GUIDE TO BORING BARS

●Section organization

①Organized 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

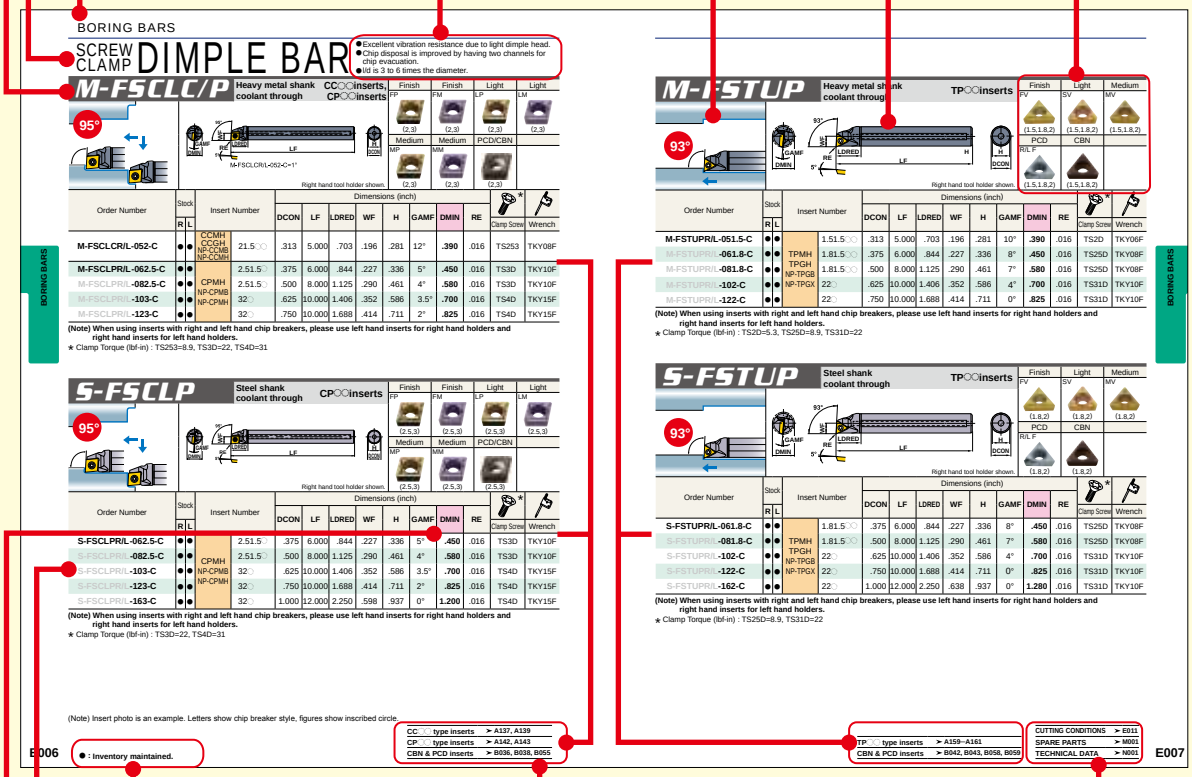
PRODUCT SECTION

PRODUCT FEATURES

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

GEOMETRY

CHIP BREAKER BY CUTTING APPLICATION



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

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

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

MIN. CUTTING DIAMETER
is color-coded to locate at a glance.

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

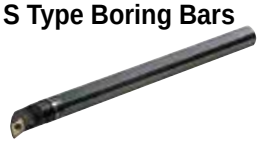
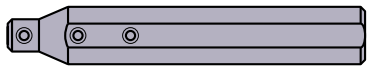
●To Order: Please specify order number and hand of tool (right/left).

TURNING

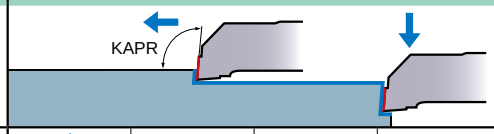
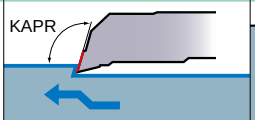
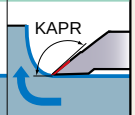
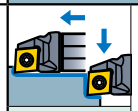
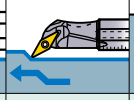
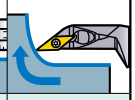
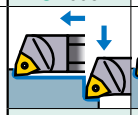
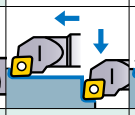
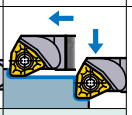
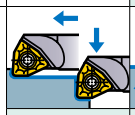
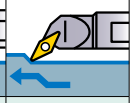
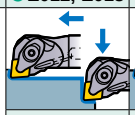
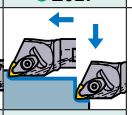
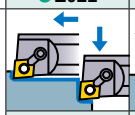
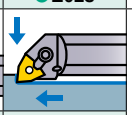
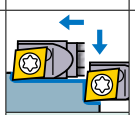
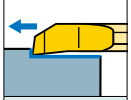
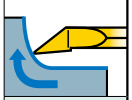
BORING BARS

∗Arranged by Alphabetical order

CLASSIFICATION

Type of Tool	Features	KAPR= 75°	KAPR= 90°, 91°	KAPR= 93°			
		KAPR	KAPR	KAPR			
SCREW CLAMP DIMPLE BAR 	● The minimum cutting diameter is ϕ.390inch. ● 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 6 times the diameter.			M-FSTUP, S-FSTUP ➲E007	M-FSDUC ➲E008	M-FSVUB/C ➲E009	M-FSWUB/P ➲E009
S Type Boring Bars 	● Two wall pocket. ● 7º positive insert, low cutting force. ● Screw-on type.	S-SSKC ➲E015		S-SDUC ➲E014	S-STUC, C-STUC ➲E015, E016	S-SVUC ➲E017	S-SWUC ➲E019
DOUBLE CLAMP DIMPLE BAR 	● Negative rake. ● New double clamp type. ● Holds inserts securely. ● Excellent cutting edge repeatability.	S-DSKN ➲E022	S-DTFN ➲E022	S-DDUN ➲E021	S-DVUN ➲E023		
M Type Boring Bars 	● Negative rake. ● Two wall pocket. ● Pin lock and top clamp retention. ● (Opt.) Single clamp available as clamp on or pin lock holder.	S-MSKN ➲E025	S-MTFN ➲E025	S-MDUN ➲E024	S-MVUN ➲E026		
AL Type Boring Bars 	● Shank sizes ϕ.625inch thru ϕ1.000inch. ● Screw-on type. ● Recommended for aluminum, nonferrous metals and plastics.		S-STFE ➲E028				
MICRO-DEX Boring Bars (Carbide Shank) 	● The minimum cutting diameter is ϕ5mm (.197inch). ● 7°positive insert. ● Carbide shank type. ● Easy-to-use tool geometries. ● Suitable for small workpiece. ● l/d is 5 times the diameter.			SWUB ➲E029	STUC ➲E030		
MICRO-MINI TWIN Boring Bars 	● The minimum cutting diameter is ϕ2.2mm (.087inch). ● Solid carbide type with two cutting edges. ● Continuous cutting from boring to facing. ● With or without a chip breaker.						
MICRO-MINI Boring Bars 	● The minimum cutting diameter is ϕ3.2mm (.126inch). ● 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.).	 C○○F/HR-BLS ➲E031					
RBH Type Holder 	● Holder for MICRO-MINI TWIN and MICRO-MINI. ● Round shanks suitable for use with frontal gang type tool posts with sleeve.	 RBH Inch➲E034, Metric➲E036					
SBH Type Holder 	● Holder for MICRO-MINI TWIN and MICRO-MINI. ● Square shanks suitable for use with frontal gang type tool posts.	 SBH ➲E037					

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

	KAPR= 95°					KAPR = 107°30′ – 117°30′		KAPR= 142°	Selection Standard							
									Economical	Low Cutting Resistance (Sharpness)	Clamp Rigidity	Vibration Resisiance	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										◎				◎
		 CB○○RS(-B) ➲E032						 CR○○RS-01(B) ➲E033		◎		◎				◎
										◎						◎

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

IDENTIFICATION

S Type, D Type, Double Clamp Boring Bars, M Type Boring Bars

① Shank Material	
C	Carbide Shank
M	Heavy Metal Shank
S	Steel Shank

② Method of Holding	
D	1 action
M	2 action
S	

③ Insert Shape			
C	80°	T	60°
D	55°	V	35°
S	90°	W	60°

④ Tool Style			
F	91°	Q	107°30′ 117°30′
K	75°	U	93°
L	95° 95°	Z	

S - S C L C R - 10 3 - C
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

⑤ Insert Relief Angle	
C	7°
E	20°
N	0°
P	11°

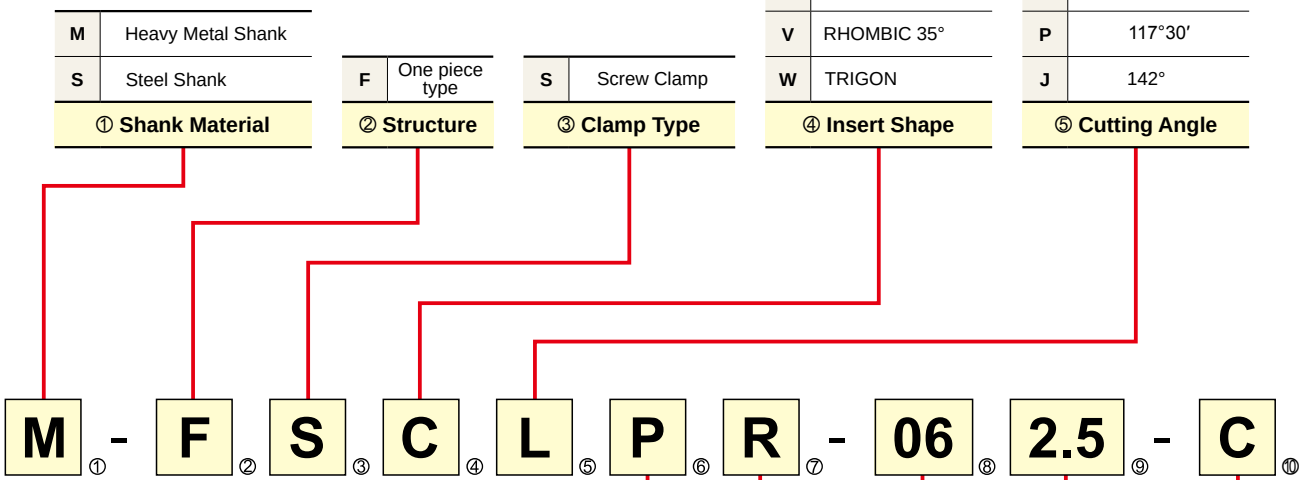
⑥ Hand of Tool	
R	
L	

⑦ Shank Size								
06	08	10	12	16	20	24	28	32
.375	.500	.625	.750	1.000	1.250	1.500	1.750	2.000

⑧ Insert Size									
Inscribed Circle of Insert (inch)	.187	.219	.250	.313	.375	.500	.625	.750	1.000
T	1.5	1.8	2	2.5	3	4	5	6	8
S R			2	2.5	3	4	5	6	8
W			2	2.5	3	4	5	6	
80° C					3	4	5	6	8
55° D					3	4	5	6	8
35° V			2		3				

⑨ Oil hole	
C	Coolant Through

SCREW CLAMP DIMPLE BAR



① Shank Material	
M	Heavy Metal Shank
S	Steel Shank

② Structure	
F	One piece type

③ Clamp Type	
S	Screw Clamp

④ Insert Shape	
C	RHOMBIC 80°
D	RHOMBIC 55°
T	TRIANGULAR 60°
V	RHOMBIC 35°
W	TRIGON

⑤ Cutting Angle	
U	93°
L	95°
Q	107°30′
P	117°30′
J	142°

⑥ Insert Relief Angle	
C	7°
P	11°

⑦ Hand of Tool	
R	Right Hand
L	Left Hand

⑧ Shank Diameter	
05	.313
06	.375
08	.500
10	.625
12	.750
16	1.000

⑨ Insert Size					
Inscribed circle of insert	.187	.219	.250	.313	.375
RHOMBIC 80°	—	—	2	2.5	3
RHOMBIC 55°	—	—	2	—	3
TRIANGULAR 60°	1.5	1.8	2	—	3
RHOMBIC 35°	1.5	—	2	—	—
TRIGON	1.5	—	2	—	3

⑩ Oil hole	
C	Coolant Through

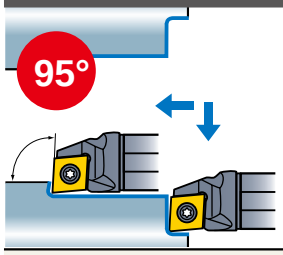
Note: Dimension symbols conforming to ISO13399. See pages PR3-PR6 for details.

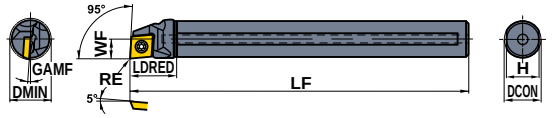
SCREW CLAMP DIMPLE BAR

- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- l/d is 3 to 6 times the diameter.

M-FSCLC/P

Heavy metal shank coolant through — **CC○○inserts, CP○○inserts**





M-FSCLCR/L-052-C=1°

Right hand tool holder shown.

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

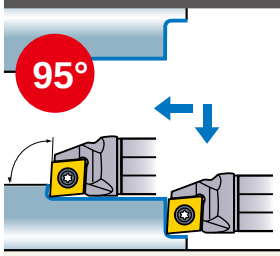
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Clamp Screw *	Wrench
M-FSCLCR/L-052-C	●	●	CCMH CCGH NP-CCMB NP-CCMH	21.5○○	.313	5.000	.703	.196	.281	12°	**.390**	.016	TS253	TKY08F
M-FSCLPR/L-062.5-C	●	●	CPMH NP-CPMB NP-CPMH	2.51.5○	.375	6.000	.844	.227	.336	5°	**.450**	.016	TS3D	TKY10F
M-FSCLPR/L-082.5-C	●	●		2.51.5○	.500	8.000	1.125	.290	.461	4°	**.580**	.016	TS3D	TKY10F
M-FSCLPR/L-103-C	●	●		32○	.625	10.000	1.406	.352	.586	3.5°	**.700**	.016	TS4D	TKY15F
M-FSCLPR/L-123-C	●	●		32○	.750	10.000	1.688	.414	.711	2°	**.825**	.016	TS4D	TKY15F

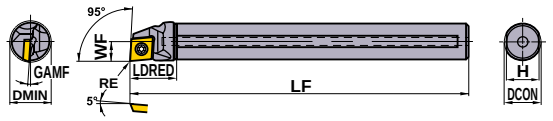
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

* Clamp Torque (lbf-in) : TS253=8.9, TS3D=22, TS4D=31

S-FSCLP

Steel shank coolant through — **CP○○inserts**





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(2.5,3)	(2.5,3)	(2.5,3)	(2.5,3)
Medium	Medium	PCD/CBN	
MP	MM		
			
(2.5,3)	(2.5,3)	(2.5,3)	

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Clamp Screw *	Wrench
S-FSCLPR/L-062.5-C	●	●	CPMH NP-CPMB NP-CPMH	2.51.5○	.375	6.000	.844	.227	.336	5°	**.450**	.016	TS3D	TKY10F
S-FSCLPR/L-082.5-C	●	●		2.51.5○	.500	8.000	1.125	.290	.461	4°	**.580**	.016	TS3D	TKY10F
S-FSCLPR/L-103-C	●	●		32○	.625	10.000	1.406	.352	.586	3.5°	**.700**	.016	TS4D	TKY15F
S-FSCLPR/L-123-C	●	●		32○	.750	10.000	1.688	.414	.711	2°	**.825**	.016	TS4D	TKY15F
S-FSCLPR/L-163-C	●	●		32○	1.000	12.000	2.250	.598	.937	0°	**1.200**	.016	TS4D	TKY15F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

* Clamp Torque (lbf-in) : TS3D=22, TS4D=31

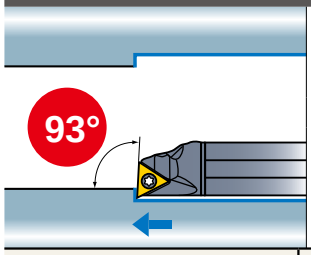
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

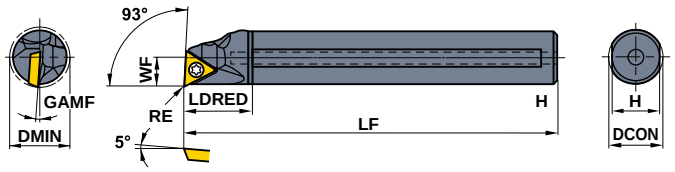
CC○○ type inserts	➤ A137, A139
CP○○ type inserts	➤ A142, A143
CBN & PCD inserts	➤ B036, B038, B055

● : Inventory maintained.

M-FSTUP

Heavy metal shank coolant through — **TP○○inserts**





Right hand tool holder shown.

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

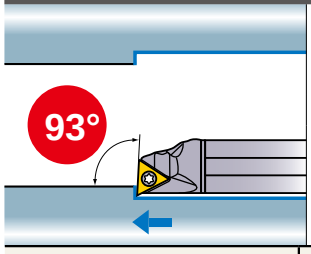
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSTUPR/L-051.5-C	●	●	TPMH TPGH NP-TPGB NP-TPGX	1.51.5○○	.313	5.000	.703	.196	.281	10°	**.390**	.016	TS2D	TKY06F
M-FSTUPR/L-061.8-C	●	●		1.81.5○○	.375	6.000	.844	.227	.336	8°	**.450**	.016	TS25D	TKY08F
M-FSTUPR/L-081.8-C	●	●		1.81.5○○	.500	8.000	1.125	.290	.461	7°	**.580**	.016	TS25D	TKY08F
M-FSTUPR/L-102-C	●	●		22○	.625	10.000	1.406	.352	.586	4°	**.700**	.016	TS31D	TKY10F
M-FSTUPR/L-122-C	●	●		22○	.750	10.000	1.688	.414	.711	0°	**.825**	.016	TS31D	TKY10F

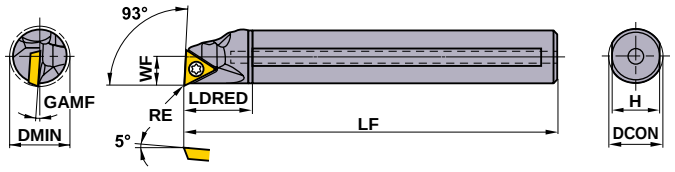
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

S-FSTUP

Steel shank coolant through — **TP○○inserts**





Right hand tool holder shown.

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

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-FSTUPR/L-061.8-C	●	●	TPMH TPGH NP-TPGB NP-TPGX	1.81.5○○	.375	6.000	.844	.227	.336	8°	**.450**	.016	TS25D	TKY08F
S-FSTUPR/L-081.8-C	●	●		1.81.5○○	.500	8.000	1.125	.290	.461	7°	**.580**	.016	TS25D	TKY08F
S-FSTUPR/L-102-C	●	●		22○	.625	10.000	1.406	.352	.586	4°	**.700**	.016	TS31D	TKY10F
S-FSTUPR/L-122-C	●	●		22○	.750	10.000	1.688	.414	.711	0°	**.825**	.016	TS31D	TKY10F
S-FSTUPR/L-162-C	●	●		22○	1.000	12.000	2.250	.638	.937	0°	**1.280**	.016	TS31D	TKY10F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

TP○○ type inserts	➤ A159–A161
CBN & PCD inserts	➤ B042, B043, B058, B059

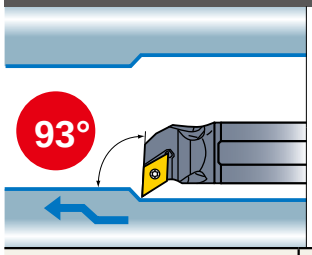
CUTTING CONDITIONS	➤ E011
SPARE PARTS	➤ M001
TECHNICAL DATA	➤ N001

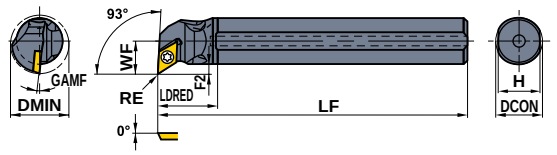
SCREW CLAMP DIMPLE BAR

- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- l/d is 3 to 6 times the diameter.

M-FSDUC

Heavy metal shank coolant through **DC○○inserts**





Right hand tool holder shown.

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)

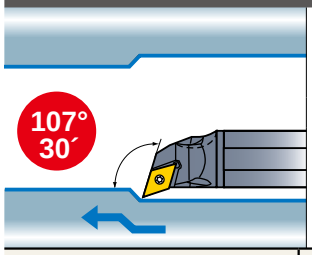
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	F2	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSDUCR/L-062-C	●	●	DCMT DCET DCGT NP-DCMW NP-DCGW	21.5○	.375	6.000	.675	.317	.130	.336	7.5°	**.525**	.016	TS25	TKY08F
M-FSDUCR/L-082-C	●	●		21.5○	.500	8.000	.833	.380	.130	.461	6°	**.667**	.016	TS25	TKY08F
M-FSDUCR/L-102-C	●	●		21.5○	.625	10.000	.781	.442	.130	.586	5°	**.781**	.016	TS25	TKY08F
M-FSDUCR/L-123-C	●	●		32.5○	.750	10.000	.844	.615	.240	.711	5°	**1.200**	.031	TS43	TKY15F

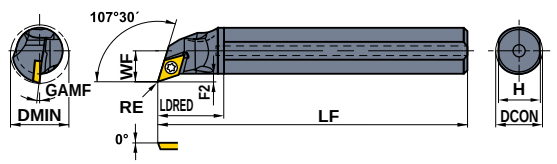
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

M-FSDQC

Heavy metal shank coolant through **DC○○inserts**





Right hand tool holder shown.

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)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	F2	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSDQCR/L-062-C	●	●	DCMT DCET DCGT NP-DCMW NP-DCGW	21.5○	.375	6.000	.769	.290	.102	.336	8°	**.488**	.016	TS25	TKY08F
M-FSDQCR/L-082-C	●	●		21.5○	.500	8.000	.938	.352	.102	.461	6°	**.667**	.016	TS25	TKY08F
M-FSDQCR/L-102-C	●	●		21.5○	.625	10.000	.879	.415	.102	.586	5°	**.781**	.016	TS25	TKY08F
M-FSDQCR/L-123-C	●	●		32.5○	.750	10.000	.975	.521	.146	.711	7°	**.938**	.031	TS43	TKY15F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

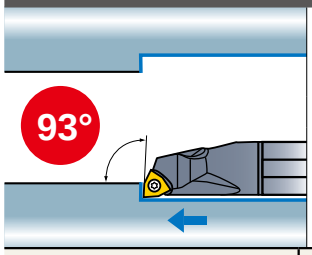
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

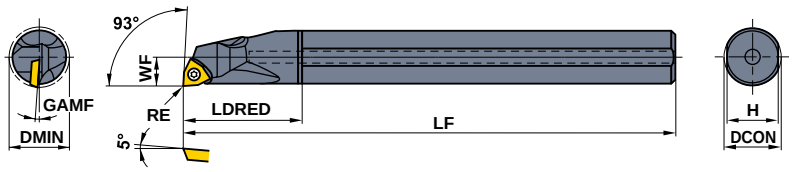
DC○○ type inserts ➤ **A144–A149**
CBN & PCD inserts ➤ **B039, B040, B056**

● : **Inventory maintained.**

M-FSWUB/P

Heavy metal shank coolant through — **WB○○inserts, WP○○inserts**





The ϕ.313 and ϕ.375 shanks are 0°.

Right hand tool holder shown.

Finish
R/L F

(1.5,2,3)
Medium
MV

(1.5,2,3)

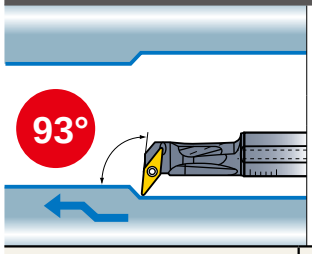
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSWUBR/L-051.5-C	●	●	WBMT WBGT	1.51.5○	.313	5.000	.703	.196	.281	14°	**.391**	.008	TS2	TKY06F
M-FSWUBR/L-061.5-C	●	●	WBMT WBGT	1.51.5○	.375	6.000	.844	.227	.336	11°	**.450**	.008	TS2	TKY06F
M-FSWUPR/L-082-C	●	●	WPMT	21.5○	.500	8.000	1.125	.289	.461	4°	**.583**	.016	TS253	TKY08F
M-FSWUPR/L-102-C	●	●	WPMT	21.5○	.625	10.000	1.406	.352	.586	1°	**.703**	.016	TS253	TKY08F
M-FSWUPR/L-123-C	●	●	WPMT	32○	.750	10.000	1.688	.414	.711	2°	**.825**	.031	TS4	TKY15F

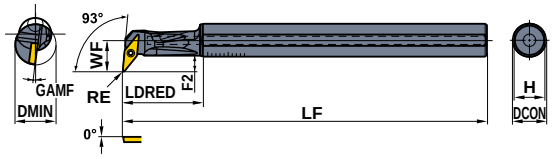
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

M-FSVUB/C

Heavy metal shank coolant through — **VC○○inserts, VB○○inserts**





Right hand tool holder shown.

Finish
R/L F

(1.5,2)
Medium
MV

(1.5,2)

Finish
FM

(1.5,2)
Medium
LM

(1.5,2)

Light
LP

(1.5,2)
CBN

(2)

Light
SV

(1.5,2)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	F2	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSVUCR/L-081.5-C	●	●	VCGT VCMT	1.51.5○	.500	8.000	1.042	.447	.197	.461	8°	**.667**	.016	TS202	TKY06F
M-FSVUBR/L-102-C	●	●	VBGT VBMT	22○	.625	10.000	1.269	.608	.295	.586	8°	**.781**	.016	TS255	TKY08F
M-FSVUBR/L-122-C	●	●	NP-VBGW	22○	.750	10.000	1.519	.670	.295	.711	7°	**.938**	.016	TS255	TKY08F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

WB○○ type inserts ➤ A170
WP○○ type inserts ➤ A172
VC○○ type inserts ➤ A166, A167
VB○○ type inserts ➤ A162–A165
CBN & PCD inserts ➤ B044, B060

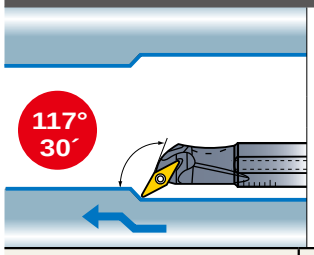
CUTTING CONDITIONS ➤ E011

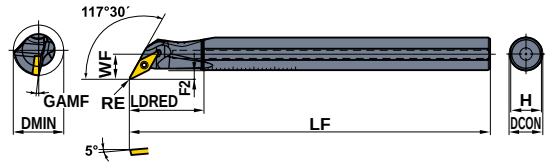
SCREW CLAMP DIMPLE BAR

- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- l/d is 3 to 6 times the diameter.

M-FSVPB/C

Heavy metal shank coolant through **VC○○inserts, VB○○inserts**





Right hand tool holder shown.

Finish	Finish	Finish	Light
FV	FP	FM	SV
			
(1.5)	(1.5)	(2)	(1.5)
Light	**Medium**	**Medium**	**CBN**
LP	MV	LM	
			
(2)	(1.5)	(2)	(2)

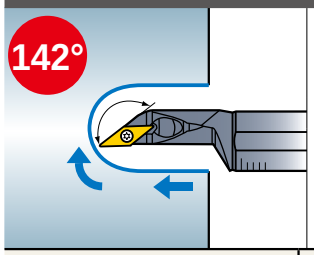
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	F2	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSVPCR/L-061.5-C	●	●	VCGT VCMT	1.51.5○	.375	6.000	.938	.306	.118	.336	8°	**.600**	.016	TS202	TKY06F
M-FSVPBR/L-082-C	●	●	VBGT VBMT NP-VBGW	22○	.500	8.000	1.167	.407	.157	.461	8°	**.833**	.016	TS255	TKY08F
M-FSVPBR/L-102-C	●	●		22○	.625	10.000	1.367	.490	.177	.586	5°	**.977**	.016	TS255	TKY08F
M-FSVPBR/L-122-C	●	●		22○	.750	10.000	1.500	.572	.197	.711	5°	**1.125**	.016	TS255	TKY08F

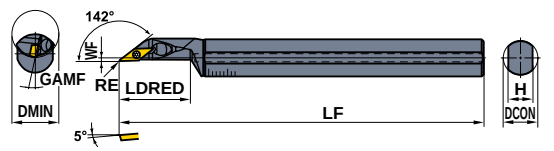
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

M-FSVJB/C

Heavy metal shank coolant through **VC○○inserts, VB○○inserts**





Right hand tool holder shown.

Finish	Finish	Finish	Light
FV	FP	FM	SV
			
(1.5)	(1.5)	(2)	(1.5)
Light	**Light**	**Medium**	
LP	LM	MV	
			
(2)	(2)	(1.5)	

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-FSVJCR/L-081.5-C	●	●	VCGT VCMT	1.51.5○	.500	8.000	1.083	.093	.461	5°	**.667**	.016	TS202	TKY06F
M-FSVJCR/L-101.5-C	●	●		1.51.5○	.625	10.000	1.406	.076	.586	5°	**.781**	.016	TS202	TKY06F
M-FSVJBR/L-122-C	●	●	VBET VBGT VBMT	22○	.750	10.000	1.406	.060	.711	5°	**.938**	.016	TS255	TKY08F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

VC○○ type inserts	**➤ A166, A167**
VB○○ type inserts	**➤ A162–A165**
CBN & PCD inserts	**➤ B044, B060**

● : **Inventory maintained.**

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	Recom-mendation	Grade	Cutting Speed (SFM)	Feed (IPR)	D.O.C. (inch)	Feed (IPR)	D.O.C. (inch)
P	Mild Steel <180HB	Finishing	FV	①	NX2525	555 (390—720)	.004 (.002—.006)	—.020	.004 (.002—.006)	—.020
		Light	SV	①	VP45N	460 (295—620)	.008 (.004—.010)	—.040	.006 (.002—.008)	—.040
				②	VP15TF	590 (425—755)	.008 (.004—.010)	—.040	.006 (.002—.008)	—.040
		Medium	MV	①	VP45N	425 (260—590)	.010 (.006—.014)	—.080	.008 (.006—.010)	—.060
				②	VP15TF	525 (360—690)	.010 (.006—.014)	—.080	.008 (.006—.010)	—.060
	Carbon Steel Alloy Steel 180—280HB	Finishing	FV	①	VP15TF	460 (295—620)	.004 (.002—.006)	—.020	.004 (.002—.006)	—.020
				②	NX2525	425 (260—590)	.004 (.002—.006)	—.020	.004 (.002—.006)	—.020
		Light	SV	①	VP15TF	425 (260—590)	.008 (.004—.010)	—.040	.006 (.002—.008)	—.040
				②	UE6020	460 (295—620)	.008 (.004—.010)	—.040	.006 (.002—.008)	—.040
		Medium	MV	①	VP15TF	390 (230—555)	.010 (.006—.014)	—.080	.008 (.006—.010)	—.060
				②	UE6020	425 (260—590)	.010 (.006—.014)	—.080	.008 (.006—.010)	—.060
M	Stainless Steel 180—280HB	Finishing	FV	①	VP15TF	490 (360—620)	.004 (.002—.006)	—.020	.004 (.002—.006)	—.020
		Light	SV	①	US7020	490 (360—620)	.008 (.004—.010)	—.040	.006 (.002—.008)	—.040
				②	VP15TF	425 (295—555)	.008 (.004—.010)	—.040	.006 (.002—.008)	—.040
		Medium	MV	①	US7020	460 (330—590)	.008 (.006—.010)	—.080	.008 (.006—.010)	—.040
				②	VP15TF	390 (260—525)	.008 (.006—.010)	—.080	.008 (.006—.010)	—.040
K	Cast Iron Tensile Strength<350MPa	Finishing	F/FS	①	HTi10	425 (295—525)	.006 (.004—.008)	—.020	.006 (.004—.008)	—.020
		Medium	MV	①	VP15TF	295 (195—390)	.008 (.006—.010)	—.080	.008 (.006—.010)	—.060
N	Aluminium Alloy	Finishing	F/FS	①	HTi10	985 (655—1310)	.004 (.002—.006)	—.020	.004 (.002—.006)	—.020
			No Breaker	①	MD220	655 (490—820)	.004 (.002—.006)	—.080	.004 (.002—.006)	—.040
H	Heat Treated Steel 35—65HRC	Finishing	No Breaker	①	MB825	330 (260—655)	.004 (.002—.006)	—.006	.004 (.002—.006)	—.004

★ If the DIMPLE BAR vibrates, reduce cutting speed to 70% of the above.

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.**

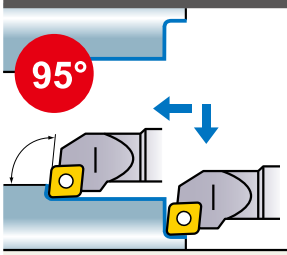
Order Number	Insert Screw	Remark
CCG/MT21.5○	Can be used as it is.	If the screw is too long then please grind away the unnecessary material.
CPGT2.51.5○	Change to TS3.	
CPGT32○	Change to TS4.	
CPMX2.51.5○	Can be used as it is.	
CPMX32○	Can be used as it is.	
TPGD/P1.51.5○	Change to CS200T.	
TPGD/P1.81.5○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

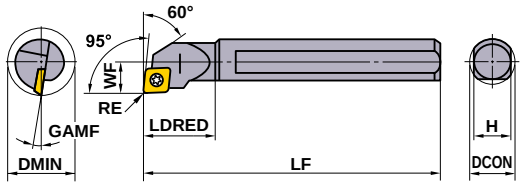
SCREW CLAMP TYPE

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

S-SCLC

Steel shank — **CC○○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	PCD/CBN
MP	MM		
			
(2,3,4)	(2,3,4)	(2,3,4)	(2,3,4)

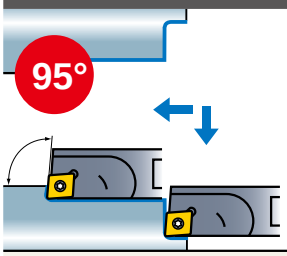
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SCLCR/L-062	●	●	CCMT CCMW CCGW CCGT CCET CCMH NP-CCGW	21.5○	.375	6.000	.625	.250	.340	15°	**.477**	.016	TS25	TKY08F
S-SCLCR/L**-082**	●	●		21.5○	.500	6.000	.750	.313	.460	13°	**.602**	.016	TS25	TKY08F
S-SCLCR/L**-103**	●	●		32.5○	.625	8.000	1.250	.406	.560	10°	**.797**	.031	TS4	TKY15F
S-SCLCR/L**-123**	●	●		32.5○	.750	10.000	1.875	.500	.700	8°	**.954**	.031	TS4	TKY15F
S-SCLCR/L**-164**	●	●		43○	1.000	12.000	2.500	.641	.910	7°	**1.219**	.031	TS5	TKY25F
S-SCLCR/L**-204**	●	●		43○	1.250	12.000	2.500	.875	1.160	5°	**1.579**	.031	TS5	TKY25F

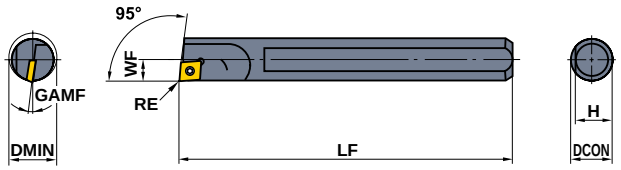
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

M-SCLC

Heavy metal shank — **CC○○inserts**





Right hand tool holder only.

Finish L F

(03,04)
PCD/CBN

(03,04)

Order Number	Stock R	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-SCLCR-063	●	CCGT NP-CCMW	03S1○○	.188	3.000	.100	.173	15°	**.200**	.008	TS16	TKY06F
M-SCLCR**-073**	●		03S1○○	.219	3.500	.120	.199	14°	**.240**	.008	TS16	TKY06F
M-SCLCR**-064**	●		04T0○○	.250	4.000	.140	.230	14°	**.280**	.008	TS21	TKY06F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

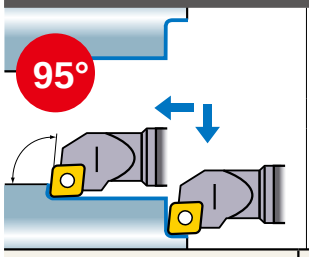
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

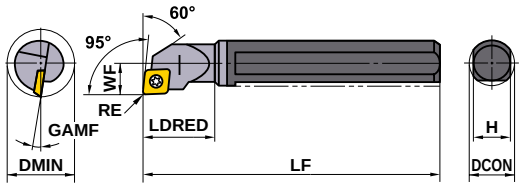
CC○○ type inserts	**➤ A136–A141**
CBN & PCD inserts	**➤ B036, B037, B055**

● : **Inventory maintained.**

C-SCLC

Carbide shank — **CC○○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
MP	MM		
			
(2,3)	(2,3)	(2,3)	(2,3)

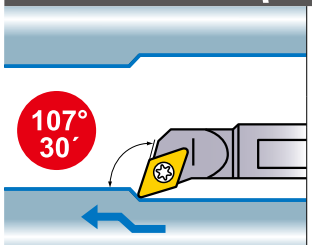
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C-SCLCR/L-062	●	●	CCMT CCMW CCGW CCGT CCET NP-CCGW CCMH	21.5○	.375	6.000	.625	.250	.340	15°	**.477**	.016	TS25	TKY08F
C-SCLCR/L-082	●	●		21.5○	.500	6.000	.750	.313	.460	13°	**.602**	.016	TS25	TKY08F
C-SCLCR/L-103	●	●		32.5○	.625	8.000	1.250	.406	.560	10°	**.797**	.031	TS4	TKY15F

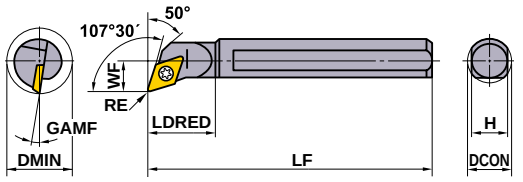
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

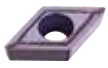
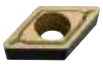
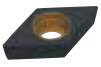
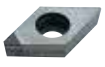
S-SDQC

Steel shank — **DC○○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	PCD/CBN
MP	MM		
			
(2,3,4)	(2,3,4)	(2,3,4)	(2,3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SDQCR/L-082	●	●	DCMT DCMW DCGW DCGT DCET NP-DCMW NP-DCMT	21.5○	.500	6.000	.875	.375	.460	10°	**.665**	.016	TS25	TKY08F
S-SDQCR/L-102	●	●		21.5○	.625	8.000	1.000	.406	.560	7°	**.797**	.016	TS25	TKY08F
S-SDQCR/L-123	●	●		32.5○	.750	10.000	1.250	.500	.700	7°	**.954**	.031	TS4	TKY15F
S-SDQCR/L-164	●	●		43○	1.000	12.000	1.500	.641	.910	5°	**1.219**	.031	TS5	TKY25F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

RECOMMENDED CUTTING CONDITIONS

Steel Shank	l/d ≤ 3	3 < l/d ≤ 4 (Shank Diameter ≥ 1.000inch)
Heavy Metal Shank	l/d ≤ 3	3 < l/d ≤ 6
Carbide Shank	l/d ≤ 5	5 < l/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

CC○○ type inserts ➤ **A136–A141**
DC○○ type inserts ➤ **A144–A149**
CBN & PCD inserts ➤ **B036, B037, B039, B040, B055, B056**

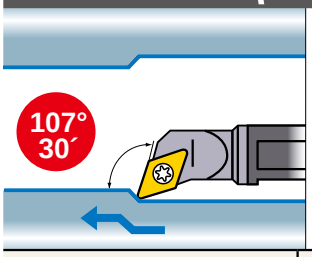
SPARE PARTS ➤ **M001**
TECHNICAL DATA ➤ **N001**

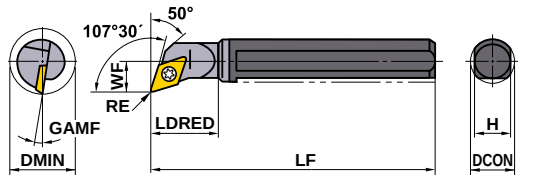
SCREW CLAMP TYPE

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

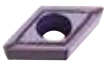
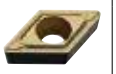
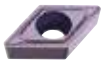
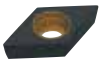
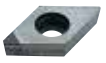
C-SDQC

Carbide shank **DC○○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	PCD/CBN
MP	MM		
			
(2,3,4)	(2,3,4)	(2,3,4)	(2,3)

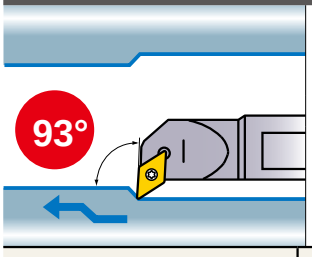
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C-SDQCR/L-082	●	●	DCMT DCMW DCGW DCGT DCET NP-DCMW NP-DCMT	21.5○	.500	6.000	.875	.375	.460	10°	**.665**	.016	TS25	TKY08F
C-SDQCR/L-102	●	●		21.5○	.625	8.000	1.000	.406	.560	7°	**.797**	.016	TS25	TKY08F
C-SDQCR/L-123	●	●		32.5○	.750	10.000	1.250	.500	.700	7°	**.954**	.031	TS4	TKY15F

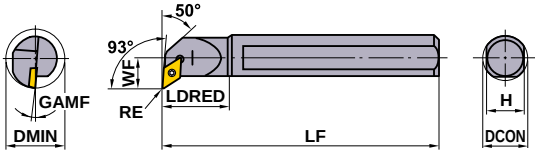
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

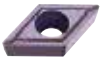
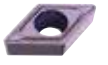
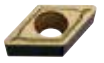
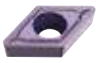
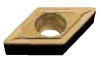
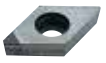
S-SDUC

Steel shank **DC○○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	PCD/CBN
MP	MM	Standard	
			
(2,3,4)	(2,3,4)	(2,3,4)	(2,3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SDUCR/L-062	●	●	DCMT DCMW DCGW DCGT DCET NP-DCMW NP-DCMT	21.5○	.375	6.000	.625	.437	.340	7°	**.664**	.016	TS25	TKY08F
S-SDUCR/L-082	●	●		21.5○	.500	6.000	.750	.500	.460	7°	**.789**	.016	TS25	TKY08F
S-SDUCR/L-102	●	●		21.5○	.625	8.000	1.250	.563	.560	7°	**.954**	.016	TS25	TKY08F
S-SDUCR/L-123	●	●		32.5○	.750	10.000	1.875	.625	.700	7°	**1.079**	.031	TS4	TKY15F
S-SDUCR/L-164	●	●		43○	1.000	12.000	2.500	.750	.910	5°	**1.329**	.031	TS5	TKY25F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

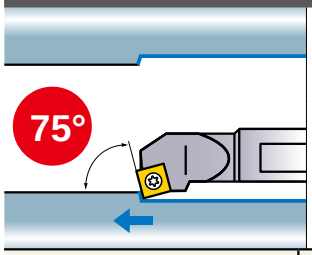
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

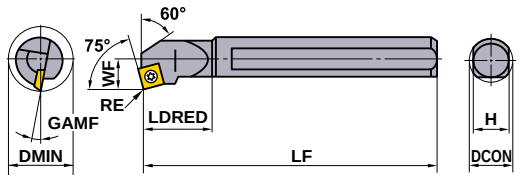
DC○○ type inserts ➤ A144–A149
CBN & PCD inserts ➤ B039, B040, B056

● : Inventory maintained.

S-SSKC

Steel shank — **SC○○inserts**





Right hand tool holder shown.

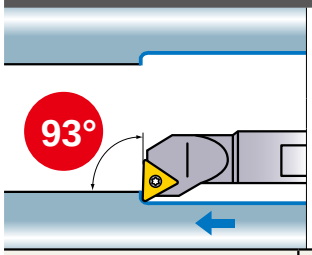
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(3)	(3)	(3)	(3)
Medium	**Medium**	**Medium**	**Flat Top**
MP	MM	Standard	
			
(3,4)	(3,4)	(3,4)	(3,4)

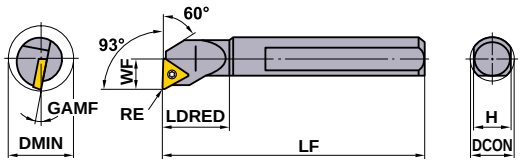
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SSKCR/L-103	●	●	SCMT SCMW	32.5○	.625	8.000	1.250	.406	.560	10°	**.797**	.031	TS4	TKY15F
S-SSKCR/L**-123**	●	●		32.5○	.750	10.000	1.875	.500	.700	8°	**.954**	.031	TS4	TKY15F
S-SSKCR/L**-164**	●	●		43○	1.000	12.000	2.500	.641	.910	7°	**1.219**	.031	TS5	TKY25F

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

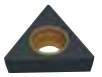
S-STUC

Steel shank — **TC○○inserts**





Right hand tool holder shown.

Finish	Finish
FV	FJ
	
(2,3)	(2,3)
Medium	**Flat Top**
Standard	
	
(2,3)	(2,3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-STUCR/L-062	●	●	TCMT TCMW TCGT NP-TCGW	21.5○	.375	6.000	.625	.250	.340	15°	**.477**	.016	TS25	TKY08F
S-STUCR/L**-082**	●	●		21.5○	.500	6.000	.750	.313	.460	13°	**.602**	.016	TS25	TKY08F
S-STUCR/L**-102**	●	●		21.5○	.625	8.000	1.250	.406	.560	10°	**.797**	.016	TS25	TKY08F
S-STUCR/L**-123**	●	●		32.5○	.750	10.000	1.875	.500	.700	8°	**.954**	.031	TS4	TKY15F
S-STUCR/L**-163**	●	●		32.5○	1.000	12.000	2.500	.641	.910	7°	**1.219**	.031	TS4	TKY15F
S-STUCR/L**-203**	●	●		32.5○	1.250	12.000	2.500	.875	1.160	5°	**1.579**	.031	TS4	TKY15F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

RECOMMENDED CUTTING CONDITIONS

			Steel Shank	Heavy Metal Shank	Carbide Shank	Steel Shank	Heavy Metal Shank	Carbide Shank
			l/d ≤ 3	l/d ≤ 3	l/d ≤ 5	3 < l/d ≤ 4 (Shank Diameter ≥ 1.000inch)	3 < l/d ≤ 6	5 < l/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

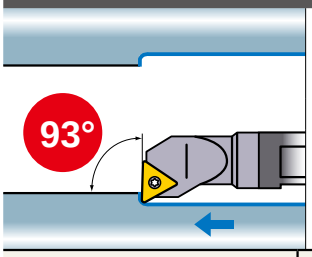
SC○○ type inserts ➤ A152, A153
TC○○ type inserts ➤ A155–A157
CBN & PCD inserts ➤ B041, B057
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

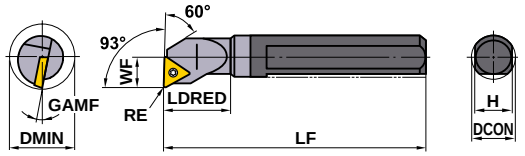
SCREW CLAMP TYPE

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

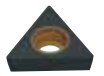
C-STUC

Carbide shank — **TC○○inserts**





Right hand tool holder shown.

Finish	Finish
FV	FJ
	
(2)	(2)
Medium	Flat Top
Standard	
	
(2)	(2)

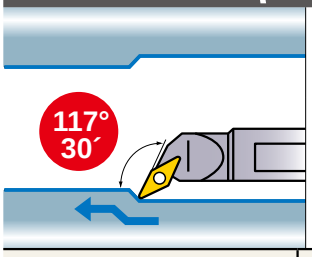
Order Number	Stock R	Stock L	Insert Number		DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C-STUCR/L-062	●	●	TCMT TCMW TCGT	21.5○	.375	6.000	.625	.250	.340	15°	**.477**	.016	TS25	TKY08F
C-STUCR/L-082	●	●		21.5○	.500	6.000	.750	.313	.460	13°	**.602**	.016	TS25	TKY08F
C-STUCR/L-102	●	●	NP-TCGW	21.5○	.625	8.000	1.250	.406	.560	10°	**.797**	.016	TS25	TKY08F

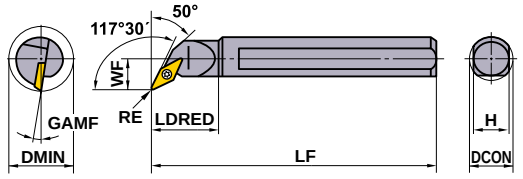
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

S-SVQC

Steel shank — **VC○○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	Stock R	Stock L	Insert Number		DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SVQCR/L-102	●	●	VCMT VCMW NP-VCGW	22○	.625	8.000	1.000	.406	.560	8°	**.797**	.016	TS25	TKY08F
S-SVQCR/L-122	●	●		22○	.750	10.000	1.250	.500	.700	7°	**.954**	.016	TS25	TKY08F
S-SVQCR/L-163	●	●		33○	1.000	12.000	1.500	.641	.910	6°	**1.219**	.031	TS4	TKY15F

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

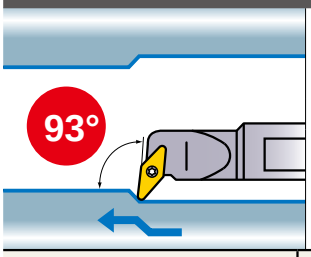
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

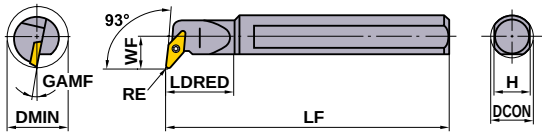
TC○○ type inserts	**➤ A155–A157**
VC○○ type inserts	**➤ A166, A167**
CBN & PCD inserts	**➤ B041, B045, B057, B060**

● : **Inventory maintained.**

S-SVUC

Steel shank — **VC○○inserts**





Right hand tool holder shown.

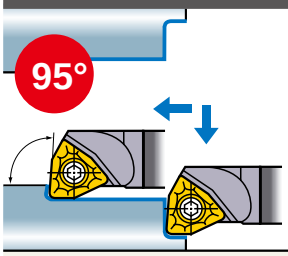
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(2,3)	(2,3)	(2,3)	(2,3)
Medium	**Medium**	**Medium**	**Flat Top**
MP	MM	Standard	
			
(3)	(3)	(2,3)	(2,3)

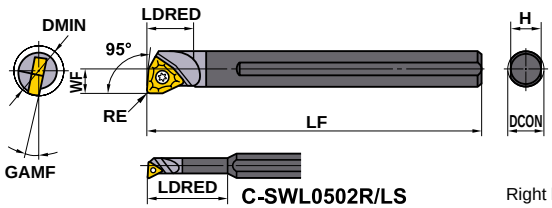
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SVUCR/L-122	●	●	VCMT VCMW NP-VCGW	22○	.750	10.000	1.250	.500	.700	7°	**1.000**	.016	TS25	TKY08F
S-SVUCR/L-163	●	●		33○	1.000	12.000	1.500	.641	.910	6°	**1.281**	.031	TS4	TKY15F

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

C-SWL

Carbide shank — **WC○○inserts**





C-SWL0502R/LS
C-SWL05S3R/LM

Right hand tool holder shown.

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

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C-SWL0502R/LS	●	●	WCMT WCGT NP-WCMW NP-WCGW	1.21○	.313	5.000	1.000	.114	.282	17°	**.228**	.016	TS21	TKY06F
C-SWL05S3R/LM	●	●		1.51.5○	.313	5.000	1.370	.156	.282	15°	**.312**	.016	TS2	TKY06F
C-SWL0504R/L	●	●		21.5○	.313	5.000	.598	.203	.282	15°	**.406**	.016	TS25	TKY08F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

RECOMMENDED CUTTING CONDITIONS

Steel Shank	l/d ≤ 3	3 < l/d ≤ 4 (Shank Diameter ≥ 1.000inch)
Heavy Metal Shank	l/d ≤ 3	3 < l/d ≤ 6
Carbide Shank	l/d ≤ 5	5 < l/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

VC○○ type inserts ➤ A166, A167
WC○○ type inserts ➤ A171
CBN & PCD inserts ➤ B045, B046, B060, B061

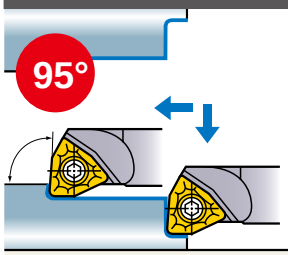
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

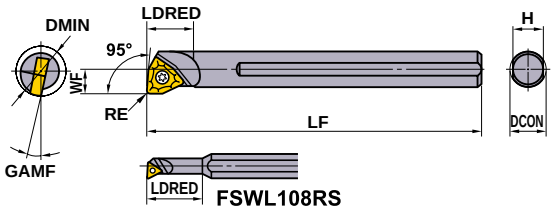
SCREW CLAMP TYPE

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

FSWL1

Steel shank — **WC○○inserts**





FSWL108RS

Right hand tool holder only.

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

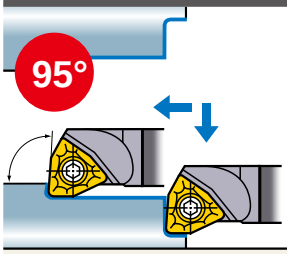
Order Number	Stock R	Insert Number		Dimensions (mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE (inch)	* Clamp Screw	Wrench
FSWL108RS	★	WCMT WCGT	1.21○	8	100	19	2.9	7	17°	**5.8**	.016	TS21	TKY06F
FSWL**108RM**	★	WCMT WCGT WCMW	1.51.5○	8	100	25	4	7	15°	**8**	.016	TS2	TKY06F
FSWL**108R**	★	WCMT	21.5○	8	125	10	5	7	15°	**10**	.016	TS25	TKY08F
FSWL**110R**	★	NP-WCGW	21.5○	10	150	12	6	9	13°	**12**	.016	TS25	TKY08F
FSWL**112R**	★	NP-WCMW	32.5○	12	180	15	8	11	13°	**16**	.031	TS4	TKY15F

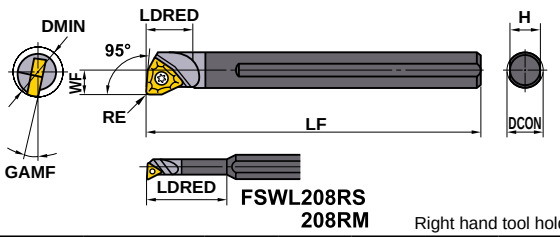
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

FSWL2

Carbide shank — **WC○○inserts**





FSWL208RS
208RM

Right hand tool holder only.

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

Order Number	Stock R	Stock L	Insert Number		Dimensions (mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE (inch)	* Clamp Screw	Wrench
FSWL208RS	★		WCMT WCGT	1.21○	8	122	25	2.9	7	17°	**5.8**	.016	TS21	TKY06F
FSWL**208R/LM**	★	★		1.51.5○	8	125	33	4	7	15°	**8**	.016	TS2	TKY06F
FSWL**208R**	★			21.5○	8	125	10	5	7	15°	**10**	.016	TS25	TKY08F
FSWL**210R/L**	★	★	WCMT WCMW	21.5○	10	150	12	6	9	13°	**12**	.016	TS25	TKY08F
FSWL**212R/L**	★	★	NP-WCGW NP-WCMW	32.5○	12	180	15	8	11	13°	**16**	.031	TS4	TKY15F
FSWL**216R/L**	★	★	WCMT WCMW	32.5○	16	200	20	11	14	7°	**22**	.031	TS4	TKY15F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

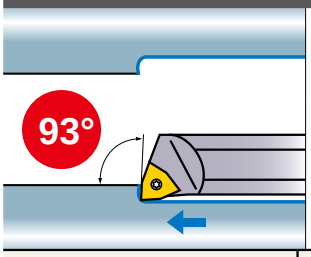
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

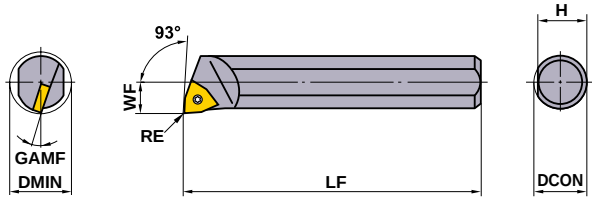
● : Inventory maintained. ★ : Inventory maintained in Japan.
□ : Non stock, produced to order only.

WC○○ type inserts ➤ A171
CBN & PCD inserts ➤ B046, B061

S-SWUC

Steel shank — **WC○○inserts**





Right hand tool holder shown.

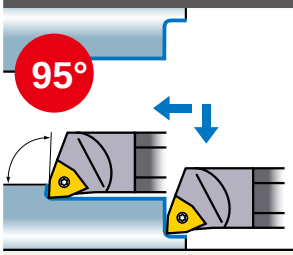
Finish	Finish	Light
FJ	R/L	Standard
		
(2,3)	(1.2,1.5)	(1.2,1.5,2,3)
Medium	**CBN**	
MJ		
		
(2,3)	(1.5,2,3)	

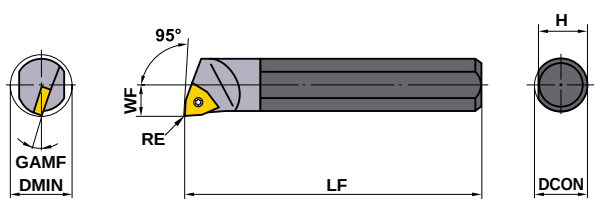
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-SWUCR/L-055	●	●	WCMT WCGT NP-WCMW NP-WCGW	1.21○	.188	4.000	.114	.172	17°	**.228**	.016	TS21	TKY06F
S-SWUCR/L**-065**	●	●		1.21○	.250	4.000	.156	.235	17°	**.312**	.016	TS2	TKY06F
S-SWUCR/L**-066**	●	●		1.51.5○	.313	6.000	.188	.295	15°	**.375**	.016	TS2	TKY06F
S-SWUCR/L**-062**	●	●		21.5○	.375	6.000	.250	.358	15°	**.500**	.016	TS25	TKY08F
S-SWUCR/L**-082**	●	●		21.5○	.500	6.000	.312	.480	13°	**.625**	.016	TS25	TKY08F
S-SWUCR/L**-103**	●	●		32.5○	.625	8.000	.375	.593	10°	**.750**	.031	TS4	TKY15F
S-SWUCR/L**-123**	●	●		32.5○	.750	10.000	.500	.725	8°	**1.000**	.031	TS4	TKY15F
S-SWUCR/L**-163**	●	●		32.5○	1.000	12.000	.640	.975	7°	**1.250**	.031	TS4	TKY15F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.
* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9, TS4=31

C-SWLO

Carbide shank — **WC○○inserts**





Right hand tool holder shown.

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

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C-SWLOR/L-055	●	□	WCMT WCGT NP-WCMW NP-WCGW	1.21○	.188	4.000	.114	.172	17°	**.228**	.016	TS21	TKY06F
C-SWLOR/L**-065**	●	□		1.21○	.250	4.000	.156	.235	17°	**.313**	.016	TS2	TKY06F
C-SWLOR/L**-066**	●	□		1.51.5○	.313	6.000	.188	.295	15°	**.375**	.016	TS2	TKY06F
C-SWLOR/L**-070**	●	□		21.5○	.375	6.000	.218	.358	15°	**.438**	.016	TS25	TKY08F
C-SWLOR/L**-062**	●	□		21.5○	.375	6.000	.250	.358	15°	**.500**	.016	TS25	TKY08F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.
* Clamp Torque (lbf-in) : TS21=5.3, TS2=5.3, TS25=8.9

RECOMMENDED CUTTING CONDITIONS

Steel Shank				l/d ≤ 3			3 < l/d ≤ 4 (Shank Diameter ≥ 1.000inch)		
Heavy Metal Shank				l/d ≤ 3			3 < l/d ≤ 6		
Carbide Shank				l/d ≤ 5			5 < l/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

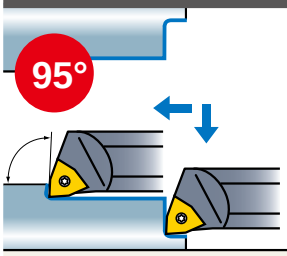
WC○○ type inserts ➤ A171
CBN & PCD inserts ➤ B046, B061
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

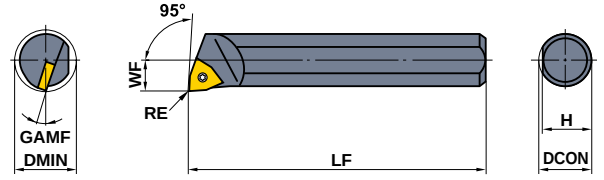
SCREW CLAMP TYPE

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

M-SWLO

Heavy metal shank — **WC○○inserts**





Right hand tool holder shown.

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

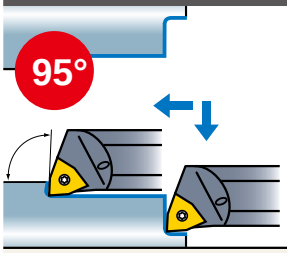
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-SWLOR/L-055	●	●	WCMT WCGT NP-WCMW NP-WCGW	1.21○	.188	4.000	.114	.172	17°	**.228**	.016	TS21	TKY06F
M-SWLOR/L-**065**	●	●		1.21○	.250	4.000	.156	.235	17°	**.313**	.016	TS2	TKY06F
M-SWLOR/L-**066**	●	●		1.51.5○	.313	6.000	.188	.295	15°	**.375**	.016	TS2	TKY06F
M-SWLOR/L-**070**	●	●		21.5○	.375	6.000	.218	.358	15°	**.438**	.016	TS25	TKY08F
M-SWLOR/L-**062**	●	●		21.5○	.375	6.000	.250	.358	15°	**.500**	.016	TS25	TKY08F
M-SWLOR/L-**082**	●	●		21.5○	.500	6.000	.312	.480	13°	**.625**	.016	TS25	TKY08F
M-SWLOR/L-**103**	●	●		32.5○	.625	8.000	.375	.593	10°	**.750**	.031	TS4	TKY15F
M-SWLOR/L-**123**	●	●		32.5○	.750	10.000	.500	.725	8°	**1.000**	.031	TS4	TKY15F
M-SWLOR/L-**163**	●			32.5○	1.000	12.000	.640	.975	7°	**1.250**	.031	TS4	TKY15F

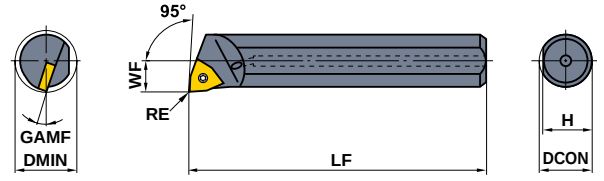
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

M-SWLO

Heavy metal shank coolant through — **WC○○inserts**





Right hand tool holder shown.

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

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
M-SWLOR/L-066-C	●	●	WCMT WCGT NP-WCMW NP-WCGW	1.51.5○	.313	6.000	.188	.295	15°	**.375**	.016	TS2	TKY06F
M-SWLOR/L-**070-C**	●	●		21.5○	.375	6.000	.218	.358	15°	**.438**	.016	TS25	TKY08F
M-SWLOR/L-**062-C**	●	●		21.5○	.375	6.000	.250	.358	15°	**.500**	.016	TS25	TKY08F
M-SWLOR/L-**082-C**	●	●		21.5○	.500	6.000	.312	.480	13°	**.625**	.016	TS25	TKY08F
M-SWLOR/L-**103-C**	●	●		32.5○	.625	8.000	.375	.593	10°	**.750**	.031	TS4	TKY15F
M-SWLOR/L-**123-C**	●	●		32.5○	.750	10.000	.500	.725	8°	**1.000**	.031	TS4	TKY15F
M-SWLOR/L-**163-C**	●	●		32.5○	1.000	12.000	.640	.975	7°	**1.250**	.031	TS4	TKY15F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

CUTTING CONDITIONS	➤ E019
WC○○ type inserts	➤ A171
CBN & PCD inserts	➤ B046, B061

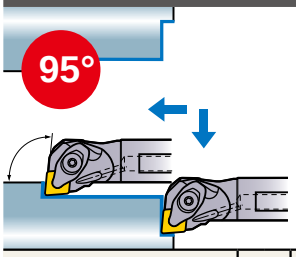
● : Inventory maintained.

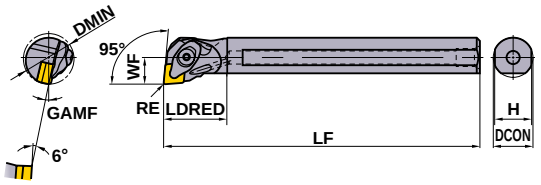
DOUBLE CLAMP DIMPLE BAR

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

S-DCLN

Steel shank coolant through — **CN○○inserts**





Right hand tool holder shown.

Finish	Light	Light	Medium
FH	SA	LP	MA
(4)	(4)	(4)	(4)
Medium	**Medium**	**Stainless**	**CBN**
MH	Standard	MM	
(4)	(4)	(4)	(4)

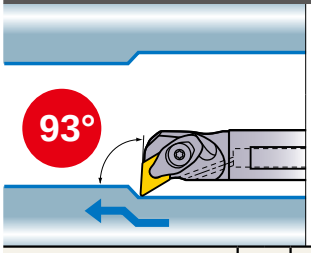
Order Number	Stock R	Stock L	Insert Number		DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
S-DCLNR/L-123-C	●	●	CNMA	32○	.750	10.000	1.219	.500	.711	12°	1.000	.031	LLSCP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DCLNR/L**-163-C**	●	●	CNMG	32○	1.000	12.000	1.625	.641	.922	11°	1.281	.031	LLSCP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DCLNR/L**-164-C**	●	●	CNMA	43○	1.000	12.000	1.625	.641	.922	11°	1.281	.031	LLSCP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L**-204-C**	●	●	CNMG	43○	1.250	14.000	2.000	.766	1.171	13°	1.532	.031	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L**-244-C**	●	●	CNMM CNGG	43○	1.500	14.000	2.000	.891	1.382	12°	1.782	.031	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L**-284-C**	●	●	NP-CNMA	43○	1.750	14.000	2.500	1.016	1.632	10°	2.032	.031	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DCLNR/L**-324-C**	●	●	NP-CNGA	43○	2.000	14.000	2.500	1.281	1.882	10°	2.562	.031	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

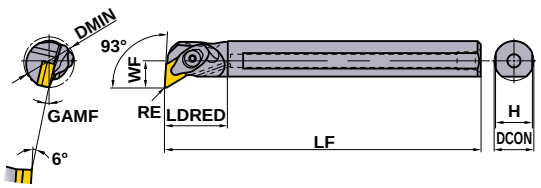
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

S-DDUN

Steel shank coolant through — **DN○○inserts**





Right hand tool holder shown.

Finish	Light	Light	Medium
FH	LP	MP	MA
(4)	(4)	(4)	(4)
Medium	**Medium**	**Stainless**	**CBN**
MH	Standard	MM	
(4)	(4)	(4)	(4)

Order Number	Stock R	Stock L	Insert Number		DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
S-DDUNR/L-164-C	●	●	DNMA	43○	1.000	12.000	1.625	.657	.922	13°	1.314	.031	LLSDP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L**-204-C**	●	●	DNMG	43○	1.250	14.000	2.000	1.000	1.171	11°	2.000	.031	LLSDN43	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L**-244-C**	●	●	DNMX DNGA	43○	1.500	14.000	2.000	1.125	1.382	10°	2.250	.031	LLSDN43	LLP24	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L**-284-C**	●	●	DNGG	43○	1.750	14.000	2.500	1.250	1.632	9°	2.500	.031	LLSDN43	LLP24	DCK2613	DCS1	DC0621T	TKY20F
S-DDUNR/L**-324-C**	●	●	NP-DNMA NP-DNGA	43○	2.000	14.000	2.500	1.375	1.882	8°	2.750	.031	LLSDN43	LLP24	DCK2613	DCS1	DC0621T	TKY20F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

RECOMMENDED CUTTING CONDITIONS

Work Material		Hardness	Cutting Mode	l/d≤3 Cutting Speed (SFM)	l/d≤3 Feed (IPR)	l/d≤3 Depth of Cut (inch)	3<l/d≤4 Cutting Speed (SFM)	3<l/d≤4 Feed (IPR)	3<l/d≤4 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

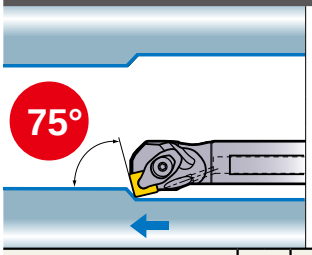
CN○○ type inserts ➤ A096–A102
DN○○ type inserts ➤ A103–A109
CBN & PCD inserts ➤ B022–B026, B051
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

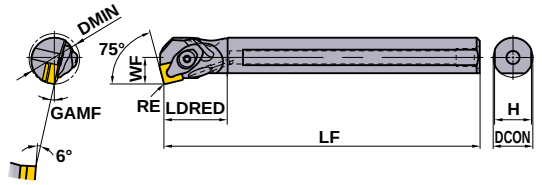
DOUBLE CLAMP DIMPLE BAR

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

S-DSKN

Steel shank coolant through — **SN○○ inserts**





Right hand tool holder shown.

Finish	Light	Medium	Medium
FH	SA	MA	MH
			
(4)	(4)	(4)	(4)
Medium	**Stainless**	**G Class**	**CBN**
Standard	MM	R/L	
			
(4)	(4)	(4)	(4)

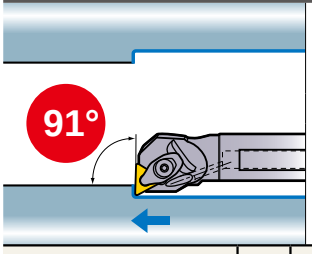
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
S-DSKNR/L-164-C	●	●	SNMA SNMG SNMM SNGA SNGG NP-SNMA NP-SNGA	43○	1.000	12.000	1.625	.641	.922	13°	1.282	.031	LLSSP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-204-C	●	●		43○	1.250	14.000	2.000	.766	1.171	13°	1.532	.031	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-244-C	●	●		43○	1.500	14.000	2.000	.891	1.382	11°	1.782	.031	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-284-C	●	●		43○	1.750	14.000	2.500	1.016	1.632	10°	2.032	.031	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DSKNR/L-324-C	●	●		43○	2.000	14.000	2.500	1.281	1.882	9°	2.562	.031	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

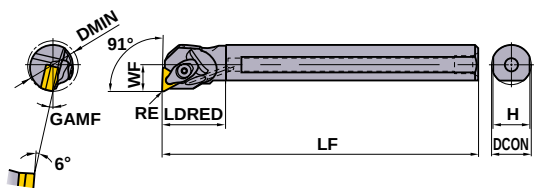
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

S-DTFN

Steel shank coolant through — **TN○○ inserts**





Right hand tool holder shown.

Finish	Light	Medium	Medium
FH	SA	MA	MH
			
(3)	(3,4)	(3,4)	(3,4)
Medium	**Stainless**	**G Class**	**CBN**
Standard	MM	R/L	
			
(3,4)	(3,4)	(3)	(3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
S-DTFNR/L-123-C	●	●	TNMA TNMG TNMM TNGA TNGG NP-TNMA NP-TNGA	33○	.750	10.000	1.250	.500	.711	13°	1.000	.031	—	—	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-163-C	●	●		33○	1.000	12.000	1.625	.641	.922	13°	1.282	.031	LLSTP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-203-C	●	●		33○	1.250	14.000	2.000	.766	1.171	13°	1.532	.031	LLSTN32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-243-C	●	●		33○	1.500	14.000	2.000	.891	1.382	12°	1.782	.031	LLSTN32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-244-C	●	●		43○	1.500	14.000	2.000	.891	1.382	12°	1.782	.031	LLSTN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DTFNR/L-283-C	●	●		33○	1.750	14.000	2.500	1.016	1.632	11°	2.032	.031	LLSTN32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DTFNR/L-284-C	●	●		43○	1.750	14.000	2.500	1.016	1.632	11°	2.032	.031	LLSTN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DTFNR/L-324-C	●	●		43○	2.000	14.000	2.500	1.125	1.882	10°	2.250	.031	LLSTN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

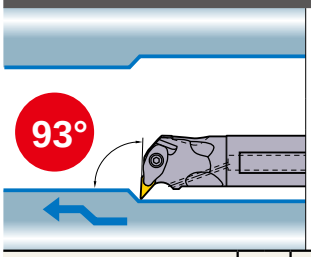
(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

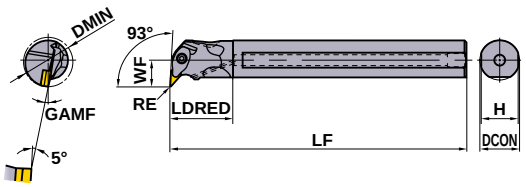
SN○○ type inserts	**➤ A111–A116**
TN○○ type inserts	**➤ A117–A123**
CBN & PCD inserts	**➤ B027–B029, B052**

● : **Inventory maintained.**

S-DVUN

Steel shank coolant through — **VN○○inserts**





Right hand tool holder shown.

Finish	Finish	Light	Medium
FH	FJ	LP	MA
			
(3)	(3)	(3)	(3)
Medium	**Stainless**	**CBN**	
MH	MM		
			
(3)	(3)	(3)	

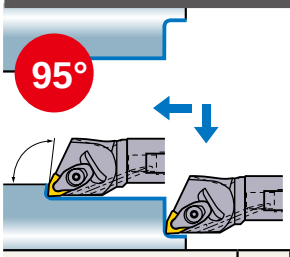
Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
S-DVUNR/L-203-C	●	●	VNMA VNMG VNGA VNGM NP-VNMA NP-VNGA	33○	1.250	14.000	2.000	1.000	1.171	10°	2.000	.031	DCSVN32	LLP13	DCK3113	DCS2	DC0520T	TKY15F
S-DVUNR/L-243-C	●	●		33○	1.500	14.000	2.500	1.125	1.382	9°	2.250	.031	DCSVN32	LLP13	DCK3113	DCS2	DC0520T	TKY15F

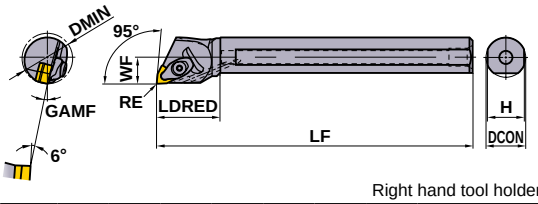
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

S-DWLN

Steel shank coolant through — **WN○○inserts**





Right hand tool holder shown.

Finish	Light	Medium
FH	SA	MA
		
(4)	(4)	(3,4)
Stainless	**CBN**	
MM		
		
(3,4)	(4)	

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
S-DWLNR/L-123-C	●	●	WNMG	33○	.750	10.000	1.250	.500	.711	12°	1.000	.031	—	—	DCK2211	DCS2	DC0520T	TKY15F
S-DWLNR/L-163-C	●	●		33○	1.000	12.000	1.750	.641	.922	13°	1.282	.031	LLSWP32	LLP13	DCK2211	DCS2	DC0520T	TKY15F
S-DWLNR/L-164-C	●	●	WNMA WNMG NP-WNMA NP-WNGA	43○	1.000	12.000	2.000	.641	.922	13°	1.282	.031	LLSWP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-204-C	●	●		43○	1.250	14.000	2.000	.766	1.171	13°	1.532	.031	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-244-C	●	●		43○	1.500	14.000	2.500	.891	1.382	12°	1.782	.031	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-284-C	●	●		43○	1.750	14.000	2.500	1.125	1.632	11°	2.250	.031	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
S-DWLNR/L-324-C	●	●		43○	2.000	14.000	2.500	1.281	1.882	10°	2.562	.031	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 Cutting Speed (SFM)	l/d≤3 Feed (IPR)	l/d≤3 Depth of Cut (inch)	3<l/d≤4 Cutting Speed (SFM)	3<l/d≤4 Feed (IPR)	3<l/d≤4 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

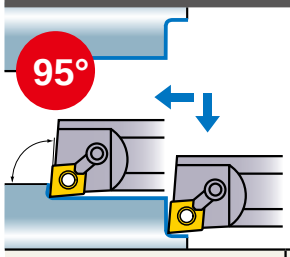
VN○○ type inserts ➤ A124—A127
WN○○ type inserts ➤ A128—A132
CBN & PCD inserts ➤ B030—B032, B053
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

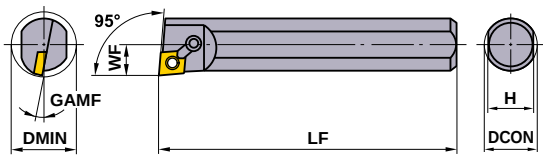
MULTIPLE CLAMP TYPE

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

S-MCLN

Steel shank — **CN○○inserts**





Right hand tool holder shown.

Finish	Light	Light	Medium
FH	SA	LP	MA
			
(4)	(4)	(4)	(4)
Medium	**Medium**	**Stainless**	**Rough**
MH	Standard	MM	RP
			
(4)	(3,4)	(4)	(6)

Order Number	Stock		Insert Number		Dimensions (inch)						Shim	Shim Pin	Clamp Bridge	Clamp Screw
	R	L			DCON	LF	WF	H	GAMF	DMIN				
S-MCLNR/L-123	●	●	CNMA CNMG CNMM CNGG NP-CNMA NP-CNGA	32○	.750	10.000	.500	.700	14°	**1.000**	—	NL33	CL7	XNS36
S-MCLNR/L**-163**	●	●		32○	1.000	12.000	.640	.910	14°	**1.280**	—	NL33	CL7	XNS36
S-MCLNR/L**-164**	●	●		43○ ★2	1.000	12.000	.640	.910	14°	**1.280**	—	NL44	CL20	XNS47
S-MCLNR/L**-204**	●	●		43○ ★2	1.250	12.000	.765	1.160	14°	**1.530**	ICSN433 ★1	NL46	CL20	XNS47
S-MCLNR/L**-244**	●	●		43○ ★2	1.500	14.000	.890	1.410	14°	**1.780**	ICSN433 ★1	NL46	CL20	XNS47
S-MCLNR/L**-284**	●	●		43○ ★2	1.750	14.000	1.015	1.660	12°	**2.030**	ICSN433 ★1	NL46	CL20	XNS47
S-MCLNR/L**-326**	●	●		64○	2.000	14.000	1.281	1.910	12°	**2.562**	ICSN633	NL68	CL12	XNS510

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

★1 (Opt.) See page M009 for different radius.

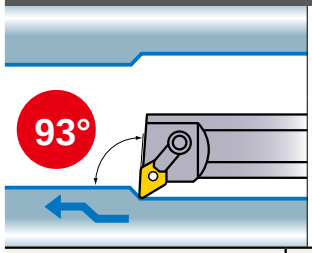
★3 Clamp Torque (lbf-in) : NL33=13, NL44=19, NL46=19, NL68=43, XNS36=30, XNS47=45, XNS510=70

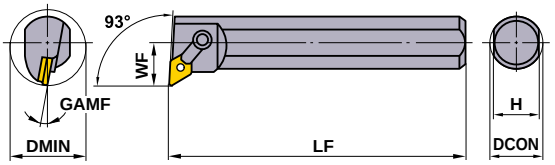
★2 For inserts without hole, remove shim pin and add below.

Shim Screw	S46	Chipbreaker	CBC4

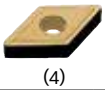
S-MDUN

Steel shank — **DN○○inserts**





Right hand tool holder shown.

Finish	Light	Light	Medium
FH	LP	MP	MA
			
(4)	(4)	(4)	(4)
Medium	**Medium**	**Stainless**	**CBN**
MH	Standard	MM	
			
(4)	(4)	(4)	(4)

Order Number	Stock		Insert Number		Dimensions (inch)						Shim	Shim Pin	Clamp Bridge	Clamp Screw
	R	L			DCON	LF	WF	H	GAMF	DMIN				
S-MDUNR/L-204	●	●	DNMA DNMG DNMM DNGM DNGA DNGG NP-DNMA NP-DNGA	43○	1.250	12.000	1.000	1.160	10°	**2.000**	IDSN433	NL46	CL12	XNS59
S-MDUNR/L**-244**	●	●		43○	1.500	14.000	1.125	1.410	10°	**2.250**	IDSN433	NL46	CL12	XNS59
S-MDUNR/L**-284**	●	●		43○	1.750	14.000	1.250	1.660	10°	**2.500**	IDSN433	NL46	CL12	XNS59
S-MDUNR/L**-285**	□			54○ ★1	1.750	14.000	1.375	1.660	10°	**2.750**	IDSN533 ★1	NL58	CL30	XNS510
S-MDUNR/L**-324**	●	●		43○	2.000	14.000	1.375	1.910	10°	**2.750**	IDSN433	NL46	CL12	XNS59
S-MDUNR/L**-325**	□			54○ ★1	2.000	14.000	1.500	1.910	10°	**3.000**	IDSN533 ★1	NL58	CL30	XNS510

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

★1 (Opt.) See page M009 for different thickness.

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

(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

● : **Inventory maintained.**

□ : **Non stock, produced to order only.**

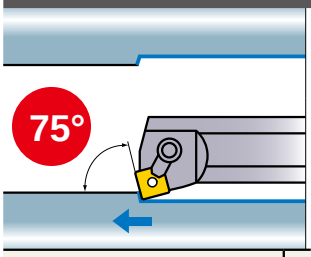
CN○○ type inserts ➤ **A096–A102**

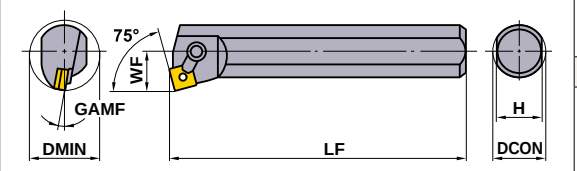
DN○○ type inserts ➤ **A103–A109**

CBN & PCD inserts ➤ **B022–B026, B051**

S-MSKN

Steel shank — **SN○○ inserts**





Right hand tool holder shown.

Finish	Light	Medium	Medium
FH	LP	MP	MA
			
(4)	(4)	(4)	(4,6)
Medium	**Medium**	**Stainless**	**Rough**
MH	Standard	MM	RP
			
(4,6)	(4,6)	(4,6)	(6)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	Shim	Shim Pin ★3	Clamp Bridge	Clamp Screw ★3
S-MSKNR/L-204	●	●	SNMA SNMG SNMM SNGA SNGG NP-SNMA NP-SNGA	43○ ★1 ★2	1.250	12.000	.765	1.160	14°	**1.530**	ISSN433 ★1	NL46	CL9	XNS59
S-MSKNR/L**-244**	●	●		43○ ★1 ★2	1.500	14.000	.890	1.410	14°	**1.780**	ISSN433 ★1	NL46	CL9	XNS59
S-MSKNR/L**-284**	●	●		43○ ★1 ★2	1.750	14.000	1.015	1.660	12°	**2.030**	ISSN433 ★1	NL46	CL9	XNS59
S-MSKNR/L**-326**	●	●		64○ ★1	2.000	14.000	1.281	1.910	12°	**2.562**	ISSN633 ★1	NL68	CL12	XNS58

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

★1 (Opt.) See page M010 for different thickness or radius.

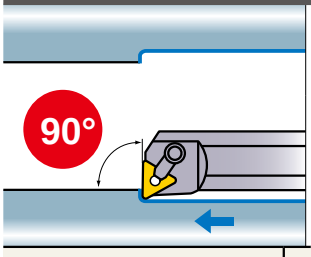
★2 For inserts without hole, remove shim pin and add below.

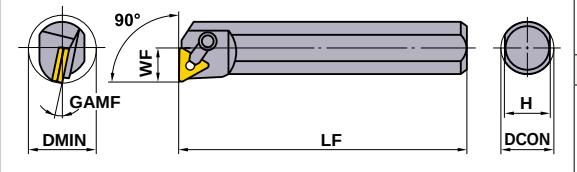
Shim Screw	S34	Chipbreaker	CBS4

★3 Clamp Torque (lbf-in) : NL46=19, NL68=43, XNS58=70, XNS59=70

S-MTFN

Steel shank — **TN○○ inserts**





Right hand tool holder shown.

Finish	Light	Medium	Medium
FH	LP	MP	MA
			
(3)	(3,4)	(3,4)	(3,4)
Medium	**Medium**	**Stainless**	**CBN**
MH	Standard	MM	
			
(3,4)	(3,4)	(3,4)	(3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	Shim	Shim Pin ★3	Clamp Bridge	Clamp Screw ★3
S-MTFNR/L-163X	●	●	TNMA TNMG TNMM TNGA TNGG NP-TNMA NP-TNGA	33○ ★1 ★2	1.000	12.000	.640	.910	15°	**1.280**	ITSN323 ★1	NL34L	CL7	XNS35
S-MTFNR/L**-203X**	●	●		33○ ★1 ★2	1.250	12.000	.765	1.160	12°	**1.530**	ITSN323 ★1	NL34L	CL7	XNS35
S-MTFNR/L**-243X**	●	●		33○ ★1 ★2	1.500	14.000	.890	1.410	10°	**1.780**	ITSN323 ★1	NL34L	CL7	XNS35
S-MTFNR/L**-244**	●	●		43○ ★1	1.500	14.000	1.031	1.410	10°	**2.062**	ITSN432 ★1	NL46	CL9	XNS59
S-MTFNR/L**-283X**	□			33○ ★1 ★2	1.750	14.000	1.015	1.660	10°	**2.030**	ITSN323 ★1	NL34L	CL7	XNS35
S-MTFNR/L**-284**	●	●		43○ ★1	1.750	14.000	1.156	1.660	8°	**2.312**	ITSN432 ★1	NL46	CL9	XNS59
S-MTFNR/L**-324**	●	●		43○ ★1	2.000	14.000	1.281	1.910	8°	**2.562**	ITSN432 ★1	NL46	CL9	XNS59

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

★1 (Opt.) See page M010 for different thickness or radius.

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

Shim Screw	S34	Chipbreaker	CBT3

★3 Clamp Torque (lbf-in) : NL34L=13, NL46=19, XNS35=30, XNS59=70

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3 Cutting Speed (SFM)	l/d≤3 Feed (IPR)	l/d≤3 Depth of Cut (inch)	3<l/d≤4 Cutting Speed (SFM)	3<l/d≤4 Feed (IPR)	3<l/d≤4 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

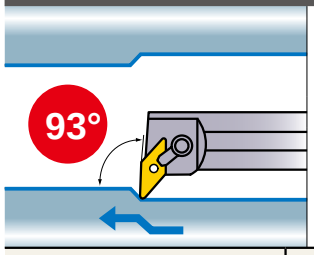
SN○○ type inserts ➤ A111–A116
TN○○ type inserts ➤ A117–A123
CBN & PCD inserts ➤ B027–B029, B052
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

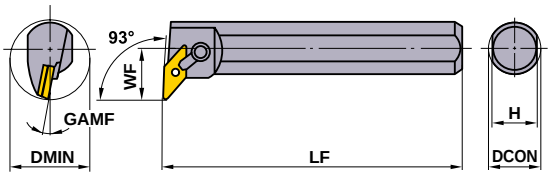
MULTIPLE CLAMP TYPE

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

S-MVUN

Steel shank — VN○○inserts





Right hand tool holder shown.

Finish	Light	Light	Medium
FH	LP	MP	MA
			
(3)	(3)	(3)	(3)
Medium	**Medium**	**Stainless**	**CBN**
MH	GM	MM	
			
(3)	(3)	(3)	(3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	Shim	Shim Pin ★2	Clamp Bridge	Clamp Screw ★2
S-MVUNR/L-203	●	□	VNMG VNGA VNGG VNGM NP-VNMA NP-VNGA	33○	1.250	14.000	1.125	1.16	12°	**2.250**	IVSN322	NL34L	CL12	XNS58
S-MVUNR/L-243	●	□		33○	1.500	14.000	1.250	1.41	12°	**2.500**	IVSN322	NL34L	CL12	XNS58
S-MVUNR/L-284	●			43○ ★1	1.750	14.000	1.500	1.66	12°	**3.000**	IVSN432 ★1	NL46	CL12	XNS59
S-MVUNR/L-324	□			43○ ★1	2.000	16.000	1.625	1.91	12°	**3.250**	IVSN432 ★1	NL46	CL12	XNS59

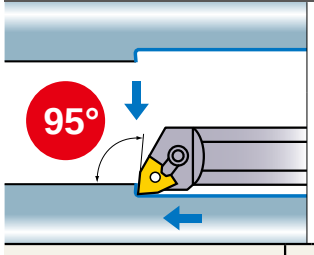
(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

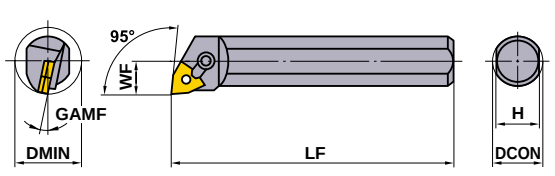
★1 (Opt.) See page M010 for different radius.

★2 Clamp Torque (lbf-in) : NL34L=13, NL46=19, XNS58=70, XNS59=70

S-MWLN

Steel shank — WN○○inserts





Right hand tool holder shown.

Finish	Light	Medium	Medium
FH	LP	MP	MA
			
(4)	(3,4)	(3,4)	(3,4)
Medium	**Medium**	**Stainless**	
MH	GM	MM	
			
(3,4)	(3,4)	(3,4)	

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	WF	H	GAMF	DMIN	Shim	Shim Pin ★	Clamp Bridge	Clamp Screw ★
S-MWLNR/L-123	●	●	WNMA WNMG NP-WNMA	32○	.750	10.000	.500	.700	14°	**1.000**	–	NL33	CL7	XNS36
S-MWLNR/L-163	●	●		32○	1.000	12.000	.640	.910	14°	**1.280**	–	NL33	CL7	XNS36
S-MWLNR/L-164	●	●		43○	1.000	12.000	.640	.910	14°	**1.280**	–	NL44	CL20	XNS47
S-MWLNR/L-204	●	●		43○	1.250	12.000	.765	1.160	14°	**1.530**	IWSN432	NL46	CL20	XNS48
S-MWLNR/L-244	●	●		43○	1.500	14.000	.890	1.410	14°	**1.780**	IWSN432	NL46	CL20	XNS48

★ Clamp Torque (lbf-in) : NL33=13, NL44=19, NL46=19, XNS36=30, XNS47=45, XNS48=45

(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

● : **Inventory maintained.**

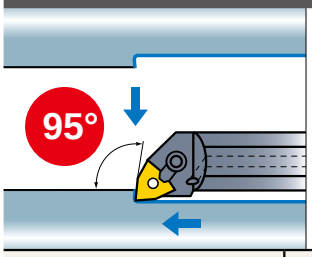
□ : **Non stock, produced to order only.**

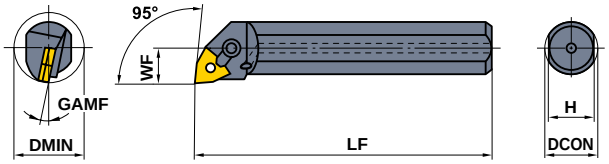
VN○○ type inserts	**➤ A124–A127**
WN○○ type inserts	**➤ A128–A132**
CBN & PCD inserts	**➤ B030–B032, B053**

M-MWLN

Heavy metal shank coolant thru

WN○○inserts





Right hand tool holder shown.

Finish	Light
FH	SA
	
(4)	(4)
Stainless	**Stainless**
MA	MM
	
(4)	(4)

Order Number	Stock		Insert Number		Dimensions (inch)						Shim	Shim Pin *	Clamp Bridge	Clamp Screw *
	R	L			DCON	LF	WF	H	GAMF	DMIN				
M-MWLNR/L-164-C	●	●	WNMA WNMG NP-WNMA	43○	1.000	12.000	.640	.955	14°	**1.280**	–	NL44	CL20	XNS47
M-MWLNR/L-204-C	●	●		43○	1.250	12.000	.765	1.205	14°	**1.530**	IWSN432	NL46	CL20	XNS48
M-MWLNR/L-244-C	●	●		43○	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○○ type inserts ➤ A128–A132
CBN inserts ➤ B032
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

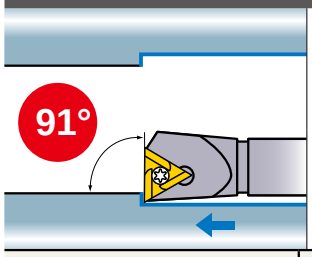
AL TYPE BORING BARS

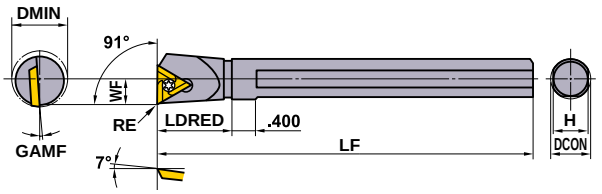
- Shank sizes ϕ.625inch thru ϕ1.000inch.
- Screw-on type.
- Recommended for aluminum, nonferrous metals and plastics.

S-STFE

Steel shank

TE○○inserts





Right hand tool holder shown.

Medium
R/L

(3)

PCD
R/L

(3)

Order Number	Stock R	Stock L	Insert Number		Dimensions (inch) DCON	LF	LDRED	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
S-STFER/L-103	●	●	TEGX	32○	.625	8.000	1.250	.406	.560	3°	**.813**	.016	FC400890T	TKY10F
S-STFER/L**-123**	●	●		32○	.750	10.000	1.500	.500	.700	3°	**1.000**	.016	FC400890T	TKY10F
S-STFER/L**-163**	●	●		32○	1.000	12.000	1.625	.641	.910	3°	**1.281**	.016	FC400890T	TKY10F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

RECOMMENDED CUTTING CONDITIONS

	Work Material	Grade	Cutting Speed (SFM)	l/d=3 Feed (IPR)	l/d=3 D.O.C (inch)	l/d=4 Feed (IPR)	l/d=4 D.O.C (inch)	l/d=5 Feed (IPR)	l/d=5 D.O.C (inch)	l/d=6 Feed (IPR)	l/d=6 D.O.C (inch)
N	Aluminum Alloy	**HTi10**	655－1970	.002－.010	－.12	.002－.010	－.12	.002－.008	－.10	.002－.008	－.039

(Note) Insert photo is an example. Letters show chip breaker style, figures show inscribed circle.

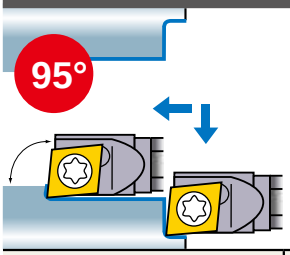
TE○○ type inserts ➤ A158
PCD inserts ➤ B062

● : **Inventory maintained.**

MICRO-DEX

- The minimum cutting diameter is ϕ5mm (.197inch).
- 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○○inserts



Right hand tool holder only.

Finish: L F

(03,04)

CBN

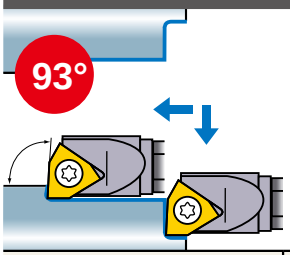
(03,04)

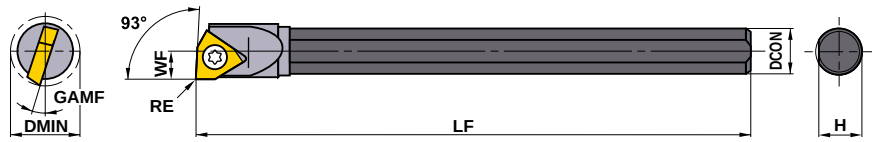
Order Number	Stock R	Insert Number		Dimensions (mm) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C04GSCLCR03	●	CCGT NP-CCGW	1.21○○	4	90	2.5	3.7	15°	**5**	0.2	TS16	TKY06F
C05HSCLCR03	●		1.21○○	5	100	3.0	4.7	13°	**6**	0.2	TS16	TKY06F
C06JSCLCR04	●		1.51○○	6	110	3.5	5.7	13°	**7**	0.2	TS21	TKY06F
C07KSCLCR04	●		1.51○○	7	125	4.0	6.7	11°	**8**	0.2	TS21	TKY06F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

SWUB — Carbide shank — WBGT inserts





Right hand tool holder only.

Finish: L F

(1.2,1.5)

Order Number	Stock R	Insert Number		Dimensions (mm) DCON	LF	WF	H	GAMF	DMIN	RE	* Clamp Screw	Wrench
C05HSWUBR02	●	WBGT	1.21○○LF	5	100	3.0	4.7	15°	**6**	0.2	TS21	TKY06F
C06JSWUBR02	●		1.21○○LF	6	110	3.5	5.7	13°	**7**	0.2	TS2C	TKY06F
C07KSWUBRL3	●		1.51.5○○LF	7	125	4.0	6.7	15°	**8**	0.2	TS2	TKY06F

(Note) When using inserts with right and left hand chip breakers, please use left hand inserts for right hand holders and right hand inserts for left hand holders.

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

RECOMMENDED CUTTING CONDITIONS

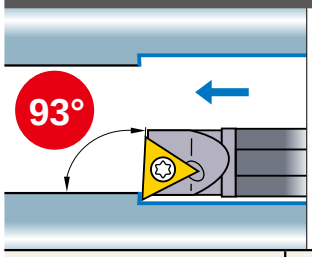
	Work Material	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	l/d
P	General Steel	**NX2525**	130—395	.0004—.002	.004—.012	3—5
M	Stainless Steel	**VP15TF**	130—395	.0004—.002	.004—.012	3—5
K	Cast Iron	**VP15TF**	130—395	.0004—.002	.004—.012	3—5
N	Non-Ferrous Material	**VP15TF**	260—525	.0004—.002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

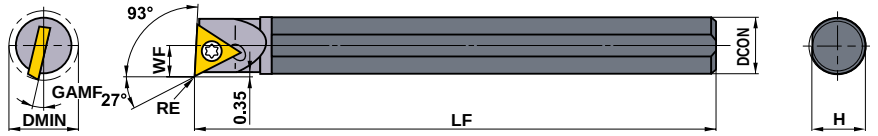
CCGT type inserts ➤ A137
WBGT type inserts ➤ A170
CBN inserts ➤ B037
SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

MICRO-DEX

- The minimum cutting diameter is ϕ8mm (.315inch).
- 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





Right hand tool holder only.

Finish: L F

(1.2)

Order Number	Stock	Insert Number		Dimensions (mm)							* Clamp Screw	Wrench
	R			DCON	LF	WF	H	GAMF	DMIN	RE		
C07KSTUCR06	●	TCGT	1.21○○LF	7	125	4.0	6.7	12°	**8**	0.2	TS2C	TKY06F

* Clamp Torque (lbf-in) : TS2C=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

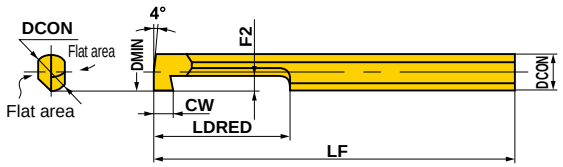
● : Inventory maintained. (1 MICRO-MINI in one case)

TCGT type inserts ➤ A156

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)

Geometry	Order Number	Stock TF15	Dimensions (mm) CW	DCON	LF	LDRED	DMIN	F2
 Right hand tool only.	**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

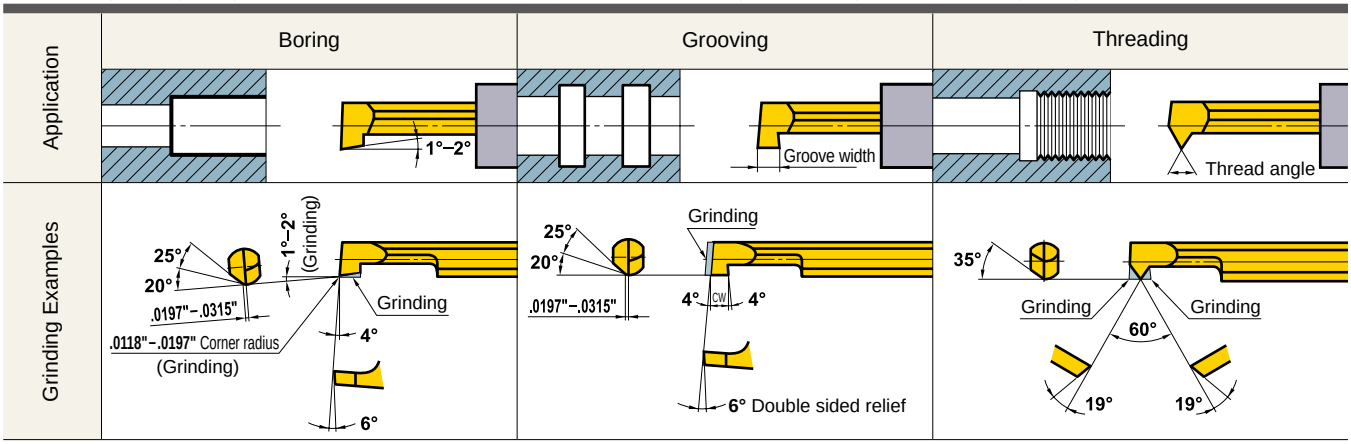
RECOMMENDED CUTTING CONDITIONS

	Work Material	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	l/d	Cutting Edge Preparation ∗ Corner Radius or C	∗ Honing
P	General Steel	100—165	—.004	.004—.012	5	.004—.020	.0004—.002
M	Stainless Steel	100—165	—.004	.004—.012	5	≤.016	≤.001 (Honing not required)
K	Cast Iron	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.



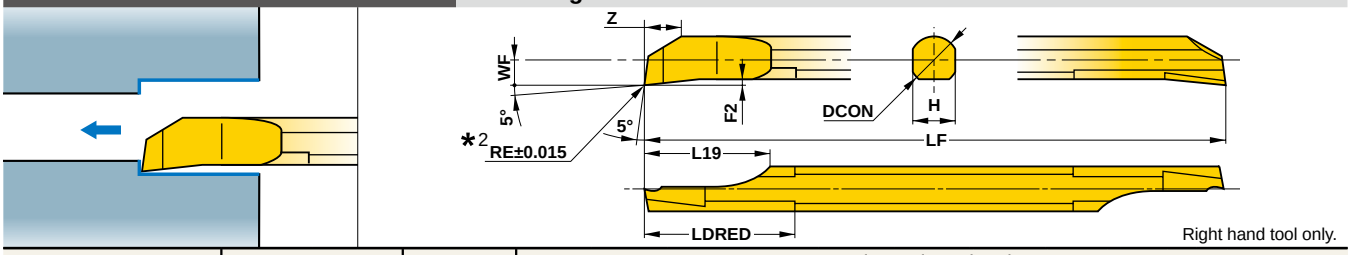
BORING BARS

SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

MICRO-MINI TWIN

CB

For boring



Right hand tool only.

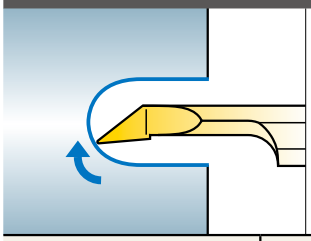
Order Number	Stock		Breaker	Dimensions (mm)									
	Micro Grain Carbide	Coated		DMIN *1		RE	DCON	LF	L19	LDRED	WF	F2	H	Z
	TF15	VP15TF		l/d≤3	l/d>3									
CB02RS	●	●	Without	**2.2**	**3.6**	0.05	2	50	5	6	1	0.25	1.8	1.4
CB02RS-B	●	●	With	**2.2**	**3.9**	0.05	2	50	5	6	1	0.25	1.8	1.4
CB02RS-01	●	●	Without	**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

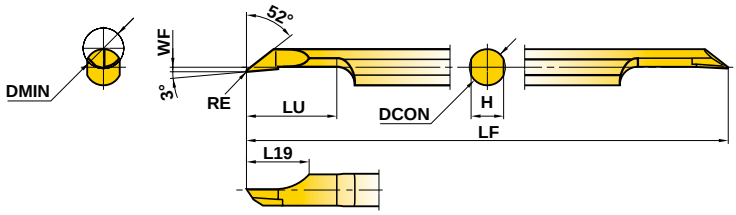
*1 DMIN : Min. Cutting Diameter
*2 The Re dimension represents the size before grinding a chip breaker.

● : Inventory maintained. (1 MICRO-MINI TWIN in one case)

CR

For copying

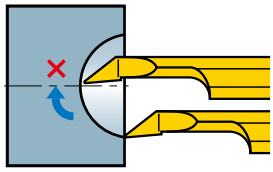
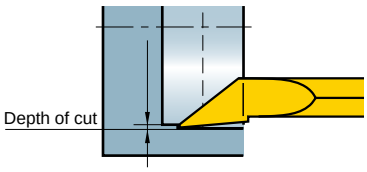




Right hand tool only.

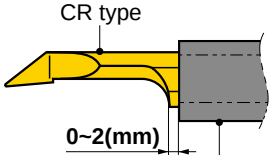
Order Number	Stock		Breaker	Dimensions (mm)							
	Micrograin Carbide	Coated									
	TF15	VP15TF		DMIN	RE	DCON	LF	LU	L19	WF	H
CR03RS-01	●	●	Without	**3.5**	0.1	3	50	8	6	0.15	2.7
CR03RS-01B	●	●	With	**3.5**	0.1	3	50	8	6	0.15	2.7
CR04RS-01	●	●	Without	**4.5**	0.1	4	60	10	7	0.15	3.6
CR04RS-01B	●	●	With	**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
The cutting edge should not be cross the center line of the workpiece. 	**The depth of cut should be smaller than the corner radius value.** 
If the cutting edge crosses the center line of a workpiece, the cutting edge can fracture.	With depths of cut larger than the corner radius value, burrs will be formed.

RECOMMENDED TOOL OVERHANG

MICRO-MINI TWIN
CR type



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	Feed (IPR) 05RS
P	General Steel	130—395	.0004—.002	.004—.012	3—5	130—395	.0004—.001	.0004—.002
M	Stainless Steel	130—395	.0004—.002	.004—.012	3—5	130—395	.0004—.001	.0004—.002
K	Cast Iron	130—395	.0004—.002	.004—.012	3—5	130—395	.0004—.002	.0004—.002
N	Non Ferrous Materials	260—525	.0004—.003	.004—.020	3—5	260—525	.0004—.002	.0004—.003

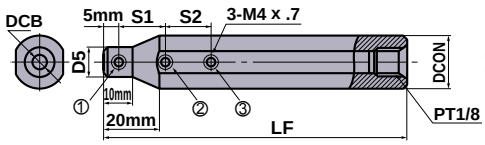
(Note) Recommend wet machining.

SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

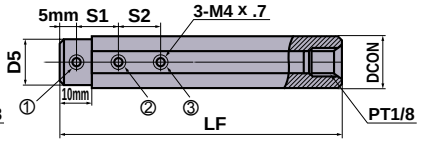
HOLDER (INCH SHANK STANDARD)

RBH

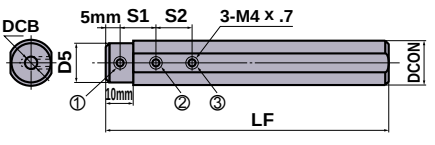
Round type holder



RBH16□□□A
(Coolant thru)



RBH10□□□A, RBH12□□□A
(Coolant thru)



RBH190□□N

ID (DCB) : INCH TYPE

Order Number	Stock	Dimensions						Clamp Screw *			Wrench	Torque (lbf-in)
		DCON (inch)	DCB (inch)	D5 (mm)	LF (mm)	S1 (mm)	S2 (mm)	①	②	③		
RBH10300A	●	.625	.187	15	100	15	15	A	A	A	HKY20F	18 (2.0N·m)
RBH**10350A**	●	.625	.219	15	100	15	15	A	A	A	HKY20F	18 (2.0N·m)
RBH**10400A**	●	.625	.250	15	100	20	20	A	A	A	HKY20F	18 (2.0N·m)
RBH**10500A**	●	.625	.313	15	100	20	20	D	D	D	HKY20F	18 (2.0N·m)
RBH12300A	●	.750	.187	18	125	15	15	B	B	B	HKY20F	18 (2.0N·m)
RBH**12350A**	●	.750	.219	18	125	15	15	B	B	B	HKY20F	18 (2.0N·m)
RBH**12400A**	●	.750	.250	18	125	20	20	B	B	B	HKY20F	18 (2.0N·m)
RBH**12500A**	●	.750	.313	18	125	20	20	A	A	A	HKY20F	18 (2.0N·m)
RBH16300A	●	1.000	.187	14	150	15	15	A	C	C	HKY20F	18 (2.0N·m)
RBH**16350A**	●	1.000	.219	15	150	15	15	A	C	C	HKY20F	18 (2.0N·m)
RBH**16400A**	●	1.000	.250	16	150	20	20	A	C	C	HKY20F	18 (2.0N·m)
RBH**16500A**	●	1.000	.313	17	150	20	20	A	C	C	HKY20F	18 (2.0N·m)

ID (DCB) : METRIC TYPE

Order Number	Stock	Dimensions						Clamp Screw *			Wrench	Torque (lbf-in)
		DCON (inch)	DCB (mm)	D5 (mm)	LF (mm)	S1 (mm)	S2 (mm)	①	②	③		
RBH10126A	●	.625	2	15	100	10	—	B	B	—	HKY20F	18 (2.0N·m)
RBH**10189A**	●	.625	3	15	100	10	10	A	A	A	HKY20F	18 (2.0N·m)
RBH**10252A**	●	.625	4	15	100	15	15	A	A	A	HKY20F	18 (2.0N·m)
RBH**10315A**	●	.625	5	15	100	15	15	A	A	A	HKY20F	18 (2.0N·m)
RBH**10378A**	●	.625	6	15	100	20	20	A	A	A	HKY20F	18 (2.0N·m)
RBH**10441A**	●	.625	7	15	100	20	20	A	A	A	HKY20F	18 (2.0N·m)
RBH19020N	●	.750	2	18	125	10	—	C	C	—	HKY20F	18 (2.0N·m)
RBH**19030N**	●	.750	3	18	125	10	10	B	B	B	HKY20F	18 (2.0N·m)
RBH**19040N**	●	.750	4	18	125	15	15	B	B	B	HKY20F	18 (2.0N·m)
RBH**19050N**	●	.750	5	18	125	15	15	B	B	B	HKY20F	18 (2.0N·m)
RBH**19060N**	●	.750	6	18	125	15	15	B	B	B	HKY20F	18 (2.0N·m)
RBH**19070N**	●	.750	7	18	125	20	20	B	B	B	HKY20F	18 (2.0N·m)
RBH16126A	●	1.000	2	11	150	10	—	A	B	—	HKY20F	18 (2.0N·m)
RBH**16189A**	●	1.000	3	12	150	10	10	A	B	C	HKY20F	18 (2.0N·m)
RBH**16252A**	●	1.000	4	13	150	15	15	A	C	C	HKY20F	18 (2.0N·m)
RBH**16315A**	●	1.000	5	14	150	15	15	A	C	C	HKY20F	18 (2.0N·m)
RBH**16378A**	●	1.000	6	15	150	20	20	A	C	C	HKY20F	18 (2.0N·m)
RBH**16441A**	●	1.000	7	16	150	20	20	A	C	C	HKY20F	18 (2.0N·m)

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

● : Inventory maintained.

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)	–	–	–	Citizen Precision Machinery Co., Ltd. NC lathes
		RBH**10189A**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
		RBH**10252A**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
		RBH**10315A**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
		RBH**10378A**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
		RBH**10441A**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
	ID : Inch Type	**RBH10300A**	For DIMPLE BAR and SCREW CLAMP TYPE				
		RBH**10350A**					
		RBH**10400A**					
		RBH**10500A**					
Round Type Holder ϕ.750 inch	ID : Metric Type	**RBH19020N**	02RS(-B) 02RS-0□(B)	–	–	–	Citizen Precision Machinery Co., Ltd.
		RBH**19030N**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
		RBH**19040N**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
		RBH**19050N**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
		RBH**19060N**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
		RBH**19070N**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
	ID : Inch Type	**RBH12300A**	For DIMPLE BAR and SCREW CLAMP TYPE				
		RBH**12350A**					
		RBH**12400A**					
		RBH**12500A**					
Round Type Holder ϕ1.000 inch	ID : Metric Type	**RBH16126A**	02RS(-B) 02RS-0□(B)	–	–	–	Citizen Precision Machinery Co., Ltd. NC lathes
		RBH**16189A**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
		RBH**16252A**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
		RBH**16315A**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
		RBH**16378A**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
		RBH**16441A**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
	ID : Inch Type	**RBH16300A**	For DIMPLE BAR and SCREW CLAMP TYPE				
		RBH**16350A**					
		RBH**16400A**					
		RBH**16500A**					

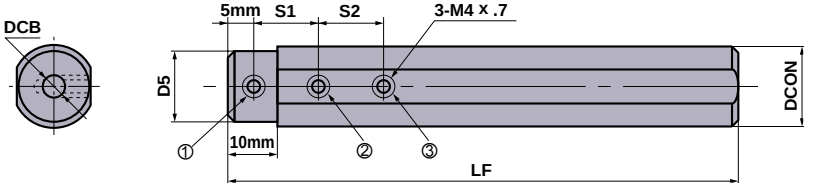
∗ Mitsubishi Materials obtained the makers' approval before entering their names in the list.

SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

HOLDER (METRIC SHANK STANDARD)

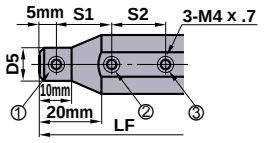
RBH

Round type holder

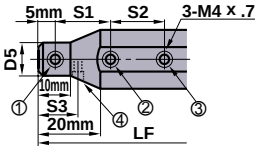


RBH16○○N

RBH20○○N
RBH25○○N



RBH22○○N



Order Number	Stock	Dimensions (mm)							Clamp Screw *				Wrench	Torque (lbf-in)
		DCON	DCB	D5	LF	S1	S2	S3	①	②	③	④		
RBH1620N	●	16	2	15	100	10	—	—	B	B	—	—	HKY20F	18 (2.0N·m)
RBH**1630N**	●	16	3	15	100	10	10	—	A	A	A	—	HKY20F	18 (2.0N·m)
RBH**1640N**	●	16	4	15	100	15	15	—	A	A	A	—	HKY20F	18 (2.0N·m)
RBH**1650N**	●	16	5	15	100	15	15	—	A	A	A	—	HKY20F	18 (2.0N·m)
RBH**1660N**	●	16	6	15	100	15	15	—	A	A	A	—	HKY20F	18 (2.0N·m)
RBH**1670N**	●	16	7	15	100	20	20	—	A	A	A	—	HKY20F	18 (2.0N·m)
RBH2020N	●	20	2	11	125	10	—	—	A	A	—	—	HKY20F	18 (2.0N·m)
RBH**2030N**	●	20	3	12	125	10	10	—	A	A	B	—	HKY20F	18 (2.0N·m)
RBH**2040N**	●	20	4	13	125	15	15	—	A	B	B	—	HKY20F	18 (2.0N·m)
RBH**2050N**	●	20	5	14	125	15	15	—	A	B	B	—	HKY20F	18 (2.0N·m)
RBH**2060N**	●	20	6	15	125	15	15	—	A	B	B	—	HKY20F	18 (2.0N·m)
RBH**2070N**	●	20	7	16	125	20	20	—	A	B	B	—	HKY20F	18 (2.0N·m)
RBH2220N	●	22	2	11	125	10	—	10	A	B	—	A	HKY20F	18 (2.0N·m)
RBH**2230N**	●	22	3	12	125	10	10	10	A	B	C	A	HKY20F	18 (2.0N·m)
RBH**2240N**	●	22	4	13	125	15	15	12.5	A	B	B	A	HKY20F	18 (2.0N·m)
RBH**2250N**	●	22	5	14	125	15	15	12.5	A	B	B	A	HKY20F	18 (2.0N·m)
RBH**2260N**	●	22	6	15	125	15	15	15	A	B	B	A	HKY20F	18 (2.0N·m)
RBH**2270N**	●	22	7	16	125	20	20	15	A	B	B	A	HKY20F	18 (2.0N·m)
RBH2520N	●	25	2	11	150	10	—	—	A	B	—	—	HKY20F	18 (2.0N·m)
RBH**2530N**	●	25	3	12	150	10	10	—	A	B	C	—	HKY20F	18 (2.0N·m)
RBH**2540N**	●	25	4	13	150	15	15	—	A	C	C	—	HKY20F	18 (2.0N·m)
RBH**2550N**	●	25	5	14	150	15	15	—	A	C	C	—	HKY20F	18 (2.0N·m)
RBH**2560N**	●	25	6	15	150	15	15	—	A	C	C	—	HKY20F	18 (2.0N·m)
RBH**2570N**	●	25	7	16	150	20	20	—	A	C	C	—	HKY20F	18 (2.0N·m)

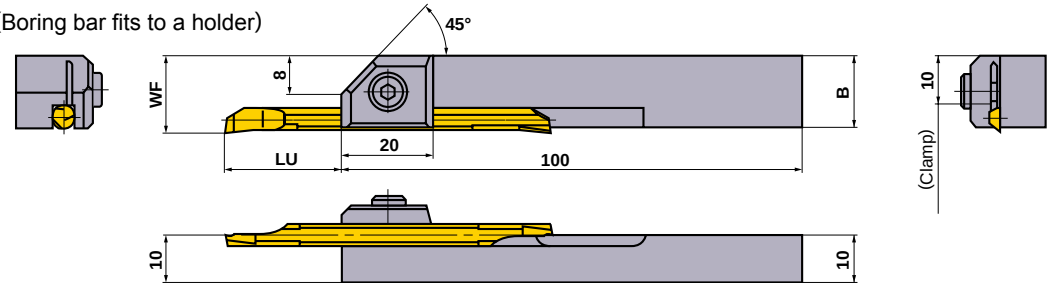
* Order number of clamp screw A=HSS04004, B=HSS04006, C=HSS04008

● : Inventory maintained. ★ : Inventory maintained in Japan.

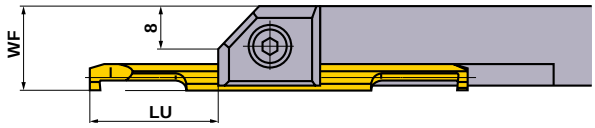
SBH

Square type holder

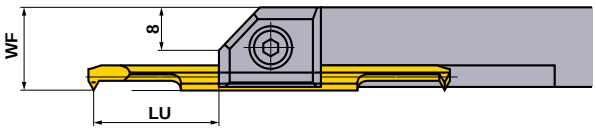
CB type (Boring bar fits to a holder)



CG type (Boring bar fits to a holder)



CT type (Boring bar fits to a holder)



Order Number	Stock	Dimensions (mm) WF			Maximum Tool Overhang **LU** (Recommended tool overhang when machining general steels)					B		MICRO-MINI TWIN				Clamp Screw	Wrench	Torque (lbf-in)
		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)
SBH**1030R**	★	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)	030□RS-□□(B) 03RS-□□(B)	0305RS-M4 03RS-M4(B)	03RS-01 03RS-01B	HSC 05012	HKY40R	84 (9.5N·m)
SBH**1040R**	★	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)	040□RS-□□(B) 04RS-□□(B)	0407RS-M6 04RS-M6(B)	04RS-01 04RS-01B	HSC 05012	HKY40R	84 (9.5N·m)
SBH**1050R**	★	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)	051□RS-□□(B) 05RS-□□(B)	0510RS-M8 05RS-M8(B)	05RS-01 05RS-01B	HSC 05012	HKY40R	84 (9.5N·m)
SBH**1060R**	★	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)	061□RS-□□(B) 06RS-□□(B)	0610RS-M10 06RS-M10(B)	—	HSC 05012	HKY40R	84 (9.5N·m)
SBH**1070R**	★	18	17.8	—	13.5–52 (21–35)	28–38 (29)	29–37 (30)	—	—	18	17.4	07RS(-B) 07RS-0□(B)	071□RS-□□(B) 07RS-□□(B)	—	—	HSC 05012	HKY40R	84 (9.5N·m)

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

SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

HOLDER

HOLDER CROSS REFERENCE LIST OF METRIC SHANK STANDARD

Holder		MICRO-MINI TWIN		MICRO-DEX	MICRO-MINI	Machine Makers
Type	Order Number	CB	CR		C	
Round Type Holder ϕ16mm	**RBH1620N**	02RS(-B) 02RS-0□(B)	–	–	–	MIYANO MACHINERY JAPAN INC. NC lathes
	RBH**1630N**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
	RBH**1640N**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
	RBH**1650N**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
	RBH**1660N**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
	RBH**1670N**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
Round Type Holder ϕ20mm	**RBH2020N**	02RS(-B) 02RS-0□(B)	–	–	–	Citizen Precision Machinery Co., Ltd. Tsugami Corporation MIYANO MACHINERY JAPAN INC. NC lathes
	RBH**2030N**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
	RBH**2040N**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
	RBH**2050N**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
	RBH**2060N**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
	RBH**2070N**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
Round Type Holder ϕ22mm	**RBH2220N**	02RS(-B) 02RS-0□(B)	–	–	–	STAR MICRONICS CO., LTD.
	RBH**2230N**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
	RBH**2240N**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
	RBH**2250N**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
	RBH**2260N**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
	RBH**2270N**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
Round Type Holder ϕ25mm	**RBH2520N**	02RS(-B) 02RS-0□(B)	–	–	–	Tsugami Corporation MIYANO MACHINERY JAPAN INC. NC lathes
	RBH**2530N**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	03FR-BLS	
	RBH**2540N**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	C04GS□□□R□□	04FR-BLS	
	RBH**2550N**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	C05GS□□□R□□	05FR-BLS	
	RBH**2560N**	06RS(-B) 06RS-0□(B)	–	C06GS□□□R□□	–	
	RBH**2570N**	07RS(-B) 07RS-0□(B)	–	C07GS□□□R□□	–	
Square Type Holder □10mm	**SBH1020R**	02RS(-B) 02RS-0□(B)	–	–	–	NC lathes
	SBH**1030R**	03RS(-B) 03RS-0□(B)	03RS-01 03RS-01B	–	–	
	SBH**1040R**	04RS(-B) 04RS-0□(B)	04RS-01 04RS-01B	–	–	
	SBH**1050R**	05RS(-B) 05RS-0□(B)	05RS-01 05RS-01B	–	–	
	SBH**1060R**	06RS(-B) 06RS-0□(B)	–	–	–	
	SBH**1070R**	07RS(-B) 07RS-0□(B)	–	–	–	

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

BORING BARS

SPARE PARTS ➤ M001
TECHNICAL DATA ➤ N001

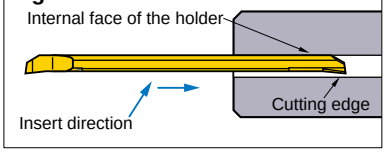
PRECAUTION IN USING THE MICRO-MINI TWIN

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.

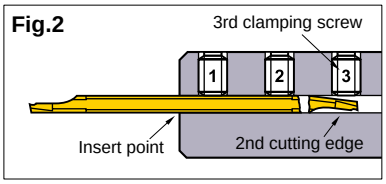
Fig.1



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.

◎When using Mitsubishi holders with a tool overhang of5 lxd, 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)

Fig.2



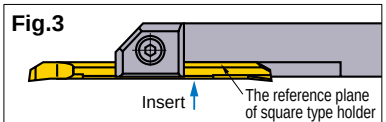
●When using a square type holder

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.

Fig.3



Tighten the clamping screw ensuring making the micro-mini twin boring bars in contact with the reference plane of square type holder.