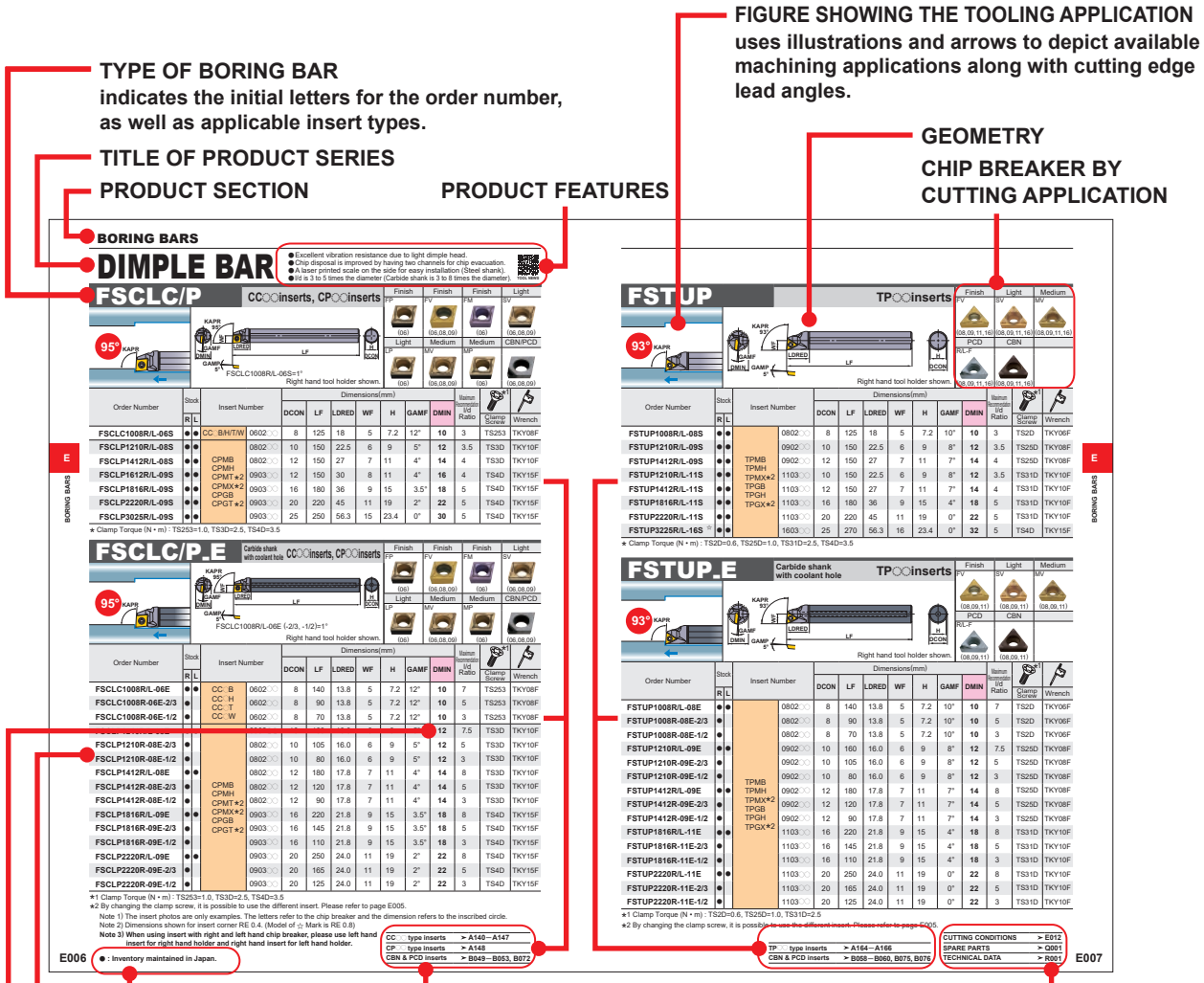
HOW TO READ THE STANDARD OF BORING BARS

●How this section page is organised

①Organised by product series.
(Refer to the index on the next page.)

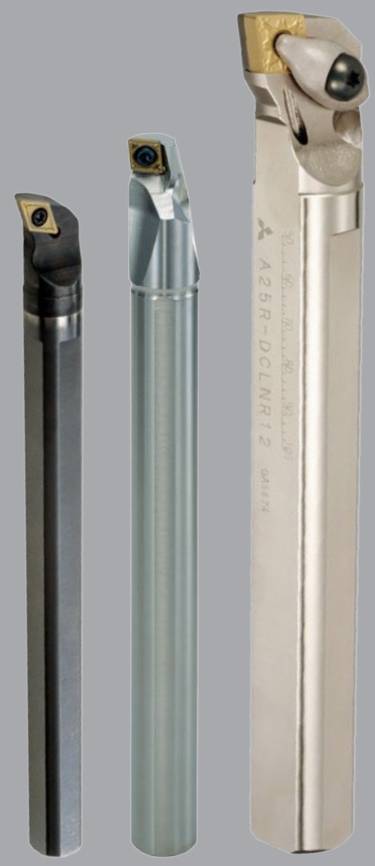


●To Order : Please specify

①order number and hand of tool (right/left).

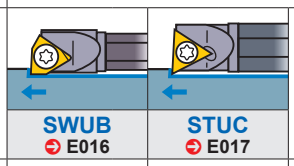
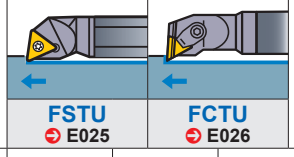
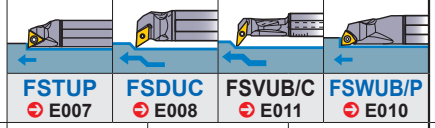
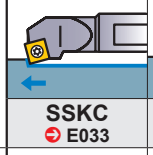
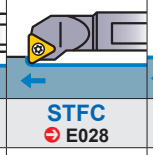
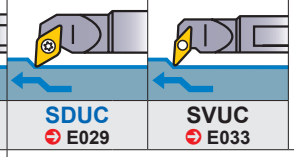
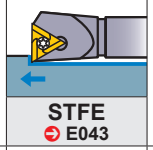
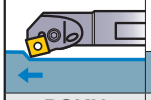
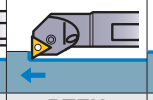
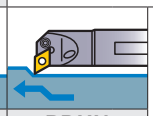
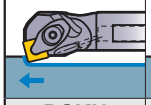
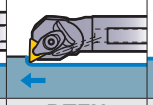
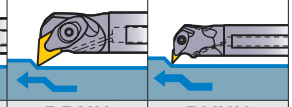
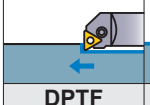
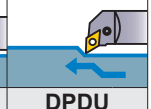
TURNING TOOLS

BORING BARS

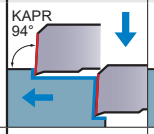
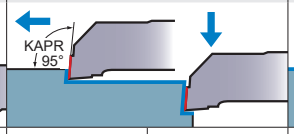
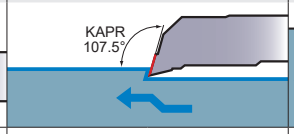
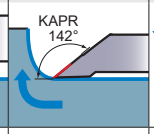
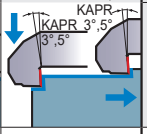
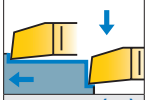
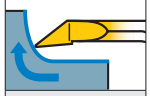
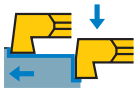
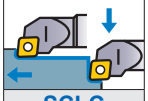
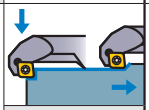
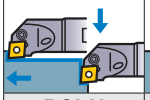
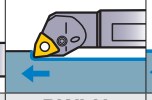
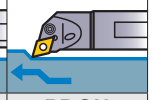
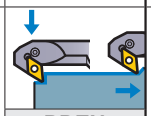
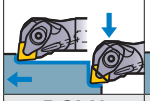
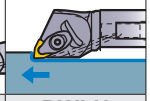
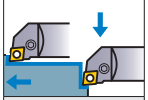
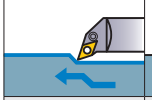
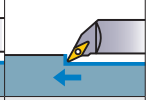


*Arranged by Alphabetical order

CLASSIFICATION

Name of Tool Holder	DMIN Minimum Cutting Diameter	Features	KAPR=75°	KAPR=91°	KAPR=93°
MICRO-MINI TWIN Boring Bars 	ϕ2.2 — ϕ8.2	● Solid carbide type with two cutting edges. ● Continuous cutting from boring to facing. ● With or without a chip breaker.			
MICRO-MINI Boring Bars 	ϕ3.2 — ϕ5.2	● 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.).			
MICRO-DEX Boring Bars (Carbide Shank) 	ϕ5 — ϕ8	● 7°positive insert. ● Carbide shank type. ● Easy-to-use tool geometries. ● Suitable for small workpieces. ● l/d is 5 times the diameter.			 SWUB E016 STUC E017
F Type Boring Bars 	ϕ5.8 — ϕ40	● 11°positive insert. ● Screw-on type and Clamp-on type. ● l/d is 3 to 5 times the diameter. ● FSWL type is 7°positive insert.			 FSTU E025 FCTU E026
DIMPLE BAR 	ϕ10 — ϕ40	● 5°, 7°, 11° positive insert. ● Excellent vibration resistance due to a light dimple head. ● l/d is 3 to 5 times the diameter (Carbide shank is 3 to 8 times the diameter).			 FSTUP E007 FSDUC E008 FSVUB/C E011 FSWUB/P E010
S Type Boring Bars 	ϕ11 — ϕ50	● ISO standard. ● 7°positive insert. ● Screw-on type. ● l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).	 SSKC E033	 STFC E028	 SDUC E029 SVUC E033
AL Type Boring Bars (For Aluminium Alloy) 	ϕ20 — ϕ32	● Suitable for non-ferrous metal. ● 20°positive insert. ● Screw-on type. ● l/d is 6 times the diameter. ● Excellent vibration resistance.		 STFE E043	
P Type Boring Bars 	ϕ20 — ϕ70	● ISO standard. ● Economical negative insert. ● Lever lock type, and pin lock type. ● l/d is 3 times the diameter.	 PSKN E035	 PTFN E035	 PDUN E036
DOUBLE CLAMP DIMPLE BAR 	ϕ32 — ϕ50	● Economical negative insert. ● Single action type. ● Excellent vibration resistance due to a light dimple head. (With coolant hole.) ● l/d is 3 to 4 times the diameter.	 DSKN E014	 DTFN E014	 DDUN E013 DVUN E015
D Type Boring Head 	ϕ40 — ϕ60	● Economical negative insert. ● Lever lock type. ● Exchangeable head type.		 DPTF E040	 DPDU E040
M Type Boring Bars 	ϕ63	● Negative trigon shape insert. ● Double clamp type. ● l/d is 3 times the diameter.			

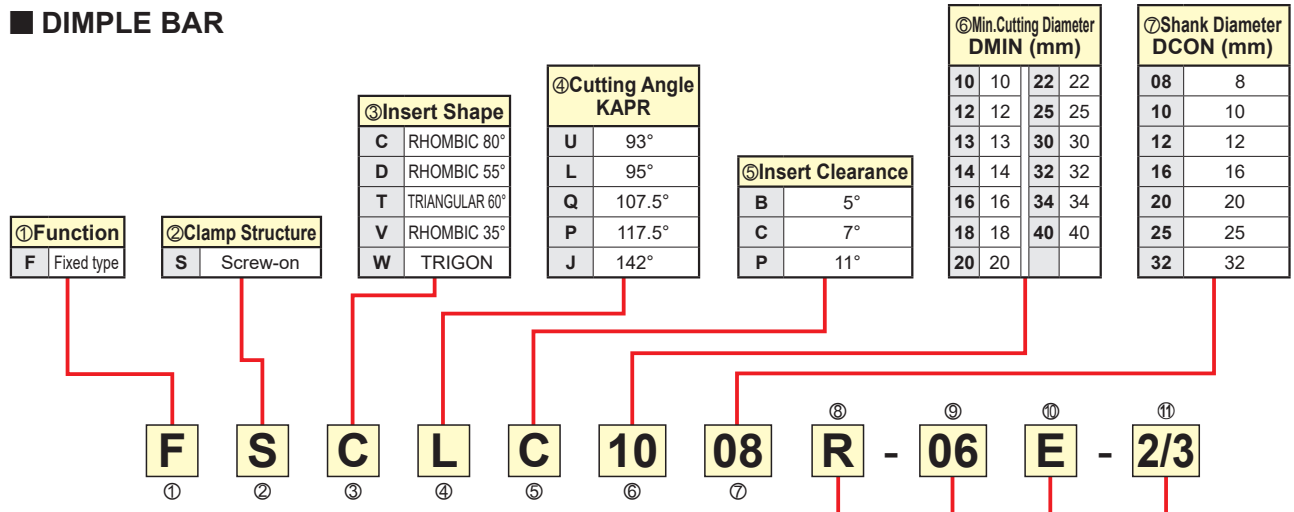
Note 1) Holders with blue colour symbol have an anti-vibration carbide shank. (For Micro-dex boring bars, carbide shank only.)
Note 2) l/d represents the ratio of the projection length L to the cutting edge and the shank diameter d.

	KAPR=94°	KAPR=95°		KAPR=107.5°－117.5°		KAPR=142°	KAPR=3°,5°	Selection Standard								
								Economical	Low Cutting Resistance (Sharpness)	Clamp Rigidity	Vibration Resisiance	Operation Efficiency	Coolant Hole	Specialized	Small Diameter Cutting
		 CB○○RS(-B) E019				 CR E020			◎		◎ *				◎
	 C○○FR-BLS E022								◎						◎
		 SCLC E016									◎ *				◎
		 FSWL E027							○		○ *				○
		 FSCLC/P E006		 FSDQC E009	 FSVPB/C E011	 FSVJB/C E012			◎		◎ *	◎	◎ *		
		 SCLC E030		 SDQC E031	 SVQC E032		 SCZC E034		○		○ *				
									◎		○			◎	
		 PCLN E036	 PWLN E037	 PDQN E037			 PDZN E038	◎		○		◎	◎		
		 DCLN E013	 DWLN E015					◎		◎		◎	◎		
		 DPCL E041		 DPDH E041	 DPVP E042			◎		○		◎			
		 MWLN E039						◎		◎		○	◎		

Note 3) ◎ : 1st recommendation. ○: 2nd recommendation.
Note 4) ＊Indicates that the shank material is carbide.

IDENTIFICATION

■ DIMPLE BAR



①Function	
F	Fixed type

②Clamp Structure	
S	Screw-on

③Insert Shape	
C	RHOMBIC 80°
D	RHOMBIC 55°
T	TRIANGULAR 60°
V	RHOMBIC 35°
W	TRIGON

④Cutting Angle KAPR	
U	93°
L	95°
Q	107.5°
P	117.5°
J	142°

⑤Insert Clearance	
B	5°
C	7°
P	11°

⑥Min.Cutting Diameter DMIN (mm)			
10	10	22	22
12	12	25	25
13	13	30	30
14	14	32	32
16	16	34	34
18	18	40	40
20	20		

⑦Shank Diameter DCON (mm)	
08	8
10	10
12	12
16	16
20	20
25	25
32	32

⑧Hand of Tool	
R	Right Hand
L	Left Hand

⑨Cutting Edge Length (mm)					
Inscribed circle of insert	4.76	5.56	6.35	7.94	9.525
RHOMBIC 80°	–	–	**06**	**0.8**	**09**
RHOMBIC 55°	–	–	**07**	–	**11**
TRIANGULAR 60°	**08**	**09**	**11**	–	**16**
RHOMBIC 35°	**08**	–	**11**	–	**16**
TRIGON	**L3**	–	**04**	–	**06**

⑩Shank Material	
E	Carbide Shank
S	Steel Shank

⑪Tool Length (Carbide shank only) (mm)					
Shank Dia.	8	10	12	16	20
No symbol	140	160	180	220	250
2/3	90	105	120	145	165
1/2	70	80	90	110	125

■ ISO TYPE BORING TOOLS
[For Aluminium Alloy, P-type and S-type]

①Shank Material	
A	Steel Shank with Coolant Hole
C	Carbide Shank
E	Carbide Shank with Coolant Hole
S	Steel Shank

②Shank Diameter DCON (mm)	
08	8
10	10
12	12
16	16
20	20
25	25
32	32
40	40

③Tool Length LF (mm)	
F	80
H	100
K	125
M	150
Q	180
R	200
S	250
T	300
U	350
V	400

④Clamp Structure	
P	Lever Lock
S	Screw-on

⑤Insert Shape	
C	RHOMBIC 80°
D	RHOMBIC 55°
S	SQUARE 90°
T	TRIANGULAR 60°
V	RHOMBIC 35°
W	TRIGON

⑥Cutting Angle KAPR	
F	91°
K	75°
L	95°
Q	107.5°
U	93°

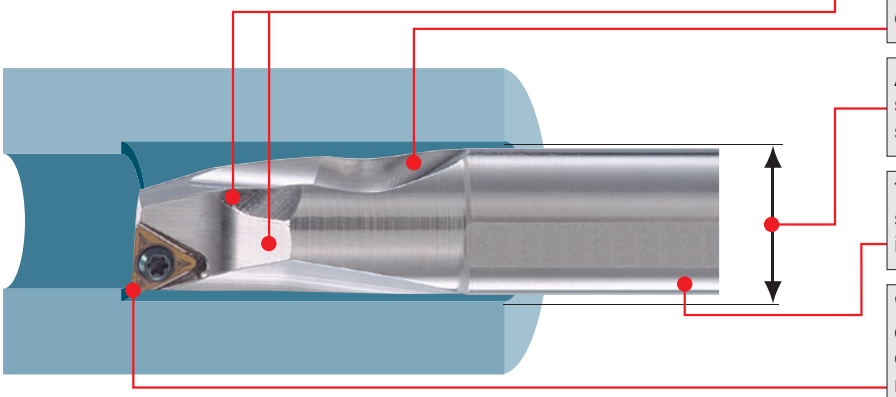
⑦Insert Clearance	
C	7°Positive
E	20°Positive
N	0°
P	11°Positive

⑧Hand of Tool	
R	Right Hand
L	Left Hand

⑨Cutting Edge Length (mm)					
Inscribed circle of insert	6.35	7.94	9.525	12.70	19.05
RHOMBIC 80°	**06**	**08**	**09**	**12**	**19**
RHOMBIC 55°	**07**	–	**11**	**15**	–
SQUARE 90°	–	–	**09**	**12**	**19**
TRIANGULAR 60°	**11**	–	**16**	**22**	–
RHOMBIC 35°	**11**	–	**16**	–	–

FEATURES OF DIMPLE BAR

Highly rigid steel shank and a lightweight head configuration designed by computer simulation analysis reduces chatter and improves the vibration damping properties.



- Chip disposal is improved by having two channels for chip evacuation.
- The lightweight head with its large dimple reduces chatter.
- Available in sizes smaller than the ISO standard. Therefore the boring of small diameter holes is possible.
- The boring bar has a laser printed scale on the shank to facilitate easy installation.
- "F and FS" breakers improves the quality of the surface finish, "MV" breaker offers excellent chip disposal. High wear resistant CBN inserts are also available for the machining of hardened materials.

■ VIBRATION RESISTANCE

●DIMPLE BAR

Weight of the Head	Damping Time
49.7g	15.8ms

By reducing the weight of the head, the damping properties are increased.

●Conventional Product

Weight of the Head	Damping Time
70.1g	20ms

* The simulation data stated above was conducted with a FSCLP1816R-09S holder, under the following conditions; l/d=5, depth of cut=0.5mm, and feed=0.05mm/rev.

■ Direction for the use of CCG/MT • CPG/MT • CPMX • TPG/MX type inserts

By changing the clamp screw, it is possible to use the inserts listed in the table below.

Holder : FSCLC/P • FSCLC/P...E

Insert Number	Clamp Screw
CCG/MT0602○○ (ϕ6.35)	Can be used as it is.
CPG/MT0802○○ (ϕ7.94)	Change to **TS3**
CPG/MT0903○○ (ϕ9.525)	Change to **TS4**
CPMX0802○○ (ϕ7.94)	Can be used as it is.
CPMX0903○○ (ϕ9.525)	Can be used as it is.

Holder : FSTUP • FSTUP...E

Insert Number	Clamp Screw
TPG/MX0802○○ (ϕ4.76)	Change to **CS200T**
TPG/MX0902○○ (ϕ5.56)	Change to **CS250T**
TPG/MX1103○○ (ϕ9.525)	Change to **CS300890T**

* If the screw is too long the please shorten as necessary.

Note 1) TPMT/W09, W11 types cannot be used due to a different clamp screw size.

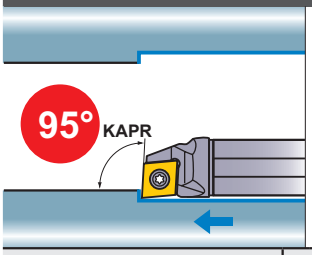
DIMPLE BAR

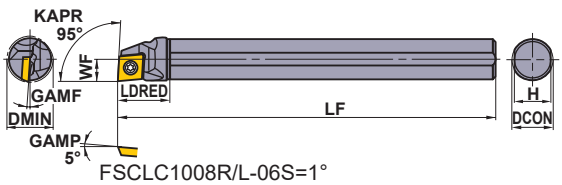
- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- A laser printed scale on the side for easy installation (Steel shank).
- l/d is 3 to 5 times the diameter (Carbide shank is 3 to 8 times the diameter).

TOOL NEWS

FSCLC/P

CC○○inserts, CP○○inserts





FSCLC1008R/L-06S=1°

Right hand tool holder shown.

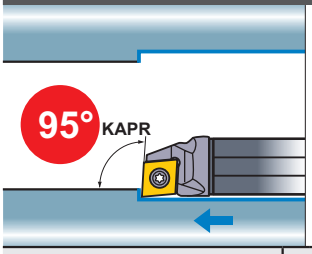
Finish	Finish	Finish	Light
FP	FV	FM	SV
			
(06)	(06,08,09)	(06)	(06,08,09)
Light	**Medium**	**Medium**	**CBN/PCD**
LP	MV	MP	
			
(06)	(06,08,09)	(06)	(06,08,09)

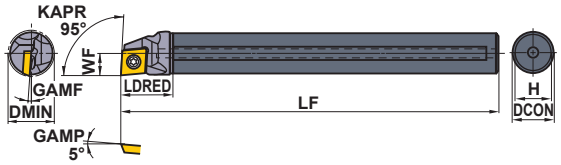
Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Maximum Recommendation l/d Ratio	✶1 Clamp Screw	Wrench
FSCLC1008R/L-06S	●	●	CC○B/H/T/W	0602○○	8	125	18	5	7.2	12°	**10**	3	TS253	TKY08F
FSCLP1210R/L-08S	●	●	CPMB CPMH CPMT✶2 CPMX✶2 CPGB CPGT✶2	0802○○	10	150	22.5	6	9	5°	**12**	3.5	TS3D	TKY10F
FSCLP1412R/L-08S	●	●		0802○○	12	150	27	7	11	4°	**14**	4	TS3D	TKY10F
FSCLP1612R/L-09S	●	●		0903○○	12	150	30	8	11	4°	**16**	4	TS4D	TKY15F
FSCLP1816R/L-09S	●	●		0903○○	16	180	36	9	15	3.5°	**18**	5	TS4D	TKY15F
FSCLP2220R/L-09S	●	●		0903○○	20	220	45	11	19	2°	**22**	5	TS4D	TKY15F
FSCLP3025R/L-09S	●	●		0903○○	25	250	56.3	15	23.4	0°	**30**	5	TS4D	TKY15F

✶ Clamp Torque (N • m) : TS253=1.0, TS3D=2.5, TS4D=3.5

FSCLC/P_E

Carbide shank with coolant hole CC○○inserts, CP○○inserts





FSCLC1008R/L-06E (-2/3, -1/2)=1°

Right hand tool holder shown.

Finish	Finish	Finish	Light
FP	FV	FM	SV
			
(06)	(06,08,09)	(06)	(06,08,09)
Light	**Medium**	**Medium**	**CBN/PCD**
LP	MV	MP	
			
(06)	(06,08,09)	(06)	(06,08,09)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Maximum Recommendation l/d Ratio	✶1 Clamp Screw	Wrench
FSCLC1008R/L-06E	●	●	CC○B CC○H CC○T CC○W	0602○○	8	140	13.8	5	7.2	12°	**10**	7	TS253	TKY08F
FSCLC1008R-06E-2/3	●			0602○○	8	90	13.8	5	7.2	12°	**10**	5	TS253	TKY08F
FSCLC1008R-06E-1/2	●			0602○○	8	70	13.8	5	7.2	12°	**10**	3	TS253	TKY08F
FSCLP1210R/L-08E	●	●	CPMB CPMH CPMT✶2 CPMX✶2 CPGB CPGT✶2	0802○○	10	160	16.0	6	9	5°	**12**	7.5	TS3D	TKY10F
FSCLP1210R-08E-2/3	●			0802○○	10	105	16.0	6	9	5°	**12**	5	TS3D	TKY10F
FSCLP1210R-08E-1/2	●			0802○○	10	80	16.0	6	9	5°	**12**	3	TS3D	TKY10F
FSCLP1412R/L-08E	●	●		0802○○	12	180	17.8	7	11	4°	**14**	8	TS3D	TKY10F
FSCLP1412R-08E-2/3	●			0802○○	12	120	17.8	7	11	4°	**14**	5	TS3D	TKY10F
FSCLP1412R-08E-1/2	●			0802○○	12	90	17.8	7	11	4°	**14**	3	TS3D	TKY10F
FSCLP1816R/L-09E	●	●		0903○○	16	220	21.8	9	15	3.5°	**18**	8	TS4D	TKY15F
FSCLP1816R-09E-2/3	●			0903○○	16	145	21.8	9	15	3.5°	**18**	5	TS4D	TKY15F
FSCLP1816R-09E-1/2	●			0903○○	16	110	21.8	9	15	3.5°	**18**	3	TS4D	TKY15F
FSCLP2220R/L-09E	●	●		0903○○	20	250	24.0	11	19	2°	**22**	8	TS4D	TKY15F
FSCLP2220R-09E-2/3	●			0903○○	20	165	24.0	11	19	2°	**22**	5	TS4D	TKY15F
FSCLP2220R-09E-1/2	●			0903○○	20	125	24.0	11	19	2°	**22**	3	TS4D	TKY15F

✶1 Clamp Torque (N • m) : TS253=1.0, TS3D=2.5, TS4D=3.5

✶2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E005.

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

Note 2) Dimensions shown for insert corner RE 0.4. (Model of ☆ Mark is RE 0.8)

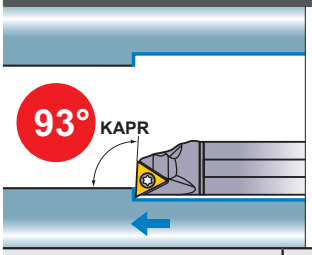
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

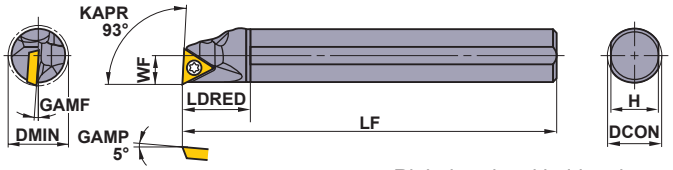
CC○○ type inserts	**➤ A140—A147**
CP○○ type inserts	**➤ A148**
CBN & PCD inserts	**➤ B049—B053, B072**

● : Inventory maintained in Japan.

FSTUP

TP○○inserts





Right hand tool holder shown.

Finish	Light	Medium
FV	SV	MV
		
(08,09,11,16)	(08,09,11,16)	(08,09,11,16)
PCD	CBN	
R/L-F		
		
(08,09,11,16)	(08,09,11,16)	

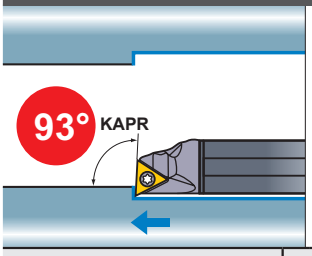
Order Number	Stock		Insert Number		Dimensions(mm)							Maximum Recommendation l/d Ratio	✶1 Clamp Screw	Wrench
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN			
FSTUP1008R/L-08S	●	●	TPMB TPMH TPMX✶2 TPGB TPGH TPGX✶2	0802○○	8	125	18	5	7.2	10°	**10**	3	TS2D	TKY06F
FSTUP1210R/L-09S	●	●		0902○○	10	150	22.5	6	9	8°	**12**	3.5	TS25D	TKY08F
FSTUP1412R/L-09S	●	●		0902○○	12	150	27	7	11	7°	**14**	4	TS25D	TKY08F
FSTUP1210R/L-11S	●	●		1103○○	10	150	22.5	6	9	8°	**12**	3.5	TS31D	TKY10F
FSTUP1412R/L-11S	●	●		1103○○	12	150	27	7	11	7°	**14**	4	TS31D	TKY10F
FSTUP1816R/L-11S	●	●		1103○○	16	180	36	9	15	4°	**18**	5	TS31D	TKY10F
FSTUP2220R/L-11S	●	●		1103○○	20	220	45	11	19	0°	**22**	5	TS31D	TKY10F
FSTUP3225R/L-16S ☆	●	●		1603○○	25	270	56.3	16	23.4	0°	**32**	5	TS4D	TKY15F

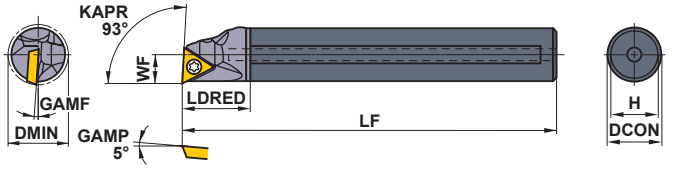
✶ Clamp Torque (N • m) : TS2D=0.6, TS25D=1.0, TS31D=2.5, TS4D=3.5

FSTUP_E

Carbide shank with coolant hole

TP○○inserts





Right hand tool holder shown.

Finish	Light	Medium
FV	SV	MV
		
(08,09,11)	(08,09,11)	(08,09,11)
PCD	CBN	
R/L-F		
		
(08,09,11)	(08,09,11)	

Order Number	Stock		Insert Number		Dimensions(mm)							Maximum Recommendation l/d Ratio	✶1 Clamp Screw	Wrench
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN			
FSTUP1008R/L-08E	●	●	TPMB TPMH TPMX✶2 TPGB TPGH TPGX✶2	0802○○	8	140	13.8	5	7.2	10°	**10**	7	TS2D	TKY06F
FSTUP1008R-08E-2/3	●			0802○○	8	90	13.8	5	7.2	10°	**10**	5	TS2D	TKY06F
FSTUP1008R-08E-1/2	●			0802○○	8	70	13.8	5	7.2	10°	**10**	3	TS2D	TKY06F
FSTUP1210R/L-09E	●	●		0902○○	10	160	16.0	6	9	8°	**12**	7.5	TS25D	TKY08F
FSTUP1210R-09E-2/3	●			0902○○	10	105	16.0	6	9	8°	**12**	5	TS25D	TKY08F
FSTUP1210R-09E-1/2	●			0902○○	10	80	16.0	6	9	8°	**12**	3	TS25D	TKY08F
FSTUP1412R/L-09E	●	●		0902○○	12	180	17.8	7	11	7°	**14**	8	TS25D	TKY08F
FSTUP1412R-09E-2/3	●			0902○○	12	120	17.8	7	11	7°	**14**	5	TS25D	TKY08F
FSTUP1412R-09E-1/2	●			0902○○	12	90	17.8	7	11	7°	**14**	3	TS25D	TKY08F
FSTUP1816R/L-11E	●	●		1103○○	16	220	21.8	9	15	4°	**18**	8	TS31D	TKY10F
FSTUP1816R-11E-2/3	●			1103○○	16	145	21.8	9	15	4°	**18**	5	TS31D	TKY10F
FSTUP1816R-11E-1/2	●			1103○○	16	110	21.8	9	15	4°	**18**	3	TS31D	TKY10F
FSTUP2220R/L-11E	●	●		1103○○	20	250	24.0	11	19	0°	**22**	8	TS31D	TKY10F
FSTUP2220R-11E-2/3	●			1103○○	20	165	24.0	11	19	0°	**22**	5	TS31D	TKY10F
FSTUP2220R-11E-1/2	●			1103○○	20	125	24.0	11	19	0°	**22**	3	TS31D	TKY10F

✶1 Clamp Torque (N • m) : TS2D=0.6, TS25D=1.0, TS31D=2.5

✶2 By changing the clamp screw, it is possible to use the different insert. Please refer to page E005.

TP○○ type inserts	➤ A164—A166	CUTTING CONDITIONS	➤ E012
CBN & PCD inserts	➤ B058—B060, B075, B076	SPARE PARTS	➤ Q001
		TECHNICAL DATA	➤ R001

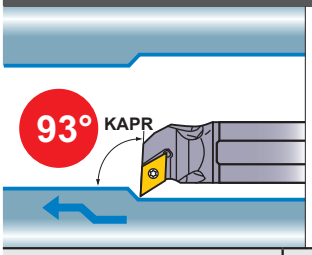
DIMPLE BAR

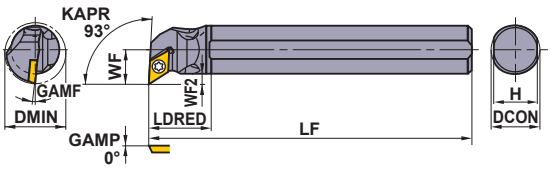
- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- A laser printed scale on the side for easy installation (Steel shank).
- l/d is 3 to 5 times the diameter (Carbide shank is 3 to 8 times the diameter).

TOOL NEWS

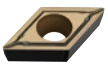
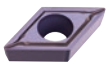
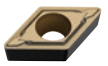
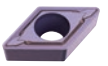
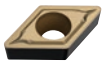
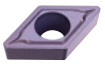
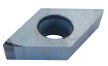
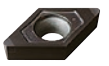
FSDUC

DC○○inserts





Right hand tool holder shown.

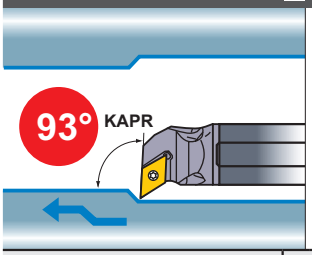
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	**Medium**	**PCD**	**CBN**
MP	MM	R/L-F	
			
(07,11)	(07,11)	(07,11)	(07,11)

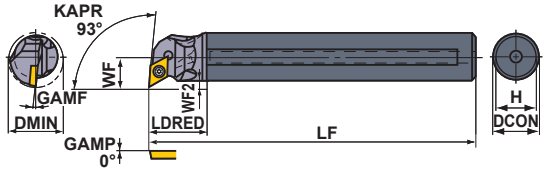
Order Number	Stock		Insert Number		Dimensions(mm)								Maximum Recommendation l/d Ratio	* Clamp Screw	Wrench
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN			
FSDUC1410R/L-07S	●	●	DCMT DCMW DCGT DCGW	0702○○	10	150	18	8.3	3.3	9	7.5°	**14**	3.5	TS25	TKY08F
FSDUC1612R/L-07S	●	●		0702○○	12	150	20	9.3	3.3	11	6°	**16**	4	TS25	TKY08F
FSDUC2016R/L-07S	●	●		0702○○	16	180	20	11.3	3.3	15	5°	**20**	5	TS25	TKY08F
FSDUC3220R/L-11S☆	●	●		11T3○○	20	180	22.5	16.1	6.1	19	5°	**32**	5	TS43	TKY15F

∗ Clamp Torque (N • m) : TS25=1.0, TS43=3.5

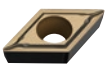
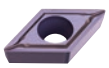
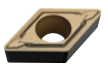
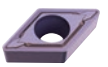
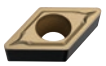
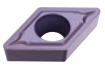
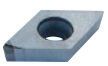
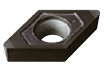
FSDUC_E

Carbide shank with coolant hole **DC○○inserts**





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	**Medium**	**PCD**	**CBN**
MP	MM	R/L-F	
			
(07,11)	(07,11)	(07,11)	(07,11)

Order Number	Stock		Insert Number		Dimensions(mm)								Maximum Recommendation l/d Ratio	* Clamp Screw	Wrench
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN			
FSDUC1410R/L-07E	●	●	DCMT DCMW DCGT DCGW	0702○○	10	160	16.0	8.3	3.3	9	7.5°	**14**	7.5	TS25	TKY08F
FSDUC1612R/L-07E	●	●		0702○○	12	180	17.8	9.3	3.3	11	6.0°	**16**	8	TS25	TKY08F
FSDUC2016R/L-07E	●	●		0702○○	16	220	21.8	11.3	3.3	15	5.0°	**20**	8	TS25	TKY08F
FSDUC3220R/L-11E☆	●	●		11T3○○	20	250	24.0	16.1	6.1	19	5.0°	**32**	8	TS43	TKY15F

∗ Clamp Torque (N • m) : TS25=1.0, TS43=3.5

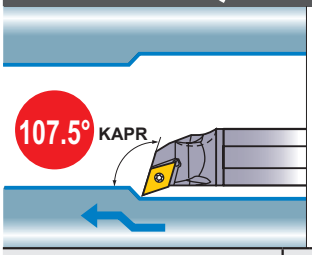
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4. (Model of ☆ Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

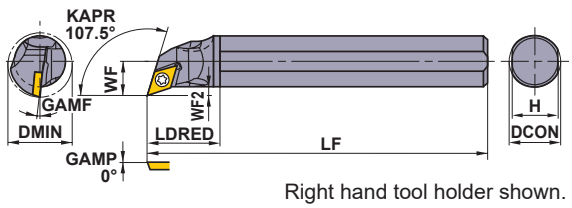
● : **Inventory maintained in Japan.**

DC○○ type inserts ➤ **A149—A154**
CBN & PCD inserts ➤ **B054—B056, B073**

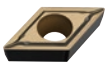
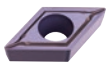
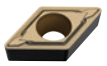
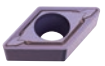
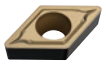
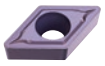
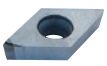
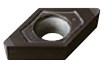
FSDQC

DC○○inserts





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	**Medium**	**PCD**	**CBN**
MP	MM	R/L-F	
			
(07,11)	(07,11)	(07,11)	(07,11)

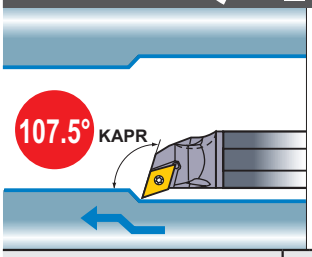
Order Number	Stock		Insert Number		Dimensions(mm)								Maximum Recommendation l/d Ratio	* Clamp Screw	Wrench
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN			
FSDQC1310R/L-07S	●	●	DCMT DCMW DCGT DCGW	0702○○	10	150	20.5	7.6	2.6	9	8°	**13**	3.5	TS25	TKY08F
FSDQC1612R/L-07S	●	●		0702○○	12	150	22.5	8.6	2.6	11	6°	**16**	4	TS25	TKY08F
FSDQC2016R/L-07S	●	●		0702○○	16	180	22.5	10.6	2.6	15	5°	**20**	5	TS25	TKY08F
FSDQC2520R/L-11S☆	●	●		11T3○○	20	180	26	13.7	3.7	19	7°	**25**	5	TS43	TKY15F

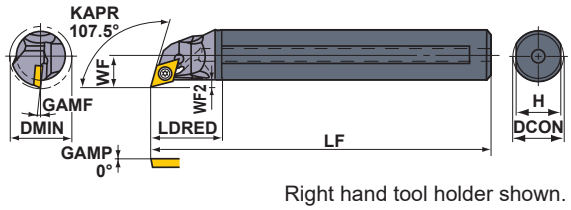
∗ Clamp Torque (N • m) : TS25=1.0, TS43=3.5

FSDQC_E

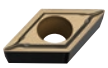
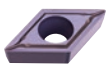
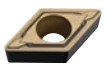
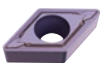
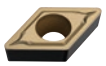
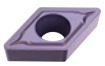
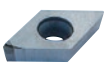
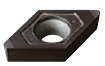
Carbide shank with coolant hole

DC○○inserts





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	**Medium**	**PCD**	**CBN**
MP	MM	R/L-F	
			
(07,11)	(07,11)	(07,11)	(07,11)

Order Number	Stock		Insert Number		Dimensions(mm)								Maximum Recommendation l/d Ratio	* Clamp Screw	Wrench
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN			
FSDQC1310R/L-07E	●	●	DCMT DCMW DCGT DCGW	0702○○	10	162	18.4	7.6	2.6	9	8°	**13**	7.5	TS25	TKY08F
FSDQC1612R/L-07E	●	●		0702○○	12	182	20.2	8.6	2.6	11	6°	**16**	8	TS25	TKY08F
FSDQC2016R/L-07E	●	●		0702○○	16	222	24.2	10.6	2.6	15	5°	**20**	8	TS25	TKY08F
FSDQC2520R/L-11E☆	●	●		11T3○○	20	254	28.0	13.7	3.7	19	7°	**25**	8	TS43	TKY15F

∗ Clamp Torque (N • m) : TS25=1.0, TS43=3.5

DC○○ type inserts ➤ A149—A154
CBN & PCD inserts ➤ B054—B056, B073
CUTTING CONDITIONS ➤ E012
SPARE PARTS ➤ Q001
TECHNICAL DATA ➤ R001

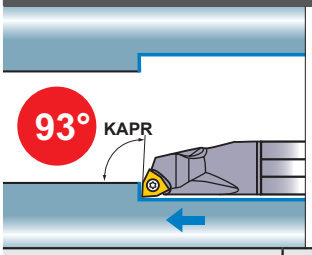
DIMPLE BAR

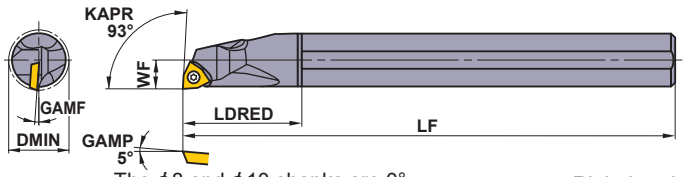
- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- A laser printed scale on the side for easy installation (Steel shank).
- l/d is 3 to 5 times the diameter (Carbide shank is 3 to 8 times the diameter).

TOOL NEWS

FSWUB/P

WB○○inserts, WP○○inserts





The ϕ8 and ϕ10 shanks are 0°

Right hand tool holder shown.

Finish
R/L-F·FS

(L3,04,06)

Medium
MV

(L3,04,06)

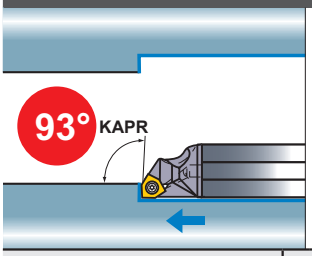
Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Maximum Recommendation l/d Ratio	Clamp Screw *	Wrench
FSWUB1008R/L-L3S ☆1	●	●	WBMT WBGT	L302○○	8	125	18	5	7.2	14°	**10**	3	TS2	TKY06F
FSWUB1210R/L-L3S ☆1	●	●		L302○○	10	150	22.5	6	9	11°	**12**	3.5	TS2	TKY06F
FSWUP1412R/L-04S	●	●	WPMT WPGT	0402○○	12	150	27	7	11	4°	**14**	4	TS253	TKY08F
FSWUP1816R/L-04S	●	●		0402○○	16	180	36	9	15	1°	**18**	5	TS253	TKY08F
FSWUP2220R/L-06S ☆2	●	●		0603○○	20	220	45	11	19	2°	**22**	5	TS4	TKY15F
FSWUP3025R/L-06S ☆2	●	●		0603○○	25	250	56.3	15	23.4	0°	**30**	5	TS4	TKY15F

* Clamp Torque (N • m) : TS2=0.6, TS253=1.0, TS4=3.5

FSWUB/P_E

Carbide shank with coolant hole

WB○○inserts, WP○○inserts



The ϕ8 and ϕ10 shanks are 0°

Right hand tool holder shown.

Finish
R/L-F·FS

(L3,04,06)

Medium
MV

(L3,04,06)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Maximum Recommendation l/d Ratio	Clamp Screw *	Wrench
FSWUB1008R/L-L3E ☆1	●	●	WBMT WBGT	L302○○	8	140	13.8	5	7.2	14°	**10**	7	TS2	TKY06F
FSWUB1008R-L3E-2/3 ☆1	●			L302○○	8	90	13.8	5	7.2	14°	**10**	5	TS2	TKY06F
FSWUB1008R-L3E-1/2 ☆1	●			L302○○	8	70	13.8	5	7.2	14°	**10**	3	TS2	TKY06F
FSWUB1210R/L-L3E ☆1	●	●		L302○○	10	160	16.0	6	9	11°	**12**	7.5	TS2	TKY06F
FSWUB1210R-L3E-2/3 ☆1	●			L302○○	10	105	16.0	6	9	11°	**12**	5	TS2	TKY06F
FSWUB1210R-L3E-1/2 ☆1	●			L302○○	10	80	16.0	6	9	11°	**12**	3	TS2	TKY06F
FSWUP1412R/L-04E	●	●	WPMT WPGT	0402○○	12	180	17.8	7	11	4°	**14**	8	TS253	TKY08F
FSWUP1412R-04E-2/3	●			0402○○	12	120	17.8	7	11	4°	**14**	5	TS253	TKY08F
FSWUP1412R-04E-1/2	●			0402○○	12	90	17.8	7	11	4°	**14**	3	TS253	TKY08F
FSWUP1816R/L-04E	●	●		0402○○	16	220	21.8	9	15	1°	**18**	8	TS253	TKY08F
FSWUP1816R-04E-2/3	●			0402○○	16	145	21.8	9	15	1°	**18**	5	TS253	TKY08F
FSWUP1816R-04E-1/2	●			0402○○	16	110	21.8	9	15	1°	**18**	3	TS253	TKY08F
FSWUP2220R/L-06E ☆2	●	●		0603○○	20	250	24.0	11	19	2°	**22**	8	TS4	TKY15F
FSWUP 2220R-06E-2/3 ☆2	●			0603○○	20	165	24.0	11	19	2°	**22**	5	TS4	TKY15F
FSWUP 2220R-06E-1/2 ☆2	●			0603○○	20	125	24.0	11	19	2°	**22**	3	TS4	TKY15F

* Clamp Torque (N • m) : TS2=0.6, TS253=1.0, TS4=3.5

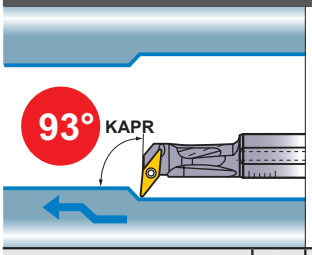
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4. (Model of ☆1 Mark is RE 0.2 , Model of ☆2 Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

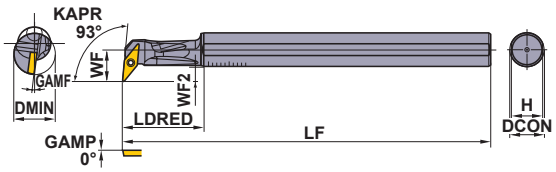
● : **Inventory maintained in Japan.**

WB○○ type inserts	➤ A175
WP○○ type inserts	➤ A177
PCD inserts	➤ B078

FSVUB/C

VC○○inserts, VB○○inserts





Right hand tool holder shown.

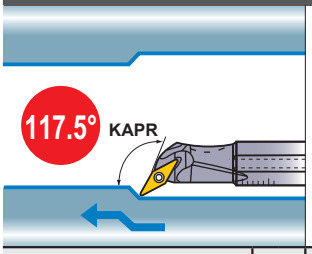
Finish	Finish	Light	Light
FP	FM	LP	LM
(11,16)	(11,16)	(11,16)	(11,16)
Medium	**Medium**	**Medium**	**CBN**
MP	MM	Standard	
(16)	(16)	(16)	(11,16)

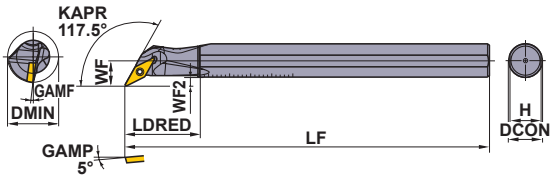
Order Number	Stock		Insert Number		Dimensions(mm)								Maximum Recommendation l/d Ratio	Shim	Shim Pin	Clamp Screw *	Wrench
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN					
FSVUC1612R/L-08S	●	●	VCGT VCMT	0802○○	12	150	25	11	5.5	11	8°	**16**	4	—	—	TS202	TKY06F
FSVUB2016R/L-11S	●	●	VBMT VBMW VBET VBGW	1103○○	16	180	32.5	15.5	8	15	8°	**20**	5	—	—	TS255	TKY08F
FSVUB2520R/L-11S	●	●		1103○○	20	200	40.5	17.5	8	19	7°	**25**	5	—	—	TS255	TKY08F
FSVUB3425R/L-16S☆2	●	●		1604○○	25	220	50	20.5	8.5	23.4	13°	**34**	5	SPSVN32	BCP141	TS35D	TKY15F
FSVUB4032R/L-16S☆2	●	●		1604○○	32	250	84.0	27.5	12	30.4	9°	**40**	5	SPSVN32	BCP141	TS35D	TKY15F

* Clamp Torque (N • m) : TS202=0.6, TS255=1.0, TS35D=3.5

FSVPB/C

VC○○inserts, VB○○inserts





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
(11,16)	(11,16)	(11,16)	(11,16)
Medium	**Medium**	**Medium**	**CBN**
MP	MM	Standard	
(16)	(16)	(16)	(11,16)

Order Number	Stock		Insert Number		Dimensions(mm)								Maximum Recommendation l/d Ratio	Shim	Shim Pin	Clamp Screw *	Wrench
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN					
FSVPC1610R/L-08S	●	●	VCGT VCMT	0802○○	10	150	25	8	3	9	8°	**16**	3.5	—	—	TS202	TKY06F
FSVPB2012R/L-11S	●	●	VBMT VBMW VBET VBGW	1103○○	12	150	28	10	4.5	11	8°	**20**	4	—	—	TS255	TKY08F
FSVPB2516R/L-11S	●	●		1103○○	16	180	35	12.5	5	15	5°	**25**	5	—	—	TS255	TKY08F
FSVPB3020R/L-11S	●	●		1103○○	20	200	40	15	5	19	5°	**30**	5	—	—	TS255	TKY08F
FSVPB3425R/L-16S☆2	●	●		1604○○	25	220	50	17	5	23.4	13°	**34**	5	SPSVN32	BCP141	TS35D	TKY15F
FSVPB4032R/L-16S☆2	●	●		1604○○	32	250	55	22	6.5	30.4	9°	**40**	5	SPSVN32	BCP141	TS35D	TKY15F

* Clamp Torque (N • m) : TS202=0.6, TS255=1.0, TS35D=3.5

VB○○ type inserts	➤ A167—A169	CUTTING CONDITIONS	➤ E012
VC○○ type inserts	➤ A170—A172	SPARE PARTS	➤ Q001
CBN & PCD inserts	➤ B061, B077	TECHNICAL DATA	➤ R001

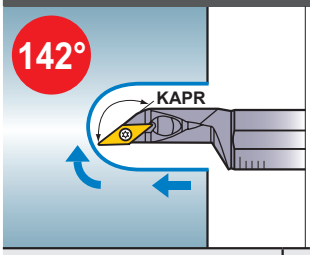
DIMPLE BAR

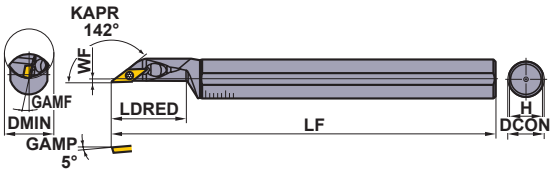
- Excellent vibration resistance due to light dimple head.
- Chip disposal is improved by having two channels for chip evacuation.
- A laser printed scale on the side for easy installation (Steel shank).
- l/d is 3 to 5 times the diameter.

TOOL NEWS

FSVJB/C

VC○○inserts, VB○○inserts





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(11)	(11)	(11)	(11)
Medium			
MV			
			
(08,11)			

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Maximum Recommendation l/d Ratio	Clamp Screw *	Wrench
FSVJC1612R/L-08S ☆	●	●	VCGT VCMT	0802○○	12	150	26	2	11	5°	**16**	4	TS202	TKY06F
FSVJC2016R/L-08S ☆	●	●	VCGT VCMT	0802○○	16	180	36	2	15	5°	**20**	5	TS202	TKY06F
FSVJB2520R/L-11S ☆	●	●	VBMT VBMW	1103○○	20	200	37.5	2	19	5°	**25**	5	TS255	TKY08F
FSVJB3025R/L-11S ☆	●	●	VBET VBGW	1103○○	25	250	45	3.5	23.4	5°	**30**	5	TS255	TKY08F

* Clamp Torque (N • m) : TS202=0.6, TS255=1.0

RECOMMENDED CUTTING CONDITIONS

	Work Material	Cutting Mode	Breaker	Recom-mendation	Grade	Cutting Speed (m/min)	l/d ≤ 3 (Steel shank) l/d ≤ 6 (Carbide shank) Feed (mm/rev)	Depth of Cut (mm)	l/d = 4–5 (Steel shank) l/d = 7–8 (Carbide shank) Feed (mm/rev)	Depth of Cut (mm)
P	Mild Steel ≤180HB	Finish	FP	①	NX2525	170 (120–220)	0.10 (0.05–0.15)	–0.5	0.10 (0.05–0.15)	–0.5
		Light	LP	①	MP3025	150 (100–200)	0.20 (0.10–0.25)	–1.0	0.15 (0.05–0.20)	–1.0
				②	NX2525	160 (110–210)	0.20 (0.10–0.25)	–1.0	0.15 (0.05–0.20)	–1.0
		Medium	MP	①	MP3025	140 (90–190)	0.25 (0.15–0.35)	–2.0	0.20 (0.15–0.25)	–1.5
				②	NX2525	150 (100–200)	0.25 (0.15–0.35)	–2.0	0.20 (0.15–0.25)	–1.5
	Carbon Steel Alloy Steel 180–350HB	Finish	FP	①	MC6015	140 (90–190)	0.10 (0.05–0.15)	–0.5	0.10 (0.05–0.15)	–0.5
				②	NX2525	130 (80–180)	0.10 (0.05–0.15)	–0.5	0.10 (0.05–0.15)	–0.5
		Light	LP	①	MC6025	140 (90–190)	0.20 (0.10–0.25)	–1.0	0.15 (0.05–0.20)	–1.0
				②	MP3025	110 (60–160)	0.20 (0.10–0.25)	–1.0	0.15 (0.05–0.20)	–1.0
		Medium	MP	①	MC6025	130 (80–180)	0.25 (0.15–0.35)	–2.0	0.20 (0.15–0.25)	–1.5
				②	MP3025	100 (60–150)	0.25 (0.15–0.35)	–2.0	0.20 (0.15–0.25)	–1.5
M	Stainless Steel ≤200HB	Finish	FM	①	VP15TF	150 (110–190)	0.10 (0.05–0.15)	–0.5	0.10 (0.05–0.15)	–0.5
		Light	LM	①	MC7025	125 (85–165)	0.20 (0.10–0.25)	–1.0	0.15 (0.05–0.20)	–1.0
				②	VP15TF	130 (90–170)	0.20 (0.10–0.25)	–1.0	0.15 (0.05–0.20)	–1.0
		Medium	MM	①	MC7025	105 (70–135)	0.20 (0.15–0.25)	–2.0	0.20 (0.15–0.25)	–1.0
				②	VP15TF	120 (80–160)	0.20 (0.15–0.25)	–2.0	0.20 (0.15–0.25)	–1.0
K	Gray Cast Iron Tensile Strength ≤350MPa	Finish	F, FS	①	HTi10	130 (90–160)	0.15 (0.10–0.20)	–0.5	0.15 (0.10–0.20)	–0.5
		Medium	MK	①	MC5015	90 (60–120)	0.20 (0.15–0.25)	–2.0	0.20 (0.15–0.25)	–1.5
N	Aluminium Alloy	Finish	F, FS	①	HTi10	300 (200–400)	0.10 (0.05–0.15)	–0.5	0.10 (0.05–0.15)	–0.5
			Flat Top	①	MD220	200 (150–250)	0.10 (0.05–0.15)	–2.0	0.10 (0.05–0.15)	–1.0
H	Hardened Steel 35–65HRC	Finish	Flat Top	①	MB8120	100 (80–200)	0.10 (0.05–0.15)	–0.15	0.10 (0.05–0.15)	–0.1

When vibrations occur, reduce cutting speed by 30%.
The depth of cut needs to be less than the corner diameter when using the FSVJ type.

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.(Model of ☆ Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

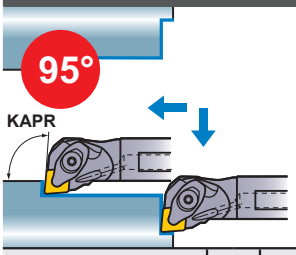
● : Inventory maintained in Japan.

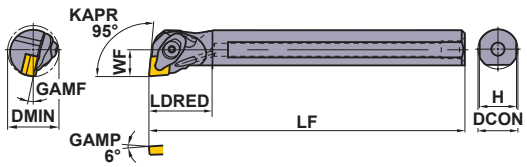
VB○○ type inserts	➤ A167–A169
VC○○ type inserts	➤ A170–A172
CBN & PCD inserts	➤ B061, B062, B077

DOUBLE CLAMP DIMPLE BAR

- Economical negative insert.
- Single action type.
- Excellent vibration resistance due to a light dimple head. (With coolant hole.)
- l/d is 3 to 4 times the diameter.

A○○○-DCLN With coolant hole CN○○inserts





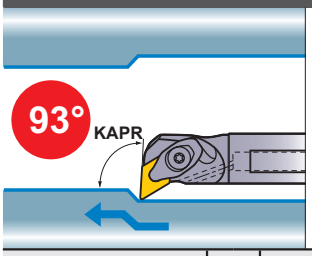
Right hand tool holder shown.

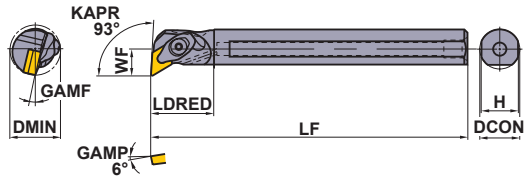
Finish	Light	Light	Light
FP	SA	LP	LM
(12)	(12)	(12)	(12)
Medium	Medium	Stainless	CBN/PCD
MP	Standard	MM	
(12)	(12)	(12)	(12)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
A25R-DCLNR/L12	●	●	CN○A	1204○○	25	200	40	17	23	13°	32	LLSCP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A32S-DCLNR/L12	●	●	CN○G	1204○○	32	250	50	22	30	13°	40	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A40T-DCLNR/L12	●	●	CN○M	1204○○	40	300	63	27	37	10°	50	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

∗ Clamp Torque (N • m) : DC0621T=5.0

A○○○-DDUN With coolant hole DN○○inserts





Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MH
(15)	(15)	(15)	(15)
Medium	Stainless	G class	CBN/PCD
Standard	MM	R/L	
(15)	(15)	(15)	(15)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
A25R-DDUNR/L15	●	●	DN○A	1504○○	25	200	40	17	23	13°	35	LLSDP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A32S-DDUNR/L15	●	●	DN○G	1504○○	32	250	50	22	30	13°	40	LLSDN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A40T-DDUNR/L15	●	●	DN○M	1504○○	40	300	63	27	37	10°	50	LLSDN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

∗ Clamp Torque (N • m) : DC0621T=5.0

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3 Cutting Speed (m/min)	l/d≤3 Feed (mm/rev)	l/d≤3 Depth of Cut (mm)	l/d=3—4 Cutting Speed (m/min)	l/d=3—4 Feed (mm/rev)	l/d=3—4 Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180—350HB	Medium	110 (80—140)	0.25 (0.1—0.4)	—5.0	110 (80—140)	0.2 (0.1—0.3)	—4.0
M	Stainless Steel	≤200HB	Medium	80 (60—100)	0.2 (0.1—0.3)	—4.0	70 (50—100)	0.15 (0.1—0.25)	—3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium	80 (60—100)	0.25 (0.1—0.4)	—5.0	80 (60—100)	0.2 (0.1—0.3)	—4.0

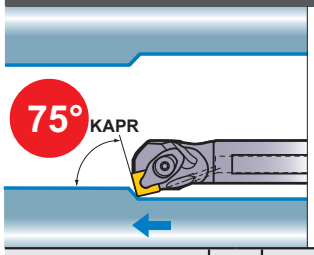
CN○○ type inserts ➤A100—A106
DN○○ type inserts ➤A107—A113
CBN & PCD inserts ➤B028—B031, B068

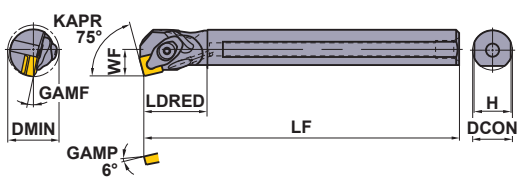
SPARE PARTS ➤Q001
TECHNICAL DATA ➤R001

DOUBLE CLAMP DIMPLE BAR

- Economical negative insert.
- Single action type.
- Excellent vibration resistance due to a light dimple head. (With coolant hole.)
- l/d is 3 to 4 times the diameter.

A○○○-DSKN With coolant hole SN○○inserts





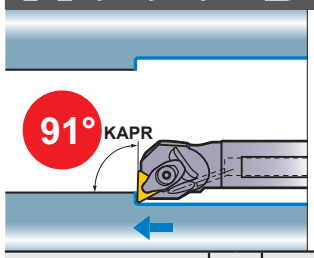
Right hand tool holder shown.

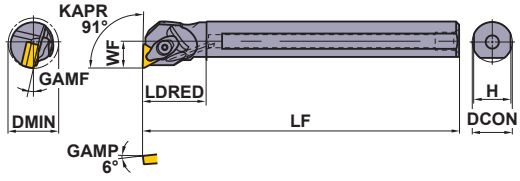
Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(12)	(12)	(12)	(12)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(12)	(12)	(12)	(12)

Order Number	Stock R	Stock L	Insert Number	Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
A25R-DSKNR/L12	●	●	SNMA SNMG SNMM 1204○○	25	200	40	17	23	13°	32	LLSSP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A32S-DSKNR/L12	●	●	SNGA SNGG 1204○○	32	250	50	22	30	13°	40	LLSSN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

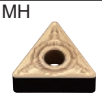
∗ Clamp Torque (N • m) : DC0621T=5.0

A○○○-DTFN With coolant hole TN○○inserts





Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(16)	(16)	(16)	(16)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(16)	(16)	(16)	(16)

Order Number	Stock R	Stock L	Insert Number	Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
A25R-DTFNR/L16	●	●	TN○A TN○G TN○M 1604○○	25	200	40	17	23	13°	32	LLSTP32	LLP23	DCK2211	DCS2	DC0520T	TKY15F
A32S-DTFNR/L16	●	●		32	250	50	22	30	13°	40	LLSTN32	LLP23	DCK2211	DCS2	DC0520T	TKY15F

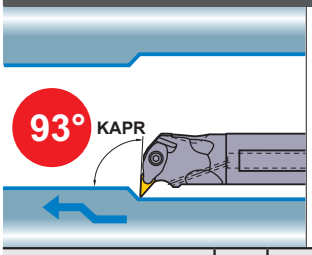
∗ Clamp Torque (N • m) : DC0520T=3.5

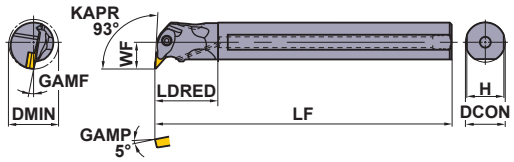
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.8.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : **Inventory maintained in Japan.**

SN○○ type inserts	**➤ A115—A120**
TN○○ type inserts	**➤ A121—A127**
CBN & PCD inserts	**➤ B037—B041, B069**

A○○○-DVUN With coolant hole VN○○inserts





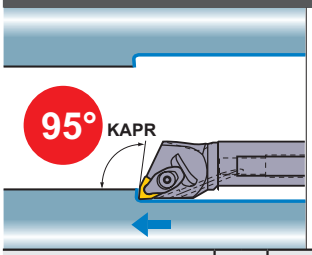
Right hand tool holder shown.

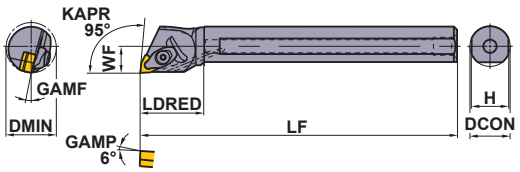
Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(16)	(16)	(16)	(16)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(16)	(16)	(16)	(16)

Order Number	Stock R	Stock L	Insert Number	DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
A40T-DVUNR/L16	●	●	VN○A/VN○G/VN○M 1604○○	40	300	63	27	37	9°	50	DCSVN32	LLP13	DCK3113	DCS2	DC0520T	TKY15F

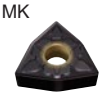
∗ Clamp Torque (N • m) : DC0520T=3.5

A○○○-DWLN With coolant hole WN○○inserts





Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MK
			
(08)	(06, 08)	(06,08)	(08)
Medium	**Medium – Rough**	**Stainless**	
Standard	RP	MM	
			
(08)	(08)	(06,08)	

Order Number	Stock R	Stock L	Insert Number	DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Bridge	Spring	Clamp Screw *	Wrench
A25R-DWLNR/L06	●	●	WNMA/WNMG 0604○○	25	200	40	17	23	13°	35	LLSWP32	LLP23	DCK2211	DCS2	DC0520T	TKY15F
A25R-DWLNR/L08	●	●	WNMA 0804○○	25	200	40	17	23	13°	35	LLSWP42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A32S-DWLNR/L08	●	●	WNMG 0804○○	32	250	50	22	30	13°	40	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F
A40T-DWLNR/L08	●	●	WNGA 0804○○	40	300	63	27	37	10°	50	LLSWN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

∗ Clamp Torque (N • m) : DC0520T=3.5, DC0621T=5.0

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3 Cutting Speed (m/min)	l/d≤3 Feed (mm/rev)	l/d≤3 Depth of Cut (mm)	l/d=3–4 Cutting Speed (m/min)	l/d=3–4 Feed (mm/rev)	l/d=3–4 Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180–350HB	Medium	110 (80–140)	0.25 (0.1–0.4)	–5.0	110 (80–140)	0.2 (0.1–0.3)	–4.0
M	Stainless Steel	≤200HB	Medium	80 (60–100)	0.2 (0.1–0.3)	–4.0	70 (50–100)	0.15 (0.1–0.25)	–3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium	80 (60–100)	0.25 (0.1–0.4)	–5.0	80 (60–100)	0.2 (0.1–0.3)	–4.0

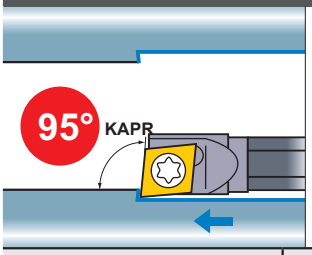
VN○○ type inserts ➤ A128–A131
WN○○ type inserts ➤ A132–A136
CBN & PCD inserts ➤ B042–B044, B070
SPARE PARTS ➤ Q001
TECHNICAL DATA ➤ R001

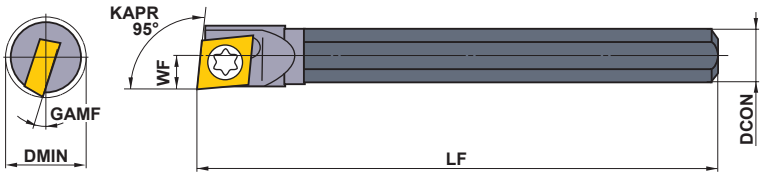
MICRO-DEX BORING BARS

- The minimum cutting diameter is from ϕ5.
- 7° positive insert, carbide shank type.
- Easy-to-use tool geometries.
- Suitable for small workpieces.
- l/d is 5 times the diameter.

TOOL NEWS

C○○○SCLC — Carbide shank — CC○○inserts





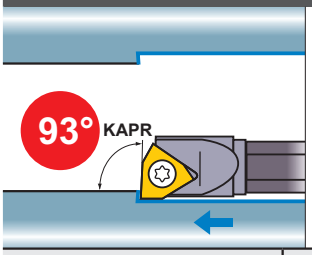
Right hand tool holder shown.

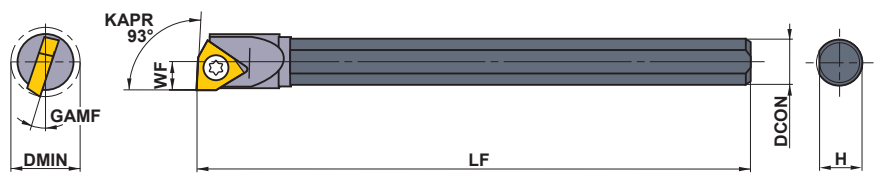
Finish: L-F (03,04) / CBN/PCD (03,04)

Order Number	Stock R	Insert Number		Dimensions(mm) DCON	LF	WF	H	GAMF	DMIN	*2 Clamp Screw	Wrench
C04GSCLCR03	●	*1 CCGT CCGW CCMW	03S1○○	4	90	2.5	3.7	15°	**5**	TS16	TKY06F
C05HSCLCR03	●		03S1○○	5	100	3.0	4.7	13°	**6**	TS16	TKY06F
C06JSCLCR04	●		04T0○○	6	110	3.5	5.7	13°	**7**	TS21	TKY06F
C07KSCLCR04	●		04T0○○	7	125	4.0	6.7	11°	**8**	TS21	TKY06F

*1 Diameter of inscribed circle is special. (For SCLC type)
*2 Clamp Torque (N • m) : TS16=0.6, TS21=0.6

C○○○SWUB — Carbide shank — WB○○ inserts





Right hand tool holder shown.

Finish: L-F (02,L3)

Order Number	Stock R	Insert Number		Dimensions(mm) DCON	LF	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
C05HSWUBR02	●	WBGT WBMT	0201○○L-F	5	100	3.0	4.7	15°	**6**	TS21	TKY06F
C06JSWUBR02	●		0201○○L-F	6	110	3.5	5.7	13°	**7**	TS2C	TKY06F
C07KSWUBRL3	●		L302○○L-F	7	125	4.0	6.7	15°	**8**	TS2	TKY06F

* Clamp Torque (N • m) : TS21=0.6, TS2C=0.6, TS2=0.6

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.2.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : **Inventory maintained in Japan.**

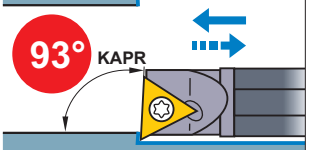
CCGT type inserts	**➢ A141**
WBGT type inserts	**➢ A175**
CBN inserts	**➢ B051, B052**

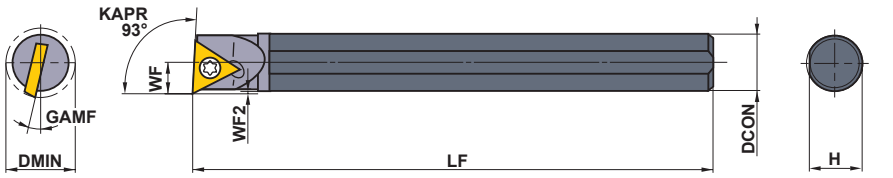
C○○○STUC

Carbide shank

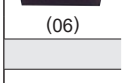
TCGT inserts

Finish R/L-F





Right hand tool holder only.



Order Number	Stock R	Insert Number		Dimensions(mm) DCON	LF	WF	WF2	H	GAMF	DMIN	* Clamp Screw	Wrench
C07KSTUCR06	●	TCGT	0601○○	7	125	4.0	0.35	6.7	12°	**8**	TS2C	TKY06F

∗ Clamp Torque (N • m) : TS2C=0.6

E

BORING BARS

RECOMMENDED CUTTING CONDITIONS

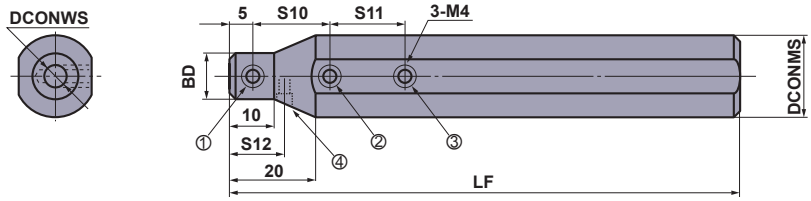
	Work Material	Grade	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	l/d
P	Carbon Steel, Alloy Steel 180–350HB	**NX2525**	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5
M	Stainless Steel ≤200HB	**VP15TF**	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5
K	Gray Cast Iron ≤350MPa	**VP15TF**	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5
N	Non-Ferrous Meterial	**VP15TF**	120 (80–160)	0.05 (0.01–0.08)	0.4 (0.1–0.6)	3–5
		MD220	120 (80–160)	0.05 (0.01–0.08)	0.4 (0.1–0.6)	3–5
H	Hardened Steel 35–65HRC	**MB8110**	80 (40–120)	0.03 (0.01–0.05)	0.1 (0.03–0.2)	3–5

TCGT type inserts ➤ **A160**
SPARE PARTS ➤ **Q001**
TECHNICAL DATA ➤ **R001**

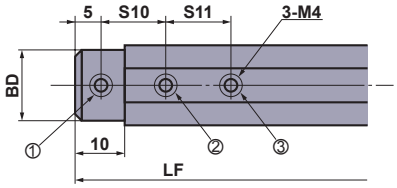
MICRO-DEX BORING BARS

TOOL NEWS

STANDARD HOLDER



RBH22○○N has a temporary set screw for different machine specifications.
(Represented by number 4)



RBH158○○N, RBH16○○N,
RBH190○○N

Order Number	Stock	Dimensions(mm)							MICRO-DEX	✱Clamp Screw				Wrench	Torque (N • m)
		DCONMS	DCONWS	BD	LF	S10	S11	S12		①	②	③	④		
RBH15840N	●	15.875	4	15	100	15	15	—	C04GS○○○R○○	A	A	A	—	HKY20F	2.0
RBH15850N	●	15.875	5	15	100	15	15	—	C05HS○○○R○○	A	A	A	—	HKY20F	2.0
RBH15860N	●	15.875	6	15	100	15	15	—	C06JS○○○R○○	A	A	A	—	HKY20F	2.0
RBH15870N	●	15.875	7	15	100	20	20	—	C07KS○○○R○○	A	A	A	—	HKY20F	2.0
RBH1640N	●	16	4	15	100	15	15	—	C04GS○○○R○○	A	A	A	—	HKY20F	2.0
RBH1650N	●	16	5	15	100	15	15	—	C05HS○○○R○○	A	A	A	—	HKY20F	2.0
RBH1660N	●	16	6	15	100	15	15	—	C06JS○○○R○○	A	A	A	—	HKY20F	2.0
RBH1670N	●	16	7	15	100	20	20	—	C07KS○○○R○○	A	A	A	—	HKY20F	2.0
✱2 **RBH19040N**	●	19.05	4	18	125	15	15	—	C04GS○○○R○○	B	B	B	—	HKY20F	2.0
✱2 **RBH19050N**	●	19.05	5	18	125	15	15	—	C05HS○○○R○○	B	B	B	—	HKY20F	2.0
✱2 **RBH19060N**	●	19.05	6	18	125	15	15	—	C06JS○○○R○○	B	B	B	—	HKY20F	2.0
✱2 **RBH19070N**	●	19.05	7	18	125	20	20	—	C07KS○○○R○○	B	B	B	—	HKY20F	2.0
RBH2040N	●	20	4	13	125	15	15	—	C04GS○○○R○○	A	B	B	—	HKY20F	2.0
RBH2050N	●	20	5	14	125	15	15	—	C05HS○○○R○○	A	B	B	—	HKY20F	2.0
RBH2060N	●	20	6	15	125	15	15	—	C06JS○○○R○○	A	B	B	—	HKY20F	2.0
RBH2070N	●	20	7	16	125	20	20	—	C07KS○○○R○○	A	B	B	—	HKY20F	2.0
RBH2240N	●	22	4	13	125	15	15	12.5	C04GS○○○R○○	A	B	B	A	HKY20F	2.0
RBH2250N	●	22	5	14	125	15	15	12.5	C05HS○○○R○○	A	B	B	A	HKY20F	2.0
RBH2260N	●	22	6	15	125	15	15	15	C06JS○○○R○○	A	B	B	A	HKY20F	2.0
RBH2270N	●	22	7	16	125	20	20	15	C07KS○○○R○○	A	B	B	A	HKY20F	2.0
RBH2540N	●	25	4	13	150	15	15	—	C04GS○○○R○○	A	C	C	—	HKY20F	2.0
RBH2550N	●	25	5	14	150	15	15	—	C05HS○○○R○○	A	C	C	—	HKY20F	2.0
RBH2560N	●	25	6	15	150	15	15	—	C06JS○○○R○○	A	C	C	—	HKY20F	2.0
RBH2570N	●	25	7	16	150	20	20	—	C07KS○○○R○○	A	C	C	—	HKY20F	2.0
RBH25440N	●	25.4	4	13	150	15	15	—	C04GS○○○R○○	A	C	C	—	HKY20F	2.0
RBH25450N	●	25.4	5	14	150	15	15	—	C05HS○○○R○○	A	C	C	—	HKY20F	2.0
RBH25460N	●	25.4	6	15	150	15	15	—	C06JS○○○R○○	A	C	C	—	HKY20F	2.0
RBH25470N	●	25.4	7	16	150	20	20	—	C07KS○○○R○○	A	C	C	—	HKY20F	2.0

✱1 Order number of clamp screw A=HSS04004, B=HSS04006, C=HSS04008
✱2 Revised order number.

Conventional Order Number	Revised Order Number
RBH1940N	**RBH19040N**
RBH1950N	**RBH19050N**
RBH1960N	**RBH19060N**
RBH1970N	**RBH19070N**

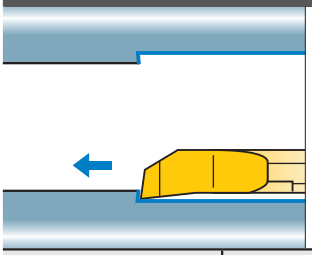
● : Inventory maintained in Japan. (MICRO-MINI TWIN is available in 1 piece in one pack.)

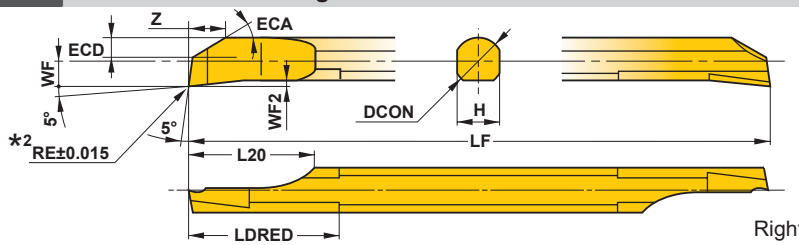
MICRO-MINI TWIN

TOOL NEWS

CB

For internal machining





Right hand tool only.

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

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

RECOMMENDED CUTTING CONDITIONS

Work Material		Micro-Mini Twin **CB**				Micro-Mini Twin **CR**		
		Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	l/d	Cutting Speed (m/min)	Feed(mm/rev) 03RS/04RS	Feed(mm/rev) 05RS
P	Carbon Steel Alloy Steel 180–350HB	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5	80 (40–120)	0.02 (0.01–0.03)	0.03 (0.01–0.05)
M	Stainless Steel ≤200HB	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5	80 (40–120)	0.02 (0.01–0.03)	0.03 (0.01–0.05)
K	Gray Cast Iron ≤350MPa	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5	80 (40–120)	0.03 (0.01–0.05)	0.03 (0.01–0.05)
N	Non-Ferrous Meterial	120 (80–160)	0.05 (0.01–0.08)	0.3 (0.1–0.5)	3–5	120 (80–160)	0.03 (0.01–0.05)	0.05 (0.01–0.08)

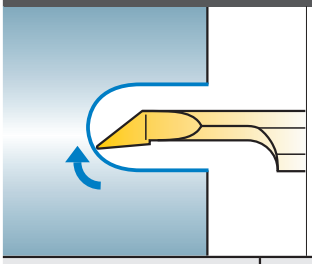
Note 1) Recommend wet machining.

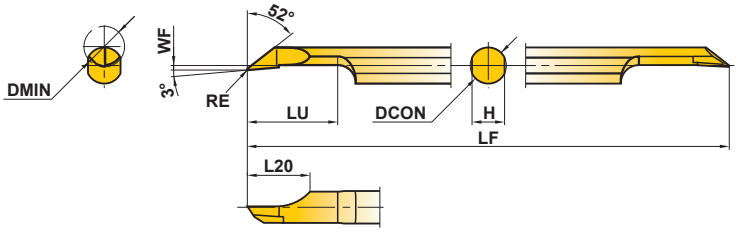
MICRO-MINI TWIN

TOOL NEWS

CR

For internal copying





Right hand tool only.

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

E

BORING BARS

RECOMMENDED CUTTING CONDITIONS

Work Material		Micro-Mini Twin **CB**				Micro-Mini Twin **CR**		
		Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	l/d	Cutting Speed (m/min)	Feed(mm/rev) 03RS/04RS	Feed(mm/rev) 05RS
P	Carbon Steel Alloy Steel 180–350HB	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5	80 (40–120)	0.02 (0.01–0.03)	0.03 (0.01–0.05)
M	Stainless Steel ≤200HB	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5	80 (40–120)	0.02 (0.01–0.03)	0.03 (0.01–0.05)
K	Gray Cast Iron ≤350MPa	80 (40–120)	0.03 (0.01–0.05)	0.2 (0.1–0.3)	3–5	80 (40–120)	0.03 (0.01–0.05)	0.03 (0.01–0.05)
N	Non-Ferrous Meterial	120 (80–160)	0.05 (0.01–0.08)	0.3 (0.1–0.5)	3–5	120 (80–160)	0.03 (0.01–0.05)	0.05 (0.01–0.08)

Note 1) Recommend wet machining.
Note 2) The recommended tool overhang of CR type is LU+2mm.

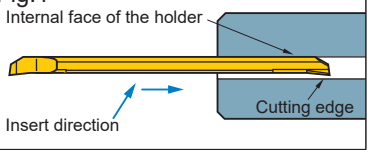
● : **Inventory maintained in Japan. (MICRO-MINI TWIN is available in 1 piece in one pack.)**

■PRECAUTIONS WHEN USING THE MICRO-MINI TWIN

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

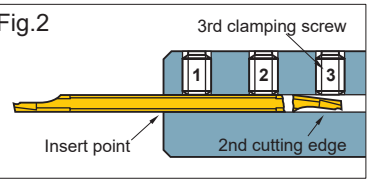
1 To avoid chipping of the 2nd cutting edge take care when inserting the boring bar into the holder. Refer to fig.1. If the 2nd edge contacts the internal face of the holder there is a possibility that it may chip.

Fig.1



2 When using this type of 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.

Fig.2



◎When using Mitsubishi holders
When using holders with a tool overhang of recommended quantity, ensure that the 3rd clamping screw is removed prior to machining. (RBH1620N, RBH19020N, RBH2020N and RBH2520N do not have the 3rd screw.) The set torque value for clamping screw is 2.0 N•m.

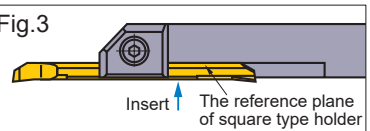
●When using a square type holder:

1 When installing the boring bar into the holder, tighten the clamp screws after ensuring the flats on the tool holder are parallel to the reference flats on the micro-mini bar. Refer to fig.3.

2 Make sure that the clamping screws are tightened to the recommended values.

3 Do not tighten the clamp screw without a bar in place, otherwise the bridge will be deformed.

Fig.3



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

MACHINING METHODS OF THE CR TYPE

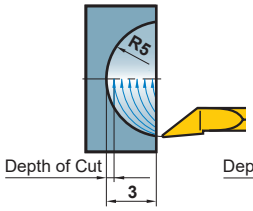
●Profile turning

By drilling a pre-prepared hole, the machining time will be shortened and chip control will be improved.

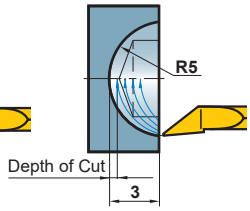
<Cutting Conditions>

Workpiece	: JIS S20C
Holder	: CR05RS-01B
Cutting Speed	: 80m/min
Feed	: 0.05mm/rev
Depth of Cut	: 0.05mm
Wet Cutting	

Machining a work piece without a pre-prepared hole



Machining a work piece with a pre-prepared hole



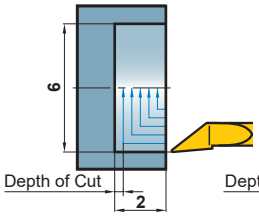
●Inner end facing

By drilling a pre-prepared hole, the machining time will be shortened and chip control will be improved.

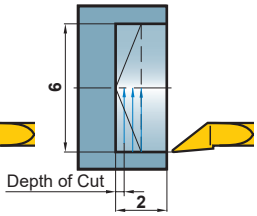
<Cutting Conditions>

Workpiece	: JIS S20C
Holder	: CR05RS-01B
Cutting Speed	: 80m/min
Feed	: 0.05mm/rev
Depth of Cut	: 0.05mm
Wet Cutting	

Machining a work piece without a pre-prepared hole

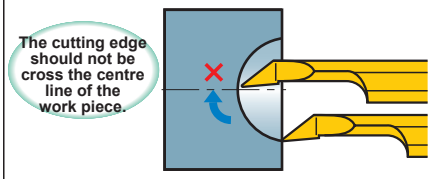


Machining a work piece with a pre-prepared hole



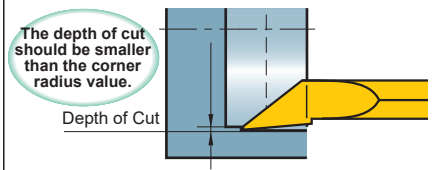
■NOTES FOR USE

Profile turning, Inner end facing



If the cutting edge crosses the centre line of a work piece, the cutting edge can fracture.

Copying



With depths of cut larger than the corner radius value, burrs will be formed.

MICRO-MINI BORING BARS

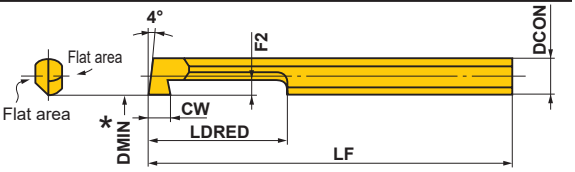
- Solid carbide type with minimum cutting diameter ϕ3.2mm.
- l/d is 5 times the diameter.
- Cutting edge can be shaped according to the application thus, it covers a wide application range (threading, grooving, copying, etc).

94°

TOOL NEWS

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

Order Number	Stock	Dimensions(mm)						Geometry
	TF15	CW	DCON	LF	LDRED	DMIN*	F2	
C03FR-BLS	●	2.0	3	80	15	3.2	1.0	
C04FR-BLS	●	2.5	4	80	20	4.2	1.5	
C05HR-BLS	●	3.0	5	100	25	5.2	2.0	



Right hand tool only.

*DMIN : Min. Cutting Diameter

E

BORING BARS

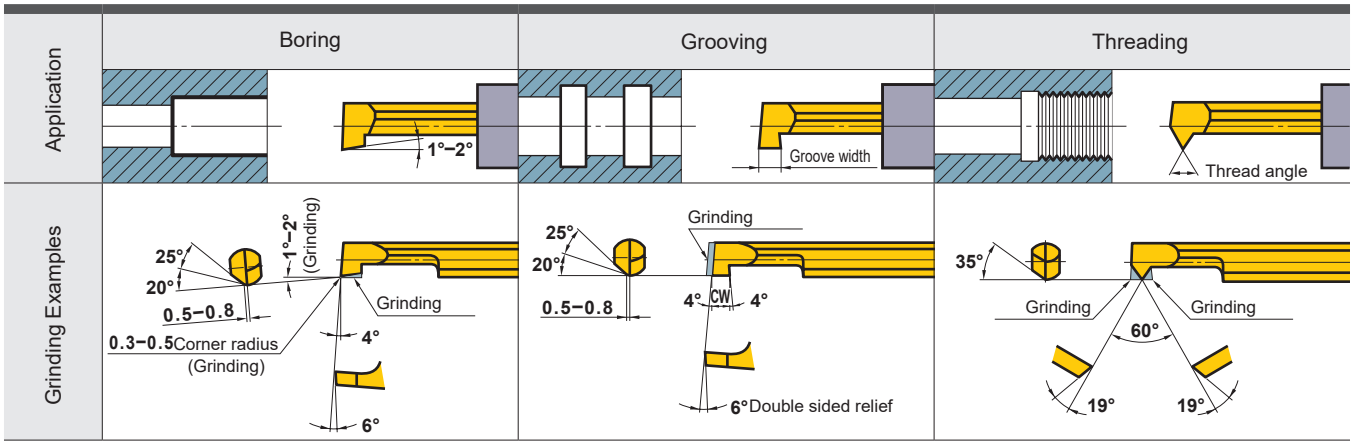
RECOMMENDED CUTTING CONDITIONS

	Work Material	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	l/d	Edge Condition (mm)	
						*Corner Radius or BCH	*Honing
P	Carbon Steel, Alloy Steel 180—350HB	40 (30—50)	0.05 (—0.1)	0.2 (0.1—0.3)	5	0.1—0.5	0.01—0.05
M	Stainless Steel ≤200HB	40 (30—50)	0.05 (—0.1)	0.2 (0.1—0.3)	5	≤0.4	≤0.03 (Honing not required)
K	Gray Cast Iron ≤350MPa	40 (30—50)	0.05 (—0.05)	0.2 (0.1—0.3)	5	0.1—0.5	0.01—0.05
N	Non-Ferrous Meterial	80 (60—100)	0.05 (—0.1)	0.3 (0.1—0.5)	5	0.1—0.5	≤0.03 (Honing not required)

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

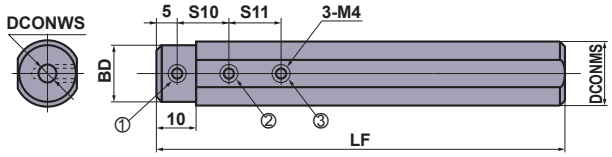
■GRINDING THE CUTTING EDGE OF MICRO-MINI BORING BAR

- 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 a diamond whetstone approximately #250—#400. Please grind according to the application using the figure below as a reference.

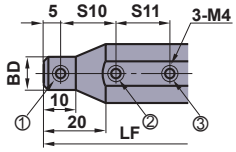


● : Inventory maintained in Japan. (MICRO MINI is available in 1 piece in one pack.)

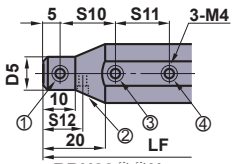
■ROUND TYPE HOLDER



RBH158○○N, RBH16○○N, RBH190○○N



RBH20○○N, RBH25○○N, RBH254○○N



RBH22○○N

Order Number	Stock	Dimensions(mm)							Micro-Mini C	Micro-Mini Twin		✶1 Clamp Screw				Wrench	Torque (N • m)
		DCONMS	DCONWS	BD	LF	S10	S11	S12		CB	CR	①	②	③	④		
RBH15820N	●	15.875	2	15	100	10	—	—	—	02RS(-B) 02RS-0○(B)	—	B	B	—	—	HKY20F	2.0
RBH15830N	●	15.875	3	15	100	10	10	—	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	A	A	A	—	HKY20F	2.0
RBH15840N	●	15.875	4	15	100	15	15	—	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	A	A	A	—	HKY20F	2.0
RBH15850N	●	15.875	5	15	100	15	15	—	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	A	A	A	—	HKY20F	2.0
RBH15860N	●	15.875	6	15	100	15	15	—	—	06RS(-B) 06RS-0○(B)	—	A	A	A	—	HKY20F	2.0
RBH15870N	●	15.875	7	15	100	20	20	—	—	07RS(-B) 07RS-0○(B)	—	A	A	A	—	HKY20F	2.0
RBH15880N	●	15.875	8	15	100	20	20	—	—	08RS(-B) 08RS-0○(B)	—	D	D	D	—	HKY20F	2.0
RBH1620N	●	16	2	15	100	10	—	—	—	02RS(-B) 02RS-0○(B)	—	B	B	—	—	HKY20F	2.0
RBH1630N	●	16	3	15	100	10	10	—	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	A	A	A	—	HKY20F	2.0
RBH1640N	●	16	4	15	100	15	15	—	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	A	A	A	—	HKY20F	2.0
RBH1650N	●	16	5	15	100	15	15	—	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	A	A	A	—	HKY20F	2.0
RBH1660N	●	16	6	15	100	15	15	—	—	06RS(-B) 06RS-0○(B)	—	A	A	A	—	HKY20F	2.0
RBH1670N	●	16	7	15	100	20	20	—	—	07RS(-B) 07RS-0○(B)	—	A	A	A	—	HKY20F	2.0
RBH1680N	●	16	8	15	100	20	20	—	—	08RS(-B) 08RS-0○(B)	—	D	D	D	—	HKY20F	2.0
✶2 RBH19020N	●	19.05	2	18	125	10	—	—	—	02RS(-B) 02RS-0○(B)	—	C	C	—	—	HKY20F	2.0
✶2 RBH19030N	●	19.05	3	18	125	10	10	—	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	B	B	B	—	HKY20F	2.0
✶2 RBH19040N	●	19.05	4	18	125	15	15	—	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	B	B	B	—	HKY20F	2.0
✶2 RBH19050N	●	19.05	5	18	125	15	15	—	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	B	B	B	—	HKY20F	2.0
✶2 RBH19060N	●	19.05	6	18	125	15	15	—	—	06RS(-B) 06RS-0○(B)	—	B	B	B	—	HKY20F	2.0
✶2 RBH19070N	●	19.05	7	18	125	20	20	—	—	07RS(-B) 07RS-0○(B)	—	B	B	B	—	HKY20F	2.0
RBH19080N	●	19.05	8	18	125	20	20	—	—	08RS(-B) 08RS-0○(B)	—	A	A	A	—	HKY20F	2.0
RBH2020N	●	20	2	11	125	10	—	—	—	02RS(-B) 02RS-0○(B)	—	A	A	—	—	HKY20F	2.0
RBH2030N	●	20	3	12	125	10	10	—	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	A	A	B	—	HKY20F	2.0
RBH2040N	●	20	4	13	125	15	15	—	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	A	B	B	—	HKY20F	2.0
RBH2050N	●	20	5	14	125	15	15	—	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	A	B	B	—	HKY20F	2.0
RBH2060N	●	20	6	15	125	15	15	—	—	06RS(-B) 06RS-0○(B)	—	A	B	B	—	HKY20F	2.0
RBH2070N	●	20	7	16	125	20	20	—	—	07RS(-B) 07RS-0○(B)	—	A	B	B	—	HKY20F	2.0
RBH2080N	●	20	8	17	125	20	20	—	—	08RS(-B) 08RS-0○(B)	—	A	A	A	—	HKY20F	2.0
RBH2220N	●	22	2	11	125	10	—	10	—	02RS(-B) 02RS-0○(B)	—	A	B	—	A	HKY20F	2.0
RBH2230N	●	22	3	12	125	10	10	10	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	A	B	C	A	HKY20F	2.0
RBH2240N	●	22	4	13	125	15	15	12.5	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	A	B	B	A	HKY20F	2.0
RBH2250N	●	22	5	14	125	15	15	12.5	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	A	B	B	A	HKY20F	2.0
RBH2260N	●	22	6	15	125	15	15	15	—	06RS(-B) 06RS-0○(B)	—	A	B	B	A	HKY20F	2.0
RBH2270N	●	22	7	16	125	20	20	15	—	07RS(-B) 07RS-0○(B)	—	A	B	B	A	HKY20F	2.0
RBH2280N	●	22	8	17	125	20	20	15	—	08RS(-B) 08RS-0○(B)	—	A	B	B	A	HKY20F	2.0
RBH2520N	●	25	2	11	150	10	—	—	—	02RS(-B) 02RS-0○(B)	—	A	B	—	—	HKY20F	2.0
RBH2530N	●	25	3	12	150	10	10	—	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	A	B	C	—	HKY20F	2.0
RBH2540N	●	25	4	13	150	15	15	—	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	A	C	C	—	HKY20F	2.0
RBH2550N	●	25	5	14	150	15	15	—	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	A	C	C	—	HKY20F	2.0
RBH2560N	●	25	6	15	150	15	15	—	—	06RS(-B) 06RS-0○(B)	—	A	C	C	—	HKY20F	2.0
RBH2570N	●	25	7	16	150	20	20	—	—	07RS(-B) 07RS-0○(B)	—	A	C	C	—	HKY20F	2.0
RBH2580N	●	25	8	17	150	20	20	—	—	08RS(-B) 08RS-0○(B)	—	A	B	B	—	HKY20F	2.0
RBH25420N	●	25.4	2	11	150	10	—	—	—	02RS(-B) 02RS-0○(B)	—	A	B	—	—	HKY20F	2.0
RBH25430N	●	25.4	3	12	150	10	10	—	03FR-BLS	03RS(-B) 03RS-0○(B)	03RS-01(B)	A	B	C	—	HKY20F	2.0
RBH25440N	●	25.4	4	13	150	15	15	—	04FR-BLS	04RS(-B) 04RS-0○(B)	04RS-01(B)	A	C	C	—	HKY20F	2.0
RBH25450N	●	25.4	5	14	150	15	15	—	05HR-BLS	05RS(-B) 05RS-0○(B)	05RS-01(B)	A	C	C	—	HKY20F	2.0
RBH25460N	●	25.4	6	15	150	15	15	—	—	06RS(-B) 06RS-0○(B)	—	A	C	C	—	HKY20F	2.0
RBH25470N	●	25.4	7	16	150	20	20	—	—	07RS(-B) 07RS-0○(B)	—	A	C	C	—	HKY20F	2.0
RBH25480N	●	25.4	8	17	150	20	20	—	—	08RS(-B) 08RS-0○(B)	—	A	B	B	—	HKY20F	2.0

✶1 Order number of clamp screw A=HSS04004, B=HSS04006, C=HSS04008, D=HSS04003 ✶2 Revised order number.

Conventional Order Number	Revised Order Number
RBH1920N	RBH19020N
RBH1930N	RBH19030N
RBH1940N	RBH19040N

Conventional Order Number	Revised Order Number
RBH1950N	RBH19050N
RBH1960N	RBH19060N
RBH1970N	RBH19070N

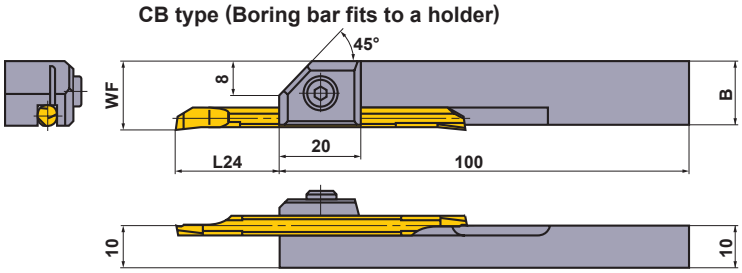
SPARE PARTS ➤ Q001
TECHNICAL DATA ➤ R001

MICRO-MINI TWIN

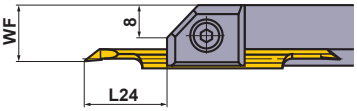
TOOL NEWS

■SQUARE TYPE HOLDER

CB type (Boring bar fits to a holder)



CR type (Boring bar fits to a holder)



Order Number	Stock	Dimensions(mm) WF CB	WF CR	L24* CB	L24* CR	B CB	B CR	Micro-Mini Twin CB	Micro-Mini Twin CR	Clamp Screw	Wrench	Torque (N • m)
SBH1020R	●	13	—	6—24 (6—10)	—	12.9		02RS(-B) 02RS-0□(B)	—	HSC04010	HKY30R	4.8
SBH1030R	●	14	12.65	8.5—22 (9—15)	11—19.5 (12)	13.8		03RS(-B) 03RS-0□(B)	03RS-01(B)	HSC05012	HKY40R	9.5
SBH1040R	●	15	13.15	11—29.5 (12—20)	13—27.5 (14)	14.7		04RS(-B) 04RS-0□(B)	04RS-01(B)	HSC05012	HKY40R	9.5
SBH1050R	●	16	13.65	13.5—37 (15—25)	15—35.5 (16)	15.6		05RS(-B) 05RS-0□(B)	05RS-01(B)	HSC05012	HKY40R	9.5
SBH1060R	●	17	—	13.5—42 (18—30)	—	16.5		06RS(-B) 06RS-0□(B)	—	HSC05012	HKY40R	9.5
SBH1070R	●	18	—	13.5—52 (21—35)	—	17.4		07RS(-B) 07RS-0□(B)	—	HSC05012	HKY40R	9.5

Note 1) The MICRO-DEX and the MICRO-MINI cannot be fit to square holders.
*L24 is the length of overhang for sufficient clamping, and ( ) is the recommended length for machining of carbon and alloy steel.

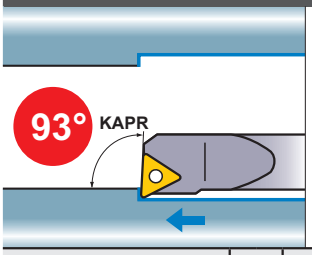
● : Inventory maintained in Japan.

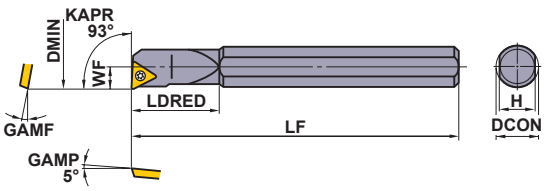
F TYPE BORING BARS

- The minimum cutting diameter is from ϕ10.
- 11°positive insert.
- Screw-on type.
- l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).

FSTU1

TP○○inserts





Right hand tool holder shown.

Finish	Flat Top
R/L	
 (08,09,11)	 (08,09,11)
PCD	CBN/PCD
R/L-F	
 (09,11)	 (08,09,11)

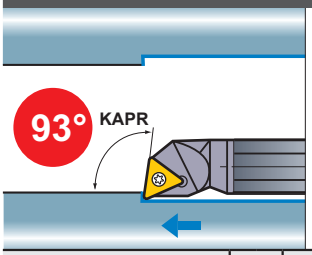
Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
FSTU108R/L	●	●	TPGX TPMX	0802○○	8	125	18	5	7	15°	**10**	CS200T	TKY06F
FSTU110R/L	●	●		0902○○	10	150	22	6	9	13°	**12**	CS250T	TKY08F
FSTU112R/L	●	●		0902○○	12	180	25	8	11	10°	**16**	CS250T	TKY08F
FSTU116R/L	●	●		1103○○	16	200	30	11	14	7°	**22**	CS300890T	TKY08F

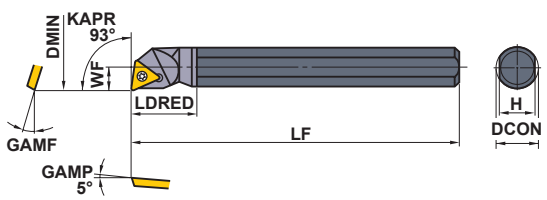
* Clamp Torque (N • m) : CS200T=0.6, CS250T=1.0, CS300890T=1.0

FSTU2

Carbide shank

TP○○inserts





Right hand tool holder shown.

Finish	Flat Top
R/L	
 (08,09,11)	 (08,09,11)
PCD	CBN/PCD
R/L-F	
 (09,11)	 (08,09,11)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
FSTU208R/L	●	●	TPGX TPMX	0802○○	8	125	13	5	7	15°	**10**	CS200T	TKY06F
FSTU210R/L	●	●		0902○○	10	150	16	6	9	13°	**12**	CS250T	TKY08F
FSTU212R/L	●	●		0902○○	12	180	19	8	11	10°	**16**	CS250T	TKY08F
FSTU216R/L	●	●		1103○○	16	200	26	11	14	7°	**22**	CS300890T	TKY08F

* Clamp Torque (N • m) : CS200T=0.6, CS250T=1.0, CS300890T=1.0

RECOMMENDED CUTTING CONDITIONS

Steel Shank			l/d≤3			l/d=3–4 (Shank Diameter ≥ 25mm)		
Carbide Shank			l/d≤5			l/d=6–7		
Work Material	Hardness	Cutting Mode	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P Carbon Steel Alloy Steel	180–350HB	Light Cutting	130 (90–160)	0.1 (0.05–0.15)	0.2	120 (80–150)	0.1 (0.05–0.15)	0.2
		Medium Cutting	90 (60–120)	0.25 (0.15–0.35)	–3.0	80 (50–110)	0.15 (0.1–0.2)	–1.5
M Stainless Steel	≤200HB	Light Cutting	140 (100–180)	0.1 (0.05–0.15)	0.2	140 (100–180)	0.1 (0.05–0.15)	0.2
		Medium Cutting	70 (50–90)	0.2 (0.15–0.25)	–2.0	60 (40–80)	0.15 (0.1–0.2)	–1.0
N Aluminium Alloy	–	Light Cutting	300 (200–400)	0.1 (0.05–0.15)	0.2	300 (200–400)	0.1 (0.05–0.15)	0.2
		Medium Cutting	200 (150–250)	0.1 (0.05–0.15)	–2.0	200 (150–250)	0.1 (0.05–0.15)	–1.5

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

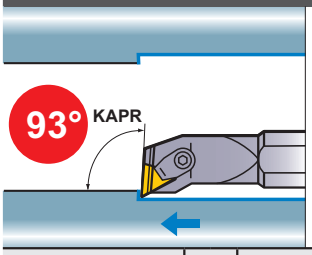
TP○○ type inserts	➤ A165, A166	SPARE PARTS	➤ Q001
CBN & PCD inserts	➤ B059, B060, B075, B076	TECHNICAL DATA	➤ R001

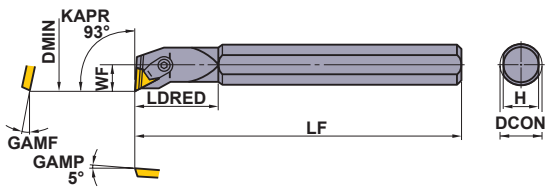
F TYPE BORING BARS

- The minimum cutting diameter is from ϕ22.
- 11°positive insert.
- Clamp-on type.
- l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).

FCTU1

TP○○inserts





Right hand tool holder shown.

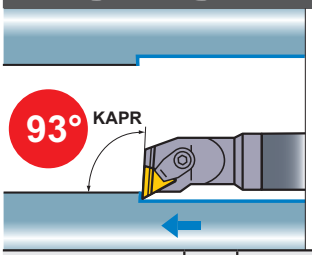
M Class	M Class	G class
Standard		R/L
 (11,16)	 (11,16)	 (11,16)
G class	CBN/PCD	
 (11,16)	 (11,16)	

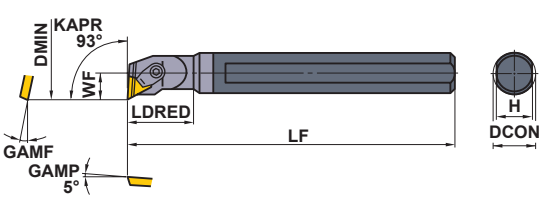
Order Number	Stock R	Stock L	Insert Number		DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Set *	Breaker Piece	Wrench
					Dimensions(mm)											
FCTU116R/L	●	●	TPMN TPMR TPGN TPGR	1103○○	16	200	30	11	14	7°	**22**	–	–	C3	CBT2N	HKY25R
FCTU120R/L☆	●	●		1603○○	20	200	37	13	18	5°	**26**	–	–	C4	CBT3F	HKY30R
FCTU125R/L☆ (4 Side Flat Shank)	●	●		1603○○	25	250	40	16	22	5°	**32**	PT32	BCP202	C4	CBT3F	HKY30R
FCTU132R/L☆ (4 Side Flat Shank)	●	●		1603○○	32	300	45	20	29	0°	**40**	PT32	BCP201	C4	CBT3F	HKY30R

∗ Clamp Torque (N • m) : C3=2.2, C4=3.3

FCTU2

Carbide shank **TP○○inserts**





Right hand tool holder only.

M Class	M Class	G class
Standard		R/L
 (11,16)	 (11,16)	 (11,16)
G class	CBN/PCD	
 (11,16)	 (11,16)	

Order Number	Stock R	Insert Number		DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Set *	Breaker Piece	Wrench
				Dimensions(mm)											
FCTU216R	●	TPMN TPMR TPGN TPGR	1103○○	16	200	26	11	14	7°	**22**	–	–	C3	CBT2N	HKY25R
FCTU220R ☆	●		1603○○	20	200	33	13	18	5°	**26**	–	–	C4	CBT3F	HKY30R
FCTU225R ☆	●		1603○○	25	250	37	16	22	5°	**32**	PT32	BCP202	C4	CBT3F	HKY30R

∗ Clamp Torque (N • m) : C3=2.2, C4=3.3

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.(Model of ☆ Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : **Inventory maintained in Japan.**

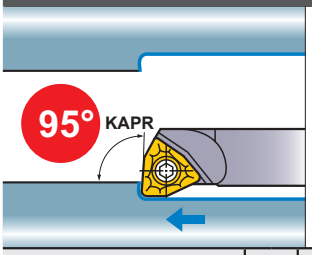
TP○○ type inserts ➤ **A182**
CBN & PCD inserts ➤ **B065, B081**

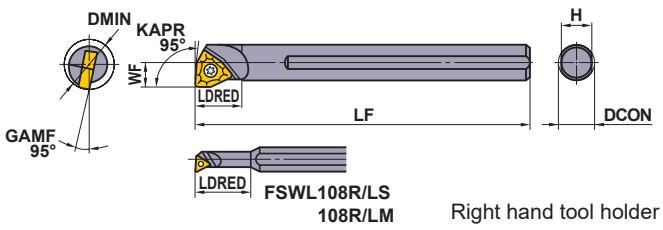
F TYPE BORING BARS

- The minimum cutting diameter is from ϕ5.8.
- 7°positive insert.
- Screw-on type.
- l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).

FSWL1

WC○○inserts





Right hand tool holder shown.

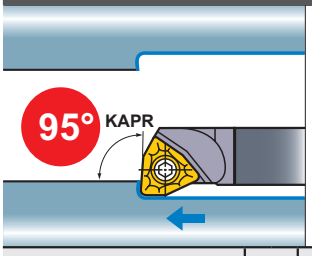
Finish	Light
R/L	Standard
 (02,L3)	 (02,L3,04,06)
CBN/PCD	
 (L3,04,06)	

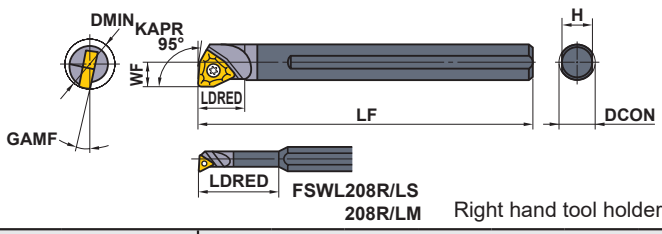
Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
FSWL108R/LS	●	●	WCMT WCGT	0201○○	8	100	19	2.9	7	17°	**5.8**	TS21	TKY06F
FSWL108R/LM	●	●	WCMT WCGT WCMW	L302○○	8	100	25	4	7	15°	**8**	TS2	TKY06F
FSWL108R/L	●	●	WCMT WCMW	0402○○	8	125	10	5	7	15°	**10**	TS25	TKY08F
FSWL110R/L	●	●		0402○○	10	150	12	6	9	13°	**12**	TS25	TKY08F
FSWL112R/L ☆	●	●		06T3○○	12	180	15	8	11	13°	**16**	TS4	TKY15F
FSWL116R/L ☆	●	●		06T3○○	16	200	20	11	14	7°	**22**	TS4	TKY15F

∗ Clamp Torque (N • m) : TS21=0.6, TS2=0.6, TS25=1.0, TS4=3.5

FSWL2

Carbide shank **WC○○inserts**





Right hand tool holder shown.

Finish	Light
R/L	Standard
 (02,L3)	 (02,L3,04,06)
CBN/PCD	
 (L3,04,06)	

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
FSWL208R/LS	●	●	WCMT WCGT	0201○○	8	122	25	2.9	7	17°	**5.8**	TS21	TKY06F
FSWL208R/LM	●	●	WCMT WCGT WCMW	L302○○	8	125	33	4	7	15°	**8**	TS2	TKY06F
FSWL208R/L	●	●	WCMT WCMW	0402○○	8	125	10	5	7	15°	**10**	TS25	TKY08F
FSWL210R/L	●	●		0402○○	10	150	12	6	9	13°	**12**	TS25	TKY08F
FSWL212R/L ☆	●	●		06T3○○	12	180	15	8	11	13°	**16**	TS4	TKY15F
FSWL216R/L ☆	●	●		06T3○○	16	200	20	11	14	7°	**22**	TS4	TKY15F

∗ Clamp Torque (N • m) : TS21=0.6, TS2=0.6, TS25=1.0, TS4=3.5

RECOMMENDED CUTTING CONDITIONS

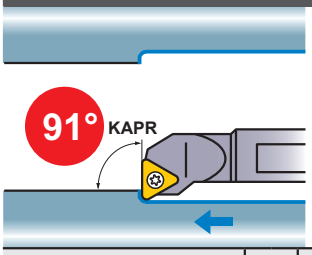
Steel Shank				l/d≤3			l/d=3–4 (Shank Diameter ≥ 25mm)		
Carbide Shank				l/d≤5			l/d=6–7		
	Work Material	Hardness	Cutting Mode	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180–350HB	Light Cutting	130 (90–160)	0.1 (0.05–0.15)	0.2	120 (80–150)	0.1 (0.05–0.15)	0.2
			Medium Cutting	90 (60–120)	0.25 (0.15–0.35)	–3.0	80 (50–110)	0.15 (0.1–0.2)	–1.5
M	Stainless Steel	≤200HB	Light Cutting	140 (100–180)	0.1 (0.05–0.15)	0.2	140 (100–180)	0.1 (0.05–0.15)	0.2
			Medium Cutting	70 (50–90)	0.2 (0.15–0.25)	–2.0	60 (40–80)	0.15 (0.1–0.2)	–1.0
N	Aluminium Alloy	–	Light Cutting	300 (200–400)	0.1 (0.05–0.15)	0.2	300 (200–400)	0.1 (0.05–0.15)	0.2
			Medium Cutting	200 (150–250)	0.1 (0.05–0.15)	–2.0	200 (150–250)	0.1 (0.05–0.15)	–1.5

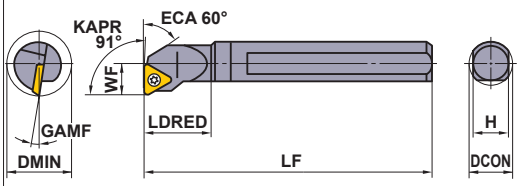
WC○○ type inserts	**➤ A176**
CBN & PCD inserts	**➤ B063, B078**
SPARE PARTS	**➤ Q001**
TECHNICAL DATA	**➤ R001**

S TYPE BORING BARS

- The minimum cutting diameter is from ϕ11.
- ISO standard.
- 7° positive insert.
- Screw-on type.
- l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).

S○○○STFC — TC○○inserts





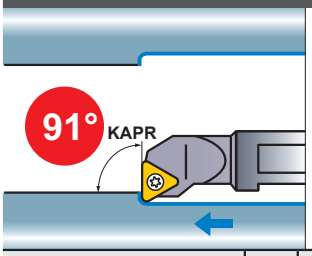
Right hand tool holder shown.

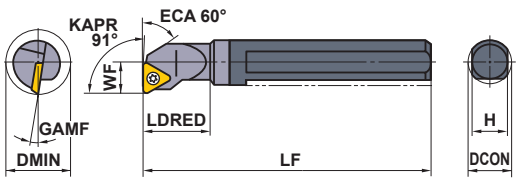
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(09,11,16)	(09,11,16)	(09,11,16)	(09,11,16)
Medium	Medium	Flat top	CBN/PCD
MP	MM		
			
(09,11,16)	(09,11,16)	(11,16)	(09,11,16)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
S08FSTFCR/L09	●	●	TCMT TCGW	0902○○	8	80	12	6	7	15°	**11**	TS22	TKY06F
S10HSTFCR/L11	●	●	TCMW TCMT TCGW TCGT	1102○○	10	100	16	7	9	13°	**13**	TS25	TKY08F
S12KSTFCR/L11	●	●		1102○○	12	125	20	9	11	10°	**16**	TS25	TKY08F
S16MSTFCR/L11	●	●		1102○○	16	150	25	11	14	7°	**20**	TS25	TKY08F
S20QSTFCR/L16 ☆	●	●		16T3○○	20	180	32	13	18	7°	**25**	TS4	TKY15F
S25RSTFCR/L16 ☆	●	●		16T3○○	25	200	40	17	23	5°	**32**	TS4	TKY15F
S32SSTFCR/L16 ☆	●	●		16T3○○	32	250	50	22	30	5°	**40**	TS4	TKY15F

* Clamp Torque (N • m) : TS22=0.6, TS25=1.0, TS4=3.5

C○○○STFC — Carbide shank — TC○○inserts





Right hand tool holder only.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(09,11,16)	(09,11,16)	(09,11,16)	(09,11,16)
Medium	Medium	Flat top	CBN/PCD
MP	MM		
			
(09,11,16)	(09,11,16)	(11,16)	(11)

Order Number	Stock R	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	* Clamp Screw	Wrench
C08HSTFCR09	●	TCMT TCGW	0902○○	8	100	12	6	7	15°	**11**	TS22	TKY06F
C10KSTFCR11	●	TCMW TCMT TCGW TCGT	1102○○	10	125	16	7	9	13°	**13**	TS25	TKY08F
C12MSTFCR11	●		1102○○	12	150	20	9	11	10°	**16**	TS25	TKY08F
C16RSTFCR11	●		1102○○	16	200	25	11	14	7°	**20**	TS25	TKY08F
C20SSTFCR16 ☆	●		16T3○○	20	250	32	13	18	7°	**25**	TS4	TKY15F
C25TSTFCR16 ☆	●		16T3○○	25	300	40	17	23	5°	**32**	TS4	TKY15F

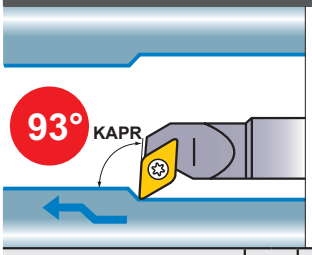
* Clamp Torque (N • m) : TS22=0.6, TS25=1.0, TS4=3.5

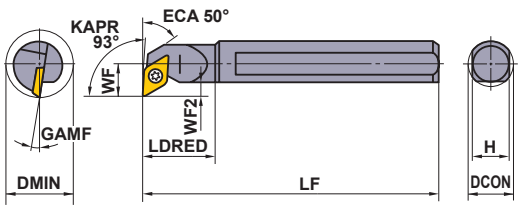
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.(Model of ☆ Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : Inventory maintained in Japan.

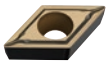
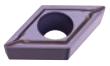
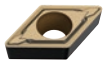
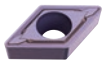
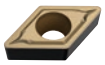
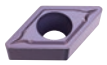
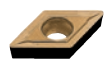
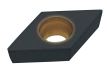
TC○○ type inserts	➤ A160—A162
CBN & PCD inserts	➤ B057, B074

S○○○SDUC — DC○○inserts





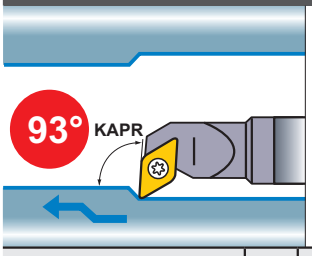
Right hand tool holder shown.

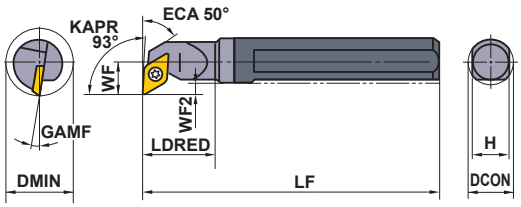
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	Medium	Medium	Flat top
MP	MM	Standard	
			
(07,11,15)	(07,11,15)	(07,11,15)	(07,11,15)

Order Number	Stock		Insert Number		Dimensions(mm)								*	
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
S10HSDUCR/L07	●	●	DCMT DCET DCGT DCMW DCGW	0702○○	10	100	16	7	2.4	9	13°	**13**	TS25	TKY08F
S12KSDUCR/L07	●	●		0702○○	12	125	20	9	3.4	11	10°	**16**	TS25	TKY08F
S16MSDUCR/L07	●	●		0702○○	16	150	25	11	3.9	14	7°	**20**	TS25	TKY08F
S20QSDUCR/L11☆	●	●		11T3○○	20	180	32	13	4.4	18	7°	**25**	TS4	TKY15F
S25RSDUCR/L15☆	●	●		1504○○	25	200	40	17	6.9	23	5°	**32**	TS5	TKY25F
S32SSDUCR/L15☆	●	●		1504○○	32	250	50	22	8.4	30	5°	**40**	TS5	TKY25F
S40TSDUCR/L15☆	●	●		1504○○	40	300	63	27	9.4	37	5°	**50**	TS5	TKY25F

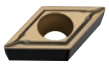
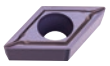
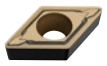
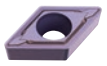
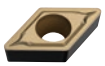
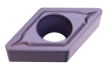
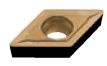
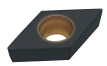
* Clamp Torque (N • m) : TS25=1.0, TS4=3.5, TS5=7.5

C○○○SDUC — Carbide shank DC○○inserts





Right hand tool holder only.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	Medium	Medium	Flat top
MP	MM	Standard	
			
(07,11,15)	(07,11,15)	(07,11,15)	(07,11,15)

Order Number	Stock	Insert Number		Dimensions(mm)								*	
	R			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
C10KSDUCR07	●	DCMT DCET DCGT DCMW DCGW	0702○○	10	125	16	7	2.1	9	13°	**13**	TS25	TKY08F
C12MSDUCR07	●		0702○○	12	150	20	9	3.1	11	10°	**16**	TS25	TKY08F
C16RSDUCR07	●		0702○○	16	200	25	11	3.1	14	7°	**20**	TS25	TKY08F
C20SSDUCR11☆	●		11T3○○	20	250	32	13	3.1	18	7°	**25**	TS4	TKY15F
C25TSDUCR15☆	●	DCMW DCMT	1504○○	25	300	40	17	4.9	23	5°	**32**	TS5	TKY25F

* Clamp Torque (N • m) : TS25=1.0, TS4=3.5, TS5=7.5

RECOMMENDED CUTTING CONDITIONS

Steel Shank				l/d≤3			l/d=3–4 (Shank Diameter ≥ 25mm)		
Carbide Shank				l/d≤5			l/d=6–7		
	Work Material	Hardness	Cutting Mode	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180–350HB	Light Cutting	130 (90–160)	0.1 (0.05–0.15)	0.2	120 (80–150)	0.1 (0.05–0.15)	0.2
			Medium Cutting	90 (60–120)	0.25 (0.15–0.35)	–3.0	80 (50–110)	0.15 (0.1–0.2)	–1.5
M	Stainless Steel	≤200HB	Light Cutting	140 (100–180)	0.1 (0.05–0.15)	0.2	140 (100–180)	0.1 (0.05–0.15)	0.2
			Medium Cutting	70 (50–90)	0.2 (0.15–0.25)	–2.0	60 (40–80)	0.15 (0.1–0.2)	–1.0
N	Aluminium Alloy	–	Light Cutting	300 (200–400)	0.1 (0.05–0.15)	0.2	300 (200–400)	0.1 (0.05–0.15)	0.2
			Medium Cutting	200 (150–250)	0.1 (0.05–0.15)	–2.0	200 (150–250)	0.1 (0.05–0.15)	–1.5

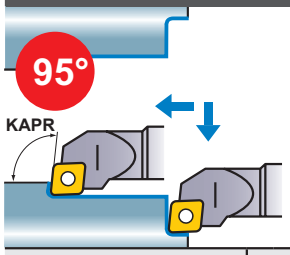
DC○○ type inserts	**➤ A149–A154**
CBN & PCD inserts	**➤ B054–B056, B073**
SPARE PARTS	**➤ Q001**
TECHNICAL DATA	**➤ R001**

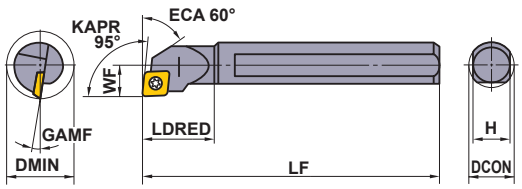
S TYPE BORING BARS

- The minimum cutting diameter is from ϕ11.
- ISO standard.
- 7° positive insert.
- Screw-on type.
- l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).

S○○○SCLC

CC○○inserts





Right hand tool holder shown.

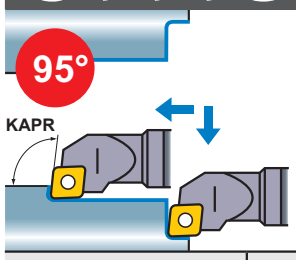
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(06,09)	(06,09)	(06,09)	(06,09)
Medium	Medium	Flat top	CBN/PCD
MP	MM		
			
(06,09,12)	(06,09,12)	(06,09,12)	(06,09,12)

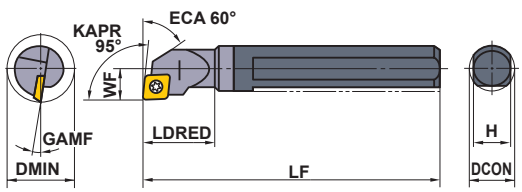
Order Number	Stock		Insert Number		Dimensions(mm)							*	
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench
S08FSCLCR/L06	●	●	CCMB CCMH CCMT CCMW CCET CCGB CCGH CCGT CCGW	0602○○	8	80	12	6	7	15°	**11**	TS25	TKY08F
S10HSCLCR/L06	●	●		0602○○	10	100	16	7	9	13°	**13**	TS25	TKY08F
S12KSCLCR/L06	●	●		0602○○	12	125	20	9	11	10°	**16**	TS25	TKY08F
S16MSCLCR/L09☆	●	●		09T3○○	16	150	25	11	14	7°	**20**	TS4	TKY15F
S20QSCLCR/L09☆	●	●		09T3○○	20	180	32	13	18	7°	**25**	TS4	TKY15F
S25RSCLCR/L12☆	●	●		1204○○	25	200	40	17	23	5°	**32**	TS5	TKY25F
S32SSCLCR/L12☆	●	●		1204○○	32	250	50	22	30	5°	**40**	TS5	TKY25F
S40TSCLCR/L12☆	●	●		1204○○	40	300	63	27	37	5°	**50**	TS5	TKY25F

* Clamp Torque (N • m) : TS25=1.0, TS4=3.5, TS5=7.5

C○○○SCLC

Carbide shank CC○○inserts





Right hand tool holder only.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(06,09)	(06,09)	(06,09)	(06,09)
Medium	Medium	Flat top	CBN/PCD
MP	MM		
			
(06,09)	(06,09)	(06,09)	(06,09)

Order Number	Stock	Insert Number		Dimensions(mm)							*	
	R			DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench
C08HSCLCR06	●	CCMB CCMH CCMT CCMW CCET CCGB CCGH CCGT CCGW	0602○○	8	100	12	6	7	15°	**11**	TS25	TKY08F
C10KSCLCR06	●		0602○○	10	125	16	7	9	13°	**13**	TS25	TKY08F
C12MSCLCR06	●		0602○○	12	150	20	9	11	10°	**16**	TS25	TKY08F
C16RSCLCR09☆	●		09T3○○	16	200	25	11	14	7°	**20**	TS4	TKY15F
C20SSCLCR09☆	●		09T3○○	20	250	32	13	18	7°	**25**	TS4	TKY15F

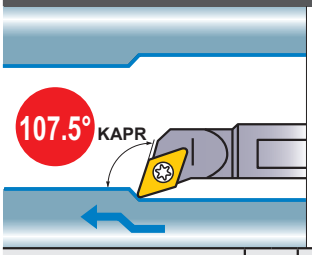
* Clamp Torque (N • m) : TS25=1.0, TS4=3.5

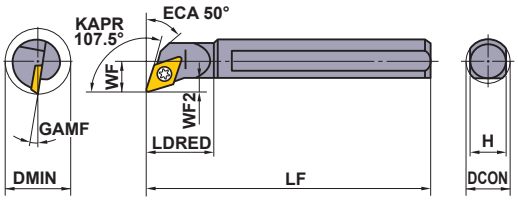
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.(Model of ☆ Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : **Inventory maintained in Japan.**

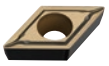
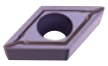
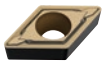
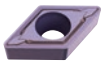
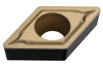
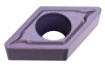
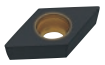
CC○○ type inserts	**➤ A140—A147**
CBN & PCD inserts	**➤ B049—B052, B072**

S○○○SDQC — DC○○inserts





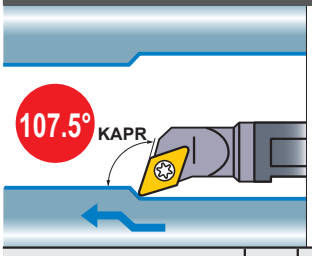
Right hand tool holder shown.

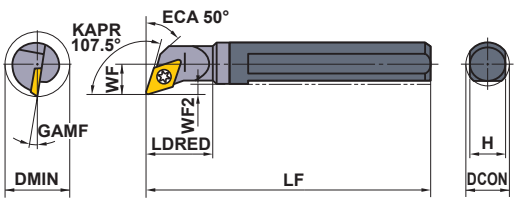
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	**Medium**	**Flat top**	**CBN/PCD**
MP	MM		
			
(07,11,15)	(07,11,15)	(07,11,15)	(07,11)

Order Number	Stock		Insert Number		Dimensions(mm)								*	
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
S10HSDQCR/L07	●	●	DCMT DCET DCGT DCMW DCGW	0702○○	10	100	16	7	2.4	9	13°	**13**	TS25	TKY08F
S12KSDQCR/L07	●	●		0702○○	12	125	20	9	3.4	11	10°	**16**	TS25	TKY08F
S16MSDQCR/L07	●	●		0702○○	16	150	25	11	3.9	14	7°	**20**	TS25	TKY08F
S20QSDQCR/L11 ☆	●	●		11T3○○	20	180	32	13	4.4	18	7°	**25**	TS4	TKY15F
S25RSDQCR/L15 ☆	●	●		1504○○	25	200	40	17	6.9	23	5°	**32**	TS5	TKY25F
S32SSDQCR15 ☆	●			1504○○	32	250	50	22	8.4	30	5°	**40**	TS5	TKY25F
S40TSDQCR15 ☆	●			1504○○	40	300	63	27	9.4	37	5°	**50**	TS5	TKY25F

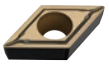
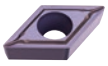
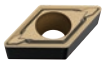
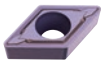
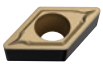
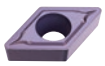
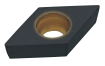
* Clamp Torque (N • m) : TS25=1.0, TS4=3.5, TS5=7.5

C○○○SDQC — Carbide shank DC○○inserts





Right hand tool holder only.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(07,11)	(07,11)	(07,11)	(07,11)
Medium	**Medium**	**Flat top**	**CBN/PCD**
MP	MM		
			
(07,11,15)	(07,11,15)	(07,11,15)	(07,11)

Order Number	Stock	Insert Number		Dimensions(mm)								*	
	R			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
C10KSDQCR07	●	DCMT DCET DCGT DCMW DCGW	0702○○	10	125	16	7	2.1	9	13°	**13**	TS25	TKY08F
C12MSDQCR07	●		0702○○	12	150	20	9	3.1	11	10°	**16**	TS25	TKY08F
C16RSDQCR07	●		0702○○	16	200	25	11	3.1	14	7°	**20**	TS25	TKY08F
C20SSDQCR11 ☆	●		11T3○○	20	250	32	13	3.1	18	7°	**25**	TS4	TKY15F
C25TSDQCR15 ☆	●	DCMW DCMT	1504○○	25	300	40	17	4.9	23	5°	**32**	TS5	TKY25F

* Clamp Torque (N • m) : TS25=1.0, TS4=3.5, TS5=7.5

RECOMMENDED CUTTING CONDITIONS

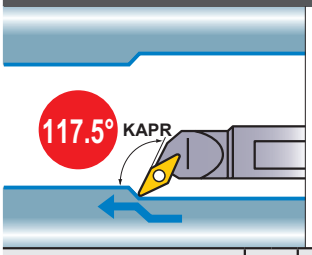
Steel Shank				l/d≤3			l/d=3–4 (Shank Diameter ≥ 25mm)		
Carbide Shank				l/d≤5			l/d=6–7		
	Work Material	Hardness	Cutting Mode	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180–350HB	Light Cutting	130 (90–160)	0.1 (0.05–0.15)	0.2	120 (80–150)	0.1 (0.05–0.15)	0.2
			Medium Cutting	90 (60–120)	0.25 (0.15–0.35)	–3.0	80 (50–110)	0.15 (0.1–0.2)	–1.5
M	Stainless Steel	≤200HB	Light Cutting	140 (100–180)	0.1 (0.05–0.15)	0.2	140 (100–180)	0.1 (0.05–0.15)	0.2
			Medium Cutting	70 (50–90)	0.2 (0.15–0.25)	–2.0	60 (40–80)	0.15 (0.1–0.2)	–1.0
N	Aluminium Alloy	–	Light Cutting	300 (200–400)	0.1 (0.05–0.15)	0.2	300 (200–400)	0.1 (0.05–0.15)	0.2
			Medium Cutting	200 (150–250)	0.1 (0.05–0.15)	–2.0	200 (150–250)	0.1 (0.05–0.15)	–1.5

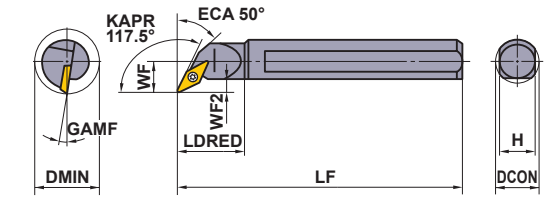
DC○○ type inserts	**➤ A149–A154**
CBN & PCD inserts	**➤ B054–B056, B073**
SPARE PARTS	**➤ Q001**
TECHNICAL DATA	**➤ R001**

S TYPE BORING BARS

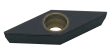
- The minimum cutting diameter is from ϕ20.
- ISO standard.
- 7° positive insert.
- Screw-on type.
- l/d is 3 to 5 times the diameter (Carbide shank is 7 times the diameter).

S○○○SVQC — VC○○inserts





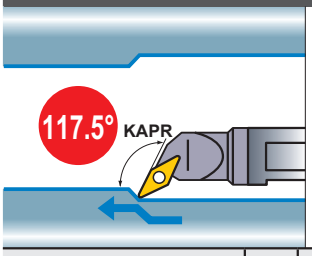
Right hand tool holder shown.

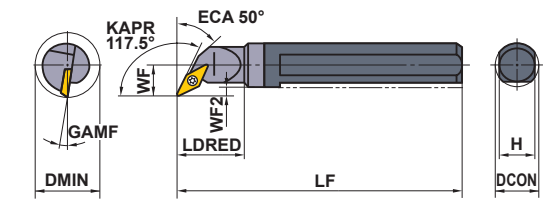
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(11,16)	(11,16)	(11,16)	(11,16)
Medium	**Medium**	**Medium**	**Flat top**
MP	MM	Standard	
			
(16)	(16)	(11,16)	(11,16)

Order Number	Stock		Insert Number		Dimensions(mm)								*	
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
S16MSVQCR/L11	●	●	VCMW VCMT VCGW VCGT	1103○○	16	150	25	11	3.9	14	7°	**20**	TS25	TKY08F
S20QSVQCR/L11	●	●		1103○○	20	180	32	13	4.4	18	7°	**25**	TS25	TKY08F
S25RSVQCR/L16 ☆	●	●		1604○○	25	200	40	17	6.9	23	5°	**32**	TS4	TKY15F
S32SSVQCR/L16 ☆	●	●		1604○○	32	250	50	22	8.4	30	5°	**40**	TS4	TKY15F
S40TSVQCR16 ☆	●			1604○○	40	300	63	27	9.4	37	5°	**50**	TS4	TKY15F

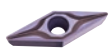
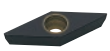
∗ Clamp Torque (N • m) : TS25=1.0, TS4=3.5

C○○○SVQC — Carbide shank — VC○○inserts





Right hand tool holder only.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(11,16)	(11,16)	(11,16)	(11,16)
Medium	**Medium**	**Medium**	**Flat top**
MP	MM	Standard	
			
(16)	(16)	(11,16)	(11,16)

Order Number	Stock	Insert Number		Dimensions(mm)								*	
	R			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
C16RSVQCR11	●	VCMW VCMT VCGW VCGT	1103○○	16	200	25	11	3.1	14	7°	**20**	TS25	TKY08F
C20SSVQCR11	●		1103○○	20	250	32	13	3.1	18	7°	**25**	TS25	TKY08F
C25TSVQCR16 ☆	●		1604○○	25	300	40	17	4.9	23	5°	**32**	TS4	TKY15F

∗ Clamp Torque (N • m) : TS25=1.0, TS4=3.5

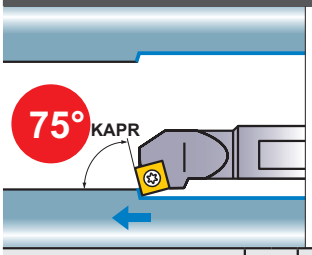
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.(Model of ☆ Mark is RE 0.8)
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

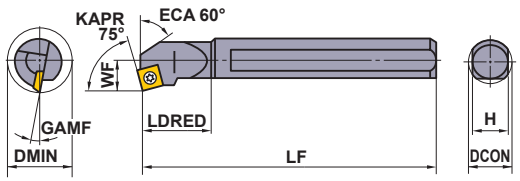
● : **Inventory maintained in Japan.**

VC○○ type inserts	**➤A170—A172**
CBN & PCD inserts	**➤B062, B077**

S○○○SSKC

SC○○inserts





Right hand tool holder shown.

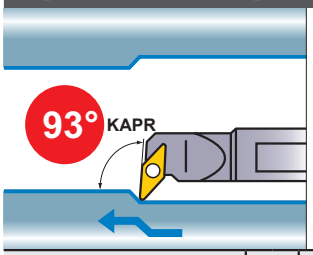
Finish	Finish	Light	Light
FP	FM	LP	LM
			
(09)	(09)	(09)	(09)
Medium	Medium	Medium	Flat top
MP	MM	Standard	
			
(09,12)	(09,12)	(09,12)	(09,12)

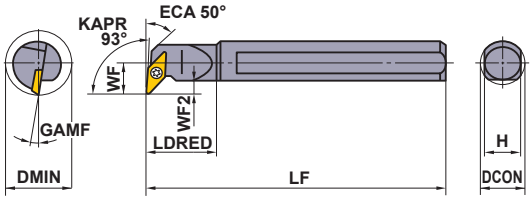
Order Number	Stock		Insert Number		Dimensions(mm)							*	
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Screw	Wrench
S16MSSKCR/L09 ☆	●	●	SCMW SCMT	09T3○○	16	150	25	11	14	7°	**20**	TS4	TKY15F
S20QSSKCR/L09 ☆	●	●		09T3○○	20	180	32	13	18	7°	**25**	TS4	TKY15F
S25RSSKCR/L12 ☆	●	●		1204○○	25	200	40	17	23	5°	**32**	TS5	TKY25F

∗ Clamp Torque (N • m) : TS4=3.5, TS5=7.5

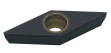
S○○○SVUC

VC○○inserts





Right hand tool holder only.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(11,16)	(11,16)	(11,16)	(11,16)
Medium	Medium	Medium	Flat top
MP	MM	Standard	
			
(16)	(16)	(11,16)	(11,16)

Order Number	Stock		Insert Number		Dimensions(mm)								*	
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Clamp Screw	Wrench
S20QSVUCR/L11	●	●	VCMW VCMT VCGW VCGT	1103○○	20	180	32	13	4.4	18	7°	**25**	TS25	TKY08F
S25RSVUCR/L16 ☆	●	●		1604○○	25	200	40	17	6.9	23	5°	**32**	TS4	TKY15F
S32SSVUCR/L16 ☆	●	●		1604○○	32	250	50	22	8.4	30	5°	**40**	TS4	TKY15F
S40TSVUCR/L16 ☆	●	●		1604○○	40	300	63	27	9.4	37	5°	**50**	TS4	TKY15F

∗ Clamp Torque (N • m) : TS25=1.0, TS4=3.5

RECOMMENDED CUTTING CONDITIONS

Steel Shank				l/d≤3			l/d=3–4 (Shank Diameter ≥ 25mm)		
Carbide Shank				l/d≤5			l/d=6–7		
	Work Material	Hardness	Cutting Mode	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180–350HB	Light Cutting	130 (90–160)	0.1 (0.05–0.15)	0.2	120 (80–150)	0.1 (0.05–0.15)	0.2
			Medium Cutting	90 (60–120)	0.25 (0.15–0.35)	–3.0	80 (50–110)	0.15 (0.1–0.2)	–1.5
M	Stainless Steel	≤200HB	Light Cutting	140 (100–180)	0.1 (0.05–0.15)	0.2	140 (100–180)	0.1 (0.05–0.15)	0.2
			Medium Cutting	70 (50–90)	0.2 (0.15–0.25)	–2.0	60 (40–80)	0.15 (0.1–0.2)	–1.0
N	Aluminium Alloy	–	Light Cutting	300 (200–400)	0.1 (0.05–0.15)	0.2	300 (200–400)	0.1 (0.05–0.15)	0.2
			Medium Cutting	200 (150–250)	0.1 (0.05–0.15)	–2.0	200 (150–250)	0.1 (0.05–0.15)	–1.5

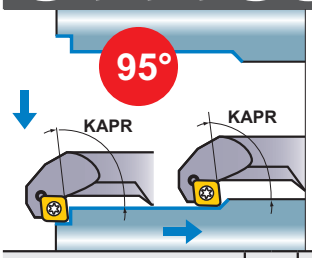
SC○○ type inserts	➤ A157, A158
VC○○ type inserts	➤ A170–A172
CBN inserts	➤ B062, B077
SPARE PARTS	➤ Q001
TECHNICAL DATA	➤ R001

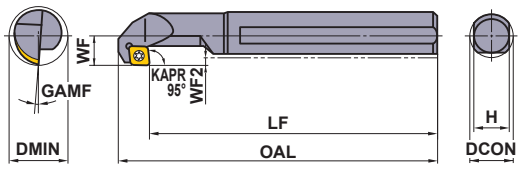
S TYPE BORING BARS

- The minimum cutting diameter is from ϕ20.
- l/d is 3 to 5 times the diameter
- ISO standard.
- 7° positive insert.
- Screw-on type.

SOOOSCZC

CCOOinserts





Right hand tool holder shown.

Finish	Finish	Light	Light
FP	FM	LP	LM
			
(06,09)	(06,09)	(06,09)	(06,09)
Medium	**Medium**	**Flat top**	**CBN/PCD**
MP	MM		
			
(06,09)	(06,09)	(06,09)	(06,09)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	OAL	LF	WF	WF2	H	GAMF	DMIN	* Clamp Screw	Wrench
S16MSCZCR/L06	●	●	CC◌B CC◌H CC◌T CC◌W	0602◌◌	16	161	150	11	3	14	10°	**20**	TS25	TKY08F
S20QSCZCR/L09	●	●		09T3◌◌	20	198	180	13	3	18	7°	**25**	TS4	TKY15F

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) When using insert with right and left hand chip breaker, please use right hand insert for right hand holder and left hand insert for left hand holder.
∗ Clamp Torque (N • m) : TS25=1.0, TS4=3.5

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3 Cutting Speed (m/min)	l/d≤3 Feed (mm/rev)	l/d≤3 Depth of Cut (mm)	l/d=3–4 (Shank Diameter ≥ 25mm) Cutting Speed (m/min)	l/d=3–4 (Shank Diameter ≥ 25mm) Feed (mm/rev)	l/d=3–4 (Shank Diameter ≥ 25mm) Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180–350HB	Light Cutting	130 (90–160)	0.1 (0.05–0.15)	0.2	120 (80–150)	0.1 (0.05–0.15)	0.2
			Medium Cutting	90 (60–120)	0.25 (0.15–0.35)	–3.0	80 (50–110)	0.15 (0.1–0.2)	–1.5
M	Stainless Steel	≤200HB	Light Cutting	140 (100–180)	0.1 (0.05–0.15)	0.2	140 (100–180)	0.1 (0.05–0.15)	0.2
			Medium Cutting	70 (50–90)	0.2 (0.15–0.25)	–2.0	60 (40–80)	0.15 (0.1–0.2)	–1.0
N	Aluminium Alloy	–	Light Cutting	300 (200–400)	0.1 (0.05–0.15)	0.2	300 (200–400)	0.1 (0.05–0.15)	0.2
			Medium Cutting	200 (150–250)	0.1 (0.05–0.15)	–2.0	200 (150–250)	0.1 (0.05–0.15)	–1.5

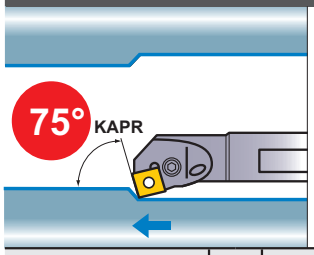
● : **Inventory maintained in Japan.**

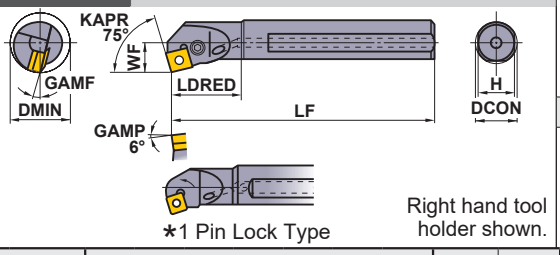
CC◌◌ type inserts ➤ A140–A147
CBN & PCD inserts ➤ B049–B052, B072

P TYPE BORING BARS

- The minimum cutting diameter is from ϕ25.
- ISO standard.
- Economical negative insert.
- Lever lock type.
- l/d is 3 times the diameter.

A○○○PSKN With coolant hole SN○○inserts





*1 Pin Lock Type

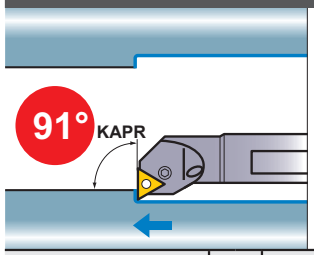
Right hand tool holder shown.

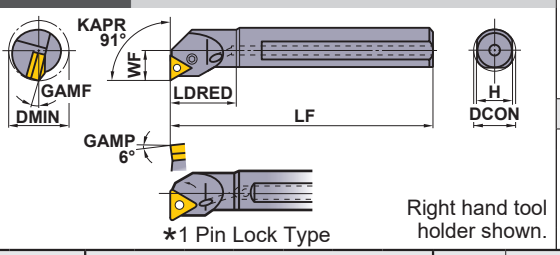
Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(12)	(12)	(12)	(12)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(09,12)	(12)	(09,12)	(12)

Order Number	Stock		Insert Number		Dimensions(mm)							Shim	Shim Pin	Clamp Lever	Clamp Screw *2	Wrench	Plug	Clamp Pin *2	Pin	Screw
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN									
A20QPSKNR/L09	●	●	SNMA SNMG	0903○○	20	180	32	13	18	13°	25	—	—	—	—	HKY15R HKY25R	HGM-PT1/8	HP3T	P208AM	HSS03005
A25RPSKNR/L12	●	●	SNMM SNGA SNGG	1204○○	25	200	40	17	23	13°	32	MLSP42	—	—	—	HKY15R HKY30R	HGM-PT1/4	HP43	P210AM	HSS03005
A32SPSKNR/L12	●	●		1204○○	32	250	50	22	30	13°	44	LLSSN42	LLP14	LLCL14	LLCS108S	HKY30R	HGM-PT3/8	—	—	—

*1 Pin Lock Type : A20QPSKNR/L09, A25RPSKNR/L12
*2 Clamp Torque (N • m) : LLCS108S=3.3, HP3T=2.2, HP43=3.3

A○○○PTFN With coolant hole TN○○inserts





*1 Pin Lock Type

Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(16)	(16, 22)	(16,22)	(16,22)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(16,22)	(16,22)	(16,22)	(16,22)

Order Number	Stock		Insert Number		Dimensions(mm)							Shim	Shim Pin	Clamp Lever	Clamp Screw *2	Wrench	Plug	Clamp Pin *2	Pin	Screw
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN									
A20QPTFNR/L16	●	●	TNMA TNMG TNMM TNGA TNGG TNGH	1604○○	20	180	32	13	18	15°	25	—	—	—	—	HKY15R HKY25R	HGM-PT1/8	HP31	P208AM	HSS03005
A25RPTFNR/L16	●	●		1604○○	25	200	40	17	23	13°	32	MLTP32	—	—	—	HKY15R HKY25R	HGM-PT1/4	HP33	P208AM	HSS03005
A32SPTFNR/L16	●	●		1604○○	32	250	50	22	30	13°	44	LLSTN32	LLP13	LLCL13	LLCS106	HKY25R	HGM-PT3/8	—	—	—
A40TPTFNR/L22	●	●		2204○○	40	300	63	27	37	10°	54	LLSTN42	LLP14	LLCL14	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A50UPTFNR/L22	●	●		2204○○	50	350	80	35	47	9°	70	LLSTN42	LLP14	LLCL14	LLCS108S	HKY30R	HGM-PT3/8	—	—	—

*1 Pin Lock Type : A20QPTFNR/L16, A25RPTFNR/L16
*2 Clamp Torque (N • m) : LLCS106=2.2, LLCS108S=3.3, HP31=2.2, HP33=2.2

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3			l/d=3—4		
				Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180—350HB	Medium Cutting	110 (80—140)	0.25 (0.1—0.4)	—5.0	110 (80—140)	0.2 (0.1—0.3)	—4.0
M	Stainless Steel	≤200HB	Medium Cutting	80 (60—100)	0.2 (0.1—0.3)	—4.0	70 (50—100)	0.15 (0.1—0.25)	—3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	80 (60—100)	0.25 (0.1—0.4)	—5.0	80 (60—100)	0.2 (0.1—0.3)	—4.0

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.8.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

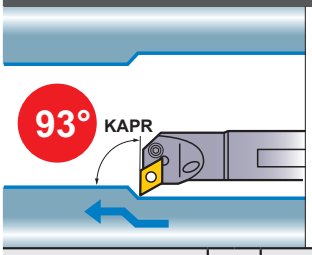
SN○○ type inserts	➤A115—A120
TN○○ type inserts	➤A121—A127
CBN & PCD inserts	➤B037—B041, B069

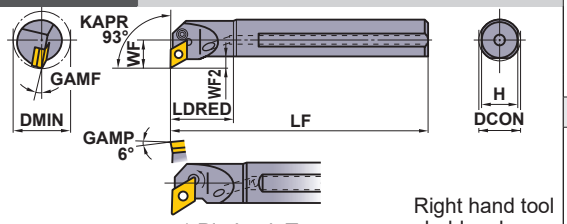
SPARE PARTS	➤Q001
TECHNICAL DATA	➤R001

P TYPE BORING BARS

- The minimum cutting diameter is from ϕ20.
- ISO standard.
- Economical negative insert.
- Lever lock type.
- l/d is 3 times the diameter.

A○○○PDUN With coolant hole DN○○inserts





∗1 Pin Lock Type

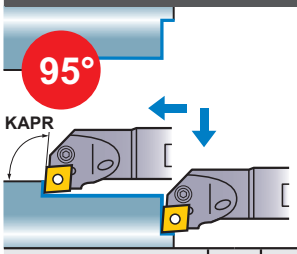
Right hand tool holder shown.

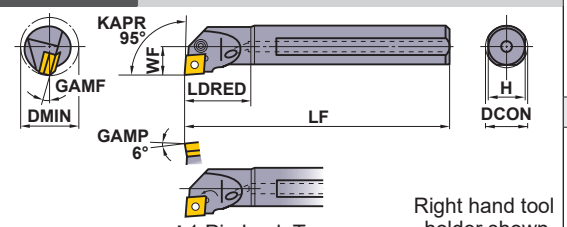
Finish	Light	Medium	Medium
FP	LP	MP	MH
(15)	(11, 15)	(15)	(15)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
(11,15)	(15)	(15)	(15)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	F2	H	GAMF	DMIN	Shim	Shim Pin	Clamp Lever	Clamp Screw *2	Wrench	Plug	Clamp Pin *2	Pin	Screw
A20QPDUNR/L11	●	●	DNMA DNMG DNMX DNMM DNGA DNGG DNGM	1104○○	20	180	32	15	6.4	18	13°	**26**	—	—	LLCL23S	LLCS125	HKY20R	HGM-PT1/8	—	—	—
A25RPDUNR/L11	●	●		1104○○	25	200	40	17	6.9	23	15°	**32**	LLSDN32	LLP13	LLCL23	LLCS106	HKY25R	HGM-PT1/4	—	—	—
A25RPDUNR/L15	●	●		1504○○	25	200	40	17	6.9	23	13°	**32**	MLDP42	—	—	—	HKY15R HKY30R	HGM-PT1/4	HP43	P210AM	HSS03005
A32SPDUNR/L11	●	●		1104○○	32	250	50	22	8.4	30	13°	**44**	LLSDN32	LLP13	LLCL23	LLCS106	HKY25R	HGM-PT3/8	—	—	—
A32SPDUNR/L15	●	●		1504○○	32	250	50	22	8.4	30	13°	**44**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A40TPDUNR/L15	●	●		1504○○	40	300	63	27	9.4	37	10°	**54**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A50UPDUNR/L15	●	●		1504○○	50	350	80	35	12.4	47	9°	**70**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—

∗1 Pin Lock Type : A25RPDUNR/L15
∗2 Clamp Torque (N • m) : LLCS125=1.5, LLCS106=2.2, LLCS108S=3.3, HP43=3.3

A○○○PCLN With coolant hole CN○○inserts





∗1 Pin Lock Type

Right hand tool holder shown.

Finish	Light	Light	Medium
FP	SA	LP	MP
(12)	(12)	(12)	(12)
Medium	**Medium**	**Stainless**	**CBN/PCD**
MH	Standard	MM	
(12)	(09,12)	(12)	(12)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	GAMF	DMIN	Shim	Shim Pin	Clamp Lever *3	Clamp Screw *2	Wrench	Plug	Clamp Pin *2	Pin	Screw
A16MPCLNR/L09	●	●	CNMA CNMG CNMM CNGA CNGG CNGM	09T3○○	16	150	25	11	14	15°	**20**	—	—	LLCL13S	LLCS105	HKY20R	HGM-PT1/8	—	—	—
A20QPCLNR/L09	●	●		09T3○○	20	180	32	13	18	13°	**25**	—	—	—	—	HKY25R HKY15R	HGM-PT1/8	HP3T	P208AM	HSS03005
A20QPCLNR/L09N	●	●		09T3○○	20	180	32	13	18	13°	**25**	—	—	LLCL13S	LLCS105	HKY20R	HGM-PT1/8	—	—	—
A25RPCLNR/L09	●	●		09T3○○	25	200	40	17	23	13°	**32**	—	—	LLCL13S	LLCS105	HKY20R	HGM-PT1/4	—	—	—
A25RPCLNR/L12	●	●		1204○○	25	200	40	17	23	13°	**32**	MLCP42	—	—	—	HKY30R HKY15R	HGM-PT1/4	HP43	P210AM	HSS03005
A32SPCLNR/L12	●	●		1204○○	32	250	50	22	30	13°	**44**	LLSCN42	LLP14	LLCL14	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A40TPCLNR/L12	●	●		1204○○	40	300	63	27	37	10°	**54**	LLSCN42	LLP14	LLCL14	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A50UPCLNR12	●			1204○○	50	350	80	35	47	10°	**63**	LLSCP42	LLP14	LLCL14	LLCS108S	HKY30R	HGM-PT3/8	—	—	—

∗1 Pin Lock Type : A20QPCLNR/L09, A25RPCLNR/L12
∗2 Clamp Torque (N • m) : LLCS105=1.5, LLCS106=2.2, LLCS108S=3.3, HP3T=2.2, HP43=3.3
∗3 When replacing clamp Lever LLCL13S, please consider purchasing lever spring HLS2 as necessary.

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.8.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

● : **Inventory maintained in Japan.**

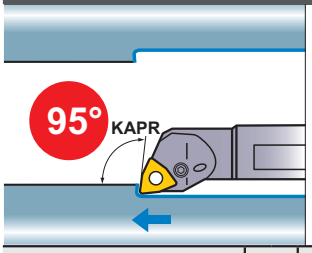
DN○○ type inserts	**➤ A107—A113**
CN○○ type inserts	**➤ A100—A106**
CBN & PCD inserts	**➤ B028—B036, B068**

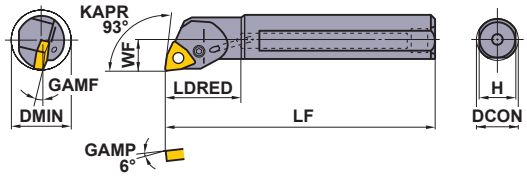
A○○○PWLN

With coolant hole

WN○○inserts

Light	Medium
LP	MP
	
(06)	(06)
Stainless	
MM	
	
(06)	





Right hand tool holder shown.

Order Number	Stock		Insert Number		Dimensions(mm)							*2	*1		
	R	L			DCON	LF	LDRED	WF	H	GAMF	DMIN	Clamp Lever	Clamp Screw	Wrench	Plug
A16MPWLNR/L06	●	●	WNMG	06T3○○	16	150	25	11	14	15°	**20**	LLCL13S	LLCS105	HKY20R	HGM-PT1/8
A20QPWLNR/L06	●	●		06T3○○	20	180	32	13	18	13°	**25**	LLCL13S	LLCS105	HKY20R	HGM-PT1/8
A25RPWLNR/L06	●	●		06T3○○	25	200	40	17	23	13°	**32**	LLCL13S	LLCS105	HKY20R	HGM-PT1/4

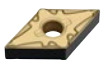
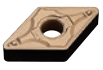
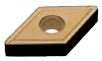
*1 Clamp Torque (N • m) : LLCS105=1.5

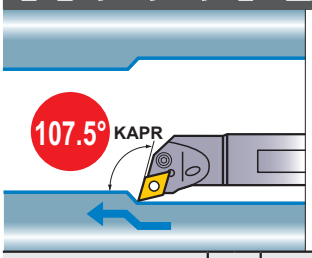
*2 When replacing clamp Lever LLCL13S, please consider purchasing lever spring HLS2 as necessary.

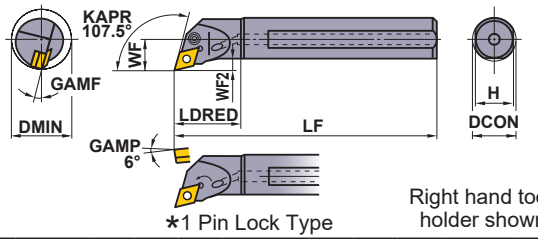
A○○○PDQN

With coolant hole

DN○○inserts

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(15)	(15)	(15)	(15)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(15)	(15)	(15)	(15)





*1 Pin Lock Type

Right hand tool holder shown.

Order Number	Stock		Insert Number		Dimensions(mm)										*2			*2		
	R	L			DCON	LF	LDRED	WF	WF2	H	GAMF	DMIN	Shim	Shim Pin	Clamp Lever	Clamp Screw	Wrench	Plug	Clamp Pin	Pin	Screw
A25RPDQNR/L15	●	●	DNMA DNMG	1504○○	25	200	40	17	6.9	23	13°	**32**	MLDP42	—	—	—	HKY15R HKY30R	HGM-PT1/4	HP43	P210AM	HSS03005
A32SPDQNR/L15	●	●	DNMM	1504○○	32	250	50	22	8.4	30	13°	**44**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A40TPDQNR/L15	●	●	DNGA DNGG	1504○○	40	300	63	27	9.4	37	10°	**54**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A50UPDQNR15	●		DNGM	1504○○	50	350	80	35	12.4	47	9°	**70**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—

*1 Pin Lock Type : A25RPDQNR/L15

*2 Clamp Torque (N • m) : LLCS108S=3.3, HP43=3.3

RECOMMENDED CUTTING CONDITIONS

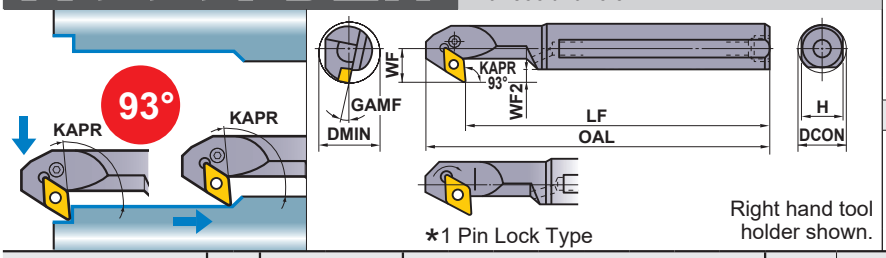
	Work Material	Hardness	Cutting Mode	l/d≤3			l/d=3—4		
				Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180—350HB	Medium Cutting	110 (80—140)	0.25 (0.1—0.4)	—5.0	110 (80—140)	0.2 (0.1—0.3)	—4.0
M	Stainless Steel	≤200HB	Medium Cutting	80 (60—100)	0.2 (0.1—0.3)	—4.0	70 (50—100)	0.15 (0.1—0.25)	—3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	80 (60—100)	0.25 (0.1—0.4)	—5.0	80 (60—100)	0.2 (0.1—0.3)	—4.0

WN○○ type inserts ➤ A132—A136
DN○○ type inserts ➤ A107—A113
CBN & PCD inserts ➤ B032—A036, B068
SPARE PARTS ➤ Q001
TECHNICAL DATA ➤ R001

P TYPE BORING BARS

- The minimum cutting diameter is from ϕ32.
- ISO standard.
- Economical negative insert.
- Lever lock type.
- l/d is 3 times the diameter.

A○○○PDZN With coolant hole DN○○inserts



*1 Pin Lock Type

Right hand tool holder shown.

Finish	Light	Medium	Medium
FP	LP	MP	MH
(15)	(15)	(15)	(15)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
(15)	(15)	(15)	(15)

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	OAL	LF	WF	WF2	H	GAMF	DMIN	Shim	Shim Pin	Clamp Lever	Clamp Screw *2	Wrench	Plug	Clamp Pin *2	Pin	Screw
A25RPDZNR/L15	●	●	DNMA DNMG	1504○○	25	225	200	17	6.7	23	13°	**32**	MLDP42	—	—	—	HKY15R HKY30R	HGM-PT1/4	HP43	P210AM	HSS03005
A32SPDZNR/L15	●	●	DNMX DNMM	1504○○	32	275	250	22	8.2	30	13°	**40**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A40TPDZNR/L15	●	●	DNGA DNGG	1504○○	40	325	300	27	9.2	37	10°	**50**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—
A50UPDZNR/L15	●	●	DNGM	1504○○	50	375	350	35	12.2	47	9°	**63**	LLSDN42	LLP14	LLCL24	LLCS108S	HKY30R	HGM-PT3/8	—	—	—

*1 Pin Lock Type : A25RPDZNR/L15

*2 Clamp Torque (N • m) : LLCS108S=3.3, HP43=3.3

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

Note 2) Dimensions shown for insert corner RE 0.8.

Note 3) When using insert with right and left hand chip breaker, please use right hand insert for right hand holder and left hand insert for left hand holder.

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3 Cutting Speed (m/min)	l/d≤3 Feed (mm/rev)	l/d≤3 Depth of Cut (mm)	l/d=3—4 Cutting Speed (m/min)	l/d=3—4 Feed (mm/rev)	l/d=3—4 Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180—350HB	Medium Cutting	110 (80—140)	0.25 (0.1—0.4)	—5.0	110 (80—140)	0.2 (0.1—0.3)	—4.0
M	Stainless Steel	≤200HB	Medium Cutting	80 (60—100)	0.2 (0.1—0.3)	—4.0	70 (50—100)	0.15 (0.1—0.25)	—3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	80 (60—100)	0.25 (0.1—0.4)	—5.0	80 (60—100)	0.2 (0.1—0.3)	—4.0

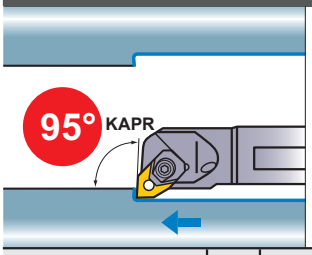
● : Inventory maintained in Japan.

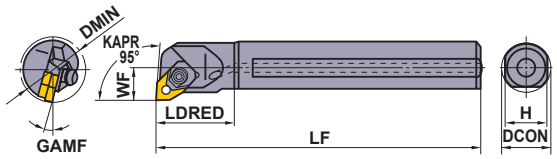
DN○○ type inserts ➤ A107—A113
CBN & PCD inserts ➤ B032—B036, B068

M TYPE BORING BARS

- The minimum cutting is from ϕ63.
- Negative trigon shape insert.
- Double clamp type.
- l/d is 3 times the diameter.

A○○○MWLN With coolant hole WN○○inserts





Right hand tool holder only.

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(08)	(08)	(08)	(08)
Medium	**Medium to Rough**	**Stainless**	
Standard	RP	MM	
			
(08)	(08)	(08)	

Order Number	Stock	Insert Number	Dimensions(mm)							Shim	Shim Pin	Clamp Bridge	Side Lock Plate	Spring	Clamp Screw*	Wrench	Plug
	R		DCON	LF	LDRED	WF	H	GAMF	DMIN								
A50UMWLNR08	●	WNMA WNMG WNGA 0804○○	50	350	80	35	63	9°	**63**	WPS WC43	CCP44	CCK13	CPT24	MES2	SLCS105	HKY25R HKY40R	HGM-PT3/8

∗1 Clamp Torque (N • m) : SLCS105=7.0

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.8.

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3			l/d=3—4		
				Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180—350HB	Medium Cutting	110 (80—140)	0.25 (0.1—0.4)	—5.0	110 (80—140)	0.2 (0.1—0.3)	—4.0
M	Stainless Steel	≤200HB	Medium Cutting	80 (60—100)	0.2 (0.1—0.3)	—4.0	70 (50—100)	0.15 (0.1—0.25)	—3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	80 (60—100)	0.25 (0.1—0.4)	—5.0	80 (60—100)	0.2 (0.1—0.3)	—4.0

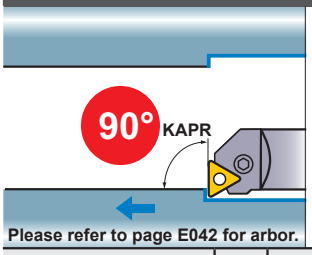
WN○○ type inserts ➤A132—A136
CBN inserts ➤B044

D TYPE BORING HEAD

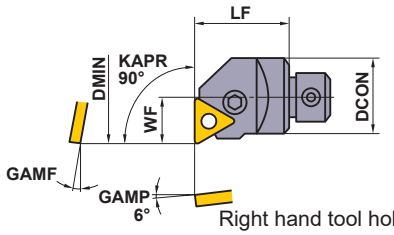
- The minimum cutting diameter is from ϕ40.
- Economical negative insert.
- Lever lock type.
- Exchangeable head type.

DPTF

TN○○inserts



Please refer to page E042 for arbor.



Right hand tool holder only.

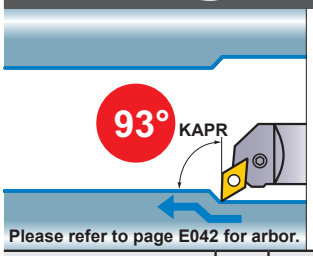
Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(16)	(16,22)	(16,22)	(16,22)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	R/L	
			
(16,22)	(16,22)	(16,22)	(16)

Order Number	Stock	Insert Number		Dimensions(mm)					Shim	Shim Pin	Clamp Lever	Clamp Screw *	Wrench
	R			DCON	LF	WF	GAMF	DMIN					
DPTF132R	●	TN○A TN○G TN○M	1604○○	32	40	20	12°	**40**	LLSTN32	LLP13	LLCL13	LLCS106	HKY25R
DPTF140R	●		2204○○	40	50	25	10°	**50**	LLSTN42	LLP14	LLCL14	LLCS108	HKY30R

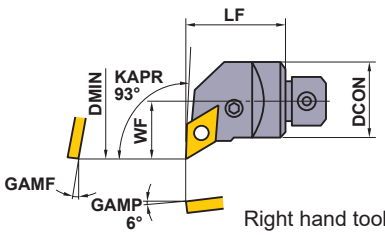
∗ Clamp Torque (N • m) : LLCS106=2.2, LLCS108=3.3

DPDU

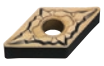
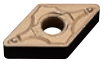
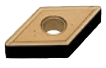
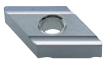
DN○○inserts



Please refer to page E042 for arbor.



Right hand tool holder only.

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(15)	(15)	(15)	(15)
Medium	**Stainless**	**G class**	**CBN/PCD**
Standard	MM	L	
			
(15)	(15)	(15)	(15)

Order Number	Stock	Insert Number		Dimensions(mm)					Shim	Shim Pin	Clamp Lever	Clamp Screw *	Wrench
	R			DCON	LF	WF	GAMF	DMIN					
DPDU132R	●	DN○A DN○G DN○M DN○X	1504○○	32	40	25	10°	**50**	LLSDN42	LLP14	LLCL24	LLCS108	HKY30R
DPDU140R	●		1504○○	40	50	30	9°	**60**	LLSDN42	LLP14	LLCL24	LLCS108	HKY30R

∗ Clamp Torque (N • m) : LLCS108=3.3

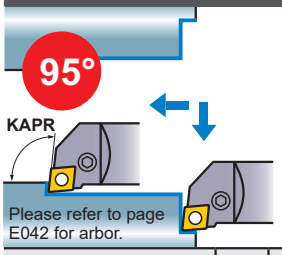
Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.8.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

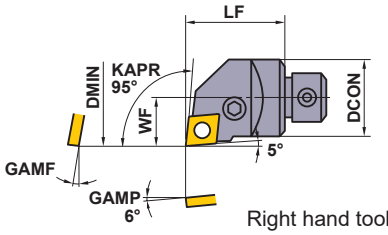
● : Inventory maintained in Japan.

TN○○ type inserts	**➤ A121—A127**
DN○○ type inserts	**➤ A107—A113**
CBN & PCD inserts	**➤ B032—B036, B039—B041, B068, B069**

DPCL

CN○○inserts





Right hand tool holder only.

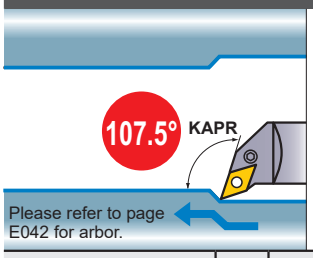
Finish	Light	Light	Light
FP	SA	LP	LM
			
(12)	(12)	(12)	(12)
Medium	Medium	Stainless	CBN/PCD
MP	Standard	MM	
			
(12)	(12)	(12)	(12)

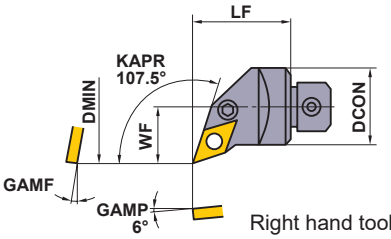
Order Number	Stock	Insert Number		Dimensions(mm)					Shim	Shim Pin	Clamp Lever	Clamp Screw *	Wrench
	R			DCON	LF	WF	GAMF	DMIN					
DPCL132R	●	CN○A CN○G CN○M	1204○○	32	40	20	12°	**40**	LLSCN42	LLP14	LLCL14	LLCS108	HKY30R
DPCL140R	●		1204○○	40	50	25	10°	**50**	LLSCN42	LLP14	LLCL14	LLCS108	HKY30R

∗ Clamp Torque (N • m) : LLCS108=3.3

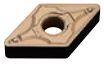
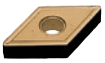
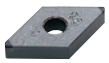
DPDH

DN○○inserts





Right hand tool holder only.

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(15)	(15)	(15)	(15)
Medium	Stainless	G class	CBN/PCD
Standard	MM	L	
			
(15)	(15)	(15)	(15)

Order Number	Stock	Insert Number		Dimensions(mm)					Shim	Shim Pin	Clamp Lever	Clamp Screw *	Wrench
	R			DCON	LF	WF	GAMF	DMIN					
DPDH132R	●	DN○A DN○G DN○M	1504○○	32	40	25	10°	**50**	LLSDN42	LLP14	LLCL24	LLCS108	HKY30R
DPDH140R	●		1504○○	40	50	30	9°	**60**	LLSDN42	LLP14	LLCL24	LLCS108	HKY30R

∗ Clamp Torque (N • m) : LLCS108=3.3

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Cutting Mode	l/d≤3			l/d=3—4		
				Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
P	Carbon Steel Alloy Steel	180—350HB	Medium Cutting	110 (80—140)	0.25 (0.1—0.4)	—5.0	110 (80—140)	0.2 (0.1—0.3)	—4.0
M	Stainless Steel	≤200HB	Medium Cutting	80 (60—100)	0.2 (0.1—0.3)	—4.0	70 (50—100)	0.15 (0.1—0.25)	—3.0
K	Gray Cast Iron	Tensile Strength ≤350MPa	Medium Cutting	80 (60—100)	0.25 (0.1—0.4)	—5.0	80 (60—100)	0.2 (0.1—0.3)	—4.0

CN○○ type inserts ➤ A100—A106
DN○○ type inserts ➤ A107—A113
CBN & PCD inserts ➤ B028—B036, B068

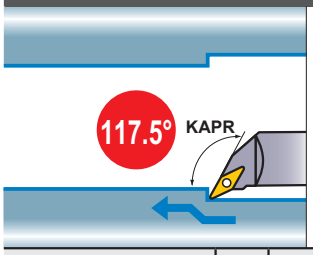
SPARE PARTS ➤ Q001
TECHNICAL DATA ➤ R001

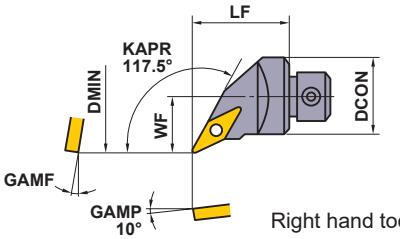
D TYPE BORING HEAD

- The minimum cutting diameter is from ϕ40.
- Economical negative insert.
- Lever lock type.
- Exchangeable head type.

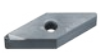
DPVP

VN○○inserts





Right hand tool holder only.

Finish	Light	Medium	Medium
FP	LP	MP	MH
			
(16)	(16)	(16)	(16)
Stainless	**G class**	**PCD**	**CBN**
MM	L	L-F	
			
(16)	(16)	(16)	(16)

Order Number	Stock	Insert Number		Dimensions(mm)							 *		
	R			DCON	LF	WF	GAMF	DMIN	Shim	Lock Pin	Lock Screw	Stop Ring	Wrench
DPVP132R	●	VN○A VN○G VN○M	1604○○	32	40	25	13°	**50**	PV322	P11S	HSP05008C	E03	HKY25R
DPVP140R	●		1604○○	40	50	30	13°	**60**	PV322	P11S	HSP05008C	E03	HKY25R

∗ Clamp Torque (N • m) : HSP05008C=2.5

Note 1) Dimensions shown for insert corner RE 0.8.

STANDARD ARBOR FOR D TYPE BORING HEAD

① **B** ② **1** ③ **32** ④ **32**

①Designation

②Arbor Length (mm)

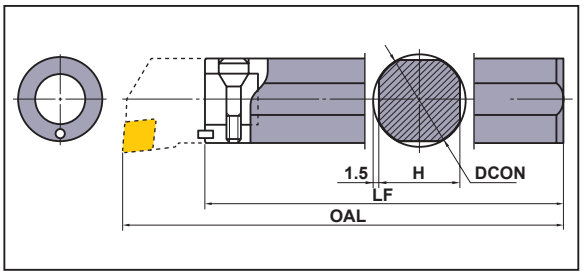
Symbol	DCON	LF	OAL
1	32	260	300
	40	310	360

③Arbor Diameter (mm)

Symbol	Diameter(DCON)
32	32
40	40

④Head Diameter (mm)

Symbol	Diameter(BD)
32	32
40	40



Order Number	Stock	Dimensions (mm)				Set Bolt	Wrench	Head Order Number
		DCON	LF	H	OAL			
B13232	●	32	260	29	300	SD32	HKY60R	DP○○132R
B14040	●	40	310	37	360	SD40	HKY60R	DP○○140R

● : Inventory maintained in Japan.

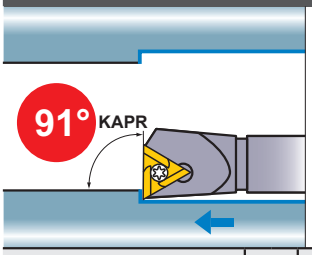
VN○○ type inserts ➤ A128—A131
CBN & PCD inserts ➤ B042, B043, B070

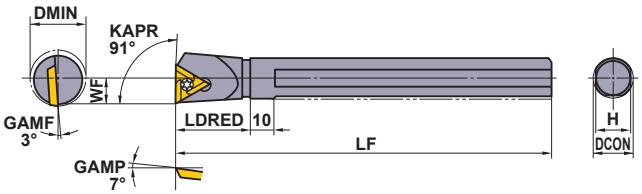
AL TYPE BORING BARS

- Suitable for non-ferrous metal.
- 20° positive insert.
- Screw-on type.
- l/d is 6 times the diameter.
- Excellent vibration resistance.
- The minimum cutting diameter is from ϕ20.

STFE

TE○○inserts





Right hand tool holder shown.

Medium	PCD
R/L	R/L
 (16)	 (16)
PCD	
 (16)	

Order Number	Stock R	Stock L	Insert Number		Dimensions(mm) DCON	LF	LDRED	WF	H	DMIN	* Clamp Screw	Wrench
S16RSTFER/L16	●	●	TEGX○○○R/L TEGX	1603○○	16	200	30	11	14.6	**20**	FC400890T	TKY10F
S20RSTFER/L16	●	●		1603○○	20	200	37	13	18	**25**	FC400890T	TKY10F
S25SSTFER/L16	●	●		1603○○	25	250	40	17	23	**32**	FC400890T	TKY10F

∗ Clamp Torque (N • m) : FC400890T=2.5

E

BORING BARS

RECOMMENDED CUTTING CONDITIONS

	Work Material	Grade	Cutting Speed (m/min)	l/d=3 Feed (mm/rev)	l/d=3 Depth of Cut (mm)	l/d=4 Feed (mm/rev)	l/d=4 Depth of Cut (mm)	l/d=5 Feed (mm/rev)	l/d=5 Depth of Cut (mm)	l/d=6 Feed (mm/rev)	l/d=6 Depth of Cut (mm)
N	Aluminium Alloy	**HTi10**	400 (200—600)	0.15 (0.05—0.25)	—3.0	0.15 (0.05—0.25)	—3.0	0.1 (0.05—0.2)	—2.5	0.1 (0.05—0.2)	—1.0
		MD220	800 (200—1500)	0.15 (0.05—0.25)	—3.0	0.15 (0.05—0.25)	—3.0	0.1 (0.05—0.2)	—2.5	0.1 (0.05—0.2)	—1.0

Note 1) The insert photos are only examples. The letters refer to the chip breaker and the dimension refers to the inscribed circle.
Note 2) Dimensions shown for insert corner RE 0.4.
Note 3) When using insert with right and left hand chip breaker, please use left hand insert for right hand holder and right hand insert for left hand holder.

TE○○ type inserts	**➤ A163**	**SPARE PARTS**	**➤ Q001**
PCD inserts	**➤ B079**	**TECHNICAL DATA**	**➤ R001**