 \times w$ |
| .M0  | Grooving, turning and parting off for Brass (Ms58) | ↓ ↔ | 0.02 - 0.10 .0008 - .004 0.02 - 0.15 .0008 - .006 |
| .P0  | Grooving and parting off | ↓ ↔ | 0.02 - 0.08 .0008 - .003 0.02 - 0.04 .0008 - .002 $a_{pmax} = 1.5 \times w$ |

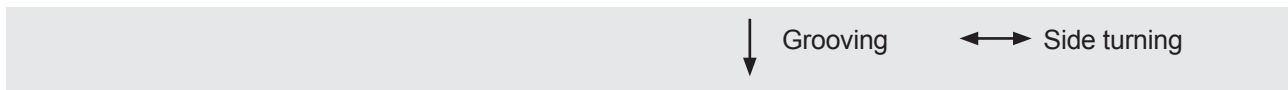


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| Geometry | Applications | Feed rate | |
|------------|---|-----------|--|
| | | mm/rev | in/rev |
| <p>.10</p> | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.02 - 0.12 .0008 - .005 |
| <p>.M.</p> | grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength | ↓ | 0.02 - 0.12 .0008 - .005 |
| <p>.P.</p> | Grooving and turning (in one direction) | ↓ ↔ | 0.02 - 0.10 .0008 - .004 0.02 - 0.10 .0008 - .004 |



| Geometry | Applications | Feed rate | |
|------------|--|-------------------|---|
| | | mm/rev | in/rev |
| <p>.3.</p> | <p>grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength</p> | <p>↓</p> <p>↔</p> | <p>0.05 - 0.15 .002 - .006</p> <p>0.05 - 0.20 .002 - .008</p> <p>$a_{pmax} = 1.5 \times w$</p> |
| <p>.C.</p> | <p>parting off, for long chipping materials</p> | <p>↓</p> | <p>0.02 - 0.12 .0008 - .005</p> |
| <p>.5.</p> | <p>grooving, side turning, profiling of grooves, excellent reduction of chip width in materials with medium tensile strength</p> | <p>↓</p> <p>↔</p> | <p>0.08 - 0.20 .003 - .008</p> <p>0.05 - 0.20 .002 - .008</p> <p>$a_{pmax} = 1.5 \times w$</p> |



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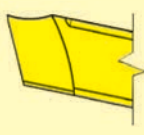
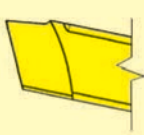
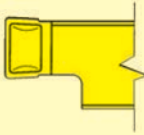
| Geometry | Applications | Feed rate | |
|-------------|--|-----------|--|
| | | mm/rev | in/rev |
| .3. | grooving, side turning, profiling of grooves, suitable for materials with high tensile strength | ↓ ↔ | 0.15 - 0.25 0.15 - 0.40* .006 - .010 .008 - .016* |
| .5. | grooving, side turning, profiling of grooves, excellent reduction of chip width in materials with medium tensile strength | ↓ ↔ | 0.10 - 0.45 0.15 - 0.60* .004 - .018 .006 - .024* |
| .A. | grooving, side turning, finishing or profiling of grooves, excellent chip breaking in materials with medium tensile strength | ↓ ↔ | 0.05 - 0.30 0.10 - 0.30* .002 - .012 .004 - .012* |
| .C. | parting off, for long chipping materials | ↓ | 0.02 - 0.10 .0008 - .004 |
| .D. | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ ↔ | 0.05 - 0.15 0.05 - 0.20 .002 - .006 .002 - .008 |
| .E. .EN. | grooving, side turning, profiling of grooves, suitable for materials with high tensile strength | ↓ | 0.08 - 0.30 .003 - .012 |
| .F. .FY. | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.03 - 0.15 .001 - .006 |
| .H. | grooving in "pecking process", profiling in partial cut, for long chipping | ↓ ↔ | 0.15 - 0.25 0.10 - 0.25 .006 - .010 .004 - .010 |
| .K. .KF. | grooving, side turning, finishing or profiling of grooves | ↓ ↔ | 0.05 - 0.25 0.05 - 0.25 .002 - .010 .002 - .010 |
| .L. | grooving in full and partial cut with excellent chip control | ↓ ↔ | 0.10 - 0.22 0.05 - 0.20 .004 - .009 .002 - .008 |
| .ZG. | grooving, side turning, profiling of grooves | ↓ ↔ | 0.10 - 0.22 0.05 - 0.20 .004 - .009 .002 - .008 |

* dependent upon insert width, edge radii and material
 ↓ Grooving ↔ Side turning

| Geometry | Applications | Feed rate | |
|-------------|--|-----------|--|
| | | mm/rev | in/rev |
| .10 | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.05 - 0.15 .002 - .006 |
| .20 | grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength | ↓ | 0.07 - 0.25 .003 - .010 |
| .3. | grooving, side turning, profiling of grooves, suitable for materials with high tensile strength | ↓ ↔ | 0.15 - 0.25 .006 - .010 0.15 - 0.40* .006 - .016* |
| .5. | grooving, side turning, profiling of grooves, excellent reduction of chip width in materials with medium tensile strength | ↓ ↔ | 0.10 - 0.45 .004 - .018 0.15 - 0.60* .006 - .024* |
| .A. | grooving, side turning, finishing or profiling of grooves, excellent chip breaking in materials with medium tensile strength | ↓ ↔ | 0.05 - 0.30 .002 - .012 0.10 - 0.30* .004 - .012* |
| .C. | parting off, for long chipping materials | ↓ | 0.02 - 0.10 .008 - .004 |
| .E. .EN. | grooving, side turning, profiling of grooves, suitable for materials with high tensile strength | ↓ | 0.08 - 0.30 .003 - .012 |
| .F. .FY. | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.03 - 0.15 .001 - .006 |
| .H. | grooving in "pecking process", profiling in partial cut, for long chipping | ↓ ↔ | 0.15 - 0.25 .006 - .010 0.10 - 0.25 .004 - .010 |
| .HR. | grooving in full and partial cut with excellent chip control | ↓ | 0.20 - 0.30 .008 - .012 |
| .L. | grooving in full and partial cut with excellent chip control | ↓ ↔ | 0.10 - 0.22 .004 - .009 0.05 - 0.20 .002 - .008 |
| .K. .KF. | grooving, side turning, finishing or profiling of grooves | ↓ ↔ | 0.05 - 0.25 .002 - .010 0.05 - 0.25 .002 - .010 |

* dependent upon insert width, edge radii and material ↓ Grooving ↔ Side turning

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| Geometry | Applications | Feed rate | |
|---|---|-----------|--|
| | | mm/rev | in/rev |
| .10  | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.02 - 0.12 .0008 - .005 |
| .20  | grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength | ↓ | 0.02 - 0.12 .0008 - .005 |
| .30  | grooving, side turning, profiling and finishing of grooves, for long chipping materials with high tensile strength | ↓ ↔ | 0.15 - 0.25 .006 - .010 0.15 - 0.40* .006 - .016* |

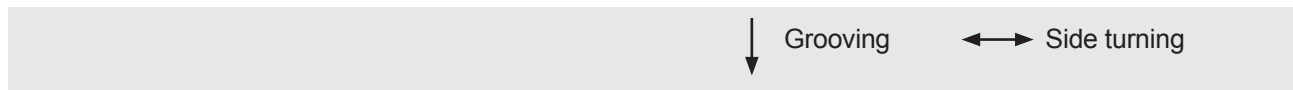
* dependent upon insert width, edge radii and material ↓ Grooving ↔ Side turning

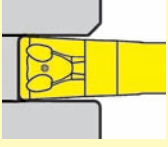
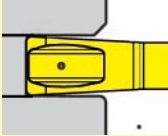
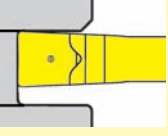
| Geometry | Applications | Feed rate | | |
|---|---|-----------|-----------------------------|-----------------------------|
| | | mm/rev | in/rev | |
| <p>.00</p> <p>312</p> | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.02 - 0.12 | .0008 - .005 |
| <p>Chipbreaker for special inserts</p> <p>312</p> | grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength | ↓ | 0.02 - 0.12 | .0008 - .005 |
| <p>.V.</p> <p>312</p> | grooving, with excellent chip control | ↓ | 0.04 - 0.15 | .002 - .006 |
| <p>.F.</p> <p>S312</p> | grooving, profiling of grooves, easy cut | ↓ | 0.03 - 0.15 | .001 - .006 |
| <p>.5.</p> <p>S312</p> | grooving, side turning, profiling of grooves, excellent reduction of chip width in materials with medium tensile strength | ↓ ↔ | 0.08 - 0.25 0.15 - 0.30* | .003 - .010 .006 - .012* |
| <p>.D.</p> <p>S312</p> | grooving, profiling of grooves, suitable for materials with high tensile strength | ↓ | 0.03 - 0.15 | .001 - .006 |
| <p>.C.</p> <p>S312</p> | parting off, grooving | ↓ | 0.02 - 0.10 | .0008 - .004 |

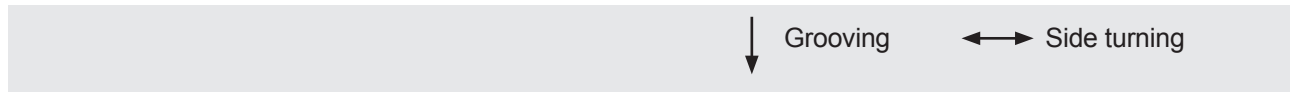
* dependent upon insert width, edge radii and material ↓ Grooving ↔ Side turning

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| Geometry | Applications | Feed rate | |
|--|---|-----------|-----------------------------|
| | | mm/rev | in/rev |
| <p>.00</p>  | grooving, finishing of grooves, for long chipping materials, low feed rates | ↓ | 0.02 - 0.12 .0008 - .005 |
| <p>Chipbreaker for special inserts</p>  | grooving, finishing of grooves, geometry for inserts with profile, for short chipping materials and high tensile strength | ↓ | 0.02 - 0.12 .0008 - .005 |



| Geometry | Applications | Feed rate | | |
|--|--|-----------|-------------|-------------|
| | | mm/rev | in/rev | |
| <p>.5.</p>  | <p>grooving, side turning, profiling of grooves, excellent reduction of chip width in materials with medium tensile strength</p> | ↓ | 0.06 - 0.25 | .002 - .010 |
| <p>.EN.</p>  | <p>grooving, side turning, profiling of grooves, suitable for materials with high tensile strength</p> | ↓ | 0.08 - 0.20 | .003 - .008 |
| <p>.FY.</p>  | <p>grooving, finishing of grooves, for long chipping materials, "low feed rates" with excellent chip control</p> | ↓ | 0.03 - 0.15 | .001 - .006 |



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| Geometry | Applications | Feed rate | | Available geometries and lead angle | | | | | | | | | |
|--|--------------------------------------|-------------|--------------|-------------------------------------|-----------|------|------|------|----------|----------|------|-----|--|
| | | mm/rev | in/rev | S100 | S123/S223 | S274 | S264 | S224 | 229/S229 | 312/S312 | S316 | | |
|  .00 | Parting off | 0.02 - 0.10 | .0008 - .004 | | | | | | | | 0° | | |
| | | 0.02 - 0.08 | .0008 - .003 | | | | | | | | | 5° | |
| | Tubes with small thickness | 0.02 - 0.06 | .0008 - .002 | | | | | 8° | | | | 8° | |
| | | 0.02 - 0.05 | .0008 - .002 | | | | 15° | 15° | | | | 12° | |
|  .00 | Parting off with chip former | 0.02 - 0.15 | .0008 - .006 | | | | | | | | 0° | | |
| | | 0.02 - 0.15 | .0008 - .006 | | | | | | | | 5° | | |
| | | | | | | | | | | | | | |
|  .M. | Parting off brittle materials (MS58) | 0.02 - 0.15 | .0008 - .006 | | | | | | | | 0° | | |
| | | 0.02 - 0.15 | .0008 - .006 | | | | | | | | 5° | | |
| | | 0.02 - 0.12 | .0008 - .004 | | | | | 8° | | | | | |
| | | 0.02 - 0.10 | .0008 - .005 | | | | | 15° | | | | | |
|  .V. | Parting off with chip forming | 0.02 - 0.12 | .0008 - .005 | | | | | | | | 0° | | |
| | | 0.02 - 0.08 | .0008 - .003 | | | | | | | | 5° | | |
| | | | | | | | | | | | | | |
|  .C. | Parting off | 0.02 - 0.10 | .0008 - .004 | | 0° | | | | 0° | 0° | 0° | | |
| | | 0.02 - 0.08 | .0008 - .003 | | 4° | | | | 5° | 5° | 5° | | |
| | | 0.02 - 0.06 | .0008 - .002 | | 8° | | | | 8° | 8° | 8° | | |
| | | 0.02 - 0.05 | .0008 - .002 | | 15° | | | | 15° | | | | |
|  .E. | Parting off | 0.02 - 0.12 | .0008 - .005 | 0° | | | | | 0° | 0° | | | |
| | | 0.05 - 0.12 | .002 - .005 | 5° | | | | | 5° | | | | |
| | | | | | | | | | | | | | |
|  .EN | Parting off | 0.10 - 0.25 | .004 - .010 | 0° | | | | | 0° | 0° | | 0° | |
| | | 0.10 - 0.20 | .004 - .008 | 5° | | | | | | | | | |
| | | | | | | | | | | | | | |
|  .D. * (.32) | Parting off | 0.02 - 0.10 | .0008 - .004 | | 0° | | | | 0° | | 0° | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
|  .F. | Parting off | 0.02 - 0.12 | .0008 - .005 | 0° | | | | | 0° | 0° | | | |
| | | 0.02 - 0.10 | .0008 - .004 | 5° | | | | | 5° | | | | |
| | | | | | | | | | | | | | |
|  .3. | Parting off | 0.10 - 0.15 | .004 - .006 | | | | | | 0° | 0° | | | |
| | | 0.08 - 0.12 | .003 - .005 | | | | | | | 5° | | | |
| | | | | | | | | | | | | | |

| Material | | | Hardness Brinell (HB) | Cutting speed v_c (m/min) | | | | | | | | | | |
|----------|-------------------------------|-----------------------|-----------------------|-----------------------------|---------|---------|-----------|-----------|----------------|-----------|---------|-----------|---------|---------|
| | | | | K10 | MG12 | P20 | TI22 TN32 | TI25 TN35 | TF45 TA45 TH35 | TF46 TA46 | AS62 | AL96 AS66 | H20 | H54 |
| P | Carbon steel | 0.2% C | 140 | | | 180-120 | 200-160 | 180-130 | 200-160 | 280-180 | 250-180 | 300-180 | 230-170 | 200-140 |
| | | 0.4% C | 180 | | | 160-110 | 180-150 | 170-120 | 180-150 | 250-140 | 230-170 | 270-150 | 220-160 | 180-120 |
| | | 0.6% C | 200 | | | 140-90 | 180-140 | 150-100 | | 230-120 | 220-160 | 250-120 | 210-150 | 160-100 |
| | Alloyed steel (<5%) | annealed | 180 | | | 140-100 | 180-140 | 160-110 | 180-140 | 230-100 | 200-150 | 250-100 | 210-150 | 180-120 |
| | | quenched | 280 | | | 110-90 | 160-110 | 130-90 | | 190-90 | 160-110 | 220-90 | 170-120 | 160-100 |
| | | quenched | 350 | | | 80 | 140-90 | 100-70 | | 170-80 | 130-100 | 200-80 | 140-80 | 120-80 |
| | high alloyed steel (>5%) | annealed | 200 | | | 120-80 | 120-90 | | | 200-140 | 180-120 | 220-140 | 120-100 | 100-90 |
| | | hardened | - | | | | | | | | | | | |
| | Cast steel | unalloyed | 180 | | | | 130-100 | | | | 200-150 | 200-150 | 180-120 | |
| | | alloyed | 220 | | | | 110-80 | | | | 160-100 | 150-90 | 140-90 | |
| M | Stainless steel | martensitic, ferritic | 200 | | 90-70 | | 130-100 | 120-60 | | 180-120 | 170-120 | 190-140 | 190-120 | |
| | | austenitic | 180 | | 90-60 | | | 100-70 | | 140-110 | | 140-110 | 170-120 | |
| K | Cast iron | low tensile strength | 180 | 90-60 | 80-60 | | | | 130-90 | 180-120 | 180-120 | 200-120 | | |
| | | high tensile strength | 250 | 90-60 | 80-60 | | | | 90-70 | 140-100 | 140-100 | 160-120 | | |
| | Spheroidal graphite cast iron | ferritic | 160 | | | | 90-70 | 90-70 | 120-80 | 170-90 | 170-90 | 180-130 | | |
| | | perlitic | 250 | | | | 70-60 | 70-60 | 110-80 | 180-80 | 150-80 | 160-120 | | |
| | Malleable cast iron | ferritic | 125 | | 100-80 | | 140-120 | 100-70 | | 120-100 | 190-140 | 220-120 | | |
| | | perlitic | 225 | | 70-50 | | 100-80 | 80-60 | | 90-80 | 140-100 | 190-100 | | |
| N | Al-alloy | not heat treatable | 30-80 | 1000-600 | 800-400 | | | 1000-600 | | | | | | |
| | | heat treatable | 80-120 | 400-220 | 300-200 | | | 400-220 | | | | | | |
| | Al-cast-alloy | not heat treatable | 80 | 1000-600 | 800-400 | | | 1000-600 | | | | | | |
| | | heat treatable | 100 | 600-300 | 400-250 | | | 600-300 | | | | | | |
| | Copper-alloy | not heat treatable | 90 | 200-120 | | | 200-150 | 210-130 | | 200-150 | | | | |
| | | heat treatable | 100 | 150-90 | | | 150-60 | 160-90 | | 150-110 | | | | |
| S | Heat resistant alloy (FE) | annealed | 200 | | 50-30 | | | 50-30 | | | | | | |
| | | hardened | 275 | | 40-20 | | | 40-20 | | | | | | |
| | Heat resistant alloy (Ni, Co) | annealed | 250 | | 30-20 | | | 30-20 | | | | | | |
| | | hardened | 350 | | 20-10 | | | 20-10 | | | | | | |

Q

| Material | Hardness Brinell (HB) | Cutting speed v_c (ft/min) | | | | | | | | | | | | |
|---------------------------------------|-------------------------------|------------------------------|-----------|-----------|-----------|-----------|----------------|-----------|---------|-----------|---------|---------|---------|---------|
| | | K10 | MG12 | P20 | TI22 TN32 | TI25 TN35 | TF45 TA45 TH35 | TF46 TA46 | AS62 | AL96 AS66 | H20 | H54 | | |
| P Carbon steel | 0.2% C | 140 | | | 590-395 | 650-525 | 590-430 | 650-525 | 920-590 | 820-590 | 985-590 | 755-560 | 650-460 | |
| | 0.4% C | 180 | | | 525-360 | 590-495 | 560-395 | 590-495 | 820-460 | 755-560 | 885-495 | 720-525 | 590-395 | |
| | 0.6% C | 200 | | | 460-295 | 590-460 | 495-330 | | 755-395 | 720-525 | 820-395 | 690-495 | 525-330 | |
| | Alloyed steel (<5%) | annealed | 180 | | | 460-330 | 590-460 | 525-360 | 590-460 | 755-330 | 650-495 | 820-330 | 690-495 | 590-395 |
| | | quenched | 280 | | | 360-295 | 525-360 | 430-295 | | 625-295 | 525-360 | 720-295 | 560-395 | 525-330 |
| | | quenched | 350 | | | 265 | 460-295 | 330-230 | | 560-265 | 430-330 | 650-265 | 460-265 | 395-265 |
| | high alloyed steel (>5%) | annealed | 200 | | | 395-265 | 395-295 | | | 650-460 | 590-395 | 720-460 | 395-330 | 330-295 |
| | | hardened | - | | | | | | | | | | | |
| | Cast steel | unalloyed | 180 | | | | 430-330 | | | | 650-495 | 650-495 | 590-395 | |
| | | alloyed | 220 | | | | 360-265 | | | | 525-330 | 495-295 | 460-295 | |
| M Stainless steel | martensitic, ferritic | 200 | | 295-230 | | 430-330 | 395-200 | | 590-395 | 560-395 | 625-460 | 625-395 | | |
| | austenitic | 180 | | 295-200 | | | 330-230 | | 460-360 | | 460-360 | 560-395 | | |
| K Cast iron | low tensile strength | 180 | 295-200 | 265-200 | | | | 430-295 | 590-395 | 590-395 | 650-395 | | | |
| | | 250 | 295-200 | 265-200 | | | | 295-230 | 460-330 | 460-330 | 525-395 | | | |
| | Spheroidal graphite cast iron | ferritic | 160 | | | | 295-230 | 295-230 | 395-265 | 560-295 | 560-295 | 590-430 | | |
| | | perlitic | 250 | | | | 230-200 | 230-200 | 360-265 | 590-265 | 495-265 | 525-395 | | |
| | Malleable cast iron | ferritic | 125 | | 330-265 | | 460-395 | 330-230 | | 395-330 | 625-460 | 720-395 | | |
| | | perlitic | 225 | | 230-165 | | 330-265 | 265-200 | | 295-265 | 460-330 | 625-330 | | |
| N Al-alloy | not heat treatable | 30-80 | 3280-1970 | 2625-1315 | | | 3280-1970 | | | | | | | |
| | | 80-120 | 1315-720 | 985-650 | | | 1315-720 | | | | | | | |
| | Al-cast-alloy | not heat treatable | 80 | 3280-1970 | 2625-1315 | | | 3280-1970 | | | | | | |
| | | heat treatable | 100 | 1970-985 | 1315-820 | | | 1970-985 | | | | | | |
| | Copper-alloy | not heat treatable | 90 | 650-395 | | | 650-495 | 690-430 | | 650-495 | | | | |
| | | heat treatable | 100 | 495-295 | | | 650-495 | 690-430 | | 650-495 | | | | |
| S Heat resistant alloy (FE) | annealed | 200 | | 165-100 | | | 165-100 | | | | | | | |
| | | 275 | | 130-65 | | | 130-65 | | | | | | | |
| | Heat resistant alloy (Ni. Co) | annealed | 250 | | 100-65 | | | 100-65 | | | | | | |
| | | hardened | 350 | | 65-35 | | | 65-35 | | | | | | |

Cutting data Face grooving



Q

| Material | | Hardness Brinell (HB) | Cutting speed v_c (m/min) | | | | | | | | | | | |
|----------|-------------------------------|-----------------------|-----------------------------|----------|---------|-----------|-----------|----------------|-----------|---------|---------|---------|---------|---------|
| | | | K10 | MG12 | P20 | TI22 TN32 | TI25 TN35 | TF45 TA45 TH35 | TF46 TA45 | AS62 | AS66 | H20 | H54 | |
| P | Carbon steel | 0.2% C | 140 | | | 140-100 | 160-130 | 140-110 | 160-130 | 220-140 | 200-140 | 240-140 | 190-140 | 200-140 |
| | | 0.4% C | 180 | | | 130-90 | 140-120 | 130-100 | 140-120 | 200-120 | 190-130 | 220-120 | 180-130 | 180-120 |
| | | 0.6% C | 200 | | | 120-80 | 140-120 | 120-180 | | 190-100 | 180-130 | 200-100 | 170-120 | 160-100 |
| | Alloyed steel (<5%) | annealed | 180 | | | 120-80 | 140-120 | 140-100 | 140-120 | 190-80 | 160-120 | 200-80 | 170-120 | 180-120 |
| | | quenched | 280 | | | 90-70 | 140-90 | 110-80 | | 170-80 | 140-90 | 180-80 | 140-100 | 160-100 |
| | | quenched | 350 | | | 60 | 120-70 | 80-60 | | 140-60 | 110-80 | 160-70 | 120-60 | 120-80 |
| | high alloyed steel (>5%) | annealed | 200 | | | 100-60 | 100-70 | | | 160-120 | 150-100 | 180-120 | 110-80 | 100-90 |
| | | hardened | - | | | | | | | | | | | |
| | Cast steel | unalloyed | 180 | | | | 110-80 | | | | 160-120 | 160-120 | 140-100 | |
| | | alloyed | 220 | | | | 90-60 | | | | 140-80 | 120-80 | 120-80 | |
| M | Stainless steel | martensitic, ferritic | 200 | | 80-60 | | 110-80 | 110-50 | | 160-100 | 130-110 | 150-120 | 150-100 | |
| | | austenitic | 180 | | 60-40 | | | 80-60 | | 120-100 | | 110-80 | 140-100 | |
| K | Cast iron | low tensile strength | 180 | 70-50 | 70-50 | | | | 110-70 | 140-100 | 140-100 | 160-100 | | |
| | | high tensile strength | 250 | 70-50 | 70-50 | | | | 80-60 | 120-80 | 120-80 | 140-100 | | |
| | Spheroidal graphite cast iron | ferritic | 160 | | | | 90-60 | 80-60 | 100-60 | 140-80 | 150-70 | 150-110 | | |
| | | perlitic | 250 | | | | 80-60 | 60-50 | 90-60 | 130-70 | 120-60 | 140-100 | | |
| | Malleable cast iron | ferritic | 125 | | 80-60 | | 120-100 | 80-60 | | 100-80 | 160-110 | 180-100 | | |
| | | perlitic | 225 | | 60-40 | | 80-60 | 60-50 | | 80-60 | 120-80 | 150-120 | | |
| N | Al-alloy | not heat treatable | 30-80 | 1000-600 | 800-400 | | | 1000-600 | | | | | | |
| | | heat treatable | 80-120 | 400-220 | 300-200 | | | 400-220 | | | | | | |
| | Al-cast-alloy | not heat treatable | 80 | 1000-600 | 800-400 | | | 1000-600 | | | | | | |
| | | heat treatable | 100 | 600-300 | 400-250 | | | 600-300 | | | | | | |
| | Copper-alloy | not heat treatable | 90 | 160-100 | | | 160-130 | 190-110 | | | | | | |
| | | heat treatable | 100 | 130-80 | | | 130-60 | 140-80 | | | | | | |
| S | Heat resistant alloy (FE) | annealed | 200 | | 40-30 | | | 40-30 | | | | | | |
| | | hardened | 275 | | 35-20 | | | 35-20 | | | | | | |
| | Heat resistant alloy (Ni, Co) | annealed | 250 | | 25-20 | | | 20-10 | | | | | | |
| | | hardened | 350 | | 20-10 | | | 20-10 | | | | | | |

Cutting data Face grooving



Q

| Material | Hardness Brinell (HB) | Cutting speed v_c (ft/min) | | | | | | | | | | | | |
|---------------------------------------|-------------------------------|------------------------------|-----------|-----------|-----------|-----------|----------------|-----------|---------|---------|---------|---------|---------|---------|
| | | K10 | MG12 | P20 | TI22 TN32 | TI25 TN35 | TF45 TA45 TH35 | TF46 TA45 | AS62 | AS66 | H20 | H54 | | |
| P Carbon steel | 0.2% C | 140 | | | 460-330 | 525-430 | 460-360 | 525-430 | 720-460 | 650-460 | 790-460 | 625-460 | 650-460 | |
| | 0.4% C | 180 | | | 430-300 | 460-395 | 430-330 | 460-395 | 650-395 | 625-430 | 720-395 | 590-430 | 590-395 | |
| | 0.6% C | 200 | | | 395-265 | 460-395 | 395-590 | | 625-330 | 590-430 | 650-330 | 560-395 | 525-330 | |
| | Alloyed steel (<5%) | annealed | 180 | | | 395-265 | 460-395 | 460-330 | 460-395 | 625-265 | 525-395 | 650-265 | 560-395 | 590-395 |
| | | quenched | 280 | | | 300-230 | 460-300 | 360-265 | | 560-265 | 460-300 | 590-265 | 460-330 | 525-330 |
| | | quenched | 350 | | | 200 | 395-230 | 265-200 | | 460-200 | 360-265 | 525-230 | 395-200 | 395-265 |
| | high alloyed steel (>5%) | annealed | 200 | | | 330-200 | 330-230 | | | 525-395 | 495-330 | 590-395 | 360-265 | 330-300 |
| | | hardened | - | | | | | | | | | | | |
| | Cast steel | unalloyed | 180 | | | | 360-265 | | | | 525-395 | 525-395 | 460-330 | |
| | | alloyed | 220 | | | | 300-200 | | | | 460-265 | 395-265 | 395-265 | |
| M Stainless steel | martensitic, ferritic | 200 | | 265-200 | | 360-265 | 360-165 | | 525-330 | 430-360 | 495-395 | 495-330 | | |
| | austenitic | 180 | | 200-130 | | | 265-200 | | 395-330 | | 360-265 | 460-330 | | |
| K Cast iron | low tensile strength | 180 | 230-165 | 230-165 | | | | 360-230 | 460-330 | 460-330 | 525-330 | | | |
| | | 250 | 230-165 | 230-165 | | | | 265-200 | 395-265 | 395-265 | 460-330 | | | |
| | Spheroidal graphite cast iron | ferritic | 160 | | | | 300-200 | 265-200 | 330-200 | 460-265 | 495-230 | 495-360 | | |
| | | perlitic | 250 | | | | 265-200 | 200-165 | 300-200 | 430-230 | 395-200 | 460-330 | | |
| | Malleable cast iron | ferritic | 125 | | 265-200 | | 395-330 | 265-200 | | 330-265 | 525-360 | 590-330 | | |
| | | perlitic | 225 | | 200-130 | | 265-200 | 200-165 | | 265-200 | 395-265 | 495-395 | | |
| N Al-alloy | not heat treatable | 30-80 | 3280-1970 | 2625-1315 | | | 3280-1970 | | | | | | | |
| | | 80-120 | 1315-720 | 985-650 | | | 1315-720 | | | | | | | |
| | Al-cast-alloy | not heat treatable | 80 | 3280-1970 | 2625-1315 | | | 3280-1970 | | | | | | |
| | | heat treatable | 100 | 1970-985 | 1315-820 | | | 1970-985 | | | | | | |
| | Copper-alloy | not heat treatable | 90 | 525-330 | | | 525-430 | 625-360 | | | | | | |
| | | heat treatable | 100 | 430-265 | | | 430-200 | 460-265 | | | | | | |
| S Heat resistant alloy (FE) | annealed | 200 | | 130-100 | | | 130-100 | | | | | | | |
| | hardened | 275 | | 115-65 | | | 115-65 | | | | | | | |
| | Heat resistant alloy (Ni. Co) | annealed | 250 | | 85-65 | | | 65-35 | | | | | | |
| | | hardened | 350 | | 65-35 | | | 65-35 | | | | | | |



Nominal cutting speeds with HORN grades

| Material | | Hardness Brinell (HB) | * Cutting speed v_c (m/min) | | | | |
|----------------------------|-------------------------|-----------------------|---------------------------------|--------|--------|--------------------|--------|
| | | | MG12 | TN35 | TI25 | TF45 / TA45 / TH35 | |
| P | Carbon steel. unalloyed | C < 0.4% | 125 | 14-110 | 14-180 | 14-180 | 14-180 |
| | | C > 0.4% < 0.6% | 150 | 14-110 | 14-180 | 14-180 | 14-180 |
| | | C > 0.6% < 0.8% | 200 | 14-110 | 14-180 | 14-180 | 14-180 |
| | low alloyed steel | annealed | 180 | 16-90 | 16-150 | 16-150 | |
| | | quenched | 275 | 16-90 | 16-150 | 16-150 | |
| | | quenched | 160 | 16-90 | 16-150 | 16-150 | |
| | high alloyed steel | annealed | 200 | | 19-90 | 19-90 | |
| | | quenched | 325 | | 19-90 | 19-90 | |
| | Cast steel | unalloyed | 180 | 19-110 | 19-180 | 19-180 | |
| | | low alloyed | 200 | 19-110 | 19-180 | 19-180 | |
| | | high alloyed | 225 | 19-110 | 19-180 | 19-180 | |
| | M | Stainless steel | martensitic. ferritic. annealed | 200 | | 19-90 | 19-90 |
| austenitic Ni>8%/Cr 18-20% | | | 180 | | 16-80 | | |
| N | Al-alloy | | 14-220 | 16-600 | 16-600 | | |
| | Copper and brass alloys | | 14-220 | 14-700 | 14-700 | | |
| S | Heat resistant alloy | NiFe | | | 18-75 | 18-75 | |
| | | NiCo | | | 18-40 | 18-40 | |

* v_c is depending on the bore diameter and therefore of the maximum numbers of revolutions of the machine.

Nominal cutting speeds with HORN grades

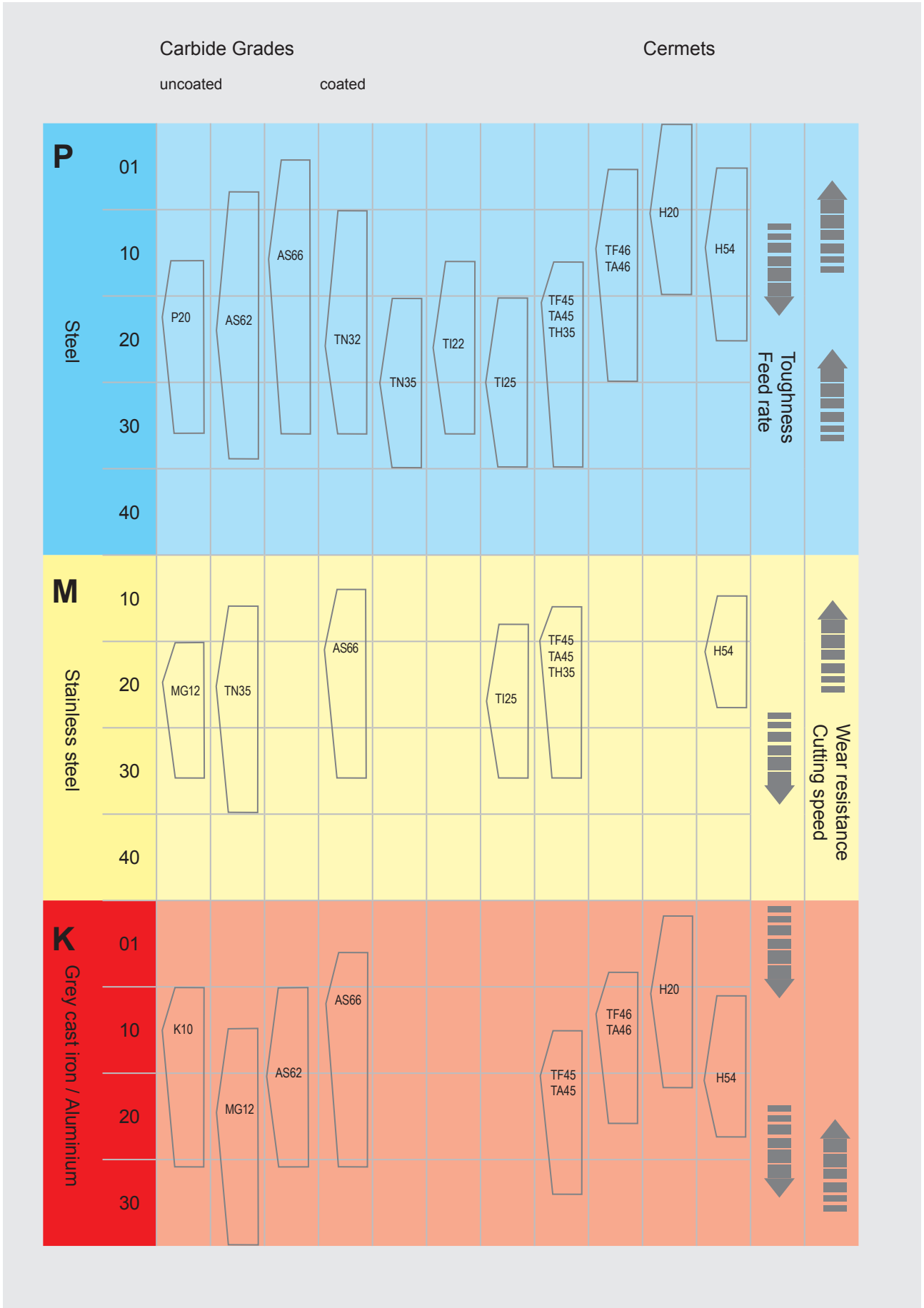
| Material | | Hardness Brinell (HB) | * Cutting speed v_c (ft/min) | | | | |
|----------------------------|-------------------------|-----------------------|---------------------------------|---------|---------|--------------------|--------|
| | | | MG12 | TN35 | TI25 | TF45 / TA45 / TH35 | |
| P | Carbon steel. unalloyed | C < 0.4% | 125 | 45-360 | 45-590 | 45-590 | 45-590 |
| | | C > 0.4% < 0.6% | 150 | 45-360 | 45-590 | 45-590 | 45-590 |
| | | C > 0.6% < 0.8% | 200 | 45-360 | 45-590 | 45-590 | 45-590 |
| | low alloyed steel | annealed | 180 | 50-295 | 50-490 | 50-490 | |
| | | quenched | 275 | 50-295 | 50-490 | 50-490 | |
| | | quenched | 160 | 50-295 | 50-490 | 50-490 | |
| | high alloyed steel | annealed | 200 | | 60-295 | 60-295 | |
| | | quenched | 325 | | 60-295 | 60-295 | |
| | Cast steel | unalloyed | 180 | 60-360 | 60-590 | 60-590 | |
| | | low alloyed | 200 | 60-360 | 60-590 | 60-590 | |
| | | high alloyed | 225 | 60-360 | 60-590 | 60-590 | |
| | M | Stainless steel | martensitic, ferritic. annealed | 200 | | 60-295 | 60-295 |
| austenitic Ni>8%/Cr 18-20% | | | 180 | | 50-260 | | |
| N | Al-alloy | | 45-720 | 50-1970 | 50-1970 | | |
| | Copper and brass alloys | | 45-720 | 45-2295 | 45-2295 | | |
| S | Heat resistant alloy | NiFe | | | 60-245 | 60-245 | |
| | | NiCo | | | 60-130 | 60-130 | |

* v_c is depending on the bore diameter and therefore of the maximum numbers of revolutions of the machine.

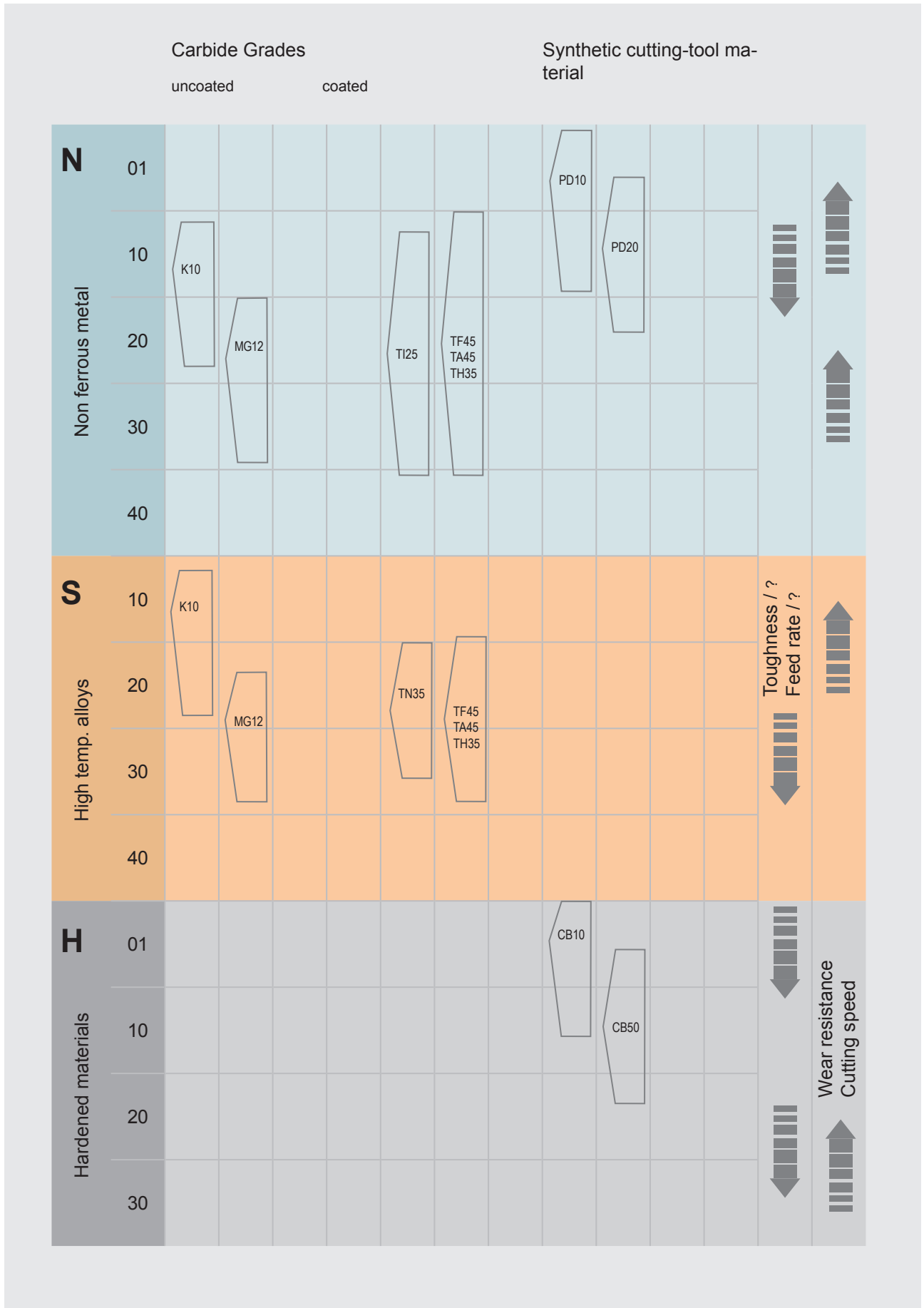
Carbide grades for grooving and parting off



Q



Q



Description carbide grades



Q

| HORN-Grades | ISO513 | Properties | Workpiece material | Recommended applications |
|----------------------|--------|---------------------------------|---|---|
| H20 | HT | Cermet | carbon steels, low alloyed steels, cast steel, stainless steel, exotic alloys | for grooving and finishing, for best surface qualities, no tendency to built up edge, resistant to wear |
| H54 | HT | Cermet | carbon steels, low alloyed steels, cast steel, stainless steel, exotic alloys | for grooving and finishing, for best surface qualities, no tendency to built up edge, resistant to wear |
| P20 | HW | uncoated grades | steel, cast steel, malleable cast iron | for grooving and finishing at moderate cutting speed |
| AS62 | HC | TiALN-Coating | steel, cast steel, malleable cast iron, | for grooving and finishing at high cutting speed |
| AS66 | HC | TiALN-Coating | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing, at high cutting speed, heat resistant, suitable for dry cutting |
| AL96 | HC | multilayer coating(AL_2O_3) | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing, at very high cutting speed, heat resistant, suitable for dry cutting |
| TN32 | HC | TiN-Coating | steel, cast steel, malleable cast iron | for grooving and finishing, at high cutting speed |
| TN35 | HC | TiN-Coating | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing, at low cutting speed, thread cutting, unfavourable conditions |
| TI22 | HC | TiCN-Coating | steel, cast steel, malleable cast iron | for grooving and finishing at high cutting speed |
| TI25 | HC | TiCN-Coating | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing, at low cutting speed, thread cutting, unfavourable conditions |
| TH35 AS6G | HC | TiALN-Coating | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing, at high cutting speed, heat resistant, suitable for dry cutting |
| TA45 TF45 | HC | TiALN-Coating | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing at low cutting speed, cooling with oil |
| TA46 TF46 | HC | TiALN-Coating | steel, cast steel, malleable cast iron, martensitic stainless steel | for grooving and finishing, at high cutting speed, heat resistant, suitable for dry cutting |
| K10 | HW | uncoated grades | grey cast iron, malleable cast iron, Si-aluminium and copper alloys, heat resistant alloys | for grooving and finishing |
| MG12 | HW | uncoated grades (micro grain) | grey cast iron, malleable cast iron, aluminium and copper alloys, heat resistant alloys | for grooving and finishing, at low cutting speed, unfavourable conditions |

PCD- or CBN-tipped inserts upon request. .

Carbide grades on stock are shown in the catalogue or in the price- and stocklist..
Not mentioned grades can be supplied only against firm order..

Description carbide grades



Q

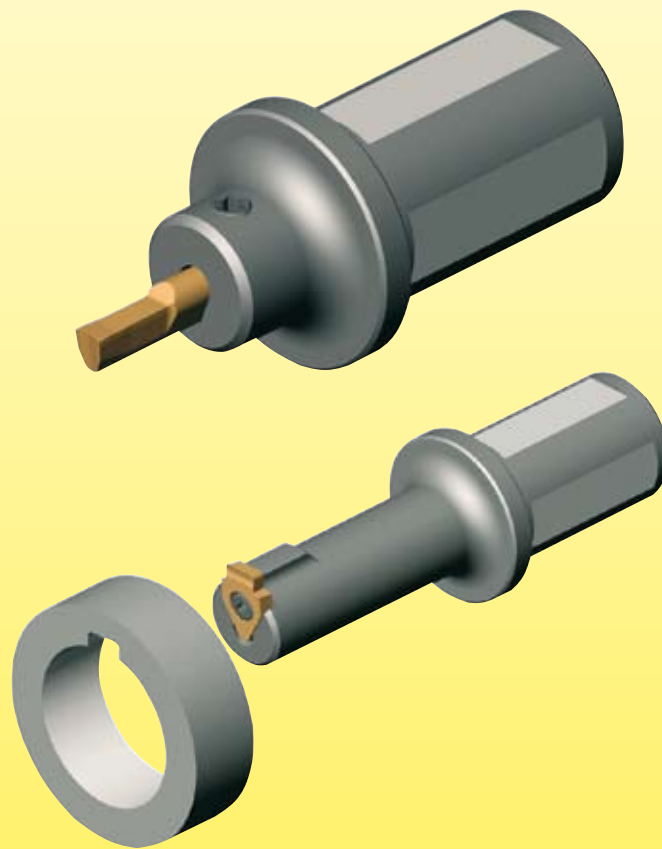
| HORN-Grades | ISO513 | Workpiece material | Recommended applications |
|-------------|--------|--|---|
| CB07 | BN | hardened Steel > 56 HRC non interrupted cut | Grooving $v_c \approx 490 \text{ ft./min.}$ $f = .0012 - .0016''$ $v_c \approx 150 \text{ m/min.}$ $f = 0.03 - 0.04 \text{ mm}$ |
| | | | Finishing with $a_p .004 - .008'' / 0.1 - 0.2 \text{ mm}$ $v_c \approx 525 \text{ ft./min.}$ $f = .0016 - .0031''$ $v_c \approx 160 \text{ m/min.}$ $f = 0.04 - 0.08 \text{ mm}$ |
| CB10 | BN | hardened Steel > 56 HRC non interrupted cut | Grooving $v_c \approx 460 \text{ ft./min.}$ $f = .0012 - .0016''$ $v_c \approx 140 \text{ m/min.}$ $f = 0.03 - 0.04 \text{ mm}$ |
| | | | Finishing with $a_p .004 - .008'' / 0.1 - 0.2 \text{ mm}$ $v_c \approx 490 \text{ ft./min.}$ $f = .0016 - .0031''$ $v_c \approx 150 \text{ m/min.}$ $f = 0.04 - 0.08 \text{ mm}$ |
| CB50 | BN | hardened Steel > 45 HRC interrupted cut | Grooving $v_c \approx 460 \text{ ft./min.}$ $f = .0012 - .0016''$ $v_c \approx 140 \text{ m/min.}$ $f = 0.03 - 0.04 \text{ mm}$ |
| | | Cast iron, perlitic | Grooving $v_c \approx 3900 \text{ ft./min.}$ $f = .004 - .010''$ $v_c \approx 1200 \text{ m/min.}$ $f = 0.1 - 0.25 \text{ mm}$ |
| | | Spheroidal graphite cast iron | Grooving $v_c \approx 2950 \text{ ft./min.}$ $f = .0028 - .008''$ $v_c \approx 900 \text{ m/min.}$ $f = 0.07 - 0.2 \text{ mm}$ |
| | | | Partial cut with $a_p .012 - .039'' / 0.3 - 1.0 \text{ mm}$ $v_c \approx 4250 \text{ ft./min.}$ $f = .008 - .016''$ $v_c \approx 1300 \text{ m/min.}$ $f = 0.2 - 0.4 \text{ mm}$ |
| | | | Partial cut with $a_p .004 - .028'' / 0.1 - 0.7 \text{ mm}$ $v_c \approx 3280 \text{ ft./min.}$ $f = .004 - .012''$ $v_c \approx 1000 \text{ m/min.}$ $f = 0.1 - 0.3 \text{ mm}$ |

PCD- or CBN-tipped inserts upon request. .

Carbide grades on stock are shown in the catalog or in the price- and stocklist.
 Not mentioned grades can be supplied only against firm order..

BROACHING on CNC machines

BROACHING TOOLS TYPE SB105, SB110 and SH117



For direct mounting in lathes and mills as well as mounting
in a live broaching attachment from the companies:

- BENZ
- EWS
- Schwarzer

HCG - HORN Catalog Guide

KEYWAY BROACHING

R

| Keyway Width Inch | Bore Ø from | | | | | | | | | |
|----------------------|-------------|-------|-------|-------|-------|-------|--------|--------|--------|--|
| | .236" | .354" | .551" | .625" | .669" | .866" | 1.181" | 1.496" | 1.496" | |
| 1/16 | NU105 | | | | | | | | | |
| 3/32 | NU105 | | | | | | | | | |
| 1/8 | NU105 | | SU117 | SU117 | | | | | | |
| 5/32 | NU105 | NU110 | SU117 | SU117 | | | | | | |
| 3/16 | | NU110 | SU117 | | SU117 | | | | | |
| 1/4 | | | | | SU117 | | | | | |
| 9/32 | | | | | | SU117 | | | | |
| 5/16 | | | | | | SU117 | | | | |
| 3/8 | | | | | | | SU117 | | | |
| 7/16 | | | | | | | | SU117 | | |
| 1/2 | | | | | | | | SU117 | | |
| > 1/2 | | | | | | | | | SU117 | |

| Keyway Width MM | Bore Ø from | | | | | | | | | |
|--------------------|-------------|--------|------|-------|-------|-------|-------|-------|-------|-------|
| | 6 mm | 6.5 mm | 9 mm | 14 mm | 17 mm | 22 mm | 27 mm | 30 mm | 38 mm | 65 mm |
| 2.0 | N105 | | | | | | | | | |
| 3.0 | | N105 | | S117 | | | | | | |
| 4.0 | | N105 | N110 | S117 | | | | | | |
| 5.0 | | | N110 | S117 | S117 | | | | | |
| 6.0 | | | | | S117 | | | | | |
| 7.0 | | | | | | | S117 | | | |
| 8.0 | | | | | | S117 | | | | |
| 10.0 | | | | | | | | S117 | | |
| 12.0 | | | | | | | | | S117 | |
| > 12.0 | | | | | | | | | | S117 |

HEXAGON BROACHING

| Hexagon SW MM | Pilot Ø equals | | |
|------------------|----------------|--------|--------|
| | SW | SW+0.1 | SW+0.2 |
| 2.5 - 2.9 | N105 | | |
| 2.9 - 3.5 | N105 | | |
| 3.5 - 4.0 | N105 | | |
| 4.0 - 4.5 | N105 | | |
| 4.5 - 5.0 | N105 | | |
| 5.0 - 6.0 | | N105 | |
| 8.0 - 10.0 | | N105 | |
| 10.0 - 14.0 | | N110 | |
| 14.0 - 16.5 | | N110 | |
| 16.5 - 18.0 | | | N110 |

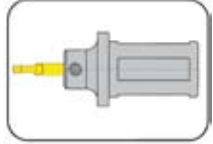
TORX BROACHING

| Torx MM | Pilot Ø equals | | | |
|------------|----------------|------|------|------|
| | 2.41 | 2.85 | 3.24 | 4.03 |
| T15 | N105 | | | |
| T20 | | N105 | | |
| T25 | | | N105 | |
| T30 | | | | N105 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

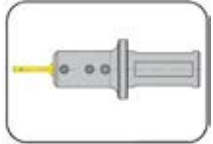
Special tools upon request

BROACHING 105 / 110 / 117 **R**

**Toolholder
Type 105 / 110**

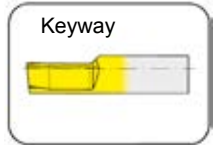


Page R4-R8

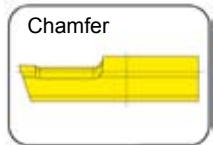


Page R10-R13

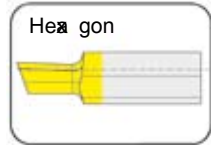
**Insert
Type 105 / 110**



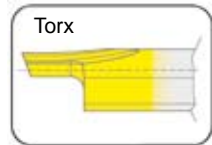
Page R14-R17



Page R18

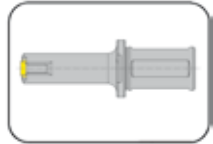


Page R19



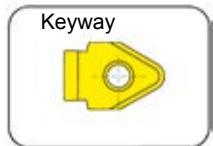
Page R20

**Toolholder
Type 117**

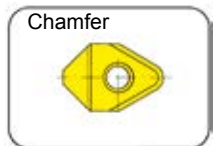


Page R22-R27

**Insert
Type 117**



Page R28-R31



Page R32

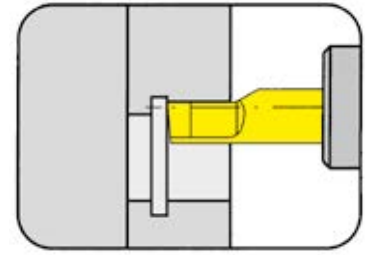
**Technical
Instructions**

Page R33-R40

R

TOOLHOLDER Type

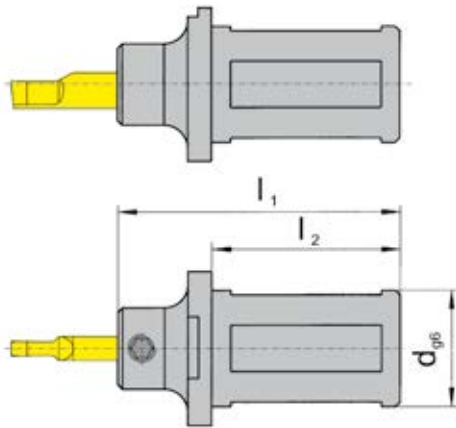
SBU105



Bore Ø from .236"

for use with Insert

Type N105
NU105



| Part number | d | l ₁ | l ₂ | D _{min} |
|------------------|-------|----------------|----------------|------------------|
| SBU105.0750.1.01 | .750 | 2.375 | 1.575 | .236 |
| SBU105.1000.1.01 | 1.000 | 2.375 | 1.575 | .236 |

Further sizes upon request

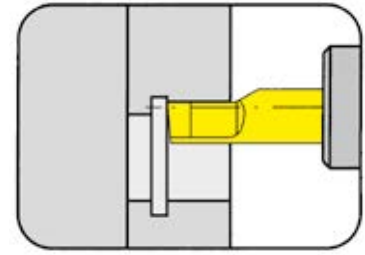
Dimensions in inch

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------|-------------------|
| SBU105.... | 6.075T15P | T15PQ |

TOOLHOLDER Type

SB105

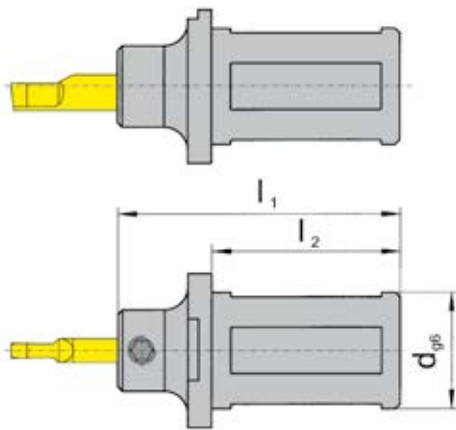


R

Bore Ø from .236" (6.0 mm)

for use with Insert

Type N105
NU105



| Part number | d | l ₁ | l ₂ | D _{min} |
|-----------------|----|----------------|----------------|------------------|
| SB105.0020.1.01 | 20 | 60 | 40 | 6 |
| SB105.0022.1.01 | 22 | 60 | 40 | 6 |
| SB105.0025.1.01 | 25 | 60 | 40 | 6 |

Further sizes upon request

Dimensions in mm

Spare parts

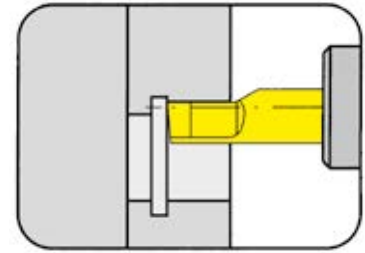
| Toolholder | Screw | TORX PLUS® Wrench |
|--------------|-----------|-------------------|
| SB105.002... | 6.075T15P | T15PQ |

TOOLHOLDER Type

SB105

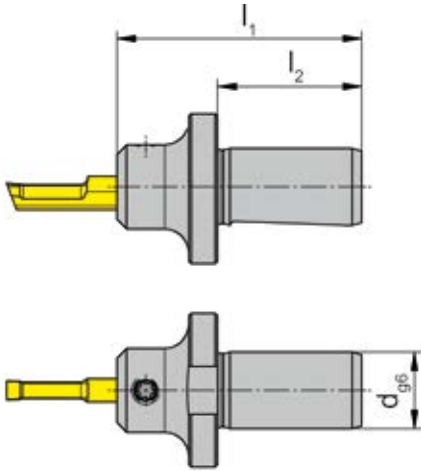
Bore Ø from .236" (6.0 mm)

only usable for broaching devices EWS-Slot and BENZ LinA



for use with Insert

Type N105
NU105



| Part number | d | l ₁ | l ₂ | D _{min} |
|------------------|----|----------------|----------------|------------------|
| SB105.0016.E1.01 | 16 | 51 | 30 | 6 |

Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|-----------|-------------------|
| SB105.0016.E1.01 | 6.075T15P | T15PQ |

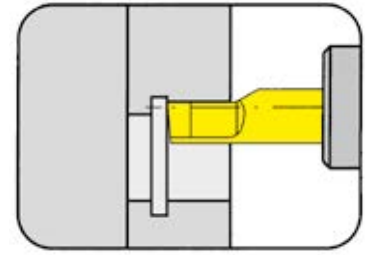
R6

TOOLHOLDER Type

B105

Bore Ø from .236" (6.0 mm)

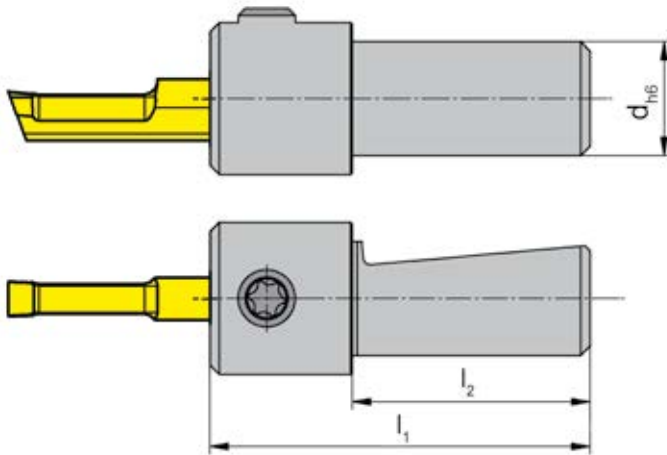
for broaching device Schwarzer



R

for use with Insert

Type N105
NU105



| Part number | d | l ₁ | l ₂ | D _{min} |
|-----------------------|----|----------------|----------------|------------------|
| B105.0012.0220 | 12 | 40 | 25 | 6 |

Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

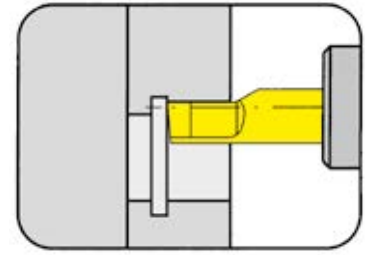
| Toolholder | Screw | TORX PLUS® Wrench |
|----------------|------------------|-------------------|
| B105.0012.0220 | 6.075T15P | T15PQ |

TOOLHOLDER Type

SB105

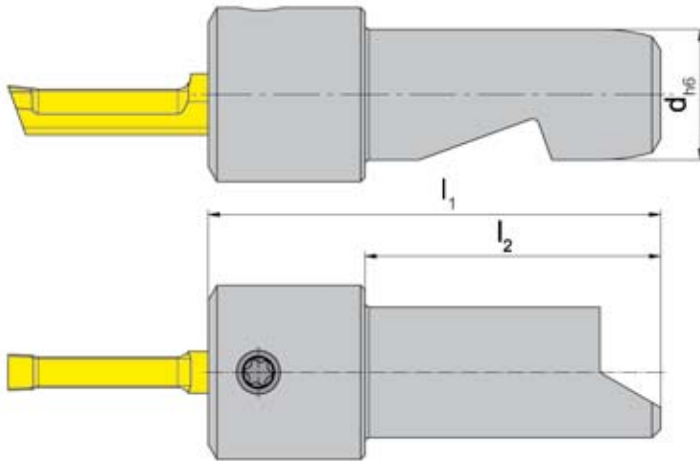
Bore Ø from .236" (6.0 mm)

for broaching device Schwarzer "2in1"



for use with Insert

Type N105
NU105



| Part number | d | l ₁ | l ₂ | D _{min} |
|-------------------------|----|----------------|----------------|------------------|
| SB105.0015.S1.01 | 15 | 52 | 34 | 6 |

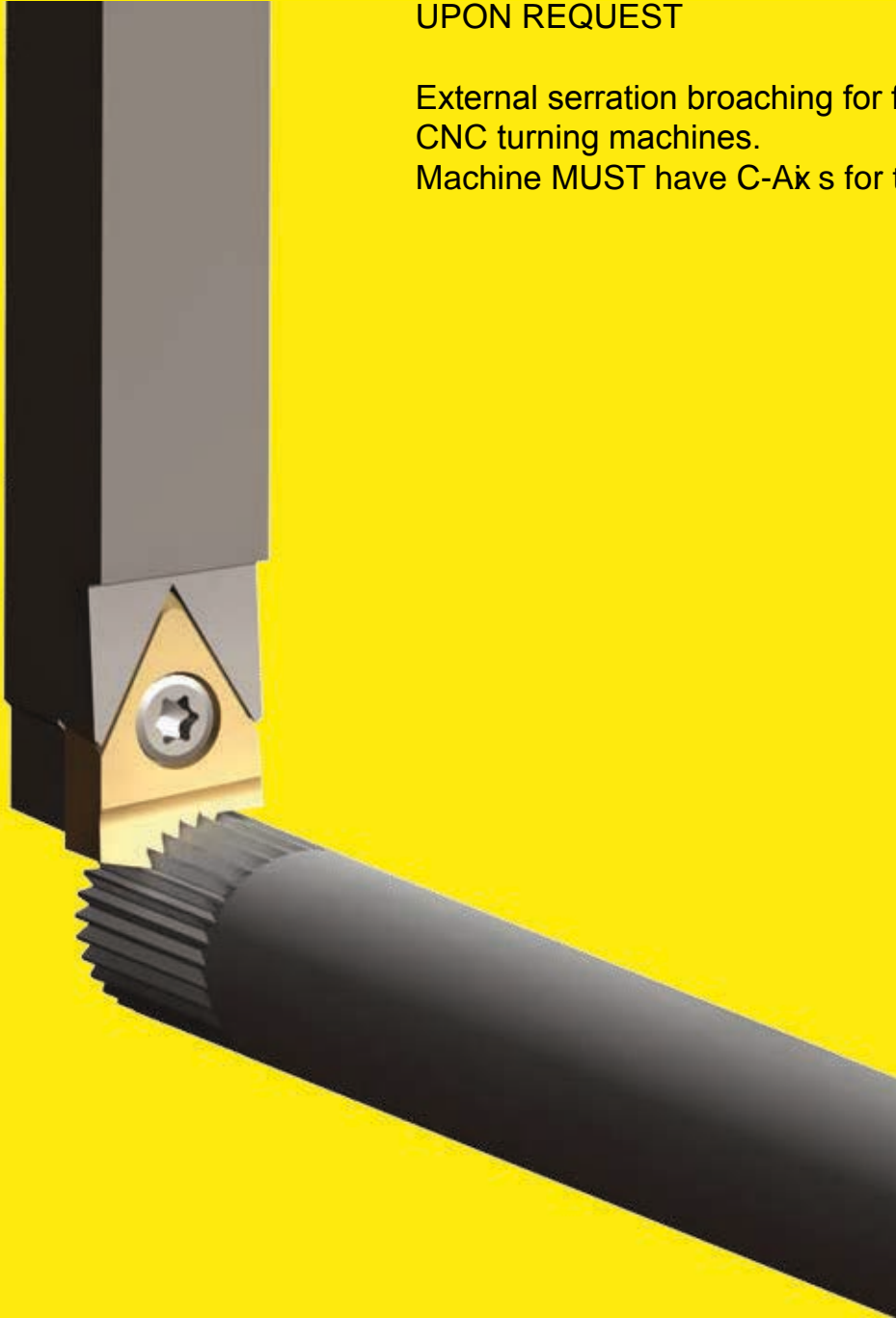
Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|------------------|-------------------|
| SB105.0015.S1.01 | 6.075T15P | T15PQ |

R8



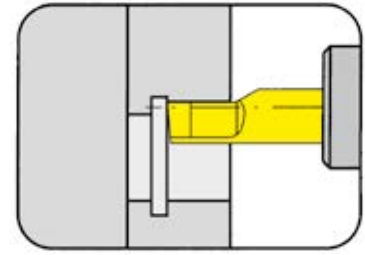
UPON REQUEST

External serration broaching for finish machining on CNC turning machines.
Machine **MUST** have C-Axis for this application!

TOOLHOLDER Type

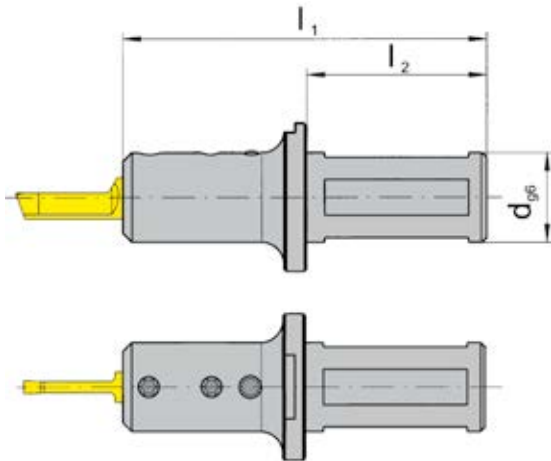
SBU110

Bore Ø from .354"



for use with Insert

Type N110
NU110



| Part number | d | l ₁ | l ₂ | D _{min} |
|------------------|-------|----------------|----------------|------------------|
| SBU110.0750.1.02 | .750 | 3.200 | 1.575 | .354 |
| SBU110.1000.1.02 | 1.000 | 3.200 | 1.575 | .354 |
| SBU110.1250.1.02 | 1.250 | 3.200 | 1.575 | .354 |

Further sizes upon request

Dimensions in inch

Spare parts

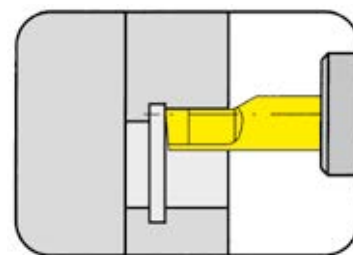
| Toolholder | Screw | TORX PLUS® Wrench |
|------------|-----------|-------------------|
| SBU110.... | 6.075T15P | T15PQ |

R10

TOOLHOLDER Type

SB110

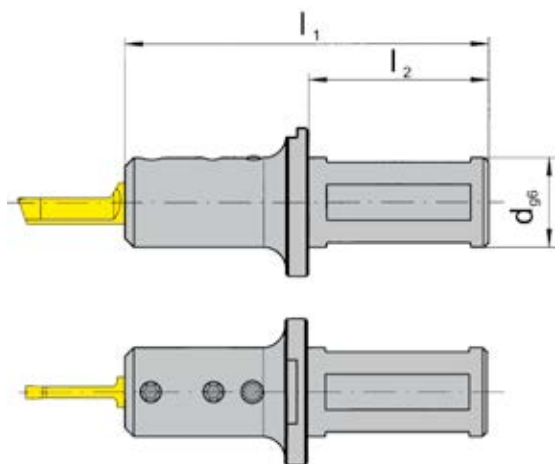
Bore Ø from .354" (9.0 mm)



R

for use with Insert

Type N110
NU110



| Part number | d | l ₁ | l ₂ | D _{min} |
|-----------------|----|----------------|----------------|------------------|
| SB110.0020.1.02 | 20 | 81 | 40 | 9 |
| SB110.0025.1.02 | 25 | 81 | 40 | 9 |
| SB110.0032.1.02 | 32 | 81 | 40 | 9 |

Further sizes upon request

Dimensions in mm

Spare parts

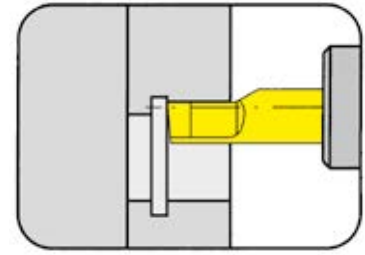
| Toolholder | Screw | TORX PLUS® Wrench |
|-------------|-----------|-------------------|
| SB110.00... | 6.075T15P | T15PQ |

TOOLHOLDER Type

SB110

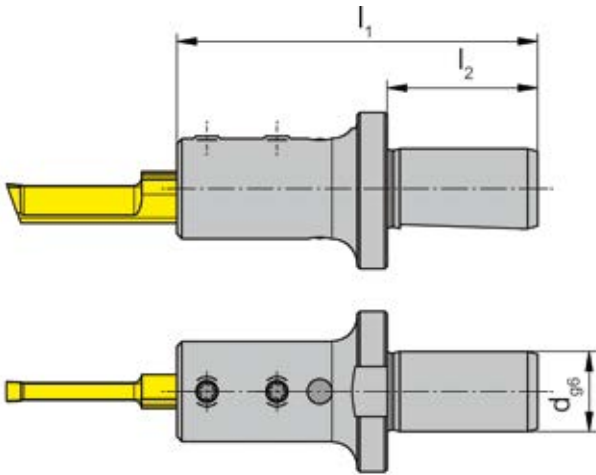
Bore Ø from .354" (9.0 mm)

only usable for broaching devices EWS-Slot and BENZ LinA



for use with Insert

Type N110
NU110



| Part number | d | l ₁ | l ₂ | D _{min} |
|------------------|----|----------------|----------------|------------------|
| SB110.0016.E1.02 | 16 | 72 | 30 | 9 |

Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

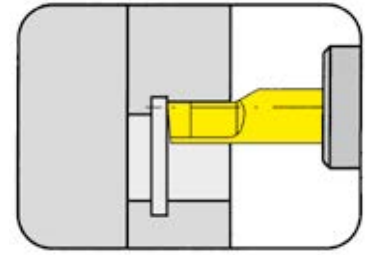
| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|-----------|-------------------|
| SB110.0016.E1.02 | 6.075T15P | T15PQ |

TOOLHOLDER Type

SB110

Bore Ø from .354" (9.0 mm)

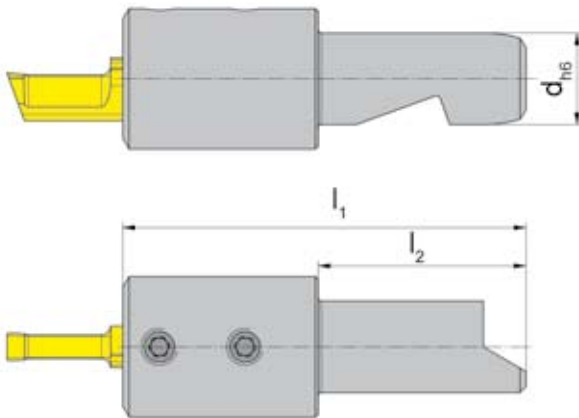
for broaching device Schwarzer "2in1"



R

for use with Insert

Type N110
NU110



| Part number | d | l ₁ | l ₂ | D _{min} |
|------------------|----|----------------|----------------|------------------|
| SB110.0015.S1.02 | 15 | 66 | 34 | 9 |

Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

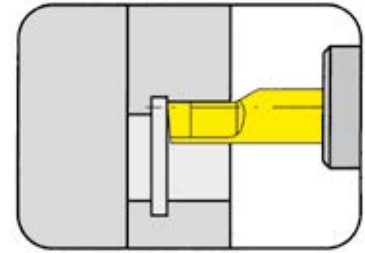
| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|-----------|-------------------|
| SB110.0015.S1.02 | 6.075T15P | T15PQ |

BROACHING

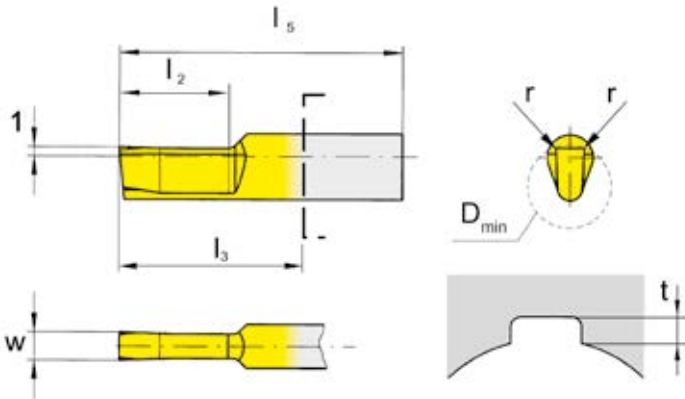


INSERT type

NU105/NU110



Bore Ø from .236" (6.0 mm)



for use with Toolholder

type SB105
SB110
SBU105
SBU110

Keyways according to Inch Standards

| Part number | Fractional size | w | r | l ₅ | l ₂ | l ₃ | D _{min} | Toolholder | Carbide Grades | | |
|------------------|-----------------|-------|------|----------------|----------------|----------------|------------------|-----------------|----------------|------|------|
| | | | | | | | | | MG12 | TA45 | TI25 |
| NU105.0625.04.01 | 1/16" | .0635 | .004 | 1.181 | .472 | .709 | .236 | SB105 SBU105 | | ▲ | |
| NU105.0937.04.01 | 3/32" | .0948 | | 1.181 | .472 | .709 | .256 | | | ▲ | |
| NU105.1250.04.01 | 1/8" | .1260 | | 1.378 | .591 | .906 | .256 | | | ▲ | |
| NU105.1562.04.01 | 5/32" | .1572 | | 1.378 | .591 | .906 | .256 | | | ▲ | |
| NU110.1562.08.04 | 5/32" | .1572 | .008 | 2.362 | .984 | 1.339 | .354 | SB110 SBU110 | | ▲ | |
| NU110.1562.08.07 | 5/32" | .1572 | | 2.953 | 1.575 | 2.126 | | | | ▲ | |
| NU110.1875.08.04 | 3/16" | .1885 | | 2.362 | .984 | 1.339 | | | | ▲ | |
| NU110.1875.08.07 | 3/16" | .1885 | | 2.953 | 1.575 | 2.126 | | | | ▲ | |

Dimensions in mm

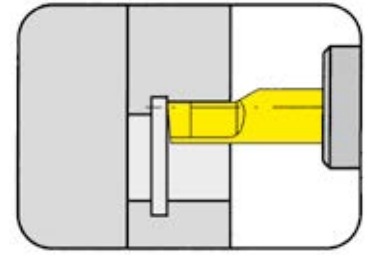
- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Carbide Grades

INSERT type

N105/N110

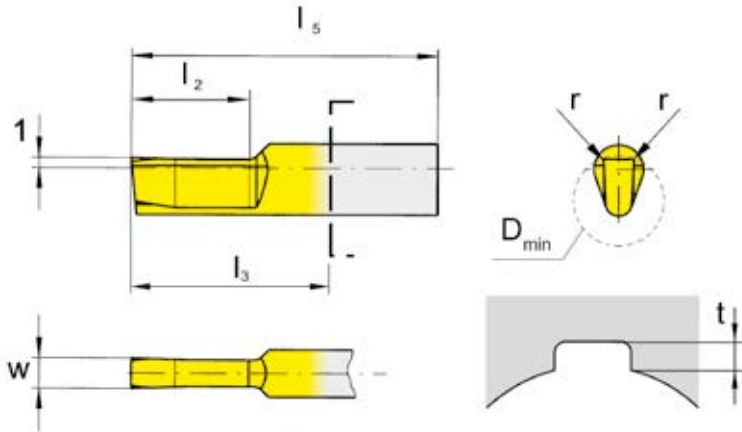
Tolerance grade P9



R

Bore Ø from .236" (6.0 mm)

for use with Toolholder



type SB105
SB110
SBU105
SBU110

Keyways according to DIN138

| Part number | Dimensions of groove DIN | | | w | r | l ₅ | l ₂ | l ₃ | usable from Ø | Toolholder | | MG12 | TA45 | TI25 | | |
|-----------------|--------------------------|------------------|-----|------|-----|----------------|----------------|----------------|---------------|------------------|--|------|------|------|--|--|
| | Width P9 | D _{min} | t | | | | | | | | | | | | | |
| N105.0198.01.01 | 2 | 6 | 1.1 | 1.98 | | 30 | 12 | 18 | 6.0 | SB105/ SBU105 | | | ▲ | | | |
| N105.0298.01.01 | 3 | 8 | 1.5 | 2.98 | 0.1 | 30 | 12 | 18 | 6.5 | | | | ▲ | | | |
| N105.0397.01.01 | 4 | 10 | 1.9 | 3.98 | | 35 | 15 | 23 | 6.5 | | | | ▲ | | | |
| N110.0397.02.04 | 4 | 10 | 1.9 | 3.98 | | 60 | 25 | 34 | 9.0 | SB110/ SBU110 | | | ▲ | | | |
| N110.0397.02.07 | 4 | 10 | 1.9 | 3.98 | 0.2 | 75 | 40 | 49 | | | | | | ▲ | | |
| N110.0497.02.04 | 5 | 12 | 2.4 | 4.98 | | 60 | 25 | 34 | | | | | | ▲ | | |
| N110.0497.02.07 | 5 | 12 | 2.4 | 4.98 | | 75 | 40 | 49 | | | | | | ▲ | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

| Carbide Grades | P | M | K | S | N | H |
|----------------|---|---|---|---|---|---|
| | ● | ● | ● | | ● | |

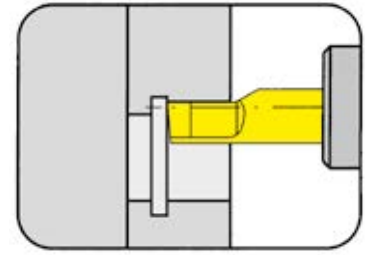
Carbide Grades

INSERT type

N105/N110

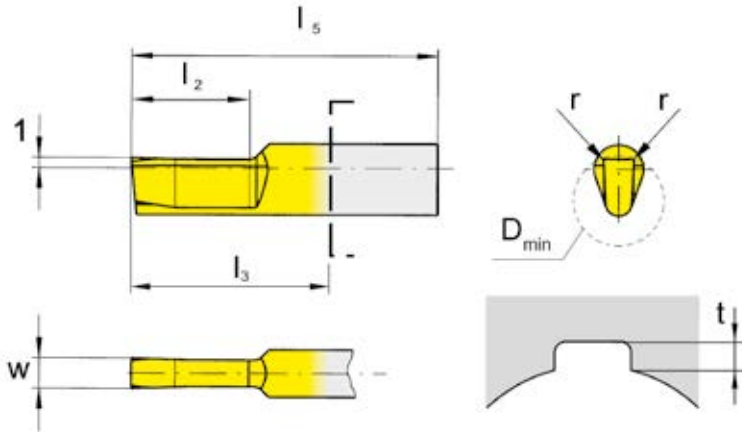
Tolerance grade JS 9

Bore Ø from .236" (6.0 mm)



for use with Toolholder

type SB105
SB110
SBU105
SBU110



Keyways according to DIN138

| Part number | Dimensions of groove DIN | | | w | r | l ₅ | l ₂ | l ₃ | usable from Ø | Toolholder | | MG12 | TA45 | TI25 | | | |
|-----------------|--------------------------|------------------|-----|---|-----|----------------|----------------|----------------|---------------|-------------------|--|------|------|------|---|---|--|
| | Width JS9 | D _{min} | t | | | | | | | | | | | | | | |
| N105.0200.01.01 | 2 | 6 | 1.1 | 2 | 0.1 | 30 | 12 | 18 | 6.0 | SB105 / SBU105 | | | ▲ | | | | |
| N105.0300.01.01 | 3 | 8 | 1.5 | 3 | 0.1 | 30 | 12 | 18 | 6.5 | | | | ▲ | | | | |
| N105.0400.01.01 | 4 | 10 | 1.9 | 4 | 0.1 | 35 | 15 | 23 | 6.5 | | | | ▲ | | | | |
| N105.0400.02.01 | 4 | 10 | 1.9 | 4 | 0.2 | 35 | 15 | 23 | 6.5 | | | | ▲ | | | | |
| N110.0400.02.04 | 4 | 10 | 1.9 | 4 | 0.2 | 60 | 25 | 34 | 9.0 | SB110 / SBU110 | | | ▲ | | | | |
| N110.0400.02.07 | 4 | 10 | 1.9 | 4 | | 75 | 40 | 49 | | | | | | | ▲ | | |
| N110.0500.02.04 | 5 | 12 | 2.4 | 5 | | 60 | 25 | 34 | | | | | | | ▲ | | |
| N110.0500.02.07 | 5 | 12 | 2.4 | 5 | | 75 | 40 | 49 | | | | | | | ▲ | | |
| | | | | | | | | | | | | | | | | ▲ | |

▲ on stock Δ 4 weeks
● main recommendation
○ alternative recommendation
□ uncoated grades
■ coated grades
■ brazed/Cermet

| | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| S | |
| N | ● |
| H | |

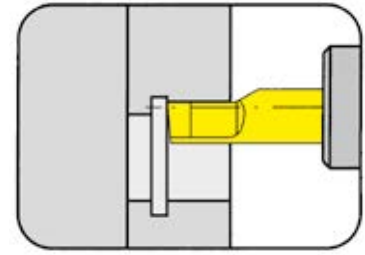
Dimensions in mm

Carbide Grades

INSERT type

N105/N110

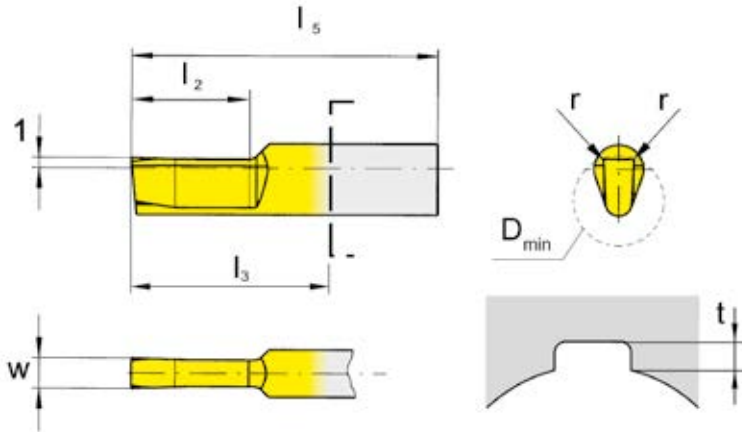
Tolerance grade C11



R

Bore Ø from .236" (6.0 mm)

for use with Toolholder



type SB105
SB110
SBU105
SBU110

Keyways according to DIN138

| Part number | Dimensions of groove DIN | | | w | r | l ₅ | l ₂ | l ₃ | usable from Ø | Toolholder | MG12 | TA45 | Ti25 |
|-----------------|--------------------------|------------------|-----|------|------|----------------|----------------|----------------|---------------|-------------------|------|------|------|
| | Width C11 | D _{min} | t | | | | | | | | | | |
| N105.0210.2.08 | 2 | 8.0 | 1.0 | 2.11 | 0.35 | | | 18 | 6.0 | SB105 / SBU105 | | ▲ | |
| N105.0310.2.10 | 3 | 10.0 | 1.8 | 3.11 | 0.35 | 30 | 12 | 18 | 6.5 | | ▲ | | |
| N105.0310.2.13 | 3 | 13.0 | 1.8 | 3.11 | 0.50 | | | 18 | 6.5 | | ▲ | | |
| N105.0410.2.16 | 4 | 16.0 | 2.0 | 4.13 | 0.50 | | | 23 | 6.5 | | ▲ | | |
| N110.0410.05.04 | 4 | 9.0 | 2.0 | 4.13 | 0.50 | 60 | 25 | 34 | 9.0 | SB110 / SBU110 | | ▲ | |
| N110.0410.05.07 | 4 | 9.0 | 2.0 | 4.13 | | 75 | 40 | 49 | | | ▲ | | |
| N110.0510.05.04 | 5 | 9.0 | - | 5.13 | | 60 | 25 | 34 | | | ▲ | | |
| N110.0510.05.07 | 5 | 9.0 | - | 5.13 | | 75 | 40 | 49 | | | ▲ | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | |
|---|---|---|
| P | ● | ● |
| M | ● | |
| K | ● | |
| S | | |
| N | ● | |
| H | | |

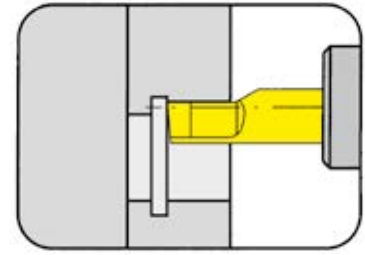
Dimensions in mm

Carbide Grades

INSERT type

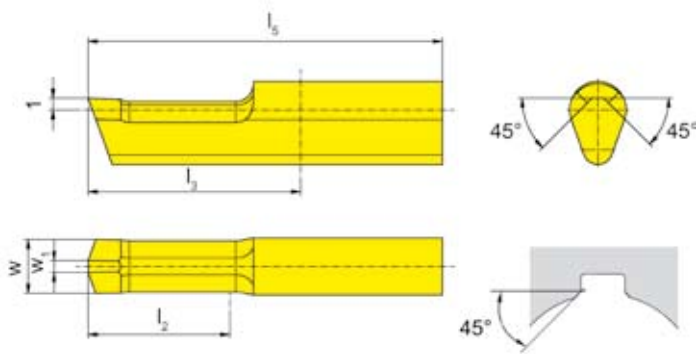
N105/N110

Bore Ø from .236" (6.0 mm)



for use with Toolholder

type SB105
SB110
SBU105
SBU110



Chamfering

| Part number | Chamfer | w | w ₁ | l ₅ | l ₂ | l ₃ | usable from Ø | Toolholder | Carbide Grades | | |
|---------------|---------|-----|----------------|----------------|----------------|----------------|---------------|-------------------|----------------|------|------|
| | | | | | | | | | MG12 | TA45 | T125 |
| N105.4545.2.6 | 45° | 4.5 | 1 | 30 | 12 | 18 | 6 | SB105 / SBU105 | | ▲ | |
| N105.4545.3.6 | | | | 35 | 20 | 23 | | | | ▲ | |
| N110.4545.4.9 | 45° | 6.3 | 2 | 60 | 25 | 34 | 9 | SB110 SBU110 | | ▲ | |
| N110.4545.7.9 | | | | 75 | 40 | 49 | | | | ▲ | |
| | | | | | | | | | P | • | |
| | | | | | | | | | M | • | |
| | | | | | | | | | K | • | |
| | | | | | | | | | S | | |
| | | | | | | | | | N | • | |
| | | | | | | | | | H | | |

▲ on stock Δ 4 weeks
• main recommendation
o alternative recommendation
■ uncoatet grades
■ coatet grades
■ brazed/Cermet

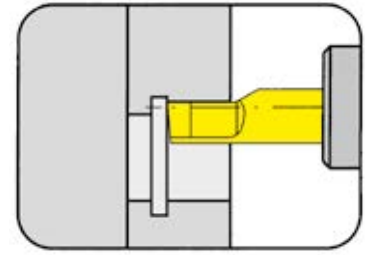
Dimensions in mm

BROACHING - HEXAGON SOCKET



INSERT Type

N105/N110

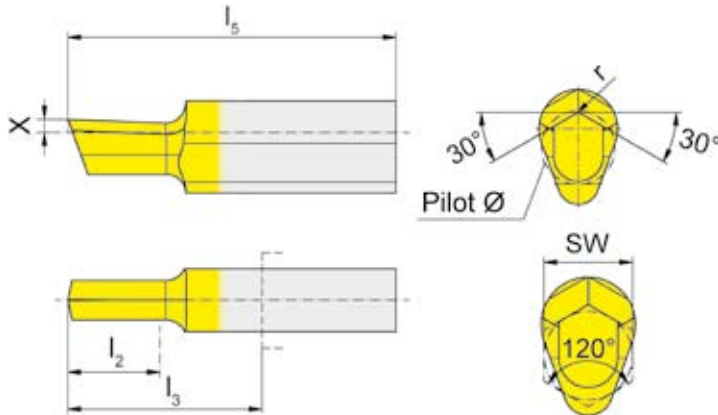


R

Hexagon socket from

SW 2.5

for use with Toolholder



Type SB105
SB110
SBU105
SBU110

Hexagon socket

| Part number | SW | r | l ₂ | l ₃ | l ₅ | Pilot Ø | X | Toolholder | Carbide grades | | |
|---|-------------------------|------|----------------|----------------|----------------|-------------------|-----|--------------|----------------|------|------|
| | | | | | | | | | MG12 | TA45 | TI25 |
| N105.SW25.25.01 | 2.5-2.9 | 0.05 | 4.0 | 13 | 25 | SW | | SB105 | | ▲ | |
| N105.SW30.30.01 | 2.9-3.5 | 0.05 | 4.5 | 13 | 25 | SW | | | | ▲ | |
| N105.SW35.35.01 | 3.5-4.0 | 0.05 | 5.5 | 13 | 25 | SW | | | | ▲ | |
| N105.SW40.40.01 | 4.0-4.5 | 0.10 | 6.0 | 13 | 25 | SW | 1.0 | | | ▲ | |
| N105.SW45.45.01 | 4.5-5.0 | 0.10 | 7.0 | 13 | 25 | SW | | | | ▲ | |
| N105.SW56.56.01 | 5.0-8.0 | 0.10 | 9.0 | 13 | 25 | SW+0.1 | | | | ▲ | |
| N105.SW80.80.01 | 8.0-10.0 | 0.10 | 12.0 | 18 | 30 | SW+0.1 | | | | ▲ | |
| N110.SW14.14.03 | 10.0-14.0 | 0.20 | 20.0 | 29 | 55 | SW+0.1 | 1.5 | SB110 | | △ | |
| N110.SW16.16.04 | 14.0-16.5/ 16.5-18.0 | 0.20 | 25.0 | 29 | 55 | SW+0.1/ SW+0.2 | 2.0 | SB110 | | △ | |
| ▲ on stock △ 4 weeks ● main recommendation ○ alternative recommendation □ uncoated grades ■ coated grades ■ brazed/Cermet | | | | | | | | | P | ● | |
| | | | | | | | | | M | ● | |
| | | | | | | | | | K | ● | |
| | | | | | | | | | S | ● | |
| | | | | | | | | | N | ● | |
| | | | | | | | | | H | | |

Dimensions in mm

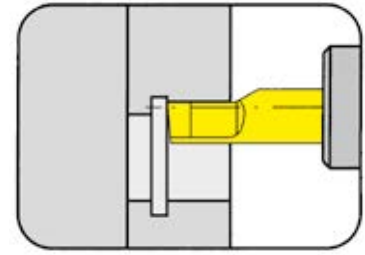
Carbide grades

INSERT Type

N105

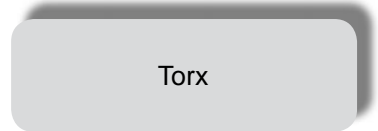
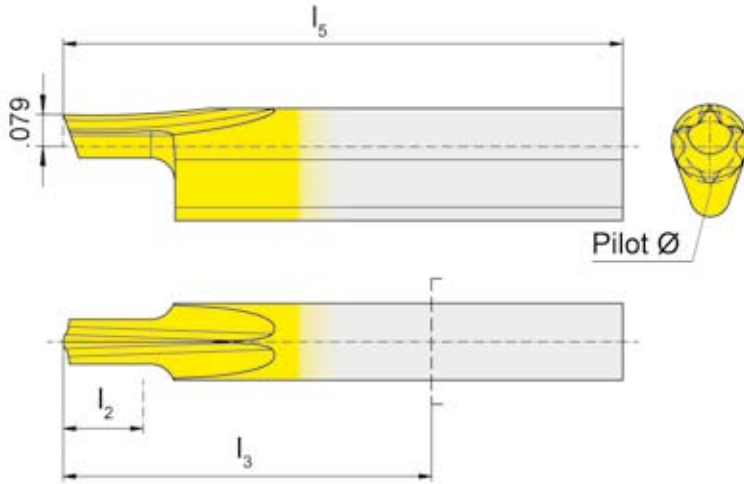
Torx from

T15



for use with Toolholder

Type SB105
SBU105



| Part number | Torx | l ₂ | l ₃ | l ₅ | Pilot Ø | Toolholder | Carbide grades | | |
|-----------------|------|----------------|----------------|----------------|---------|------------|----------------|------|------|
| | | | | | | | MG12 | TA45 | TI25 |
| N105.TX15.24.03 | T15 | 4 | | | 2.41 | SB105 | | Δ | |
| N105.TX20.28.03 | T20 | 4 | | | 2.85 | | | Δ | |
| N105.TX25.32.03 | T25 | 5 | 23 | 35 | 3.24 | | | Δ | |
| N105.TX30.40.03 | T30 | 5 | | | 4.03 | | | Δ | |
| | | | | | | | P | • | |
| | | | | | | | M | • | |
| | | | | | | | K | • | |
| | | | | | | | S | • | |
| | | | | | | | N | • | |
| | | | | | | | H | | |


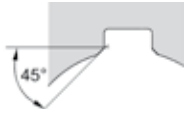
- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

Carbide grades

Type SB105/SB110 -

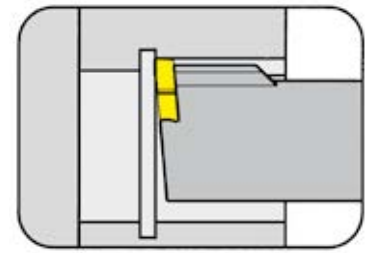
Holder can be located directly in the turret and m/c spindle

| Dimensions DIN | | | | Broaching  | | | Chamfering  | | |
|----------------|-----------------|------------------|-----|---|----------------|-----------------|--|------------------------------------|----|
| Width | Tolerance grade | D _{min} | t | Inserts | l ₂ | Toolholder | Inserts | Toolholder | |
| | | | | 2 | C11 | 8 | 1,0 | N105.0210.2.08 | 12 |
| 3 | C11 | 10 | 1,8 | N105.0310.2.10 | 12 | SB105.0020.1.01 | N105.4545.2.6 | SB105.0020.1.01 SB105.0025.1.01 | |
| 3 | C11 | 13 | 1,8 | N105.0310.2.13 | 12 | SB105.0025.1.01 | | | |
| 4 | C11 | 16 | 2,0 | N105.0410.2.16 | 12 | | | | |
| 4 | C11 | 16 | 2,0 | N110.0410.05.04 | 25 | SB110.0025.1.02 | N110.4545.4.9 | SB110.0025.1.02 | |
| 4 | C11 | 16 | 2,0 | N110.0410.05.07 | 40 | SB110.0032.1.02 | N110.4545.7.9 | SB110.0032.1.02 | |
| 5 | C11 | - | - | N110.0510.05.04 | 25 | SB110.0025.1.02 | N110.4545.4.9 | SB110.0025.1.02 | |
| 5 | C11 | - | - | N110.0510.05.07 | 40 | SB110.0032.1.02 | N110.4545.7.9 | SB110.0032.1.02 | |
| 2 | P9 | 6 | 1,1 | N105.0198.01.01 | 12 | | N105.4545.2.6 | SB105.0020.1.01 | |
| 3 | P9 | 8 | 1,5 | N105.0298.01.01 | 12 | SB105.0020.1.01 | | | |
| 4 | P9 | 10 | 1,9 | N105.0397.01.01 | 15 | SB105.0025.1.01 | N105.4545.3.6 | SB105.0025.1.01 | |
| 4 | P9 | 10 | 1,9 | N110.0397.02.04 | 25 | | N110.4545.4.9 | | |
| 4 | P9 | 10 | 1,9 | N110.0397.02.07 | 40 | SB110.0025.1.02 | N110.4545.7.9 | SB110.0025.1.02 | |
| 5 | P9 | 12 | 2,4 | N110.0497.02.04 | 25 | SB110.0032.1.02 | N110.4545.4.9 | SB110.0032.1.02 | |
| 5 | P9 | 12 | 2,4 | N110.0497.02.07 | 40 | | N110.4545.7.9 | | |
| 2 | JS9 | 6 | 1,1 | N105.0200.01.01 | 12 | | N105.4545.2.6 | SB105.0020.1.01 SB105.0025.1.01 | |
| 3 | JS9 | 8 | 1,5 | N105.0300.01.01 | 12 | SB105.0020.1.01 | | | |
| 4 | JS9 | 10 | 1,9 | N105.0400.01.01 | 12 | SB105.0025.1.01 | | | |
| 4 | JS9 | 10 | 1,9 | N105.0400.02.01 | 15 | | N105.4545.3.6 | | |
| 4 | JS9 | 10 | 1,9 | N110.0400.02.04 | 25 | | N110.4545.4.9 | | |
| 4 | JS9 | 10 | 1,9 | N110.0400.02.07 | 40 | SB110.0025.1.02 | N110.4545.7.9 | SB110.0025.1.02 | |
| 5 | JS9 | 12 | 2,4 | N110.0500.02.04 | 25 | SB110.0032.1.02 | N110.4545.4.9 | SB110.0032.1.02 | |
| 5 | JS9 | 12 | 2,4 | N110.0500.02.07 | 40 | | N110.4545.7.9 | | |

R

TOOLHOLDER Type

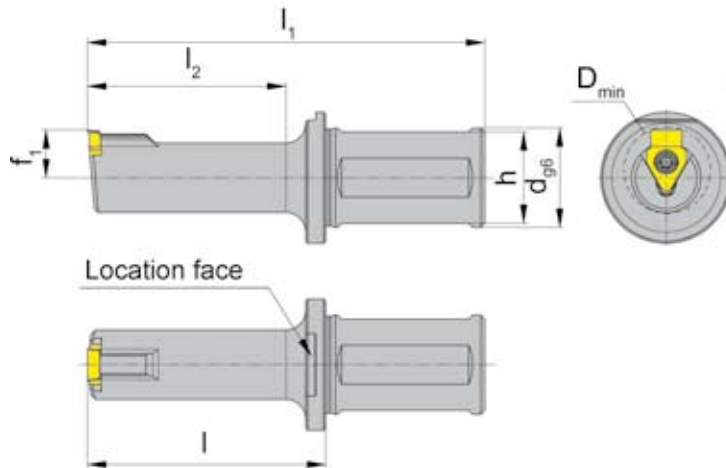
SHU117



Bore Ø from .551"

for use with Insert

Type S117
SU117



| Part number | d | h | l | l ₁ | l ₂ | D _{min} | f ₁ | Form |
|--------------------|-------|-------|-------|----------------|----------------|------------------|----------------|------|
| SHU117.1410.1.3.08 | 1.000 | .921 | 1.260 | 2.835 | .787 | .551 | .378 | G |
| SHU117.1410.1.08 | | | 1.654 | 3.228 | 1.181 | | | F |
| SHU117.1410.2.08 | 1.000 | .921 | 2.047 | 3.622 | 1.575 | .551 | .378 | F |
| SHU117.0610.1.10 | 1.000 | .921 | 1.898 | 3.472 | 1.575 | .625 | .425 | A1 |
| SHU117.0100.1.10 | | | 1.976 | 3.551 | 1.575 | .669 | .374 | |
| SHU117.0100.2.10 | | | 2.567 | 4.142 | 2.165 | .669 | .374 | A |
| SHU117.0910.1.10 | 1.000 | .921 | 2.433 | 4.008 | 1.969 | .866 | .472 | A |
| SHU117.0910.2.10 | | | 3.220 | 4.795 | 2.756 | .866 | .472 | |
| SHU117.1000.1.10 | | | 2.433 | 4.008 | 1.969 | | | B |
| SHU117.1000.2.10 | 1.000 | .921 | 3.220 | 4.795 | 2.756 | .866 | .472 | B |
| SHU117.0125.1.16 | | | 2.433 | 4.008 | 1.969 | | | C |
| SHU117.0125.2.16 | 1.250 | 1.171 | 3.374 | 4.949 | 2.953 | 1.181 | .659 | C |
| SHU117.0125.3.16 | | | 4.358 | 6.720 | 3.937 | | | |
| SHU117.1250.1.16 | | | 2.433 | 4.008 | 1.969 | | | D |
| SHU117.1250.2.16 | 1.250 | 1.171 | 3.374 | 4.949 | 2.953 | 1.496 | .866 | D |
| SHU117.1250.3.16 | | | 4.358 | 6.720 | 3.937 | | | |

Further sizes upon request

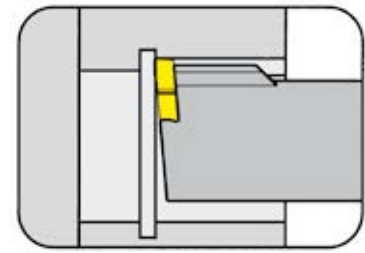
Dimensions in inch

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|-------------------|---------------|-------------------|
| SHU117....10 | 4.09T15P | T15PQ |
| SHU117....16 | 5.12T20P | T20PQ |
| SHU117.1410....08 | 030.3509.T15P | T15PQ |

TOOLHOLDER Type

SH117

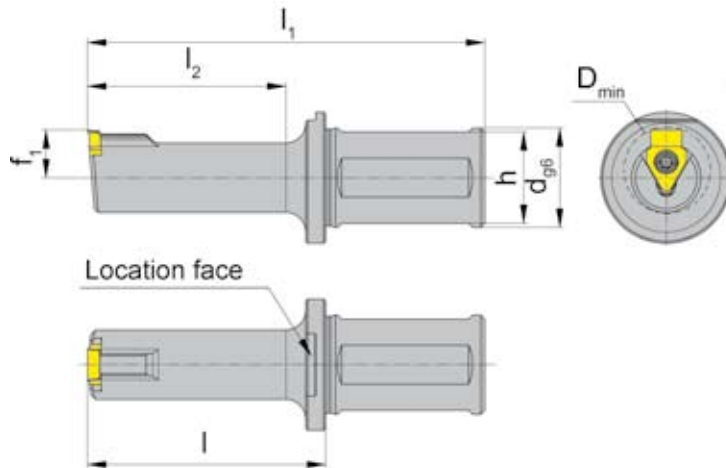


R

Bore Ø from .551" (14.0 mm)

for use with Insert

Type S117
SU117



| Part number | d | h | l | l ₁ | l ₂ | D _{min} | f ₁ | Form |
|-------------------|----|----|-----|----------------|----------------|------------------|----------------|------|
| SH117.1425.1.3.08 | 25 | 23 | 32 | 72 | 20 | 14 | 9.6 | G |
| SH117.1425.1.08 | 25 | 23 | 42 | 82 | 30 | 14 | 9.6 | F |
| SH117.1425.2.08 | | | 52 | 92 | 40 | | | |
| SH117.1725.1.10 | 25 | 23 | 50 | 90 | 40 | 17 | 9.5 | A |
| SH117.1725.2.10 | | | 65 | 105 | 55 | | | |
| SH117.0025.1.10 | 25 | 23 | 60 | 100 | 50 | 22 | 12.0 | B |
| SH117.0025.2.10 | | | 80 | 120 | 70 | | | |
| SH117.3032.1.16 | 32 | 30 | 60 | 100 | 50 | 30 | 16.5 | C |
| SH117.3032.2.16 | | | 85 | 125 | 75 | | | |
| SH117.3032.3.16 | | | 110 | 170 | 100 | | | |
| SH117.0032.1.16 | 32 | 30 | 60 | 100 | 50 | 38 | 22.0 | D |
| SH117.0032.2.16 | | | 85 | 125 | 75 | | | |
| SH117.0032.3.16 | | | 110 | 170 | 100 | | | |
| SH117.4032.1.16 | 32 | 30 | 62 | 122 | 50 | 40 | 21.5 | E |
| SH117.4032.2.16 | | | 87 | 147 | 75 | | | |
| SH117.4032.3.16 | | | 112 | 172 | 100 | | | |

Further sizes upon request

Dimensions in mm

Spare parts

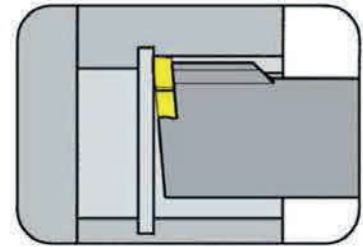
| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| SH117....10 | 4.09T15P | T15PQ |
| SH117....16 | 5.12T20P | T20PQ |
| SH117.1425....08 | 030.3509.T15P | T15PQ |

BROACHING



TOOLHOLDER Type

SHM117

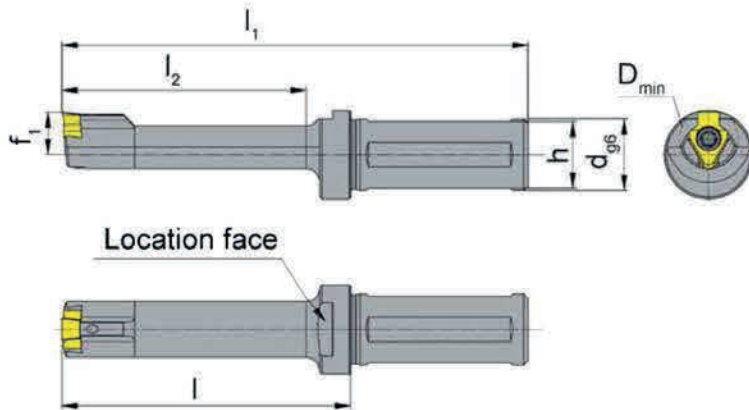


Bore Ø from .551" (14.0 mm)

Material of shank: Carbide - Giving a good vibration resistance

for use with Insert

Type S117
SU117



with through coolant supply

| Part number | d | h | l | l ₁ | l ₂ | D _{min} | f ₁ | Form |
|-------------------|------|------|-------|----------------|----------------|------------------|----------------|------|
| SHM117.1416.3.08 | 16 | 15 | 65 | 105 | 55 | 14 | 9.6 | F |
| SHMU117.1462.3.08 | .625 | .586 | 2.559 | 4.134 | 2.165 | .551 | .378 | F |

Further sizes upon request

Dimensions in mm / inch

Toolholders with damaged seating can be repaired by HORN.

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|---------------|-------------------|
| SHM117.1425.3.08 | 030.3509.T15P | T15PQ |

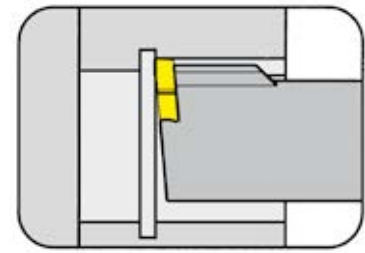
R24

TOOLHOLDER Type

SH117

Bore Ø from .551" (14.0 mm)

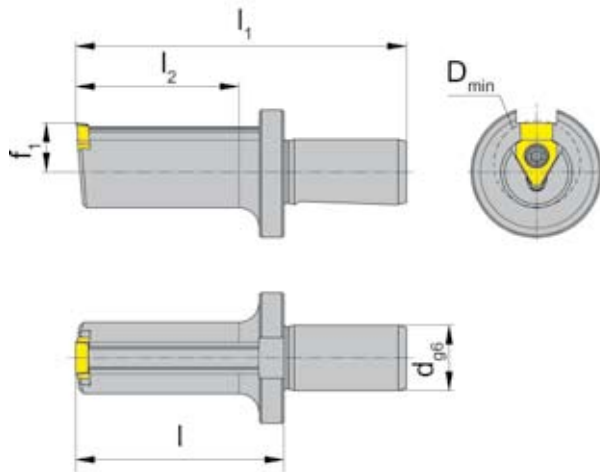
only usable for broaching devices EWS-Slot and BENZ LinA



R

for use with Insert

Type S117
SU117



| Part number | d | l | l ₁ | l ₂ | D _{min} | f ₁ | Form |
|------------------|----|----|----------------|----------------|------------------|----------------|------|
| SH117.1416.E1.08 | 16 | 41 | 71 | 30 | 14 | 9.6 | F |
| SH117.1716.E1.10 | 16 | 41 | 71 | 30 | 17 | 9.5 | A |
| SH117.1716.E2.10 | | 51 | 81 | 40 | | | |
| SH117.0016.E1.10 | 16 | 41 | 71 | 30 | 22 | 12.0 | B |
| SH117.0016.E2.10 | | 51 | 81 | 40 | | | |

Further sizes for other device interfaces upon request

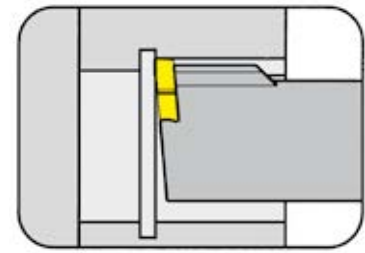
Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------------|----------------------|-------------------|
| SH117....10 | 4.09T15P | T15PQ |
| SH117.1416.E1.08 | 030.3509.T15P | T15PQ |

TOOLHOLDER Type

H117

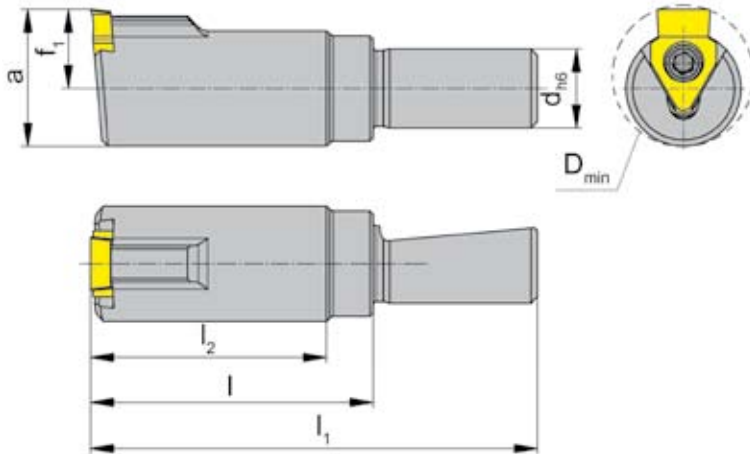


Bore Ø from .669" (17.0 mm)

for broaching device Schwarzer

for use with Insert

Type S117
SU117



| Part number | d | l | l ₁ | l ₂ | D _{min} | f ₁ | a | Form |
|----------------------------------|----|----------|----------------|----------------|------------------|----------------|-------|------|
| H117.1712.1439 H117.1712.1407 | 12 | 33 43 | 58 68 | 25 35 | 17 | 9.5 | 16.00 | A |
| H117.2212.1441 H117.2212.1442 | 12 | 33 43 | 58 68 | 25 35 | 22 | 12.0 | 20.75 | B |
| H117.3012.1440 H117.3012.1419 | 12 | 33 43 | 58 68 | 25 35 | 30 | 16.5 | 28.50 | C |

Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|--|----------------------|-------------------|
| H117....1407/1439/1441/1442 H117.3012.1419/1440 | 4.09T15P 5.12T20P | T15PQ T20PQ |

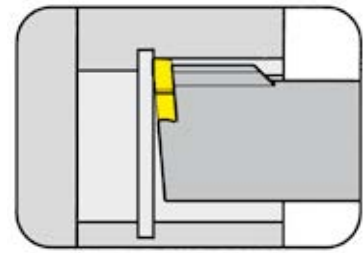
BROACHING



TOOLHOLDER Type

SH117

with through coolant supply



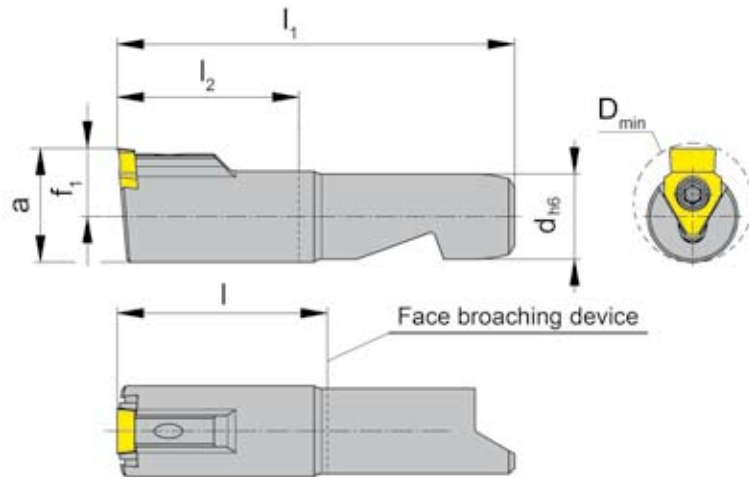
R

Bore Ø from .551" (14.0 mm)

for broaching device Schwarzer "2in1"

for use with Insert

Type S117
SU117



| Part number | d | l | l ₁ | l ₂ | D _{min} | f ₁ | a | Form |
|------------------|----|----|----------------|----------------|------------------|----------------|------|------|
| SH117.0932.S.08 | 15 | 37 | 70 | 32 | 14 | 9.6 | 12.8 | F |
| SH117.1412.S1.08 | 12 | 33 | 58 | 25 | | | | |
| SH117.1412.S2.08 | 12 | 43 | 68 | 35 | | | | |
| SH117.0932.S.10 | 15 | 37 | 70 | 32 | 17 | 9.5 | 16.0 | A |
| SH117.1532.S.10 | 15 | 37 | 70 | 32 | 22 | 12.0 | 20.0 | B |
| SH117.1538.S.16 | 15 | 43 | 76 | 38 | 30 | 15.0 | 24.0 | C |
| SH117.1544.S.16 | | 49 | 82 | 44 | | | | |

Further sizes for other device interfaces upon request

Dimensions in mm

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|---------------|---------------|-------------------|
| SH117....08 | 030.3509.T15P | T15PQ |
| SH117....10 | 4.09T15P | T15PQ |
| SH117.15...16 | 5.12T20P | T20PQ |

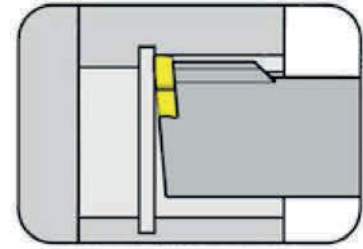
R27

BROACHING



INSERT Type

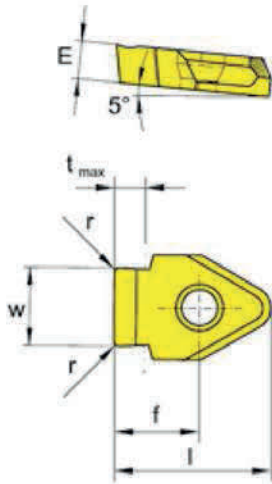
SU117



Bore Ø from .551"
Depth of groove up to .335"

for use with Toolholder

Type SH117
SHM117
SHU117



Keyways according to Inch Standards

| Part number | Fractional size | w | r | E | l | t _{max} | f | Form | TA45 | TN35 |
|------------------|-----------------|-------|------|------|------|------------------|------|------|------|------|
| SU117.1250.04.08 | 1/8" | .1260 | .004 | .157 | .512 | .071 | .236 | G | ▲ | |
| SU117.1562.04.08 | 5/32" | .1572 | .004 | .157 | .512 | .087 | .236 | F | ▲ | |
| SU117.1875.08.08 | 3/16" | .1885 | .008 | .157 | .512 | .106 | .236 | F | ▲ | |
| SU117.1250.04.10 | 1/8" | .1260 | .004 | .118 | .551 | .071 | .236 | A1 | ▲ | |
| SU117.1562.04.10 | 5/32" | .1572 | .004 | .118 | .551 | .087 | .236 | A1 | ▲ | |
| SU117.1875.08.10 | 3/16" | .1885 | .008 | .118 | .571 | .106 | .256 | A | ▲ | |
| SU117.2500.08.10 | 1/4" | .2510 | .008 | .118 | .571 | .134 | .256 | A | ▲ | |
| SU117.2812.08.10 | 9/32" | .2828 | .008 | .118 | .630 | .161 | .315 | B | ▲ | |
| SU117.3125.08.10 | 5/16" | .3140 | .008 | .118 | .630 | .161 | .315 | B | ▲ | |
| SU117.3750.12.14 | 3/8" | .3765 | .012 | .236 | .815 | .197 | .441 | C | ▲ | |
| SU117.4375.12.14 | 7/16" | .4390 | .012 | .236 | .815 | .224 | .441 | D | ▲ | |
| SU117.5000.12.14 | 1/2" | .5015 | .012 | .236 | .815 | .260 | .441 | D | ▲ | |
| SU117.5000.20.14 | >1/2" | .5015 | .020 | .236 | .815 | .335 | .441 | D | ▲ | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

| | | |
|---|---|---|
| P | ● | ■ |
| M | ● | ■ |
| K | ● | ■ |
| S | ● | ■ |
| N | ● | ■ |
| H | ● | ■ |

Carbide grades

Dimensions in inch

Note:

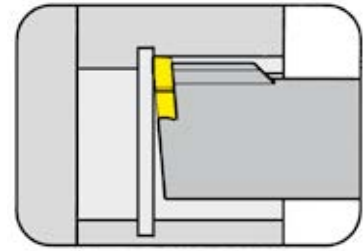
The insert form must correspond to the holder form.
E.g.: Form A Toolholder = Form A Insert

R28

INSERT Type

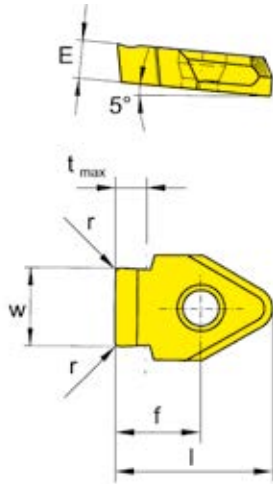
S117

Tolerance grade C11



R

Bore Ø from .551" (14.0 mm)
Depth of groove up to .335" (8.5 mm)



for use with Toolholder

Type SH117
SHM117
SHU117

Keyways according to
DIN138

| Part number | Nw | w | r | E | l | t _{max} | f | Form | Carbide grades | | | |
|-----------------|----|-------|------|---|----|------------------|------|------|----------------|------|------|------|
| | | | | | | | | | MG12 | TA45 | TN35 | TI25 |
| S117.0410.05.08 | 4 | 4.12 | 0.50 | 4 | 13 | 2.1 | 6.0 | F | | ▲ | | |
| S117.0610.22 | 6 | 6.12 | 0.85 | | | 2.6 | | | | ▲ | | ▲ |
| S117.0710.27 | 7 | 7.13 | 0.85 | 3 | 16 | 3.3 | 8.0 | B | | ▲ | | ▲ |
| S117.0810.32 | 8 | 8.13 | 1.05 | | | 3.4 | | | | ▲ | | ▲ |
| S117.1014.40 | 10 | 10.13 | 1.05 | | | 4.2 | | | | ▲ | | ▲ |
| S117.1214.50 | 12 | 12.15 | 1.35 | | | 5.1 | | | | ▲ | | ▲ |
| S117.1614.70 | 16 | 12.15 | 1.75 | 6 | 21 | 6.6 | 11.2 | D | | ▲ | | |
| S117.2414.100 | 24 | 12.15 | 2.25 | | | 8.5 | | | | ▲ | | |
| | | | | | | | | | P | • | • | • |
| | | | | | | | | | M | • | • | • |
| | | | | | | | | | K | • | • | • |
| | | | | | | | | | S | • | • | • |
| | | | | | | | | | N | • | • | • |
| | | | | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

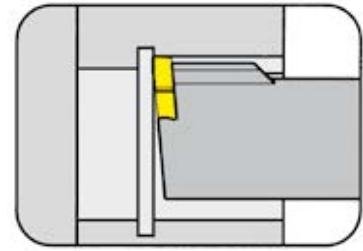
Note:
The insert form must correspond to the holder form.
E.g.: Form A Toolholder = Form A Insert

Carbide grades

INSERT Type

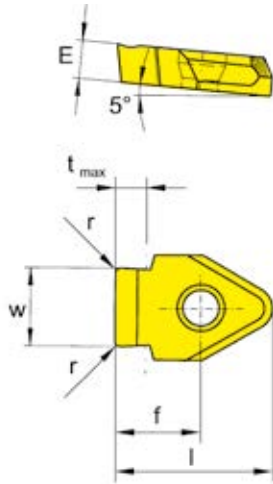
S117

Tolerance grade P9



for use with Toolholder

Type SH117
SHM117
SHU117



Keyways according to
DIN138

| Part number | Nw | w | r | E | l | t _{max} | f | Form | Carbide grades | | | |
|-----------------|----|-------|------|---|------|------------------|------|------|----------------|------|------|------|
| | | | | | | | | | MG12 | TA45 | TN35 | TI25 |
| S117.0298.01.08 | 3 | 2.99 | 0.12 | 4 | 13.0 | 2.0 | 6.0 | G | | ▲ | | |
| S117.0397.01.08 | 4 | 3.98 | 0.12 | 4 | 13.0 | 2.1 | 6.0 | F | | ▲ | | |
| S117.0497.02.08 | 5 | 4.98 | 0.20 | 4 | 13.0 | 2.7 | 6.0 | F | | ▲ | | |
| S117.0497.02.10 | 5 | 4.98 | 0.20 | 3 | 14.5 | 2.7 | 6.5 | A | | ▲ | | |
| S117.0597.02.10 | 6 | 5.98 | 0.20 | 3 | 14.5 | 3.4 | 6.5 | A | | ▲ | | |
| S117.0796.02.10 | 8 | 7.98 | 0.20 | 3 | 16.0 | 4.1 | 8.0 | B | | ▲ | | |
| S117.0996.03.14 | 10 | 9.98 | 0.30 | 6 | 21.0 | 4.2 | 11.2 | C | | ▲ | | |
| S117.1196.03.14 | 12 | 11.97 | 0.30 | 6 | 21.0 | 5.7 | 11.2 | D | | ▲ | | |
| S117.1396.03.16 | 14 | 13.97 | 0.30 | 6 | 21.0 | 6.8 | 11.2 | E | | ▲ | | |
| | | | | | | | | | P | • | • | • |
| | | | | | | | | | M | • | • | • |
| | | | | | | | | | K | • | • | • |
| | | | | | | | | | S | • | • | • |
| | | | | | | | | | N | • | • | • |
| | | | | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

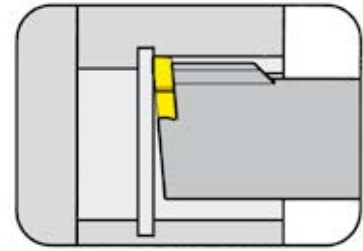
Note:

The insert form must correspond to the holder form.
E.g.: Form A Toolholder = Form A Insert

INSERT Type

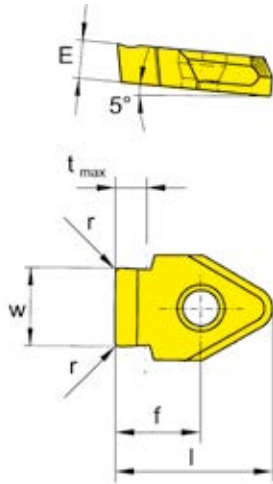
S117

Tolerance grade $\$ 9$



R

Bore \varnothing from .551" (14.0 mm)
Depth of groove up to .335" (8.5 mm)



for use with Toolholder

Type SH117
SHM117
SHU117

Keyways according to
DIN138

| Part number | Nw | w | r | E | l | t _{max} | f | Form | Carbide grades | | | |
|-----------------|----|-------|------|---|------|------------------|------|------|----------------|------|------|------|
| | | | | | | | | | MG12 | TA45 | TN35 | TI25 |
| S117.0300.01.08 | 3 | 3.01 | 0.12 | 4 | 13.0 | 2.0 | 6.0 | G | | ▲ | | |
| S117.0400.01.08 | 4 | 4.01 | 0.12 | 4 | 13.0 | 2.1 | 6.0 | F | | ▲ | | |
| S117.0500.02.08 | 5 | 5.01 | 0.20 | 4 | 13.0 | 2.7 | 6.0 | F | | ▲ | | |
| S117.0500.02.10 | 5 | 5.01 | 0.20 | 3 | 14.5 | 2.7 | 6.5 | A | | ▲ | | |
| S117.0600.02.10 | 6 | 6.01 | 0.20 | 3 | 14.5 | 3.4 | 6.5 | A | | ▲ | | |
| S117.0800.02.10 | 8 | 8.01 | 0.20 | 3 | 16.0 | 4.1 | 8.0 | B | | ▲ | | |
| S117.1000.03.14 | 10 | 10.01 | 0.30 | 6 | 21.0 | 4.2 | 11.2 | C | | ▲ | | |
| S117.1200.03.14 | 12 | 12.01 | 0.30 | 6 | 21.0 | 5.7 | 11.2 | D | | ▲ | | |
| S117.1200.05.14 | 12 | 12.00 | 0.50 | 6 | 21.0 | 8.5 | 11.2 | D | | ▲ | | |
| S117.1400.03.16 | 14 | 14.01 | 0.30 | 6 | 21.0 | 6.8 | 11.2 | E | | ▲ | | |
| | | | | | | | | | P | • | • | • |
| | | | | | | | | | M | • | • | • |
| | | | | | | | | | K | • | • | • |
| | | | | | | | | | S | • | • | • |
| | | | | | | | | | N | • | • | • |
| | | | | | | | | | H | • | • | • |

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

Note:

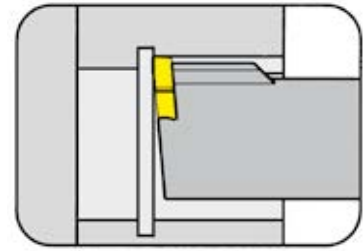
The insert form must correspond to the holder form.
E.g.: Form A Toolholder = Form A Insert

Carbide grades

INSERT Type

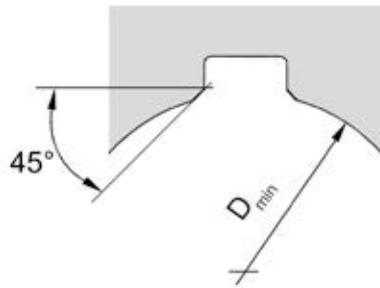
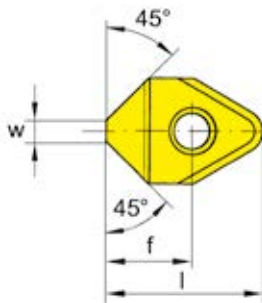
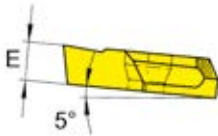
S117

Bore Ø from .551"



for use with Toolholder

Type SH117
SHM117
SHU117



Chamfering

| Part number | Nw | w | l | f | Form | Carbide grades | | | |
|--------------|------|------|------|------|------|----------------|------|------|------|
| | | | | | | MG12 | TA45 | TN35 | TI25 |
| S117.2445.08 | .094 | .094 | .512 | .236 | F | | ▲ | | |
| S117.1545.10 | .079 | .059 | .630 | .315 | A | | ▲ | | |
| S117.3045.10 | .118 | .118 | .630 | .315 | B | | ▲ | | |
| S117.6045.14 | .236 | .236 | .827 | .441 | C/D | | ▲ | | |
| | | | | | | P | • | | |
| | | | | | | M | • | | |
| | | | | | | K | • | | |
| | | | | | | S | • | | |
| | | | | | | N | • | | |
| | | | | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

Note:

The insert form must correspond to the holder form.
E.g.: Form A Toolholder = Form A Insert

Type SH117 - Holder can be located directly in the turret and m/c spindle

| Dimensions DIN | | Broaching | | | | Chamfering | | | | | | | | | | |
|----------------|-----|-----------|-----------------|-----------------|-------|-----------------|----|------------|-------------------|-----------------|-----------------|------------|-------------------|-----------------|--------------|-----------------|
| | | Width | Tolerance grade | D_{min} | t | Inserts | w | Toolholder | Tool length l_2 | | Inserts | Toolholder | Tool length l_2 | | | |
| | | | | | | | | | 1. | 2. | 3. | | | 1. | 2. | 3. |
| 6 | C11 | 22 | 2,6 | S117.0610.22 | 6,12 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 |
| 7 | C11 | 27 | 3,3 | S117.0710.27 | 7,13 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 |
| 8 | C11 | 32 | 3,4 | S117.0810.32 | 8,13 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 |
| 10 | C11 | 40 | 4,2 | S117.1014.40 | 10,13 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 12 | C11 | 50 | 5,1 | S117.1214.50 | 12,15 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 16 | C11 | 70 | 6,6 | S117.1614.70 | 12,15 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 24 | C11 | 100 | 8,5 | S117.2414.100 | 12,15 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 5 | P9 | 17 | 2,7 | S117.0497.02.10 | 4,98 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 |
| 6 | P9 | 17 | 3,4 | S117.0597.02.10 | 5,98 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 |
| 8 | P9 | 22 | 4,1 | S117.0796.02.10 | 7,98 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 |
| 10 | P9 | 30 | 4,2 | S117.0996.03.14 | 9,98 | SH117.3032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.3032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.3032...16 |
| 12 | P9 | 38 | 5,7 | S117.1196.03.14 | 11,97 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 14 | P9 | 40 | 6,8 | S117.1396.03.16 | 13,97 | SH117.4032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.4032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.4032...16 |
| 5 | JS9 | 17 | 2,7 | S117.0500.02.10 | 5,01 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 |
| 6 | JS9 | 17 | 3,4 | S117.0600.02.10 | 6,01 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 | S117.1545.10 | SH117.1725...10 | 40 | 55 |
| 8 | JS9 | 22 | 4,1 | S117.0800.02.10 | 8,01 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 | S117.3045.10 | SH117.0025...10 | 50 | 70 |
| 10 | JS9 | 30 | 4,2 | S117.1000.03.14 | 10,01 | SH117.3032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.3032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.3032...16 |
| 12 | JS9 | 38 | 5,7 | S117.1200.03.14 | 12,01 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 12 | JS9 | 38 | 8,5 | S117.1200.05.14 | 12,00 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.0032...16 |
| 14 | JS9 | 40 | 6,8 | S117.1400.03.16 | 14,01 | SH117.4032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.4032...16 | 50 | 75 | 100 | S117.6045.14 | SH117.4032...16 |



Chamfering



Broaching



Application Tips:

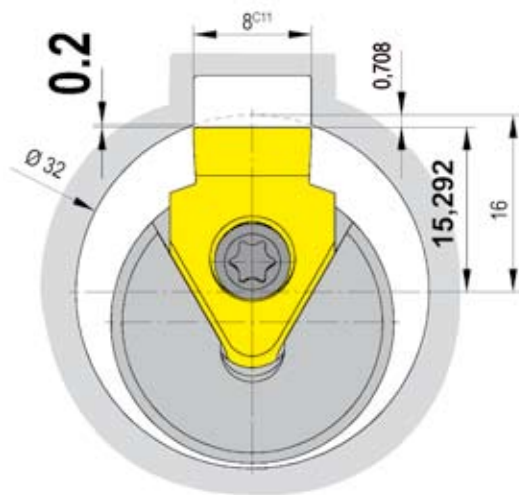
- It is important to use a machine with mechanical spindle lock.
- The use of proper coolant is key to a good surface finish, long tool life as well as chip evacuation.
- A relief groove or the possibility for a "ramp down" exit out of the cut is necessary at the end of the broached groove.
- Setting of the tool is very important. Double check the component diameter before taking the first pass.
- The tool should be set at the 12 o'clock position to ensure that chips fall away from the groove.
- Take an accurate measurement of the insert and program the dimension into the machine tool parameter.
- Position the tool at the start position of the first stroke and program a stop to perform a visual check to assure a collision free first pass of the tool.

R

Machining example:

Bore diameter 32 mm, groove width 8 mm:

At a radius of 16 mm and with a clearance of 0,2 mm for safety at the r 0,2 mm corner radii, the tool has to be set at 15,292 mm in X-axis to avoid any collision at the beginning of the process.



Calculation of the start position b_1 :

$$c^2 = a^2 + b^2$$

$$b^2 = c^2 - a^2$$

$$b = \sqrt{c^2 - a^2}$$

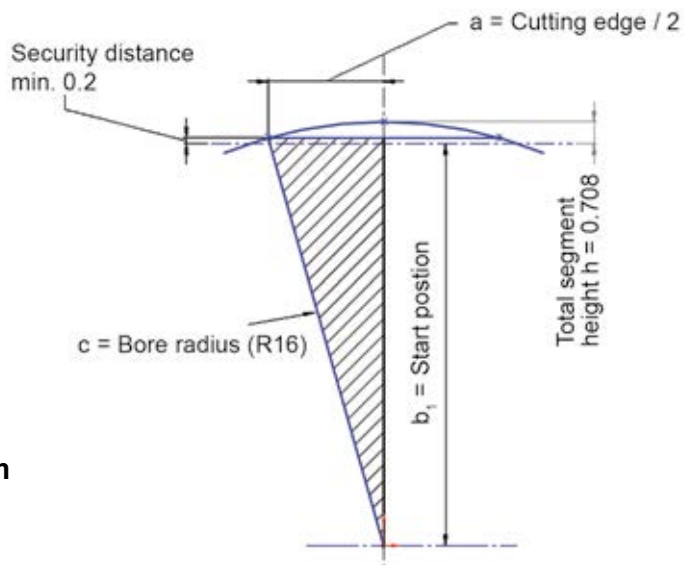
$$b = \sqrt{16^2 - 4^2}$$

$$b = 15,491933$$

$$b_1 = b - \text{Clearance distance}$$

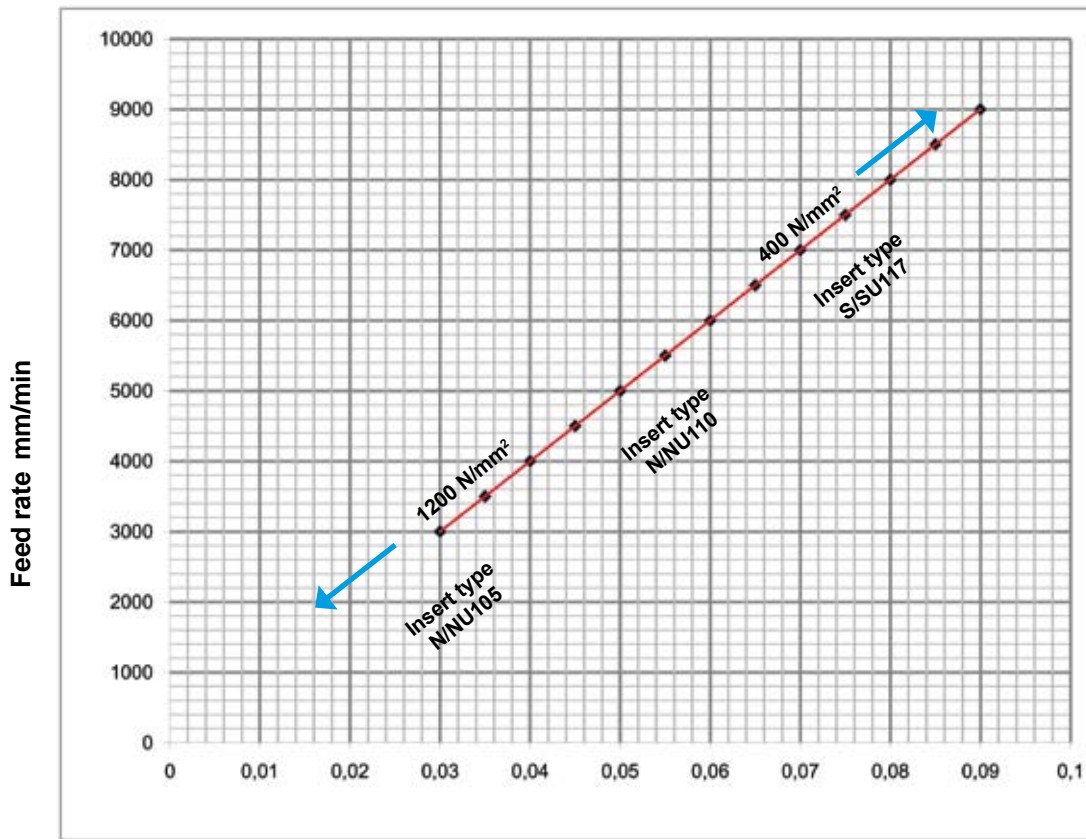
$$b_1 = 15,492 - 0,2 = 15,292 \text{ mm}$$

→ equals as a start position at Ø 30.584 mm

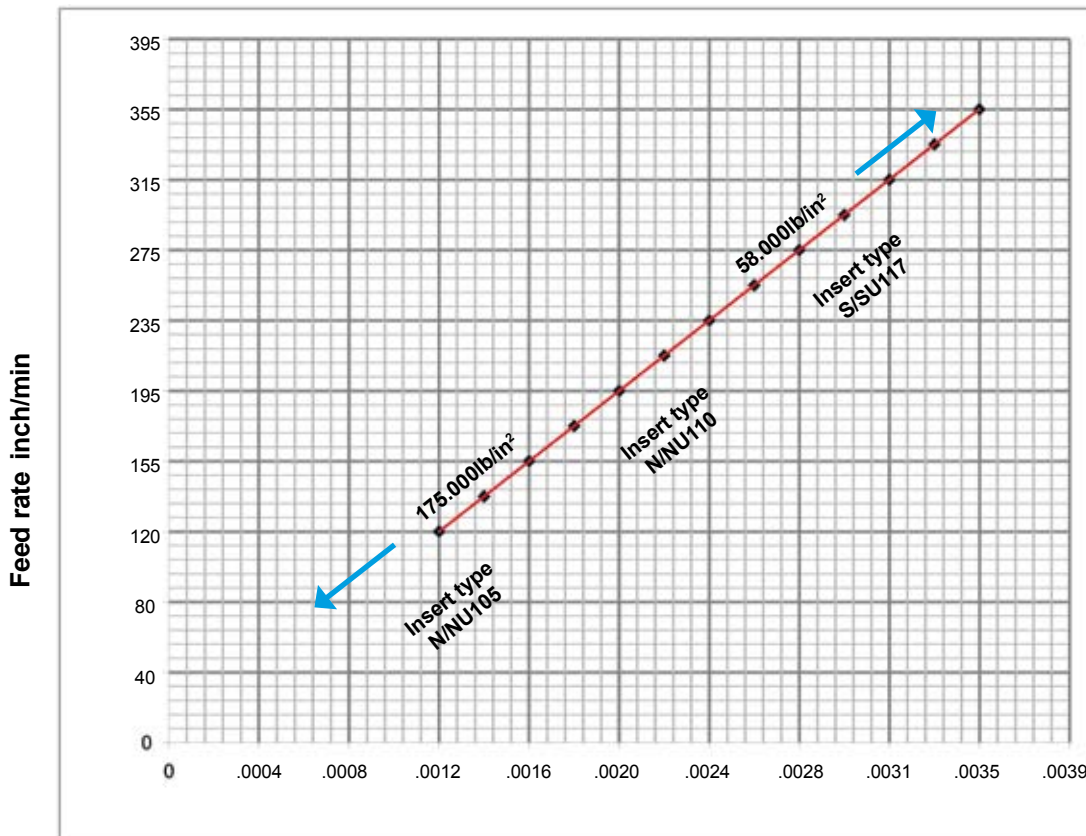


Dimensions in mm

R34



In-feed per stroke in mm



In-feed per stroke in inch

Example for broaching on a TRAUB TNA 400 with C-Axis

NC - Program

| | |
|-------------------|---|
| N.....(BROACHING) | Sequence Number and Application |
| G97 T..... M5 | constant RPM, Tool callout, Spindle Stop |
| M17 | C - axis ON |
| G94 | Feed Rate in mm/min |
| L1 = 30.584 | choose Parameter for start Ø |
| M8 M19 | Coolant ON, Spindle Break ON |
| N100 | Sequence Number for repetition START |
| G0 XL1 Z5 | Start position in X and Z in front of part |
| G1 Z-25 F8000 | Linear move in Z at feed rate of 8000 mm/min |
| G0 X30.584 | Rapid move in X to start Ø i.e. drop down position |
| G0 Z5 | Rapid move in Z to start position. |
| L1 = L1+0.16 | As Ø programming is in effect the depth of cut must be doubled (Depth of Cut is 0.08 mm) |
| N200 | Sequence Number of repetition END. |
| G22 P100 Q200 H45 | Repetition Cycle with Sequence Number from START to END and Number of repetitions |

Example:

- Groove according to table in bore **Ø 32 mm**
- Groove width **8^{c11}**
- Depth of Cut per Stroke 0.08 mm
- The **Number of Strokes** resulted out of complete cutting depth from start position to the bottom of the groove divided by depth of cut per stroke
- This Value must then be multiplied by 2 (because Ø Programming) and Value is programmed as the Number of Strokes in the NC-Programme.

Calculation:

- Starting Position = Security Distance + Distance from Ø 32 mm to Cutting Edge (see Example on Page R34) equals a segment height of **0.508 mm** + Security Distance of **0.20 mm** to a total of **0.708 mm**.
- Starting Position = **30.584 mm** (32 - [0.708 x 2] = 30.584 mm.
- The groove depth of **2.90 mm** added to the **0.708 mm** = **3.608 mm**.
- This is the dimension from the starting position to the bottom of the groove and in order to program this on the Ø, the **3.608 mm** dimension must be **multiplied by 2** which will equal the sum of **7.216 mm**.
- When the **7.216 mm** is divided by (**2 x 0.08 mm**) = **0.16 mm** depth per stroke the Result will be **45.1 Strokes** and therefore **45 total Strokes** are programmed.

The remainder of 0.1 Strokes to achieve the finish dimension must be programmed using the fine correction.

Attention: The true depth of cut for the insert will be 0.08 mm.

Example for broaching on SIEMENS Control Machines with lockable Spindle

NC - Program

| | |
|-------------------|---|
| N.....(BROACHING) | Sequence Number and Application |
| T..... M5 LF | Tool callout, Spindle Stop |
| M..... LF | Brake ON |
| G94 LF | Feed Rate in mm/min |
| R1 = 30.584 LF | choose Parameter for start Ø |
| M8 LF | Coolant ON |
| N100 LF | Sequence Number for repetition START |
| G0 XR1 Z5 LF | Start position in X and Z in front of part |
| G1 Z-25 F8000 LF | Linear move in Z at feed rate of 8000 mm/min |
| G0 X30.584 | Rapid move in X to start Ø i.e. drop down position |
| G0 Z5 | Rapid move in Z to start position. |
| R1 = R1+0.16 | As Ø programming is in effect the depth of cut must be doubled (Depth of Cut is 0.08 mm) |
| N200 | Sequence Number of repetition END. |
|LF | Repetition Cycle with Sequence Number from START to END and Number of repetitions. |

Example:

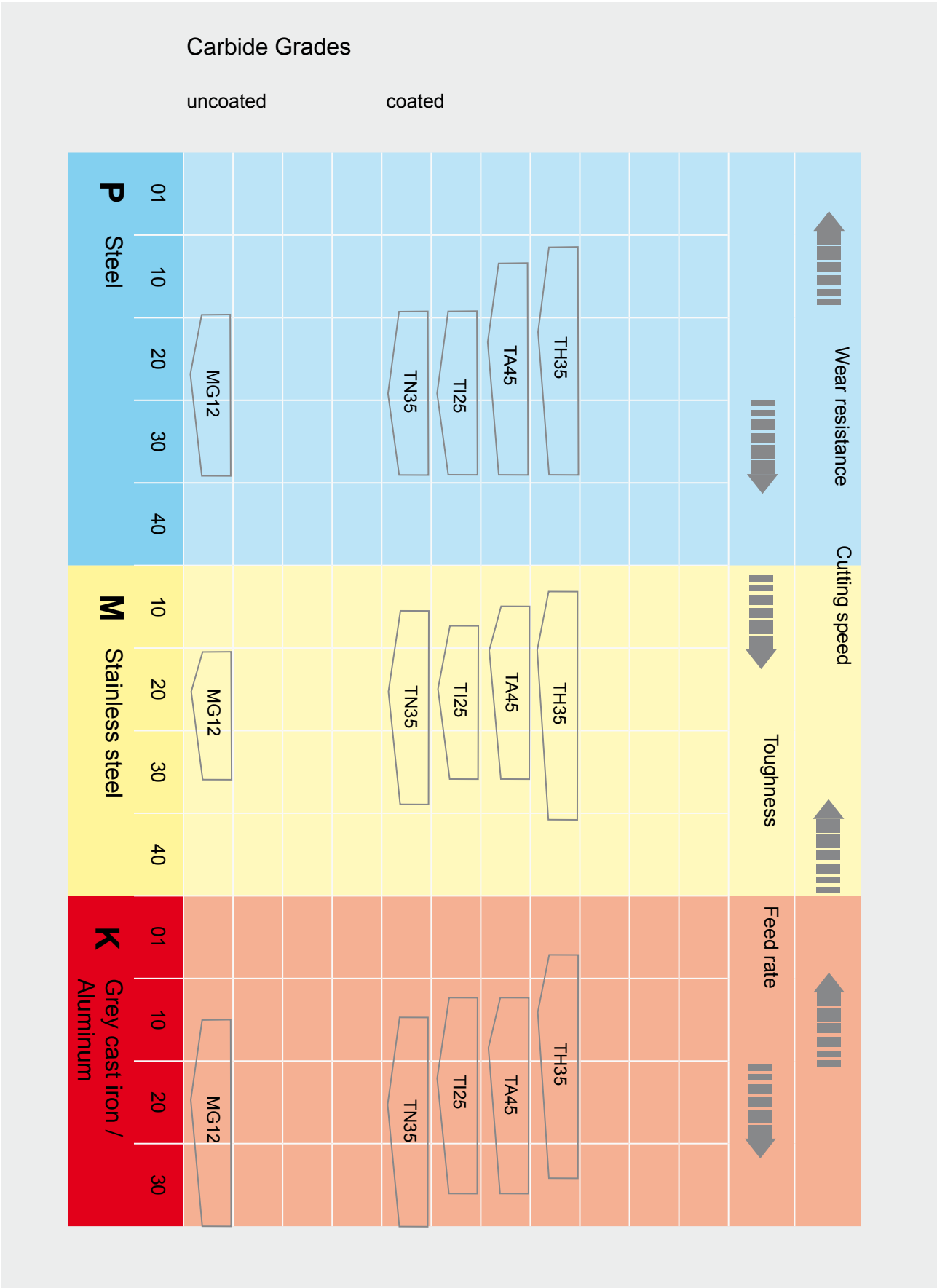
- Groove according to table in bore **Ø 32 mm**
- Groove width **8^{c11}**
- Depth of Cut per Stroke 0.08 mm
- The **Number of Strokes** resulted out of complete cutting depth from start position to the bottom of the groove divided by depth of cut per stroke
- This Value must then be multiplied by 2 (because Ø Programming) and Value is programmed as the Number of Strokes in the NC-Programme.

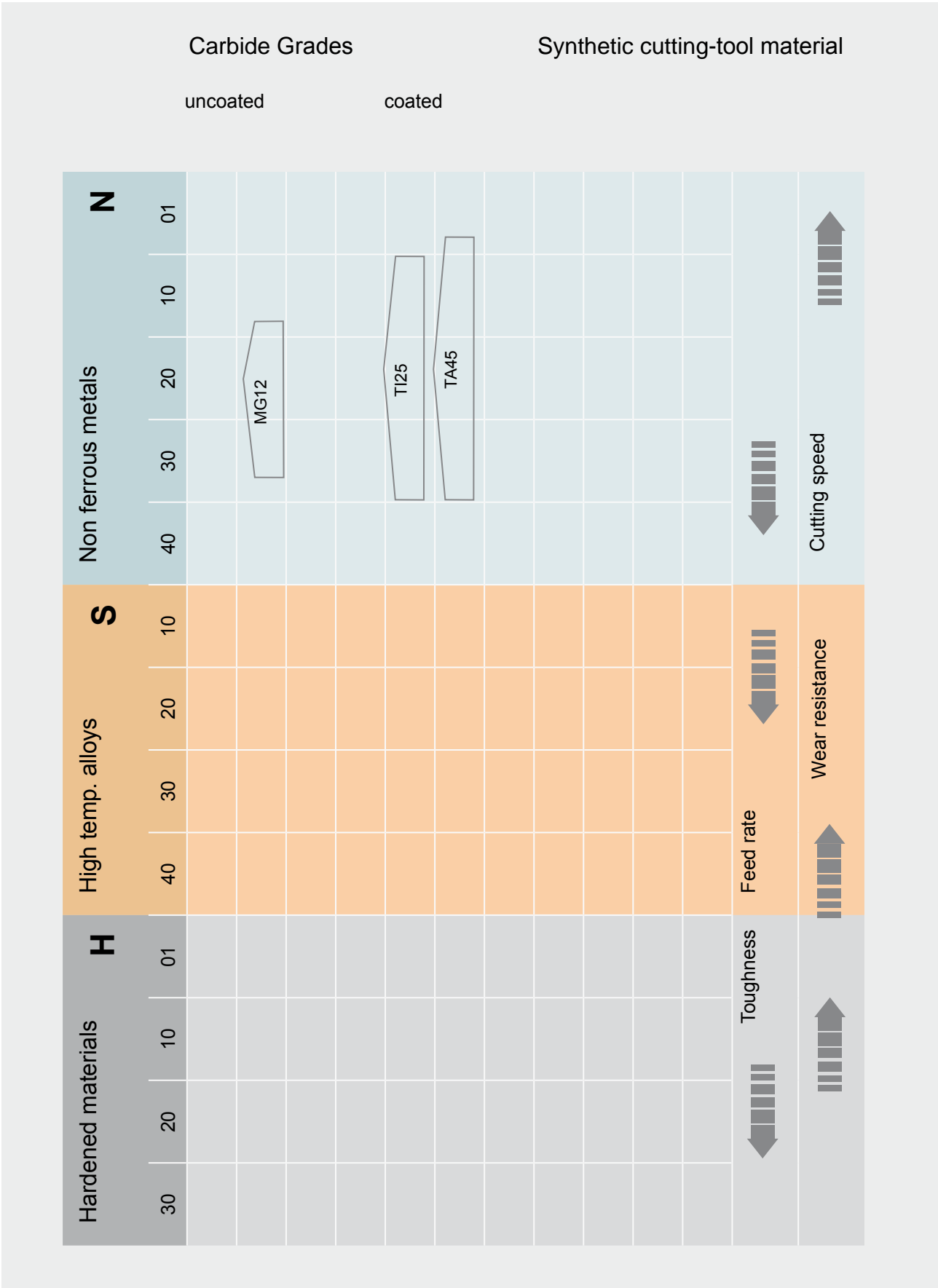
Calculation:

- Starting Position = Security Distance + Distance from Ø 32 mm to Cutting Edge (see Example on Page R34) equals a segment height of **0.508 mm** + Security Distance of **0.20 mm** to a total of **0.708 mm**.
- Starting Position = **30.584 mm** (32 - [0.708 x 2] = 30.584 mm).
- The groove depth of **2.90 mm** added to the **0.708 mm** = **3.608 mm**.
- This is the dimension from the starting position to the bottom of the groove and in order to program this on the Ø, the **3.608 mm** dimension must be **multiplied by 2** which will equal the sum of **7.216 mm**.
- When the **7.216 mm** is divided by (**2 x 0.08 mm**) = **0.16 mm** depth per stroke the Result will be **45.1 Strokes** and therefore **45 total Strokes** are programmed.

The remainder of 0.1 Strokes to achieve the finish dimension must be programmed using the fine correction.

R





UNCOATED GRADES

MG12 - a universal grade with good wear resistance. Used at low or medium cutting speeds for machining steel, cast iron and non ferrous materials

COATED GRADES

TN35 - a very popular grade TiN coated used to low or medium cutting speeds. Also recommended for machining stainless steel or exotic alloyed materials

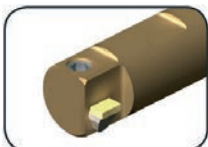
TI25 - a TiCN coated grade with high abrasion resistance. Recommended for machining steel and non ferrous materials at medium cutting speeds

TA45 - a TiAlN coated grade. This coating has a very high temperature stability and high hardness.

TH35 - new standard grade - excellent oxidation resistance with high hardness and very good coefficient of friction.

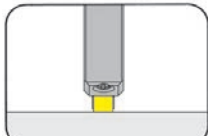
HIGH POLISH MACHINING **S**

**Toolholder
type
B105**



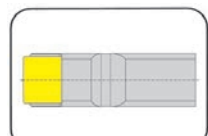
Page S2

**Toolholder
type
NH105**



Page S3

**Inserts
type
105**



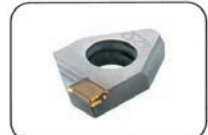
Page S4-S5

**Toolholder
type
H117**



Page S6

**Inserts
type
S117**



Page S7

**Inserts
type
VCGW**



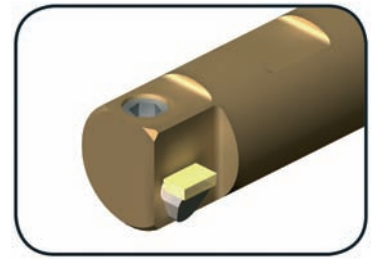
Page S8

**Cutting data
Page 9**

S

TOOLHOLDER Type

B105

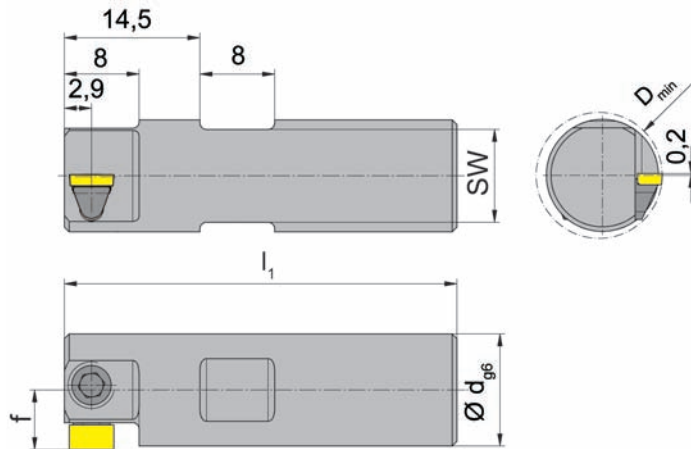


Bore Ø from

.531" (13.5 mm)

for use with Insert

Type 105.MD...



R = right hand version shown

L = left hand version

| Part number | d | l ₁ | f | D _{min} | SW | Size |
|-------------------|----|----------------|-----|------------------|----|------|
| R/LB105.MD12.2.13 | 12 | 42 | 6.4 | 13.5 | 10 | MD |
| R/LB105.MD12.4.13 | | 72 | | | | |
| R/LB105.MD12.6.13 | | 90 | | | | |
| R/LB105.MD12.8.13 | | 125 | | | | |

State R or L version

Dimensions in mm

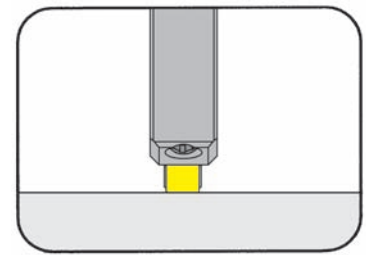
Further sizes and versions upon request

Inserts type 105.MD available upon request.

CASSETTE Type

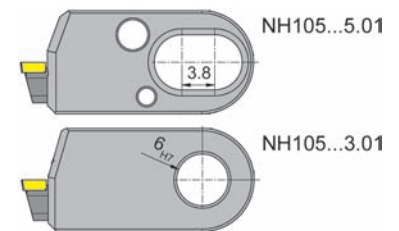
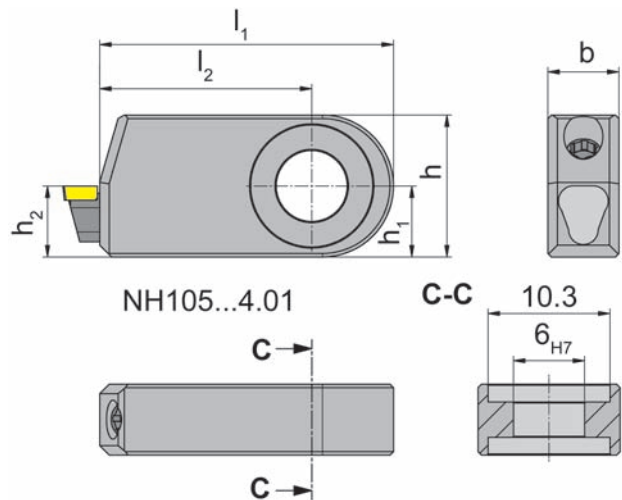
NH105

High polish turning / High polish milling



for use with Insert

Type 105...F.06
105...D.06



| Part number | l_1 | l_2 | h | h_1 | h_2 | b |
|------------------|-------|-------|-----|-------|-------|-----|
| NH105.MD.06.3.01 | 23.9 | 17.9 | 12 | 6 | 6 | 6 |
| NH105.MD.06.4.01 | 24.9 | 17.9 | 12 | 6 | 6 | 6 |
| NH105.MD.06.5.01 | 23.9 | 19.4 | 12 | 6 | 6 | 6 |

Further sizes upon request

Dimensions in mm

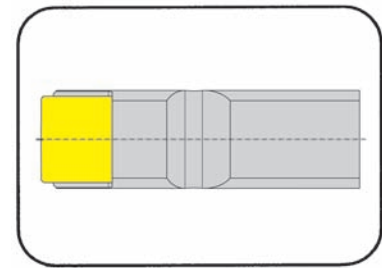
Spare parts

| Cassette | Wrench | Threaded pin |
|-----------------|-----------|--------------|
| NH105.MD.06.... | SW2DIN911 | DIN913-M4x5 |



INSERT type

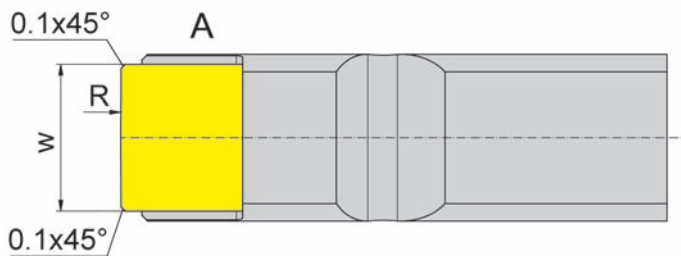
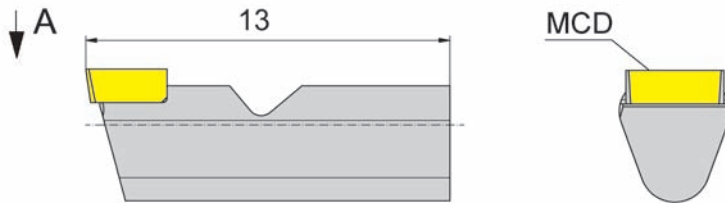
105



High polish milling

for use with Cassette

type NH105



| Part number | w | R | Carbide Grades | Geometries for | | |
|---------------|-----|-----|----------------|----------------|-----------|-------|
| | | | | MD10 | Aluminium | Brass |
| 105.300.AF.06 | 3.5 | 300 | ▲ | x | | |
| 105.300.KF.06 | 3.5 | 300 | ▲ | | | x |
| 105.300.MF.06 | 3.5 | 300 | ▲ | | x | |
| | | | P | | | |
| | | | M | | | |
| | | | K | | | |
| | | | S | | | |
| | | | N | | • | |
| | | | H | | | |

Dimensions in mm

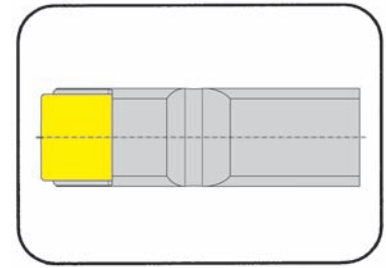
Centre height must be measured and adjusted to the correct position.
Cutting edges must be measured optically!

Further sizes upon request

S

INSERT type

105

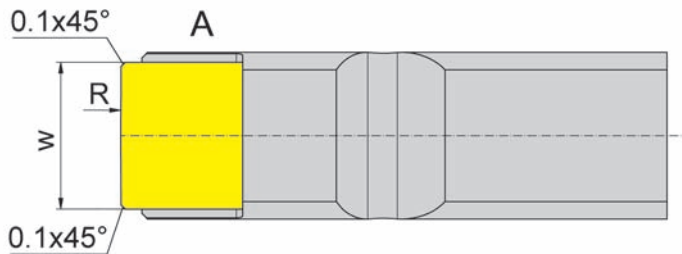
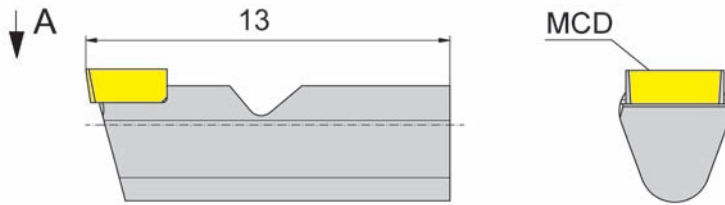


High polish turning

for use with Cassette

type NH105

S



| Part number | w | R | Geometries for | | | |
|---------------|-----|-----|------------------------|-----------|-------|-------------------|
| | | | Carbide Grades MD10 | Aluminium | Brass | Synthetics (PMMA) |
| 105.300.AD.06 | 3.5 | 300 | ▲ | x | | |
| 105.300.KD.06 | 3.5 | 300 | ▲ | | | x |
| 105.300.MD.06 | 3.5 | 300 | ▲ | | x | |
| | | | P | | | |
| | | | M | | | |
| | | | K | | | |
| | | | S | | | |
| | | | N | • | | |
| | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoatet grades
- coatet grades
- brazed MCD

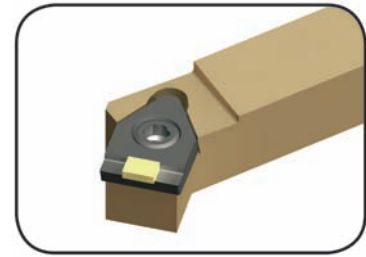
Dimensions in mm

Centre height must be measured and adjusted to the correct position.
Cutting edges must be measured optically!

Further sizes upon request

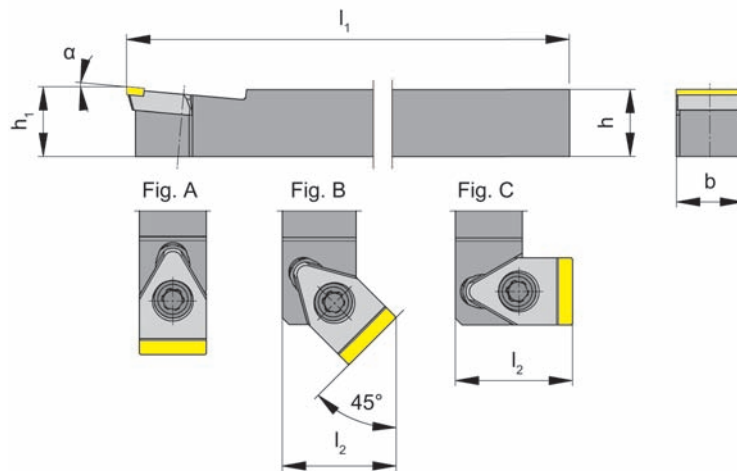
TOOLHOLDER Type

H117



for use with Insert

Type S117



R = right hand version shown

L = left hand version

| Part number | α | Figure | h | h_1 | b | l_1 | l_2 |
|----------------------|----------|--------|----|-------|----|-------|-------|
| H117.MD10.00.5.10 | 5° | A | 10 | 10.4 | 10 | 100 | - |
| R/LH117.MD10.45.5.10 | 5° | B | 10 | 10.4 | 11 | 100 | 17.0 |
| R/LH117.MD10.90.5.10 | 5° | C | 10 | 10.4 | 10 | 100 | 17.5 |

State R or L version

Dimensions in mm

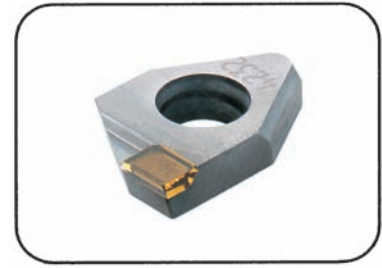
Further sizes and versions upon request

Spare parts

| Toolholder | Screw | TORX PLUS® Wrench |
|------------|---------------|-------------------|
| ... | 030.400P.0227 | T15PQ |

INSERT type

S117

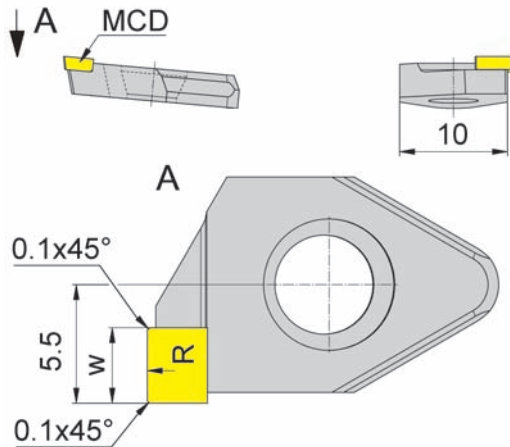


Side turning / Profiling

for use with Toolholder

type H117...10

S



R = right hand version shown

L = left hand version

| Part number | w | R | Carbide Grades | | | |
|--|-----|-----|----------------|-----------|--------|-------------------|
| | | | MD10 | Aluminium | Brass | Synthetics (PMMA) |
| RS117.300.00.A0.10 LS117.300.00.A0.10 | 3,5 | 300 | ▲ △ | x x | | |
| RS117.300.00.K0.10 LS117.300.00.K0.10 | 3,5 | 300 | ▲ △ | | | x x |
| RS117.300.00.M0.10 LS117.300.00.M0.10 | 3,5 | 300 | ▲ △ | | x x | |
| ▲ on stock △ 4 weeks | | | P | | | |
| ● main recommendation | | | M | | | |
| ○ alternative recommendation | | | K | | | |
| ■ uncoatet grades | | | S | | | |
| ■ coatet grades | | | N | • | | |
| ■ brazed MCD | | | H | | | |

Dimensions in mm

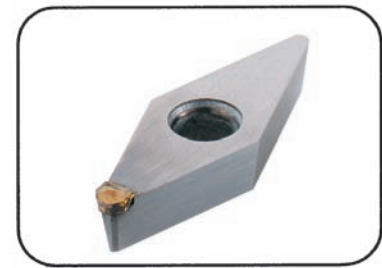
State R or L version

Centre height must be measured and adjusted to the correct position.
Cutting edges must be measured optically!

Further sizes upon request

INSERT type

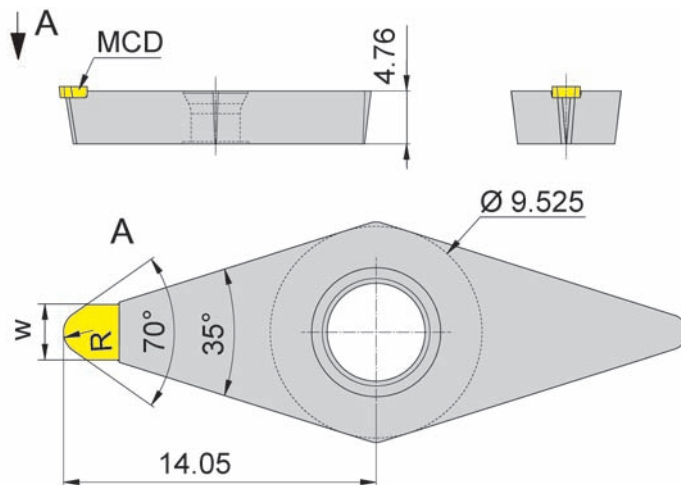
VCGW



Side turning / Profiling

for use with ISO-Toolholder

Size .16



| Part number | w | R | Geometries for | | | |
|------------------|-----|---|------------------------|-----------|-------|-------------------|
| | | | Carbide Grades MD10 | Aluminium | Brass | Synthetics (PMMA) |
| VCGW160410.00.A0 | 2.5 | 1 | ▲ | x | | |
| VCGW160410.00.K0 | 2.5 | 1 | ▲ | | | x |
| VCGW160410.00.M0 | 2.5 | 1 | ▲ | | x | |
| | | | P | | | |
| | | | M | | | |
| | | | K | | | |
| | | | S | | | |
| | | | N | • | | |
| | | | H | | | |

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed MCD

Dimensions in mm

Centre height must be measured and adjusted to the correct position.
Cutting edges must be measured optically!

Further sizes upon request

Machining of high polished surfaces in Nano quality

| Material | v_c (m/min) | f (mm/U) | a_p (mm) | cooling | |
|--------------------|---------------|-----------|-------------|-------------|-------|
| Non ferrous metals | Ag | 200 - 250 | 0.05 - 0.06 | 0.02 - 0.05 | • |
| | Al | 200 - 400 | 0.02 - 0.10 | 0.02 - 0.05 | • |
| | Au | 200 - 250 | 0.05 - 0.06 | 0.02 - 0.05 | • |
| | CuSn | 150 - 250 | 0.05 - 0.10 | 0.02 - 0.05 | • |
| | Cu | 150 - 300 | 0.02 - 0.10 | 0.02 - 0.05 | • / - |
| | CuZn | 150 - 250 | 0.05 - 0.10 | 0.02 - 0.05 | • / - |
| | Pt | 150 - 125 | 0.02 - 0.04 | 0.01 - 0.03 | • |
| Synthetics | PMMA | 100 - 150 | 0.05 - 0.10 | 0.02 - 0.05 | • / - |
| | PC | 80 - 150 | 0.05 - 0.10 | 0.02 - 0.05 | • / - |
| | PVC | 150 - 250 | 0.05 - 0.10 | 0.02 - 0.05 | • / - |
| | PE | 150 - 300 | 0.05 - 0.10 | 0.02 - 0.05 | • / - |

S



Further sizes and versions upon request.



Carbide milling cutter shanks offer excellent antivibration properties, resulting in greater rigidity, ideally suited for holding PCD tipped inserts.



PCD tipped inserts of the 306, 308, 311, 313 and 328 range are manufactured according to customers requirements. Intermediate widths as well as complicated forms are all part of our product range.



Cutting data calculated from our HCT program guarantees both optimum and economical performance of the HORN groove milling tools.



For further information, please contact HORN USA.



D 041 VL

Model 0.4-1 Nm

Torque screw driver with scale
 - variable torque setting
 - adjusted torque is shown on display

The Torque can be adjusted with a special torque setter (id.)
 Ergonomical form gives perfect handling abilities. Acoustic signal when setted torque is reached.
 (Standard: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)
 (Precision: $\pm 6 \%$)



D 15 VL

Model 1-5 Nm



D 28 VL

Model 2-8 Nm



ED 28 VL

Torque setter

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface
 Blade: Octogonal (8 flats) blade, hardened galvanized

T



Universal Bitholder with T-handle
For S.DM08, S.DM10 and S.DM12
also for all C6,3 and E6,3 (1/4") Bits

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.
 Collar: Stainless steel
 Utilization: For controlled opening

14ZQK

T



Blade for TORX-Plus® screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.
 Wiha Chrome Blade guarantees maximum precision.
 Colored code green

Utilization: For controlled screw setting with definite torque in combination with Wiha torque screw driver handle.

DT8PK
DT10PK
DT15PK
DT20PK
DT25PK



Universal Bitholder
For S.DM08, S.DM10 and S.DM12 also
for all C6,3 and E6,3 (1/4") Bits

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Collar: Stainless steel

Utilization: For controlled screw setting with definite torque in combination with torque screw driver handle.

D14ZBK



Torque screw driver with scale
 - variable torque setting
 - adjusted torque is shown on display

The Torque can be adjusted with a special torque setter (id.)
 Ergonomical form gives perfect handling abilities. Acoustic signal when setted torque is reached.
 (Standard: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)
 (Precision: $\pm 6\%$)

D515QL

Model 5-15 Nm



Torque setter

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface
 Blade: Octogonal (8 flats) blade, hardened galvanized

ED515QL



Universal Bitholder

For S.DM08, S.DM10 and S.DM12 also
 for all C6,3 and E6,3 (1/4") Bits

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Collar: Stainless steel

Utilization: For controlled screw setting with definite torque in combination with torque screw driver handle.

D14ZBQ

T



DT15PQ
DT20PQ
DT25PQ
DT27PQ
DT30PQ

Blade for TORX-Plus® screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.
Wiha Chrome Blade guarantees maximum precision.

Colored code green

Utilization: For controlled screw setting with definite torque in combination with Wiha torque screw driver handle.

T

Machining of Ni-resist ring on "Diesel Piston"

CBN-tipped insert of type 229 is used to do the grooving application in the Ni-resist ring.

The process is pregrooving followed by profiling the flanks of the groove. To avoid a high cutting pressure which forces the possibility to damage the seating of the ring, the cutting edge of the insert has a special preparation.

Material: Ni-resist (austenitic cast iron similar to DIN1694)

Cutting data:

$v_c = 220 \text{ m/min (722 SFM)}$

$v_f = 0.06 \text{ mm (.0024")}$



T

Multigrooving "Petrol Piston"

The grooves are machined with PCD-tipped inserts type 312 which are clamped in a multi-grooving toolholder of type 340.

Process:

- Pregrooving
- Finishing with a second set of inserts

Material: GD-AISI12

Cutting data

Pregrooving:

$v_c = 350 \text{ m/min}$

$v_f = 0.07 \text{ mm}$

Finishing:

$v_c = 350 \text{ m/min}$

$v_f = 0.03 \text{ mm}$



T

Face grooving on Gear wheel

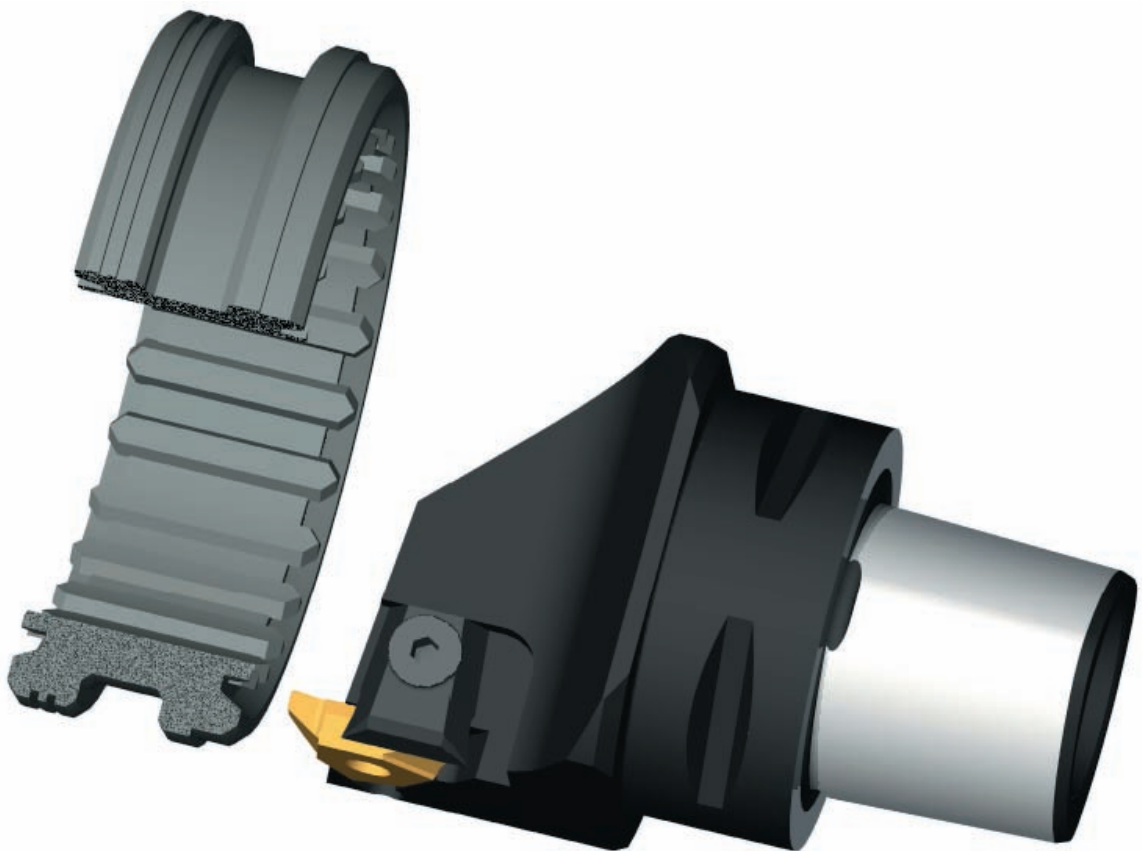
with HORN-Capto toolholder type 360 and special indexable insert typ 312.
The size of the burrs along the teeth defines the toollife and creates a high technical demand on the tool itself.

Material: 20MnCr5

Cutting data:

$$v_c = 200 \text{ m/min}$$

$$v_f = 0.06 \text{ mm}$$



T

Hardturning on Gear wheel

Special **CBN-tipped** insert type S117 is used to finish the width of the roove. The stock removal is approximately 0.15 - 0.2 mm (.006" - .008"). The insert is ground to find width of the groove.

Both flanks are machined at the same time ($Rz=2,3\mu m$). To obtain high surface finish, the insert has a wiper flat on both side cutting edges. Stable machining conditions are imperative. **No coolant.**

Material: 20MnCr5 - case hardened 58-62 HRC

Cutting data:

$$v_c = 140 \text{ m/min}$$

$$v_f = 0.08 \text{ mm}$$



T

Machining on camshafts

Because of its design, turning the camshafts seats usually require left and right hand tools. Due to the toolchanges this results in high nonproductive time periods.

With the inserts of type 229, the cams and seats can be machines without a toolchange. Stock removal is up to 2.5 mm (.098"). No coolant.

The amount of taper and cylindricity at the bearing seat we achieved is $\leq 0,02$ mm.

Material: 16MnCr5 - forged

Cutting data

Cam:

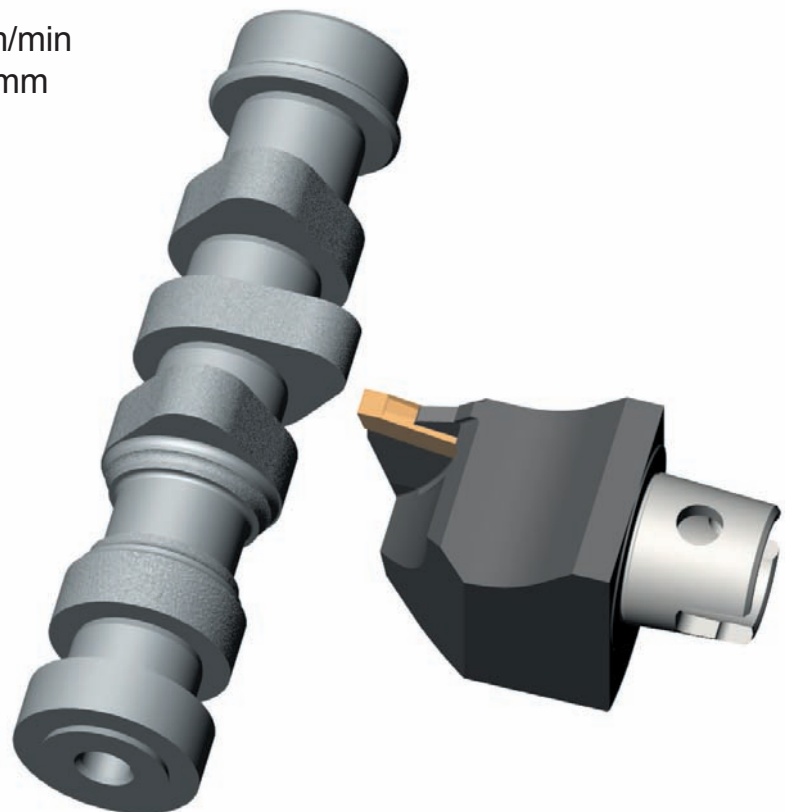
$$v_c = 160 \text{ m/min}$$

$$v_f = 0.25 \text{ mm}$$

Seat:

$$v_c = 160 \text{ m/min}$$

$$v_f = 0.25 \text{ mm}$$



T

Face grooving - Multitool

based on the insert system S224, the tool is used to do a front and back face grooving operation.

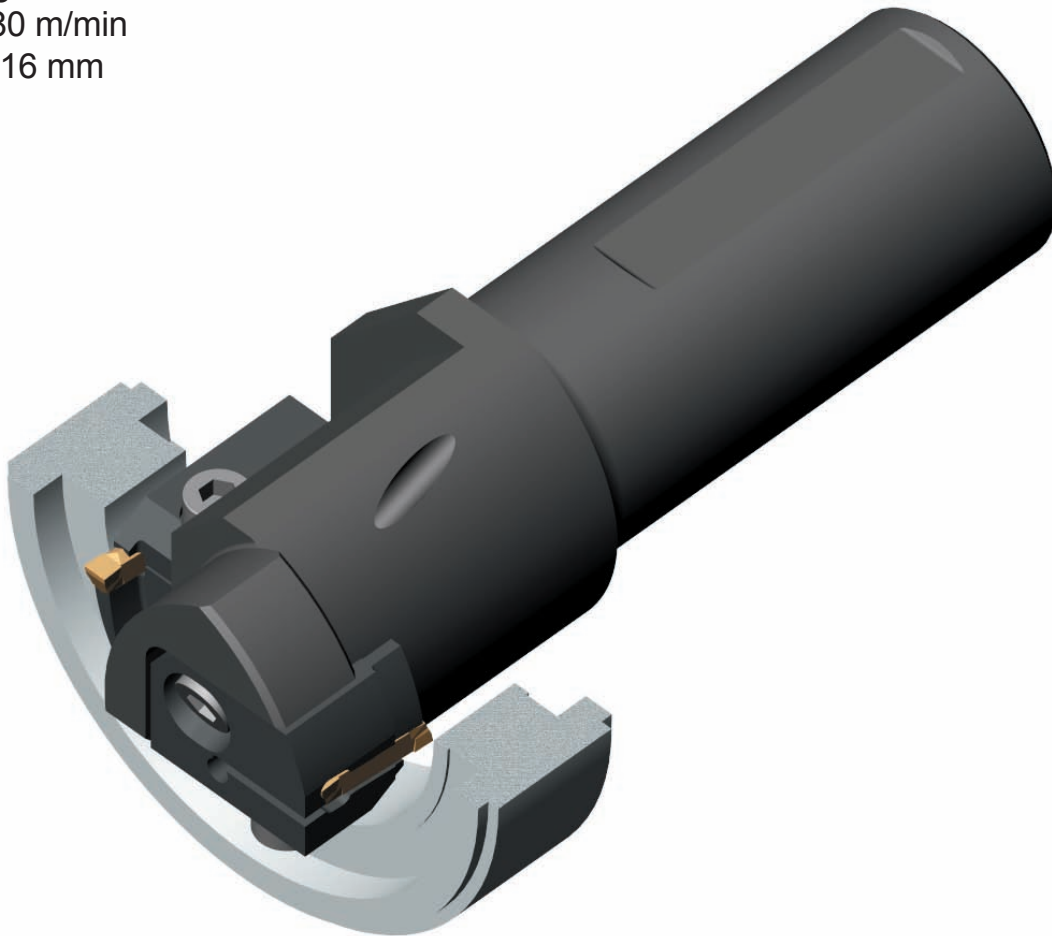
The toolholder is equipped with exchangeable and adjustable cartridges.

Material: 20MnCr5

Cutting data:

$$v_c = 180 \text{ m/min}$$

$$v_f = 0.16 \text{ mm}$$



T

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| 001KM | M18 |
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| 213 | G37,G39,G41,G43,G45 |
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Cutting Material Group per DIN ISO 513

| Main Group | Symbol | Subgroups |
|--------------------------|--------|--|
| Carbide | HW | uncoated carbides based upon WC |
| | HT | uncoated carbides based upon TIC/TIN (cermets) |
| | HC | coated carbides |
| Ceramic cutting material | CA | Oxide ceramics based upon Al_2O_3 |
| | CM | Mixed ceramics Al_2O_3 + metal carbide |
| | CN | Nitride ceramics based upon Si_3N_4 -Basis |
| | CC | coated ceramics |
| Boron nitride | BN | Polycrystalline cubic boron nitride (CBN) |
| Diamond | DP | Polycrystalline diamond (PCD) |

DIN ISO 513 does not replace the manufacturers grade discription or designation.
DIN ISO 513 gives a comparison for grades from various manufacturers.

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HORN USA, Inc.

320 Premier Court
Suite 205
Franklin, TN 37067

Tel.: +1 (888)818-HORN
Fax: +1 (615)771-4101

E-Mail: sales@hornusa.com
www.hornusa.com

HARTMETALL-WERKZEUGFABRIK

PAUL HORN GmbH

Unter dem Holz 33-35
D-72072 Tübingen

Tel.: +49 (0)7071-7004 0
Fax: +49 (0)7071-7 28 93

E-Mail: info@phorn.de
www.phorn.de

HORN CUTTING TOOLS Ltd.

32 New Street
Ringwood
Hampshire
BH24 3AD

Tel.: +44 (0)1 425 481 800
Fax: +44 (0)1 425 481 888

E-Mail: info@phorn.co.uk
www.phorn.co.uk

HORN S.A.S

665, av. Blaise Pascal
Zone Industrielle
77127 Lieusaint

Tel.: +33 (0)1 64 88 5958
Fax: +33 (0)1 64 88 6049

E-Mail: infos@horn.fr
www.horn.fr

HORN Magyarország Kft.

H-9027 Győr
Gesztenyefa u. 4.

Tel.: +36 96 55 05 31
Fax: +36 96 55 05 32

E-Mail: technik@phorn.hu
www.phorn.hu

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