

CUTTING TOOLS 2024



COMPLETE METALWORKING SOLUTIONS

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The DIA EDGE logo consists of the word 'DIA' in a white, bold, sans-serif font, followed by a red and grey geometric symbol that resembles a stylized 'E' or a diamond shape, and then the word 'EDGE' in a white, bold, sans-serif font. The background of the bottom section of the cover is a dark, high-contrast image of a metalworking process, showing a drill bit cutting into a metal workpiece.

HOW TO READ THE STANDARD OF BORING BARS

- How this section page is organized
- ① Organized by product series.
(Refer to the index on the next page.)

TYPE OF BORING BAR
indicates the initial letters for the order number, as well as applicable insert types.

TITLE OF PRODUCT SERIES

PRODUCT SECTION

PRODUCT FEATURES

FIGURE SHOWING THE TOOLING APPLICATION
uses illustrations and arrows to depict available machining applications along with cutting edge lead angles.

GEOMETRY

CHIP BREAKER BY CUTTING APPLICATION

BORING BARS

SCREW CLAMP DIMPLE BAR

Heavy metal shank coolant through

M-FSCLC/P

Order Number	ANSI Order Number	Stock	Insert Number	DCON	LF	LDRE	WF	H	GAMP	DMIN	Clamp Torque	Stock	
M-FSCLC/P-052-C	JX05K-SCLCR/L2	R/L	CC01	313	5,000	703	196	281	12"	.390	TS23	TK1YF	
M-FSCLC/P-062.5-C	JX06M-SCLCR/L2.5	R/L	CC02	2,515	375	6,000	844	227	336	5"	.450	TS23	TK1YF
M-FSCLC/P-082.5-C	JX08M-SCLCR/L2.5	R/L	CC03	2,515	500	8,000	1,125	290	461	4"	.680	TS23	TK1YF
M-FSCLC/P-103-C	JX10S-SCLCR/L3	R/L	CC04	32	625	10,000	1,406	352	586	3.5"	.700	TS4D	TK1YF
M-FSCLC/P-123-C	JX12S-SCLCR/L3	R/L	CC05	32	750	10,000	1,688	414	711	2"	.825	TS4D	TK1YF

*1 Clamp Torque (bf-in): TS23=8.9, TS23=22, TS4D=31
*2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

M-FSTUP

Heavy metal shank coolant through

TPOC inserts

Order Number	ANSI Order Number	Stock	Insert Number	DCON	LF	LDRE	WF	H	GAMP	DMIN	Clamp Torque	Stock	
M-FSTUPR/L-061.5-C	JX06K-STUPR/L1.5	R/L	TPMB	1,515	.375	6,000	844	227	336	8"	.450	TS23	TK1YF
M-FSTUPR/L-081.8-C	JX08M-STUPR/L1.8	R/L	TPMH	1,815	.375	6,000	844	227	336	7"	.580	TS23	TK1YF
M-FSTUPR/L-081.8-C	JX08M-STUPR/L1.8	R/L	TPGH	1,815	.500	8,000	1,125	290	461	7"	.580	TS23	TK1YF
M-FSTUPR/L-102-C	JX10S-STUPR/L2	R/L	TPGH	22	625	10,000	1,406	352	586	4"	.700	TS31D	TK1YF
M-FSTUPR/L-122-C	JX12S-STUPR/L2	R/L	TPGH	22	750	10,000	1,688	414	711	0"	.825	TS31D	TK1YF

*1 Clamp Torque (bf-in): TS23=8.9, TS23=22, TS31D=22
*2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

BORING BARS

S-FSCLP

Steel shank coolant through

CPOC inserts

Order Number	ANSI Order Number	Stock	Insert Number	DCON	LF	LDRE	WF	H	GAMP	DMIN	Clamp Torque	Stock	
S-FSCLP/L-082.5-C	AX08M-SCLPR/L2.5	R/L	CPMB	2,515	500	8,000	1,125	290	461	4"	.580	TS3D	TK1YF
S-FSCLP/L-103-C	AX10S-SCLPR/L3	R/L	CPMH	32	625	10,000	1,406	352	586	3.5"	.700	TS3D	TK1YF
S-FSCLP/L-103-C	AX10S-SCLPR/L3	R/L	CPMH	32	625	10,000	1,406	352	586	3.5"	.700	TS3D	TK1YF
S-FSCLP/L-123-C	AX12S-SCLPR/L3	R/L	CPMB	32	750	10,000	1,688	414	711	2"	.825	TS4D	TK1YF
S-FSCLP/L-163-C	AX16T-SCLPR/L3	R/L	CPGH	32	1,000	12,000	2,250	598	937	0"	1.200	TS4D	TK1YF

*1 Clamp Torque (bf-in): TS3D=22, TS4D=31
*2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

S-FSTUP

Steel shank coolant through

TPOC inserts

Order Number	ANSI Order Number	Stock	Insert Number	DCON	LF	LDRE	WF	H	GAMP	DMIN	Clamp Torque	Stock	
S-FSTUPR/L-061.8-C	AX06M-STUPR/L1.8	R/L	TPMB	1,815	.375	6,000	844	227	336	8"	.450	TS23	TK1YF
S-FSTUPR/L-081.8-C	AX08M-STUPR/L1.8	R/L	TPMH	1,815	.500	8,000	1,125	290	461	7"	.580	TS23	TK1YF
S-FSTUPR/L-102-C	AX10S-STUPR/L2	R/L	TPGH	22	625	10,000	1,406	352	586	4"	.700	TS31D	TK1YF
S-FSTUPR/L-122-C	AX12S-STUPR/L2	R/L	TPGH	22	750	10,000	1,688	414	711	0"	.825	TS31D	TK1YF
S-FSTUPR/L-162-C	AX16T-STUPR/L2	R/L	TPGH	22	1,000	12,000	2,250	638	937	0"	1.200	TS31D	TK1YF

*1 Clamp Torque (bf-in): TS23=8.9, TS31D=22
*2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

LEGEND FOR STOCK STATUS MARK
is shown on the left hand page of each double-page spread.

PRODUCT STANDARDS
indicates order numbers, stock status (per right/left hand), applicable inserts, dimensions, minimum cutting diameters, standard corner radius, recommended l/d ratios, and spare parts.

MIN. CUTTING DIAMETER
is color-coded to let you find, at a glance, the maximum / minimum cutting diameters for internal machining.

REFERENCE PAGE FOR APPLICABLE INSERTS
indicates reference pages for details of inserts that are applicable to the title product.

PAGE REFERENCE
- SPARE PARTS
- TECHNICAL DATA
indicates reference pages, including the above, on the right hand page of each double-page spread.

● To Order : Please specify order number and hand of tool (right/left).

TURNING

BORING BARS

CLASSIFICATION E002
 IDENTIFICATION..... E004

STANDARD BORING BARS

SCREW CLAMP DIMPLE BAR E006
 SCREW CLAMP TYPE BORING BARS..... E012
 DOUBLE CLAMP DIMPLE BAR..... E021
 MULTIPLE CLAMP TYPE BORING BARS E024
 AL TYPE BORING BARS E028
 MICRO-DEX BORING BARS..... E029
 MICRO-MINI BORING BARS E031
 MICRO-MINI TWIN BORING BARS E032
 RBH TYPE HOLDER (FOR MICRO-MINI AND MICRO-MINI TWIN) E034
 SBH TYPE HOLDER (FOR MICRO-MINI AND MICRO-MINI TWIN) E037
 COOLANT THROUGH CARBIDE BORING BARS..... E040

*Arranged by Alphabetical order

E032	CB	E010	M-FSVJB/C	E025	S-MSKN
E033	CR	E010	M-FSVPB/C	E025	S-MTFN
E031	C○○○R-BLS	E009	M-FSVUB/C	E026	S-MVUN
E013	C-SCLC	E009	M-FSWUB/P	E026	S-MWLN
E014	C-SDQC	E027	M-MWLN	E012	S-SCLC
E016	C-STUC	E012	M-SCLC	E013	S-SDQC
E017	C-SWL	E020	M-SWLO	E014	S-SDUC
E019	C-SWLO	E020	M-SWLO	E015	S-SSKC
E040	E-SCLC	E034	RBH (INCH)	E028	S-STFE
E041	E-SCLP	E036	RBH (MM)	E015	S-STUC
E042	E-SDQC	E037	SBH	E016	S-SVQC
E043	E-SDUC	E029	SCLC	E017	S-SVUC
E044	E-STUC	E021	S-DCLN	E019	S-SWUC
E045	E-STUP	E021	S-DDUN	E030	STUC
E046	E-SVUC	E022	S-DSKN	E029	SWUB
E047	E-SWLO	E022	S-DTFN		
E018	FSWL1	E023	S-DVUN		
E018	FSWL2	E023	S-DWLN		
E006	M-FSCLC/P	E006	S-FSCLP		
E008	M-FSDQC	E007	S-FSTUP		
E008	M-FSDUC	E024	S-MCLN		
E007	M-FSTUP	E024	S-MDUN		



E001

CLASSIFICATION

BORING BARS

Type of Tool	Features	KAPR= 75°	KAPR= 90°, 91°	KAPR= 93°			
<p>SCREW CLAMP DIMPLE BAR</p>	<ul style="list-style-type: none"> ● The minimum cutting diameter is ϕ.390 inch. ● 5°, 11° positive insert. ● Excellent vibration resistance due to light dimple head. ● Chip disposal is improved by having two channels for chip evacuation. ● l/d is 3 to 5 times the diameter. 						
<p>S Type Boring Bars</p>	<ul style="list-style-type: none"> ● Two wall pocket. ● 7° positive insert, low cutting force. ● Screw-on type. 						
<p>DOUBLE CLAMP DIMPLE BAR</p>	<ul style="list-style-type: none"> ● Negative rake. ● New double clamp type. ● Holds inserts securely. ● Excellent cutting edge repeatability. 						
<p>M Type Boring Bars</p>	<ul style="list-style-type: none"> ● Negative rake. ● Two wall pocket. ● Pin lock and top clamp retention. ● (Opt.) Single clamp available as clamp on or pin lock holder. 						
<p>AL Type Boring Bars</p>	<ul style="list-style-type: none"> ● Shank sizes ϕ.625 inch thru ϕ1.000 inch. ● Screw-on type. ● Recommended for aluminum, nonferrous metals and plastics. 						
<p>MICRO-DEX Boring Bars (Carbide Shank)</p>	<ul style="list-style-type: none"> ● The minimum cutting diameter is ϕ5 mm (.197 inch). ● 7° positive insert. ● Carbide shank type. ● Easy-to-use tool geometries. ● Suitable for small workpiece. ● l/d is 5 times the diameter. 						
<p>MICRO-MINI TWIN Boring Bars</p>	<ul style="list-style-type: none"> ● The minimum cutting diameter is ϕ2.2 mm (.087 inch). ● Solid carbide type with two cutting edges. ● Continuous cutting from boring to facing. ● With or without a chip breaker. 						
<p>MICRO-MINI Boring Bars</p>	<ul style="list-style-type: none"> ● The minimum cutting diameter is ϕ3.2 mm (.126 inch). ● Solid carbide type (Single cutting edges). ● l/d is 5 times the diameter. ● Cutting edge can be shaped according to the application. Thus, it covers a wide cutting range (threading, grooving, copying, etc.). 						
<p>Coolant Through Carbide Boring Bars</p>	<ul style="list-style-type: none"> ● Two wall pocket. ● 7° and 11° positive insert, low cutting force. ● Screw-on type. ● Carbide shanks are stocked in various diameters. 						
<p>RBH Type Holder</p>	<ul style="list-style-type: none"> ● Holder for MICRO-MINI TWIN and MICRO-MINI. ● Round shanks suitable for use with frontal gang type tool posts with sleeve. 						
<p>SBH Type Holder</p>	<ul style="list-style-type: none"> ● Holder for MICRO-MINI TWIN and MICRO-MINI. ● Square shanks suitable for use with frontal gang type tool posts. 						

Note 1) S : Steel shank, M : Heavy metal shank, C : Carbide shank. (For Micro-dex boring bars, carbide shank only.)

	KAPR= 95°	KAPR = 107.5° - 117.5°	KAPR= 142°	Selection Standard							
				Economical	Low Cutting Resistance (Sharpness)	Clamp Rigidity	Vibration Resistance	Operation Efficiency	Coolant Thru	Specialized	Small Diameter Cutting
	 M-FSCLC/P, S-FSCLP E006	 M-FSDQC E008 M-FSVPB/C E010 M-FSVJB/C E010		○			○	○	○		
	 C-SWLO, M-SWLO E019, E020 S-SCLC, M-SCLC, C-SCLC E012, E013 C-SWL E017	 FSWL1, 2 E018 S-SDQC, C-SDQC E013, E014 S-SVQC E016			○		○*				
	 S-DCLN E021 S-DWLN E023					○		○	○		
	 S-MCLN E024 S-MWLN, M-MWLN E026, E027			○		○		○			
	 SCLC E029				○					○	
	 CBORS(-B) E032				○					○	
			 CROORS-01(B) E033		○					○	
					○					○	
	 E-SCLC E040 E-SCLP E041 E-SWLO E047	 E-SDQC E042			○		○	○	○		

Note 2) ○: 1st recommendation. ○: 2nd recommendation.
 Note 3) * Indicates in case that shank material is carbide.

IDENTIFICATION

■ Boring Bar ANSI Designation Chart

A	Steel Bar w/Coolant Hole
AX	(A-type) Dimple Bar
B	Solid Steel Anti-vibration Bar
C	Carbide Bar (Steel Head)
D	Steel Anti-vibration Bar w/Coolant Hole
E	Carbide Bar (Steel Head) w/Coolant Hole
EX	(E-type) Dimple Bar
F	Carbide Anti-vibration Bar (Steel Head)
G	Carbide Anti-vibration Bar (Steel Head w/Coolant Hole)
H	Heavy Metal Bar
J	Heavy Metal Bar w/Coolant Hole
JX	(J-type) Dimple Bar
S	Solid Steel Bar

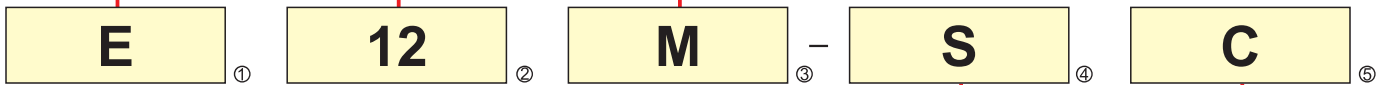
03	3/16"	16	1"
04	1/4"	20	1-1/4"
05	5/16"	24	1-1/2"
06	3/8"	28	1-3/4"
08	1/2"	32	2"
10	5/8"	36	2-1/4"
12	3/4"	40	2-1/2"

F	3"	Q	7"
G	3-1/2"	R	8"
H	4"	S	10"
J	4-1/2"	T	12"
K	5"	U	14"
L	5-1/2"	V	16"
M	6"	W	18"
N	6-1/2"	Y	20"
P	6-3/4"	Z	Special

② Shank Diameter

③ Length

① Boring Bar Type



④ Insert Holding








C	Top Clamp
D	Double Clamp
M	Clamp and Lock Pin
P	Hole Clamp
S	Screw Lock Only

⑤ Insert Shape

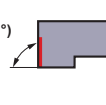
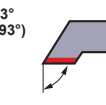
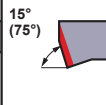
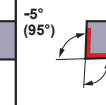
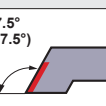
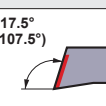
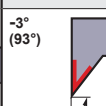
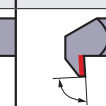
C	D	R	S
80°Rhombic	55°Rhombic	Round	Square
T	V	W	
Triangular	35°Rhombic	Trigon	










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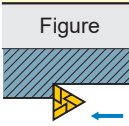
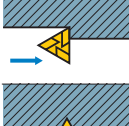

BORING BARS

Inscribed Circle of Insert (inch)	.156	.187	.219	.250	.313	.375	.500	.625	.750	1.000
	1.2	1.5	1.8	2	2.5	3	4	5	6	
 						3	4	5	6	8
	1.2	1.5		2		3	4	5		
80° 	1.2	1.5		2	2.5	3	4	5	6	
55° 				2		3	4	5		
35° 		1.5		2		3	4			
⑨ Insert Size										



④ Boring Bar Style			
F	J	K	L
-1° (91°)	-3° (93°)	15° (75°)	-5° (95°)
			
End Cutting	Side Cutting	End Cutting	Side & End Cutting
P	Q	U	X
-27.5° (117.5°)	-17.5° (107.5°)	-3° (93°)	
			
End Cutting	End Cutting	End Cutting	Back Boring

⑦ Insert Relief Angle	
Symbol	Relief Angle
A	3° 
B	5° 
C	7° 
D	15° 
E	20° 
F	25° 
G	30° 
N	0° 
P	11° 
O	Other

⑧ Hand		
Figure	Hand	Symbol
	Right	R
	Left	L
	Neutral	N

BORING BARS

SCREW CLAMP DIMPLE BAR

- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- l/d is 3 to 5 times the diameter.

M-FSCLC/P

95°

KAPR

GAMF

DMIN

LDRED

LF

H

DCON

M-FSCLCR/L-052-C=1°

Right hand tool holder shown.

Finish	Finish	Finish	Light
FP (2)	FV (2,2.5,3)	FM (2)	SV (2,2.5,3)
Light	Medium	Medium	CBN/PCD
LP (2)	MV (2,2.5,3)	MP (2)	(2,2.5,3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*1 Clamp Screw	Wrench
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN		
M-FSCLCR/L-052-C	JX05K-SCLCR/L2	●	●	CC-B CC-H CC-T CC-W 21.5	.313	5.000	.703	.196	.281	12°	.390	TS253	TKY08F
M-FSCLPR/L-062.5-C	JX06M-SCLPR/L2.5	●	●	CPMB CPMH 2.51.5	.375	6.000	.844	.227	.336	5°	.450	TS3D	TKY10F
M-FSCLPR/L-082.5-C	JX08R-SCLPR/L2.5	●	●	CPMT*2 2.51.5	.500	8.000	1.125	.290	.461	4°	.580	TS3D	TKY10F
M-FSCLPR/L-103-C	JX10S-SCLPR/L3	●	●	CPMX*2 32	.625	10.000	1.406	.352	.586	3.5°	.700	TS4D	TKY15F
M-FSCLPR/L-123-C	JX12S-SCLPR/L3	●	●	CPGB CPGT*2 32	.750	10.000	1.688	.414	.711	2°	.825	TS4D	TKY15F

*1 Clamp Torque (lbf-in) : TS253=8.9, TS3D=22, TS4D=31
 *2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

S-FSCLP

95°

KAPR

GAMF

DMIN

LDRED

LF

H

DCON

Right hand tool holder shown.

Finish	Finish	Light	Finish
FV (2.5,3)	R/L F (2.5,3)	SV (2.5,3)	Standard (2.5,3)
Medium	CBN/PCD		
MV (2.5,3)	(2.5,3)		

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*1 Clamp Screw	Wrench
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN		
S-FSCLPR/L-062.5-C	AX06M-SCLPR/L2.5	●	●	CPMB 2.51.5	.375	6.000	.844	.227	.336	5°	.450	TS3D	TKY10F
S-FSCLPR/L-082.5-C	AX08R-SCLPR/L2.5	●	●	CPMH 2.51.5	.500	8.000	1.125	.290	.461	4°	.580	TS3D	TKY10F
S-FSCLPR/L-103-C	AX10S-SCLPR/L3	●	●	CPMT*2 32	.625	10.000	1.406	.352	.586	3.5°	.700	TS4D	TKY15F
S-FSCLPR/L-123-C	AX12S-SCLPR/L3	●	●	CPMX*2 32	.750	10.000	1.688	.414	.711	2°	.825	TS4D	TKY15F
S-FSCLPR/L-163-C	AX16T-SCLPR/L3	●	●	CPGB CPGT*2 32	1.000	12.000	2.250	.598	.937	0°	1.200	TS4D	TKY15F

*1 Clamp Torque (lbf-in) : TS3D=22, TS4D=31
 *2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

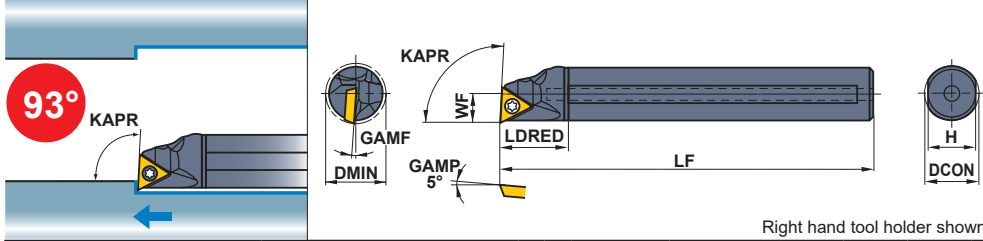
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
 Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.







- CC type inserts > A152-A161
- CP type inserts > A162, A163
- CBN & PCD inserts > B037, B038, B053

M-FSTUP

Heavy metal shank
coolant through

TP^oinserts



Finish	Finish	Light
FV  (1.5,1.8,2)	R/L FS  (1.5,1.8,2)	SV  (1.5,1.8,2)
Medium	PCD	CBN
MV  (1.5,1.8,2)	R/L F  (1.5,1.8,2)	 (1.5,1.8,2)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*1 Clamp Screw	Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMP	DMIN			
M-FSTUPR/L-051.5-C	JX05K-STUPR/L1.5	●	●	TPMB	1.51.5 ^o	.313	5.000	.703	.196	.281	10°	.390	TS2D	TKY06F
M-FSTUPR/L-061.8-C	JX06M-STUPR/L1.8	●	●	TPMH	1.81.5 ^o	.375	6.000	.844	.227	.336	8°	.450	TS25D	TKY08F
M-FSTUPR/L-081.8-C	JX08R-STUPR/L1.8	●	●	TPMX*2	1.81.5 ^o	.500	8.000	1.125	.290	.461	7°	.580	TS25D	TKY08F
M-FSTUPR/L-102-C	JX10S-STUPR/L2	●	●	TPGB	22 ^o	.625	10.000	1.406	.352	.586	4°	.700	TS31D	TKY10F
M-FSTUPR/L-122-C	JX12S-STUPR/L2	●	●	TPGH	22 ^o	.750	10.000	1.688	.414	.711	0°	.825	TS31D	TKY10F
		●	●	TPGX*2	22 ^o	.750	10.000	1.688	.414	.711	0°	.825	TS31D	TKY10F

*1 Clamp Torque (lbf-in) : TS2D=5.3, TS25D=8.9, TS31D=22

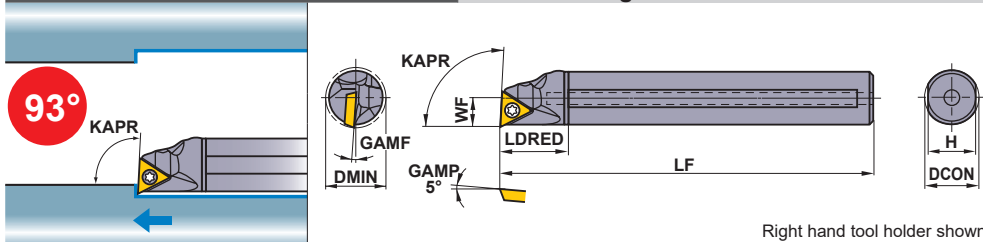
*2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

BORING BARS

S-FSTUP

Steel shank
coolant through

TP^oinserts



Finish	Finish	Light
FV  (1.8,2)	R/L FS  (1.8,2)	SV  (1.8,2)
Medium	PCD	CBN
MV  (1.8,2)	R/L F  (1.8,2)	 (1.8,2)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*1 Clamp Screw	Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMP	DMIN			
S-FSTUPR/L-061.8-C	AX06M-STUPR/L1.8	●	●	TPMB	1.81.5 ^o	.375	6.000	.844	.227	.336	8°	.450	TS25D	TKY08F
S-FSTUPR/L-081.8-C	AX08R-STUPR/L1.8	●	●	TPMH	1.81.5 ^o	.500	8.000	1.125	.290	.461	7°	.580	TS25D	TKY08F
S-FSTUPR/L-102-C	AX10S-STUPR/L2	●	●	TPMX*2	22 ^o	.625	10.000	1.406	.352	.586	4°	.700	TS31D	TKY10F
S-FSTUPR/L-122-C	AX12S-STUPR/L2	●	●	TPGB	22 ^o	.750	10.000	1.688	.414	.711	0°	.825	TS31D	TKY10F
S-FSTUPR/L-162-C	AX16T-STUPR/L2	●	●	TPGH	22 ^o	1.000	12.000	2.250	.638	.937	0°	1.280	TS31D	TKY10F
		●	●	TPGX*2	22 ^o	1.000	12.000	2.250	.638	.937	0°	1.280	TS31D	TKY10F

*1 Clamp Torque (lbf-in) : TS25D=8.9, TS31D=22

*2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E011.

TP^o type inserts > A182-A185
CBN & PCD inserts > B043, B044, B056, B057

CUTTING CONDITIONS > E011
SPARE PARTS > M001
TECHNICAL DATA > N001

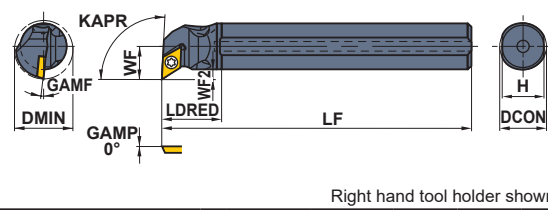
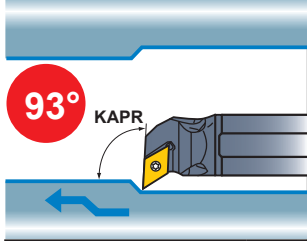
BORING BARS

SCREW CLAMP DIMPLE BAR

- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- l/d is 3 to 5 times the diameter.

M-FSDUC

Heavy metal shank coolant through DC \odot inserts



Finish	Finish	Light	Light
FP	FM	LP	LM
(2,3)	(2,3)	(2,3)	(2,3)
Medium	Medium	PCD	CBN
MP	MM	R/L F	
(2,3)	(2,3)	(2,3)	(2,3)

Right hand tool holder shown.

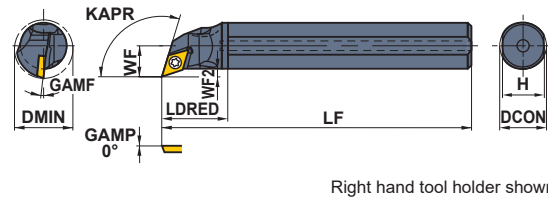
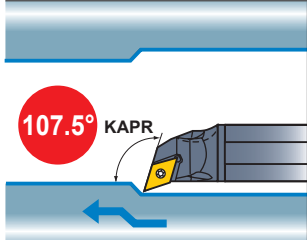
Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)								* Clamp Screw	Wrench	
		R	L		DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN			
M-FSDUCR/L-062-C	JX06M-SDUCR/L2	●	●	DCMT DCMW DCGT DCGW	21.5 \odot	.375	6.000	.675	.317	.130	.336	7.5°	.525	TS25	TKY08F
M-FSDUCR/L-082-C	JX08R-SDUCR/L2	●	●		21.5 \odot	.500	8.000	.833	.380	.130	.461	6°	.667	TS25	TKY08F
M-FSDUCR/L-102-C	JX10S-SDUCR/L2	●	●		21.5 \odot	.625	10.000	.781	.442	.130	.586	5°	.781	TS25	TKY08F
M-FSDUCR/L-123-C	JX12S-SDUCR/L3	●	●		32.5 \odot	.750	10.000	.844	.615	.240	.711	5°	1.200	TS43	TKY15F

* Clamp Torque (lbf-in) : TS25=8.9, TS43=31

BORING BARS

M-FSDQC

Heavy metal shank coolant through DC \odot inserts



Finish	Finish	Light	Light
FP	FM	LP	LM
(2,3)	(2,3)	(2,3)	(2,3)
Medium	Medium	PCD	CBN
MP	MM	R/L F	
(2,3)	(2,3)	(2,3)	(2,3)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)								* Clamp Screw	Wrench	
		R	L		DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN			
M-FSDQCR/L-062-C	JX06M-SDQCR/L2	●	●	DCMT DCMW DCGT DCGW	21.5 \odot	.375	6.000	.769	.290	.102	.336	8°	.488	TS25	TKY08F
M-FSDQCR/L-082-C	JX08R-SDQCR/L2	●	●		21.5 \odot	.500	8.000	.938	.352	.102	.461	6°	.667	TS25	TKY08F
M-FSDQCR/L-102-C	JX10S-SDQCR/L2	●	●		21.5 \odot	.625	10.000	.879	.415	.102	.586	5°	.781	TS25	TKY08F
M-FSDQCR/L-123-C	JX12S-SDQCR/L3	●	●		32.5 \odot	.750	10.000	.975	.521	.146	.711	7°	.938	TS43	TKY15F

* Clamp Torque (lbf-in) : TS25=8.9, TS43=31

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

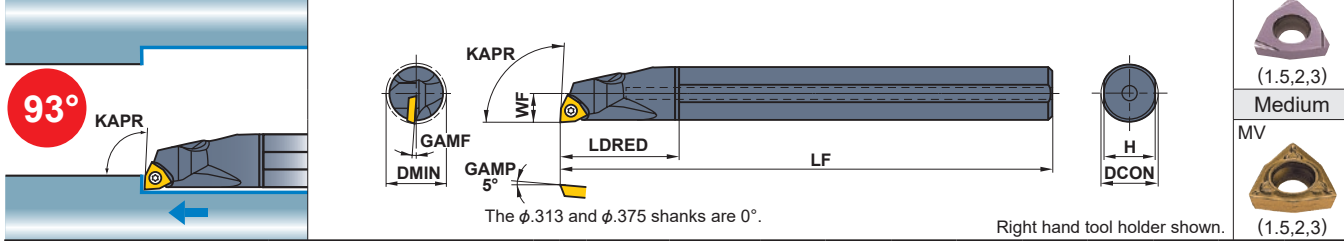
Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : USA Stock

DC \odot type inserts > A164-A171

CBN & PCD inserts > B040, B041, B054

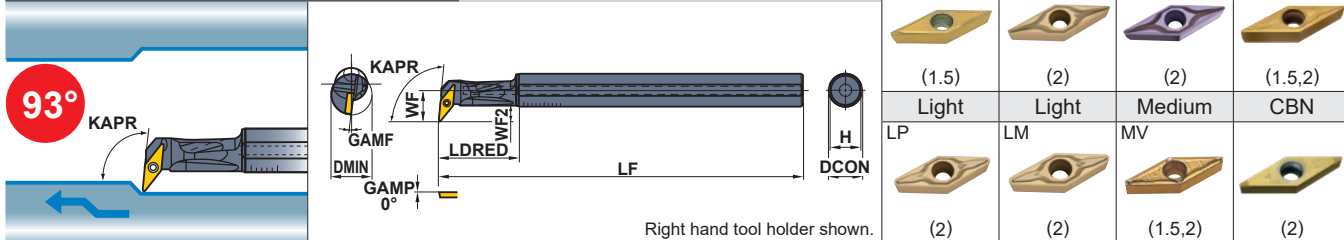
M-FSWUB/P Heavy metal shank coolant through WB inserts, WP inserts



Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							* Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	
M-FSWUBR/L-051.5-C	JX05K-SWUBR/L1.5	●	●	WBMT 1.51.5	.313	5.000	.703	.196	.281	14°	.391	TS2	TKY06F
M-FSWUBR/L-061.5-C	JX06M-SWUBR/L1.5	●	●	WBG 1.51.5	.375	6.000	.844	.227	.336	11°	.450	TS2	TKY06F
M-FSWUPR/L-082-C	JX08R-SWUPR/L2	●	●	WPMT 21.5	.500	8.000	1.125	.289	.461	4°	.583	TS253	TKY08F
M-FSWUPR/L-102-C	JX10S-SWUPR/L2	●	●	WPGT 21.5	.625	10.000	1.406	.352	.586	1°	.703	TS253	TKY08F
M-FSWUPR/L-123-C	JX12S-SWUPR/L3	●	●	32	.750	10.000	1.688	.414	.711	2°	.825	TS4	TKY15F

* Clamp Torque (lbf-in) : TS2=5.3, TS253=8.9, TS4=31

M-FSVUB/C Heavy metal shank VC inserts, VB inserts



Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							* Wrench		
		R	L		DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	
M-FSVUCR/L-081.5-C	JX08R-SVUCR/L1.5	●	●	VCMT 1.51.5	.500	8.000	1.042	.447	.197	.461	8°	.667	TS202	TKY06F
M-FSVUBR/L-102-C	JX10S-SVUBR/L2	●	●	VBGT 22	.625	10.000	1.269	.608	.295	.586	8°	.781	TS255	TKY08F
M-FSVUBR/L-122-C	JX12S-SVUBR/L2	●	●	VBGT 22	.750	10.000	1.519	.670	.295	.711	7°	.938	TS255	TKY08F

* Clamp Torque (lbf-in) : TS202=5.3, TS255=8.9

- WB type inserts > A195
- WP type inserts > A198
- VC type inserts > A190-A192
- VB type inserts > A186-A189
- CBN & PCD inserts > B045, B058, B059

- CUTTING CONDITIONS > E011
- SPARE PARTS > M001
- TECHNICAL DATA > N001

BORING BARS

BORING BARS

SCREW CLAMP DIMPLE BAR

- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- l/d is 3 to 5 times the diameter.

M-FSVPB/C		Heavy metal shank coolant through		VC○○ inserts, VB○○ inserts		Finish		Finish		Finish		Light			
Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)								* Wrench		
		R	L		DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw		
M-FSVPBR/L-061.5-C	JX06M-SVPCR/L1.5	●	●	VCMT	1.51.5	.375	6.000	.938	.306	.118	.336	8°	.600	TS202	TKY06F
M-FSVPBR/L-082-C	JX08R-SVPBR/L2	●	●	VBET	22	.500	8.000	1.167	.407	.157	.461	8°	.833	TS255	TKY08F
M-FSVPBR/L-102-C	JX10S-SVPBR/L2	●	●	VBGT	22	.625	10.000	1.367	.490	.177	.586	5°	.977	TS255	TKY08F
M-FSVPBR/L-122-C	JX12S-SVPBR/L2	●	●	VBGW	22	.750	10.000	1.500	.572	.197	.711	5°	1.125	TS255	TKY08F

* Clamp Torque (lbf-in) : TS202=5.3, TS255=8.9

M-FSVJB/C		Heavy metal shank coolant through		VC○○ inserts, VB○○ inserts		Finish		Finish		Light		Light		
Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)								* Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw		
M-FSVJCR/L-081.5-C	JX08R-SVJCR/L1.5	●	●	VCMT	1.51.5	.500	8.000	1.083	.093	.461	5°	.667	TS202	TKY06F
M-FSVJCR/L-101.5-C	JX10S-SVJCR/L1.5	●	●	VCMT	1.51.5	.625	10.000	1.406	.076	.586	5°	.781	TS202	TKY06F
M-FSVJBR/L-122-C	JX12S-SVJBR/L2	●	●	VBET	22	.750	10.000	1.406	.060	.711	5°	.938	TS255	TKY08F

* Clamp Torque (lbf-in) : TS202=5.3, TS255=8.9

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

VC○○ type inserts	> A190–A192
VB○○ type inserts	> A186–A189
CBN & PCD inserts	> B045, B058

● : USA Stock

RECOMMENDED CUTTING CONDITIONS

Steel Shank					l/d ≤ 3		3 < l/d ≤ 5			
Heavy Metal Shank					l/d ≤ 3		3 < l/d ≤ 6			
Work Material	Cutting Mode	Breaker	Recommendation	Grade	Cutting Speed (SFM)	Feed (IPR)	D.O.C. (inch)	Feed (IPR)	D.O.C. (inch)	
P	Mild Steel ≤180HB	Finish	FP	①	NX2525	555 (395–720)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020
				②	MP3025	490 (330–655)	.008 (.004–.010)	–.040	.006 (.002–.008)	–.040
	Light	LP	①	NX2525	525 (360–690)	.008 (.004–.010)	–.040	.006 (.002–.008)	–.040	
			②	MP3025	460 (295–620)	.010 (.006–.014)	–.080	.008 (.006–.010)	–.060	
	Medium	MP	①	MP3025	490 (330–655)	.010 (.006–.014)	–.080	.008 (.006–.010)	–.060	
			②	NX2525	560 (395–720)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020	
	Carbon Steel Alloy Steel 180–350HB	Finish	FP	①	MC6115	560 (395–720)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020
				②	NX2525	425 (260–590)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020
		Light	LP	①	MC6125	525 (425–655)	.008 (.004–.010)	–.040	.006 (.002–.008)	–.040
				②	MP3025	360 (195–525)	.008 (.004–.010)	–.040	.006 (.002–.008)	–.040
Medium		MP	①	MP3025	330 (195–490)	.010 (.006–.014)	–.080	.008 (.006–.010)	–.060	
			②	VP15TF	490 (360–620)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020	
M	Stainless Steel ≤200HB	Finish	FM	①	VP15TF	490 (360–620)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020
				②	MC7025	410 (280–540)	.008 (.004–.010)	–.040	.006 (.002–.008)	–.040
	Light	LM	①	VP15TF	425 (295–555)	.008 (.004–.010)	–.040	.006 (.002–.008)	–.040	
			②	MC7025	345 (230–440)	.008 (.006–.010)	–.080	.008 (.006–.010)	–.040	
Medium	MM	①	VP15TF	390 (260–525)	.008 (.006–.010)	–.080	.008 (.006–.010)	–.040		
		②	MC5115	425 (295–525)	.006 (.004–.008)	–.020	.006 (.004–.008)	–.020		
K	Gray Cast Iron Tensile Strength ≤350MPa	Finish	F, FS	①	HTi10	425 (295–525)	.006 (.004–.008)	–.020	.006 (.004–.008)	–.020
		Medium	MK	①	MC5115	395 (260–525)	.008 (.006–.010)	–.080	.008 (.006–.010)	–.060
N	Aluminum Alloy	Finish	F, FS	①	HTi10	985 (655–1310)	.004 (.002–.006)	–.020	.004 (.002–.006)	–.020
			Flat Top	①	MD220	655 (490–820)	.004 (.002–.006)	–.080	.004 (.002–.006)	–.040
H	Hardened Steel 35–65HRC	Finish	Flat Top	①	MB8120	330 (260–655)	.004 (.002–.006)	–.006	.004 (.002–.006)	–.004

When vibrations occur, reduce cutting speed to 70% of the above.

The depth of cut needs to be less than the corner diameter when using the FSVJ type.

■ CCG/MT, CPGT, CPMX, TPGD/P, TPGA/M, TPMX inserts

- By changing the insert screw, it is possible to use the inserts listed on the left hand side.

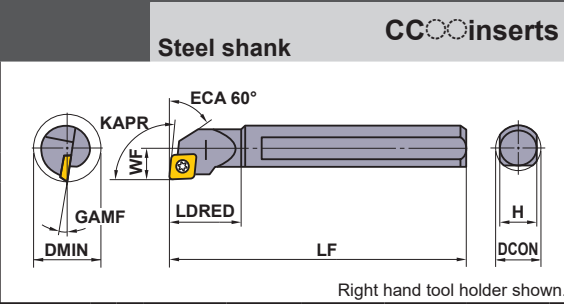
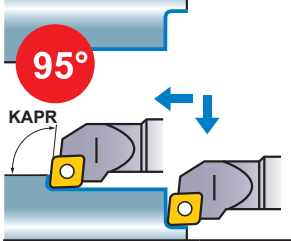
Order Number	Insert Screw	Remark
CCG/MT21.5 ○	Can be used as it is.	If the screw is too long then please grind away the unnecessary material.
CPGT2.51.5 ○	Change to TS3.	
CPGT32 ○	Change to TS4.	
CPMX2.51.5 ○	Can be used as it is.	
CPMX32 ○	Can be used as it is.	
TPGD/P1.51.5 ○	Change to CS200T.	
TPGD/P1.81.5 ○	Change to CS250T.	
TPGA/M22 ○	Change to CS300890T.	
TPMX1.51.5 ○	Change to CS200T.	
TPMX1.81.5 ○	Change to CS250T.	
TPMX22 ○	Change to CS300890T.	

BORING BARS

SCREW CLAMP TYPE

- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Steel and carbide shanks are stocked in various diameters.

S-SCLC



Steel shank		CC ^o inserts			
Finish	Finish	Light	Light		
FP	FM	LP	LM		
				(2,3)	(2,3)
Medium	Medium	Flat Top	PCD/CBN		
MP	MM				
				(2,3,4)	(2,3,4)

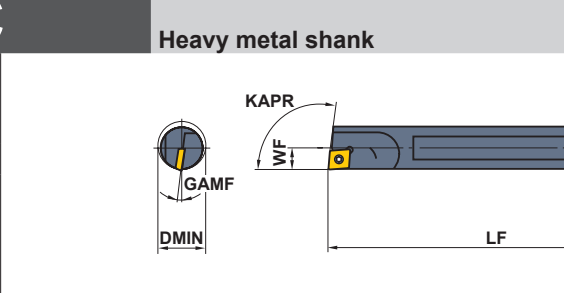
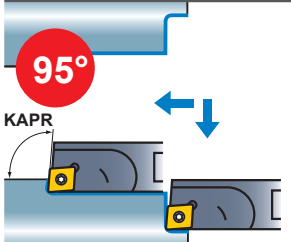
Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							* Wrench		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw		
S-SCLCR/L-062	S06K-SCLCR/L2	●	●	CCMT	21.5 ^o	.375	6.000	.625	.250	.340	15°	.477	TS25	TKY08F
S-SCLCR/L-082	S08K-SCLCR/L2	●	●	CCMW CCGB	21.5 ^o	.500	6.000	.750	.313	.460	13°	.602	TS25	TKY08F
S-SCLCR/L-103	S10M-SCLCR/L3	●	●	CCGW CCGT	32.5 ^o	.625	8.000	1.250	.406	.560	10°	.797	TS4	TKY15F
S-SCLCR/L-123	S12S-SCLCR/L3	●	●	CCGH	32.5 ^o	.750	10.000	1.875	.500	.700	8°	.954	TS4	TKY15F
S-SCLCR/L-164	S16T-SCLCR/L4	●	●	CCET CCMH	43 ^o	1.000	12.000	2.500	.641	.910	7°	1.219	TS5	TKY25F
S-SCLCR/L-204	S20T-SCLCR/L4	●	●	CCGW	43 ^o	1.250	12.000	2.500	.875	1.160	5°	1.579	TS5	TKY25F

* Clamp Torque (lbf-in) : TS25=8.9, TS4=31, TS5=66

BORING BARS

M-SCLC



Heavy metal shank		CC ^o inserts			
Finish	Finish	Light	Light		
LF					
				(03,04)	
					PCD/CBN
					(03,04)

Right hand tool holder only.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						* Wrench		
		R	L		DCON	LF	WF	H	GAMF	DMIN	Clamp Screw		
M-SCLCR-063	H03F-SCLCR3	●		CCGT	03S1 ^o	.188	3.000	.100	.173	15°	.200	TS16	TKY06F
M-SCLCR-073	H7/32G-SCLCR3	●		CCMW CCGW	03S1 ^o	.219	3.500	.120	.199	14°	.240	TS16	TKY06F
M-SCLCR-064	H04H-SCLCR4	●		CCGW	04T0 ^o	.250	4.000	.140	.230	14°	.280	TS21	TKY06F

* Clamp Torque (lbf-in) : TS16=5.3, TS21=5.3

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
 Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

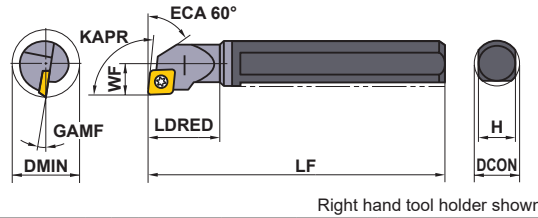
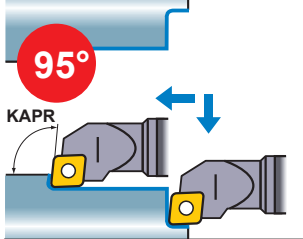
● : USA Stock






CC^o type inserts > A152-A161
 CBN & PCD inserts > B037, B038, B053

C-SCLC

Carbide shank

CC^oinserts



Finish	Finish	Light	Light
FP	FM	LP	LM
 (2,3)	 (2,3)	 (2,3)	 (2,3)
Medium	Medium	Flat Top	CBN
MP	MM		
 (2,3)	 (2,3)	 (2,3)	 (2,3)

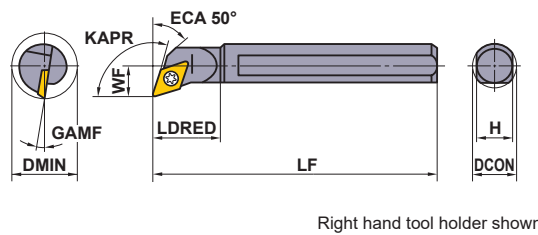
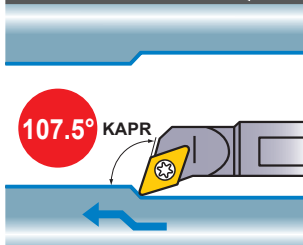
Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
C-SCLCR/L-062	C06M-SCLCR/L2	●	●	CCMT CCMV CCGB	21.5	.375	6.000	.625	.250	.360	15°	.477	TS25	TKY08F
C-SCLCR/L-082	C08M-SCLCR/L2	●	●	CCGW CCGT CCGH	21.5	.500	6.000	.750	.313	.485	13°	.602	TS25	TKY08F
C-SCLCR/L-103	C10R-SCLCR/L3	●	●	CCET CCMH	32.5	.625	8.000	1.250	.406	.600	10°	.797	TS4	TKY15F









* Clamp Torque (lbf-in) : TS25=8.9, TS4=31

S-SDQC

Steel shank

DC^oinserts



Finish	Finish	Light	Light
FP	FM	LP	LM
 (2,3)	 (2,3)	 (2,3)	 (2,3)
Medium	Medium	Flat Top	PCD/CBN
MP	MM		
 (2,3,4)	 (2,3,4)	 (2,3,4)	 (2,3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-SDQCR/L-082	S08M-SDQCR/L2	●	●	DCMT	21.5	.500	6.000	.875	.375	.460	10°	.665	TS25	TKY08F
S-SDQCR/L-102	S10R-SDQCR/L2	●	●	DCMW DCGW	21.5	.625	8.000	1.000	.406	.560	7°	.797	TS25	TKY08F
S-SDQCR/L-123	S12S-SDQCR/L3	●	●	DCGT	32.5	.750	10.000	1.250	.500	.700	7°	.954	TS4	TKY15F
S-SDQCR/L-164	S16T-SDQCR/L4	●	●	DCET	43	1.000	12.000	1.500	.641	.910	5°	1.219	TS5	TKY25F

* Clamp Torque (lbf-in) : TS25=8.9, TS4=31, TS5=66

RECOMMENDED CUTTING CONDITIONS

Steel Shank			$l/d \leq 3$			$3 < l/d \leq 4$ (Shank Diameter ≥ 1.000 inch)		
Heavy Metal Shank			$l/d \leq 3$			$3 < l/d \leq 6$		
Carbide Shank			$l/d \leq 5$			$5 < l/d \leq 7$		
Work Material	Hardness	Cutting Mode	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel Alloy Steel	180–280HB	Light Cutting	295–525	.002–.006	.008	260–490	.002–.006	.008
		Medium Cutting	195–395	.006–.014	-.118	165–360	.004–.008	.059
M Stainless Steel	≤ 200 HB	Light Cutting	330–590	.002–.006	.008	330–590	.002–.006	.008
		Medium Cutting	165–295	.006–.010	-.079	130–260	.004–.008	.039
N Aluminum Alloy	—	Light Cutting	655–1310	.002–.006	.008	655–1310	.002–.006	.008
		Medium Cutting	490–820	.002–.006	-.079	490–820	.002–.006	.059

CC^o type inserts > A152–A161

DC^o type inserts > A164–A171

CBN & PCD inserts > B037, B038, B040, B041, B053, B054

SPARE PARTS > M001

TECHNICAL DATA > N001

BORING BARS

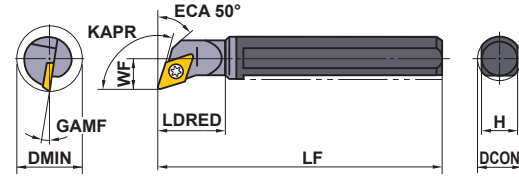
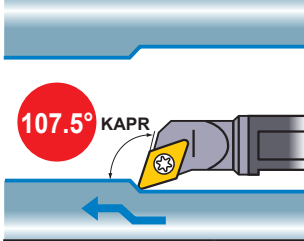
SCREW CLAMP TYPE

- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Steel and carbide shanks are stocked in various diameters.


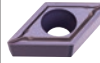




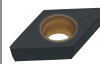

C-SDQC

Carbide shank

DC \odot inserts



Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
 (2,3)	 (2,3)	 (2,3)	 (2,3)
Medium MP	Medium MM	Flat Top	PCD/CBN
 (2,3)	 (2,3)	 (2,3)	 (2,3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Clamp Screw	Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN			
C-SDQCR/L-082	C08M-SDQCR/L2	●	●	DCMT DCMW	21.5 \odot	.500	6.000	.875	.375	.485	10°	.665	TS25	TKY08F
C-SDQCR/L-102	C10R-SDQCR/L2	●	●	DCGW	21.5 \odot	.625	8.000	1.000	.406	.600	7°	.797	TS25	TKY08F
C-SDQCR/L-123	C12S-SDQCR/L3	●	●	DCGT DCET	32.5 \odot	.750	10.000	1.250	.500	.725	7°	.954	TS4	TKY15F

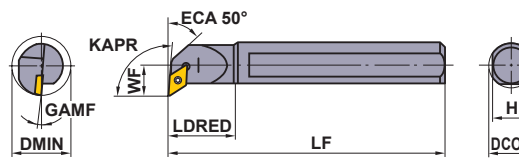
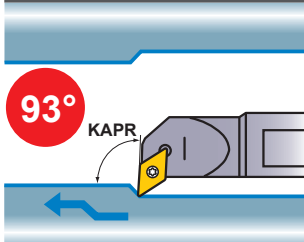
* Clamp Torque (lbf-in) : TS25=8.9, TS4=31

BORING BARS


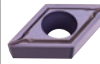






S-SDUC

Steel shank

DC \odot inserts



Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
 (2,3)	 (2,3)	 (2,3)	 (2,3)
Medium MP	Medium MM	Medium	Flat top
 (2,3,4)	 (2,3,4)	 (2,3,4)	 (2,3,4)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Clamp Screw	Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN			
S-SDUCR/L-062	S06M-SDUCR/L2	●	●	DCMT DCMW	21.5 \odot	.375	6.000	.625	.437	.340	7°	.664	TS25	TKY08F
S-SDUCR/L-082	S08M-SDUCR/L2	●	●	DCMT DCMW	21.5 \odot	.500	6.000	.750	.500	.460	7°	.789	TS25	TKY08F
S-SDUCR/L-102	S10R-SDUCR/L2	●	●	DCGW	21.5 \odot	.625	8.000	1.250	.563	.560	7°	.954	TS25	TKY08F
S-SDUCR/L-123	S12S-SDUCR/L3	●	●	DCGT DCET	32.5 \odot	.750	10.000	1.875	.625	.700	7°	1.079	TS4	TKY15F
S-SDUCR/L-164	S16T-SDUCR/L4	●	●	DCGT DCET	43 \odot	1.000	12.000	2.500	.750	.910	5°	1.329	TS5	TKY25F

* Clamp Torque (lbf-in) : TS25=8.9, TS4=31, TS5=66

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : USA Stock

DC \odot type inserts > A164-A171

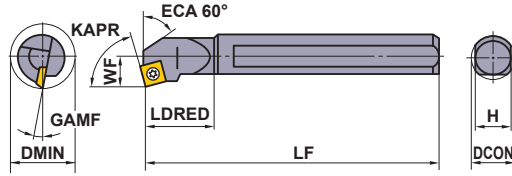
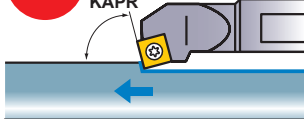
CBN & PCD inserts > B040, B041, B054

S-SSKC


Steel shank

SC^oinserts

75°



Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
 (3)	 (3)	 (3)	 (3)
Medium	Medium	Medium	Flat Top
MP	MM	Standard	
 (3,4)	 (3,4)	 (3,4)	 (3,4)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-SSKCR/L-103	S10R-SSKCR/L3	●	●	SCMT SCMW	32.5 ^o	.625	8.000	1.250	.406	.560	10°	.797	TS4	TKY15F
S-SSKCR/L-123	S12S-SSKCR/L3	●	●		32.5 ^o	.750	10.000	1.875	.500	.700	8°	.954	TS4	TKY15F
S-SSKCR/L-164	S16T-SSKCR/L4	●	●		43 ^o	1.000	12.000	2.500	.641	.910	7°	1.219	TS5	TKY25F

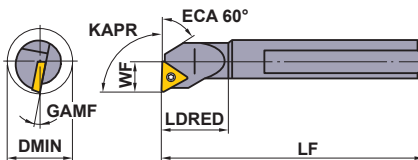
* Clamp Torque (lbf-in) : TS4=31, TS5=66

S-STUC





Steel shank

TC^oinserts

93°



Right hand tool holder shown.

Finish	Finish
FP	FM
 (2,3)	 (2,3)
Light	Medium
LP	MP
 (2,3)	 (2,3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-STUCR/L-062	S06M-STUCR/L2	●	●	TCMT TCMW TCGT TCGW	21.5 ^o	.375	6.000	.625	.250	.360	15°	.477	TS25	TKY08F
S-STUCR/L-082	S08M-STUCR/L2	●	●		21.5 ^o	.500	6.000	.750	.313	.485	13°	.602	TS25	TKY08F
S-STUCR/L-102	S10R-STUCR/L2	●	●		21.5 ^o	.625	8.000	1.250	.406	.600	10°	.797	TS25	TKY08F
S-STUCR/L-123	S12S-STUCR/L3	●	●		32.5 ^o	.750	10.000	1.875	.500	.725	8°	.954	TS4	TKY15F
S-STUCR/L-163	S16T-STUCR/L3	●	●		32.5 ^o	1.000	12.000	2.500	.641	.910	7°	1.219	TS4	TKY15F
S-STUCR/L-203	S20T-STUCR/L3	●	●		32.5 ^o	1.250	12.000	2.500	.875	1.160	5°	1.579	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25=8.9, TS4=31

RECOMMENDED CUTTING CONDITIONS

Steel Shank		$l/d \leq 3$				$3 < l/d \leq 4$ (Shank Diameter ≥ 1.000 inch)			
Heavy Metal Shank		$l/d \leq 3$				$3 < l/d \leq 6$			
Carbide Shank		$l/d \leq 5$				$5 < l/d \leq 7$			
Work Material	Hardness	Cutting Mode	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	
P	Carbon Steel Alloy Steel	180–280HB	Light Cutting	295–525	.002–.006	.008	260–490	.002–.006	.008
			Medium Cutting	195–395	.006–.014	–.118	165–360	.004–.008	.059
M	Stainless Steel	≤ 200 HB	Light Cutting	330–590	.002–.006	.008	330–590	.002–.006	.008
			Medium Cutting	165–295	.006–.010	–.079	130–260	.004–.008	.039
N	Aluminum Alloy	–	Light Cutting	655–1310	.002–.006	.008	655–1310	.002–.006	.008
			Medium Cutting	490–820	.002–.006	–.079	490–820	.002–.006	.059

SC^o type inserts > A174, A175

TC^o type inserts > A177–A180

CBN & PCD inserts > B042, B055

SPARE PARTS > M001

TECHNICAL DATA > N001

E

BORING BARS

E015

BORING BARS

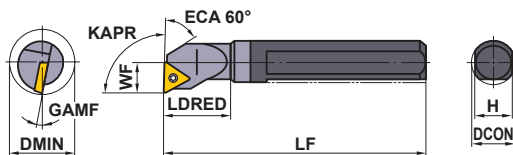
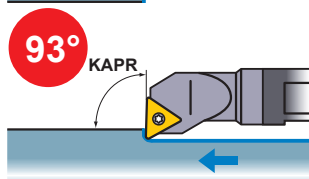
SCREW CLAMP TYPE

- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Steel and carbide shanks are stocked in various diameters.





C-STUC

Carbide shank

TC[○]inserts



Right hand tool holder shown.

Finish	Finish
FP  (2,3)	FM  (2,3)
Light	Medium
LP  (2,3)	MP  (2,3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
C-STUCR/L-062	C06M-STUCR/L2	●	●	TCMT	21.5 [○]	.375	6.000	.625	.250	.340	15°	.477	TS25	TKY08F
C-STUCR/L-082	C08M-STUCR/L2	●	●	TCMW	21.5 [○]	.500	6.000	.750	.313	.460	13°	.602	TS25	TKY08F
C-STUCR/L-102	C10R-STUCR/L2	●	●	TCGT	21.5 [○]	.625	8.000	1.250	.406	.560	10°	.797	TS25	TKY08F

* Clamp Torque (lbf-in) : TS25=8.9

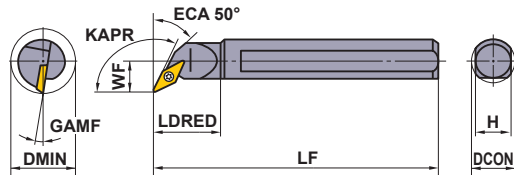
E

BORING BARS

S-SVQC

Steel shank

VC[○]inserts



Right hand tool holder shown.

Finish	Finish	Light	Light
FP  (2,3)	FM  (2,3)	LP  (2,3)	LM  (2,3)
Medium	Medium	Medium	Flat Top
MP  (3)	MM  (3)	Standard  (2,3)	 (2,3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-SVQCR/L-102	S10R-SVQCR/L2	●	●	VCMT	22 [○]	.625	8.000	1.000	.406	.560	8°	.797	TS25	TKY08F
S-SVQCR/L-122	S12S-SVQCR/L2	●	●	VCMW	22 [○]	.750	10.000	1.250	.500	.700	7°	.954	TS25	TKY08F
S-SVQCR/L-163	S16T-SVQCR/L3	●	●	VCGT	33 [○]	1.000	12.000	1.500	.641	.910	6°	1.219	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25=8.9, TS4=31

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

TC[○] type inserts > A177-A180

VC[○] type inserts > A190-A192

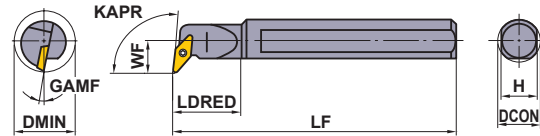
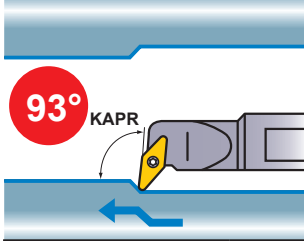
CBN & PCD inserts > B042, B046, B055, B058

● : USA Stock









S-SVUC

Steel shank

VC^o inserts



Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(2,3)	(2,3)	(2,3)	(2,3)
Medium	Medium	Medium	Flat Top
MP	MM	Standard	
			
(3)	(3)	(2,3)	(2,3)

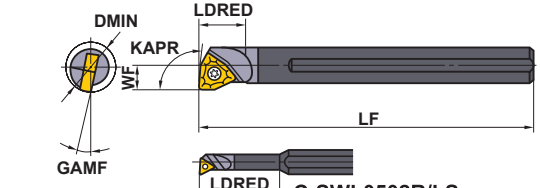
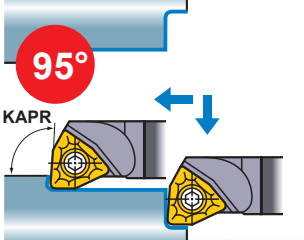
Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-SVUCR/L-122	S12S-SVUCR/L2	●	●	VCMT VCMW VCGT VCGW	22 ^o	.750	10.000	1.250	.500	.700	7°	1.000	TS25	TKY08F
S-SVUCR/L-163	S16T-SVUCR/L3	●	●		33 ^o	1.000	12.000	1.500	.641	.910	6°	1.281	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25=8.9, TS4=31

C-SWL







Carbide shank

WC^o inserts



C-SWL0502R/LS
C-SWL05S3R/LM

Right hand tool holder shown.

Finish	Finish	Light
FJ-P	R/L	MJ
		
(2)	(1,2,1.5)	(2)
Light	Medium	CBN
MJ-P	Standard	
		
(2)	(1,2,1.5,2)	(1.5,2)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
C-SWL0502R/LS	C05K-SWLCR/L1.2	●	●	WCMT WCGT WCMW	1.21 ^o	.313	5.000	1.000	.114	.282	17°	.228	TS21	TKY06F
C-SWL05S3R/LM	C05K-SWLCR/L1.5	●	●		1.51.5 ^o	.313	5.000	1.370	.156	.282	15°	.312	TS2	TKY06F
C-SWL0504R/L	C05K-SWLCR/L2	●	●	WCGW	21.5 ^o	.313	5.000	.598	.203	.282	15°	.406	TS25	TKY08F

* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9

RECOMMENDED CUTTING CONDITIONS

Steel Shank			$l/d \leq 3$			$3 < l/d \leq 4$ (Shank Diameter ≥ 1.000 inch)		
Heavy Metal Shank			$l/d \leq 3$			$3 < l/d \leq 6$		
Carbide Shank			$l/d \leq 5$			$5 < l/d \leq 7$		
Work Material	Hardness	Cutting Mode	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel Alloy Steel	180-280HB	Light Cutting	295-525	.002-.006	.008	260-490	.002-.006	.008
		Medium Cutting	195-395	.006-.014	-.118	165-360	.004-.008	.059
M Stainless Steel	≤ 200 HB	Light Cutting	330-590	.002-.006	.008	330-590	.002-.006	.008
		Medium Cutting	165-295	.006-.010	-.079	130-260	.004-.008	.039
N Aluminum Alloy	-	Light Cutting	655-1310	.002-.006	.008	655-1310	.002-.006	.008
		Medium Cutting	490-820	.002-.006	-.079	490-820	.002-.006	.059

VC^o type inserts > A190-A192
 WC^o type inserts > A196, A197
 CBN & PCD inserts > B046, B058, B059

SPARE PARTS > M001
 TECHNICAL DATA > N001

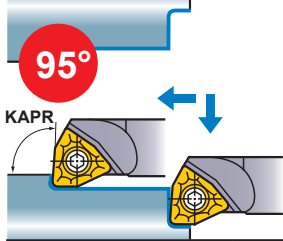
BORING BARS

BORING BARS

SCREW CLAMP TYPE

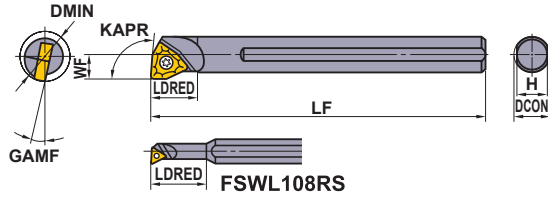
- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Steel and carbide shanks are stocked in various diameters.

FSWL1



Steel shank

WC[○] inserts



Right hand tool holder only.

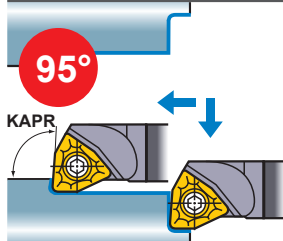
Finish	Finish	Light
FJ-P	R/L	MJ
 (2,3)	 (1.2,1.5)	 (2,3)
Light	Medium	CBN
MJ-P	Standard	
 (2,3)	 (1.2,1.5,2,3)	 (2,3)

Order Number	ANSI Order Number	Stock	Insert Number	Dimensions (inch)								*	
				DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
FSWL108RS	S08H-SWLCR1.2	★	WCMT WCGT	1.21 [○]	8	100	19	2.9	7	17°	5.8	TS21	TKY06F
FSWL108RM	S08H-SWLCR1.5	★	WCMT WCGT WCMW	1.51.5 [○]	8	100	25	4	7	15°	8	TS2	TKY06F
FSWL108R	S08K-SWLCR2	★	WCMT WCGW	21.5 [○]	8	125	10	5	7	15°	10	TS25	TKY08F
FSWL110R	S10M-SWLCR2	★		21.5 [○]	10	150	12	6	9	13°	12	TS25	TKY08F
FSWL112R	S12Q-SWLCR3	★		32.5 [○]	12	180	15	8	11	13°	16	TS4	TKY15F

* Clamp Torque (lbf-in) : TS21=5.3, TS25=8.9, TS4=31

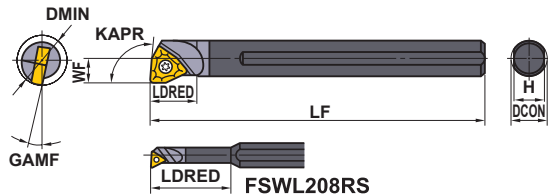
BORING BARS

FSWL2









Carbide shank

WC[○] inserts



Right hand tool holder only.

Finish	Finish	Light
FJ-P	R/L	MJ
 (2,3)	 (1.2,1.5)	 (2,3)
Light	Medium	CBN
MJ-P	Standard	
 (2,3)	 (1.2,1.5,2,3)	 (2,3)

Order Number	ANSI Order Number	Stock	Insert Number	Dimensions (inch)								*	
				DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
FSWL208RS	C08X-SWLCR1.2	★	WCMT WCGT	1.21 [○]	8	122	25	2.9	7	17°	5.8	TS21	TKY06F
FSWL208R/LM	C08K-SWLCR/L1.5	★ ★		1.51.5 [○]	8	125	33	4	7	15°	8	TS2	TKY06F
FSWL208R	C08K-SWLCR2	★	21.5 [○]	8	125	10	5	7	15°	10	TS25	TKY08F	
FSWL210R/L	C10M-SWLCR/L2	★ ★	WCMT	21.5 [○]	10	150	12	6	9	13°	12	TS25	TKY08F
FSWL212R/L	C10Q-SWLCR/L3	★ ★	WCGW	32.5 [○]	12	180	15	8	11	13°	16	TS4	TKY15F
FSWL216R/L	C16R-SWLCR/L3	★ ★	WCMT	32.5 [○]	16	200	20	11	14	7°	22	TS4	TKY15F

* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9, TS4=31

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : USA Stock ★ : Stocked in Japan □ : Made to Order

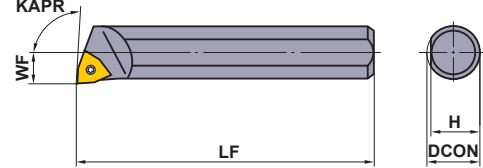
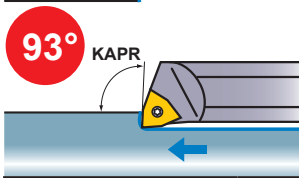
WC[○] type inserts > A196, A197
CBN & PCD inserts > B059

S-SWUC

Steel shank

WC^o inserts

Finish	Finish	Light
FJ-P	R/L	MJ
 (2,3)	 (1.2,1.5)	 (2,3)
Light	Medium	CBN
MJ-P	Standard	
 (2,3)	 (1.2,1.5,2,3)	 (2,3)



Right hand tool holder shown.



Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						*		
		R	L		DCON	LF	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-SWUCR/L-055	S03H-SWUCR/L1.2	●	●	WCMT WCMW WCGT WCGW	1.21	.188	4.000	.114	.172	17°	.228	TS21	TKY06F
S-SWUCR/L-065	S04H-SWUCR/L1.2	●	●		1.21	.250	4.000	.156	.235	17°	.312	TS2	TKY06F
S-SWUCR/L-066	S05M-SWUCR/L1.5	●	●		1.51.5	.313	6.000	.188	.295	15°	.375	TS2	TKY06F
S-SWUCR/L-062	S06M-SWUCR/L2	●	●		21.5	.375	6.000	.250	.358	11°	.500	TS25	TKY08F
S-SWUCR/L-082	S08M-SWUCR/L2	●	●		21.5	.500	6.000	.312	.480	9°	.625	TS25	TKY08F
S-SWUCR/L-103	S10R-SWUCR/L3	●	●		32.5	.625	8.000	.406	.593	7°	.750	TS4	TKY15F
S-SWUCR/L-123	S12S-SWUCR/L3	●	●		32.5	.750	10.000	.500	.725	10°	1.000	TS4	TKY15F
S-SWUCR/L-163	S16T-SWUCR/L3	●	●		32.5	1.000	12.000	.640	.975	7°	1.250	TS4	TKY15F

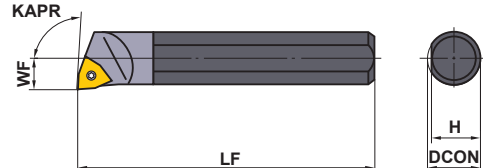
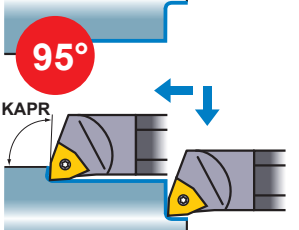
* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9, TS4=31

C-SWLO

Carbide shank

WC^o inserts

Finish	Finish	Light
FJ-P	R/L	MJ
 (2)	 (1.2,1.5)	 (2)
Light	Medium	CBN
MJ-P	Standard	
 (2)	 (1.2,1.5,2)	 (1.5,2)



Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						*		
		R	L		DCON	LF	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
C-SWLOR/L-055	C03H-SWLOR/L1.2	●	□	WCMT WCMW WCGT WCGW	1.21	.188	4.000	.114	.172	17°	.228	TS21	TKY06F
C-SWLOR/L-065	C04H-SWLOR/L1.2	●	□		1.21	.250	4.000	.156	.235	17°	.313	TS2	TKY06F
C-SWLOR/L-066	C05M-SWLOR/L1.5	●	□		1.51.5	.313	6.000	.188	.295	15°	.375	TS2	TKY06F
C-SWLOR/L-070	C06M-SWLOR/L2	●	□		21.5	.375	6.000	.218	.358	15°	.438	TS25	TKY08F
C-SWLOR/L-062	C06M-SWLOR/L2-D	●	□		21.5	.375	6.000	.250	.358	15°	.500	TS25	TKY08F

* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9

RECOMMENDED CUTTING CONDITIONS

Steel Shank			I/d ≤ 3			3 < I/d ≤ 4 (Shank Diameter ≥ 1.000 inch)		
Heavy Metal Shank			I/d ≤ 3			3 < I/d ≤ 6		
Carbide Shank			I/d ≤ 5			5 < I/d ≤ 7		
Work Material	Hardness	Cutting Mode	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel Alloy Steel	180-280HB	Light Cutting	295-525	.002-.006	.008	260-490	.002-.006	.008
		Medium Cutting	195-395	.006-.014	-.118	165-360	.004-.008	.059
M Stainless Steel	≤200HB	Light Cutting	330-590	.002-.006	.008	330-590	.002-.006	.008
		Medium Cutting	165-295	.006-.010	-.079	130-260	.004-.008	.039
N Aluminum Alloy	-	Light Cutting	655-1310	.002-.006	.008	655-1310	.002-.006	.008
		Medium Cutting	490-820	.002-.006	-.079	490-820	.002-.006	.059

WC^o type inserts > A196, A197
CBN & PCD inserts > B059

SPARE PARTS > M001
TECHNICAL DATA > N001

BORING BARS

SCREW CLAMP TYPE

- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Steel and carbide shanks are stocked in various diameters.

M-SWLO

Heavy metal shank

WC inserts

Finish	Finish	Light
(2,3)	(1.2,1.5)	(2,3)
Light	Medium	CBN
MJ-P	Standard	
(2,3)	(1.2,1.5,2,3)	(2,3)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						*		
		R	L		DCON	LF	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
M-SWLOR/L-055	H03H-SWLOR/L1.2	●	●	WCMT WCGT WCMW WCGW	1.21	.188	4.000	.114	.172	17°	.228	TS21	TKY06F
M-SWLOR/L-065	H04H-SWLOR/L1.2	●	●		1.21	.250	4.000	.156	.235	17°	.313	TS2	TKY06F
M-SWLOR/L-066	H05M-SWLOR/L1.5	●	●		1.51.5	.313	6.000	.188	.295	15°	.375	TS2	TKY06F
M-SWLOR/L-070	H05M-SWLOR/L2	●	●		21.5	.375	6.000	.218	.358	15°	.438	TS25	TKY08F
M-SWLOR/L-062	H06M-SWLOR/L2	●	●		21.5	.375	6.000	.250	.358	15°	.500	TS25	TKY08F
M-SWLOR/L-082	H08M-SWLOR/L2	●	●		21.5	.500	6.000	.312	.480	13°	.625	TS25	TKY08F
M-SWLOR/L-103	H10R-SWLOR/L3	●	●		32.5	.625	8.000	.375	.600	10°	.750	TS4	TKY15F
M-SWLOR/L-123	H12S-SWLOR/L3	●	●		32.5	.750	10.000	.500	.725	8°	1.000	TS4	TKY15F
M-SWLOR/L-163	H16T-SWLOR3	●	●		32.5	1.000	12.000	.640	.975	7°	1.250	TS4	TKY15F

* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9, TS4=31

M-SWLO

Heavy metal shank coolant through

WC inserts

Finish	Finish	Light
(2,3)	(1.2,1.5)	(2,3)
Light	Medium	CBN
MJ-P	Standard	
(2,3)	(1.5,2,3)	(2,3)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						*		
		R	L		DCON	LF	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
M-SWLOR/L-066-C	J05M-SWLOR/L1.5	●	●	WCMT WCGT WCMW WCGW	1.51.5	.313	6.000	.188	.295	15°	.375	TS2	TKY06F
M-SWLOR/L-070-C	J05M-SWLOR/L2	●	●		21.5	.375	6.000	.218	.358	15°	.438	TS25	TKY08F
M-SWLOR/L-062-C	J06M-SWLOR/L2	●	●		21.5	.375	6.000	.250	.358	15°	.500	TS25	TKY08F
M-SWLOR/L-082-C	J08M-SWLOR/L2	●	●		21.5	.500	6.000	.312	.480	13°	.625	TS25	TKY08F
M-SWLOR/L-103-C	J10R-SWLOR/L3	●	●		32.5	.625	8.000	.375	.600	10°	.750	TS4	TKY15F
M-SWLOR/L-123-C	J12S-SWLOR/L3	●	●		32.5	.750	10.000	.500	.725	8°	1.000	TS4	TKY15F
M-SWLOR/L-163-C	J16T-SWLOR/L3	●	●		32.5	1.000	12.000	.640	.975	7°	1.250	TS4	TKY15F

* Clamp Torque (lbf-in) : TS2=5.3, TS25=8.9, TS4=31

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

CUTTING CONDITIONS	> E019
WC type inserts	> A196, A197
CBN & PCD inserts	> B059

● : USA Stock

DOUBLE CLAMP DIMPLE BAR

- Negative rake.
- New double clamp type.
- Holds inserts securely.
- Excellent cutting edge repeatability.

S-DCLN

Steel shank coolant through CN inserts

Finish	Light	Light	Light
FP	SA	LP	LM
(4)	(4)	(4)	(4)
Medium	Medium	Stainless	CBN/PCD
MP	Standard	MM	
(4)	(3,4)	(4)	(4)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Shim	Shim Pin	Clamp Bridge	Spring	*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN					Clamp Screw	Wrench	
S-DCLNR/L-123-C	AX12S-DCLNR/L3	●	●	CNMA	32	.750	10.000	1.219	.500	.711	12°	1.000	LLSCP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DCLNR/L-163-C	AX16T-DCLNR/L3	●	●	CNMG	32	1.000	12.000	1.625	.641	.922	11°	1.281	LLSCP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DCLNR/L-164-C	AX16T-DCLNR/L4	●	●	CNMA	43	1.000	12.000	1.625	.641	.922	11°	1.281	LLSCP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L-204-C	AX20U-DCLNR/L4	●	●	CNMG	43	1.250	14.000	2.000	.766	1.171	13°	1.532	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L-244-C	AX24U-DCLNR/L4	●	●	CNMM	43	1.500	14.000	2.000	.891	1.382	12°	1.782	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L-284-C	AX28U-DCLNR/L4	●	●	CNGA	43	1.750	14.000	2.500	1.016	1.632	10°	2.032	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L-324-C	AX32U-DCLNR/L4	●	●	CNGG	43	2.000	14.000	2.500	1.281	1.882	10°	2.562	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

* Clamp Torque (lbf-in) : DC0520T=31, DC0621T=44

S-DDUN

Steel shank coolant through DN inserts

Finish	Light	Medium	Medium
FP	LP	MP	MH
(4)	(4)	(4)	(4)
Medium	Stainless	G Class	CBN/PCD
Standard	MM	R/L	
(4)	(4)	(4)	(4)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Shim	Shim Pin	Clamp Bridge	Spring	*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN					Clamp Screw	Wrench	
S-DDUNR/L-164-C	AX16T-DDUNR/L4	●	●	DNMA	43	1.000	12.000	1.625	.657	.922	13°	1.314	LLSDP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L-204-C	AX20U-DDUNR/L4	●	●	DNMG	43	1.250	14.000	2.000	1.000	1.171	11°	2.000	LLSDN43	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L-244-C	AX24U-DDUNR/L4	●	●	DNMX	43	1.500	14.000	2.000	1.125	1.382	10°	2.250	LLSDN43	LLP24	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L-284-C	AX28U-DDUNR/L4	●	●	DNGA	43	1.750	14.000	2.500	1.250	1.632	9°	2.500	LLSDN43	LLP24	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L-324-C	AX32U-DDUNR/L4	●	●	DNGG	43	2.000	14.000	2.500	1.375	1.882	8°	2.750	LLSDN43	LLP24	DCK2613	DCS1	DC0621T	TKY20F

* Clamp Torque (lbf-in) : DC0621T=44

RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Cutting Mode	l/d ≤ 3			3 < l/d ≤ 4		
			Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel, Alloy Steel	180—280HB	Medium Cutting	360 (260—460)	.010 (.004—.016)	-.197	360 (260—460)	.008 (.004—.012)	-.157
M Stainless Steel	≤200HB	Medium Cutting	260 (195—330)	.008 (.004—.012)	-.157	230 (165—330)	.006 (.004—.015)	-.118
K Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	260 (195—330)	.010 (.004—.016)	-.197	260 (195—330)	.008 (.004—.012)	-.157

CN type inserts > A106—A113
 DN type inserts > A114—A121
 CBN & PCD inserts > B022—B028, B049

SPARE PARTS > M001
 TECHNICAL DATA > N001

BORING BARS

BORING BARS

DOUBLE CLAMP DIMPLE BAR

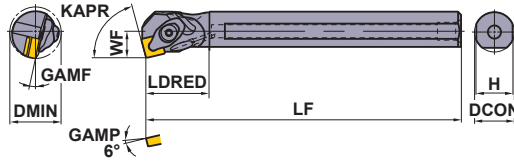
- Negative rake.
- New double clamp type.
- Holds inserts securely.
- Excellent cutting edge repeatability.

S-DSKN

Steel shank coolant through SN inserts

75°

KAPR



Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MH
(4)	(4)	(4)	(4)
Medium	Stainless	G Class	CBN/PCD
Standard	MM	R/L	
(4)	(4)	(4)	(4)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Shim	Shim Pin	Clamp Bridge	Spring	*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN					Clamp Screw	Wrench	
S-DSKNR/L-164-C	AX16T-DSKNR/L4	●	●	SNMA SNMG SNMM SNGA SNGG	43	1.000	12.000	1.625	.641	.922	13°	1.282	LLSSP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-204-C	AX20U-DSKNR/L4	●	●		43	1.250	14.000	2.000	.766	1.171	13°	1.532	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-244-C	AX24U-DSKNR/L4	●	●		43	1.500	14.000	2.000	.891	1.382	11°	1.782	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-284-C	AX28U-DSKNR/L4	●	●		43	1.750	14.000	2.500	1.016	1.632	10°	2.032	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-324-C	AX32U-DSKNR/L4	●	●		43	2.000	14.000	2.500	1.281	1.882	9°	2.562	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

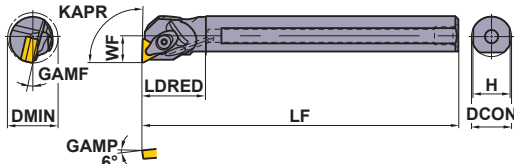
* Clamp Torque (lbf-in) : DC0621T=44

S-DTFN

Steel shank coolant through TN inserts

91°

KAPR



Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MH
(3)	(3,4)	(3,4)	(3,4)
Medium	Stainless	G Class	CBN/PCD
Standard	MM	R/L	
(3,4)	(3,4)	(3,4)	(3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Shim	Shim Pin	Clamp Bridge	Spring	*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN					Clamp Screw	Wrench	
S-DTFNR/L-123-C	AX12S-DTFNR/L3	●	●	TNMA TNMG TNMM TNGA TNGG	33	.750	10.000	1.250	.500	.711	13°	1.000	—	—	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-163-C	AX16T-DTFNR/L3	●	●		33	1.000	12.000	1.625	.641	.922	13°	1.282	LLSTP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-203-C	AX20U-DTFNR/L3	●	●		33	1.250	14.000	2.000	.766	1.171	13°	1.532	LLSTN32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-243-C	AX24U-DTFNR/L3	●	●		33	1.500	14.000	2.000	.891	1.382	12°	1.782	LLSTN32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-244-C	AX24U-DTFNR/L4	●	●		43	1.500	14.000	2.000	.891	1.382	12°	1.782	LLSTN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DTFNR/L-283-C	AX28U-DTFNR/L3	●	●		33	1.750	14.000	2.500	1.016	1.632	11°	2.032	LLSTN32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-284-C	AX28U-DTFNR/L4	●	●		43	1.750	14.000	2.500	1.016	1.632	11°	2.032	LLSTN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DTFNR/L-324-C	AX32U-DTFNR/L4	●	●		43	2.000	14.000	2.500	1.125	1.882	10°	2.250	LLSTN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

* Clamp Torque (lbf-in) : DC0520T=31, DC0621T=44

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

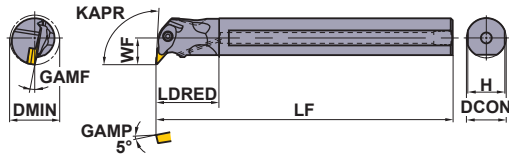
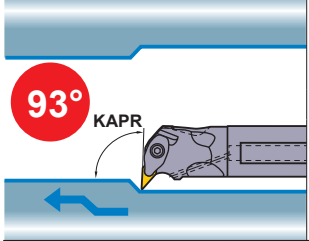
Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.









SN type inserts	> A123–A129
TN type inserts	> A130–A137
CBN & PCD inserts	> B029–B031, B050

● : USA Stock

S-DVUN

Steel shank coolant through VN^o inserts



Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(3)	(3)	(3)	(3)
Medium	Stainless	G Class	CBN/PCD
Standard	MM	R/L	
			
(3)	(3)	(3)	(3)

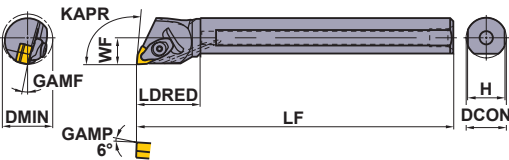
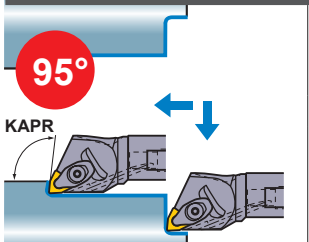
Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw	* Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN							
S-DVUNR/L-203-C	AX20U-DVUNR/L3	●	●	VNMA VNMG VNMM	33 ^o	1.250	14.000	2.000	1.000	1.171	10°	2.000	DCSVN32	LLP13	DCK3113	DCS2	DC0520T	TKY15F
S-DVUNR/L-243-C	AX24U-DVUNR/L3	●	●	VNGA VNGM	33 ^o	1.500	14.000	2.500	1.125	1.382	9°	2.250	DCSVN32	LLP13	DCK3113	DCS2	DC0520T	TKY15F

* Clamp Torque (lbf-in) : DC0520T=31

S-DWLN

Steel shank coolant through WN^o inserts



Finish	Light	Medium	Medium
FP	LP	MP	MK
			
(4)	(3,4)	(3,4)	(4)
Medium	Medium - Rough	Stainless	
Standard	RP	MM	
			
(4)	(4)	(3,4)	

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw	* Wrench	
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN							
S-DWLNR/L-123-C	AX12S-DWLNR/L3	●	●	WNMA	33 ^o	.750	10.000	1.250	.500	.711	12°	1.000	—	—	DCK2211	DCS2	DC0520T	TKY15F
S-DWLNR/L-163-C	AX16T-DWLNR/L3	●	●	WNMG	33 ^o	1.000	12.000	1.750	.641	.922	13°	1.282	LLSWP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DWLNR/L-164-C	AX16T-DWLNR/L4	●	●	WNMA	43 ^o	1.000	12.000	2.000	.641	.922	13°	1.282	LLSWP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-204-C	AX20U-DWLNR/L4	●	●	WNMA	43 ^o	1.250	14.000	2.000	.766	1.171	13°	1.532	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-244-C	AX24U-DWLNR/L4	●	●	WNMG	43 ^o	1.500	14.000	2.500	.891	1.382	12°	1.782	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-284-C	AX28U-DWLNR/L4	●	●	WNGA	43 ^o	1.750	14.000	2.500	1.125	1.632	11°	2.250	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-324-C	AX32U-DWLNR/L4	●	●		43 ^o	2.000	14.000	2.500	1.281	1.882	10°	2.562	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

* Clamp Torque (lbf-in) : DC0520T=31, DC0621T=44

RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Cutting Mode	l/d ≤ 3			3 < l/d ≤ 4		
			Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel, Alloy Steel	180—280HB	Medium Cutting	360 (260—460)	.010 (.004—.016)	—.197	360 (260—460)	.008 (.004—.012)	—.157
M Stainless Steel	≤200HB	Medium Cutting	260 (195—330)	.008 (.004—.012)	—.157	230 (165—330)	.006 (.004—.015)	—.118
K Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	260 (195—330)	.010 (.004—.016)	—.197	260 (195—330)	.008 (.004—.012)	—.157

VN^o type inserts > A138—A141
 WN^o type inserts > A142—A147
 CBN & PCD inserts > B032—B034, B051

SPARE PARTS > M001
 TECHNICAL DATA > N001

BORING BARS

MULTIPLE CLAMP TYPE

- Negative rake.
- Two wall pocket.
- Pin lock and top clamp retention.

S-MCLN

95°

Steel shank

CN inserts

Finish	Light	Light	Light
FP	SA	LP	LM
(4)	(4)	(4)	(4)
Medium	Medium	Stainless	CBN/PCD
MP	Standard	MM	
(4)	(3,4,6)	(4,6)	(4)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						Shim	*3		*3	
		R	L		DCON	LF	WF	H	GAMF	DMIN		Shim Pin	Clamp Bridge		Clamp Screw
S-MCLNR/L-123	S12S-MCLNR/L3	●	●	CNMA CNMG CNMM CNGA CNGG	32	.750	10.000	.500	.700	10°	1.000	—	NL33	CL6	XNS36
S-MCLNR/L-163	S16T-MCLNR/L3	●	●		32	1.000	12.000	.640	.910	10°	1.280	—	NL33	CL6	XNS36
S-MCLNR/L-164	S16T-MCLNR/L4	●	●		43*	1.000	12.000	.640	.910	14°	1.280	—	NL44	CL20	XNS48
S-MCLNR/L-204	S20U-MCLNR/L4	●	●		43*	1.250	12.000	.765	1.160	14°	1.530	ICSN433	NL46	CL20	XNS48
S-MCLNR/L-244	S24U-MCLNR/L4	●	●		43*	1.500	14.000	.890	1.410	11°	1.780	ICSN433	NL46	CL20	XNS48
S-MCLNR/L-284	S28U-MCLNR/L4	●	●		43*	1.750	14.000	1.015	1.660	11°	2.030	ICSN433	NL46	CL20	XNS48
S-MCLNR/L-326	S32V-MCLNR/L6	●	●		64	2.000	16.000	1.281	1.910	11°	2.562	ICSN633	NL68	CL12	XNS510

*1 (Opt.) See page M012 for different radius.

*2 For inserts without hole, remove shim pin and add below.

*3 Clamp Torque (lbf-in) : NL33=13, NL44=19, NL46=19, NL68=43, XNS36=30, XNS48=45, XNS510=70

Shim Screw	S46	Chip Breaker	CBC4
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BORING BARS

S-MDUN

93°

Steel shank

DN inserts

Finish	Light	Medium	Medium
FP	LP	MP	MH
(4)	(4)	(4)	(4)
Medium	Stainless	G Class	CBN/PCD
Standard	MM	R/L	
(4)	(4)	(4)	(4)

Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						Shim	*2		*2	
		R	L		DCON	LF	WF	H	GAMF	DMIN		Shim Pin	Clamp Bridge		Clamp Screw
S-MDUNR/L-204	S20U-MDUNR/L4	●	●	DNMA DNMG DNMM DNGA DNGG DNGM	43	1.250	14.000	1.000	1.160	11°	2.000	IDSN433	NL46	CL12	XNS59
S-MDUNR/L-244	S24U-MDUNR/L4	●	●		43	1.500	14.000	1.125	1.410	11°	2.250	IDSN433	NL46	CL12	XNS59
S-MDUNR/L-284	S28U-MDUNR/L4	●	●		43	1.750	14.000	1.250	1.660	11°	2.500	IDSN433	NL46	CL12	XNS59
S-MDUNR/L-285	S28U-MDUNR5	●	●		54*	1.750	14.000	1.375	1.660	11°	2.750	IDSN533	NL58	CL30	XNS510
S-MDUNR/L-324	S32V-MDUNR/L4	●	●		43	2.000	16.000	1.375	1.910	11°	2.750	IDSN433	NL46	CL12	XNS59
S-MDUNR/L-325	S32V-MDUNR5	●	●		54*	2.000	16.000	1.500	1.910	11°	3.000	IDSN533	NL58	CL30	XNS510

*1 (Opt.) See page M012 for different thickness.

*2 Clamp Torque (lbf-in) : NL46=19, NL58=29, XNS59=70, XNS510=70

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

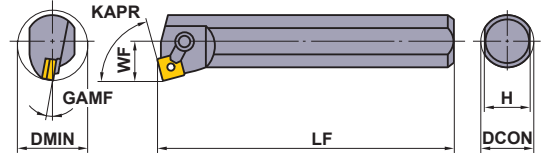
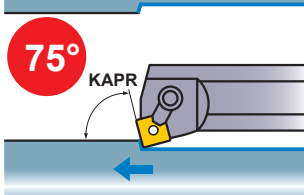
CN type inserts	> A106–A113
DN type inserts	> A114–A121
CBN & PCD inserts	> B022–B028, B049

● : USA Stock □ : Made to Order

S-MSKN

Steel shank

SN \odot inserts



Finish	Light	Medium	Medium
FP (4)	LP (4)	MP (4)	MH (4,6)
Medium Standard (4,6)	Stainless MM (4,6)	G Class R/L (4,6)	CBN/PCD (4)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						Shim	*3 Shim Pin	Clamp Bridge	*3 Clamp Screw	
		R	L		DCON	LF	WF	H	GAMF	DMIN					
S-MSKNR/L-204	S20T-MSKNR/L4	●	●	SNMA	43 \odot ^{*1} / _{*2}	1.250	12.000	.765	1.160	14°	1.470	—	NL44	CL20	XNS47
S-MSKNR/L-244	S24U-MSKNR/L4	●	●	SNMG	43 \odot ^{*1} / _{*2}	1.500	14.000	.890	1.410	10°	1.760	ISSN433 ^{*1}	NL46	CL20	XNS47
S-MSKNR/L-284	S28U-MSKNR/L4	●	●	SNMM	43 \odot ^{*1} / _{*2}	1.750	14.000	1.015	1.660	10°	2.010	ISSN433 ^{*1}	NL46	CL20	XNS47
S-MSKNR/L-326	S32V-MSKNR/L6	●	●	SNGA	43 \odot ^{*1} / _{*2}	1.750	14.000	1.015	1.660	10°	2.010	ISSN433 ^{*1}	NL46	CL20	XNS47
		●	●	SNGG	64 \odot ^{*1} / _{*1}	2.000	16.000	1.281	1.910	12°	2.400	ISSN633 ^{*1}	NL68	CL12	XNS510

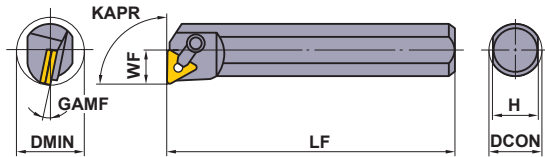
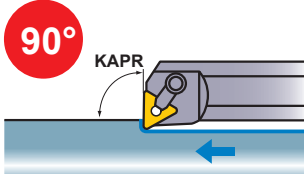
*1 (Opt.) See page M012 for different thickness or radius. *2 For inserts without hole, remove shim pin and add below.
 *3 Clamp Torque (lbf-in) : NL44=19, NL46=19, NL68=43, XNS47=45, XNS510=70

Shim Screw	S34	Chip Breaker	CBS4
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S-MTFN

Steel shank

TN \odot inserts



Finish	Light	Medium	Medium
FP (3)	LP (3,4)	MP (3,4)	MH (3,4)
Medium Standard (3,4)	Stainless MM (3,4)	G Class R/L (3,4)	CBN/PCD (3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						Shim	*3 Shim Pin	Clamp Bridge	*3 Clamp Screw	
		R	L		DCON	LF	WF	H	GAMF	DMIN					
S-MTFNR/L-163X	S16T-MTFNR/L3	●	●	TNMA	33 \odot ^{*1} / _{*2}	1.000	12.000	.640	.910	14°	1.280	ITSN323 ^{*1}	NL34L	CL7	XNS36
S-MTFNR/L-203X	S20U-MTFNR/L3	●	●		TNMG	33 \odot ^{*1} / _{*2}	1.250	14.000	.765	1.160	14°	1.530	ITSN323 ^{*1}	NL34L	CL7
S-MTFNR/L-243X	S24U-MTFNR/L3	●	●	TNMA	33 \odot ^{*1} / _{*2}	1.500	14.000	.890	1.410	11°	1.780	ITSN323 ^{*1}	NL34L	CL7	XNS36
S-MTFNR/L-244	S24U-MTFNR/L4	●	●	TNMM	43 \odot ^{*1} / _{*1}	1.500	14.000	.890	1.410	11°	2.060	ITSN433 ^{*1}	NL46	CL9	XNS59
S-MTFNR/L-283X	S28U-MTFNR3	□	□	TNGA	33 \odot ^{*1} / _{*2}	1.750	14.000	1.015	1.660	11°	2.030	ITSN323 ^{*1}	NL34L	CL7	XNS36
S-MTFNR/L-284	S28U-MTFNR/L4	●	●	TNGG	43 \odot ^{*1} / _{*1}	1.750	14.000	1.156	1.660	11°	2.312	ITSN433 ^{*1}	NL46	CL9	XNS59
S-MTFNR/L-324	S32V-MTFNR/L4	●	●	TNGG	43 \odot ^{*1} / _{*1}	2.000	16.000	1.281	1.910	11°	2.562	ITSN433 ^{*1}	NL46	CL9	XNS59

*1 (Opt.) See page M012 for different thickness or radius. *2 For inserts without hole, remove shim pin and add below.
 *3 Clamp Torque (lbf-in) : NL34L=13, NL46=19, XNS36=30, XNS59=70

Shim Screw	S34	Chip Breaker	CBT3
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RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Cutting Mode	l/d ≤ 3			3 < l/d ≤ 4		
			Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel, Alloy Steel	180–280HB	Medium Cutting	260–460	.004–.016	–.20	260–460	.004–.012	–.16
M Stainless Steel	≤200HB	Medium Cutting	200–330	.008–.012	–.16	165–330	.004–.015	–.12
K Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	200–330	.004–.016	–.20	200–330	.004–.012	–.16

SN \odot type inserts	> A123–A129	SPARE PARTS	> M001
TN \odot type inserts	> A130–A137	TECHNICAL DATA	> N001
CBN & PCD inserts	> B029–B031, B050		

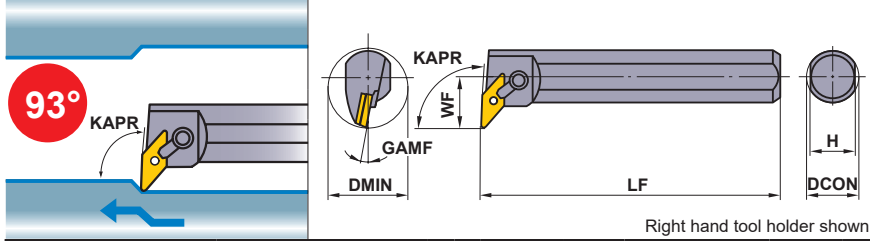
BORING BARS

BORING BARS

MULTIPLE CLAMP TYPE

- Negative rake.
- Two wall pocket.
- Pin lock and top clamp retention.

S-MVUN



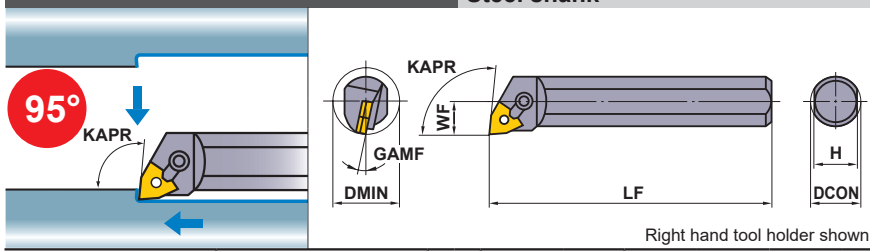
Finish	Light	Medium	Medium
FP	LP	MP	MH
(3)	(3)	(3)	(3)
Medium	Stainless	G Class	CBN/PCD
Standard	MM	R/L	
(3)	(3)	(3)	(3)

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)					Shim	*2 Shim Pin	Clamp Bridge	*2 Clamp Screw	
		R	L		DCON	LF	WF	H	GAMF					DMIN
S-MVUNR/L-203	S20U-MVUNR/L3	●	□	VNMG 33	1.250	14.000	1.125	1.16	14°	2.250	IVSN322	NL34L	CL30	XNS59
S-MVUNR/L-243	S24U-MVUNR/L3	●	●	VNMM 33	1.500	14.000	1.250	1.41	11°	2.500	IVSN322	NL34L	CL30	XNS510
S-MVUNR/L-284	S28U-MVUNR4	●	●	VNGA 43*	1.750	14.000	1.500	1.66	11°	3.000	IVSN433*	NL46	CL30	XNS510
S-MVUNR/L-324	S32V-MVUNR4	●	●	VNGM 43*	2.000	16.000	1.625	1.91	11°	3.250	IVSN433*	NL46	CL30	XNS510

*1 (Opt.) See page M012 for different radius.
 *2 Clamp Torque (lbf-in) : NL34L=13, NL46=19, XNS59=70, XNS510=70

BORING BARS

S-MWLN



Finish	Light	Medium	Medium
FP	LP	MP	MK
(4)	(3,4)	(3,4)	(4)
Medium	Medium-Rough	Stainless	
Standard	RP	MM	
(4)	(4)	(3,4)	

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)					Shim	* Shim Pin	Clamp Bridge	* Clamp Screw	
		R	L		DCON	LF	WF	H	GAMF					DMIN
S-MWLNR/L-123	S12S-MWLNR/L3	●	●	WNMA 32	.750	10.000	.500	.700	14°	1.000	—	NL33L	HC7	SHC7
S-MWLNR/L-163	S16T-MWLNR/L3	●	●	WNMA 32	1.000	12.000	.640	.910	14°	1.280	—	NL33L	HC7	SHC7
S-MWLNR/L-164	S16T-MWLNR/L4	●	●	WNMG 43	1.000	12.000	.640	.910	14°	1.280	—	NL44	CL20	XNS47
S-MWLNR/L-204	S20U-MWLNR/L4	●	●	WNGA 43	1.250	14.000	.765	1.160	14°	1.530	IWSN433	NL46	CL20	XNS47
S-MWLNR/L-244	S24U-MWLNR/L4	●	●	WNGA 43	1.500	14.000	.890	1.410	11°	1.780	IWSN433	NL46	CL20	XNS47

* Clamp Torque (lbf-in) : NL33L=13, NL44=19, NL46=19, SHC7=48, XNS47=45

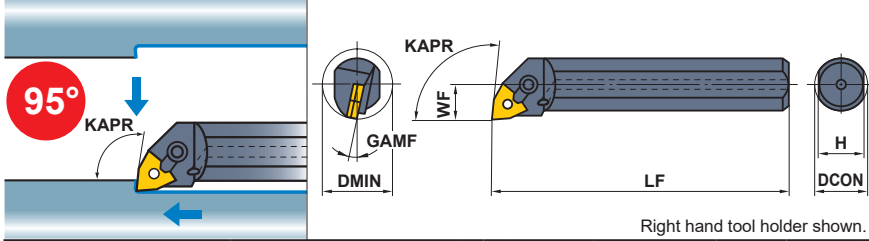
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
 Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

- VN type inserts > A138-A141
- WN type inserts > A142-A147
- CBN & PCD inserts > B032-B034, B051

● : USA Stock □ : Made to Order

M-MWLN

Heavy metal shank coolant thru WN \odot inserts



Finish	Light	Medium	Medium
FP  (4)	LP  (4)	MP  (4)	MK  (4)
Medium Standard  (4)	Medium - Rough RP  (4)	Stainless MM  (4)	

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)						Shim	* Shim Pin	Clamp Bridge	* Clamp Screw	
		R	L		DCON	LF	WF	H	GAMF	DMIN					
M-MWLN/L-164-C	J16T-MWLN/L4	●	●	WNMA	43 \odot	1.000	12.000	.640	.955	14°	1.280	—	NL44	CL20	XNS47
M-MWLN/L-204-C	J20T-MWLN/L4	●	●	WNMG	43 \odot	1.250	12.000	.765	1.205	14°	1.530	IWSN432	NL46	CL20	XNS48
M-MWLN/L-244-C	J24U-MWLN/L4	●	●	WNGA	43 \odot	1.500	14.000	.890	1.455	14°	1.780	IWSN432	NL46	CL20	XNS48

* Clamp Torque (lbf-in) : NL44=19, NL46=19, XNS47=45, XNS48=45

BORING BARS

RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Cutting Mode	l/d ≤ 3			3 < l/d ≤ 4		
			Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Carbon Steel, Alloy Steel	180–280HB	Medium Cutting	260–460	.004–.016	–.20	260–460	.004–.012	–.16
M Stainless Steel	≤200HB	Medium Cutting	200–330	.008–.012	–.16	165–330	.004–.010	–.12
K Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	200–330	.004–.016	–.20	200–330	.004–.012	–.16

WN \odot type inserts > A142–A147
CBN inserts > B034

SPARE PARTS > M001
TECHNICAL DATA > N001

BORING BARS

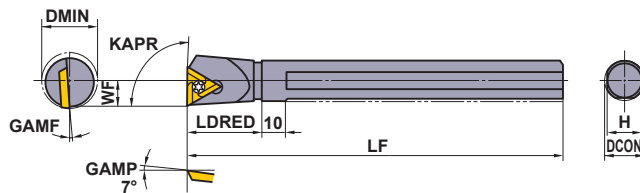
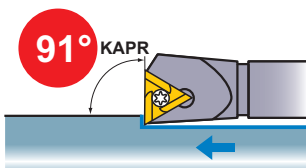
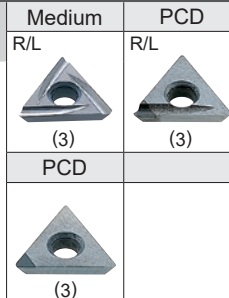
AL TYPE BORING BARS

- Shank sizes ϕ .625 inch thru ϕ 1.000 inch.
- Screw-on type.
- Recommended for aluminum, nonferrous metals and plastics.

S-STFE

Steel shank

TE \odot inserts



Right hand tool holder shown.

Order Number	ANSI Order Number	Stock		Insert Number	Dimensions (inch)							*		
		R	L		DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench	
S-STFER/L-103	S10R-STFER/L3	●	●	TEGX	32 \odot	.625	8.000	1.250	.406	.560	3°	.813	FC400890T	TKY10F
S-STFER/L-123	S12S-STFER/L3	●	●		32 \odot	.750	10.000	1.500	.500	.700	3°	1.000	FC400890T	TKY10F
S-STFER/L-163	S16T-STFEL/R3	●	●		32 \odot	1.000	12.000	1.625	.641	.910	3°	1.281	FC400890T	TKY10F

* Clamp Torque (lbf-in) : FC400890T=22

E

BORING BARS

RECOMMENDED CUTTING CONDITIONS

Work Material	Grade	Cutting Speed (SFM)	l/d=3		l/d=4		l/d=5		l/d=6	
			Feed (IPR)	D.O.C (inch)	Feed (IPR)	D.O.C (inch)	Feed (IPR)	D.O.C (inch)	Feed (IPR)	D.O.C (inch)
N Aluminum Alloy	HTi10	655-1970	.002-.010	-.118	.002-.010	-.118	.002-.008	-.098	.002-.008	-.039
	MD220	655-4920	.002-.010	-.118	.002-.010	-.118	.002-.008	-.098	.002-.008	-.039

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : USA Stock

TE \odot type inserts > A181
PCD inserts > B060

MICRO-DEX

- The minimum cutting diameter is $\phi 5$ mm (.197 inch).
- 7° positive insert.
- Carbide shank type.
- Easy-to-use tool geometries.
- Suitable for small workpiece.
- l/d is 5 times the diameter.

SCLC

Carbide shank

CC \odot inserts

Finish

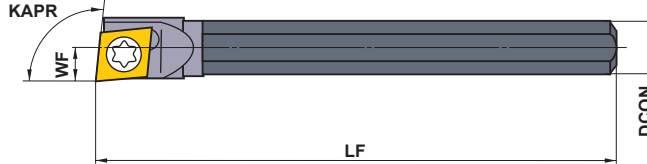
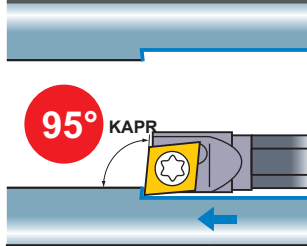
L-F



CBN/PCD



(03,04)



Right hand tool holder only.

Order Number	ANSI Order Number	Stock R	Insert Number	Dimensions (inch)						Clamp Screw	Wrench
				DCON	LF	WF	H	GAMP	DMIN		
C04GSCLCR03	C04G-SCLCR03	●	*1 CCGT 03S1 \odot	4	90	2.5	3.7	15°	5	TS16	TKY06F
C05HSCLCR03	C05H-SCLCR03	●	CCGT 03S1 \odot	5	100	3.0	4.7	13°	6	TS16	TKY06F
C06JSCLCR04	C06J-SCLCR04	●	CCGW 04T0 \odot	6	110	3.5	5.7	13°	7	TS21	TKY06F
C07KSCLCR04	C07K-SCLCR04	●	CCMW 04T0 \odot	7	125	4.0	6.7	11°	8	TS21	TKY06F

* Clamp Torque (lbf-in) : TS16=5.3, TS21=5.3

Note 1) Diameter of inscribed circle is non-ISO standard. (For SCLC type)

SWUB

Carbide shank

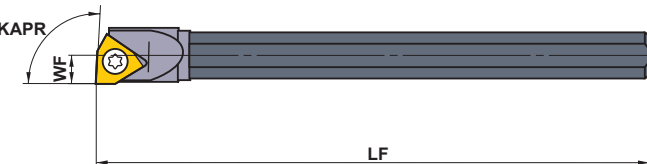
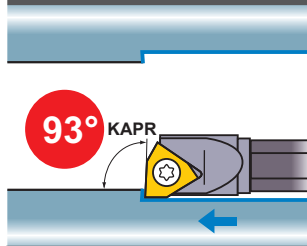
WB \odot inserts

Finish

L-F



(1.2,1.5)



Right hand tool holder only.

Order Number	ANSI Order Number	Stock R	Insert Number	Dimensions (inch)						Clamp Screw	Wrench
				DCON	LF	WF	H	GAMP	DMIN		
C05HSWUBR02	C05H-SWUBR02	●	WBGT 1.21 \odot LF	5	100	3.0	4.7	15°	6	TS21	TKY06F
C06JSWUBR02	C06J-SWUBR02	●	WBMT 1.21 \odot LF	6	110	3.5	5.7	13°	7	TS2C	TKY06F
C07KSWUBRL3	C07K-SWUBRL3	●	WBGT 1.51.5 \odot LF	7	125	4.0	6.7	15°	8	TS2	TKY06F

* Clamp Torque (lbf-in) : TS21=5.3, TS2C=5.3, TS2=5.3

RECOMMENDED CUTTING CONDITIONS

	Work Material	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	l/d
P	General Steel	NX2525	130-395	.0004-.002	.004-.012	3-5
M	Stainless Steel	VP15TF	130-395	.0004-.002	.004-.012	3-5
K	Cast Iron	VP15TF	130-395	.0004-.002	.004-.012	3-5
N	Non-Ferrous Material	VP15TF	260-525	.0004-.002	.004-.024	3-5
		MD220	260-525	.0004-.002	.004-.024	3-5
H	Hardened Steel 35-65HRC	MB8110	130-395	.0004-.002	.001-.008	3-5

CCGT type inserts > A153
CCGW type inserts > A161

CCMW type inserts > A161
WBGT type inserts > A195

WBMT type inserts > A195
CBN inserts > B038

SPARE PARTS > M001
TECHNICAL DATA > N001

BORING BARS

MICRO-DEX

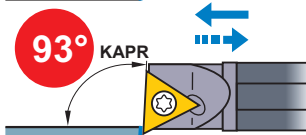
- The minimum cutting diameter is $\phi 8$ mm (.315 inch).
- 7° positive insert.
- Carbide shank type.
- Easy-to-use tool geometries.
- Suitable for small workpiece.
- l/d is 5 times the diameter.

STUC

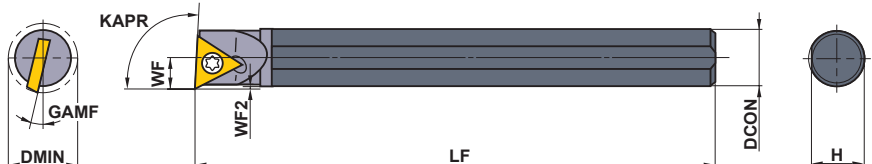
Carbide shank

TCGT inserts

Finish
R/L-F



Depth of cut is limited when cutting backwards.



Right hand tool holder only.

Order Number	ANSI Order Number	Stock	Insert Number	Dimensions (inch)							* Clamp Screw	Wrench
				DCON	LF	WF	WF2	H	GAMF	DMIN		
C07KSTUCR06	C07K-STUCR06	●	TCGT 1.21 \odot LF	7	125	4.0	0.35	6.7	12°	8	TS2C	TKY06F

* Clamp Torque (lbf-in) : TS2C=5.3

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

M

BORING BARS

RECOMMENDED CUTTING CONDITIONS

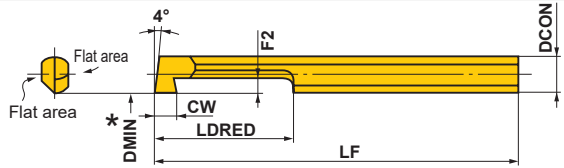
	Work Material	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	l/d
P	General Steel	NX2525	130-395	.0004-.002	.004-.012	3-5
M	Stainless Steel	VP15TF	130-395	.0004-.002	.004-.012	3-5
K	Cast Iron	VP15TF	130-395	.0004-.002	.004-.012	3-5
N	Non-Ferrous Material	VP15TF	260-525	.0004-.003	.004-.024	3-5
		MD220	260-525	.0004-.003	.004-.024	3-5
H	Hardened Steel 35-65HRC	MB8110	130-395	.0004-.002	.001-.008	3-5

● : USA Stock
<1 MICRO-MINI in one case>

MICRO-MINI

- Solid carbide type (Single cutting edges).
- l/d is 5 times the diameter.
- Cutting edge can be shaped according to the application.
Thus, it covers a wide cutting range (threading, grooving, copying, etc.).

STANDARD MICRO-MINI BORING BARS (Solid carbide boring bar)

Order Number	Stock	Dimensions(mm)						Geometry
		CW	DCON	LF	LDRED	DMIN*	F2	
C03FR-BLS	●	2.0	3	80	15	3.2	1.0	
C04FR-BLS	●	2.5	4	80	20	4.2	1.5	
C05HR-BLS	●	3.0	5	100	25	5.2	2.0	

* DMIN : Min. Cutting Diameter

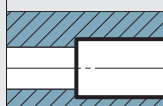

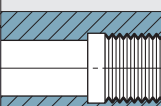
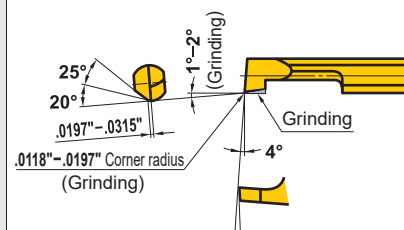
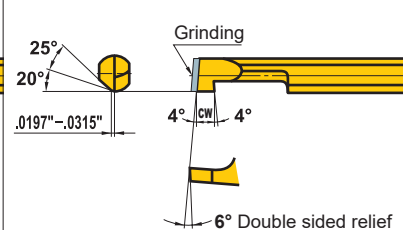
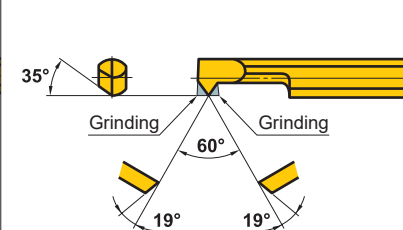
RECOMMENDED CUTTING CONDITIONS

	Work Material	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	l/d	Cutting Edge Preparation	
						* Corner Radius or BCH	* Honing
P	Carbon Steel, Alloy Steel 180-350HB	100-165	-.004	.004-.012	5	.004-.020	.0004-.002
M	Stainless Steel ≤200HB	100-165	-.004	.004-.012	5	≤.016	≤.001 (Honing not required)
K	Gray Cast Iron ≤350MPa	100-165	-.002	.004-.012	5	.004-.020	.0004-.002
N	Non-Ferrous Material	200-330	-.004	.004-.020	5	.004-.020	≤.001 (Honing not required)

* Cutting edge is not honed. Please hone according to the workpiece before machining.

GRINDING THE CUTTING EDGE OF MICRO-MINI BORING BAR

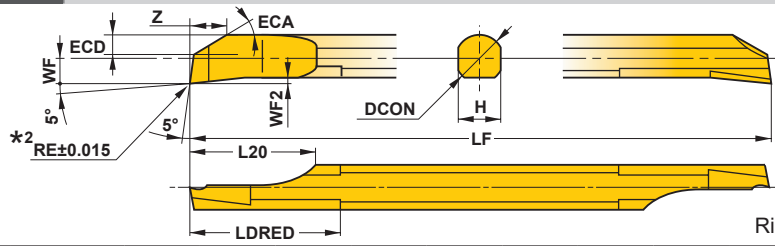
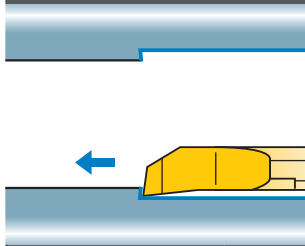
- MICRO-MINI boring bar can be applied to boring and grooving without any modifications. It can also be reground as shown below.
- For shaping and regrinding, use diamond wet stone approximately #250 - #400. Please grind according to application using the figure below as a reference.

	Boring	Grooving	Threading
Application			
Grinding Examples			

MICRO-MINI TWIN

CB

For internal machining



Right hand tool only.

BORING BARS

Order Number	Stock		Breaker	Dimensions(mm)										
	Micro Grain	Coated		DMIN*1		RE	DCON	LF	L20	LDRED	WF	WF2	H	Z
	TF15	VP15TF		l/d ≤ 3	l/d > 3									
CB02RS	●	●	without	2.2	3.6	0.05	2	50	5	6	1	0.25	1.8	1.4
CB02RS-B	●	●	with	2.2	3.9	0.05	2	50	5	6	1	0.25	1.8	1.4
CB02RS-01	●	●	without	2.2	3.6	0.1	2	50	5	6	1	0.25	1.8	1.4
CB02RS-01B	●	●	with	2.2	4.2	0.1	2	50	5	6	1	0.25	1.8	1.4
CB02RS-02	●	●	without	2.2	3.6	0.2	2	50	5	6	1	0.25	1.8	1.4
CB02RS-02B	●	●	with	2.2	4.9	0.2	2	50	5	6	1	0.25	1.8	1.4
CB03RS	●	●	without	3.2	4.2	0.05	3	50	7.5	9	1.5	0.35	2.7	2.3
CB03RS-B	●	●	with	3.2	4.4	0.05	3	50	7.5	9	1.5	0.35	2.7	2.3
CB03RS-01	●	●	without	3.2	4.2	0.1	3	50	7.5	9	1.5	0.35	2.7	2.3
CB03RS-01B	●	●	with	3.2	4.5	0.1	3	50	7.5	9	1.5	0.35	2.7	2.3
CB03RS-02	●	●	without	3.2	4.2	0.2	3	50	7.5	9	1.5	0.35	2.7	2.3
CB03RS-02B	●	●	with	3.2	4.8	0.2	3	50	7.5	9	1.5	0.35	2.7	2.3
CB04RS	●	●	without	4.2	5.1	0.05	4	60	10	12	2	0.45	3.6	3.1
CB04RS-B	●	●	with	4.2	5.2	0.05	4	60	10	12	2	0.45	3.6	3.1
CB04RS-01	●	●	without	4.2	5.1	0.1	4	60	10	12	2	0.45	3.6	3.1
CB04RS-01B	●	●	with	4.2	5.3	0.1	4	60	10	12	2	0.45	3.6	3.1
CB04RS-02	●	●	without	4.2	5.1	0.2	4	60	10	12	2	0.45	3.6	3.1
CB04RS-02B	●	●	with	4.2	5.5	0.2	4	60	10	12	2	0.45	3.6	3.1
CB05RS	●	●	without	5.2	6.0	0.05	5	70	12.5	15	2.5	0.55	4.5	3.9
CB05RS-B	●	●	with	5.2	6.1	0.05	5	70	12.5	15	2.5	0.55	4.5	3.9
CB05RS-02	●	●	without	5.2	6.0	0.2	5	70	12.5	15	2.5	0.55	4.5	3.9
CB05RS-02B	●	●	with	5.2	6.4	0.2	5	70	12.5	15	2.5	0.55	4.5	3.9
CB06RS	●	●	without	6.2	7.2	0.05	6	75	12.5	18	3	0.65	5.4	4.7
CB06RS-B	●	●	with	6.2	7.3	0.05	6	75	12.5	18	3	0.65	5.4	4.7
CB06RS-02	●	●	without	6.2	7.2	0.2	6	75	12.5	18	3	0.65	5.4	4.7
CB06RS-02B	●	●	with	6.2	7.8	0.2	6	75	12.5	18	3	0.65	5.4	4.7
CB07RS	●	●	without	7.2	8.6	0.05	7	85	12.5	21	3.5	0.75	6.3	5.5
CB07RS-B	●	●	with	7.2	8.8	0.05	7	85	12.5	21	3.5	0.75	6.3	5.5
CB07RS-02	●	●	without	7.2	8.6	0.2	7	85	12.5	21	3.5	0.75	6.3	5.5
CB07RS-02B	●	●	with	7.2	9.2	0.2	7	85	12.5	21	3.5	0.75	6.3	5.5
CB08RS	★	★	without	8.2	9.5	0.05	8	95	15	24	4	0.85	7.2	6.3
CB08RS-B	★	★	with	8.2	9.6	0.05	8	95	15	24	4	0.85	7.2	6.3
CB08RS-02	★	★	without	8.2	9.5	0.2	8	95	15	24	4	0.85	7.2	6.3
CB08RS-02B	★	★	with	8.2	9.8	0.2	8	95	15	24	4	0.85	7.2	6.3

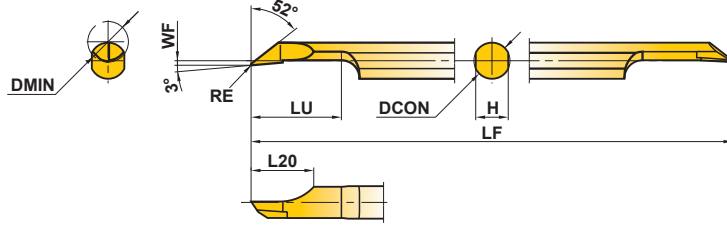
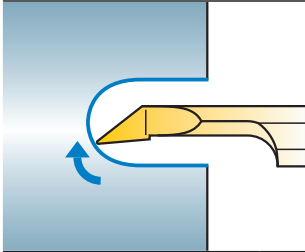
*1 DMIN : Min. Cutting Diameter

*2 The Re dimension represents the size before grinding a chip breaker.

● : USA Stock ★ : Stocked in Japan
 <1 MICRO-MINI TWIN in one case>

CR

For internal copying



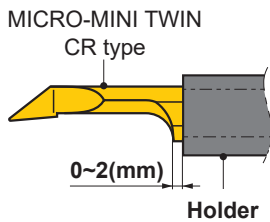
Right hand tool only.

Order Number	Stock		Breaker	Dimensions(mm)							
	Micro Grain	Coated		DMIN	RE	DCON	LF	LU	L20	WF	H
	TF15	VP15TF									
CR03RS-01	●	●	without	3.5	0.1	3	50	8	6	0.15	2.7
CR03RS-01B	●	●	with	3.5	0.1	3	50	8	6	0.15	2.7
CR04RS-01	●	●	without	4.5	0.1	4	60	10	7	0.15	3.6
CR04RS-01B	●	●	with	4.5	0.1	4	60	10	7	0.15	3.6
CR05RS-01	●	●	without	5.5	0.1	5	70	12	8	0.15	4.5
CR05RS-01B	●	●	with	5.5	0.1	5	70	12	8	0.15	4.5

NOTES

Profile turning, Inner end facing	Copying
<p>The cutting edge should not cross the center line of the workpiece.</p>	<p>The depth of cut should be smaller than the corner radius value.</p>
<p>If the cutting edge crosses the center line of a workpiece, the cutting edge can fracture.</p>	<p>With depths of cut larger than the corner radius value, burrs will be formed.</p>

RECOMMENDED TOOL OVERHANG



RECOMMENDED CUTTING CONDITIONS

Work Material	CB Type				CR Type		
	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	Overhang (l/d)	Cutting Speed (SFM)	Feed (IPR)	
						03RS/04RS	05RS
P Carbon Steel Alloy Steel 180-350HB	130-395	.0004-.002	.004-.012	3-5	130-395	.0004-.001	.0004-.002
M Stainless Steel ≤200HB	130-395	.0004-.002	.004-.012	3-5	130-395	.0004-.001	.0004-.002
K Gray Cast Iron ≤350MPa	130-395	.0004-.002	.004-.012	3-5	130-395	.0004-.002	.0004-.002
N Non-Ferrous Material	260-525	.0004-.003	.004-.020	3-5	260-525	.0004-.002	.0004-.003

Note 1) Recommend wet machining.

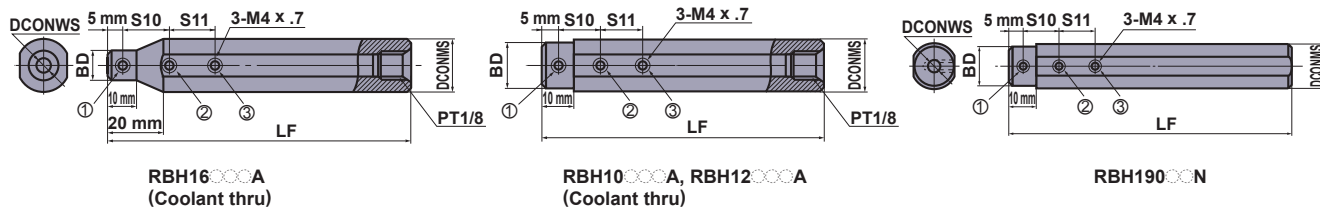
Note 2) The recommended tool overhang of CR type is LU+2 mm.

SPARE PARTS > M001
TECHNICAL DATA > N001

HOLDER (INCH SHANK STANDARD)

RBH

Round type holder



ID (DCONWS) : INCH TYPE

Order Number	Stock	Dimensions						Clamp Screw*			Wrench	Torque (lbf-in)
		DCONMS (inch)	DCONWS (inch)	BD (mm)	LF (mm)	S10 (mm)	S11 (mm)	①	②	③		
RBH10300A	●	.625	.187	15	100	15	15	A	A	A	HKY20F	18 (2.0 N·m)
RBH10350A	●	.625	.219	15	100	15	15	A	A	A	HKY20F	18 (2.0 N·m)
RBH10400A	●	.625	.250	15	100	20	20	A	A	A	HKY20F	18 (2.0 N·m)
RBH10500A	●	.625	.313	15	100	20	20	D	D	D	HKY20F	18 (2.0 N·m)
RBH12300A	●	.750	.187	18	125	15	15	B	B	B	HKY20F	18 (2.0 N·m)
RBH12350A	●	.750	.219	18	125	15	15	B	B	B	HKY20F	18 (2.0 N·m)
RBH12400A	●	.750	.250	18	125	20	20	B	B	B	HKY20F	18 (2.0 N·m)
RBH12500A	●	.750	.313	18	125	20	20	A	A	A	HKY20F	18 (2.0 N·m)
RBH16300A	●	1.000	.187	14	150	15	15	A	C	C	HKY20F	18 (2.0 N·m)
RBH16350A	●	1.000	.219	15	150	15	15	A	C	C	HKY20F	18 (2.0 N·m)
RBH16400A	●	1.000	.250	16	150	20	20	A	C	C	HKY20F	18 (2.0 N·m)
RBH16500A	●	1.000	.313	17	150	20	20	A	C	C	HKY20F	18 (2.0 N·m)

ID (DCONWS) : METRIC TYPE

Order Number	Stock	Dimensions						Clamp Screw*			Wrench	Torque (lbf-in)
		DCONMS (inch)	DCONWS (mm)	BD (mm)	LF (mm)	S10 (mm)	S11 (mm)	①	②	③		
RBH10126A	●	.625	2	15	100	10	—	B	B	—	HKY20F	18 (2.0 N·m)
RBH10189A	●	.625	3	15	100	10	10	A	A	A	HKY20F	18 (2.0 N·m)
RBH10252A	●	.625	4	15	100	15	15	A	A	A	HKY20F	18 (2.0 N·m)
RBH10315A	●	.625	5	15	100	15	15	A	A	A	HKY20F	18 (2.0 N·m)
RBH10378A	●	.625	6	15	100	20	20	A	A	A	HKY20F	18 (2.0 N·m)
RBH10441A	●	.625	7	15	100	20	20	A	A	A	HKY20F	18 (2.0 N·m)
RBH19020N	●	.750	2	18	125	10	—	C	C	—	HKY20F	18 (2.0 N·m)
RBH19030N	●	.750	3	18	125	10	10	B	B	B	HKY20F	18 (2.0 N·m)
RBH19040N	●	.750	4	18	125	15	15	B	B	B	HKY20F	18 (2.0 N·m)
RBH19050N	●	.750	5	18	125	15	15	B	B	B	HKY20F	18 (2.0 N·m)
RBH19060N	●	.750	6	18	125	15	15	B	B	B	HKY20F	18 (2.0 N·m)
RBH19070N	●	.750	7	18	125	20	20	B	B	B	HKY20F	18 (2.0 N·m)
RBH19080N	★	.750	8	18	125	20	20	A	A	A	HKY20F	18 (2.0 N·m)
RBH16126A	●	1.000	2	11	150	10	—	A	B	—	HKY20F	18 (2.0 N·m)
RBH16189A	●	1.000	3	12	150	10	10	A	B	C	HKY20F	18 (2.0 N·m)
RBH16252A	●	1.000	4	13	150	15	15	A	C	C	HKY20F	18 (2.0 N·m)
RBH16315A	●	1.000	5	14	150	15	15	A	C	C	HKY20F	18 (2.0 N·m)
RBH16378A	●	1.000	6	15	150	20	20	A	C	C	HKY20F	18 (2.0 N·m)
RBH16441A	●	1.000	7	16	150	20	20	A	C	C	HKY20F	18 (2.0 N·m)

* Order number of clamp screw A=HSS04004, B=HSS04006, C=HSS04008, D=HSS04003

● : USA Stock ★ : Stocked in Japan

HOLDER CROSS REFERENCE LIST OF INCH SHANK STANDARD

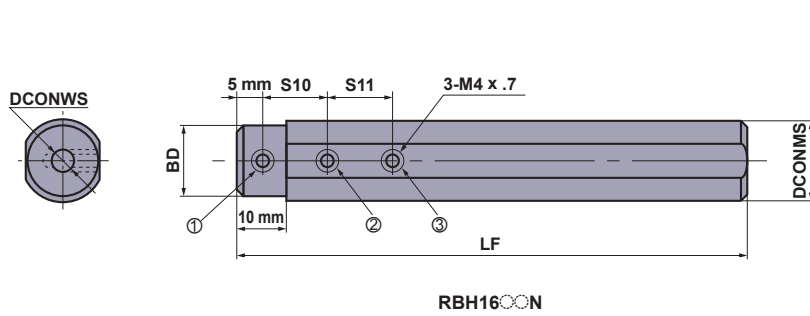
Holder		MICRO-MINI TWIN		MICRO-DEX	MICRO-MINI	Machine Makers	
Type	Order Number	CB	CR		C		
Round Type Holder φ .625 inch	ID : Metric Type	RBH10126A	02RS(-B) 02RS-0(B)	—	—	—	
		RBH10189A	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS	
		RBH10252A	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○R○○	04FR-BLS	
		RBH10315A	05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○R○○	05FR-BLS	
		RBH10378A	06RS(-B) 06RS-0(B)	—	C06GS○○○R○○	—	
		RBH10441A	07RS(-B) 07RS-0(B)	—	C07GS○○○R○○	—	
	ID : Inch Type	RBH10300A					Citizen Precision Machinery Co., Ltd. NC lathes
		RBH10350A	For DIMPLE BAR and SCREW CLAMP TYPE				
		RBH10400A					
		RBH10500A					
	Round Type Holder φ .750 inch	ID : Metric Type	RBH19020N	02RS(-B) 02RS-0(B)	—	—	—
			RBH19030N	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS
			RBH19040N	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○R○○	04FR-BLS
RBH19050N			05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○R○○	05FR-BLS	
RBH19060N			06RS(-B) 06RS-0(B)	—	C06GS○○○R○○	—	
RBH19070N			07RS(-B) 07RS-0(B)	—	C07GS○○○R○○	—	
ID : Inch Type		RBH12300A					Citizen Precision Machinery Co., Ltd.
		RBH12350A	For DIMPLE BAR and SCREW CLAMP TYPE				
		RBH12400A					
		RBH12500A					
Round Type Holder φ 1.000 inch		ID : Metric Type	RBH16126A	02RS(-B) 02RS-0(B)	—	—	—
			RBH16189A	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS
			RBH16252A	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○R○○	04FR-BLS
	RBH16315A		05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○R○○	05FR-BLS	
	RBH16378A		06RS(-B) 06RS-0(B)	—	C06GS○○○R○○	—	
	RBH16441A		07RS(-B) 07RS-0(B)	—	C07GS○○○R○○	—	
	ID : Inch Type	RBH16300A					Citizen Precision Machinery Co., Ltd. NC lathes
		RBH16350A	For DIMPLE BAR and SCREW CLAMP TYPE				
		RBH16400A					
		RBH16500A					

* Mitsubishi Materials obtained the makers' approval before entering their names in the list.

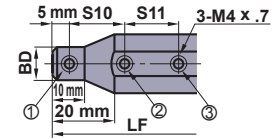
HOLDER (METRIC SHANK STANDARD)

RBH

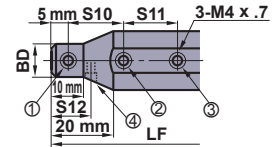
Round type holder



RBH20○N
RBH25○N



RBH22○N



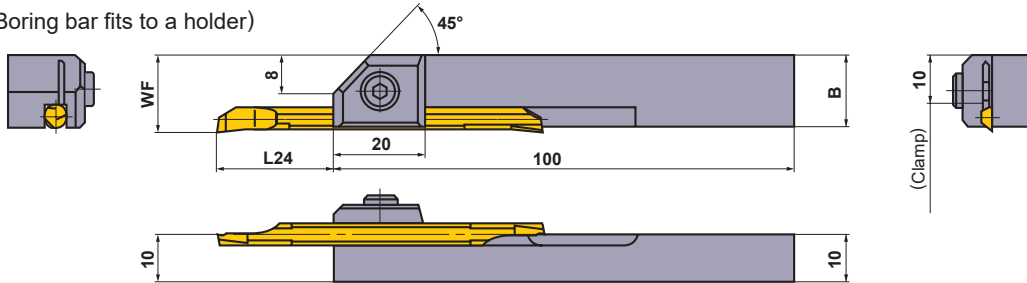
Order Number	Stock	Dimensions (mm)							Clamp Screw *				Wrench	Torque (lb·in)
		DCONMS	DCONWS	BD	LF	S10	S11	S12	①	②	③	④		
RBH1620N	●	16	2	15	100	10	—	—	B	B	—	—	HKY20F	18 (2.0 N·m)
RBH1630N	●	16	3	15	100	10	10	—	A	A	A	—	HKY20F	18 (2.0 N·m)
RBH1640N	●	16	4	15	100	15	15	—	A	A	A	—	HKY20F	18 (2.0 N·m)
RBH1650N	●	16	5	15	100	15	15	—	A	A	A	—	HKY20F	18 (2.0 N·m)
RBH1660N	●	16	6	15	100	15	15	—	A	A	A	—	HKY20F	18 (2.0 N·m)
RBH1670N	●	16	7	15	100	20	20	—	A	A	A	—	HKY20F	18 (2.0 N·m)
RBH2020N	●	20	2	11	125	10	—	—	A	A	—	—	HKY20F	18 (2.0 N·m)
RBH2030N	●	20	3	12	125	10	10	—	A	A	B	—	HKY20F	18 (2.0 N·m)
RBH2040N	●	20	4	13	125	15	15	—	A	B	B	—	HKY20F	18 (2.0 N·m)
RBH2050N	●	20	5	14	125	15	15	—	A	B	B	—	HKY20F	18 (2.0 N·m)
RBH2060N	●	20	6	15	125	15	15	—	A	B	B	—	HKY20F	18 (2.0 N·m)
RBH2070N	●	20	7	16	125	20	20	—	A	B	B	—	HKY20F	18 (2.0 N·m)
RBH2220N	●	22	2	11	125	10	—	10	A	B	—	A	HKY20F	18 (2.0 N·m)
RBH2230N	●	22	3	12	125	10	10	10	A	B	C	A	HKY20F	18 (2.0 N·m)
RBH2240N	●	22	4	13	125	15	15	12.5	A	B	B	A	HKY20F	18 (2.0 N·m)
RBH2250N	●	22	5	14	125	15	15	12.5	A	B	B	A	HKY20F	18 (2.0 N·m)
RBH2260N	●	22	6	15	125	15	15	15	A	B	B	A	HKY20F	18 (2.0 N·m)
RBH2270N	●	22	7	16	125	20	20	15	A	B	B	A	HKY20F	18 (2.0 N·m)
RBH2520N	●	25	2	11	150	10	—	—	A	B	—	—	HKY20F	18 (2.0 N·m)
RBH2530N	●	25	3	12	150	10	10	—	A	B	C	—	HKY20F	18 (2.0 N·m)
RBH2540N	●	25	4	13	150	15	15	—	A	C	C	—	HKY20F	18 (2.0 N·m)
RBH2550N	●	25	5	14	150	15	15	—	A	C	C	—	HKY20F	18 (2.0 N·m)
RBH2560N	●	25	6	15	150	15	15	—	A	C	C	—	HKY20F	18 (2.0 N·m)
RBH2570N	●	25	7	16	150	20	20	—	A	C	C	—	HKY20F	18 (2.0 N·m)

* Order number of clamp screw A=HSS04004, B=HSS04006, C=HSS04008

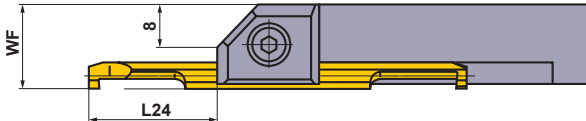
SBH

Square type holder

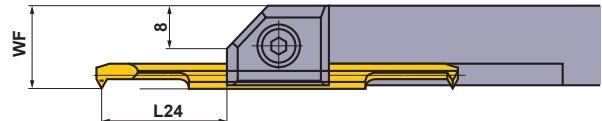
CB type (Boring bar fits to a holder)



CG type (Boring bar fits to a holder)



CT type (Boring bar fits to a holder)



Order Number	Stock	Dimensions (mm)											Clamp Screw	Wrench	Torque (N·m)			
		WF			Maximum Tool Overhang L24 (Recommended tool overhang when machining general steel)					B		MICRO-MINI TWIN						
		CB type	CG type	CT type	CB type	CG.RS-10 CG.RS-10B	CG.RS-20 CG.RS-20B	CT type	CR type	CG CT-CR type	CB-CG CT-CR type	CB type				CG type	CT type	CR type
SBH1020R	★	13	—	—	6—24 (6—10)	—	—	—	—	—	12.9	02RS(-B) 02RS-0(B)	—	—	—	HSC 04010	HKY30R	42 (4.8N·m)
SBH1030R	★	14	13.8	13.8	8.5—22 (9—15)	13—17.5 (14)	14—16.5 (15)	13—17.5 (14)	11—19.5 (12)	14	13.8	03RS(-B) 03RS-0(B)	030RS-0(B) 03RS-0(B)	0305RS-M4 03RS-M4(B)	03RS-01 03RS-01B	HSC 05012	HKY40R	84 (9.5N·m)
SBH1040R	★	15	14.8	14.8	11—29.5 (12—20)	18—22.5 (19)	19—21.5 (20)	18.5—22 (19.5)	13—27.5 (14)	15	14.7	04RS(-B) 04RS-0(B)	040RS-0(B) 04RS-0(B)	0407RS-M6 04RS-M6(B)	04RS-01 04RS-01B	HSC 05012	HKY40R	84 (9.5N·m)
SBH1050R	★	16	15.8	15.8	13.5—37 (15—25)	23—27.5 (24)	24—26.5 (25)	24—26.5 (25)	15—35.5 (16)	16	15.6	05RS(-B) 05RS-0(B)	051RS-0(B) 05RS-0(B)	0510RS-M8 05RS-M8(B)	05RS-01 05RS-01B	HSC 05012	HKY40R	84 (9.5N·m)
SBH1060R	★	17	16.8	16.8	13.5—42 (18—30)	23—32.5 (24)	24—31.5 (25)	24—31.5 (25)	—	17	16.5	06RS(-B) 06RS-0(B)	061RS-0(B) 06RS-0(B)	0610RS-M10 06RS-M10(B)	—	HSC 05012	HKY40R	84 (9.5N·m)
SBH1070R	★	18	17.8	—	13.5—52 (21—35)	28—38 (29)	29—37 (30)	—	—	18	17.4	07RS(-B) 07RS-0(B)	071RS-0(B) 07RS-0(B)	—	—	HSC 05012	HKY40R	84 (9.5N·m)

* The MICRO-DEX and the MICRO-MINI cannot be fit to square holders.

HOLDER

HOLDER CROSS REFERENCE LIST OF METRIC SHANK STANDARD

Holder		MICRO-MINI TWIN		MICRO-DEX	MICRO-MINI C	Machine Makers
Type	Order Number	CB	CR			
Round Type Holder φ16 mm	RBH1620N	02RS(-B) 02RS-0(B)	—	—	—	MIYANO MACHINERY JAPAN INC. NC lathes
	RBH1630N	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS	
	RBH1640N	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○○R○○	04FR-BLS	
	RBH1650N	05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○○R○○	05FR-BLS	
	RBH1660N	06RS(-B) 06RS-0(B)	—	C06GS○○○○R○○	—	
	RBH1670N	07RS(-B) 07RS-0(B)	—	C07GS○○○○R○○	—	
Round Type Holder φ20 mm	RBH2020N	02RS(-B) 02RS-0(B)	—	—	—	Citizen Precision Machinery Co., Ltd. Tsugami Corporation MIYANO MACHINERY JAPAN INC. NC lathes
	RBH2030N	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS	
	RBH2040N	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○○R○○	04FR-BLS	
	RBH2050N	05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○○R○○	05FR-BLS	
	RBH2060N	06RS(-B) 06RS-0(B)	—	C06GS○○○○R○○	—	
	RBH2070N	07RS(-B) 07RS-0(B)	—	C07GS○○○○R○○	—	
Round Type Holder φ22 mm	RBH2220N	02RS(-B) 02RS-0(B)	—	—	—	STAR MICRONICS CO., LTD.
	RBH2230N	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS	
	RBH2240N	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○○R○○	04FR-BLS	
	RBH2250N	05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○○R○○	05FR-BLS	
	RBH2260N	06RS(-B) 06RS-0(B)	—	C06GS○○○○R○○	—	
	RBH2270N	07RS(-B) 07RS-0(B)	—	C07GS○○○○R○○	—	
Round Type Holder φ25 mm	RBH2520N	02RS(-B) 02RS-0(B)	—	—	—	Tsugami Corporation MIYANO MACHINERY JAPAN INC. NC lathes
	RBH2530N	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	03FR-BLS	
	RBH2540N	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	C04GS○○○○R○○	04FR-BLS	
	RBH2550N	05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	C05GS○○○○R○○	05FR-BLS	
	RBH2560N	06RS(-B) 06RS-0(B)	—	C06GS○○○○R○○	—	
	RBH2570N	07RS(-B) 07RS-0(B)	—	C07GS○○○○R○○	—	
Square Type Holder □10 mm	SBH1020R	02RS(-B) 02RS-0(B)	—	—	—	NC lathes
	SBH1030R	03RS(-B) 03RS-0(B)	03RS-01 03RS-01B	—	—	
	SBH1040R	04RS(-B) 04RS-0(B)	04RS-01 04RS-01B	—	—	
	SBH1050R	05RS(-B) 05RS-0(B)	05RS-01 05RS-01B	—	—	
	SBH1060R	06RS(-B) 06RS-0(B)	—	—	—	
	SBH1070R	07RS(-B) 07RS-0(B)	—	—	—	

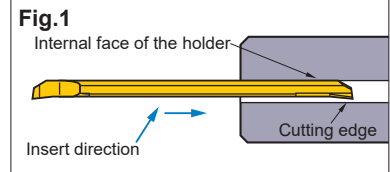
* Mitsubishi Materials obtained the makers' approval before entering their names in the list.

PRECAUTION IN USING THE MICRO-MINI TWIN

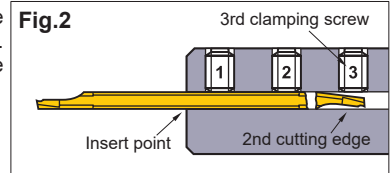
■ PRECAUTIONS IN USING THE MICRO-MINI TWIN

● When using a holder for general purpose/small automatic lathe

① To avoid chipping of the 2nd cutting edge take care when inserting the boring bar into the holder. Refer to fig.1 if the 2nd edge contacts the internal face of the holder there is a possibility that it may chip.



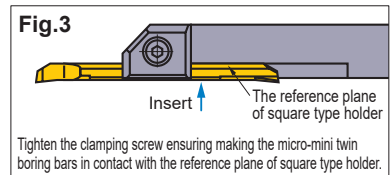
② When clamping the boring bar into the holder, there is a possibility that damage to the shank and the 2nd cutting edge can occur. Make sure that the clamping screws are tightened to the set torque value. Additionally make sure that there is no clamping screw near the 2nd cutting edge as this can break the boring bar.



③ When using Mitsubishi holders with a tool overhang of $5 \times d$, ensure that the 3rd clamping screw is removed prior to machining. (For RBH1620N, RBH19020N there are no 3rd clamping screws). The set torque value for clamping screw is 18 lbf-in. (2.0 N·m)

● When using a square type holder

① When installing the boring bar into the holder, tighten the clamping screw making the micro-mini twin boring bars in contact with the reference plane of square type holder.



② Make sure that the clamp screw is tightened. The recommended set torque value is shown in the table of holder.

③ Don't tighten the clamp screw without a micro-mini twin boring bar, otherwise the clamp bridge can be deformed.

BORING BARS

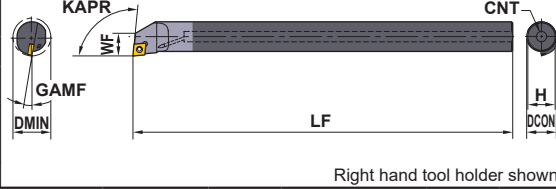
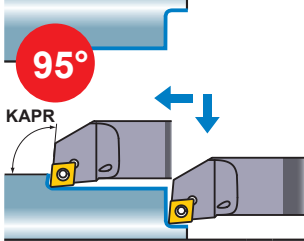
COOLANT THROUGH CARBIDE

- Two wall pocket.
- 7° and 11° positive insert, low cutting force.
- Screw-on type.
- Carbide shanks are stocked in various diameters.









(inch)

E-SCLC



Carbide Shank Coolant Through CC \odot inserts



Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
 (2,3)	 (2,3)	 (2,3)	 (2,3)
Medium	Medium	Flat top	CBN/PCD
MP	MM		
 (2,3,4)	 (2,3,4)	 (2,3,4)	 (2,3,4)

BORING BARS

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMP	CNT	WT (lbs)	*		
													
E05K-SCLCL2	●	CCMT CCGB CCGT CCMH CCGH CCET CCMW CCGW	21.5 \odot	.313	5.00	.385	.219	.295	15°	.094	.21	TS253	TKY08F
E05K-SCLCR2	●		21.5 \odot	.313	5.00	.385	.219	.295	15°	.094	.21	TS253	TKY08F
E06M-SCLCL2	●		21.5 \odot	.375	6.00	.477	.250	.360	15°	.109	.31	TS25	TKY08F
E06M-SCLCR2	●		21.5 \odot	.375	6.00	.477	.250	.360	15°	.109	.31	TS25	TKY08F
E08M-SCLCL2	●		21.5 \odot	.500	6.00	.602	.313	.485	13°	.188	.51	TS25	TKY08F
E08M-SCLCR2	●		21.5 \odot	.500	6.00	.602	.313	.485	13°	.188	.51	TS25	TKY08F
E10R-SCLCL2	●		21.5 \odot	.625	8.00	.797	.406	.600	10°	.219	1.2	TS25	TKY08F
E10R-SCLCR2	●		21.5 \odot	.625	8.00	.797	.406	.600	10°	.219	1.2	TS25	TKY08F
E12S-SCLCL2	●		21.5 \odot	.750	10.00	.954	.500	.725	8°	.281	2.2	TS25	TKY08F
E12S-SCLCR2	●		21.5 \odot	.750	10.00	.954	.500	.725	8°	.281	2.2	TS25	TKY08F
E08M-SCLCL3	●		32.5 \odot	.500	6.00	.602	.313	.485	13°	.188	.51	TS4	TKY15F
E08M-SCLCR3	●		32.5 \odot	.500	6.00	.602	.313	.485	13°	.188	.51	TS4	TKY15F
E10R-SCLCL3	●		32.5 \odot	.625	8.00	.797	.406	.600	10°	.219	1.2	TS4	TKY15F
E10R-SCLCR3	●		32.5 \odot	.625	8.00	.797	.406	.600	10°	.219	1.2	TS4	TKY15F
E12S-SCLCL3	●		32.5 \odot	.750	10.00	.954	.500	.725	8°	.281	2.2	TS4	TKY15F
E12S-SCLCR3	●		32.5 \odot	.750	10.00	.954	.500	.725	8°	.281	2.2	TS4	TKY15F
E16T-SCLCL3	●		32.5 \odot	1.000	12.00	1.219	.641	.975	7°	.313	5.0	TS4	TKY15F
E16T-SCLCR3	●		32.5 \odot	1.000	12.00	1.219	.641	.975	7°	.313	5.0	TS4	TKY15F
E16T-SCLCL4	●		43 \odot	1.000	12.00	1.219	.641	.975	7°	.313	5.0	TS5	TKY25F
E16T-SCLCR4	●		43 \odot	1.000	12.00	1.219	.641	.975	7°	.313	5.0	TS5	TKY25F

* Clamp Torque (lbf-in) : TS25 = 8.9, TS253 = 8.9, TS4 = 31, TS5 = 66

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

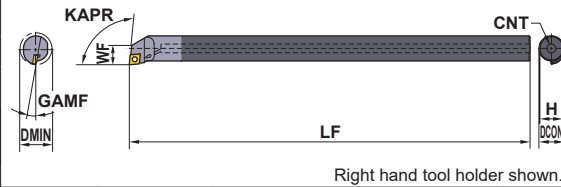
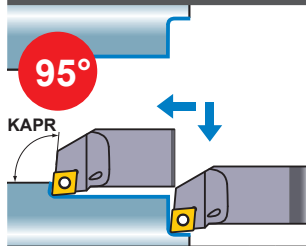
Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : USA Stock







CC \odot type inserts > A152-A161



CBN & PCD inserts > B037, B038, B053

(inch)

E-SCLP**Carbide Shank
Coolant Through****CP inserts**

Right hand tool holder shown.

Finish	Finish	Finish	Light
FV  (2.5,3)	R/L F  (2.5,3)	Standard  (2.5,3)	SV  (2.5,3)
Medium MV  (2.5,3)	CBN/PCD  (2.5,3)		

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	*		
													
E06M-SCLPL2	●	CPMT CPGB CPGT CPMH	21.5	.375	6.00	.477	.250	.360	15°	.109	.31	TS25	TKY08F
E06M-SCLPR2	●		21.5	.375	6.00	.477	.250	.360	15°	.109	.31	TS25	TKY08F
E08R-SCLPL2	●		21.5	.500	8.00	.602	.313	.485	6°	.188	.71	TS25	TKY08F
E08R-SCLPR2	●		21.5	.500	8.00	.602	.313	.485	6°	.188	.71	TS25	TKY08F
E10S-SCLPL2	●		21.5	.625	10.00	.797	.406	.600	10°	.219	1.3	TS25	TKY08F
E10S-SCLPR2	●		21.5	.625	10.00	.797	.406	.600	10°	.219	1.3	TS25	TKY08F
E12S-SCLPL2	●		21.5	.750	10.00	.954	.500	.725	8°	.281	2.2	TS25	TKY08F
E12S-SCLPR2	●		21.5	.750	10.00	.954	.500	.725	8°	.281	2.2	TS25	TKY08F
E08R-SCLPL2.5	●		2.51.5	.500	8.00	.602	.313	.485	6°	.188	.71	TS3D	TKY10F
E08R-SCLPR2.5	●		2.51.5	.500	8.00	.602	.313	.485	6°	.188	.71	TS3D	TKY10F
E08R-SCLPL3	●		32.5	.500	8.00	.602	.313	.485	8°	.188	.71	TS4S	TKY15F
E08R-SCLPR3	●		32.5	.500	8.00	.602	.313	.485	8°	.188	.71	TS4S	TKY15F
E10S-SCLPL3	●		32.5	.625	10.00	.797	.406	.600	10°	.219	1.3	TS4	TKY15F
E10S-SCLPR3	●		32.5	.625	10.00	.797	.406	.600	10°	.219	1.3	TS4	TKY15F
E12S-SCLPL3	●		32.5	.750	10.00	.954	.500	.725	8°	.281	2.2	TS4	TKY15F
E12S-SCLPR3	●		32.5	.750	10.00	.954	.500	.725	8°	.281	2.2	TS4	TKY15F
E16T-SCLPL3	●		32.5	1.000	12.00	1.219	.641	.975	7°	.313	5	TS4	TKY15F
E16T-SCLPR3	●		32.5	1.000	12.00	1.219	.641	.975	7°	.313	5	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25 = 8.9, TS3D = 22, TS4S = 31, TS4 = 31

E
BORING BARS

CP type inserts > A162, A163
 CBN & PCD inserts > B039, B053

CUTTING CONDITIONS > E048
 SPARE PARTS > M001
 TECHNICAL DATA > N001

E041

BORING BARS

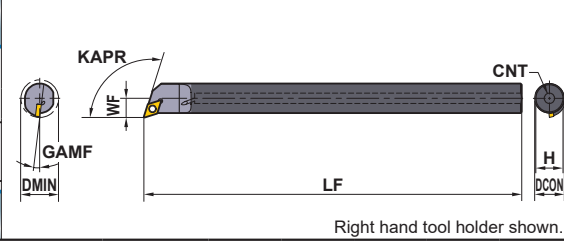
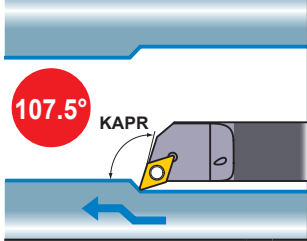
COOLANT THROUGH CARBIDE

- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Carbide shanks are stocked in various diameters.

(inch)

E-SDQC

Carbide Shank Coolant Through DC inserts



Finish	Finish	Light	Light
FP (2,3)	FM (2,3)	LP (2,3)	LM (2,3)
Medium MP (2,3)	Medium MM (2,3)	PCD (2,3)	CBN (2,3)

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	*		
											Clamp Screw	Wrench	
E06M-SDQCL2	●	DCET DCGT DCGW DCMT DCMW	21.5	.375	6.00	.488	.290	.360	8°	.109	.31	TS25	TKY08F
E06M-SDQCR2	●		21.5	.375	6.00	.488	.290	.360	8°	.109	.31	TS25	TKY08F
E08M-SDQCL2	●		21.5	.500	6.00	.665	.375	.485	10°	.188	.51	TS25	TKY08F
E08M-SDQCR2	●		21.5	.500	6.00	.665	.375	.485	10°	.188	.51	TS25	TKY08F
E10R-SDQCL2	●		21.5	.625	8.00	.797	.406	.600	7°	.219	1.2	TS25	TKY08F
E10R-SDQCR2	●		21.5	.625	8.00	.797	.406	.600	7°	.219	1.2	TS25	TKY08F
E12S-SDQCL3	●		32.5	.750	10.00	.954	.500	.725	7°	.281	2.2	TS4	TKY15F
E12S-SDQCR3	●		32.5	.750	10.00	.954	.500	.725	7°	.281	2.2	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25 = 8.9, TS4 = 31

BORING BARS

E

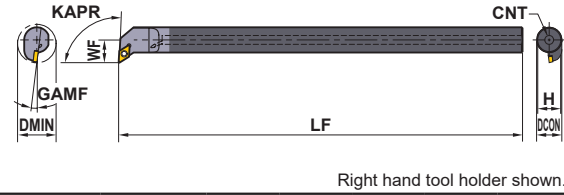
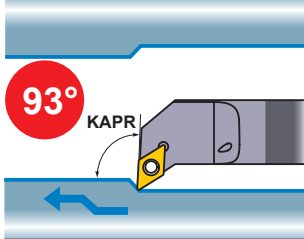
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : USA Stock

DC type inserts > A164-A171
CBN & PCD inserts > B040, B041, B054

(inch)

E-SDUC**Carbide Shank
Coolant Through DC \odot inserts**

Finish	Finish	Light	Light
FP (2,3)	FM (2,3)	LP (2,3)	LM (2,3)
Medium MP (2,3,4)	Medium MM (2,3,4)	PCD (2,3)	CBN (2,3)

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	*		
E06M-SDUCL2	●	DCET DCGT DCGW DCMT DCMW	21.5 \odot	.375	6.00	.664	.437	.360	7°	.109	.31	TS25	TKY08F
E06M-SDUCR2	●		21.5 \odot	.375	6.00	.664	.437	.360	7°	.109	.31	TS25	TKY08F
E08R-SDUCL2	●		21.5 \odot	.500	8.00	.789	.500	.485	7°	.188	.71	TS25	TKY08F
E08R-SDUCR2	●		21.5 \odot	.500	8.00	.789	.500	.485	7°	.188	.71	TS25	TKY08F
E10S-SDUCL2	●		21.5 \odot	.625	10.00	.954	.563	.600	7°	.219	1.6	TS25	TKY08F
E10S-SDUCR2	●		21.5 \odot	.625	10.00	.954	.563	.600	7°	.219	1.6	TS25	TKY08F
E12S-SDUCL3	●		32.5 \odot	.750	10.00	1.079	.625	.725	7°	.281	2.2	TS4	TKY15F
E12S-SDUCR3	●		32.5 \odot	.750	10.00	1.079	.625	.725	7°	.281	2.2	TS4	TKY15F
E16T-SDUCL4	●		43 \odot	1.000	12.00	1.329	.750	.975	5°	.313	5.0	TS5	TKY15F
E16T-SDUCR4	●		43 \odot	1.000	12.00	1.329	.750	.975	5°	.313	5.0	TS5	TKY15F

* Clamp Torque (lbf-in) : TS25 = 8.9, TS4 = 31, TS5 = 66

E
BORING BARS

DC \odot type inserts > A164–A171
 CBN & PCD inserts > B040, B041, B054

CUTTING CONDITIONS > E048
 SPARE PARTS > M001
 TECHNICAL DATA > N001

E043

BORING BARS

COOLANT THROUGH CARBIDE

- Two wall pocket.
- 7° and 11° positive insert, low cutting force.
- Screw-on type.
- Carbide shanks are stocked in various diameters.

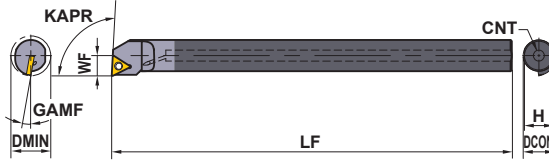
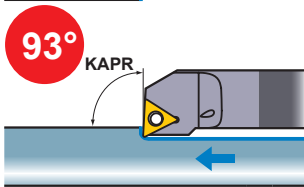
(inch)

E-STUC

Carbide Shank
Coolant Through

TC[○] inserts

Finish	Finish
FP (2,3)	FJ-P (2,3)
Light LP (2,3)	Medium MP (2,3)



Right hand tool holder shown.

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	*		
E06M-STUCL2	●	TCGT TCGW TCMT TCMW	21.5 [○]	.375	6.00	.477	.250	.360	15°	.109	.31	TS25	TKY08F
E06M-STUCR2	●		21.5 [○]	.375	6.00	.477	.250	.360	15°	.109	.31	TS25	TKY08F
E08M-STUCL2	●		21.5 [○]	.500	6.00	.602	.313	.485	13°	.188	.51	TS25	TKY08F
E08M-STUCR2	●		21.5 [○]	.500	6.00	.602	.313	.485	13°	.188	.51	TS25	TKY08F
E10R-STUCL2	●		21.5 [○]	.625	8.00	.797	.406	.600	10°	.219	1.2	TS25	TKY08F
E10R-STUCR2	●		21.5 [○]	.625	8.00	.797	.406	.600	10°	.219	1.2	TS25	TKY08F
E12S-STUCL3	●		32.5 [○]	.750	10.00	.954	.500	.725	8°	.281	2.2	TS4	TKY15F
E12S-STUCR3	●		32.5 [○]	.750	10.00	.954	.500	.725	8°	.281	2.2	TS4	TKY15F
E16T-STUCL3	●		32.5 [○]	1.000	12.00	1.219	.641	.975	7°	.313	5.0	TS4	TKY15F
E16T-STUCR3	●		32.5 [○]	1.000	12.00	1.219	.641	.975	7°	.313	5.0	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25 = 8.9, TS4 = 31

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.


Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

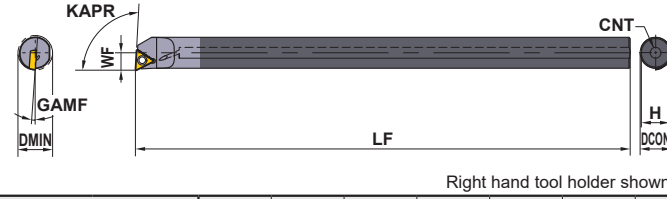
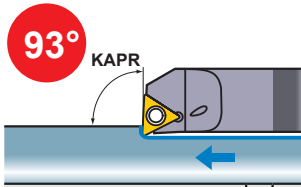
BORING BARS

(inch)

E-STUP

**Carbide Shank
Coolant Through****TP \odot inserts**

Finish	Light	Medium
FV  (1.5,1.8,2)	SV  (1.5,1.8,2)	MV  (1.5,1.8,2)
PCD  (1.5,1.8,2)	CBN  (1.5,1.8,2)	



Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	* Wrench		
											Clamp Screw	Wrench	
E05K-STUPL1.5	●	TPMH TPMX TPGB TPGH TPGX	1.51.5 \odot	.313	5.00	.402	.196	.295	10°	.094	.21	TS2D	TKY06F
E05K-STUPR1.5	●		1.51.5 \odot	.313	5.00	.402	.196	.295	10°	.094	.21	TS2D	TKY06F
E06M-STUPL1.8	●		1.81.5 \odot	.375	6.00	.450	.227	.360	8°	.109	.31	TS25D	TKY08F
E06M-STUPR1.8	●		1.81.5 \odot	.375	6.00	.450	.227	.360	8°	.109	.31	TS25D	TKY08F
E08R-STUPL1.8	●		1.81.5 \odot	.500	8.00	.580	.290	.485	7°	.188	.71	TS25D	TKY08F
E08R-STUPR1.8	●		1.81.5 \odot	.500	8.00	.580	.290	.485	7°	.188	.71	TS25D	TKY08F
E10S-STUPL2	●		22 \odot	.625	10.00	.700	.352	.600	4°	.219	1.6	TS31D	TKY10F
E10S-STUPR2	●		22 \odot	.625	10.00	.700	.352	.600	4°	.219	1.6	TS31D	TKY10F
E12S-STUPL2	●		22 \odot	.750	10.00	.825	.414	.725	0°	.281	2.2	TS31D	TKY10F
E12S-STUPR2	●		22 \odot	.750	10.00	.825	.414	.725	0°	.281	2.2	TS31D	TKY10F
E16T-STUPL2	●		22 \odot	1.000	12.00	1.280	.638	.975	0°	.313	5.0	TS31D	TKY10F
E16T-STUPR2	●		22 \odot	1.000	12.00	1.280	.638	.975	0°	.313	5.0	TS31D	TKY10F

* Clamp Torque (lbf-in) : TS2D = 5.3, TS25D = 8.9, TS31D = 22

E**BORING BARS**

TP \odot type inserts > A182–A185
 CBN & PCD inserts > B043, B044, B056, B057

CUTTING CONDITIONS > E048
 SPARE PARTS > M001
 TECHNICAL DATA > N001

E045

BORING BARS

COOLANT THROUGH CARBIDE

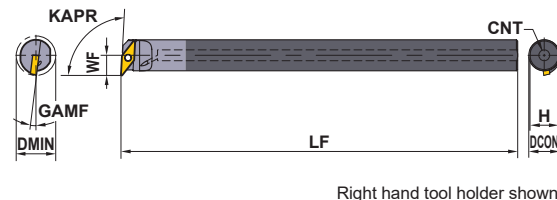
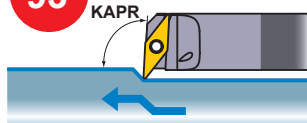
- Two wall pocket.
- 7° positive insert, low cutting force.
- Screw-on type.
- Carbide shanks are stocked in various diameters.

(inch)


E-SVUC



Carbide Shank Coolant Through VC[○]inserts

93°



Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(2,3)	(2,3)	(2,3)	(2,3)
Medium	Medium	Medium	CBN
MP	MM	Standard	
			
(3)	(3)	(3)	(2,3)

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	*  		
											Clamp Screw	Wrench	
E10R-SVUCL2	●	VCMT VCGT VCGW VCMW	22 [○]	.625	8.00	.831	.508	.600	7°	.219	1.2	TS25	TKY08F
E10R-SVUCR2	●		22 [○]	.625	8.00	.831	.508	.600	7°	.219	1.2	TS25	TKY08F
E12S-SVUCL2	●		22 [○]	.750	10.00	.985	.600	.725	7°	.281	2.2	TS25	TKY08F
E12S-SVUCR2	●		22 [○]	.750	10.00	.985	.600	.725	7°	.281	2.2	TS25	TKY08F
E16T-SVUCL3	●		33 [○]	1.000	12.00	1.340	.830	.975	6°	.312	5.0	TS4	TKY15F
E16T-SVUCR3	●		33 [○]	1.000	12.00	1.340	.830	.975	6°	.312	5.0	TS4	TKY15F

* Clamp Torque (lbf-in) : TS25 = 8.9, TS4 = 31

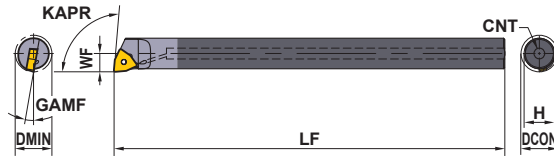
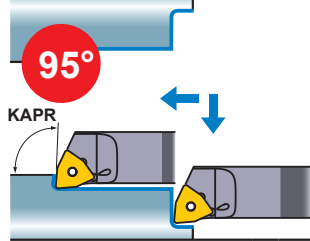
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.

Note 2) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

BORING BARS



(inch)

E-SWLO

**Carbide Shank
Coolant Through****WC \odot inserts**

Right hand tool holder shown.

Finish	Finish	Medium
FJ-P  (2,3)	R/L  (1.2,1.5)	Standard  (1.2,1.5,2,3)
Light	PCD	
MJ  (2,3)	 (1.5,2,3)	

Order Number	Stock	Insert Number	DCON	LF	DMIN	WF	H	GAMF	CNT	WT (lbs)	*		
											 Clamp Screw	 Wrench	
E04H-SWL0L1.2	●	WCMT WCMW WCGT WCGW	1.21 \odot	.250	4.00	.313	.156	.235	17°	.078	.11	TS2	TKY06F
E04H-SWL0R1.2	●		1.21 \odot	.250	4.00	.313	.156	.235	17°	.078	.11	TS2	TKY06F
E05M-SWL0L1.2	●		1.21 \odot	.313	6.00	.375	.188	.295	15°	.094	.26	TS21	TKY06F
E05M-SWL0R1.2	●		1.21 \odot	.313	6.00	.375	.188	.295	15°	.094	.26	TS21	TKY06F
E05M-SWL0L1.5	●		1.51.5 \odot	.313	6.00	.375	.188	.295	15°	.094	.26	TS2	TKY06F
E05M-SWL0R1.5	●		1.51.5 \odot	.313	6.00	.375	.188	.295	15°	.094	.26	TS2	TKY06F
E05K-SWL0L2	●		21.5 \odot	.313	5.00	.406	.203	.295	15°	.094	.21	TS25	TKT08F
E05K-SWL0R2	●		21.5 \odot	.313	5.00	.406	.203	.295	15°	.094	.21	TS25	TKT08F
E06M-SWL0L2	●		21.5 \odot	.375	6.00	.438	.218	.358	15°	.109	.31	TS25	TKT08F
E06M-SWL0R2	●		21.5 \odot	.375	6.00	.438	.218	.358	15°	.109	.31	TS25	TKT08F
E08M-SWL0L2	●		21.5 \odot	.500	6.00	.625	.312	.480	13°	.188	.51	TS25	TKT08F
E08M-SWL0R2	●		21.5 \odot	.500	6.00	.625	.312	.480	13°	.188	.51	TS25	TKT08F
E10R-SWL0L3	●		32.5 \odot	.625	8.00	.750	.375	.600	10°	.219	1.0	TS4	TKY15F
E10R-SWL0R3	●		32.5 \odot	.625	8.00	.750	.375	.600	10°	.219	1.0	TS4	TKY15F
E12S-SWL0L3	●		32.5 \odot	.750	10.00	1.000	.500	.725	8°	.281	1.7	TS4	TKY15F
E12S-SWL0R3	●		32.5 \odot	.750	10.00	1.000	.500	.725	8°	.281	1.7	TS4	TKY15F
E16T-SWL0L3	●	32.5 \odot	1.000	12.00	1.250	.640	.975	7°	.313	4.1	TS4	TKY15F	
E16T-SWL0R3	●	32.5 \odot	1.000	12.00	1.250	.640	.975	7°	.313	4.1	TS4	TKY15F	

* Clamp Torque (lbf-in) : TS2 = 5.3, TS21 = 5.3, TS25 = 8.9, TS4 = 31

E

BORING BARS

WC \odot type inserts > A196, A197
 CBN & PCD inserts > B059

CUTTING CONDITIONS > E048
 SPARE PARTS > M001
 TECHNICAL DATA > N001

E047

BORING BARS

RECOMMENDED CUTTING CONDITIONS

(inch)

			Case 1			Case 2			
Heavy Metal Shank			L/D ≤ 3			3 < L/D ≤ 4			
Steel Shank			L/D ≤ 3			3 < L/D ≤ 4			
Carbide Shank			L/D ≤ 5			5 < L/D ≤ 8			
Work Material	Hardness	Cutting Mode	vc (SFM)	f (IPR)	ap	vc (SFM)	f (IPR)	ap	
P	Carbon Steel Alloy Steel	180 – 280 HB	Light Cutting	295 – 525	.002 – .006	.008	260 – 490	.002 – .006	.008
			Medium Cutting	195 – 395	.006 – .014	.118	165 – 360	.004 – .008	.059
M	Stainless Steel	≤ 200 HB	Light Cutting	330 – 590	.002 – .006	.008	330 – 590	.002 – .006	.008
			Medium Cutting	165 – 295	.006 – .010	.079	130 – 260	.004 – .008	.039
K	Cast Iron	Tensile Strength ≤ 350 MPa	Light Cutting	295 – 525	.002 – .006	.020	330 – 590	.004 – .006	.020
			Medium Cutting	195 – 390	.006 – .010	.079	130 – 260	.006 – .010	.060
N	Aluminum Alloy	–	Light Cutting	655 – 1310	.002 – .006	.008	665 – 1310	.002 – .006	.008
			Medium Cutting	490 – 820	.002 – .006	.079	490 – 820	.002 – .006	.059

M

BORING BARS

Memo

A series of horizontal dotted lines for writing.