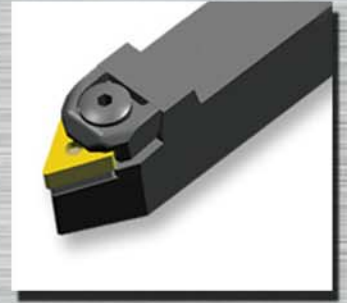


brisloy



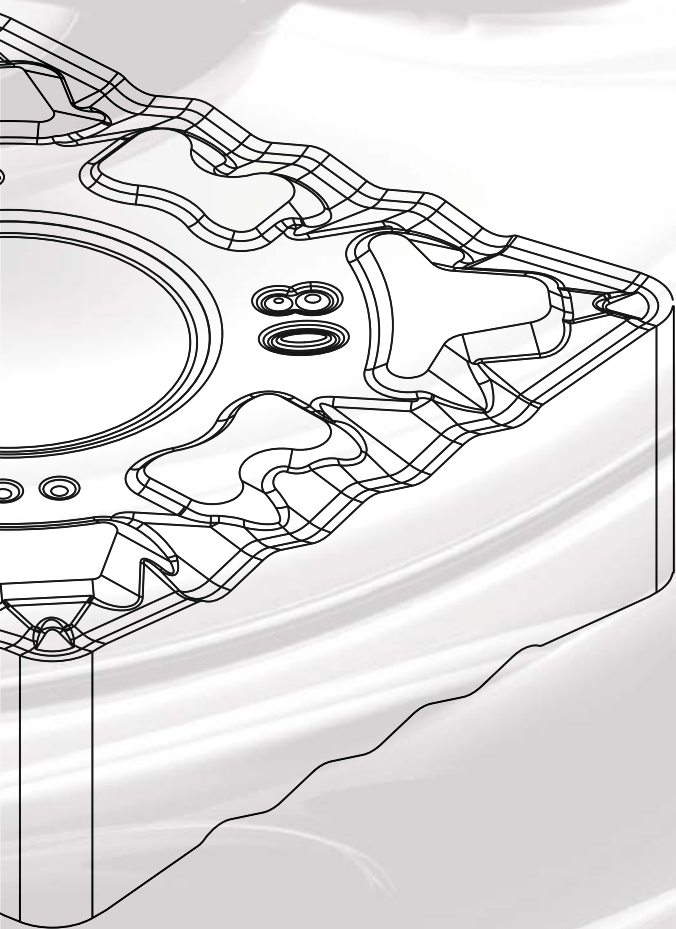
Indexable Cutting Tools





INDEX

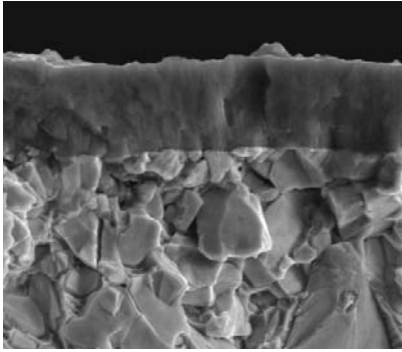
PRODUCTS	PAGE NO.
Turning Inserts.....	02
Turning Inserts Grades.....	03
Turning Inserts Applications.....	04
Turning Insert Grade Comparison Chart.....	05
Turning Inserts Designation System-ISO.....	06
Turning Inserts-Negative.....	08
Turning Inserts-Positive.....	10
Turning Tool Holders.....	12
Tool Designation-External Turning.....	13
Tool Holders.....	14
Boring Bars.....	46
Tool Designation-Internal Turning.....	47
Boring Bars.....	48
Milling Inserts.....	86
Milling Inserts Grades.....	87
Milling Inserts Applications.....	88
Milling Insert Grade Comparison Chart.....	89
Milling Insert Designation System-ISO.....	90
Milling Inserts.....	92
Milling Cutters.....	96
Drilling Inserts.....	132
Drilling Inserts Grades.....	133
Drilling Inserts Applications.....	134
Drilling Insert Grade Comparison Chart.....	135
Drilling Inserts Designation System-ISO.....	136
Drilling Inserts.....	137
U Drill System.....	138
U Drill Designation System.....	139
U Drills System.....	140
Technical.....	151
Formulas.....	152
Damage of Insert & Counter Measure.....	153
Trouble Shooting.....	154



TURNING

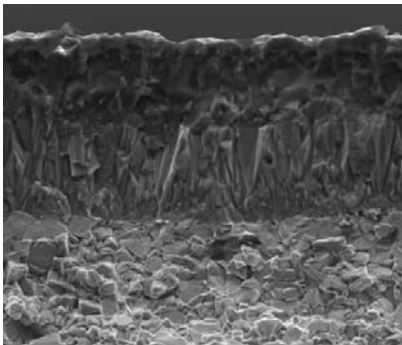
Features of Grades

BT 2233 - PVD Coating for TURNING Application



- Substrate and PVD coating designed to balance edge strength & wear resistance.
- Excellent cutting performance under harsh machining condition.

BT 2255 - CVD Coating for TURNING Application



- Thick coating optimized for Cast iron applications
- CVD coating with optimal thermal & wear resistance for turning applications.
- Exceptional cutting performance attributed to combination of carbide substrate and coating

TURNING Application

ISO	Material Group	VDI Group	Relative materials(DIN)	Hardness HB	Cutting speed (m/min)
P	Non-alloy steel	1 - 5	9 SMn 28, C35 C50, C40E, C45E, 49 CrMo 4	125 - 250	180 - 320
	Low alloy steel	6 - 9	13 CrMo 44, 40NiCrMo22, 58 CrV 4	200 - 350	120 - 280
	High alloy steel	10 - 11	X 40 CrMoV 5 1, X100 CrMoV 5 1, S6-5-5	200 - 325	70 - 190
M	Ferritic/martensitic Stainless steel	12 - 13	X6Cr13, X10CrA118, X20CrNi175	200 - 240	170 - 250
	Austenitic	14	X5 CrNi 18 9, X5 CrNiMo 17 13 3 X6 CrNiTi 18 9	170	160 - 220
K	Grey cast iron	15 - 16	GG15, GG20, GGG40, GG-35	180 - 260	30 - 140
	Malleable castiron	19 - 20	GTS-35-10, GTS-35, GTS70-02, 20mN5	130 - 230	30 - 140
S	Fe, Ni or Co based	31 - 35	X12 NiCrAlTi 31 20, TiAl5Sn2	200 - 350	30 - 80
	"Titanium and Ti -alloy based"	36 - 37	TiCu2, TiAl6V4, TiAl6V4ELI	-	50 - 180
H	Hardended steel	38 - 39	C 105 W1, 75 CrMoNiW 6 7	55 - 60 HRc	20 - 90
	Chilled Cast iron	40	G-X 260 NiCr 4 2, X15 CrNiSi 25 20	400	40 - 60
	White Cast iron	41	G-X 300 CrMo 15 3	55 HRc	30 - 50

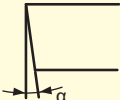
*Above recommend cutting condition can be changed according to the customer's machining condition.

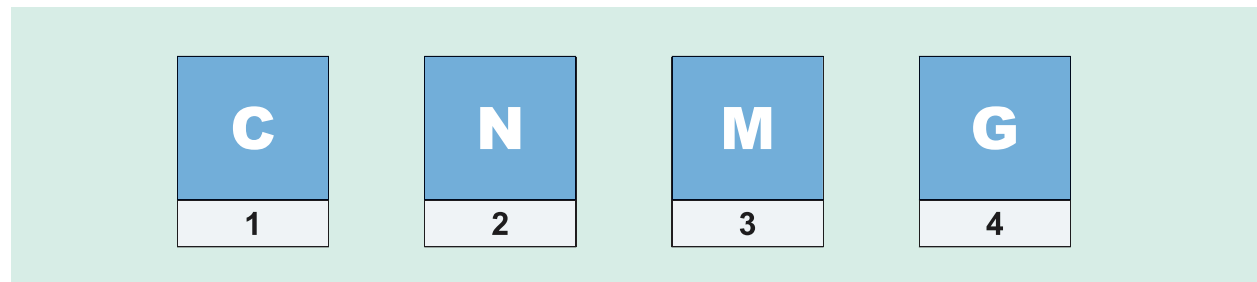
TURNING

	ISO	Symbol	BRISLOY	SANDVIK	KENNAMETAL	SECO	ISCAR	MITSUBISHI	SUMITOMO	TUNGALOY	TAEGUTEC
TURNING	P	P10	BT2233*	GC1525 GC1025	KC5010 KC5510 KU10T	CP200 TS2000	IC507 IC807 IC907	VP10MF		AH710	
		P20	BT2233*	GC1525 GC1025 GC1125	KC5025 KC5525 KC7215 KC7315 KU25T	CP250 TS2500	IC507 IC807 IC907 IC908 IC928	VP10RT VP20RT VP15TF VP20MF	AC520U	AH710 AH725	TT9020
		P30	BT2233*	GC1025 GC1125	KC7015 KC7020 KU25T KC7235	CP500	IC328 IC328 IC1008 IC3028	VP10RT VP20RT VP15TF VP20MF	AC530U	AH725 AH120 GH130	TT8020 TT9020
		P40	BT2233		KC7040 KC7140 KC7030	CP500	IC328 IC328 IC1008 IC3028		AC530U	AH740	TT8020 TT9020
	M	M10	BT2233*	GC1005 GC1025 GC1125 GC1105	KC5010 KC5510 KC6005 KC6015	"CP200 TS2000"	IC330 IC507 IC570 IC907	VP10MF		AH710	TT5080
		M20	BT2233*	GC1005 GC1025 GC1125 GC1105	KC5025 KC5525 KC7020 KC7025	"CP250 TS2500 CP500"	IC250 IC354 IC908 IC3028	VP10RT VP20RT VP15TF VP20MF	AC520U	AH710 AH120 GH730	TT5080 TT9020 TT9080
		M30	BT2233	GC1125 GC2035	KC7030 KC7225	CP500	IC328 IC928 IC3028	VP10RT VP20RT VP15TF VP20MF MP7035	AC520U AC530U"	GH330 AH120 GH730"	TT8020 TT9020 TT9080
		M40	BT2233	GC2035			IC328 IC928 IC3028	MP7035	AC530U	J740	TT8020 TT9080
	K	K10	BT2255		KC5010 KC7210	CP200 TS2000	IC350 IC1008		AC510U	GH110 AH110	
		K20	BT2255*		KC7015 KC7215 KC7315	CP200 CP250 TS2000 TS250	IC228 IC808 IC908	VP10RT VP20RT VP15TF		GH110 AH110 AH725	
		K30	BT2255*		KC7225	CP500	IC228 IC808 IC908	VP10RT VP20RT VP15TF		AH725 AH120 GH730	
	S	S10	BT2233*	GC1105 GC1005 GC1025	KC5010 KC5410 KC5510	CP200 CP250 TS2000 TS250	IC507 IC903	MP9005 MP9015 VP10RT	AU510U	AH905 AH110 AH120	TT5080
		S20	BT2233*	GC1025 GC1125	KC5025 KC5525	CP250 TS2500 CP500	IC300 IC808 IC908	MP9015 MT9015 VP20RT	AC510U AC520U	AH120 AH725	TT5080 TT9080
		S30	BT2233	GC1125				VP15TF	AC520U	AH725	TT8020 TT9080
	H	H10	BT2233	GC15 GC1125				VP15TF			
		H20	BT2233	GC1025 GC1515	KCU25 KC5525	CP500	IC808 IC908	VP15TF VP20RT	AC520U EH20Z	AH120	TT9080
		H30	BT2233	GC1525	KC5025						

** Above chart is selected from a publication. We have not obtained approval from each company.

* Outstanding performance.

1. Insert Shape				2. Clearance Angle				4. Cross section shape		
										
A	B	C	D					A	F	G
				5°	7°	15°	20°			
E	H	K	L	B	C	D	E	M	N	R
				25°	30°	0°	11°	 C'Sink40°~60°	 C'Sink40°~60°	special
O	P	R	S	F	G	N	P	T	W	X
		special								
T	W	X								



3. Tolerance									
	Tolerance (mm)			I.C. size (mm)					
	m	t	I.C.	6.35	9.525	12.7	15.875	19.05	25.4
A	± 0.005	± 0.025	± 0.025	●	●	●	●	●	●
C	± 0.013	± 0.025	± 0.025	●	●	●	●	●	●
E	± 0.025	± 0.025	± 0.025	●	●	●	●	●	●
F	± 0.005	± 0.025	± 0.013	●	●	●	●	●	●
G	± 0.025	± 0.13	± 0.025	●	●	●	●	●	●
H	± 0.013	± 0.025	± 0.013	●	●	●	●	●	●
K	± 0.013	± 0.025	± 0.05	●	●				
			± 0.08			●			
			± 0.10				●	●	
			± 0.13						●
M	± 0.08	± 0.13	± 0.05	●	●				
	± 0.13		± 0.08			●			
	± 0.15		± 0.10				●	●	
	± 0.18		± 0.13						●

5. Cutting Edge Length (mm)

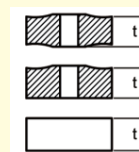
I.C.	C	D	R	S	T	V	W	K	H
L									
3.97	03	04		03	06		02		
4.76	04	05		04	08	08			
5.56	05	06		05	09	09	03		
6.35	06	07		06	11	11	04		
7.94	08	09		07	13	13	05		
9.525	09	11	09	09	16	16	06	16	
12.7	12	15		12	22	22	08		05
15.875	16	19	15	15	27	27	10		
19.05	19	23	19	19	33	33	13		10
25.4	25	31	25	25	44	44	17		

8. Chip breaker

For Application

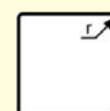
12	04	08	CHIP BREAKER
5	6	7	8

6. Thickness (mm)



t	mm
02	2.38
03	3.18
T3	3.97
04	4.76
06	6.35
07	7.94
09	9.52

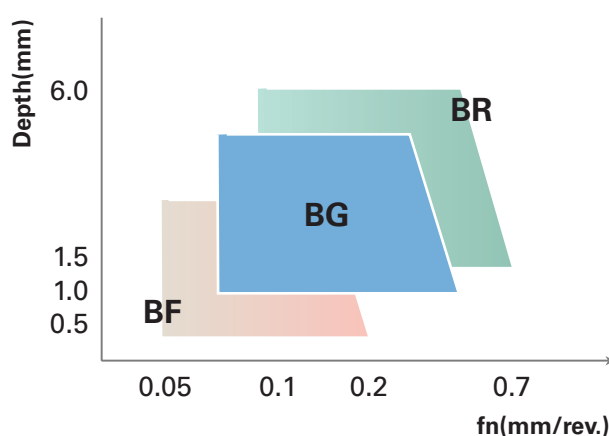
7. Nose Radius (mm)



r	mm
02	0.2
04	0.4
08	0.8
10	1.0
12	1.2
16	1.6
20	2.0

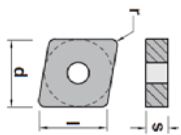
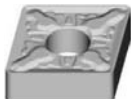
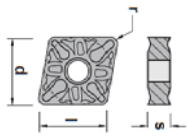
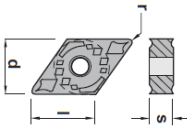
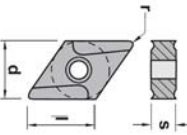
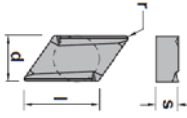
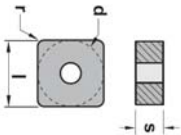
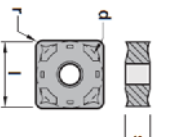
Turning inserts Chip breakers

Application area



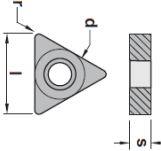
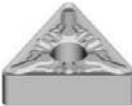
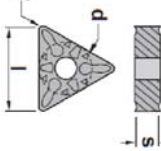
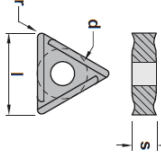
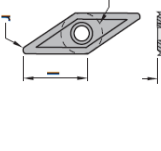
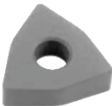
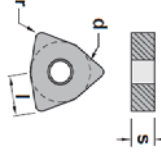
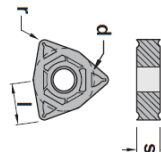
- BG = General purpose
- BR = Roughing operation
- BF = Finishing operation
- BC = Cast iron application

Unit : mm

Insert Shape	Designation	Dimensions				Feed (mm/tooth)		Depth of Cut		Geometry & Relative Holder
		I	D	S	r	min.	max.	min.	max.	
	CNMA 120408-BC	12.90	12.70	4.76	0.8	0.20	0.70	0.80	6.00	
	CNMA 120412-BC	12.90	12.70	4.76	1.2	0.20	0.70	1.20	6.00	
	CNMA 160612-BC	16.10	15.88	6.35	1.2	0.20	0.70	1.20	6.00	
	CNMG 120404-BF	12.90	12.70	4.76	0.4	0.05	0.23	0.50	3.00	
	CNMG 120408-BG	12.90	12.70	4.76	0.8	0.11	0.50	0.80	5.00	
	CNMG 120412-BR	12.90	12.70	4.76	1.2	0.14	0.68	1.20	6.00	
	DNMG 150404-BF	15.50	12.70	4.76	0.4	0.05	0.23	0.50	3.00	
	DNMG 150408-BG	15.50	12.70	4.76	0.8	0.11	0.50	0.80	5.00	
	DNMG 150604-BF	15.50	12.70	6.35	0.4	0.05	0.23	0.50	3.00	
	DNMG 150608-BG	15.50	12.70	6.35	0.8	0.11	0.50	0.80	5.00	
	DNMG 150612-BR	15.50	12.70	6.35	1.2	0.14	0.68	1.20	6.00	
	DNUX 160508 R	15.00	12.70	6.35	0.5	0.11	0.50	0.50	5.00	
	KNUX 160405 L	16.00	9.52	4.76	0.5	0.05	0.23	0.50	5.00	
	KNUX 160405 R	16.00	9.52	4.76	0.5	0.05	0.23	0.50	5.00	
	SNMA 120408-BC	12.70	12.70	4.76	0.8	0.15	0.70	1.00	6.00	
	SNMA 120412-BC	12.70	12.70	4.76	1.2	0.20	0.80	1.50	6.00	
	SNMG 120404-BF	12.70	12.70	4.76	0.4	0.16	0.70	0.50	5.00	
	SNMG 120408-BG	12.70	12.70	4.76	0.8	0.16	0.70	0.80	5.00	
	SNMG 120412-BR	12.70	12.70	4.76	1.2	0.19	0.95	1.20	6.00	

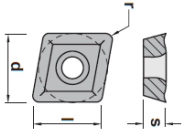
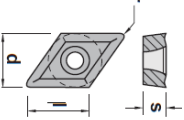
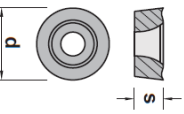
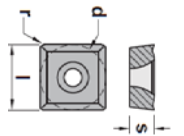
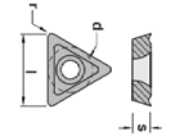
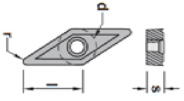
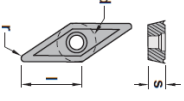
* Product image shown on this catalogue may differ from actual products.

Unit : mm

Insert Shape	Designation	Dimensions				Feed (mm/tooth)		Depth of Cut		Geometry & Relative Holder
		I	D	S	r	min.	max.	min.	max.	
	TNMA 160408-BG	16.50	9.52	4.76	0.8	0.10	0.40	1.00	4.00	
	TNMA 160412-BR	16.50	9.52	4.76	1.2	0.10	0.50	1.50	4.50	
	TNMG 160404-BF	16.50	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	TNMG 160408-BG	16.50	9.52	4.76	0.8	0.11	0.50	0.80	5.00	
	TNMG 160412-BG	16.50	9.52	4.76	1.2	0.14	0.68	1.20	5.00	
	TNMG 220404-BF	22.00	12.70	4.76	0.4	0.05	0.23	0.50	3.00	
	TNMG 220408-BF	22.00	12.70	4.76	0.8	0.11	0.50	0.80	5.00	
	TNMG 220412-BR	22.00	12.70	4.76	1.2	0.14	0.68	1.20	7.00	
	TNUX 160404 L	16.50	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	TNUX 160408 L	16.50	9.52	4.76	0.8	0.11	0.50	0.80	5.00	
	TNUX 160404 R	16.50	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	TNUX 160408 R	16.50	9.52	4.76	0.8	0.11	0.50	0.80	5.00	
	VNMG 160404-BF	16.50	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	VNMG 160408-BG	16.50	9.52	4.76	0.8	0.10	0.40	0.80	4.00	
	VNMG 160412-BR	16.50	9.52	4.76	1.2	0.10	0.40	0.80	4.00	
	VNMG 220408-BG	22.00	12.70	4.76	0.8	0.10	0.50	1.50	5.00	
	WNMA 080404-BC	8.14	12.70	4.76	0.4	0.15	0.60	1.00	5.00	
	WNMA 080408-BC	8.14	12.70	4.76	0.8	0.15	0.60	1.00	6.00	
	WNMA 080412-BC	8.14	12.70	4.76	1.2	0.15	0.70	1.50	6.00	
	WNMG 060404-BF	6.45	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	WNMG 060408-BG	6.45	9.52	4.76	0.8	0.11	0.50	0.80	3.00	
	WNMG 080404-BF	8.14	12.70	4.76	0.4	0.05	0.23	0.50	3.00	
	WNMG 080408-BG	8.14	12.70	4.76	0.8	0.11	0.50	0.80	3.50	
	WNMG 080412-BR	8.14	12.70	4.76	1.2	0.13	0.65	1.20	3.50	

* Product image shown on this catalogue may differ from actual products.

Unit : mm

Insert Shape	Designation	Dimensions				Feed (mm/tooth)		Depth of Cut		Geometry & Relative Holder
		l	D	S	r	min.	max.	min.	max.	
	CCMT 060204-BF	6.45	6.35	2.38	0.4	0.04	0.20	0.50	2.10	
	CCMT 060208-BG	6.45	6.35	2.38	0.8	0.04	0.20	0.80	2.10	
	CCMT 09T304-BR	9.65	9.52	3.97	0.4	0.05	0.23	0.50	3.00	
	CCMT 09T308-BG	9.65	9.52	3.97	0.8	0.11	0.50	0.80	4.00	
	CCMT 120408-BG	12.90	12.70	4.76	0.8	0.11	0.50	0.80	5.00	
	DCMT 070204-BF	7.75	6.35	23.80	0.4	0.04	0.20	0.50	2.10	
	DCMT 11T304-BF	11.60	9.52	3.97	0.4	0.05	0.23	0.50	3.00	
	DCMT 11T308-BG	11.60	9.52	3.97	0.8	0.11	0.50	0.80	4.00	
	RCMT 0602M0	-	6.00	2.38	-	0.05	0.40	0.30	2.00	
	RCMT 0803M0	-	8.00	3.18	-	0.05	0.40	0.30	2.40	
	RCMT 10T3M0	-	10.00	3.97	-	0.05	0.40	0.30	2.80	
	RCMT 1204M0	-	12.00	4.76	-	0.05	0.40	0.50	3.20	
	SCMT 09T304-BF	9.52	9.52	3.97	0.4	0.05	0.26	0.50	3.00	
	SCMT 09T308-BG	9.52	9.52	3.97	0.8	0.11	0.50	0.80	3.00	
	SCMT 120408-BG	12.70	12.70	4.76	0.8	0.12	0.50	0.80	4.00	
	TCMT 110204-BF	11.00	6.35	2.38	0.4	0.04	0.20	0.50	2.10	
	TCMT 16T304-BF	16.50	9.52	3.97	0.4	0.05	0.23	0.50	3.00	
	TCMT 16T308-BG	16.50	9.52	3.97	0.8	0.11	0.43	0.80	5.00	
	VBMT 110304-BF	11.00	6.35	3.18	0.4	0.04	0.20	0.50	2.10	
	VBMT 160404-BF	16.50	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	VBMT 160408-BG	16.50	9.52	4.76	0.8	0.10	0.40	0.80	3.50	
	VCMT 110304-BF	11.00	6.35	3.18	0.4	0.04	0.20	0.50	2.10	
	VCMT 160404-BF	16.50	9.52	4.76	0.4	0.05	0.23	0.50	3.00	
	VCMT 160408-BR	16.50	9.52	4.76	0.8	0.10	0.40	0.80	3.50	

* Product image shown on this catalogue may differ from actual products.



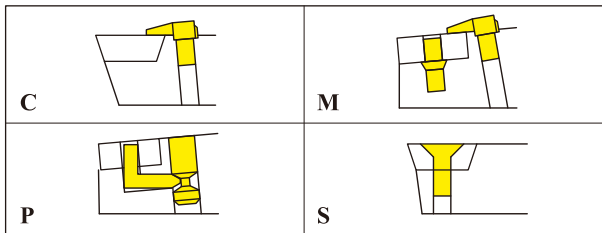
brislouy

TOOLHOLDERS

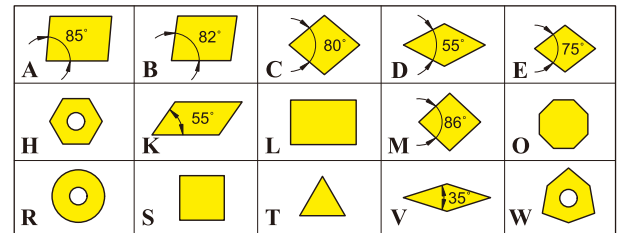


M	C	L	N	R	2	5	2	5	M	1	2	*
1	2	3	4	5	6	7	8	9	10	11	12	13

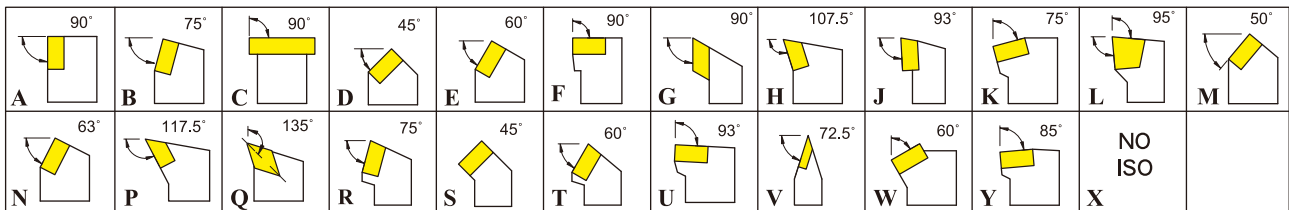
1 TYPE OF LOCKING



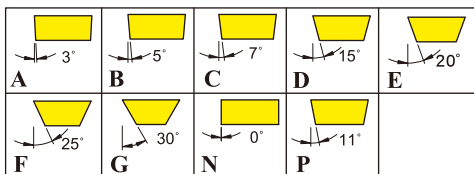
2 INSERT SHAPE



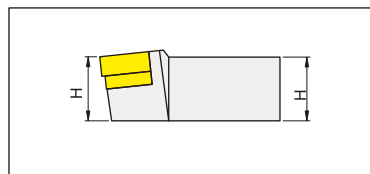
3 TYPE OF TOOL



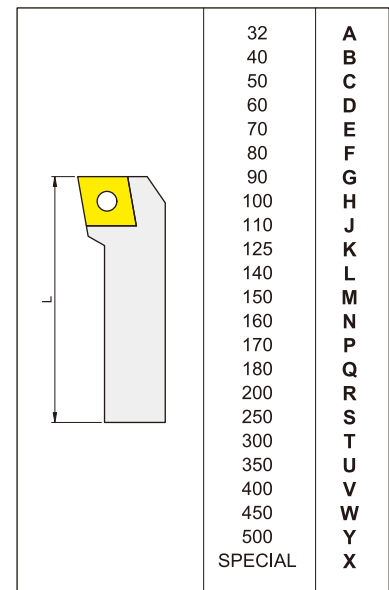
4 RAKE ANGLES



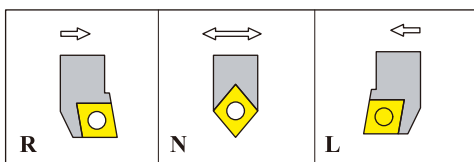
6/7 SHANK HEIGHT



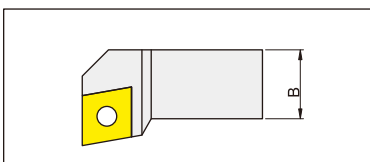
10 TOOL LENGTH



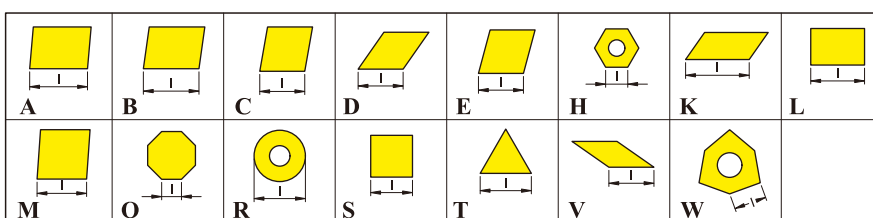
5 HAND OF TOOL



8/9 SHANK WIDTH

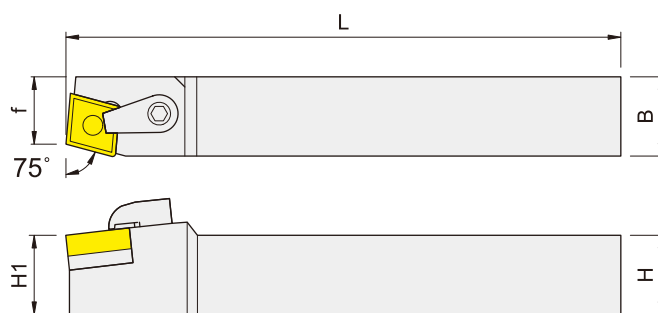
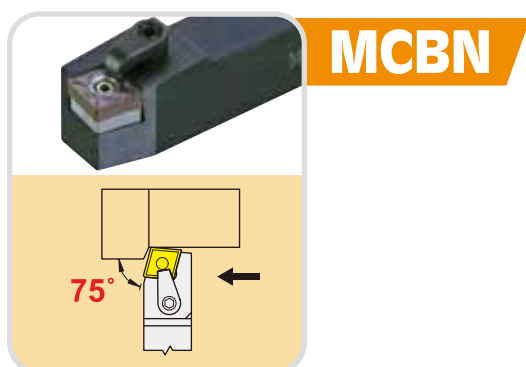


11/12 CUTTING EDGE LENGTH



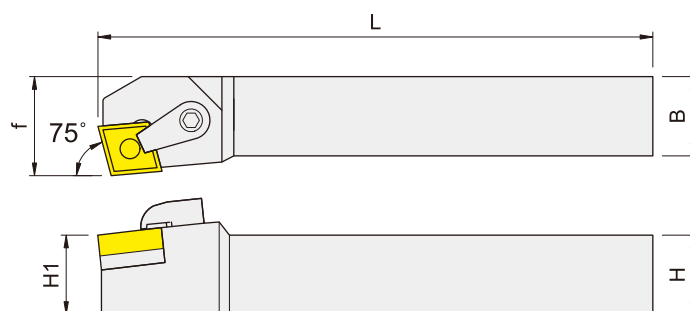
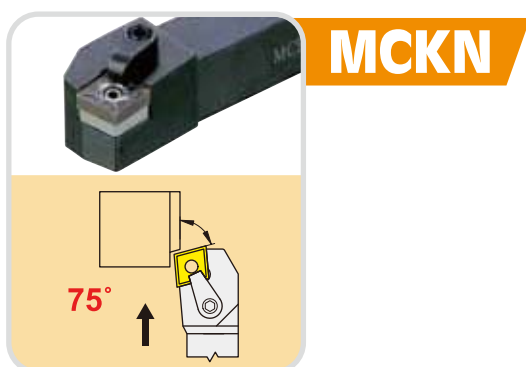
13 OPTIONAL CODE

INSERTS R-L



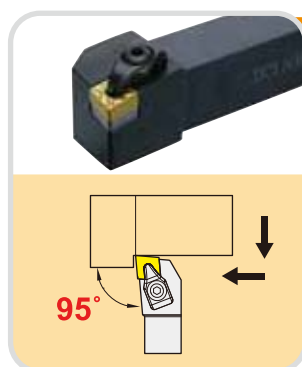
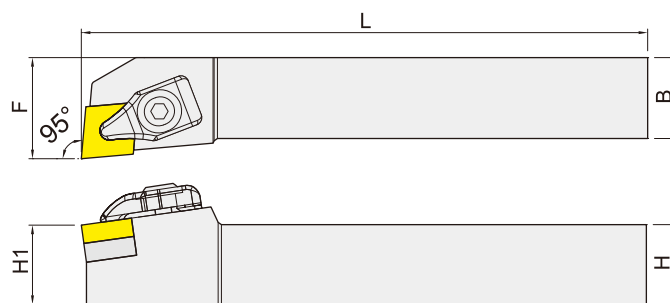
Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MCBNR/L-1616K-12	16	16	125	16	13	CN..1204..	MLP46-A	CMS432	PL25	MS625	MC620	PL30
MCBNR/L-2020K-12	20	20	125	20	17							
MCBNR/L-2525M-12	25	25	150	25	22					MS630		
MCBNR/L-3232P-12	32	32	170	32	29							



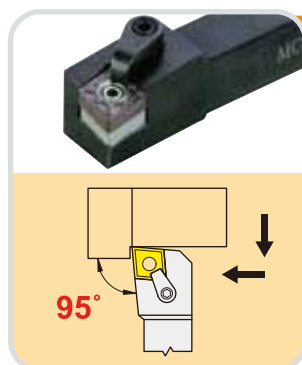
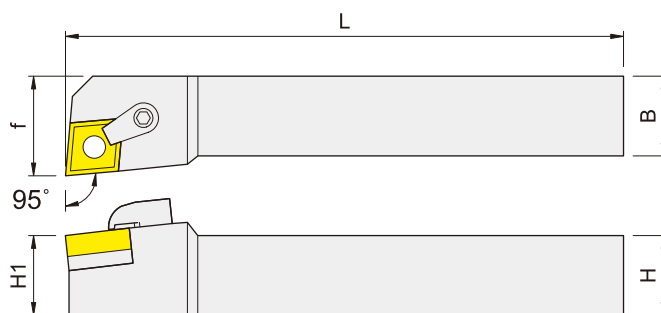
Right-hand shown

Item code	Dimensions,mm					Insert	Pin 	Shim 	Wrench 	Screw 	Clamp 	Wrench 
	H	B	L	H1	f							
MCKNR/L-1616K-12	16	16	125	16	20	CN..1204..	MLP46-A	CMS432	PL25	MS625	MC620	PL30
MCKNR/L-2020K-12	20	20	125	20	25							
MCKNR/L-2525M-12	25	25	150	25	32					MS630		
MCKNR/L-3232P-12	32	32	170	32	40							

**DCLN**

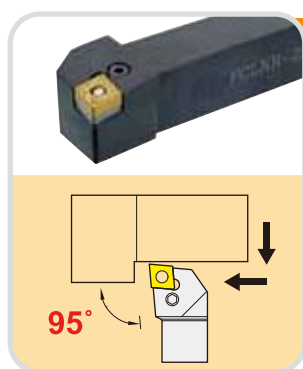
Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DCLNR/L-1616K-12	16	16	125	16	20	CN..1204..	CMS432	MS6013F	MCD425	PL40
DCLNR/L-2020K-12	20	20	125	20	25					
DCLNR/L-2525M-12	25	25	150	25	32					
DCLNR/L-3232P-12	32	32	170	32	40					

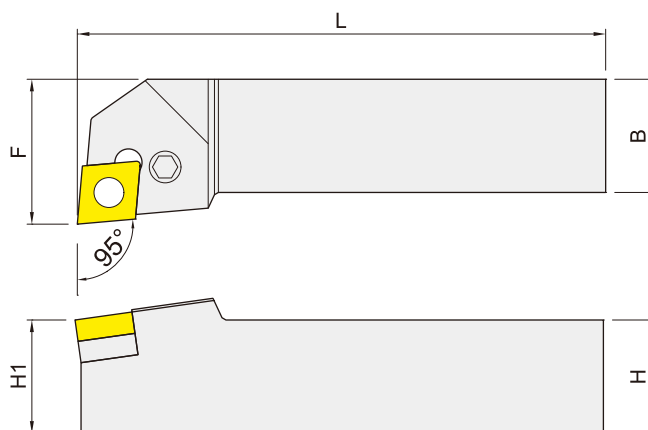
**MCLN**

Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MCLNR/L-1616K-12	16	16	125	16	20	CN..1204..	MLP46-A	CMS432	PL25	MS625	MC620	PL30
MCLNR/L-2020K-12	20	20	125	20	25							
MCLNR/L-2525M-12	25	25	150	25	32					MS630		
MCLNR/L-3232P-12	32	32	170	32	40							

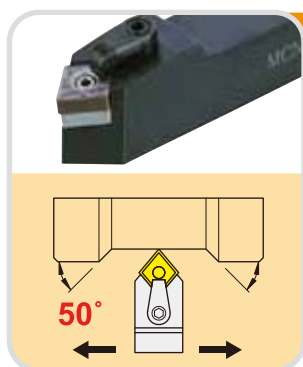


PCLN

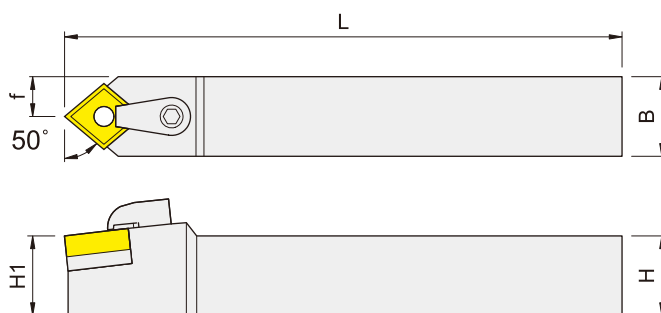


Right-hand shown

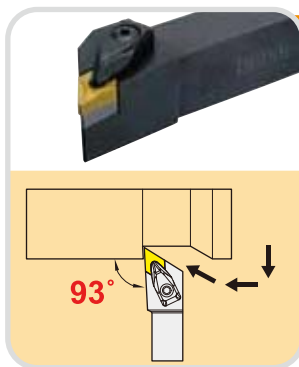
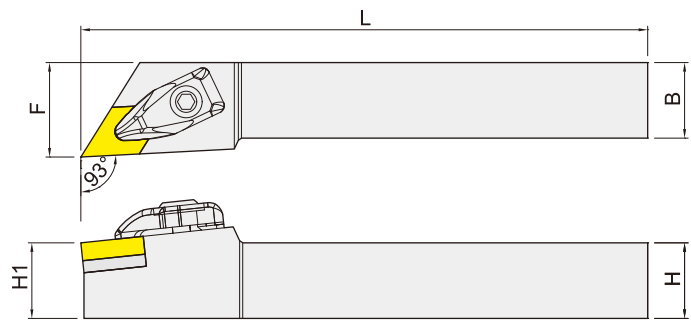
Item code	Dimensions,mm					Insert	Lever	Screw	Shim pin	Punch	Shim	Wrench
	H	B	L	H1	f							
PCLNR/L-2020K-12	20	20	125	20	25	CN..1204..	LCL4	LCS4	LSP4	PC0304	CPS422	PL30
PCLNR/L-2525M-12	25	25	150	25	32							
PCLNR/L-3232P-12	32	32	170	32	40							



MCNN



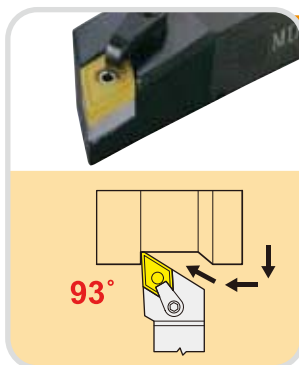
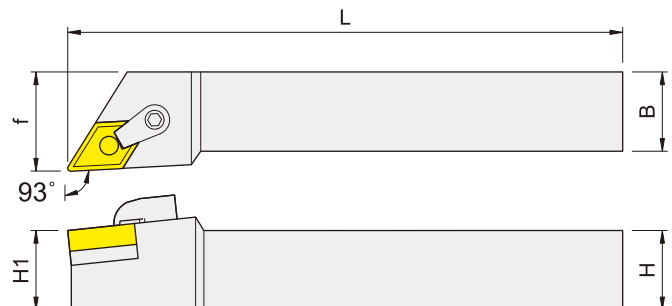
Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MCNNN-1616K-12	16	16	125	16	8	CN..1204..	MLP46-A	CMS432	PL25	MS625	MC620	PL30
MCNNN-2020K-12	20	20	125	20	10					MS630		
MCNNN-2525M-12	25	25	150	25	12.5							
MCNNN-3232P-12	32	32	170	32	16							

**DDJN**

Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DDJNR/L-2020K-15	20	20	125	20	25	DN..1504..	DMS442	MS6013F	MCD430	ETL20
DDJNR/L-2025M-15	25	25	150	25	32					
DDJNR/L-3232P-15	32	32	170	32	40					
DDJNR/L-2020K-1506	20	20	125	20	25	DN..1506..	DMS432	MS6013F	MCD430	ETL20
DDJNR/L-2525M-1506	25	25	150	25	32					
DDJNR/L-3232P-1506	32	32	170	32	40					

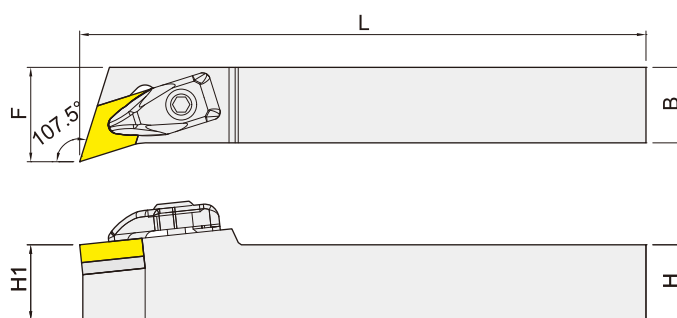
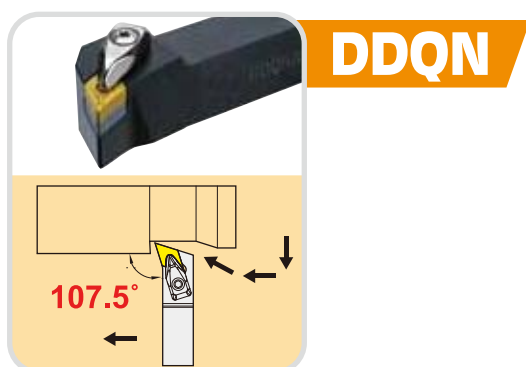
The tool is basically the same, only difference in shims.

**MDJN**

Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MDJNR/L-2020K-15	20	20	125	20	25	DN..1504..	MLP46L-A	DMS442	PL25	MS625	MC622	PL30
MDJNR/L-2525M-15	25	25	150	25	32					MS630		
MDJNR/L-2020K-1506	20	20	125	20	25	DN..1506..	MLP46L-A	DMS432	PL25	MS625	MC622	PL30
MDJNR/L-2525M-1506	25	25	150	25	32					MS630		

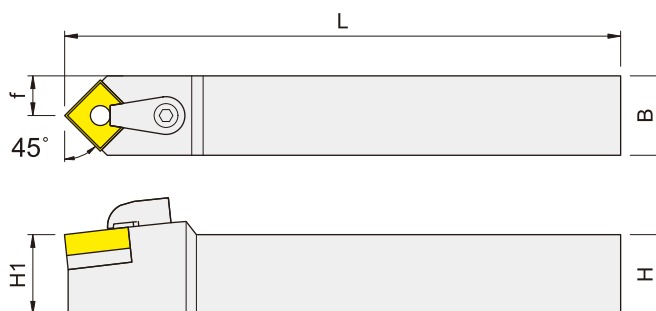
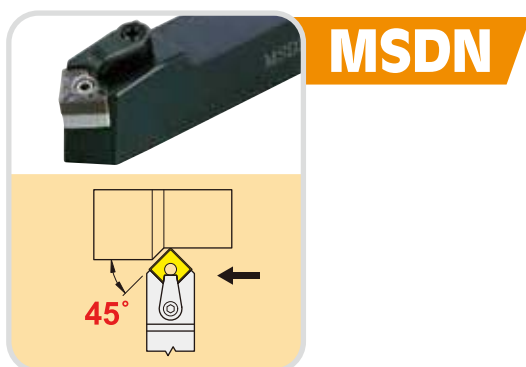
The tool is basically the same, only difference in shims.



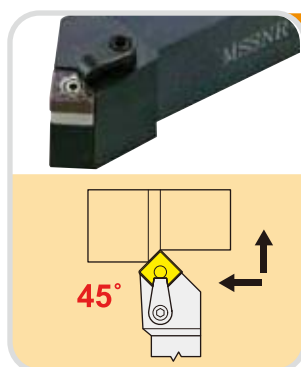
Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DDQNR/L-2020K-15	20	20	125	20	25	DN..1504..	DMS442	MS6013F	MCD430	ETL20
DDQNR/L-2025M-15	25	25	150	25	32					
DDQNR/L-3232P-15	32	32	170	32	40					
DDQNR/L-2020K-1506	20	20	125	20	25	DN..1506..	DMS432	MS6013F	MCD430	ETL20
DDQNR/L-2525M-1506	25	25	150	25	32					
DDQNR/L-3232P-1506	32	32	170	32	40					

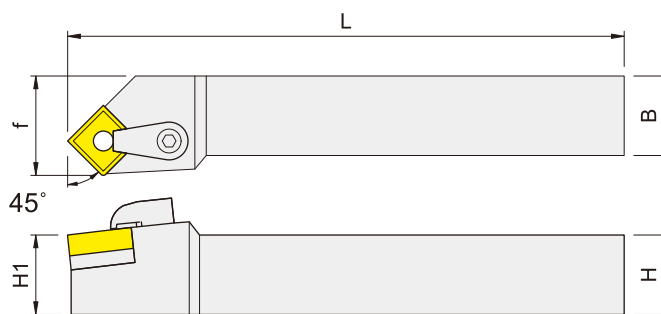
The tool is basically the same, only difference in shims.



Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MSDNN-2020K-12	20	20	125	20	10	SN..1204..	MLP46-A	SMS432	PL25	MS625	MC620	PL30
MSDNN-2525M-12	25	25	150	25	12.5					MS630		

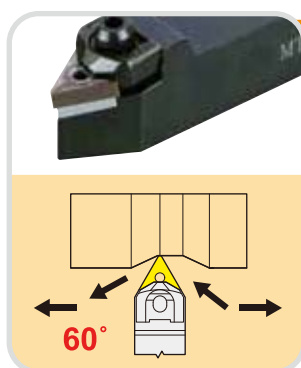


MSSNR

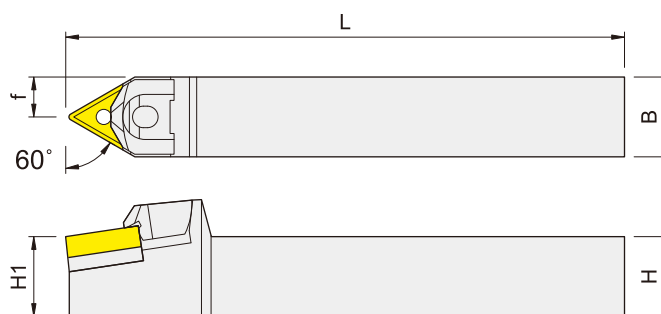


Right-hand shown

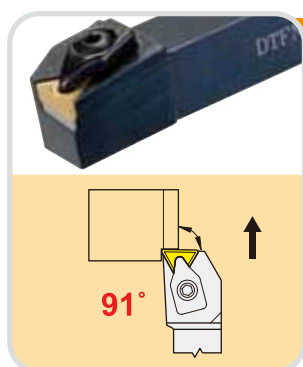
Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MSSNR-1616K-12	16	16	125	16	20	SN..1204..	MLP46-A	SMS432	PL25	MS625	MC620	PL30
MSSNR/L-2020K-12	20	20	125	20	25							
MSSNR/L-2525M-12	25	25	150	25	32					MS630		



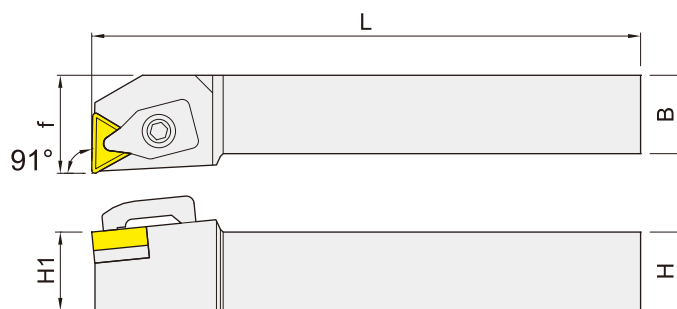
MTEN



Item code	Dimensions,mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
MTENN-1216K-16	12	16	125	12	8	TN..1604..	MCP3	MCS3S-08	PL30	TWS322	MCW3-P40	PL40
MTENN-1616K-16	16	16	125	16	8							
MTENN-2020K-16	20	20	125	20	10							
MTENN-2525M-16	25	25	150	25	12.5							

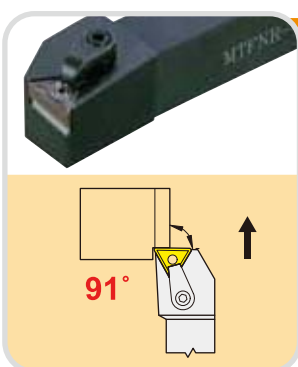


DTFN

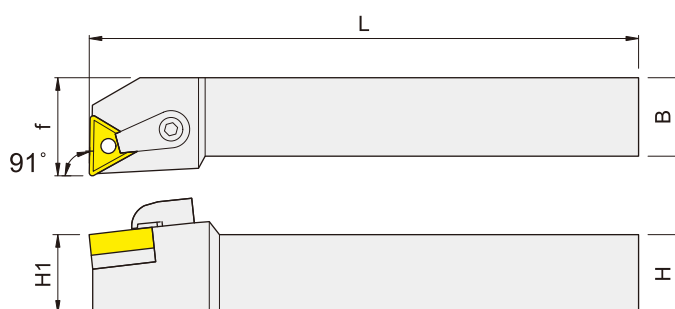


Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Wrench	Clamp	Wrench
	H	B	L	H1	f						
DTFNR/L-1616K-16	16	16	125	16	20	TN..1604..	TWS322	MS4008H	PL25	MCD324B	PL40
DTFNR/L-2020K-16	20	20	125	20	25						
DTFNR/L-2525M-16	25	25	150	25	32						
DTFNR/L-3232P-16	32	32	170	32	40						

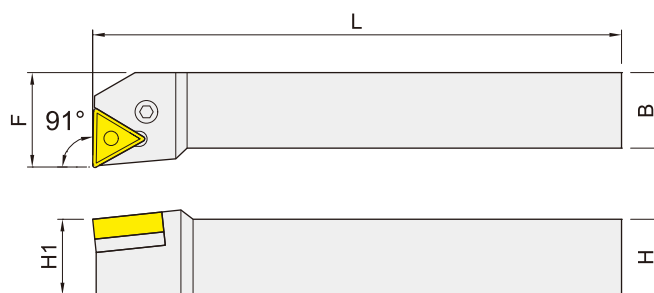


MTFN



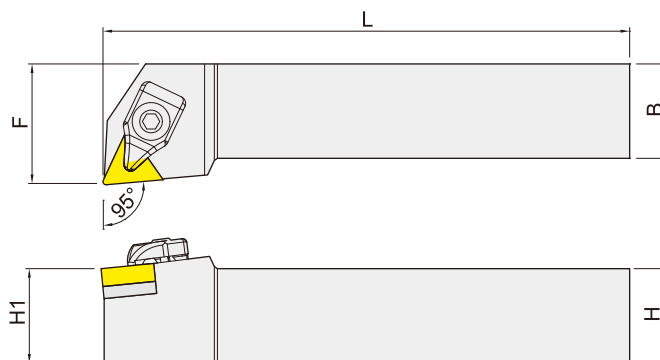
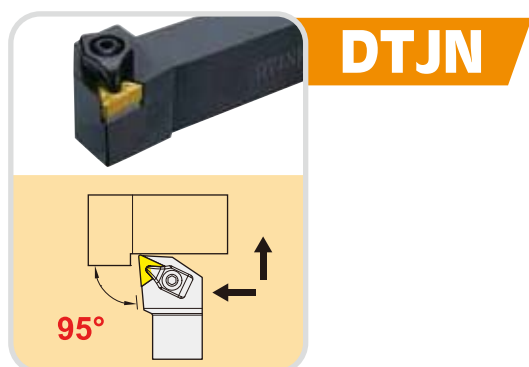
Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MTFNR/L-1616K-16	16	16	125	16	20	TN..1604..	MLP34L-A	TMS322	PL20	MS625	MC620	PL30
MTFNR/L-2020K-16	20	20	125	20	25					MS630		
MTFNR/L-2525M-16	25	25	150	25	32							



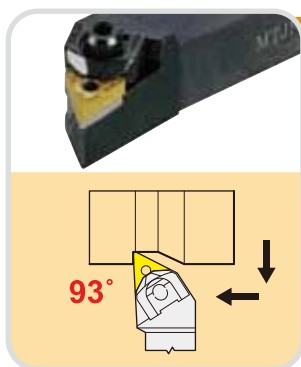
Right-hand shown

Item code	Dimensions,mm					Insert	Lever	Screw	Shim pin	Punch	Shim	Wrench
	H	B	L	H1	f							
PTFNR/L-2020K-16	20	20	125	20	25	TN..1604..	LCL33	LCS3	LSP3	PC0304	TPS322	PL25
PTFNR/L-2525M-16	25	25	150	25	32							

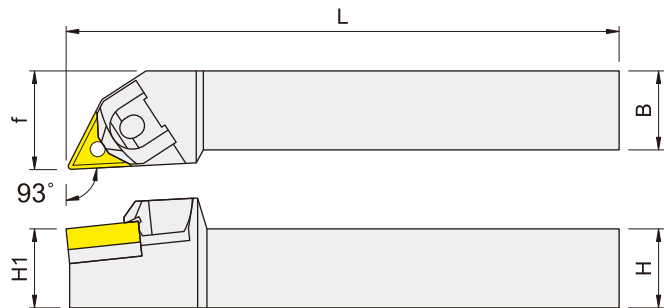


Right-hand shown

Item code	Dimensions,mm					Insert	Shim 	Screw 	Clamp 	Wrench 
	H	B	L	H1	f					
DTJNR/L-2020K-16	20	20	125	20	25	TN..1604..	TWS322	MS4008H	MCD324B	PL40
DTJNR/L-2525M-16	25	25	150	25	32					
DTJNR/L-3232P-16	32	32	170	32	40					



MTJN

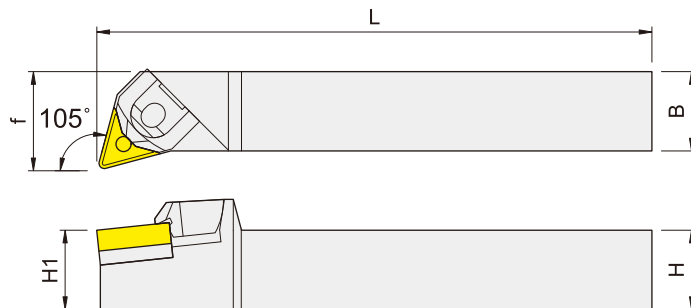


Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
MTJNR/L-1216K-16	12	16	125	12	21	TN..1604..	MCP3	MCS3S-11	PL30	TWS322	MCW3-P40	PL40
MTJNR/L-1616K-16	16	16	125	16	21							
MTJNR/L-2020K-16	20	20	125	20	25							
MTJNR/L-2525M-16	25	25	150	25	32							
MTJNR/L-3232P-16	32	32	170	32	40							

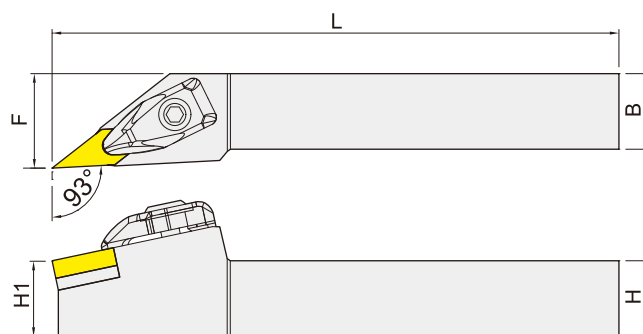
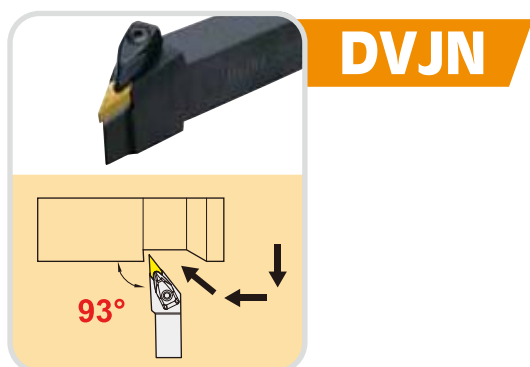


MTQN



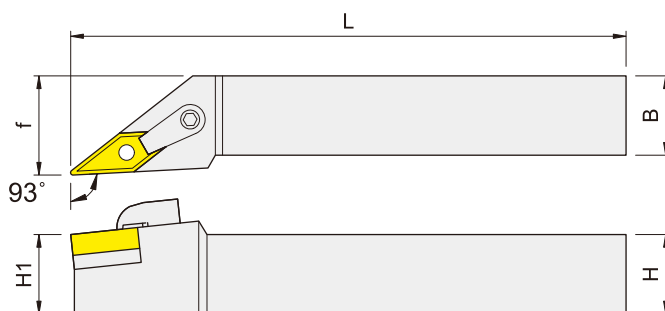
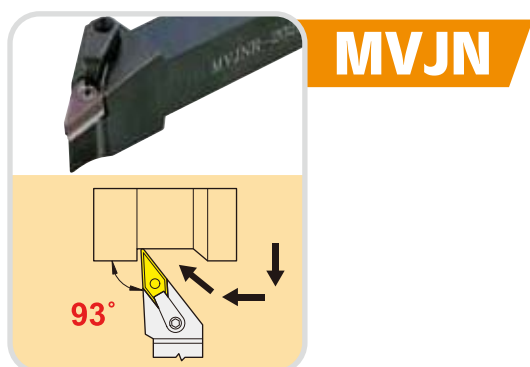
Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
MTQNR/L-2020K-16	20	20	125	20	25	TN..1604..	MCP3	MCS3S-11	PL30	TWS322	MCW3-P40	PL40
MTQNR/L-2525M-16	25	25	150	25	32							



Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DVJNR/L-2020K-16	20	20	125	20	25	VN..1604..	VSS322	MDS50H65T	MCD331	ETL20
DVJNR/L-2525M-16	25	25	150	25	32					
DVJNR/L-3232P-16	32	32	170	32	40					

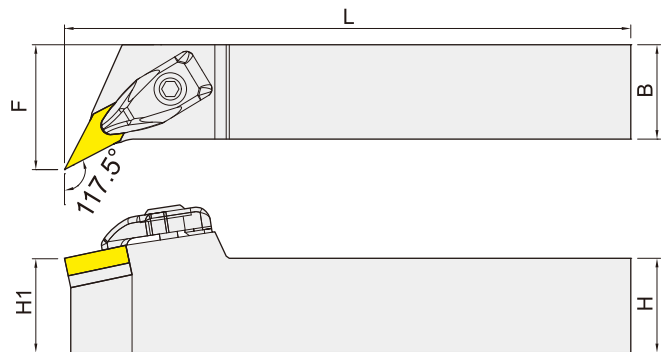


Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MVJNR/L-1616K-16	16	16	125	16	21	VN..1604..	MLP34L-A	VMS322	PL20	MS625	MC622	PL30
MVJNR/L-2020K-16	20	20	125	20	25							
MVJNR/L-2525M-16	25	25	150	25	32					MS630		
MVJNR/L-3232P-16	32	32	170	32	40							



DVQN

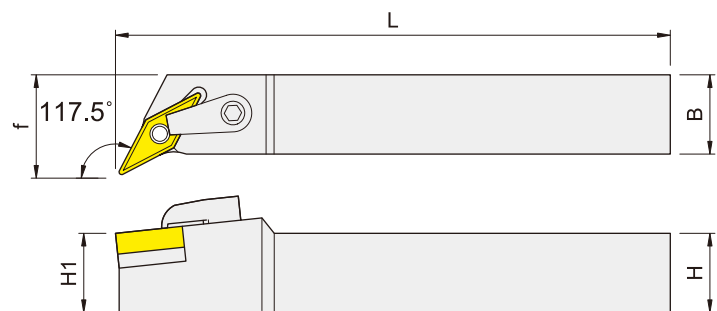


Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DVQNR/L-2020K-16	20	20	125	20	25	VN..1604..	VSS322	MDS50H65T	MCD331	ETL20
DVQNR/L-2525M-16	25	25	150	25	32					
DVQNR/L-3232P-16	32	32	170	32	40					

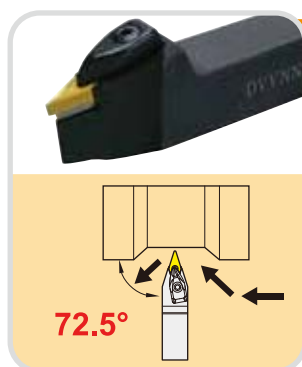
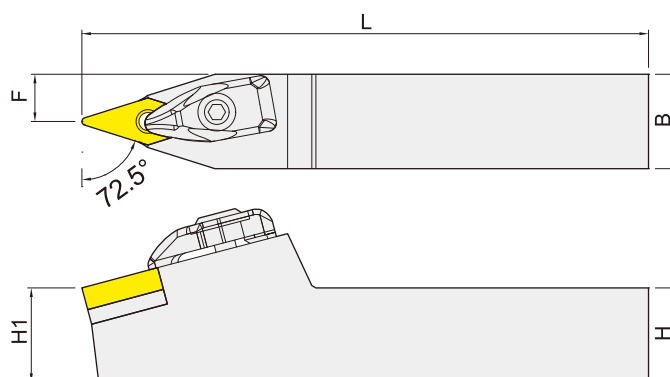


MVQN

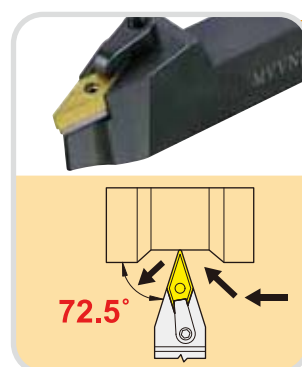
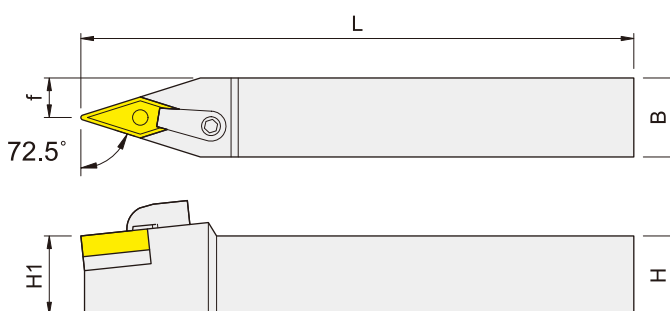


Right-hand shown

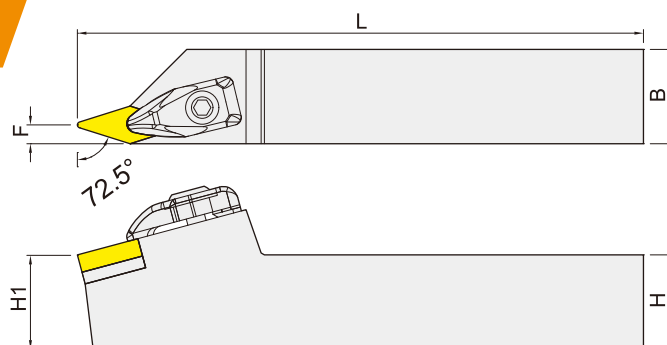
Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MVQNR/L-2020K-16	20	20	125	20	25	VN..1604..	MLP34L-A	VMS322	PL20	MS625	MC622	PL30
MVQNR/L-2525M-16	25	25	150	25	32					MS630		
MVQNR/L-3232P-16	32	32	170	32	40							

**DVVNN**

Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DVVNN-1616K-16	16	16	125	16	8	VN..1604..	VSS322	MDS50H65T	MCD331	ETL20
DVVNN-2020K-16	20	20	125	20	10					
DVVNN-2525M-16	25	25	150	25	12.5					
DVVNN-3232P-16	32	32	170	32	16					

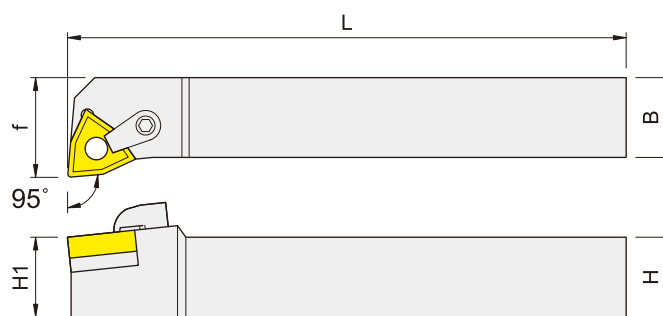
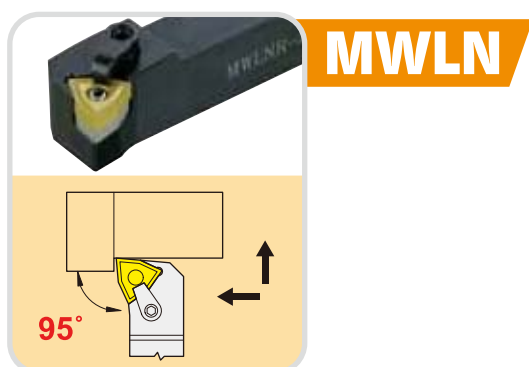
**MVVN**

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MVVNN-1616K-16	16	16	125	16	8	VN..1604..	MLP34L-A	VMS322	PL20	MS625	MC622	PL30
MVVNN-2020K-16	20	20	125	20	10					MS630		
MVVNN-2525M-16	25	25	150	25	12.5							



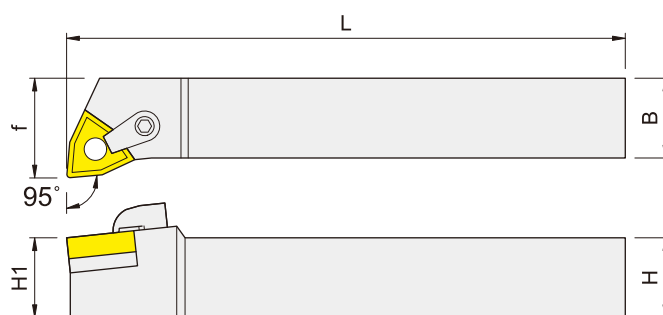
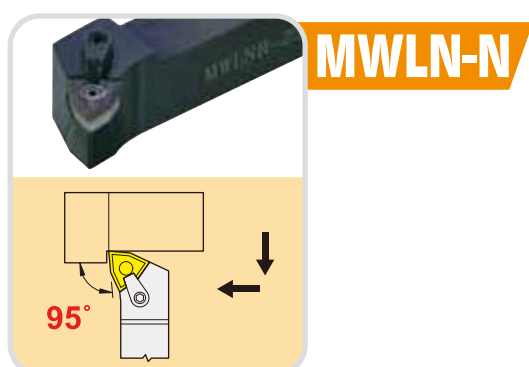
Right-hand shown

26 |



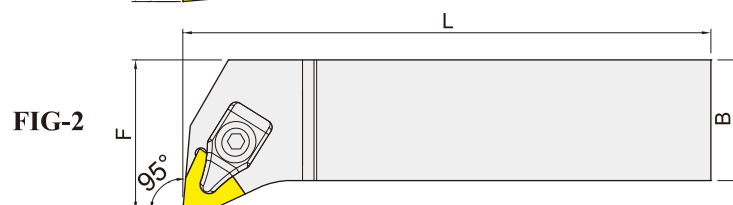
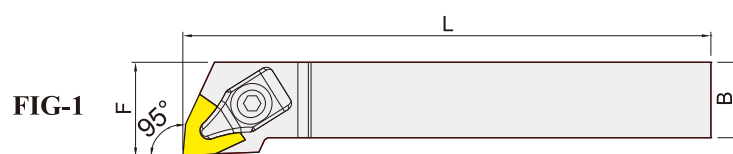
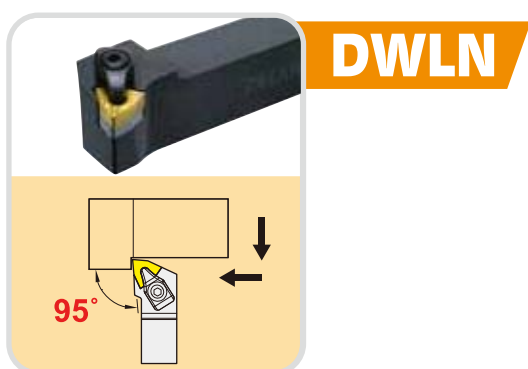
Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MWLN/L-2020K-08	20	20	125	20	25	WN..0804..	MLP46-A	WMS432	PL25	MS625	MC620	PL30
MWLN/L-2525M-08	25	25	150	25	32					MS630		
MWLN/L-3232P-08	32	32	170	32	40							



Right-hand shown

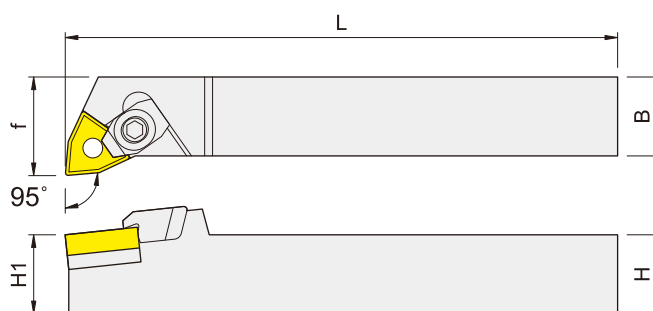
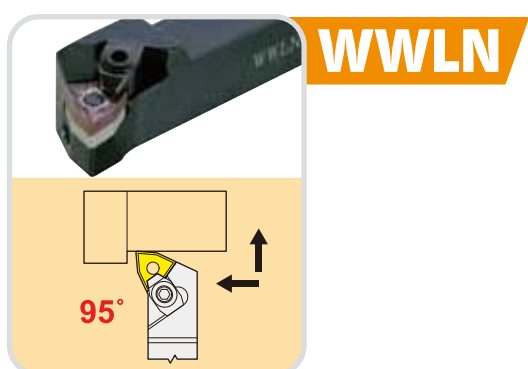
Item code	Dimensions,mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
MWLN/L-2020K-08N	20	20	125	20	25	WN..0804..	MLP46-A	WMS432	PL25	MS625	MC620	PL30
MWLN/L-2525M-08N	25	25	150	25	32					MS630		



Right-hand shown

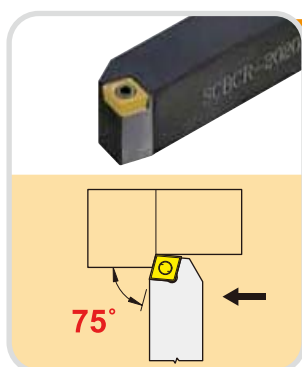
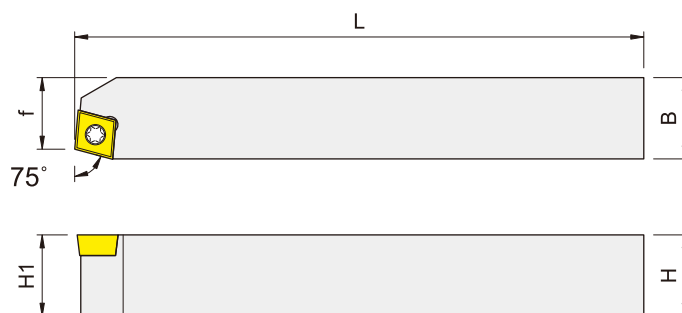
FIG-1 Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DWLN/L-2020K-08N	20	20	125	20	25	WN..0804..	WMS432	MS6013F	MCD425	PL40

FIG-2 Item code	Dimensions,mm					Insert	Shim	Screw	Clamp	Wrench
	H	B	L	H1	f					
DWLN/L-2525M-08	25	25	150	25	32	WN..0804..	WMS432	MS6013F	MCD425	PL40
DWLN/L-3232P-08	32	32	170	32	40					

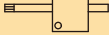


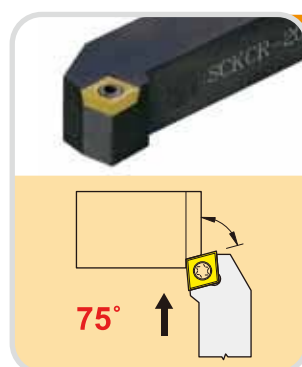
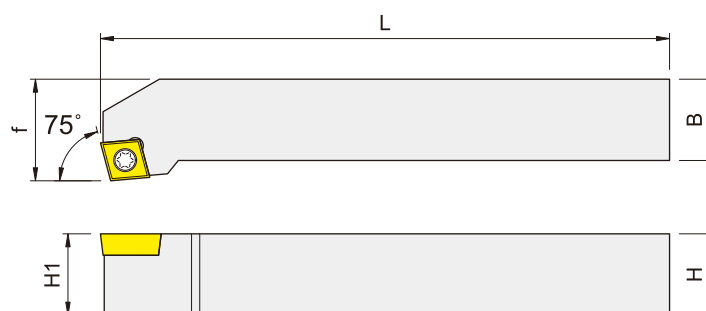
Right-hand shown

Item code	Dimensions,mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
WWLN/L-1620K-08	16	20	125	20	25	WN..0804..	MCP4	MCS3S-08	PL30	WMS432	WCW6-P4	PL40
WWLN/L-2020K-08	20	20	125	20	25							
WWLN/L-2525M-08	25	25	150	25	32							

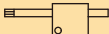

SCBC


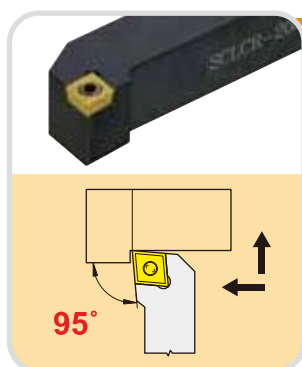
Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SCBCR/L-1616K-09	16	16	125	16	13.5	CC..09T3..	MS4011A	ETF15
SCBCR/L-2020K-09	20	20	125	20	17.5			
SCBCR/L-2525M-09	25	25	150	25	22.5			

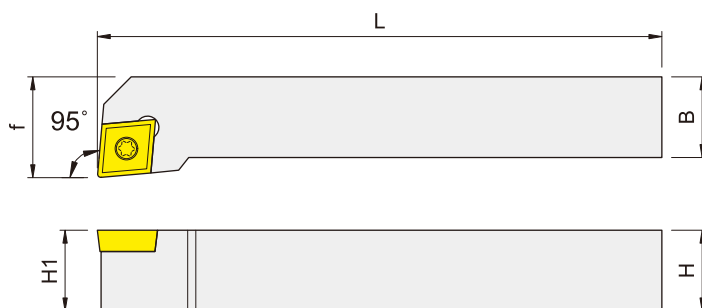

SCKC


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SCKCR/L-1212K-09	12	12	125	12	16	CC..09T3..	MS4011A	ETF15
SCKCR/L-1616K-09	16	16	125	16	20			
SCKCR/L-2020K-09	20	20	125	20	25			
SCKCR/L-2525M-09	25	25	150	25	32			

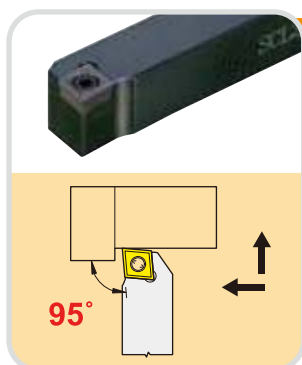


SCLC

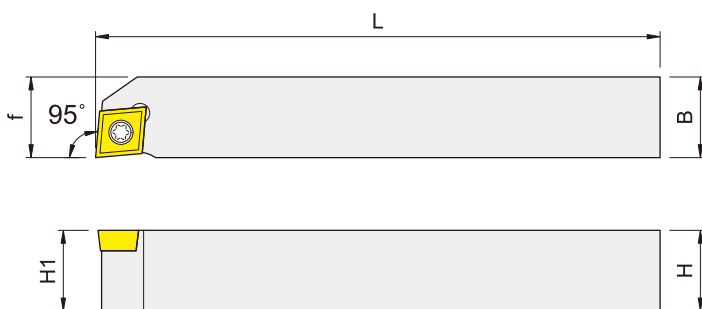


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SCLCR/L-1010H-06	10	10	100	10	12	CC..0602..	MS2506A	ETF09
SCLCR/L-1010K-06	10	10	125	10	12			
SCLCR/L-1212H-09	12	12	100	12	16			
SCLCR/L-1212K-09	12	12	125	12	16			
SCLCR/L-1616K-09	16	16	125	16	20			
SCLCR/L-2020K-09	20	20	125	20	25	CC..1204..	MS5011A	ETF20
SCLCR/L-2525M-09	25	25	150	25	32			
SCLCR/L-2020K-12	20	20	125	20	25			
SCLCR/L-2525M-12	25	25	150	25	32			
SCLCR/L-3232P-12	32	32	170	32	40			

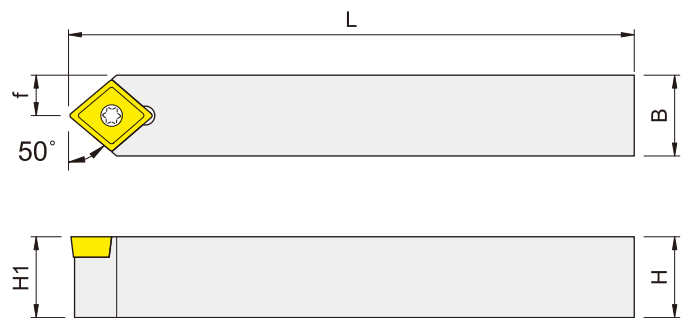
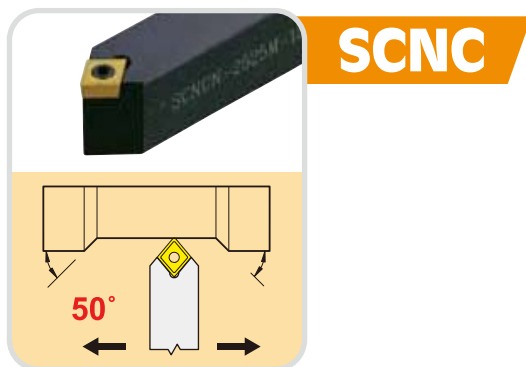


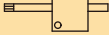
SCL2C

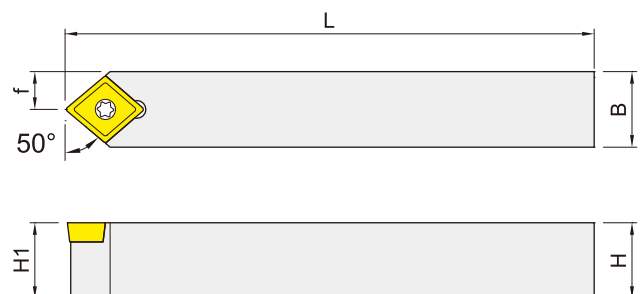
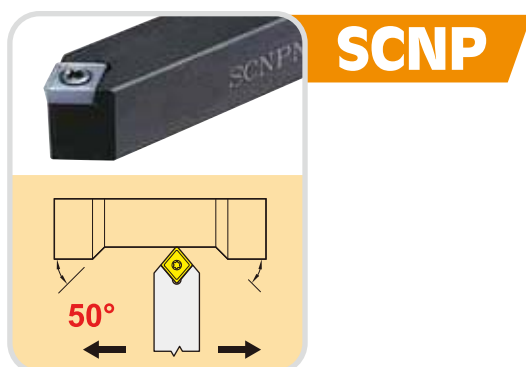


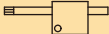
Right-hand shown

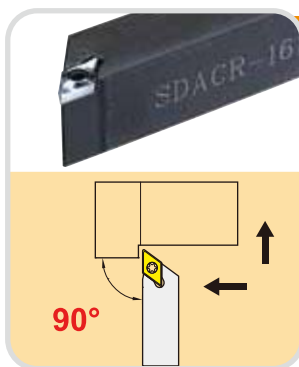
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SCL2CR/L-0808H-06	8	8	100	8	8	CC..0602..	MS2506A	ETF09
SCL2CR/L-1010H-06	10	10	100	10	10			
SCL2CR/L-1212H-09	12	12	100	12	12	CC..09T3..	MS4011A	ETF15
SCL2CR/L-1616K-09	16	16	125	16	16			
SCL2CR/L-2020K-09	20	20	125	20	25			
SCL2CR/L-2525M-09	25	25	150	25	25			



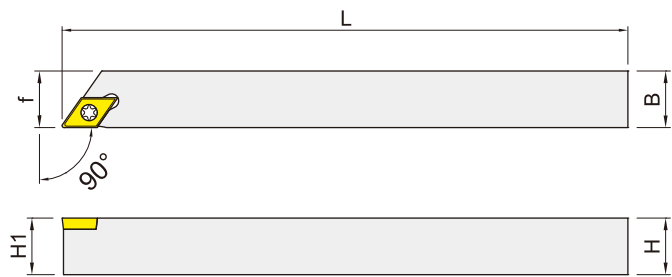
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SCNCN-1616H-06	16	16	100	16	8	CC..0602..	MS2506A	ETF09
SCNCN-1616K-06	16	16	125	16	8			
SCNCN-1212H-09	12	12	100	12	6			
SCNCN-1212K-09	12	12	125	12	6			
SCNCN-1616K-09	16	16	125	16	8			
SCNCN-2020K-09	20	20	125	20	10	CC..1204..	MS5011A	ETF20
SCNCN-2525M-09	25	25	150	25	12.5			
SCNCN-2020K-12	20	20	125	20	10			
SCNCN-2525M-12	25	25	150	25	12.5			



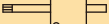
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SCNPN-1212K-09	12	12	125	12	6	CP..0903..	MS4011A	ETF15
SCNPN-1616K-09	16	16	125	16	8			
SCNPN-2020K-09	20	20	125	20	10			
SCNPN-2525M-09	25	25	150	25	12.5			

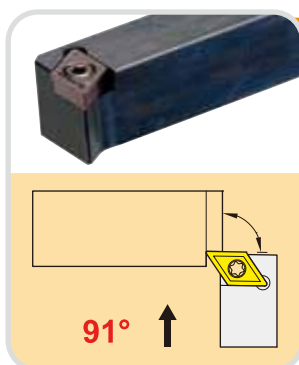


SDAC

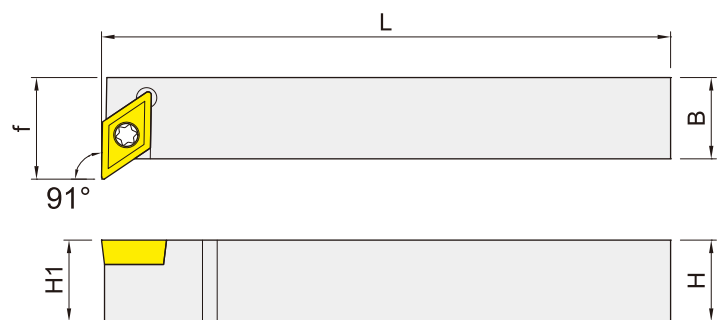


Right-hand shown

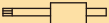
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SDACR/L-1010H-07	10	10	100	10	10	DC..0702..	MS2506A	ETF09
SDACR/L-1212K-07	12	12	125	12	12			
SDACR/L-1616K-07	16	16	125	16	16			

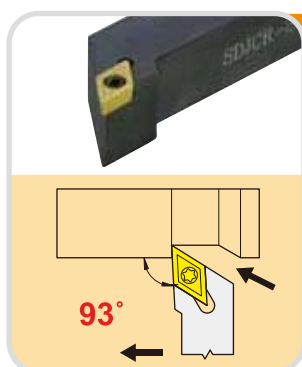


SDFC

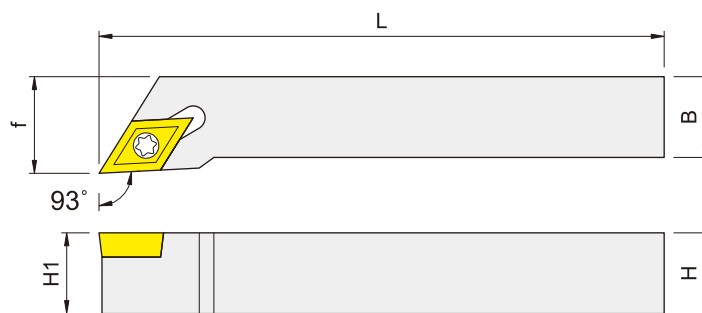


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SDFCR/L-1212K-07	12	12	125	12	16	DC..0702..	MS2506A	ETF09
SDFCR/L-1212K-11	12	12	125	12	19	DC..11T3..	MS4009A	ETF15
SDFCR/L-1616K-11	16	16	125	16	20			

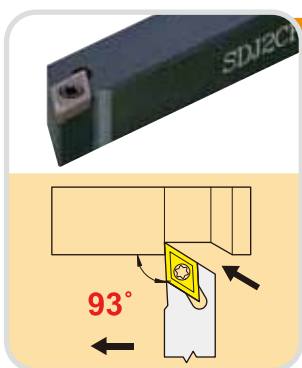


SDJC



Right-hand shown

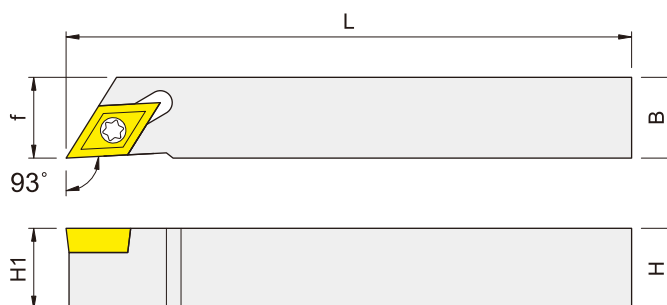
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SDJCR/L-1010H-07	10	10	100	10	12	DC..0702..	MS2506A	ETF09
SDJCR/L-1212H-07	12	12	100	12	16			
SDJCR/L-1212K-07	12	12	125	12	16			
SDJCR/L-1616K-07	16	16	125	16	20			
SDJCR/L-2020K-07	20	20	125	20	25			
SDJCR/L-1010H-11	10	10	100	10	12	DC..11T3..	MS4009A	ETF15
SDJCR/L-1212H-11	12	12	100	12	16			
SDJCR/L-1212K-11	12	12	125	12	16			
SDJCR/L-1616K-11	16	16	125	16	20			
SDJCR/L-2020K-11	20	20	125	20	25			
SDJCR/L-2525M-11	25	25	150	25	32			
SDJCR/L-3232P-11	32	32	170	32	40			



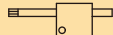
SDJ2C

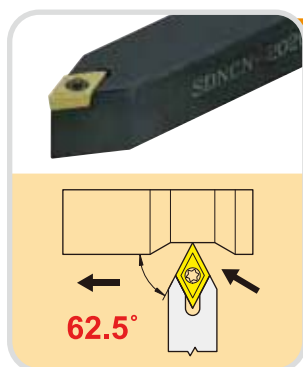


SDJ2CR-1010H/K-11

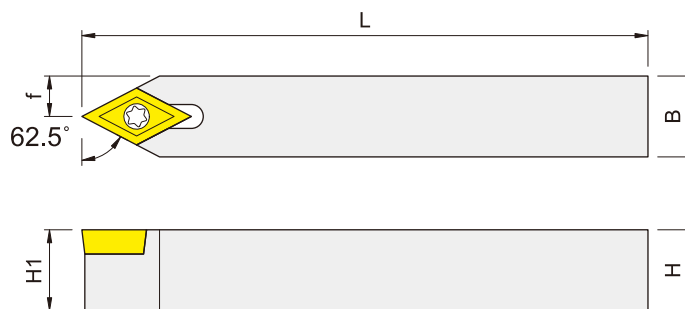


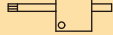
Right-hand shown

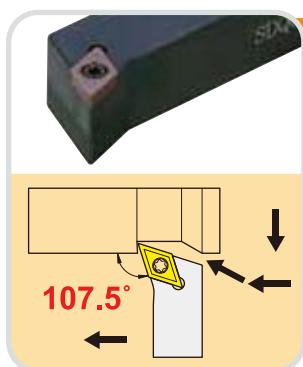
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SDJ2CR/L-0808H-07	8	8	100	8	8	DC..0702..	MS2506A	ETF09
SDJ2CR/L-1010H-07	10	10	100	10	10			
SDJ2CR/L-1212H-07	12	12	100	12	12			
SDJ2CR/L-1212K-07	12	12	125	12	12			
SDJ2CR/L-1616K-07	16	16	125	16	16			
SDJ2CR/L-2020K-07	20	20	125	20	20	DC..11T3..	MS4009A	ETF15
SDJ2CR/L-2525M-07	25	25	150	25	25			
SDJ2CR-1010H-11	10	10	100	10	10			
SDJ2CR-1010K-11	10	10	125	10	10			
SDJ2CR/L-1212H-11	12	12	100	12	12			
SDJ2CR/L-1616K-11	16	16	125	16	16			
SDJ2CR/L-2020K-11	20	20	125	20	20			
SDJ2CR/L-2525M-11	25	25	150	25	25			
SDJ2CR/L-3232P-11	32	32	170	32	32			



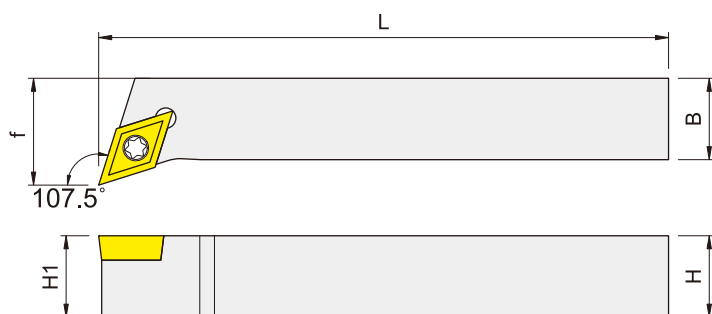
SDNC



Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SDNCN-1010H-07	10	10	100	10	5	DC..0702..	MS2506A	ETF09
SDNCN-1212H-07	12	12	100	12	6			
SDNCN-1616K-07	16	16	125	16	8			
SDNCN-1212H-11	12	12	100	12	6	DC..11T3..	MS4009A	ETF15
SDNCN-1212K-11	12	12	125	12	6			
SDNCN-1616K-11	16	16	125	16	8			
SDNCN-2020K-11	20	20	125	20	10			
SDNCN-2525M-11	25	25	150	25	12.5			

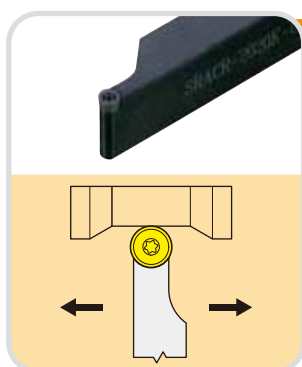
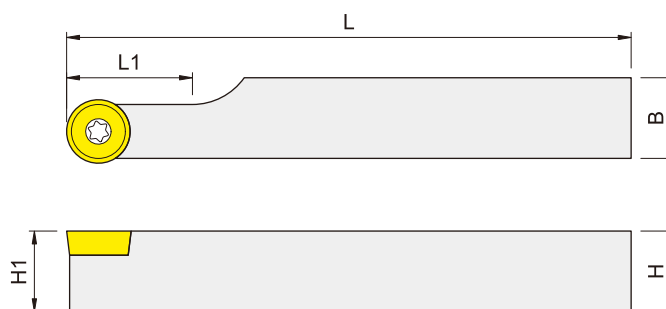


SDQC



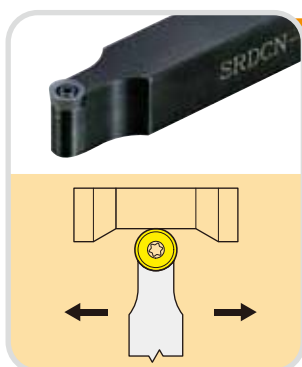
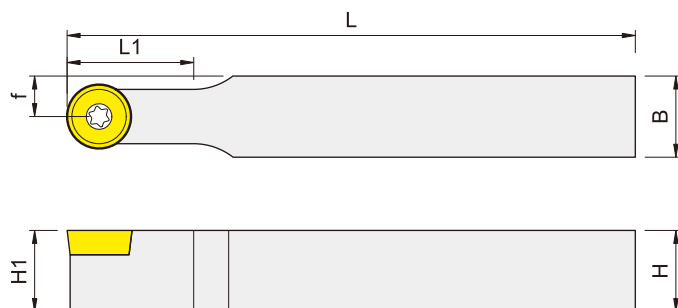
Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SDQCR/L-1212H-11	12	12	100	12	16	DC..11T3..	MS4009A	ETF15
SDQCR/L-1616K-11	16	16	125	16	20			
SDQCR/L-2020K-11	20	20	125	20	25			
SDQCR/L-2525M-11	25	25	150	25	32			

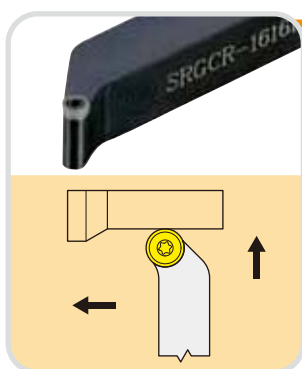
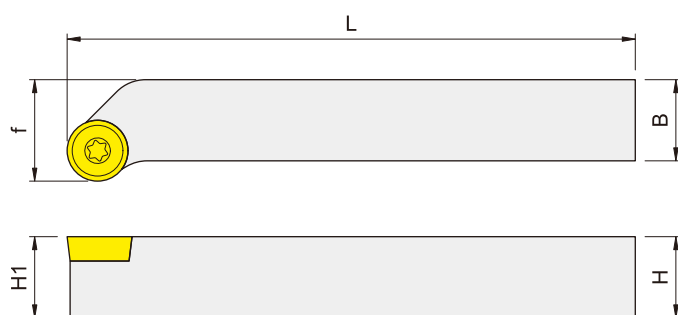
**SRAC**

Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	L1			
SRACR/L-1010H-05	10	10	100	10	10.5	RCMT0502	MS2206A	ETF07
SRACR/L-1212H-05	12	12	100	12	10.5			
SRACR/L-1616K-05	16	16	125	16	10.5			
SRACR/L-2020K-05	20	20	125	20	10.5			
SRACR/L-2525M-05	25	25	150	25	10.5			
SRACR/L-1010H-06	10	10	100	10	11	RCMT0602	MS2506A	ETF09
SRACR/L-1212H-06	12	12	100	12	11			
SRACR/L-1616K-06	16	16	125	16	11			
SRACR/L-2020K-06	20	20	125	20	11			
SRACR/L-2525M-06	25	25	150	25	11			
SRACR/L-1212K-08	12	12	125	12	14	RCMT0803	MS3008A	ETF09
SRACR/L-1616K-08	16	16	125	16	14			
SRACR/L-2020K-08	20	20	125	20	15			
SRACR/L-2525M-08	25	25	150	25	15			
SRACR/L-1212K-10	12	12	125	12	20	RCMT1003	MS3008A	ETF09
SRACR/L-1616K-10	16	16	125	16	20			
SRACR/L-2020K-10	20	20	125	20	20			
SRACR/L-2525M-10	25	25	150	25	20			

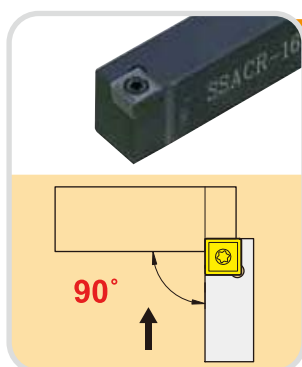

SRDC


Item code	Dimensions,mm						Insert	Screw 	Wrench 
	H	B	L	H1	f	L1			
SRDCN-1010H-05	10	10	100	10	5	10.5	RCMT0502	MS2205A	ETF07
SRDCN-1212H-05	12	12	100	12	6	10.5			
SRDCN-1616K-05	16	16	125	16	8	10.5			
SRDCN-2020K-05	20	20	125	20	10	10.5			
SRDCN-2525M-05	25	25	150	25	12.5	10.5			
SRDCN-1010H-06	10	10	100	10	5	12	RCMT0602	MS2506A	ETF09
SRDCN-1212H-06	12	12	100	12	6	12			
SRDCN-1616K-06	16	16	125	16	8	12			
SRDCN-2020K-06	20	20	125	20	10	12			
SRDCN-2525M-06	25	25	150	25	12.5	12			
SRDCN-1012H-08	10	12	100	10	6	12	RCMT0803	MS3008A	ETF09
SRDCN-1212H-08	12	12	100	12	6	12			
SRDCN-1212K-08	12	12	125	12	6	12			
SRDCN-1616K-08	16	16	125	16	8	12			
SRDCN-2020K-08	20	20	125	20	10	12			
SRDCN-2525M-08	25	25	150	25	12.5	12			

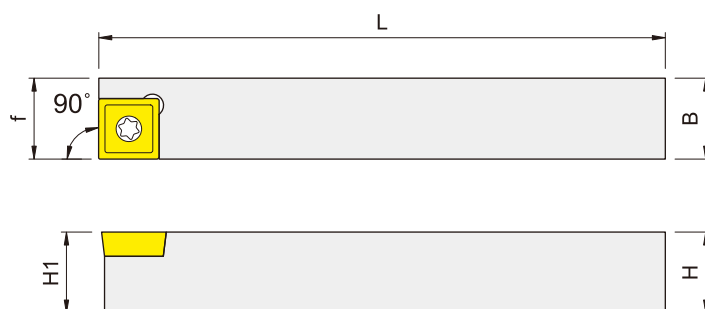

SRGC


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SRGCR/L-1212K-06	12	12	125	12	16	RCMT0602	MS2506A	ETF09
SRGCR/L-1616K-06	16	16	125	16	20			
SRGCR/L-2020K-06	20	20	125	20	25			
SRGCR/L-2525M-06	25	25	150	25	32			
SRGCR/L-1616K-08	16	16	125	16	20	RCMT0803	MS3008A	ETF09
SRGCR-2525M-08	25	25	150	25	32			

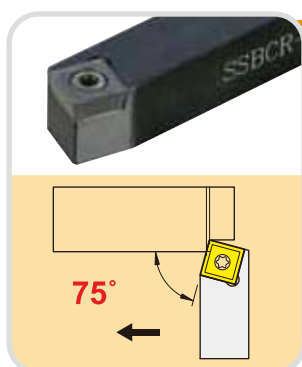


SSAC

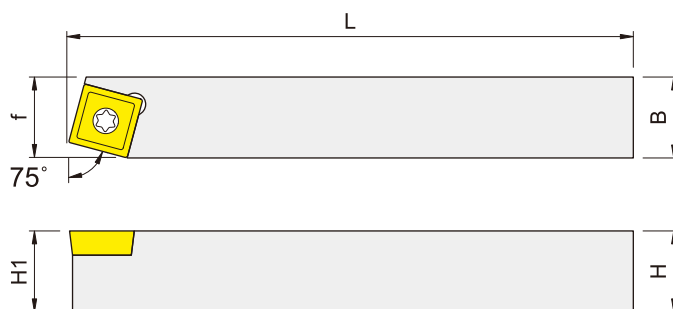


Right-hand shown

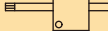
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SSACR/L-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	MS4009A	ETF15
SSACR/L-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	MS4011A	ETF15
SSACR-1212H-09	12	12	100	12	12			
SSACR/L-1616K-09	16	16	125	16	16			

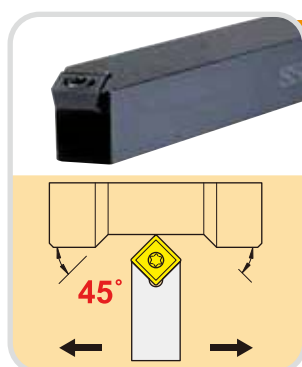


SSBC

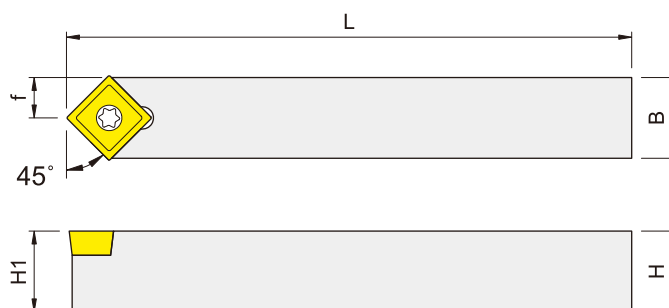


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SSBCR/L-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	MS4009A	ETF15
SSBCR/L-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	MS4011A	ETF15
SSBCR/L-1212H-09	12	12	100	12	12			



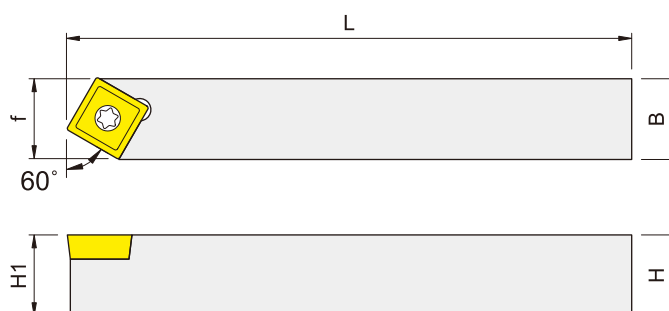
SSDC



Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SSDCN-3.4H-09	9.5	12.7	100	9.5	6.35	SC..09T3..	MS4009A	ETF15
SSDCN-4.4H-09	12.7	12.7	100	12.7	6.35	SC..09T3..	MS4011A	ETF15
SSDCN-1212H-09	12	12	100	12	6			
SSDCN-1616K-09	16	16	125	16	8			
SSDCN-2020K-09	20	20	125	20	10			
SSDCN-2525M-09	25	25	150	25	12.5			

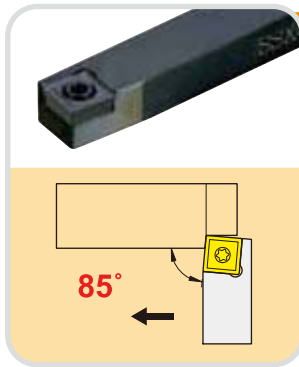
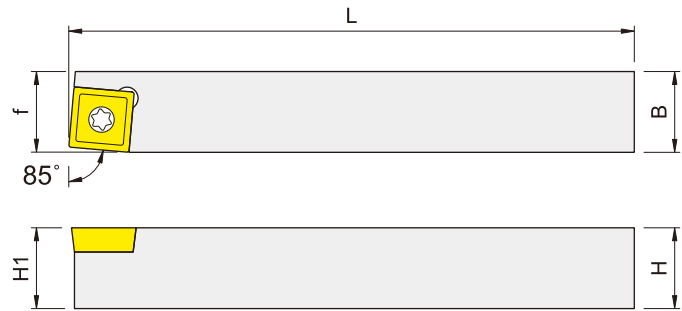


SSEC

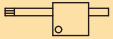


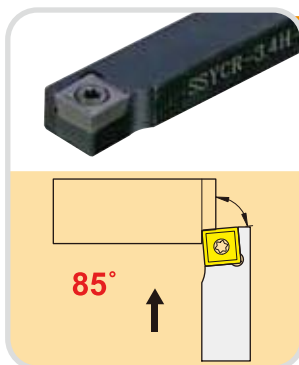
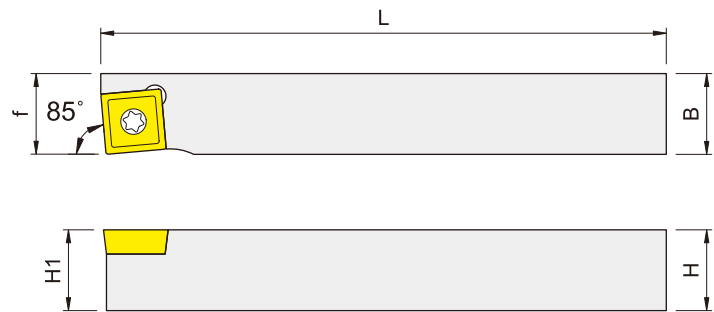
Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SSECR/L-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	MS4009A	ETF15
SSECR/L-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	MS4011A	ETF15
SSECR/L-1212H-09	12	12	100	12	12			

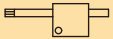
**SSXC**

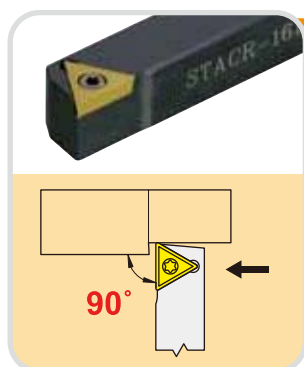
Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SSXCR-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	MS4009A	ETF15

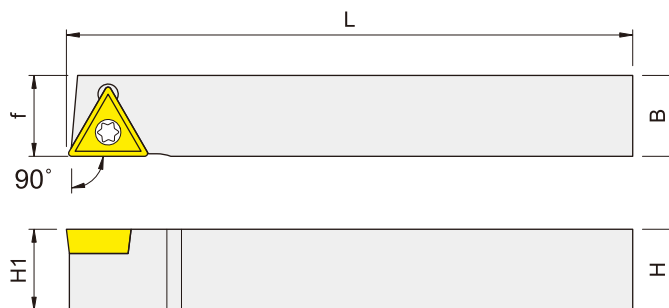
**SSYC**

Right-hand shown

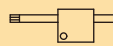
Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SSYCR/L-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	MS4009A	ETF15

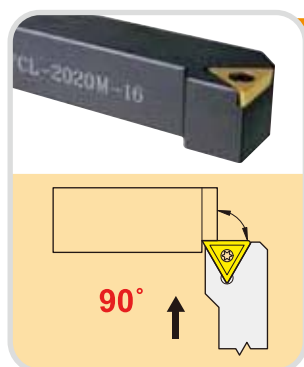


STAC

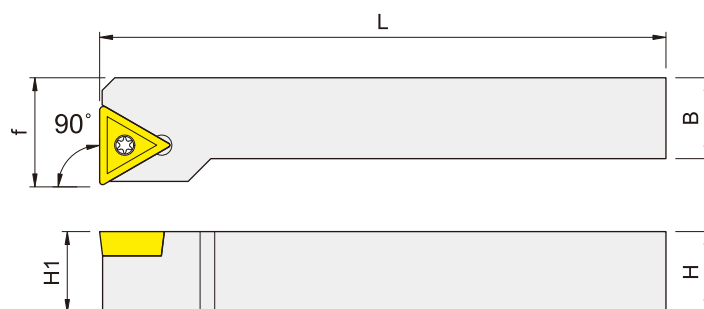


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
STACR-1010H-11	10	10	100	10	10	TC..1102..	MS2506A	ETF09
STACR-1212H-11	12	12	100	12	12			
STACR-1616K-11	16	16	125	16	16			
STACR-3.4H-11	9.5	12.7	100	9.5	12.7			
STACR-4.4H-11	12.7	12.7	100	12.7	12.7			
STACR-1616K-16	16	16	125	16	16	TC..16T3..	MS4011A	ETF15

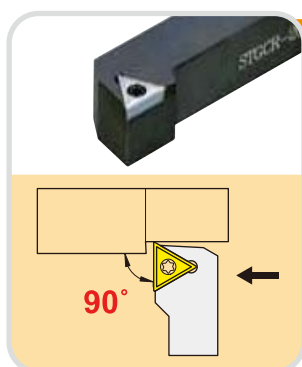


STFC

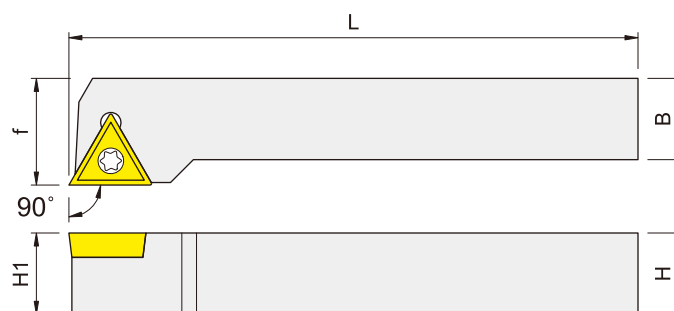


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
STFCR/L-2020K-16	20	20	125	20	25	TC..16T3..	MS4011A	ETF15
STFCR/L-2525M-16	25	25	150	25	32			

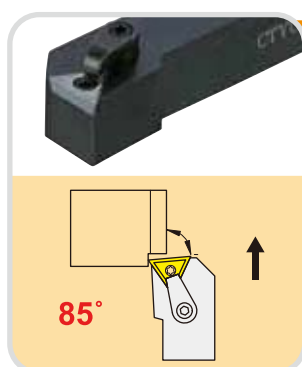


STGC

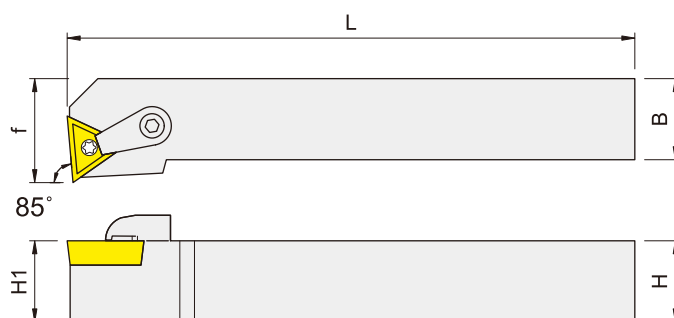


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
STGCR/L-1212K-16	12	12	125	12	16	TC..16T3..	MS4011A	ETF15
STGCR/L-1616K-16	16	16	125	16	20			
STGCR/L-2020K-16	20	20	125	20	25			
STGCR/L-2525M-16	25	25	150	25	32			

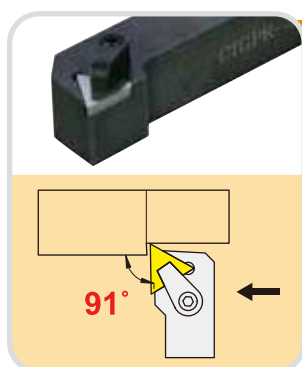


CTYC

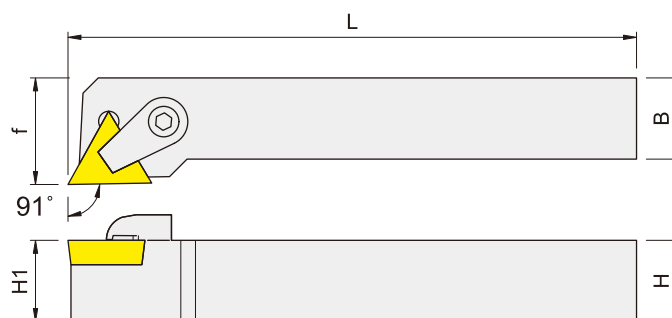


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 	Screw 	Clamp 	Wrench 
	H	B	L	H1	f						
CTYCR/L-2020K-16	20	20	125	20	25	TC..16T3..	MS4011A	ETF15	MS625	MC620	PL30

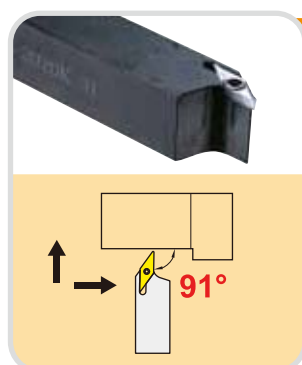


CTGP

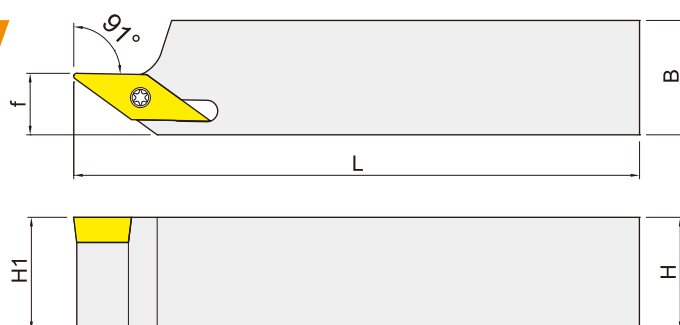


Right-hand shown

Item code	Dimensions,mm					Insert	Screw 	Clamp 	Wrench 
	H	B	L	H1	f				
CTGPR-1616K-16	16	16	125	16	20	TP.N1603..	MS625	MC620	PL30
CTGPR-2020K-16	20	20	125	20	25				
CTGPR-2525M-16	25	25	150	25	32		MS630		

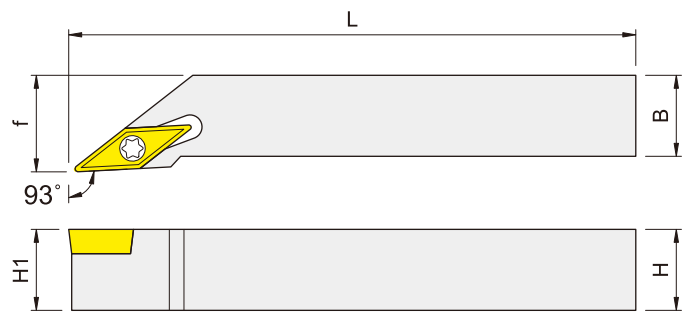
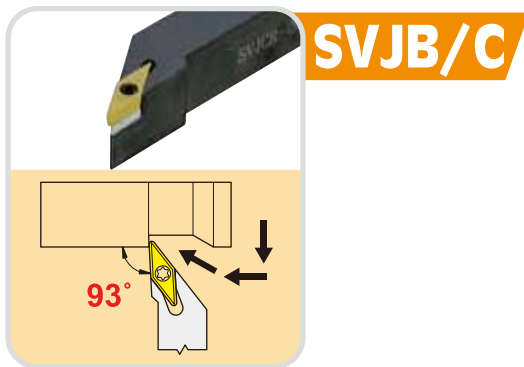


SVA3CL



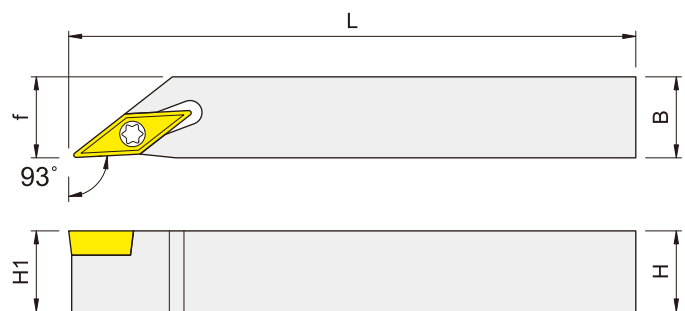
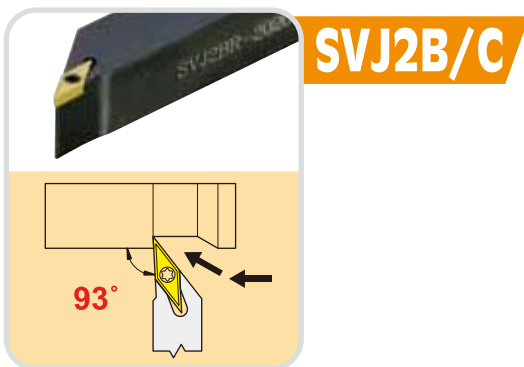
Left-hand shown

Item code	Dimensions,mm					Insert	Screw 	Wrench 
	H	B	L	H1	f			
SVA3CL-1212K-11	12	12	125	12	8.6	VC..1103..	MS2506A	ETF09
SVA3CL-1616K-11	16	16	125	16				
SVA3CL-2020K-11	20	20	125	20				
SVA3CL-2525M-11	25	25	150	25				



Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
SVJBR/L-1010H-11	10	10	100	10	12	VB..1103..	--	--	--	MS2506A	ETF09
SVJBR/L-1212K-11	12	12	125	12	16	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVJBR/L-1616K-11	16	16	125	16	20						
SVJBR/L-2020K-11	20	20	125	20	25						
SVJBR/L-2525M-11	25	25	150	25	32						
SVJBR/L-1616K-16	16	16	125	16	20	VC..1103..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVJBR/L-2020K-16	20	20	125	20	25						
SVJBR/L-2525M-16	25	25	150	25	32						
SVJBR/L-3232P-16	32	32	170	32	40						
SVJCR/L-1010H-11	10	10	100	10	12	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVJCR/L-1212K-11	12	12	125	12	16						
SVJCR/L-1616K-11	16	16	125	16	20						
SVJCR/L-2020K-11	20	20	125	20	25						
SVJCR/L-2525M-11	25	25	150	25	32	VC..2205..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVJCR/L-1616K-16	16	16	125	16	20						
SVJCR/L-2020K-16	20	20	125	20	25						
SVJCR/L-2525M-16	25	25	150	25	32						
SVJCR/L-3232P-16	32	32	170	32	40	VC..2205..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVJCR/L-2525M-22	25	25	150	25	32						

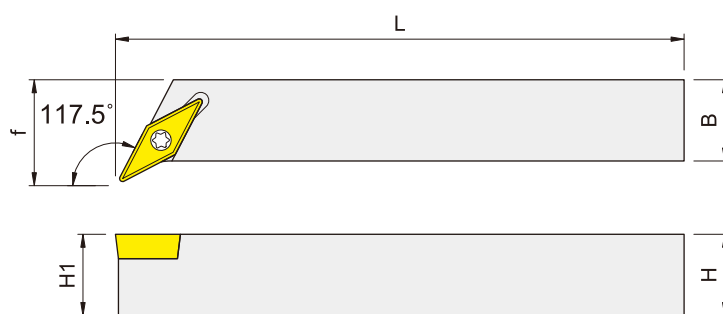


Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
SVJ2BR/L-1010H-11	10	10	100	10	10	VB..1103..	--	--	--	MS2506A	ETF09
SVJ2BR/L-1212H-11	12	12	100	12	12						
SVJ2BR/L-1616K-11	16	16	125	16	16						
SVJ2BR/L-2020K-11	20	20	125	20	20						
SVJ2CR/L-1010H-11	10	10	100	10	10	VC..1103..	--	--	--	MS2506A	ETF09
SVJ2CR/L-1212H-11	12	12	100	12	12						
SVJ2CR/L-1616K-11	16	16	125	16	16						
SVJ2CR/L-2020K-11	20	20	125	20	20						
SVJ2CR/L-1616K-16	16	16	125	16	16	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVJ2CR/L-2020K-16	20	20	125	20	20						
SVJ2CR/L-2525M-16	25	25	150	25	25						

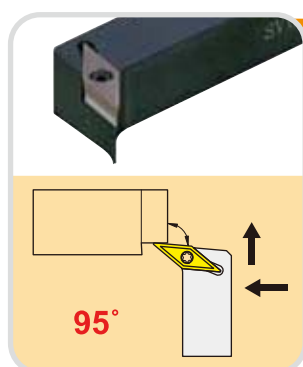


SVQB/C

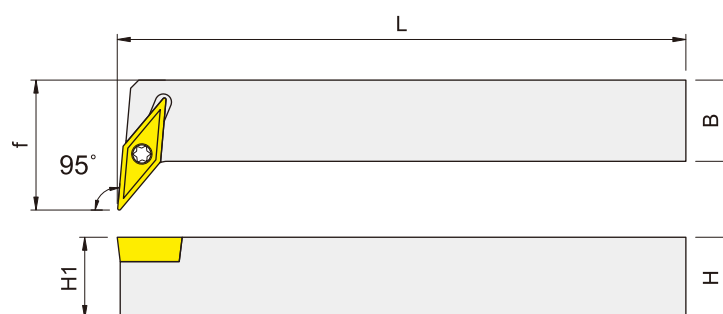


Right-hand shown

Item code	Dimensions,mm					Insert	Shim 	Screw 	Wrench 	Screw 	Wrench 
	H	B	L	H1	f						
SVQBR/L-1212H-11	12	12	100	12	16,5	VB..1103..	--	--	--	MS2506A	ETF09
SVQBR/L-1212K-11	12	12	125	12	16,5						
SVQBR/L-1616K-11	16	16	125	16	20,5						
SVQBR/L-2020K-11	20	20	125	20	25						
SVQBR/L-2020K-16	20	20	125	20	25	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVQBR/L-2525M-16	25	25	150	25	32						
SVQCR/L-1212H-11	12	12	100	12	16,5	VC..1103..	--	--	--	MS2506A	ETF09
SVQCR/L-1212K-11	12	12	125	12	16,5						
SVQCR/L-1616K-11	16	16	125	16	20,5						
SVQCR/L-2020K-11	20	20	125	20	25						
SVQCR/L-2020K-16	20	20	125	20	25	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVQCR/L-2525M-16	25	25	150	25	32						

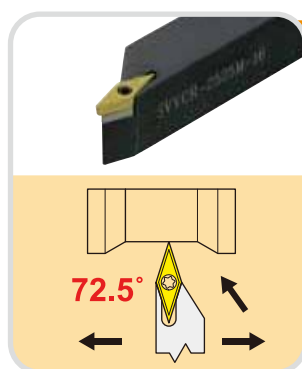
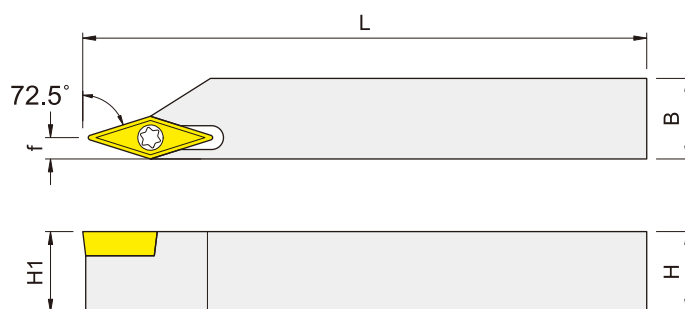


SVUC



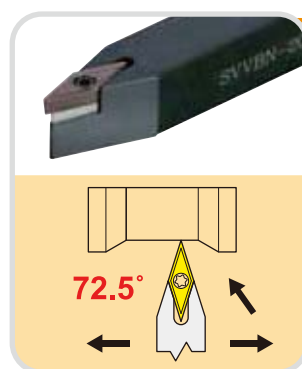
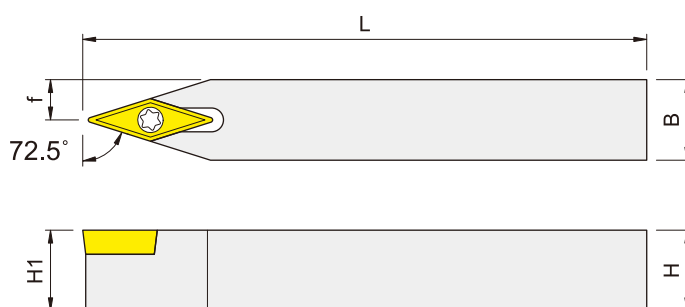
Right-hand shown

Item code	Dimensions,mm					Insert	Shim 	Screw 	Wrench 	Screw 	Wrench 
	H	B	L	H1	f						
SVUCR/L-2020M-16-L12	20	20	150	20	32	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVUCR/L-2525M-16-L12	25	25	150	25	37						

**SVVC**

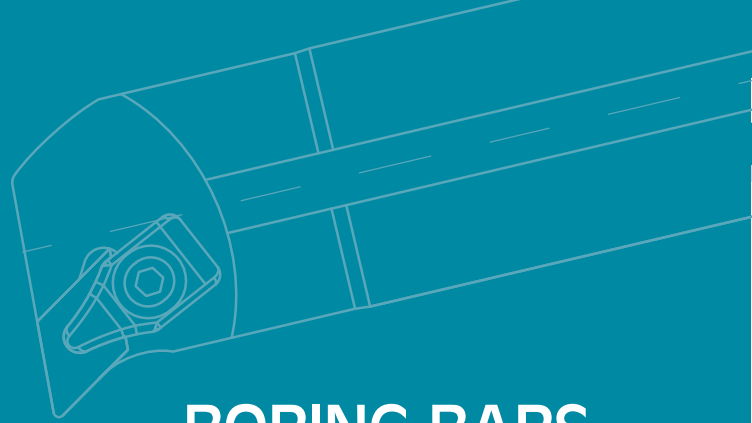
Right-hand shown

Item code	Dimensions,mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
SVVCR-1616K-16	16	16	125	16	5	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVVCR-2020K-16	20	20	125	20	5						
SVVCR-2525M-16	25	25	150	25	5						

**SVVB/C**

Item code	Dimensions,mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
SVVBN-1010H-11	10	10	100	10	5	VB..1103..	--	--	--	MS2506A	ETF09
SVVBN-1212H-11	12	12	100	12	6						
SVVBN-1212K-11	12	12	125	12	6						
SVVBN-1616K-11	16	16	125	16	8						
SVVBN-2020K-11	20	20	125	20	10						
SVVBN-2525M-11	25	25	150	25	12.5	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVVBN-1616K-16	16	16	125	16	8						
SVVBN-2020K-16	20	20	125	20	10						
SVVBN-2525M-16	25	25	150	25	12.5						
SVVCN-1010H-11	10	10	100	10	5	VC..1103..	--	--	--	MS2506A	ETF09
SVVCN-1212H-11	12	12	100	12	6						
SVVCN-1212K-11	12	12	125	12	6						
SVVCN-1616K-11	16	16	125	16	8						
SVVCN-2020K-11	20	20	125	20	10						
SVVCN-2525M-11	25	25	150	25	12.5	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
SVVCN-1616K-16	16	16	125	16	8						
SVVCN-2020K-16	20	20	125	20	10						
SVVCN-2525M-16	25	25	150	25	12.5						
SVVCN-3232P-16	32	32	170	32	16						

brisloy



BORING BARS



S	2	0	R	S	C	L	C	R	0	9	*
6	8	9	10	1	2	3	4	5	11	12	13

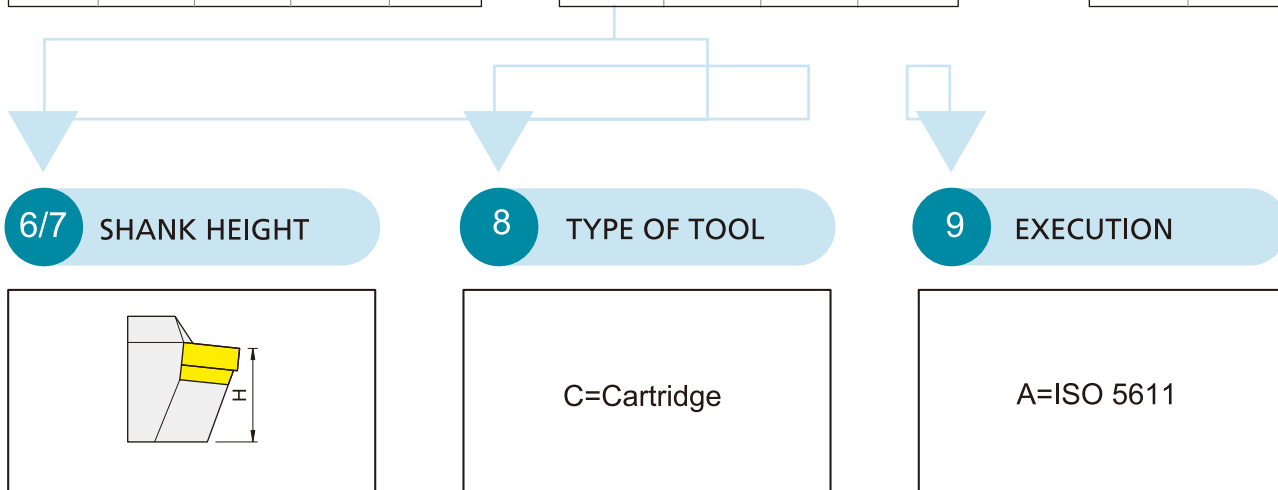
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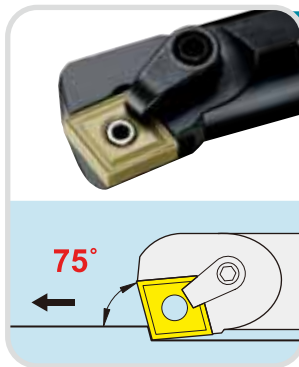
SHANK

S = Steel shank
 A = Steel shank+coolant hole
 B = Steel shank+device anti-vibration
 C = Cemented carbide shank with steel head
 D = Steel shank+device anti-vibration+coolant hole
 E = Cemented carbide shank with steel head+coolant hole
 F = Cemented carbide shank with steel head+device anti-vibration
 G = Cemented carbide shank with steel head+device anti-vibration+coolant hole
 H = Heavy metal shank
 J = Heavy metal shank+coolant hole

CARTRIDGES DESIGNATION

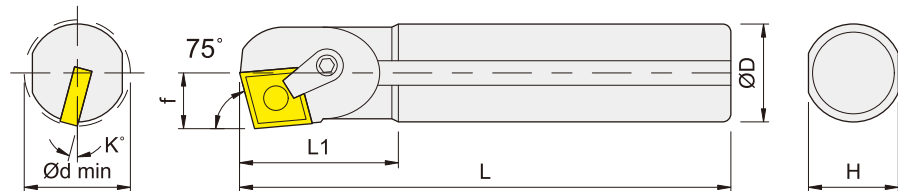
S	T	F	C	R	1	0	C	A	1	1
1	2	3	4	5	6	7	8	9	11	12





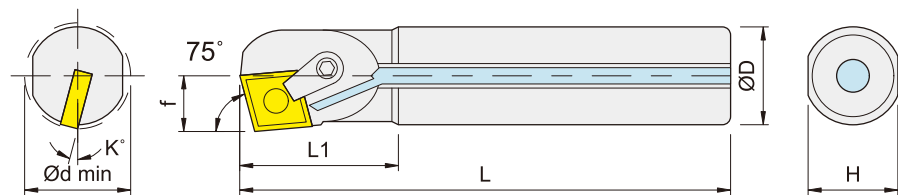
MCKN

S...MCKNR/L-12 Steel shank



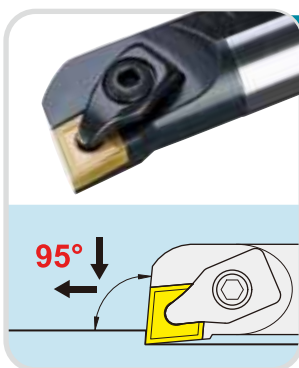
Right-hand shown

A...MCKNR/L-12 Steel shank+coolant hole

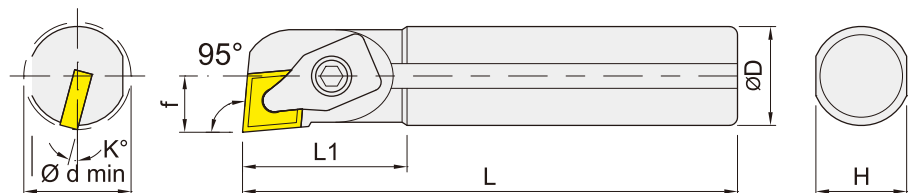


Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S20R-MCKNR/L-12	20	200	40	13	18	15	25	CN..1204..	--	MLP44-A	PL25	MC620	MS620	PL30
S25R-MCKNR/L-12	25	200	40	15.5	23	13	30							
S32S-MCKNR/L-12	32	250	48	19.5	30	13	40							
S40T-MCKNR/L-12	40	300	55	25.5	37	12	50							
S50U-MCKNR/L-12	50	350	60	30.5	47	10	60							
S60V-MCKNR/L-12	60	400	60	35.5	57	9	70							
A20R-MCKNR/L-12	20	200	40	13	18	15	25	CN..1204..	--	MLP44-A	PL25	MC620	MS620	PL30
A25R-MCKNR/L-12	25	200	40	15.5	23	13	30							
A32S-MCKNR/L-12	32	250	48	19.5	30	13	40							
A40T-MCKNR/L-12	40	300	55	25.5	37	12	50							

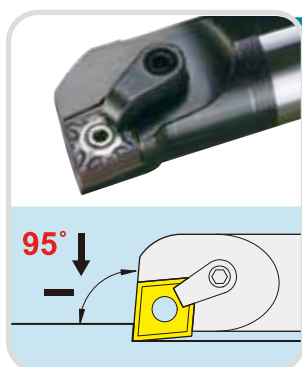


DCLN



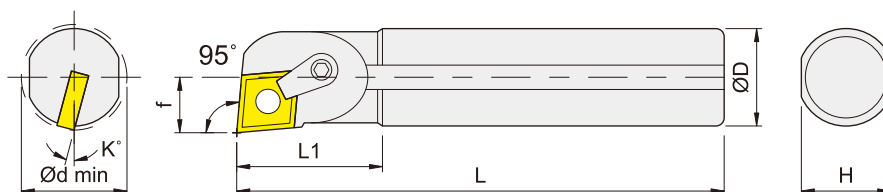
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
S20R-DCLNR/L-12	20	200	40	14	18	15	28	CN..1204..	--	--	--	MCD425	PL40
S25R-DCLNR/L-12	25	200	40	15	23	13	30						



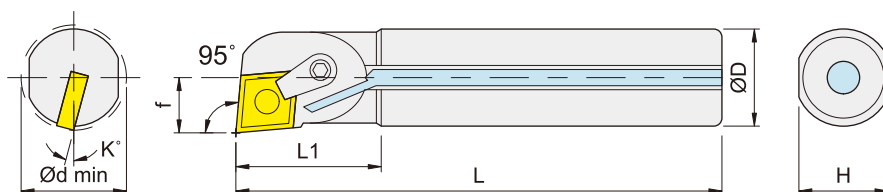
MCLN

S..-MCKNR/L-12 Steel shank



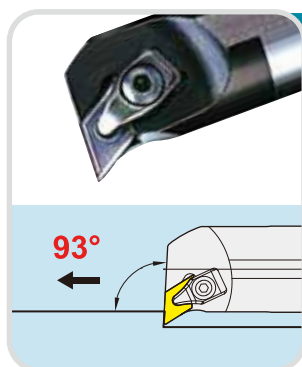
Right-hand shown

A..-MCKNR/L-12 Steel shank+coolant hole



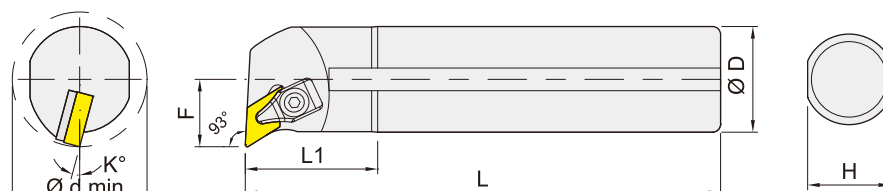
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S20R-MCLNR/L-12	20	200	40	13	18	15	25	CN..1204..	--	MLP44-A	PL25	MC620	MS620	PL30
S25R-MCLNR/L-12	25	200	40	15.5	23	13	30							
S32S-MCLNR/L-12	32	250	48	19.5	30	13	40							
S40T-MCLNR/L-12	40	300	55	25.5	37	12	50							
S50U-MCLNR/L-12	50	350	60	30.5	47	10	60							
S60V-MCLNR/L-12	60	400	60	35.5	57	9	70	CN..1204..	--	MLP44-A	PL25	MC620	MS620	PL30
A20R-MCLNR/L-12	20	200	40	13	18	15	25							
A25R-MCLNR/L-12	25	200	40	15.5	23	13	30							
A32S-MCLNR/L-12	32	250	48	19.5	30	13	40							
A40T-MCLNR/L-12	40	300	55	25.5	37	12	50							



DDUN

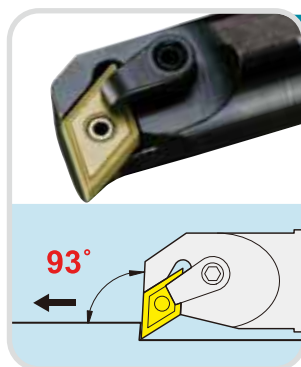
S..-DDUNR/L-15 Steel shank



Right-hand shown

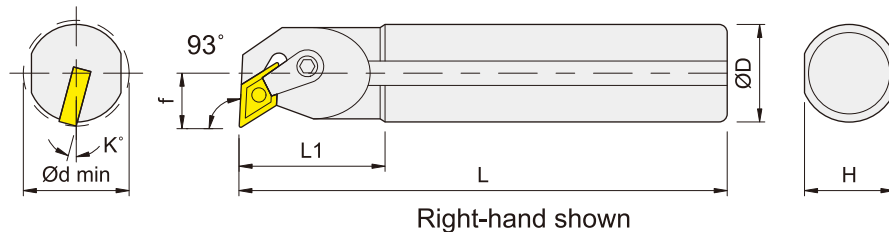
Item code	Dimensions,mm							Insert	Shim	Screw	Clamp	Wrench
	D	L	L1	f	H	K	dmin					
S32S-DDUNR-15	32	250	50	20	30	13	38	DN..1504..	DMS432	MS6013F	MCD425	PL40
S40S-DDUNR-15	40	250	50	25.5	37	10	48		DMS442			
S32S-DDUNR-1506	32	250	50	20	30	13	38	DN..1506..	DPS422	MS6010G		
S40S-DDUNR-1506	40	250	50	20.5	37	10	48		DMS432	MS6013F		

The tool is basically the same, only difference in shims.

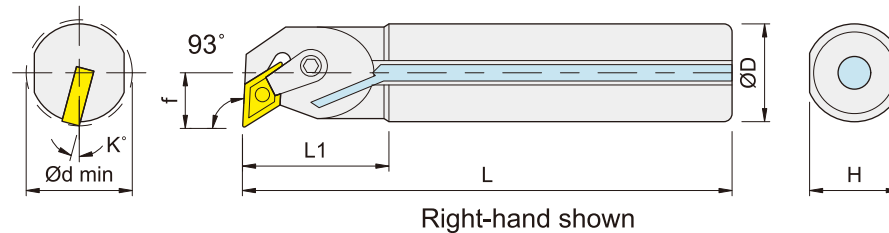


MDUN

S...MDUNR/L-15 Steel shank



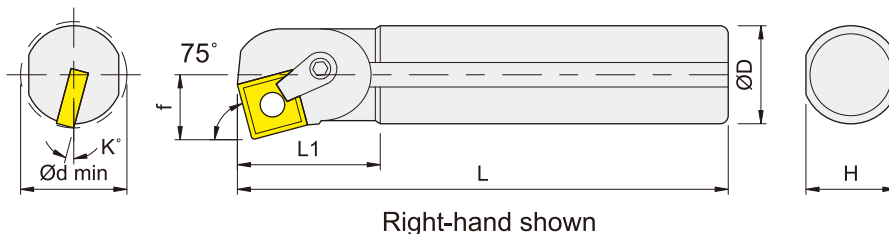
A...MDUNR/L-15 Steel shank+coolant hole



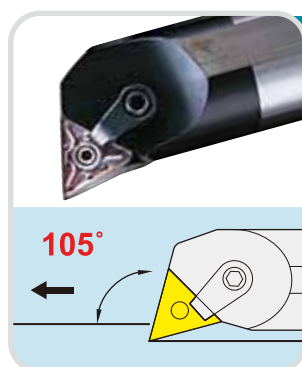
Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S25R-MDUNR/L-15	25	200	45	17	23	13	32	DN..1504..	--	MLP44-A	PL25	MC620	MS620	PL30
S32S-MDUNR/L-15	32	250	50	21	30	13	40	DN..1504..	DMS432	MLP46-A	PL25	MC620	MS625	PL30
A25R-MDUNR/L-15	25	200	45	17	23	13	32	DN..1504..	--	MLP44-A	PL25	MC620	MS620	PL30
A32S-MDUNR/L-15	32	250	50	21	30	13	40	DN..1504..	DMS432	MLP46-A	PL25	MC620	MS625	PL30



MSKN

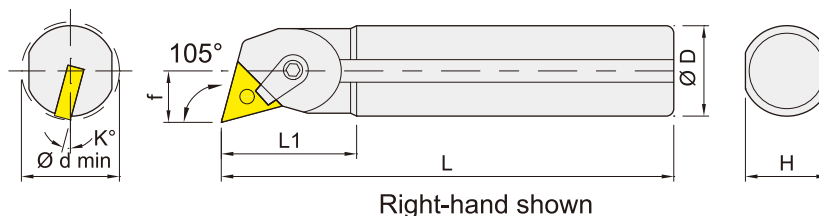


Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S25R-MSKNR/L-12	25	200	40	15	23	13	30	SN..1204..	--	MLP44-A	PL25	MC620	MS625	PL30
S40T-MSKNR/L-12	40	300	55	25.5	37	12	50	SN..1204..	SMS432	MLP46-A	PL25	MC620	MS625	PL30
S50U-MSKNR/L-12	50	350	60	30.5	47	10	60							
S60V-MSKNR/L-12	60	400	60	36	57	9	70							



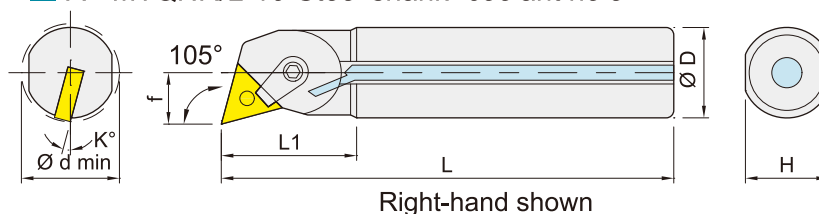
MTQN

S..-MTQNR/L-16 Steel shank



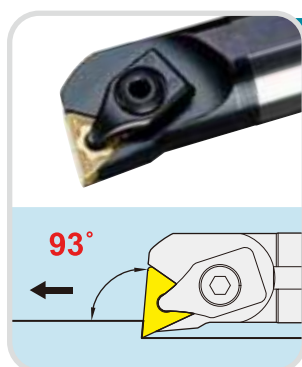
Right-hand shown

A..-MTQNR/L-16 Steel shank+coolant hole



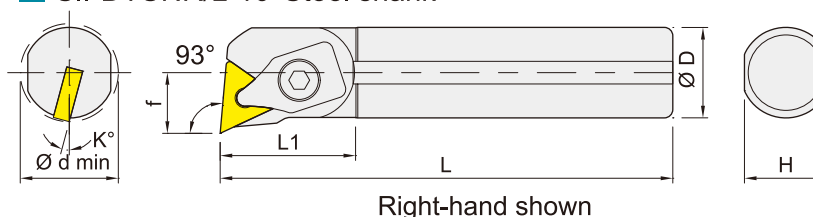
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S20R-MTQNR/L-16	20	200	40	13	18	15	25	TN..1604..	--	MLP33L-A	PL20	MC515	MS520	PL25
S25R-MTQNR/L-16	25	200	40	15	23	13	30	TN..1604..	TMS322	MLP34L-A	PL20	MC620	MS625	PL30
S32S-MTQNR/L-16	32	250	48	20	30	13	40	TN..1604..	--	MLP33L-A	PL20	MC515	MS520	PL25
A20R-MTQNR/L-16	20	200	40	13	18	15	25	TN..1604..	TMS322	MLP34L-A	PL20	MC620	MS625	PL30
A25R-MTQNR/L-16	25	200	40	15	23	13	30	TN..1604..	--	MLP33L-A	PL20	MC515	MS520	PL25
A32S-MTQNR/L-16	32	250	48	20	30	13	40	TN..1604..	TMS322	MLP34L-A	PL20	MC620	MS625	PL30



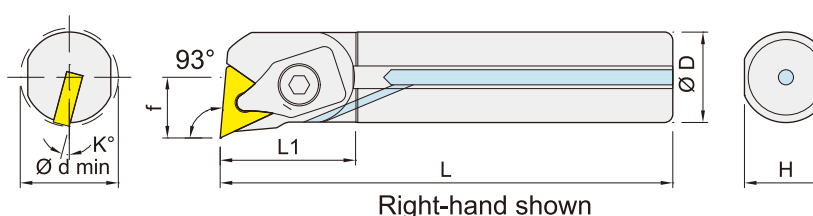
DTUN

S..-DTUNR/L-16 Steel shank



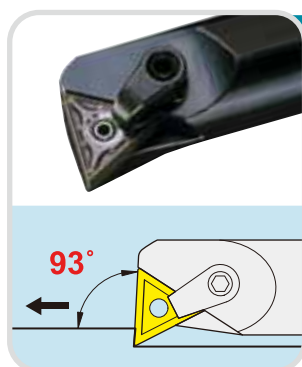
Right-hand shown

A..-DTUNR/L-16 Steel shank+coolant hole



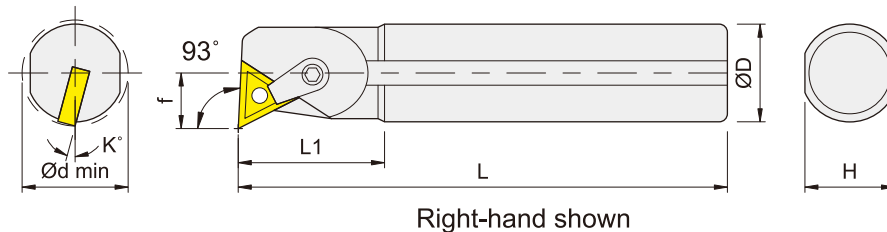
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
S20R-DTUNR/L-16	20	200	40	14	18	15	28	TN..1604..	--	--	--	MCD324	PL40
S25R-DTUNR/L-16	25	200	40	15.5	23	13	30	TN..1604..	TWS322	MS4008H	PL25	MCD324B	PL40
S25S-DTUNR/L-16	25	250	40	15.5	23	13	30	TN..1604..	--	--	--	MCD324	PL40
S32S-DTUNR/L-16	32	250	48	19.5	30	13	40	TN..1604..	--	--	--	MCD324	PL40
A20R-DTUNR/L-16	20	200	40	14	18	15	28	TN..1604..	--	--	--	MCD324	PL40
A25R-DTUNR/L-16	25	200	40	15.5	23	13	30	TN..1604..	--	--	--	MCD324	PL40

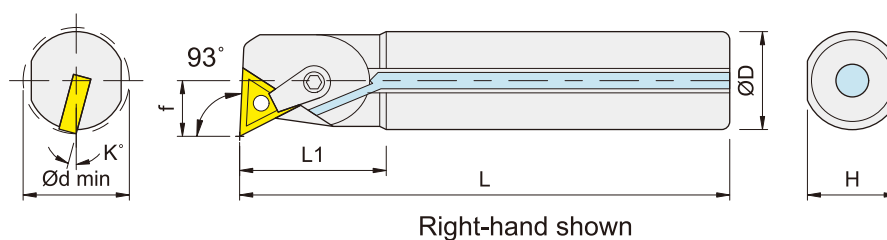


MTUN

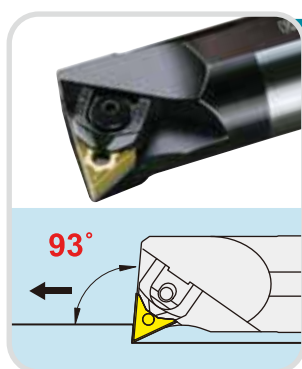
■ S.-MTUNR/L-16 Steel shank



■ A.-MTUNR/L-16 Steel shank+coolant hole

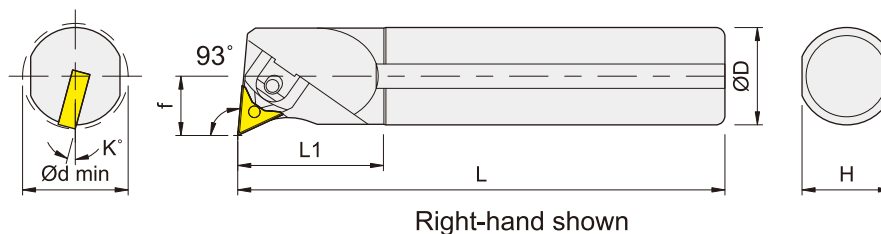


Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S20R-MTUNR/L-16	20	200	40	13	18	15	25	TN..1604..	--	MLP33L-A	PL20	MC515	MS520	PL25
S25R-MTUNR/L-16	25	200	40	15.5	23	13	30							
S32S-MTUNR/L-16	32	250	48	19.5	30	13	40							
S40T-MTUNR/L-16	40	300	55	25.5	37	10	50							
S50U-MTUNR/L-16	50	350	60	30.5	47	9	60							
S60V-MTUNR/L-16	60	400	60	35.5	57	8	70							
A20R-MTUNR/L-16	20	200	40	13	18	15	25	TN..1604..	TMS322	MLP34L-A	PL20	MC620	MS625	PL30
A25R-MTUNR/L-16	25	200	40	15.5	23	13	30							
A32S-MTUNR/L-16	32	250	48	19.5	30	13	40							
A40T-MTUNR/L-16	40	300	55	25.5	37	10	50							

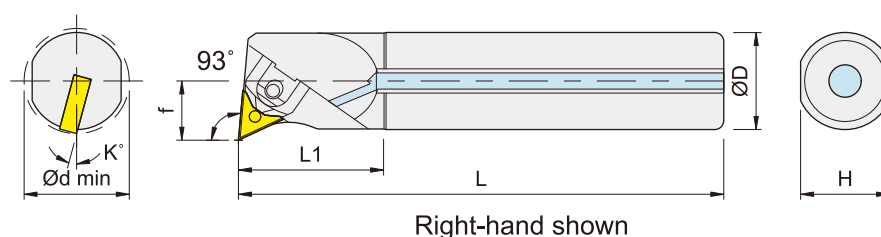


WTUN

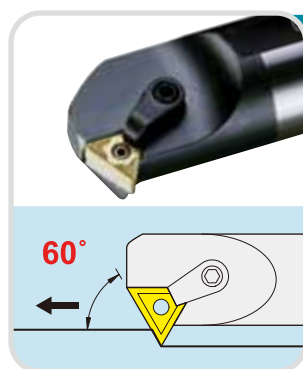
S.-WTUNR/L-16 Steel shank



A.-WTUNR/L-16 Steel shank+coolant hole

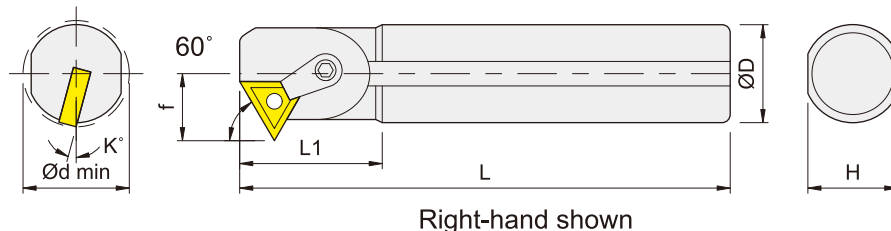


Item code	Dimensions,mm							Insert	Shim 	Pin 	Clamp 	Wrench 
	D	L	L1	f	H	K	dmin					
S32S-WTUNR/L-16	32	250	48	19.5	30	13	40	TN..1604..	TMS322	SCP315	MCW3-P25	PL25
S40T-WTUNR/L-16	40	300	55	25.5	37	10	50	TN..1604..	TMS322	SCP318	MCW3-P25	PL25
S40U-WTUNR/L-16	40	350	55	25.5	37	10	50					
S50U-WTUNR/L-16	50	350	60	30.5	47	9	60					
S50V-WTUNR/L-16	50	400	60	30.5	47	9	60					
S60V-WTUNR/L-16	60	400	60	35.5	57	8	70					
A32S-WTUNR/L-16	32	250	48	19.5	30	13	40	TN..1604..	TMS322	SCP315	MCW3-P25	PL25
A40T-WTUNR/L-16	40	300	55	25.5	37	10	50	TN..1604..	TMS322	SCP318	MCW3-P25	PL25
A40U-WTUNR/L-16	40	350	55	25.5	37	10	50					



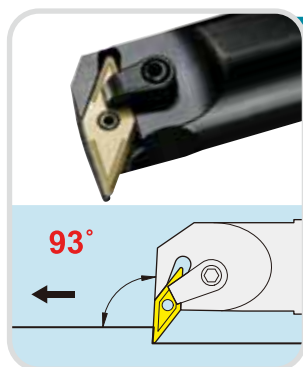
MTWN

S...MTWNR/L-16 Steel shank



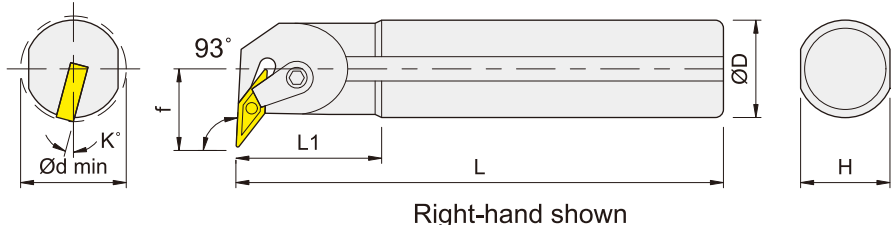
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S20R-MTWNR/L-16	20	200	40	13.5	18	15	27	TN..1604..	--	MLP33L-A	PL20	MC515	MS520	PL25
S25R-MTWNR/L-16	25	200	40	16	23	13	32							
S32S-MTWNR/L-16	32	250	48	20	30	13	40							
								TMS322		MLP34L-A	PL20	MC620	MS625	PL30



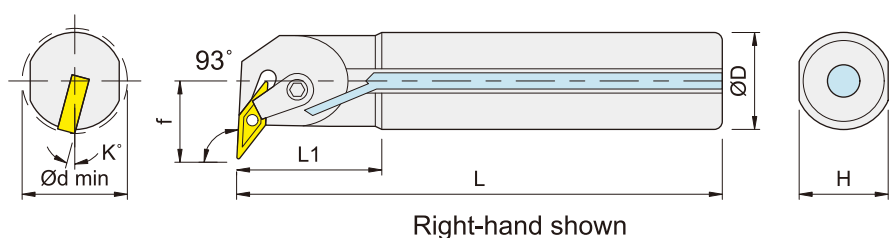
MVUN

S...MVUNR/L-16 Steel shank



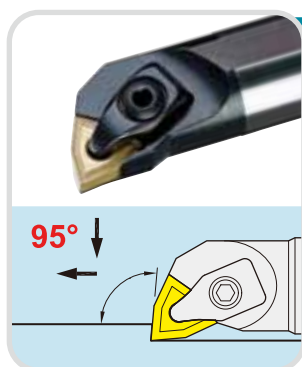
Right-hand shown

A...MVUNR/L-16 Steel shank+coolant hole



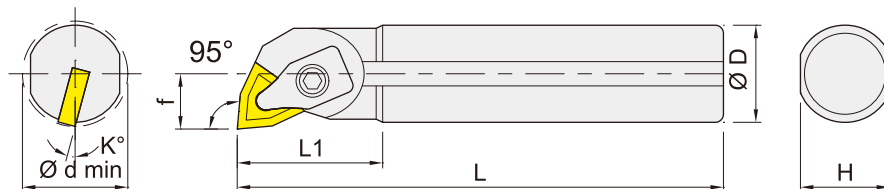
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S25R-MVUNR/L-16	25	200	45	18	23	13	32	VN..1604..	--	MLP33L-A	PL20	MC515	MS520	PL25
S32S-MVUNR/L-16	32	250	50	21	30	15	40	VN..1604..						
S40T-MVUNR/L-16	40	300	55	26	37	10	50							
S50U-MVUNR/L-16	50	350	60	32	47	9	60							
A25R-MVUNR/L-16	25	200	45	18	23	13	32	VN..1604..	VMS322	MLP34L-A	PL20	MC620	MS625	PL30
A32S-MVUNR/L-16	32	250	50	21	30	15	40	VN..1604..						
A40T-MVUNR/L-16	40	300	55	26	37	10	50							
A50U-MVUNR/L-16	50	350	60	32	47	9	60							



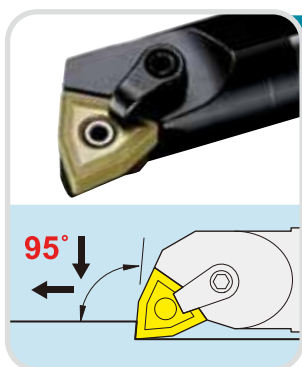
DWLN

■ S.-DWLNR/L-..Steel shank



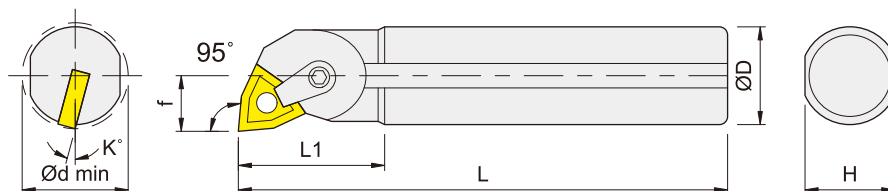
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
S20R-DWLNR/L-08	20	200	40	14	18	15	28	WN..0804..	--	--	--	MCD425	PL40
S25R-DWLNR/L-08	25	200	40	15	23	13	30						
S32S-DWLNR/L-08	32	250	48	19.5	30	13	40		WMS432	MS6013F			



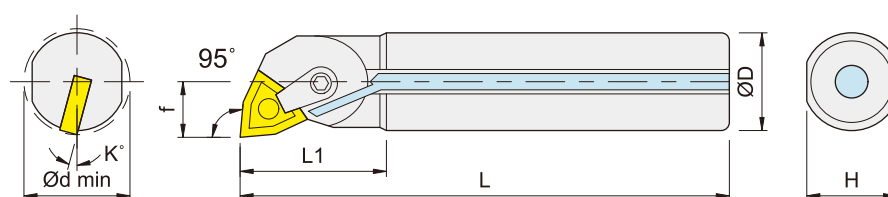
MWLN

■ S.-MWLNR/L-08 Steel shank



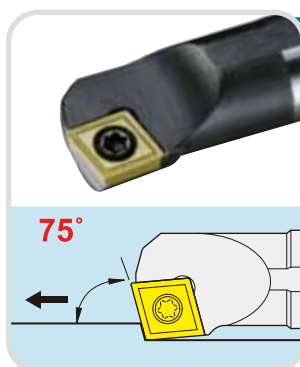
Right-hand shown

■ A.-MWLNR/L-08 Steel shank+coolant hole



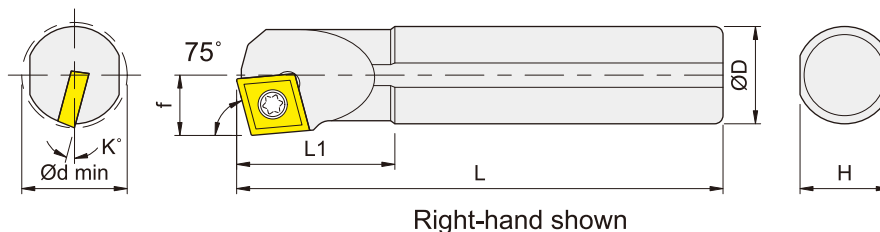
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
S20R-MWLNR/L-08	20	200	40	13	18	15	25	WN..0804..	--	MLP44-A	PL25	MC515	MS520	PL25
S25R-MWLNR/L-08	25	200	40	15	23	13	30							
S32S-MWLNR/L-08	32	250	48	20	30	13	40	WN..0804..	WMS432	MLP46-A	PL25	MC515	MS520	PL25
S40T-MWLNR/L-08	40	300	55	25.5	37	10	50					MC620	MS625	PL30
S50U-MWLNR/L-08	50	350	60	30.5	47	9	60							
S60V-MWLNR/L-08	60	400	60	35.5	57	8	70							
A20R-MWLNR/L-08	20	200	40	13	18	15	25	WN..0804..	--	MLP44-A	PL25	MC515	MS520	PL25
A25R-MWLNR/L-08	25	200	40	15	23	13	30							
A32S-MWLNR/L-08	32	250	48	20	30	13	40							



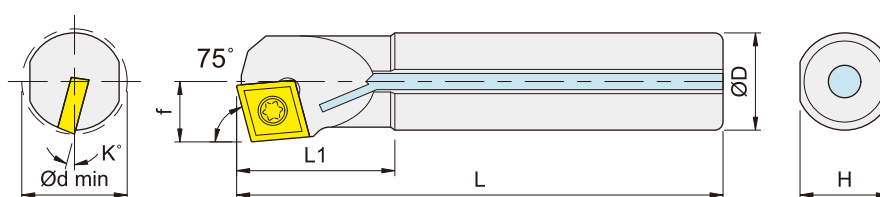
SCKC/P

■ S.-SCKC/PR/L-..Steel shank

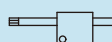


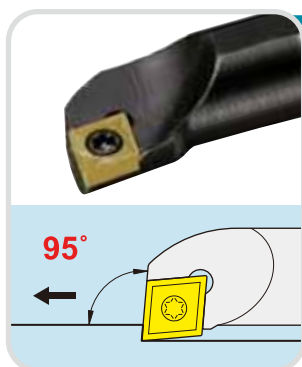
Right-hand shown

■ A.-SCKC/PR/L-..Steel shank+coolant hole



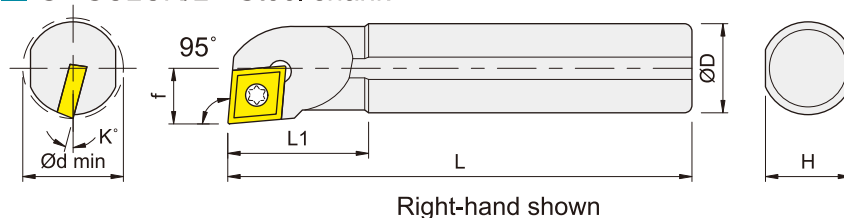
Right-hand shown

Item code	Dimensions,mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
S08K-SCKCR/L-06	8	125	20	5	7	15	10	CC..0602..	MS2506A	ETF09
S10K-SCKCR/L-06	10	125	22	6	9	13	12			
S12M-SCKCR/L-06	12	150	26	8	11	10	16			
S16Q-SCKCR/L-06	16	180	32	10	15	7	20			
S12M-SCKCR/L-09	12	150	28	8	11	11	16	CC..09T3..	MS4008A	ETF15
S16Q-SCKCR/L-09	16	180	32	10	15	7	20		MS4009A	
S20R-SCKCR/L-09	20	200	40	12.5	18	5	25			
S16Q-SCKPR/L-09	16	180	32	10	15	7	20	CP..0903..	MS4008A	ETF15
A08K-SCKCR/L-06	8	125	20	5	7	15	10	CC..0602..	MS2506A	ETF09
A10K-SCKCR/L-06	10	125	22	6	9	13	12			
A12M-SCKCR/L-06	12	150	26	8	11	10	16			
A16Q-SCKCR/L-06	16	180	32	10	15	7	20			
A12M-SCKCR/L-09	12	150	28	8	11	11	16	CC..09T3..	MS4008A	ETF15
A16Q-SCKCR/L-09	16	180	32	10	15	7	20		MS4009A	
A20R-SCKCR/L-09	20	200	40	12.5	18	5	25			
A16Q-SCKPR/L-09	16	180	32	10	15	7	20	CP..0903..	MS4008A	ETF15

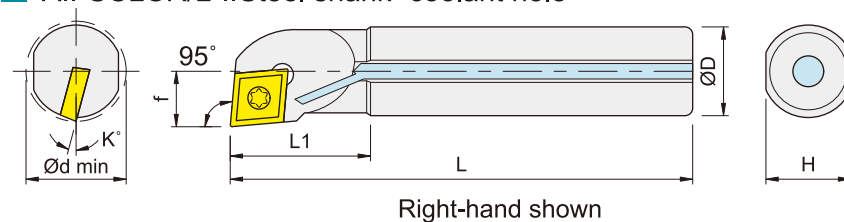


SCLC

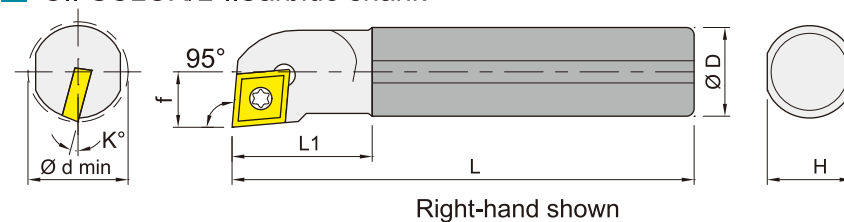
S...SCLCR/L...Steel shank

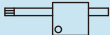


A...SCLCR/L...Steel shank+coolant hole



C...SCLCR/L...Carbide shank



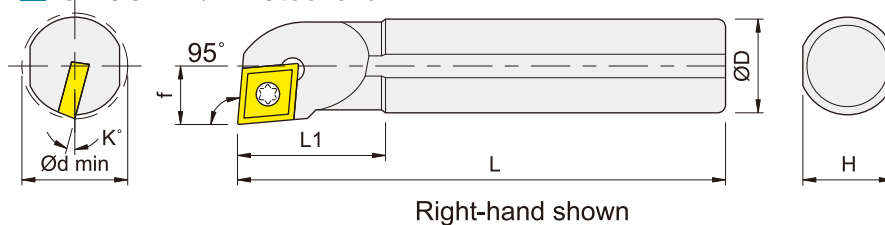
Item code	Dimensions,mm							Insert	Screw 	Wrench 	
	D	L	L1	f	H	K	dmin				
S08K-SCLCR/L-06	8	125	20	5	7	15	10	CC..0602..	MS2506A	ETF09	
S08K-SCLCR/L-06-D09	8	125	20	4.5	7	15	9				
S10K-SCLCR/L-06	10	125	22	6	9	13	12				
S10K-SCLCR/L-06-D11	10	125	22	5.5	9	13	11				
S12M-SCLCR/L-06	12	150	26	8	11	10	16				
S12M-SCLCR/L-06-D13	12	150	26	6.5	11	10	13				
S14Q-SCLCR/L-06	14	180	26	8	13	10	16				
S16Q-SCLCR/L-06	16	180	32	10	15	7	20				
S12M-SCLCR/L-09	12	150	26	8	11	10	16	CC..09T3..	MS4008A	ETF15	
S14Q-SCLCR/L-09	14	180	26	8	13	10	16				
S15Q-SCLCR/L-09	15	180	32	8.5	14	10	17				
S16Q-SCLCR/L-09	16	180	32	10	15	7	20				
S16Q-SCLCR/L-09-D18	16	180	32	9	15	7	18				
S18Q-SCLCR-09	18	180	32	10	17	7	20				
S20R-SCLCR/L-09	20	200	40	13	18	5	25		MS4009A		
S22R-SCLCR/L-09	22	200	40	12.5	20	5	25				
S25R-SCLCR/L-09	25	200	40	15	23	5	30	CC..09T3..	MS4011A	ETF15	
S32S-SCLCR/L-12	32	250	48	20	30	5	38	CC..1204..	MS5011A	ETF20	
S40T-SCLCR/L-12	40	300	55	26	37	3	50				
S40V-SCLCR/L-12	40	400	55	26	37	3	50				

Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
A08K-SCLCR/L-06	8	125	20	5	7	15	10	CC..0602..	MS2506A	ETF09
A08K-SCLCR/L-06-D09	8	125	20	4.5	7	15	9			
A10K-SCLCR/L-06	10	125	22	6	9	13	12			
A10K-SCLCR/L-06-D11	10	125	22	5.5	9	13	11			
A12M-SCLCR/L-06	12	150	26	8	11	10	16			
A12M-SCLCR/L-06-D13	12	150	26	6.5	11	10	13			
A14Q-SCLCR/L-06	14	180	26	8	13	10	16			
A16Q-SCLCR/L-06	16	180	32	10	15	7	20			
A12M-SCLCR/L-09	12	150	26	8	11	10	16	CC..09T3..	MS4008A	ETF15
A16Q-SCLCR/L-09	16	180	32	10	15	7	20			
A16Q-SCLCR/L-09-D18	16	180	32	9	15	7	18			
A20R-SCLCR/L-09	20	200	40	13	18	5	25			
A25R-SCLCR/L-09	25	200	40	15	23	5	30	CC..09T3..	MS4011A	ETF15
A32S-SCLCR/L-12	32	250	48	20	30	5	38	CC..1204..	MS5011A	ETF20
C04H-SCLCR/L-03	4	100	15	2.5	3.7	15	5	CC..03S1..	MS1604A	ETF06
C05H-SCLCR/L-03	5	100	15	3.0	4.7	15	6	CC..03S1..	MS1604A	ETF06
C06J-SCLCR/L-04	6	110	15	3.5	5.7	15	7	CC..0401..	MS2004A	ETF06
C07J-SCLCR/L-06	7	110	18	4	6.7	15	10	CC..0602..	MS2506A	ETF09
C08K-SCLCR/L-06	8	125	20	5	7.2	15	10	CC..0602..	MS2506A	ETF09
C08K-SCLCR-06-D09	8	125	20	4.5	7.2	15	9			
C10K-SCLCR/L-06	10	125	22	6	9.2	13	12			
C10K-SCLCR-06-D11	10	125	22	5.5	9.2	13	11			
C12M-SCLCR/L-06	12	150	26	8	11.2	10	16			
C12M-SCLCR-06-D13	12	150	26	6.5	11.2	10	13			
C12M-SCLCR/L-09	12	150	26	8	11.2	10	16			
C16Q-SCLCR/L-09	16	180	32	10	15.2	7	20			
C16Q-SCLCR/L-09-D18	16	180	32	9	15.2	7	18	CC..09T3..	MS4008A	ETF15

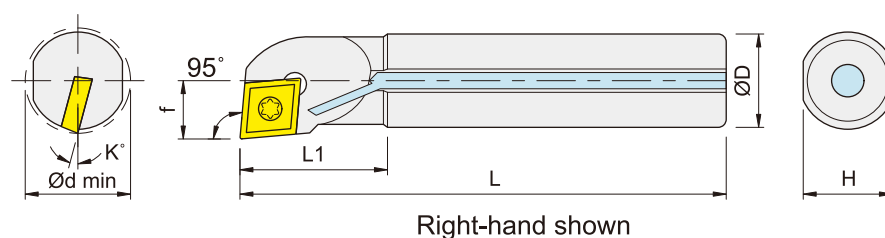


SCLP

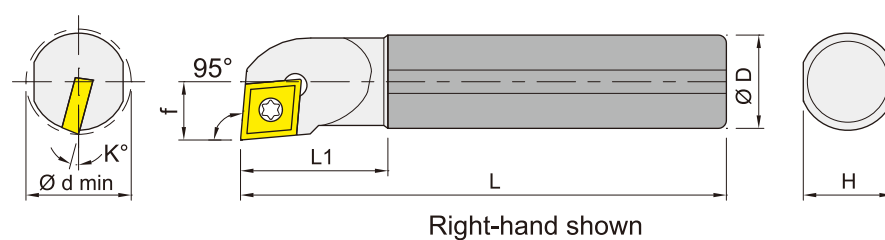
S...SCLPR/L... Steel shank

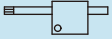


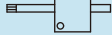
A...SCLPR/L... Steel shank+coolant hole

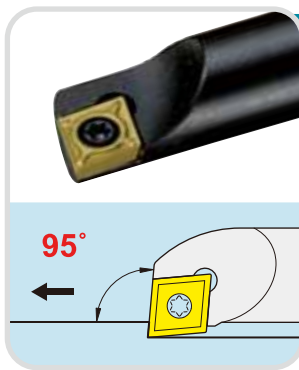


C...SCLPR/L... Carbide shank



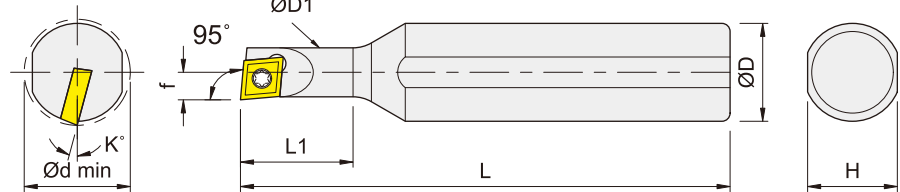
Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S08K-SCLPR/L-06	8	125	20	5	7	10	10	CP..0602..	MS2506A	ETF09
S10K-SCLPR/L-06	10	125	22	6	9	8	12			
S12M-SCLPR/L-06	12	150	26	8	11	7	16			
S10K-SCLPR/L-08	10	125	22	6	9	8	12	CP..0802..	MS3006A	ETF09
S12M-SCLPR/L-08	12	150	26	8	11	7	16		MS3008A	
S12M-SCLPR/L-08-D13	12	150	26	6.5	11	7	13			
S12M-SCLPR/L-09	12	150	26	8	11	7	16	CP..0903..	MS4008A	ETF15
S16Q-SCLPR/L-09	16	180	32	10	15	7	20			
S16Q-SCLPR/L-09-D18	16	180	32	10	15	7	18			
S20R-SCLPR/L-09	20	200	40	13	18	4	25	CP..0903..	MS4009A	ETF15
S25R-SCLPR/L-09	25	200	40	15	23	0	30		MS4011A	

Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
A08K-SCLPR/L-06	8	125	20	5	7	10	10	CP..0602..	MS2506A	ETF09
A10K-SCLPR/L-06	10	125	22	6	9	8	12			
A12M-SCLPR/L-06	12	150	26	8	11	7	16			
A10K-SCLPR/L-08	10	125	22	6	9	8	12	CP..0802..	MS3006A	ETF09
A12M-SCLPR/L-08	12	150	26	8	11	7	16		MS3008A	
A12M-SCLPR/L-09	12	150	26	8	11	7	16	CP..0903..	MS4008A	ETF15
A16Q-SCLPR/L-09	16	180	32	10	15	7	20			
A16Q-SCLPR/L-09-D18	16	180	32	10	15	7	18			
A20R-SCLPR/L-09	20	200	40	13	18	4	25		MS4009A	
A25R-SCLPR/L-09	25	200	40	15	23	0	30	CP..0903..	MS4011A	ETF15
C10K-SCLPR-08	10	125	22	6	9	8	12	CP..0802..	MS3006A	ETF09
C12M-SCLPR-08	12	150	26	8	11	7	16		MS3008A	
C12M-SCLPR-09	12	150	26	8	11	7	16	CP..0903..	MS4008A	ETF15
C16R-SCLPR-09	16	200	32	10	15	7	20			
C16R-SCLPR-09-D18	16	200	32	10	15	7	18			



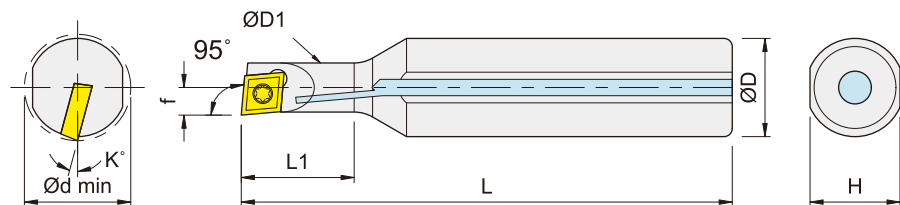
SCLC/P

S...SCLC/PR/L... Steel shank

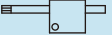


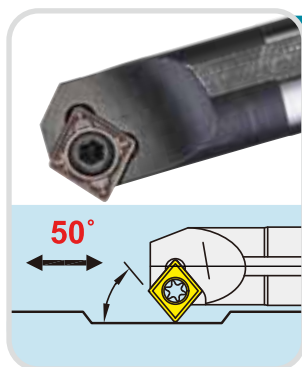
Right-hand shown

A...SCLC/PR/L... Steel shank+coolant hole



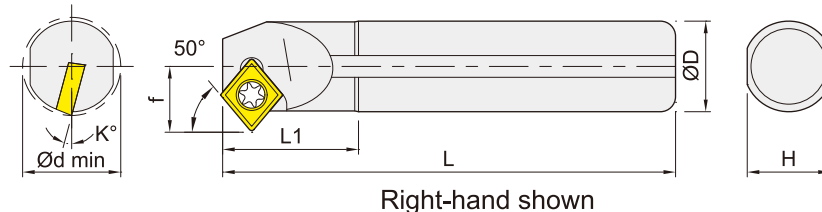
Right-hand shown

Item code	Dimensions, mm								Insert	Screw 	Wrench 
	D	D1	L	L1	f	H	K	dmin			
S1004K-SCLCR/L-03M	10	4	125	12	2.5	9	15	5	CC..03S1..	MS1603A	ETF06
S1005K-SCLCR/L-03M	10	5	125	15	3	9	15	5			
S1204H-SCLCR/L-03E-L08	12	4	100	8	2.5	11	15	5	CC..0301..	MS1603B	ETF06
S1204H-SCLCR/L-03E-L12	12	4	100	12	2.5	11	15	5			
S1206K-SCLCR/L-04K	12	6	125	14	3.5	11	13	7	CC..0401..	MS2004A	ETF06
S1607K-SCLCR/L-06-L20	16	7	125	20	4	15	13	8			
S1608K-SCLCR/L-06-L20	16	8	125	20	4.5	15	11	9	CC..0602..	MS2506A	ETF09
S1608K-SCLCR/L-06-L25	16	8	125	25	4.5	15	11	9			
S1609K-SCLCR/L-06-L25	16	9	125	25	5	15	11	10			
S1612M-SCLPR/L-08	16	12	150	30	7	15	7	14	CP..0802..	MS3008A	ETF09
S2014M-SCLPR/L-08	20	14	150	30	7.5	18	7	15			
S2016Q-SCLPR-09	20	16	180	20	10.5	18	7	21	CP..0903..	MS4008A	ETF15
A1004K-SCLCR/L-03M	10	4	125	12	2.5	9	15	5	CC..03S1..	MS1603A	ETF06
A1005K-SCLCR/L-03M	10	5	125	15	3	9	15	5	CC..03S1..	MS1603A	ETF06
A1204H-SCLCR-03E-L08	12	4	100	8	2.5	11	15	5	CC..0301..	MS1603B	ETF06
A1204H-SCLCR-03E-L12	12	4	100	12	2.5	11	15	5			
A1206K-SCLCR/L-04K	12	6	125	14	3.5	11	13	7	CC..0401..	MS2004A	ETF06
A1607K-SCLCR/L-06-L20	16	7	125	20	4	15	13	8	CC..0602..	MS2506A	ETF09
A1608K-SCLCR/L-06-L20	16	8	125	20	4.5	15	11	9			
A1608K-SCLCR-06-L25	16	8	125	25	4.5	15	11	9			
A1609K-SCLCR/L-06-L25	16	9	125	25	5	15	11	10	CP..0802..	MS3008A	ETF09
A1612M-SCLPR-08	16	12	150	30	7	15	7	14			

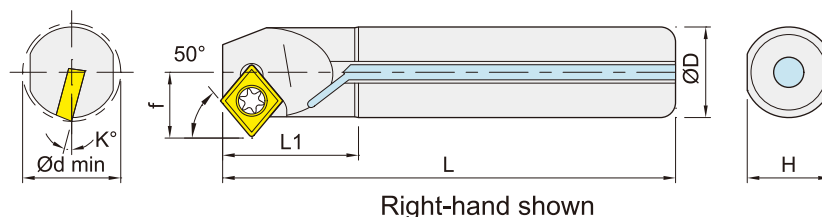


SCNC/P

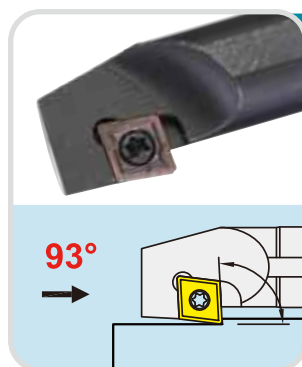
■ S..-SCNC/PR/L... Steel shank



■ A..-SCNC/PR/L... Steel shank+coolant hole

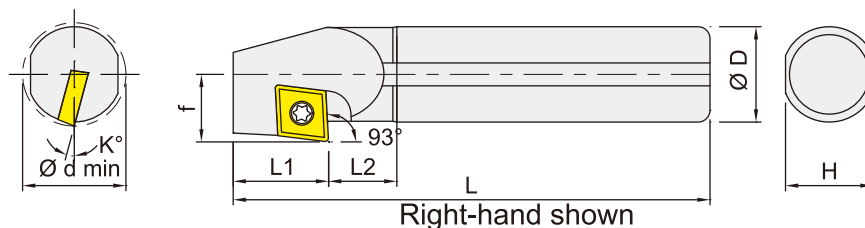


Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S12M-SCNCR-06	12	150	26	8.5	11	7	16	CC..0602..	MS2506A	ETF09
A12M-SCNCR-06										
S16Q-SCNPR-09	16	180	30	10.5	15	7	20	CP..0903..	MS4009A	ETF15
A16Q-SCNPR-09										

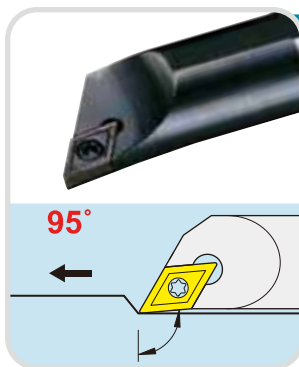


SCZC

■ S..-SCNC/PR/L Steel shank

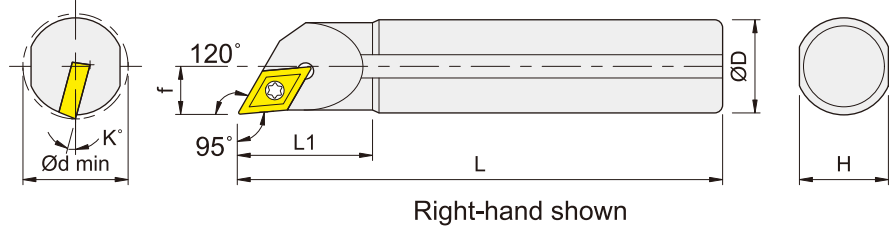


Item code	Dimensions,mm								Insert	Screw 	Wrench 
	D	L	L1	L2	f	H	K	dmin			
S08K-SCZCR/L-06	8	125	12	18	6	7	15	11	CC..0602..	MS2506A	ETF09
S10K-SCZCR/L-06	10	125	12	18	7.5	9	13	14			
S12M-SCZCR/L-06	12	150	12	20	8.5	11	10	16			
S16Q-SCZCR/L-09	16	180	18	22	11.5	15	7	21			
S20R-SCZCR/L-09	20	200	18	22	13.5	18	7	25	CC..09T3..	MS4009A	ETF15
S25R-SCZCR/L-09	25	200	18	22	16	23	7	30			
S40T-SCZCR-12	40	300	22	38	25.5	37	3	50	CC..1204..	MS5011A	ETF20



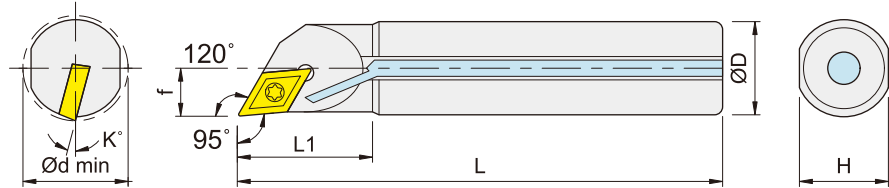
SDJC

S...SDJCR/L... Steel shank



Right-hand shown

A...SDJCR/L... Steel shank+coolant hole



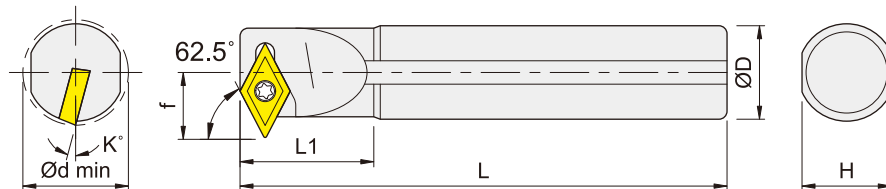
Right-hand shown

Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S08K-SDJCR/L-07	8	125	22	5	7	15	10	DC..0702..	MS2506A	ETF09
S10K-SDJCR/L-07	10	125	25	6	9	13	12			
S12M-SDJCR/L-07	12	150	30	7	11	10	14			
S16Q-SDJCR/L-07	16	180	38	9.5	15	7	19			
S1608K-SDJCR/L-07-L20	16	125	20	4.5	15	15	10			
S16Q-SDJCR/L-11	16	180	38	9.5	15	7	19	DC..11T3..	MS4009A	ETF15
S20R-SDJCR/L-11	20	200	42	11.5	18	7	23			
S25R-SDJCR/L-11	25	200	45	14	23	5	28			
S25S-SDJCR/L-11	25	250	45	14	23	5	28			
S32S-SDJCR/L-11	32	250	48	17.5	30	5	35			
A08K-SDJCR/L-07	8	125	22	5	7	15	10	DC..0702..	MS2506A	ETF09
A10K-SDJCR/L-07	10	125	25	6	9	13	12			
A12M-SDJCR/L-07	12	150	30	7	11	10	14			
A16Q-SDJCR/L-07	16	180	38	9.5	15	7	19			
A16Q-SDJCR/L-11	16	180	38	9.5	15	7	19	DC..11T3..	MS4009A	ETF15
A20R-SDJCR/L-11	20	200	42	11.5	18	7	23			
A25R-SDJCR/L-11	25	200	45	14	23	5	28			



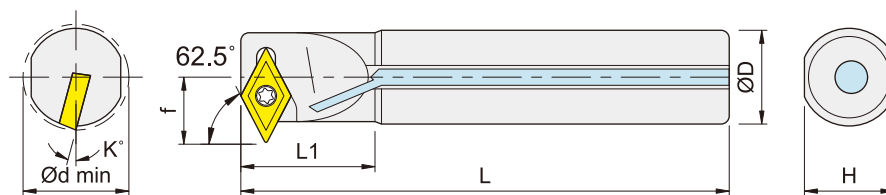
SDNC

■ S...SDNCR/L-.. Steel shank

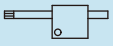


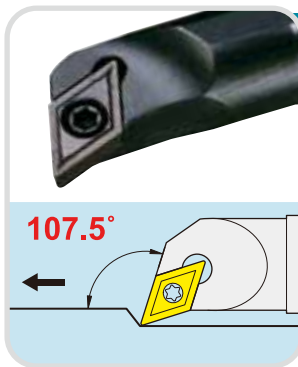
Right-hand shown

■ A...SDNCR/L-.. Steel shank+coolant hole



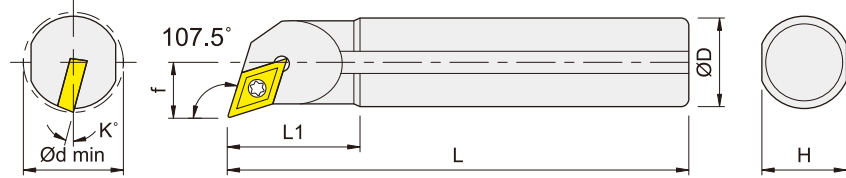
Right-hand shown

Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S12M-SDNCR/L-07	12	150	25	9	11	7	16	DC..0702..	MS2506A	ETF09
S16Q-SDNCR/L-07	16	180	30	11	15	7	20			
S20R-SDNCR/L-11	20	200	35	15	18	7	25	DC..11T3..	MS4011A	ETF15
S25R-SDNCR/L-11	25	200	35	17	23	5	32			
S32S-SDNCR/L-11	32	250	40	20.5	30	5	40			
A12M-SDNCR/L-07	12	150	25	9	11	7	16	DC..0702..	MS2506A	ETF09
A16Q-SDNCR/L-07	16	180	30	11	15	7	20			
A20R-SDNCR/L-11	20	200	35	15	18	7	25	DC..11T3..	MS4011A	ETF15
A25R-SDNCR/L-11	25	200	35	17	23	5	32			



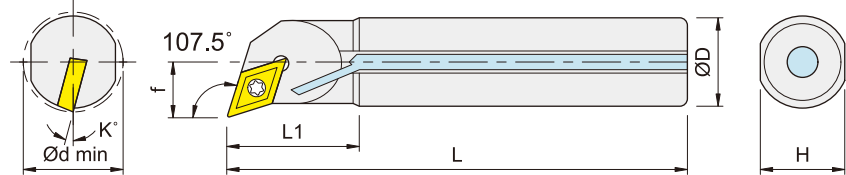
SDQC

S...SDQCR/L... Steel shank



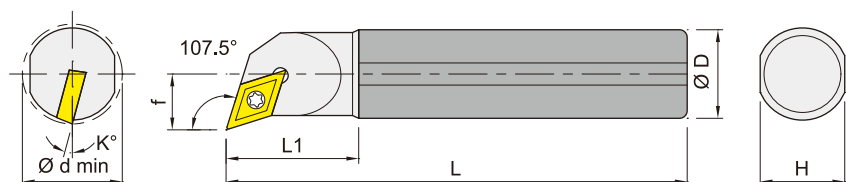
Right-hand shown

A...SDQCR/L... Steel shank+coolant hole

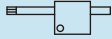


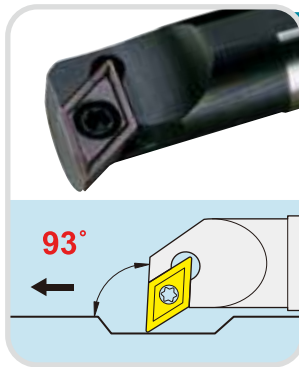
Right-hand shown

C...SDQCR/L... Carbide shank



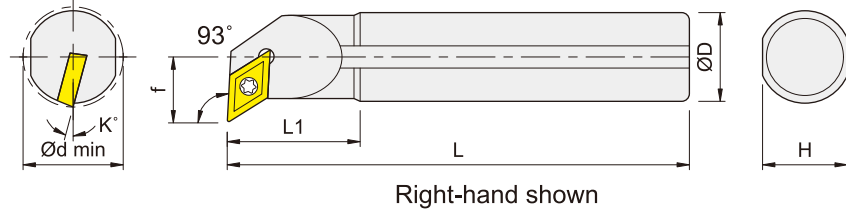
Right-hand shown

Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S10K-SDQCR/L-07	10	125	22	6.5	9	13	13	DC..0702..	MS2506A	ETF09
S12M-SDQCR/L-07	12	150	30	8	11	10	16			
S16Q-SDQCR/L-07	16	180	35	10.25	15	7	20			
S20R-SDQCR/L-07	20	200	30	12.5	18	7	25			
S16Q-SDQCR/L-11	16	180	35	10.5	15	7	20	DC..11T3..	MS4009A	ETF15
S20R-SDQCR/L-11	20	200	40	13	18	7	25			
S25R-SDQCR/L-11	25	200	45	15.5	23	5	32			
S32S-SDQCR/L-11	32	250	48	19.5	30	5	40			
S40T-SDQCR/L-11	40	300	55	25	37	3	50			
S50U-SDQCR/L-11	50	350	60	30	47	2	60	DC..0702..	MS2506A	ETF09
A10K-SDQCR/L-07	10	125	22	6.5	9	13	13			
A12M-SDQCR/L-07	12	150	30	8	11	10	16			
A16Q-SDQCR/L-07	16	180	35	10.25	15	7	20			
A16Q-SDQCR/L-11	16	180	35	10.5	15	7	20	DC..11T3..	MS4009A	ETF15
A20R-SDQCR/L-11	20	200	40	13	18	7	25			
A25R-SDQCR/L-11	25	200	45	15.5	23	5	32			
A32S-SDQCR/L-11	32	250	48	19.5	30	5	40			
A40T-SDQCR/L-11	40	300	55	25	37	3	50			
A50U-SDQCR/L-11	50	350	60	30	47	2	60	DC..0702..	MS2506A	ETF09
C10M-SDQCR-07	10	150	22	6.5	9	13	13			
C12Q-SDQCR-07	12	180	30	8	11	10	16			
C16Q-SDQCR-07	16	180	35	10.25	15	7	20			

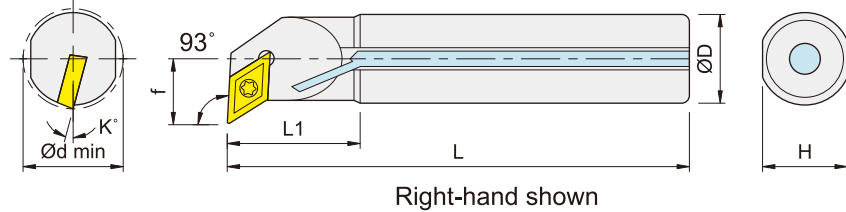


SDUC

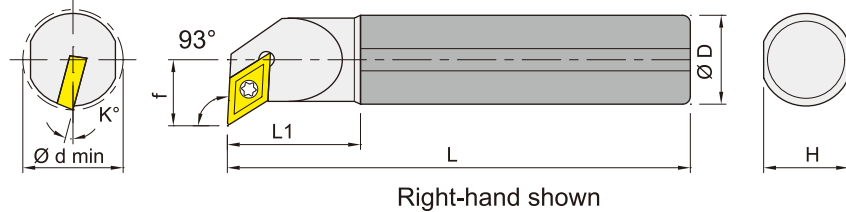
S...SDUCR/L... Steel shank

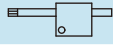


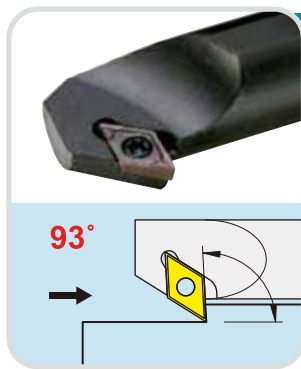
A...SDUCR/L... Steel shank+coolant hole



C...SDUCR/L... Carbide shank

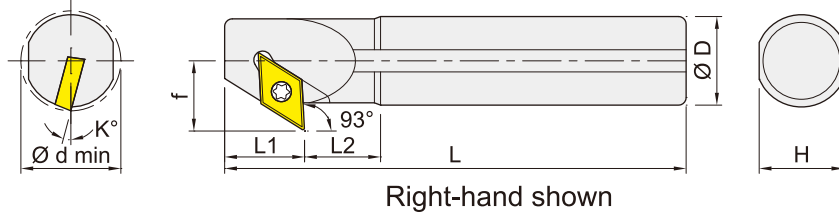


Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S10K-SDUCR/L-07	10	125	25	7	9	13	13	DC..0702..	MS2506A	ETF09
S12M-SDUCR/L-07	12	150	30	8.5	11	10	16			
S16Q-SDUCR/L-07	16	180	30	11	15	7	20			
S20R-SDUCR/L-07	20	200	40	12.5	18	7	25			
S16Q-SDUCR/L-11	16	180	30	11	15	7	20	DC..11T3..	MS4009A	ETF15
S20R-SDUCR/L-11	20	200	40	13	18	7	25			
S25R-SDUCR/L-11	25	200	45	16	23	5	32			
S32S-SDUCR/L-11	32	250	48	20	30	5	40			
S40T-SDUCR/L-11	40	300	55	26	37	3	50	DC..11T3..	MS4009A	ETF15
A10K-SDUCR/L-07	10	125	25	7	9	13	13			
A12M-SDUCR/L-07	12	150	30	8.5	11	10	16			
A16Q-SDUCR/L-07	16	180	30	11	15	7	20			
A16Q-SDUCR/L-11	16	180	30	11	15	7	20	DC..0702..	MS2506A	ETF09
A20R-SDUCR/L-11	20	200	40	13	18	7	25			
A25R-SDUCR/L-11	25	200	45	16	23	5	32			
A32S-SDUCR/L-11	32	250	48	20	30	5	40			
A40T-SDUCR/L-11	40	300	55	26	37	3	50	DC..11T3..	MS4009A	ETF15
C10M-SDUCR-07	10	150	25	7	9	13	13			
C12Q-SDUCR-07	12	180	30	8.5	11	10	16			
C16R-SDUCR-11	16	200	30	11	15	7	20	DC..0702..	MS2506A	ETF09

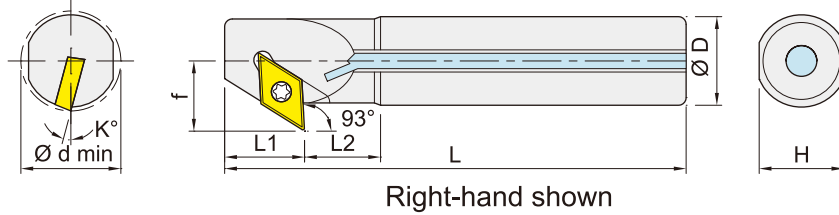


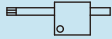
SDZC

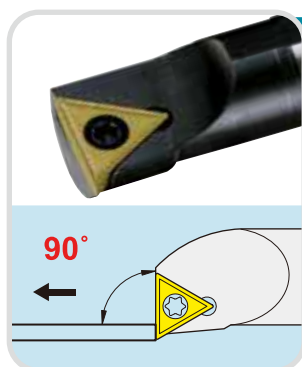
■ S..-SDZCR/L-.. Steel shank



■ A..-SDZCR/L-.. Steel shank+coolant hole

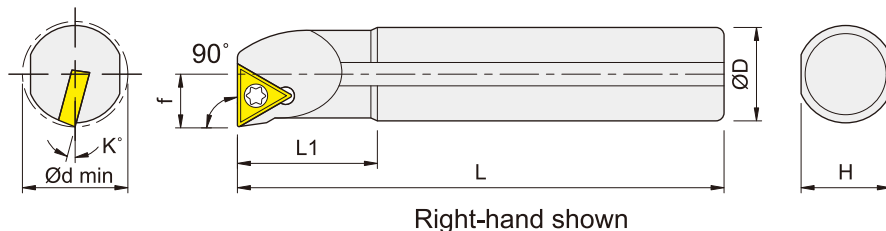


Item code	Dimensions,mm								Insert	Screw 	Wrench 
	D	L	L1	L2	f	H	K	dmin			
S10M-SDZCR/L-07	10	150	12	18	8.5	9	13	14	DC..0702..	MS2506A	ETF09
S12M-SDZCR/L-07	12	150	12	20	10.5	11	10	17			
S16Q-SDZCR/L-07	16	180	12	26	12.5	15	7	21			
S20R-SDZCR/L-11	20	200	18	27	15.5	18	7	26	DC..11T3..	MS4009A	ETF15
S25R-SDZCR/L-11	25	200	18	32	18	23	5	33			
S32S-SDZCR/L-11	32	250	18	42	21.5	30	5	40			
A10M-SDZCR/L-07	10	150	12	18	8.5	9	13	14	DC..0702..	MS2506A	ETF09
A12M-SDZCR/L-07	12	150	12	20	10.5	11	10	17			
A16Q-SDZCR/L-07	16	180	12	26	12.5	15	7	21			
A20R-SDZCR/L-11	20	200	18	27	15.5	18	7	26	DC..11T3..	MS4009A	ETF15
A25R-SDZCR/L-11	25	200	18	32	18	23	5	33			
A32S-SDZCR/L-11	32	250	18	42	21.5	30	5	40			

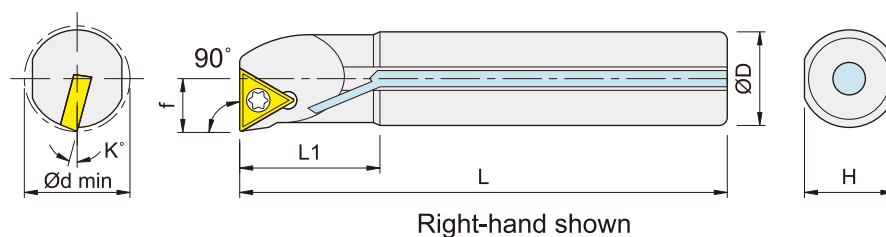


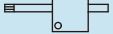
STFC/P

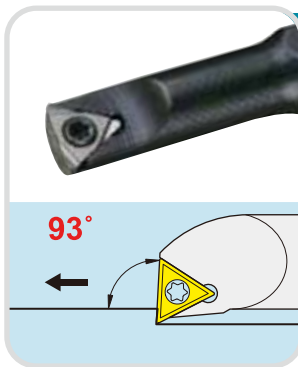
■ S..-STFCR/L... Steel shank



■ A..-STFCR/L... Steel shank+coolant hole

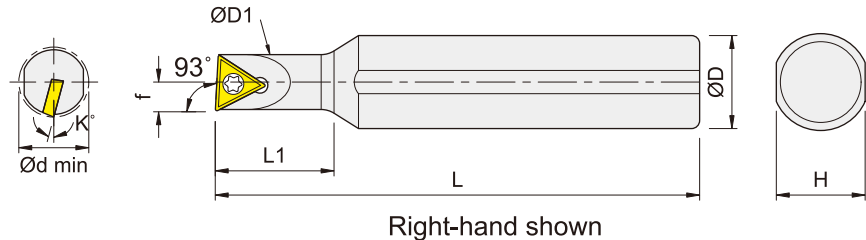


Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S06H-STFCR/L-06	6	100	15	3.5	5	15	7	TC..0601..	MS2004A	ETF06
S08K-STFCR/L-06-D09	8	125	20	4.5	7	15	9	TC..0902..	MS2205A	ETF07
S08K-STFCR/L-09	8	125	20	5.5	7	15	10		MS2206A	
S10K-STFCR/L-09	10	125	22	6.25	9	13	12	TC..1102..	MS2506A	ETF09
S10K-STFCR/L-09-D11	10	125	22	5.5	9	13	11			
S10K-STFCR/L-11	10	125	22	6.25	9	13	12			
S12M-STFCR/L-11	12	150	26	8.25	11	10	16			
S12M-STFCR/L-11-D13	12	150	26	6.5	11	10	13			
S16Q-STFCR/L-11	16	180	32	10	15	7	20	TC..16T3..	MS4011A	ETF15
S16Q-STFCR/L-16	16	180	32	10	15	7	20	TC..16T3..	MS4011A	ETF15
S20R-STFCR/L-16	20	200	36	13	18	5	25			
S25R-STFCR/L-16	25	200	40	15	23	5	30			
S25S-STFCR/L-16	25	250	40	15	23	5	30			
S32S-STFCR/L-16	32	250	48	20	30	5	38			
S32T-STFCR/L-16	32	300	48	20	30	5	38	TP..1603..	MS4011A	ETF15
S16Q-STFPR-1603	16	180	32	10	15	7	20			
A08K-STFCR/L-09	8	125	20	5.5	7	15	10	TC..0902..	MS2205A	ETF07
A10K-STFCR/L-09	10	125	22	6.25	9	13	12	TC..0902..	MS2206A	ETF07
A10K-STFCR/L-09-D11	10	125	22	5.5	9	13	11			
A10K-STFCR/L-11	10	125	22	6.25	9	13	12	TC..1102..	MS2506A	ETF09
A12M-STFCR/L-11	12	150	26	8.25	11	10	16			
A12M-STFCR/L-11-D13	12	150	26	6.5	11	10	13			
A16Q-STFCR/L-11	16	180	32	10	15	7	20			
A16Q-STFCR/L-16	16	180	32	10	15	7	20			
A20R-STFCR/L-16	20	200	36	13	18	5	25	TC..16T3..	MS4011A	ETF15
A25R-STFCR/L-16	25	200	40	15	23	5	30			
A32S-STFCR/L-16	32	250	48	20	30	5	38			

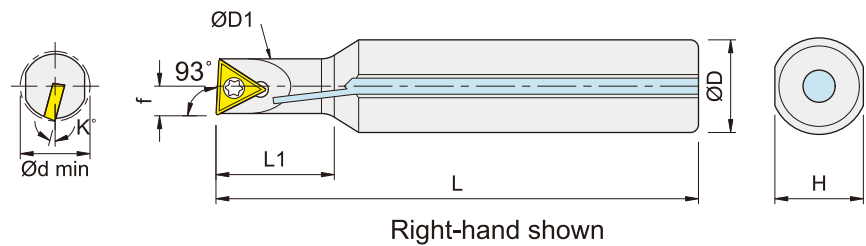


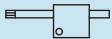
STUB

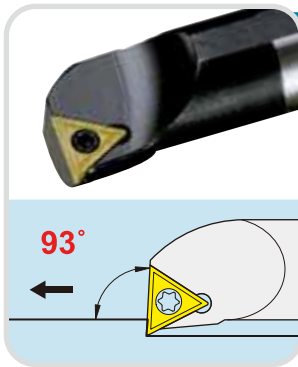
■ S..-STUBR/L-.. Steel shank



■ A..-STUBR/L-.. Steel shank+coolant hole

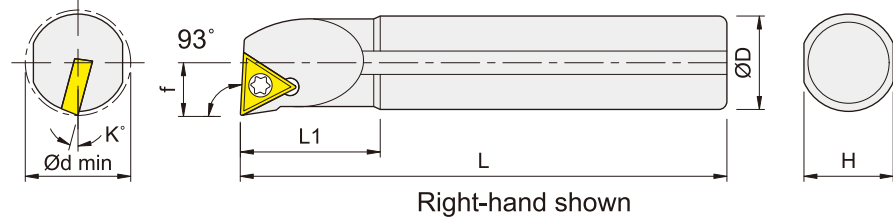


Item code	Dimensions,mm								Insert	Screw 	Wrench 
	D	D1	L	L1	f	H	K	dmin			
S0806K-STUBR/L-06-L10	8	6	125	10	3.5	7	12	7	TB..0601..	MS2004A	ETF06
S0806K-STUBR/L-06-L20	8	6	125	20	3.5	7	12	7			
S0806K-STUBR/L-06-L35	8	6	125	35	3.5	7	12	7			
S0807K-STUBR/L-06-L20	8	7	125	20	4	7	12	8	TB..0601..	MS2004A	ETF06
S1207K-STUBR/L-06-L20	12	7	125	20	4	11	12	8			
S1206K-STUCR-06-L14	12	6	125	14	3.5	11	12	7	TC..0601..	MS2004A	ETF06
S1207K-STUCR-06-L20	12	7	125	20	4	11	12	8			
A0806K-STUBR/L-06-L20	8	6	125	20	3.5	7	12	7	TB..0601..	MS2004A	ETF06
A0806K-STUBR/L-06-L35	8	6	125	35	3.5	7	12	7			
A0807K-STUBR/L-06-L20	8	7	125	20	4	7	12	8	TB..0601..	MS2004A	ETF06
A1207K-STUBR/L-06-L20	12	7	125	20	4	11	12	8			

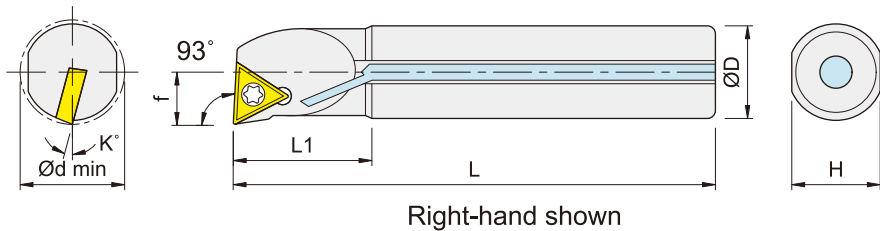


STUB/C

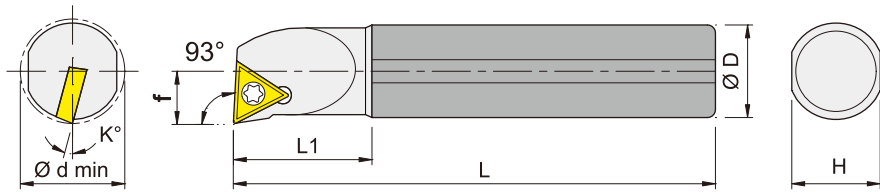
S...STUB/CR/L... Steel shank

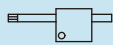


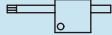
A...STUB/CR/L... Steel shank+coolant hole

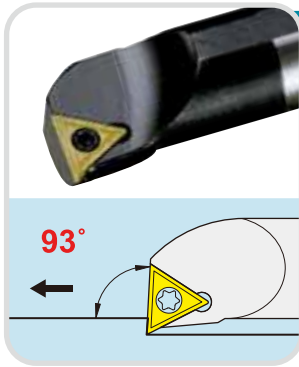


C...STUB/CR/L... Carbide shank



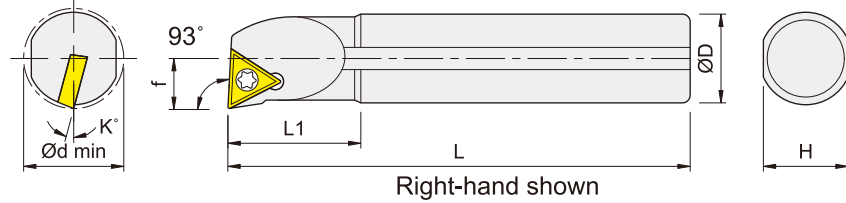
Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S06H-STUBR/L-06	6	100	15	3.5	5	15	7	TB..0601..	MS2004A	ETF06
S08K-STUBR/L-06-D09	8	125	20	4.5	7	15	9	TC..0902..	MS2205A	ETF07
S08K-STUCR/L-09	8	125	20	5.5	7	15	10		MS2206A	
S10K-STUCR/L-09	10	125	22	6	9	13	12			
S10K-STUCR/L-09-D11	10	125	22	5.5	9	13	11			
S12M-STUCR-09	12	150	26	8	11	10	16			
S14M-STUCR-09	14	150	26	8	13	10	16			
S10K-STUCR/L-11	10	125	22	6	9	13	12	TC..1102..	MS2506A	ETF09
S12M-STUCR/L-11	12	150	26	8	11	10	16			
S12M-STUCR/L-11-D13	12	150	26	6.5	11	10	13			
S16Q-STUCR/L-11	16	180	32	10	15	7	20			
S16Q-STUCR/L-11-D18	16	180	32	9	15	7	18			
S20R-STUCR/L-11	20	200	40	13	18	7	25			
S25R-STUCR/L-11	25	200	40	15	23	0	30			
S20R-STUCR/L-16	20	200	40	13	18	7	25	TC..16T3..	MS4011A	ETF15
S25R-STUCR/L-16	25	200	40	15	23	5	30			
S32S-STUCR/L-16	32	250	48	20	30	5	38			
S32T-STUCR/L-16	32	300	48	20	30	5	38			

Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
A08K-STUCR/L-09	8	125	20	5.5	7	15	10	TC..0902..	MS2205A	ETF07
A10K-STUCR/L-09	10	125	22	6	9	13	12		MS2206A	
A10K-STUCR/L-11	10	125	22	6	9	13	12	TC..1102..	MS2506A	ETF09
A12M-STUCR/L-11	12	150	26	8	11	10	16			
A16Q-STUCR/L-11	16	180	32	10	15	7	20			
A20R-STUCR/L-16	20	200	40	13	18	7	25			
A25R-STUCR/L-16	25	200	40	15	23	5	30	TC..16T3..	MS4011A	ETF15
A32S-STUCR/L-16	32	250	48	20	30	5	38			
A32T-STUCR/L-16	32	300	48	20	30	5	38			
C06J-STUBR/L-06	6	110	15	3.5	5.7	15	7	TB..0601..	MS2004A	ETF06
C08K-STUBR/L-06-D09	8	125	20	4.5	7.2	15	9			
C08K-STUCR/L-09	8	125	20	5.5	7.2	15	10	TC..0902..	MS2205A	ETF07
C10K-STUCR/L-09	10	125	22	6	9.2	13	12		MS2206A	
C10K-STUCR/L-11	10	125	22	6	9.2	13	12	TC..1102..	MS2506A	ETF09
C12M-STUCR/L-11	12	150	26	8	11.2	10	16			
C16R-STUCR/L-11	16	200	32	10	15.2	7	20			
C16R-STUCR/L-11-D18	16	200	32	9	15.2	7	18			

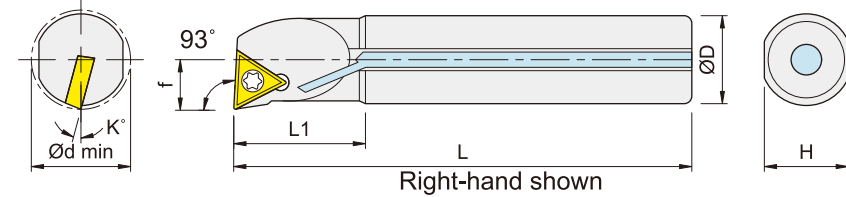


STUP

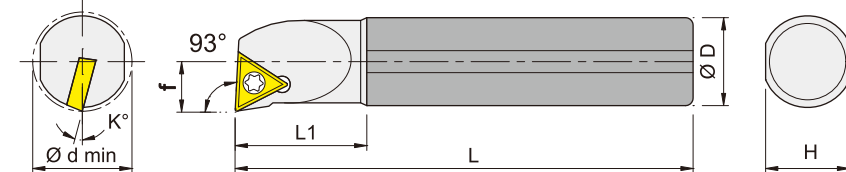
S...STUPR/L... Steel shank



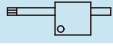
A...STUPR/L... Steel shank+coolant hole

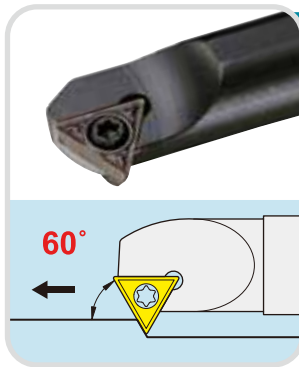


C...STUPR/L... Carbide shank



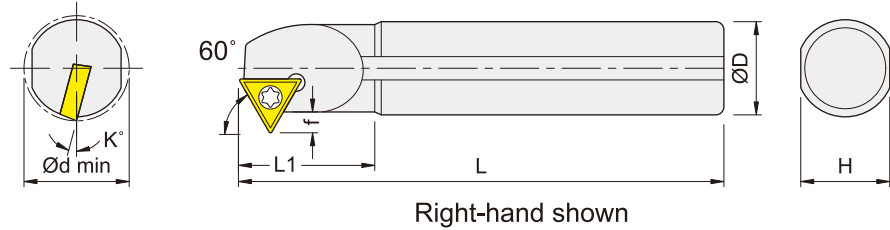
Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S08K-STUPR/L-08	8	125	20	5.5	7	10	10	TP..0802..	MS2205A	ETF07
S08K-STUPR/L-08-D09	8	125	20	4.5	7	10	9			
S10K-STUPR/L-08	10	125	22	6	9	8	12			
S10K-STUPR/L-08-D11	10	125	22	5.5	9	8	11			
S12M-STUPR/L-08	12	150	26	8	11	10	16			
S16Q-STUPR/L-08-D18	16	180	32	9	15	7	18			
S08K-STUPR/L-09	8	125	20	5.5	7	10	10	TP..0902..	MS2506A	ETF09
S10K-STUPR/L-09	10	125	22	6	9	8	12			
S10K-STUPR/L-09-D11	10	125	22	5.5	9	8	11			
S10K-STUPR/L-11	10	125	22	6	9	8	12	TP..1103..	MS3008A	ETF09
S12M-STUPR/L-11	12	150	26	8	11	10	16			
S12M-STUPR/L-11-D13	12	150	26	6.5	11	10	13			
S14Q-STUPR-11	14	180	26	8	13	10	16			
S15Q-STUPR-11	15	180	32	8.5	14	10	17			
S16Q-STUPR/L-11	16	180	32	10	15	7	20			
S16Q-STUPR/L-11-D18	16	180	32	9	15	7	18			
S18Q-STUPR/L-11	18	180	32	10	17	7	20			
S20R-STUPR/L-11	20	200	40	13	18	7	25			
S22R-STUPR-11	22	200	40	12.5	20	5	25			
S23R-STUPR-11	23	200	40	13	21	5	26			
S25R-STUPR/L-11	25	200	40	15	23	0	30			
S20R-STUPR/L-1603	20	200	40	13	18	4	25			
S25R-STUPR/L-1603	25	200	40	16	23	0	30			
S32S-STUPR/L-1603	32	250	48	20	30	0	38			
S20R-STUPR/L-16T3	20	200	40	13	18	4	25	TP..16T3..	MS4011A	ETF15
S25R-STUPR/L-16T3	25	200	40	16	23	0	30			
S32S-STUPR/L-16T3	32	250	48	20	30	0	38			
S20R-STUPR/L-1604	20	200	40	13	18	4	25	TP..1604..	MS4011A	ETF15
S25R-STUPR/L-1604	25	200	40	16	23	0	30			
S32S-STUPR/L-1604	32	250	48	20	30	0	38			

Item code	Dimensions,mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
A08K-STUPR/L-08	8	125	20	5.5	7	10	10	TP..0802..	MS2205A	ETF07
A08K-STUPR/L-08-D09	8	125	20	4.5	7	10	9		MS2206A	
A10K-STUPR/L-08	10	125	22	6	9	8	12			
A10K-STUPR/L-08-D11	10	125	22	5.5	9	8	11			
A08K-STUPR/L-09	8	125	20	5.5	7	10	10	TP..0902..	MS2506A	ETF09
A10K-STUPR/L-09	10	125	22	6	9	8	12			
A10K-STUPR/L-09-D11	10	125	22	5.5	9	8	11			
A10K-STUPR/L-11	10	125	22	6	9	8	12	TP..1103..	MS3008A	ETF09
A12M-STUPR/L-11	12	150	26	8	11	10	16			
A12M-STUPR/L-11-D13	12	150	26	6.5	11	10	13			
A16Q-STUPR/L-11	16	180	32	10	15	7	20			
A16Q-STUPR/L-11-D18	16	180	32	9	15	7	18			
A20R-STUPR/L-11	20	200	40	13	18	7	25			
A25R-STUPR/L-11	25	200	40	15	23	0	30			
A20R-STUPR/L-1603	20	200	40	13	18	4	25	TP..1603..	MS4011A	ETF15
A25R-STUPR/L-1603	25	200	40	16	23	0	30			
A32S-STUPR/L-1603	32	250	48	20	30	0	38			
A20R-STUPR/L-16T3	20	200	40	13	18	4	25	TP..16T3..	MS4011A	ETF15
A25R-STUPR/L-16T3	25	200	40	16	23	0	30			
A32S-STUPR/L-16T3	32	250	48	20	30	0	38			
A20R-STUPR/L-1604	20	200	40	13	18	4	25	TP..1604..	MS4011A	ETF15
A25R-STUPR/L-1604	25	200	40	16	23	0	30			
A32S-STUPR/L-1604	32	250	48	20	30	0	38			
C08K-STUPR/L-08	8	125	20	5.5	7.2	10	10	TP..0802..	MS2205A	ETF07
C08K-STUPR/L-09	8	125	20	5.5	7.2	10	10	TP..0902..	MS2506A	ETF09
C10K-STUPR/L-09	10	125	22	6	9.2	8	12			
C10K-STUPR/L-11	10	125	22	6	9.2	8	12	TP..1103..	MS3008A	ETF09
C12M-STUPR/L-11	12	150	26	8	11.2	10	16			
C12M-STUPR/L-11-D13	12	150	26	6.5	11.2	10	13			
C16R-STUPR/L-11	16	200	32	10	15.2	7	20			
C16R-STUPR/L-11-D18	16	200	32	9	15.2	7	18			

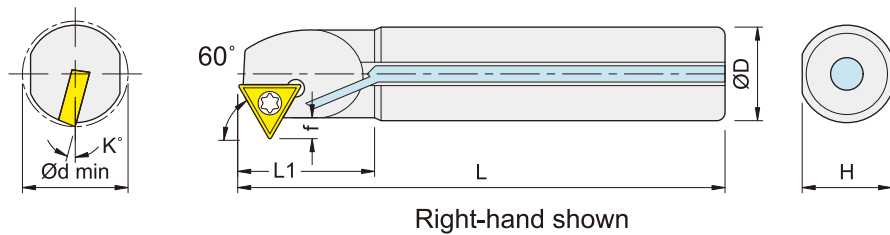


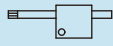
STWC/P

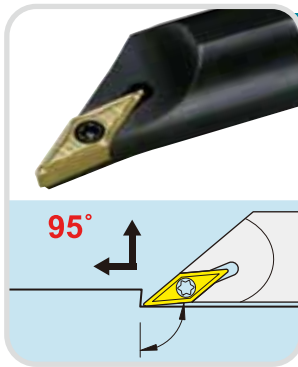
S...STWC/PR/L... Steel shank



A...STWC/PR/L... Steel shank+coolant hole

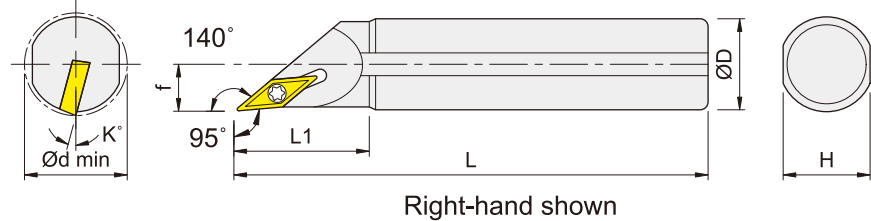


Item code	Dimensions,mm							Insert	Screw 	Wrench 
	D	L	L1	f	H	K	dmin			
S0806K-STWBR/L-06-L15	8	125	15	1.5	7	12	9	TB..0601..	MS2004A	ETF06
S08K-STWCR/L-09	8	125	23	2	7	15	11	TC..0902..	MS2205A	ETF07
S10K-STWCR/L-11	10	125	23	2.5	9	15	13	TC..1102..	MS2506A	ETF09
S12M-STWCR/L-11	12	150	30	2.5	11	13	16			
S14M-STWCR/L-11	14	150	30	2.5	13	11	18			
S16Q-STWCR/L-11	16	180	35	2.5	15	10	20			
S20R-STWCR/L-11	20	200	40	2.5	18	7	25			
S20R-STWCR/L-16	20	200	40	4.5	18	8	26			
S25R-STWCR/L-16	25	200	45	4.5	23	6	30	TC..16T3..	MS4011A	ETF15
S32S-STWCR/L-16	32	250	50	4.5	30	4	40			
S08K-STWPR/L-08	8	125	20	2	7	10	11	TP..0802..	MS2205A	ETF07
S08K-STWPR/L-09	8	125	23	2	7	10	11	TP..0902..	MS2506A	ETF09
S10K-STWPR/L-09	10	125	23	2.5	9	15	13	TP..1103..	MS3008A	ETF09
S10K-STWPR/L-11	10	125	23	2.5	9	15	13			
S12M-STWPR/L-11	12	150	30	2.5	11	13	16			
S14M-STWPR/L-11	14	150	30	2.5	13	11	18			
S16Q-STWPR/L-11	16	180	35	2.5	15	10	20			
S20R-STWPR/L-11	20	200	40	2.5	18	7	25			
A10K-STWCR/L-11	10	125	23	2.5	9	15	13	TC..1102..	MS2506A	ETF09
A12M-STWCR/L-11	12	150	30	2.5	11	13	16			
A16Q-STWCR/L-11	16	180	35	2.5	15	10	20			
A20R-STWCR/L-11	20	200	40	2.5	18	7	25			
A20R-STWCR/L-16	20	200	40	4.5	18	8	26	TC..16T3..	MS4011A	ETF15
A25R-STWCR/L-16	25	200	45	4.5	23	6	30			
A32S-STWCR/L-16	32	250	50	4.5	30	4	40			
A08K-STWPR/L-08	8	125	20	2	7	10	11	TP..0802..	MS2205A	ETF07
A08K-STWPR/L-09	8	125	23	2	7	10	11	TP..0902..	MS2506A	ETF09
A10K-STWPR/L-09	10	125	23	2.5	9	15	13	TP..1103..	MS3008A	ETF09
A10K-STWPR/L-11	10	125	23	2.5	9	15	13			
A12M-STWPR/L-11	12	150	30	2.5	11	13	16			

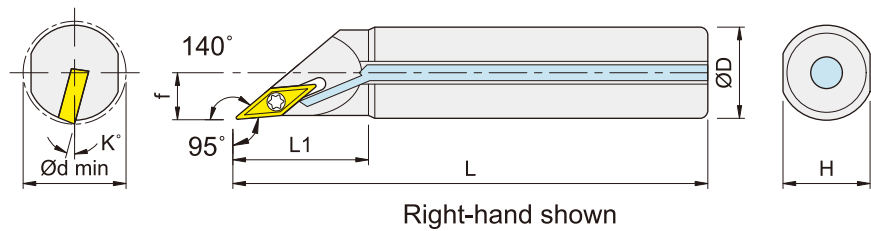


SVJB

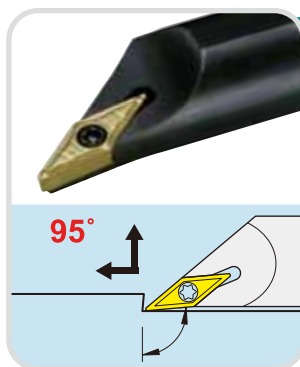
■ S..-SVJBR/L-..Steel shank



■ A..-SVJBR/L-..Steel shank+coolant hole

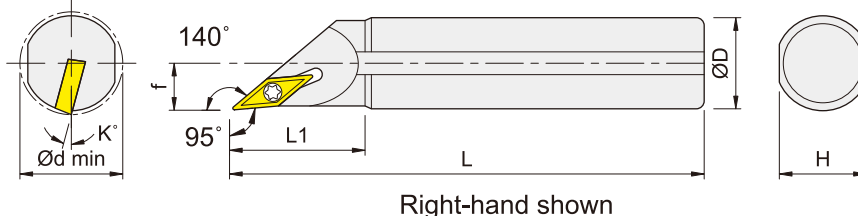


Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
S10K-SVJBR/L-11	10	125	25	6	9	13	12	VB..1103..	--	--	--	MS2506A	ETF09
S12M-SVJBR/L-11	12	150	30	7	11	10	14						
S16Q-SVJBR/L-11	16	180	38	9.5	15	7	19						
S20R-SVJBR/L-11	20	200	42	11.5	18	7	23						
S16Q-SVJBR/L-16	16	180	38	9.5	15	7	19	VB..1604..	--	--	--	MS3509B	ETF15
S20R-SVJBR/L-16	20	200	42	11.5	18	7	23						
S25R-SVJBR/L-16	25	200	45	14	23	5	28						
S32S-SVJBR/L-16	32	250	50	17.5	30	4	35						
S40T-SVJBR/L-16	40	300	60	21.5	37	5	43						
A10K-SVJBR/L-11	10	125	25	6	9	13	12	VB..1103..	--	--	--	MS2506A	ETF09
A12M-SVJBR/L-11	12	150	30	7	11	10	14						
A16Q-SVJBR/L-11	16	180	38	9.5	15	7	19						
A20R-SVJBR/L-11	20	200	42	11.5	18	7	23						
A16Q-SVJBR/L-16	16	180	38	9.5	15	7	19	VB..1604..	--	--	--	MS3509B	ETF15
A20R-SVJBR/L-16	20	200	42	11.5	18	7	23						
A25R-SVJBR/L-16	25	200	45	14	23	5	28						
A32S-SVJBR/L-16	32	250	50	17.5	30	4	35						

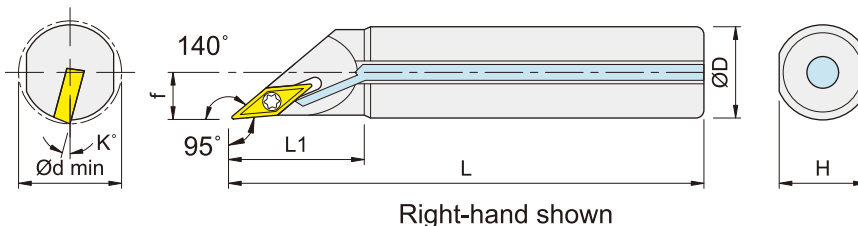


SVJC

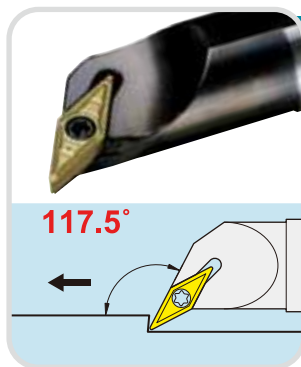
■ S..-SVJCR/L-.. Steel shank



■ A..-SVJCR/L-.. Steel shank+coolant hole

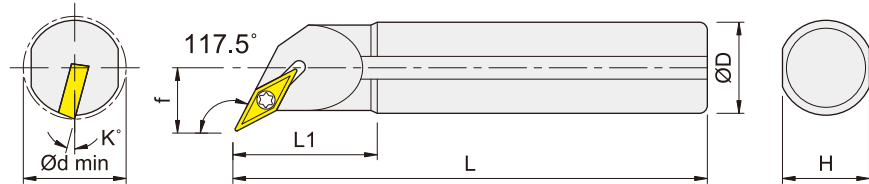


Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Screw	Wrench			
	D	L	L1	f	H	K	dmin									
S08K-SVJCR/L-08	8	125	22	5	7	15	10	VC..0802..	--	--	--	MS2005A	ETF06			
S10K-SVJCR/L-08	10	125	25	6	9	13	12					VC..1103..	MS2506A	ETF09		
S10K-SVJCR/L-11	10	125	25	6	9	13	12	VC..1604..					MS3509B	ETF15		
S12M-SVJCR/L-11	12	150	30	7	11	10	14									
S16Q-SVJCR/L-11	16	180	38	9.5	15	7	19									
S20R-SVJCR/L-11	20	200	42	11.5	18	7	23									
S16Q-SVJCR/L-16	16	180	38	9.5	15	7	19									
S20R-SVJCR/L-16	20	200	42	11.5	18	7	23									
S25R-SVJCR/L-16	25	200	45	14	23	5	28									
S32S-SVJCR/L-16	32	250	50	17.5	30	4	35									
A08K-SVJCR/L-08	8	125	22	5	7	15	10	VC..0802..	--	--	--	MS2005A	ETF06			
A10K-SVJCR/L-08	10	125	25	6	9	13	12					VC..1103..	MS2506A	ETF09		
A10K-SVJCR/L-11	10	125	25	6	9	13	12	VC..1604..							MS3509B	ETF15
A12M-SVJCR/L-11	12	150	30	7	11	10	14									
A16Q-SVJCR/L-11	16	180	38	9.5	15	7	19									
A20R-SVJCR/L-11	20	200	42	11.5	18	7	23									
A16Q-SVJCR/L-16	16	180	38	9.5	15	7	19									
A20R-SVJCR/L-16	20	200	42	11.5	18	7	23									
A25R-SVJCR/L-16	25	200	45	14	23	5	28									
A32S-SVJCR/L-16	32	250	50	17.5	30	4	35									



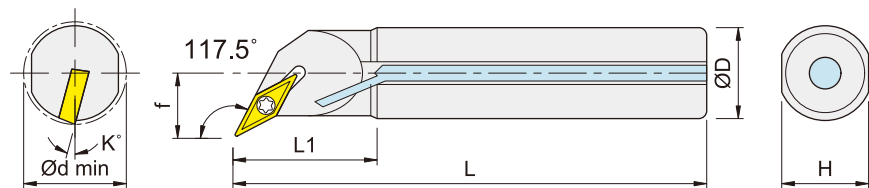
SVQB/C

■ S...SVQB/CR/L...Steel shank



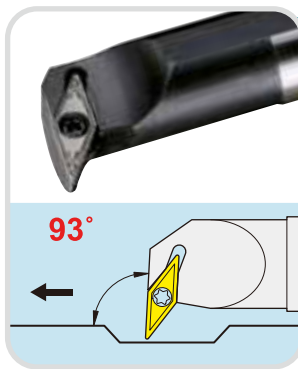
Right-hand shown

■ A...SVQB/CR/L...Steel shank+coolant hole



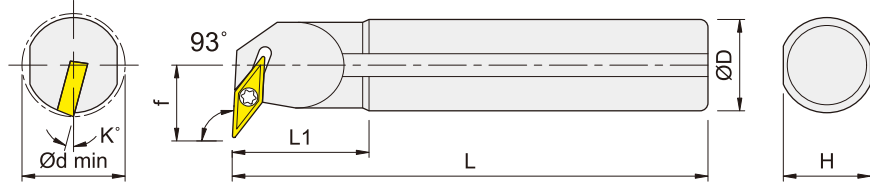
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
S12M-SVQBR/L-11	12	150	28	9	11	10	16	VB..1103..	--	--	--	MS2506A	ETF09
S16Q-SVQBR/L-11	16	180	35	11	15	7	20						
S20R-SVQBR/L-11	20	200	40	13	18	7	25						
S20R-SVQBR/L-16	20	200	40	13.5	18	5	27	VB..1604..	--	--	--	MS3509B	ETF15
S25R-SVQBR/L-16	25	200	45	16	23	5	32						
S25S-SVQBR/L-16	25	250	45	16	23	5	32						
S32S-SVQBR/L-16	32	250	48	20	30	5	40	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S32V-SVQBR/L-16	32	400	48	20	30	5	40						
S40T-SVQBR/L-16	40	300	60	25.5	37	5	50						
S40V-SVQBR/L-16	40	400	60	25.5	37	5	50	VC..1103..	--	--	--	MS2506A	ETF09
S12M-SVQCR/L-11	12	150	28	9	11	10	16						
S16Q-SVQCR/L-11	16	180	35	11	15	7	20						
S20R-SVQCR/L-11	20	200	40	13	18	7	25	VC..1604..	--	--	--	MS3509B	ETF15
S20R-SVQCR/L-16	20	200	40	13.5	18	5	27						
S25R-SVQCR/L-16	25	200	45	17	23	5	32						
S25S-SVQCR/L-16	25	250	45	16	23	5	32	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S32S-SVQCR/L-16	32	250	48	20	30	5	40						
S40T-SVQCR/L-16	40	300	60	25.5	37	5	50						
S40V-SVQCR/L-16	40	400	60	25.5	37	5	50	VC..2205..	--	--	--	MS5011A	ETF20
S40T-SVQCR-22	40	300	65	25.7	37	5	50						
A16Q-SVQBR/L-11	16	180	35	11	15	7	20	VB..1103..	--	--	--	MS2506A	ETF09
A20R-SVQBR/L-11	20	200	40	13	18	7	25	VB..1604..	--	--	--	MS3509B	ETF15
A20R-SVQBR/L-16	20	200	40	13.5	18	5	27						
A25R-SVQBR/L-16	25	200	45	16	23	5	32						
A32S-SVQBR/L-16	32	250	48	20	30	5	40	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A16Q-SVQCR/L-11	16	180	35	11	15	7	20	VC..1103..	--	--	--	MS2506A	ETF09
A20R-SVQCR/L-11	20	200	40	13	18	7	25	VC..1604..	--	--	--	MS3509B	ETF15
A20R-SVQCR/L-16	20	200	40	13.5	18	5	27						
A25R-SVQCR/L-16	25	200	45	16	23	5	32						
A32S-SVQCR/L-16	32	250	48	20	30	5	40	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15



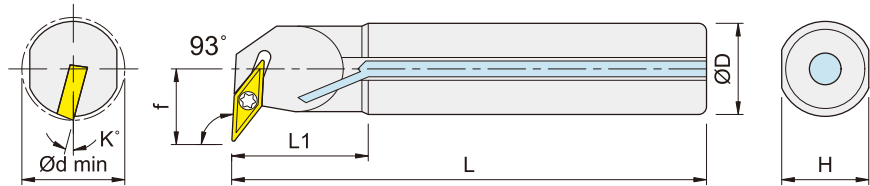
SVUB/C

■ S..-SVUB/CR/L-.. Steel shank



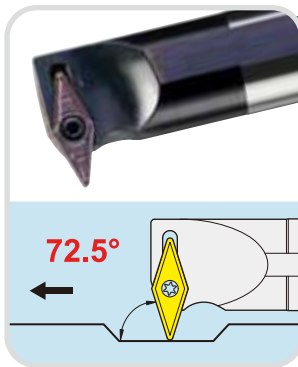
Right-hand shown

■ A..-SVUB/CR/L-.. Steel shank+coolant hole



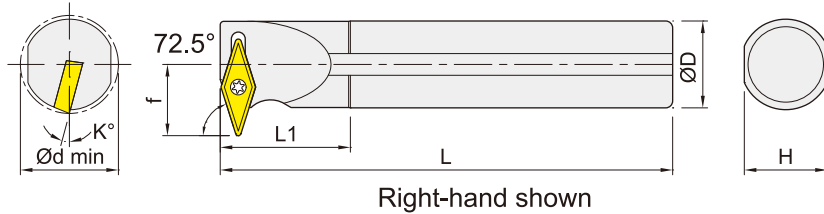
Right-hand shown

Item code	Dimensions,mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
S16Q-SVUBR/L-11	16	180	30	13	15	7	22	VB..1103..	--	--	--	MS2506A	ETF09
S20R-SVUBR/L-11	20	200	40	15	18	7	27	VB..1604..	--	--	--	MS3509B	ETF15
S25R-SVUBR/L-16	25	200	45	18	23	5	32	VB..1604..	--	--	--	MS3509B	ETF15
S25S-SVUBR/L-16	25	250	45	18	23	5	32	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S32S-SVUBR/L-16	32	250	50	22	30	5	40	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S32U-SVUBR/L-16	32	350	50	22	30	5	40	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S40T-SVUBR/L-16	40	300	55	27	37	5	50	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S40U-SVUBR/L-16	40	350	50	27	37	5	50	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S40V-SVUBR/L-16	40	400	50	27	37	5	50	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S12M-SVUCR/L-08	12	150	26	9,5	11	10	16	VC..0802..	--	--	--	MS2005A	ETF06
S1612M-SVUCR/L-08	16	150	31	9,5	15	10	16	VC..0802..	--	--	--	MS2005A	ETF06
S16Q-SVUCR/L-11	16	180	30	13	15	7	22	VC..1103..	--	--	--	MS2506A	ETF09
S20R-SVUCR/L-11	20	200	40	15	18	7	27	VC..1103..	--	--	--	MS2506A	ETF09
S25R-SVUCR/L-16	25	200	45	18	23	5	32	VC..1604..	--	--	--	MS3509B	ETF15
S25S-SVUCR/L-16	25	250	45	18	23	5	32	VC..1604..	--	--	--	MS3509B	ETF15
S32S-SVUCR/L-16	32	250	50	22	30	5	40	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S32U-SVUCR/L-16	32	350	50	22	30	5	40	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S40T-SVUCR/L-16	40	300	55	27	37	5	50	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S40U-SVUCR/L-16	40	350	55	27	37	5	50	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
S40V-SVUCR/L-16	40	400	55	27	37	5	50	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A16Q-SVUBR/L-11	16	180	30	13	15	7	22	VB..1103..	--	--	--	MS2506A	ETF09
A20R-SVUBR/L-11	20	200	40	15	18	7	27	VB..1604..	--	--	--	MS3509B	ETF15
A25R-SVUBR/L-16	25	200	45	18	23	5	32	VB..1604..	--	--	--	MS3509B	ETF15
A12M-SVUCR/L-08	12	150	26	9,5	11	10	16	VC..0802..	--	--	--	MS2005A	ETF06
A1612M-SVUCR/L-08	16	150	31	9,5	15	10	16	VC..0802..	--	--	--	MS2005A	ETF06
A16Q-SVUCR/L-11	16	180	30	13	15	7	22	VC..1103..	--	--	--	MS2506A	ETF09
A20R-SVUCR/L-11	20	200	40	15	18	7	27	VC..1103..	--	--	--	MS2506A	ETF09
A25R-SVUCR/L-16	25	200	45	18	23	5	32	VC..1604..	--	--	--	MS3509B	ETF15
A25S-SVUCR/L-16	25	250	45	18	23	5	32	VC..1604..	--	--	--	MS3509B	ETF15
A32S-SVUCR/L-16	32	250	50	22	30	5	40	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A32U-SVUCR/L-16	32	350	50	22	30	5	40	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A40T-SVUCR/L-16	40	300	55	27	37	5	50	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A40U-SVUCR/L-16	40	350	55	27	37	5	50	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A40V-SVUCR/L-16	40	400	55	27	37	5	50	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15

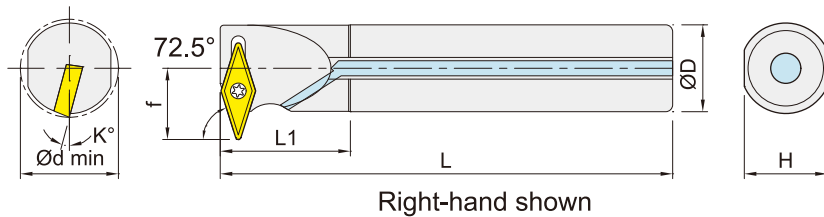


SVVB/C

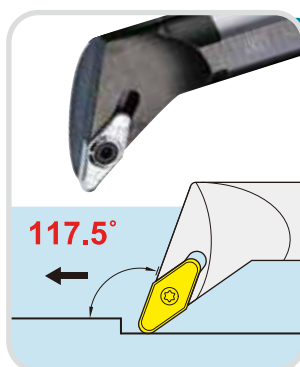
■ S.-SVVB/CR/L-.. Steel shank



■ A.-SVVB/R/L-.. Steel shank+coolant hole

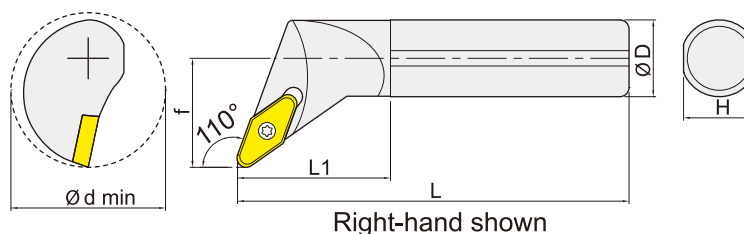


Item code	Dimensions,mm							Insert	Shim 	Screw 	Wrench 	Screw 	Wrench 
	D	L	L1	f	H	K	dmin						
S25R-SVVBR/L-16	25	200	45	20.5	23	5	34	VB..1604..	---	---	---	MS3509B	ETF15
S25S-SVVBR/L-16	25	250	45	20.5	23	5	34						
S32S-SVVBR/L-16	32	250	50	25.5	30	5	42	VB..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15
A25R-SVVBR/L-16	25	200	45	20.5	23	5	34	VB..1604..	---	---	---	MS3509B	ETF15
S25S-SVVCRL-16	25	250	45	20.5	23	5	34	VC..1604..	---	---	---	MS3509B	ETF15
S32S-SVVCRL-16	32	250	50	25.5	30	5	42	VC..1604..	VSS322	MDS5035T	PL35	MS3512B	ETF15

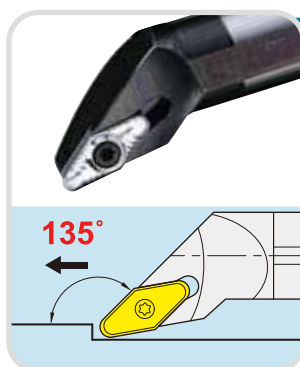


SVXC

■ S..-SVXCR-..Steel shank

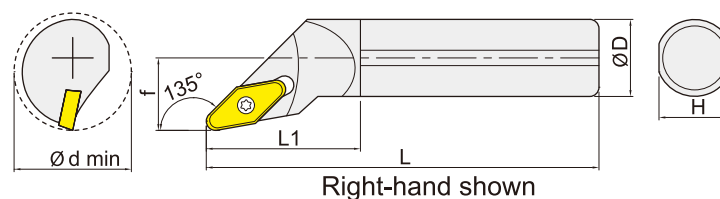


Item code	Dimensions,mm						Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	dmin						
S25N-SVXCR-22-A125-D71	25	160	50	35.5	23	50	VC..2205..	--	--	--	MS5011A	ETF20

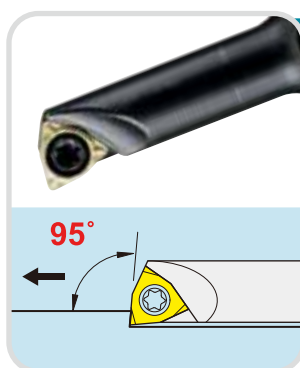


SVXC

■ S..-SVXCR-..Steel shank

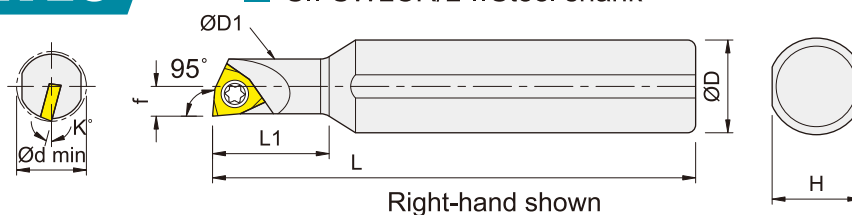


Item code	Dimensions,mm						Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	dmin						
S25N-SVXCR-22-A100-D47	25	160	50	23.5	23	38	VC..2205..	--	--	--	MS5011A	ETF20

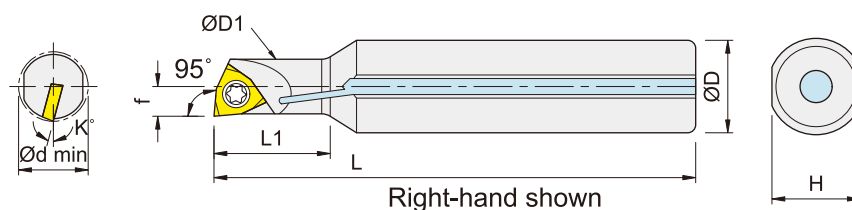


SWLC

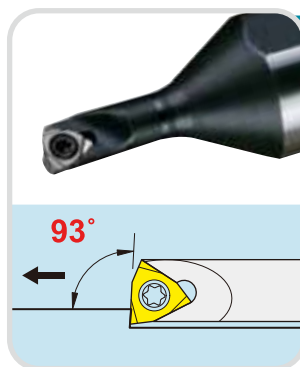
■ S..-SWLCR/L-.. Steel shank



■ A..-SWLCR/L-.. Steel shank+coolant hole

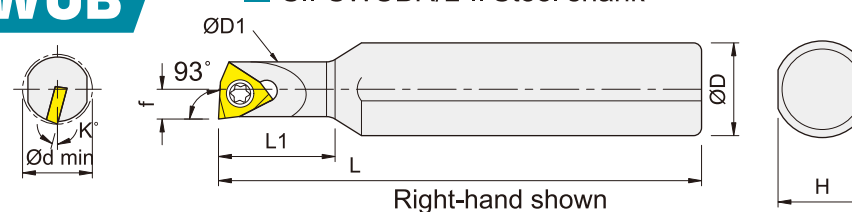


Item code	Dimensions,mm								Insert	Screw	Wrench
	D	D1	L	L1	f	H	K	dmin			
S0805K-SWLCR-02-L15	8	5	125	15	3.0	7	12	6	WC..0201..	MS2003A	ETF06
S0805K-SWLCR-02-L18	8	5	125	18	3.0	7	12	6			
S1005K-SWLCR-02-L15	10	5	125	15	3.0	9	12	6			
S1006K-SWLCR-02-L15	10	6	125	15	3.5	9	12	7			
A0805K-SWLCR-02-L15	8	5	125	15	3.0	7	12	6	WC..0201..	MS2003A	ETF06
A0805K-SWLCR-02-L18	8	5	125	18	3.0	7	12	6			
A1005K-SWLCR-02-L15	10	5	125	15	3.0	9	12	6			

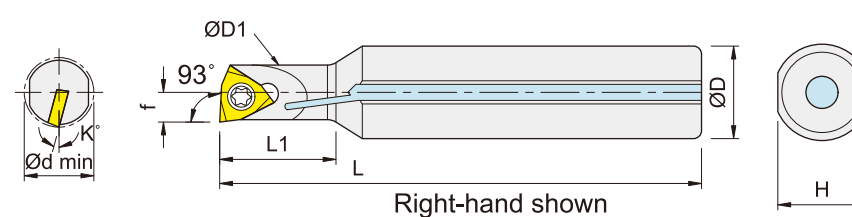


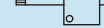
SWUB

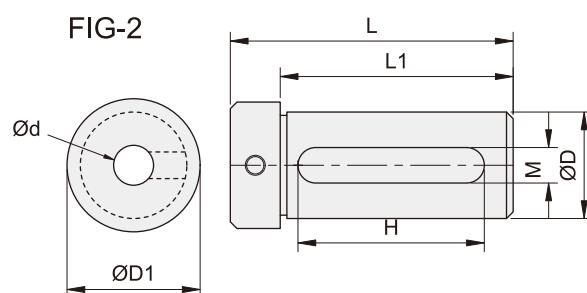
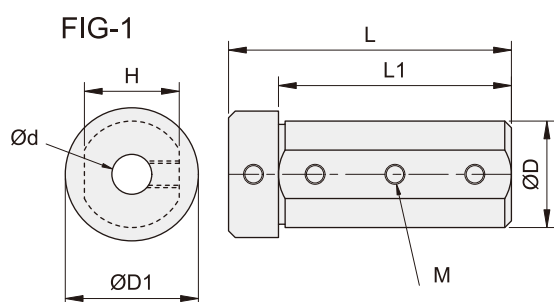
■ S..-SWUBR/L-.. Steel shank



■ A..-SWUBR/L-.. Steel shank+coolant hole



Item code	Dimensions,mm								Insert	Screw 	Wrench 
	D	D1	L	L1	f	H	K	dmin			
S1005K-SWUBR/L-06-L15	10	5	125	15	3.0	9	12	6	WB..0601..	MS2003A	ETF06
S1205K-SWUBR/L-06-L15	12	5	125	15	3.0	11	12	6			
S1605K-SWUBR/L-06-L15	16	5	125	15	3.0	15	12	6			
S1006K-SWUBR/L-06-L18	10	6	125	18	3.5	9	12	7			
S1007K-SWUBR/L-06-L20	10	7	125	20	4.0	9	12	8		MS2004A	
A1005K-SWUBR/L-06-L15	10	5	125	15	3.0	9	12	6	WB..0601..	MS2003A	ETF06
A1205K-SWUBR/L-06-L15	12	5	125	15	3.0	11	12	6			
A1605K-SWUBR/L-06-L15	16	5	125	15	3.0	15	12	6			
A1006K-SWUBR/L-06-L18	10	6	125	18	3.5	9	12	7			
A1007K-SWUBR/L-06-L20	10	7	125	20	4.0	9	12	8		MS2004A	


NC


Item code	Dimensions,mm							SHAPE	Weight (kg)
	d	D	L	L1	D1	H	M		
NC16-03	3	16	62	55	19	14.5	M4	FIG-1	0.11
NC16-04	4						M5		0.10
NC16-06	6								0.08
NC16-08	8								0.07
NC16-10	10								0.06
NC16-12	12	16	62	55	19	50	11	FIG-2	0.06
NC20-06	6	20	67	60	27	17.5	M6	FIG-1	0.16
NC20-07	7								0.15
NC20-08	8								0.14
NC20-10	10								0.13
NC20-12	12								0.12
NC20-14	14	20	67	60	27	55	13	FIG-2	0.09
NC20-15	15								0.08
NC20-16	16								0.07
NC20S-06	6	20	51	45	25	17.5	M6	FIG-1	0.13
NC20S-08	8								0.12
NC20S-10	10								0.11
NC20S-12	12								0.10
NC20S-16	16	20	51	45	25	40	11	FIG-2	0.06

Please note that products are continuously updated. Product changes subject to future amendments.
Please contact with us regarding the tools not mentioned in the catalog.

Item code	Dimensions,mm							SHAPE	Weight (kg)
	d	D	L	L1	D1	H	M		
NC25-06	6	25	64	58	35	23.5	M6	FIG-1	0.24
NC25-07	7								0.24
NC25-08	8								0.23
NC25-10	10								0.22
NC25-12	12								0.20
NC25-14	14	25	64	58	35	51	12	FIG-2	0.17
NC25-15	15								0.18
NC25-16	16								0.16
NC25-18	18								0.13
NC25-20	20								0.11
NC25-22	22								0.08
NC32-04	4	32	85	70	38	29.5	M6	FIG-1	0.53
NC32-05	5								0.52
NC32-06	6								0.54
NC32-07	7								0.55
NC32-08	8								0.52
NC32-10	10	32	100	85	38	29.5	M8	FIG-1	0.60
NC32-12	12								0.56
NC32-14	14								0.53
NC32-15	15								0.52
NC32-16	16								0.50
NC32-18	18								0.46
NC32-20	20	32	100	85	38	77	14	FIG-2	0.38
NC32-22	22								0.35
NC32-25	25								0.27
NC40-06	6	40	100	85	46	38	M6	FIG-1	1.00
NC40-07	7						M8		1.01
NC40-08	8								0.99
NC40-10	10								0.93
NC40-14	14								0.90
NC40-15	15								0.89
NC40-16	16								0.87
NC40-18	18								0.83
NC40-20	20	40	100	85	46	77	14	FIG-2	0.71
NC40-22	22								0.69
NC40-25	25								0.60
NC40-32	32								0.38
NC50-08	8	50	100	85	58	48	M8	FIG-1	1.58
NC50-10	10								1.56
NC50-12	12								1.53
NC50-16	16								1.47
NC50-20	20								1.39
NC50-25	25								1.26
NC50-32	32	50	100	85	58	77	14	FIG-2	0.95
NC50-40	40								0.71
NC6020	20	60	120	110	68	57	M8	FIG-1	2.44
NC6025	25								2.28
NC6032	32								1.98
NC6040	40								1.55
NC6050	50	60	125	115	68	102	14	FIG-2	0.87


SHB

FIG-1

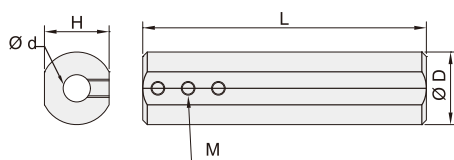
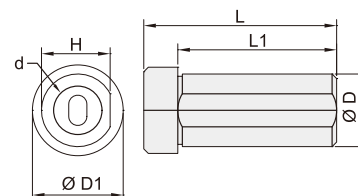

NC..MTA

FIG-2

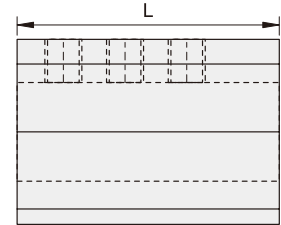
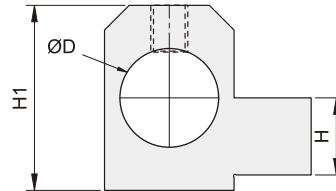
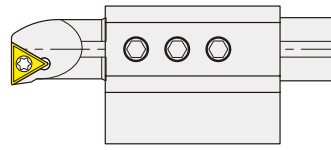


Item code	Dimensions,mm							SHAPE	Weight (kg)	
	d	D	L	L1	D1	H	M			
SHB-1603	3	16	100	-	-	14	M4	FIG-1	0.12	
SHB-1604	4								0.12	
SHB-1605	5								0.12	
SHB-1606	6	16	100	-	-	14	M5	FIG-1	0.11	
SHB-1607	7								0.11	
NC32-MTA1	MTA1	32	85	75	42	77	-	FIG-2	0.53	
NC32-MTA2	MTA2								0.45	
NC32-MTA3	MTA3		100	0.45						
NC40-MTA1	MTA1	40	87	82	50	38	-	FIG-2	0.82	
NC40-MTA2	MTA2									0.75
NC40-MTA3	MTA3									0.64
NC40-MTA4	MTA4		116	86					0.72	
NC50-MTA1	MTA1	50	120	100	58	48	-	FIG-2	1.76	
NC50-MTA2	MTA2								1.83	
NC50-MTA3	MTA3								1.66	
NC50-MTA4	MTA4								1.39	
NC50-MTA5	MTA5	50	146	126	58	48		FIG-2	0.94	

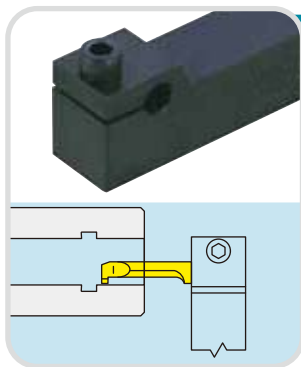
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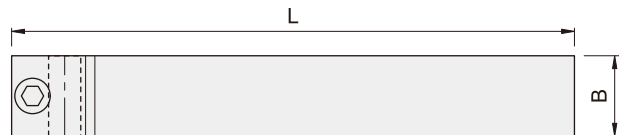
SBHA



Item code	Dimensions,mm				Screw 	Wrench 
	H	D	H1	L		
SBHA16-32	16	32	55	85	HM1216	PL60
SBHA20-32	20	32	55	85		
SBHA20-40	20	40	60	90		
SBHA25-32	25	32	60	85		
SBHA25-40	25	40	65	90		

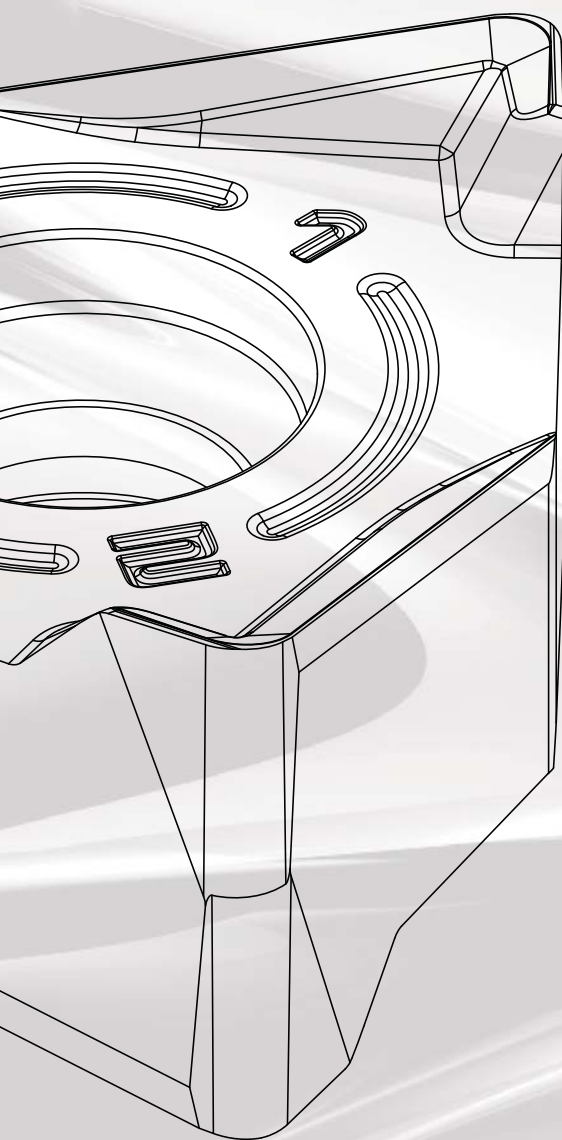


CH



Right-hand shown

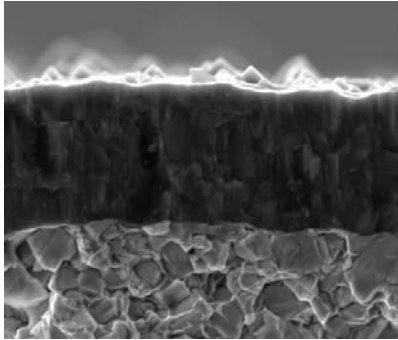
Item code	Dimensions,mm					Screw 	Wrench 		
	ØD	H	B	L	H1				
CH-2020K-05	5	20	20	125	20	HTM625	PL50		
CH-2020K-06	6								
CH-2020K-08	8								
CH-2020K-10	10								
CH-2525M-05	5	25	25	150	25			HTM625	PL50
CH-2525M-06	6								
CH-2525M-08	8								
CH-2525M-10	10								



MILLING

Features of Grades

BT 9120 - PVD Coating for Milling Application



- PVD coating with optimal thermal resistance & added strength
- Tough carbide substrate designed for demanding application

Milling Applications

ISO	Material Group	VDI Group	Relative materials(DIN)	Hardness HB	Cutting speed (m/min)
P	Non-alloy steel	1 - 5	9 SMn 28, C35C50, C40E, C45E, 49 CrMo 4	125 - 250	150 - 250
	Low alloy steel	6 - 9	13 CrMo 44, 40NiCrMo22, 58 CrV 4	200 - 350	140 - 200
	High alloy steel	10 - 11	X 40 CrMoV 5 1, X100 CrMoV 5 1, S6-5-5	200 - 325	80 - 130
M	Ferritic/martensitic Stainless steel	12 - 13	X6Cr13, X10CrA118, X20CrNi175	200 - 240	130 - 190
	Austenitic Stainless steel	14	X5 CrNi 18 9, X5 CrNiMo 17 13 3, X6 CrNiTi 18 9	180	100 - 200
K	Grey cast iron	15 - 16	GG15, GG20, GGG40, GG-35	180 - 260	160 - 200
	Malleable cast iron	19 - 20	GTS-35-10, GTS-35, GTS70-02, 20mN5	130 - 230	130 - 180
S	Fe, Ni or Co based	31 - 35	X12 NiCrAlTi 31 20, TiAl5Sn2	200 - 350	30 - 50
	Titanium and Ti-alloy based	36 - 37	TiCu2, TiAl6V4, TiAl6V4ELI	-	35 - 75
H	Hardened steel	38 - 39	C 105 W1,75 CrMoNiW 6 7	55 - 60 HRc	55 - 65
	Chilled cast iron	40	G-X 260 NiCr 4 2, X15 CrNiSi 25 20	400	45 - 55
	Cast iron	41	G-X 300 CrMo 15 3	55 HRc	55 - 65

*Above recommend cutting condition can be changed according to the customer's machining condition.

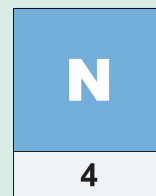
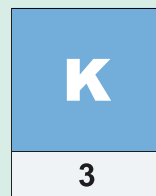
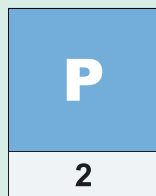
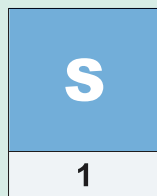
MILLING

	ISO	Symbol	BRISLOY	SANDVIK	KENNAMETAL	SECO	ISCAR	MITSUBISHI	SUMITOMO	TUNGALOY	TAEGUTEC
MILLING	P	P10	BT9120	GC1010 GC1025	KC715M		IC250 IC808 IC908		ACP200		TT2510 TT7080
		P20	BT9120	GC1010 GC1025 GC2030	KC522M KC525M	F25M MP3000	IC250 IC808 IC908 IC928	MP6120 VP15TF	ACP200	AH725 AH120 AH330 GH330	TT2510 TT7080 TT9080
		P30	BT9120*	GC1010 GC1030 GC2030	KC725M KC530M	F25M MP3000 F30M	IC250 IC808 IC908 IC928"	MP6120 VP15TF MP6130 VP30RT"	ACP200 ACP300	AH725 AH120 AH130 GH130	TT8080 TT9080
		P40	BT9120*	GC1030	KC735M	F40M T60M		VP30RT	ACP300	AH140	TT8080 TT9080
	M	M10	BT9120*	GC1025 GC1030	KC715M		IC903				
		M20	BT9120*	GC1025 GC1030 GC1040 GC2030	KC730 KC522M KC525M	F25M MP3000	IC250 IC300 IC808 IC928	VP15TF MP7130 MP7030 VP20RT	ACP200	AH725 AH120 AH330 GH330	TT9080
		M30	BT9120	GC1040 GC2030	KC725M KC735M	F30M F40M MP3000	IC250 IC300 IC808 IC928	VP15TF MP7130 MP7030 VP20RT	ACP200 ACP300	AH120 AH725 GH130 GH340	TT8080 TT9080
		M40	BT9120			F40M		MP7140 VP30RT	ACP300	AH140	TT8080 TT9080
	K	K10	BT9120	GC1010	KC510M		IC350 IC810 IC900 IC910 IC950"	MP8010		AH110 GH110 AH330	TT6080 TT7080
		K20	BT9120*	GC1010 GC1020	KC520M KC525M"	MK2000	IC350 IC830 IC928	VP15TF VP20RT	ACK300	GH130	TT6080 TT7080
		K30	BT9120*	GC1020	KC725M KC735M		IC350 IC830 IC928	VP15TF VP20RT	ACK300		
	S	S10	BT9120*	GC1025	KC510M		IC903	MP9120 VP15TF			
		S20	BT9120*	GC1025 GC2030	KC522M KC525M		IC300 IC808 IC908 IC328	MP9120 VP15TF MP9130 MP9030			TT9080
		S30	BT9120	GC2030	KC725M	F40M	IC830 IC928				TT8080 TT9080
	H	H10	BT9120	GC1010 GC1030	KC635M	MH1000 F15M	IC900	VP15TF VP10H			TT2510 TT6080
		H20	BT9120	GC1010 GC1030	KC635M	F15M	IC900 IC808 IC908	VP15TF			TT2510 TT6080
		H30	BT9120		KC530M	MP3000 F30M	IC808 IC908 IC1008				

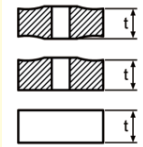
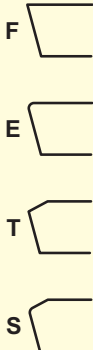
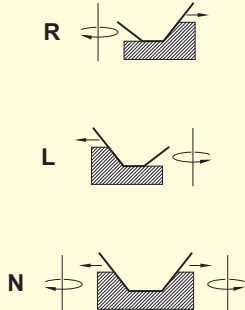
** Above chart is selected from a publication. We have not obtained approval from each company.

* Outstanding performance.

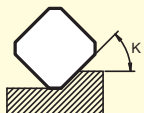
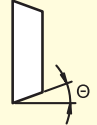
1. Insert Shape				2. Clearance Angle				4. Cross section shape		
A	B	C	D					A	F	G
				5°	7°	15°	20°			
E	H	K	L	B	C	D	E	M	N	R
				25°	30°	0°	11°			special
O	P	R	S	F	G	N	P	T	W	X
		special								
T	W	X								



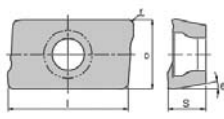
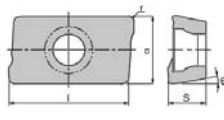
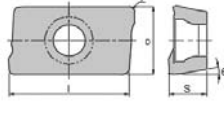
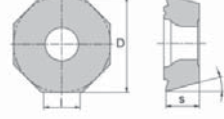
3. Tolerance									
	Tolerance (mm)			I.C. size (mm)					
	m	t	I.C.	6.35	9.525	12.7	15.875	19.05	25.4
A	± 0.005	± 0.025	± 0.025	●	●	●	●	●	●
C	± 0.013	± 0.025	± 0.025	●	●	●	●	●	●
E	± 0.025	± 0.025	± 0.025	●	●	●	●	●	●
F	± 0.005	± 0.025	± 0.013	●	●	●	●	●	●
G	± 0.025	± 0.13	± 0.025	●	●	●	●	●	●
H	± 0.013	± 0.025	± 0.013	●	●	●	●	●	●
K	± 0.013	± 0.025	± 0.05	●	●				
			± 0.08			●			
			± 0.10				●	●	
			± 0.13						●
M	± 0.08	± 0.13	± 0.05	●	●				
	± 0.13		± 0.08			●			
	± 0.15		± 0.10				●	●	
	± 0.18		± 0.13						●

6. Thickness (mm)	8. Edge Preparation	9. Cutting direction	10. Chip breaker																
			For Application																
<table><thead><tr><th>t</th><th>mm</th></tr></thead><tbody><tr><td>02</td><td>2.38</td></tr><tr><td>03</td><td>3.18</td></tr><tr><td>T3</td><td>3.97</td></tr><tr><td>04</td><td>4.76</td></tr><tr><td>06</td><td>6.35</td></tr><tr><td>07</td><td>7.94</td></tr><tr><td>09</td><td>9.52</td></tr></tbody></table>	t	mm	02	2.38	03	3.18	T3	3.97	04	4.76	06	6.35	07	7.94	09	9.52			
t	mm																		
02	2.38																		
03	3.18																		
T3	3.97																		
04	4.76																		
06	6.35																		
07	7.94																		
09	9.52																		

12	03	ED	T	R	CHIP BREAKER
5	6	7	8	9	10

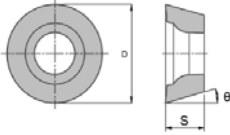
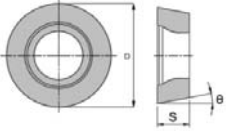
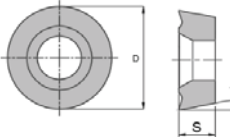
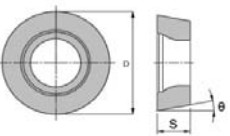
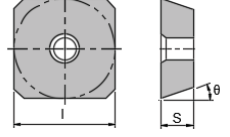
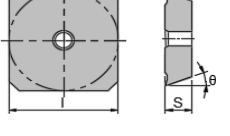
5. Cutting Edge Length (mm)							7. Lead Angle & Relief Angle of minor cutting edge	
I.C.	C	S	R	T	H	O	 Lead Angle	
L							 Relief Angle of minor cutting edge	
5.56				09			A	45°
6.35	06	06	06	11			D	60°
7.94	08			13			E	75°
9.525	09	09	09	16			F	85°
12.7	12	12	12	22	05	05	P	90°
15.875	16	15	15	27	09		Z	Special
17.94						07		
19.05	19	19	19	33	10			
25.4	25	25	25					
							B	5°
							C	7°
							D	15°
							E	20°
							F	25°
							G	30°
							N	0°
							P	11°
							Z	Special

Unit : mm

Insert Shape	Designation	Dimensions					Feed (mm/tooth)		Depth of Cut		Geometry & Relative Cutter
		I	D	S	O	r	min.	max.	min.	max.	
	AOMT 123608PEER	12	6.6	3.6	11	0.8	0.07	0.22	0.50	11.00	
	APKT 1003PDTR	10.5	6.7	3.5	11	0.5	0.06	0.20	0.50	9.00	
	APKT 100308PDTR	10.5	6.7	3.5	11	0.8	0.07	0.26	0.50	9.00	
	APKT 1604PDTR	16.3	9.5	5.3	11	0.8	0.10	0.32	0.50	15.00	
	APKT 160416PDTR	16.3	9.5	5.3	11	1.6	0.10	0.32	0.50	15.00	
	APMT 1135PDTR	11.18	6.2	3.5	11	0.4	0.07	0.22	0.50	10.00	
	APMT 113508PDTR	11.18	6.2	3.5	11	0.8	0.07	0.22	0.50	10.00	
	APMT 1604PDTR	17.19	9.5	5.5	11	0.8	0.09	0.30	0.50	15.00	
	ODMT 060508	-	15.88	5.56	15	-	0.12	0.54	0.40	4.00	
	ODMW 060508	-	15.88	5.56	15	-	0.12	0.58	0.40	4.00	
	OFMT 05T305TN	-	12.7	4	25	-	0.12	0.51	0.40	3.50	

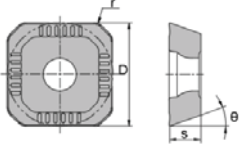
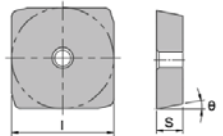
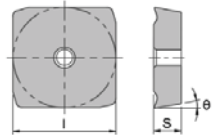
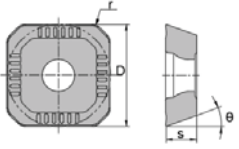
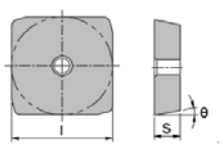
* Product image shown on this catalogue may differ from actual products.

Unit : mm

Insert Shape	Designation	Dimensions					Feed (mm/tooth)		Depth of Cut		Geometry & Relative Cutter
		I	D	S	O	r	min.	max.	min.	max.	
	RDMT 0602M0	-	6	2.38	15	-	0.10	0.48	0.30	1.50	
	RDMT 0802M0	-	8	2.38	15	-	0.10	0.58	0.30	2.00	
	RDMT 0803M0	-	8	3.18	15	-	0.10	0.58	0.30	2.00	
	RDMT 10T3M0	-	10	3.97	15	-	0.10	0.64	0.30	2.50	
	RDMT 1204M0	-	12	4.76	15	-	0.14	0.74	0.30	3.00	
	RDMW 0602M0	-	6	2.38	15	-	0.10	0.48	0.30	1.50	
	RDMW 0802M0	-	8	2.38	15	-	0.10	0.58	0.30	2.00	
	RDMW 10T3M0	-	10	3.97	15	-	0.10	0.70	0.30	2.50	
	RDMW 1204M0	-	12	4.76	15	-	0.10	0.74	0.30	3.00	
	RPMT 08T2M0	-	8	2.78	11	-	0.10	0.58	0.30	2.00	
	RPMT 10T3M0	-	10	3.97	11	-	0.10	0.64	0.30	2.50	
	RPMT 1204M0	-	12	4.76	11	-	0.14	0.74	0.30	3.00	
	RPMW 10T3M0	-	10	3.97	11	-	0.10	0.64	0.30	2.50	
	RPMW 1204M0	-	12	4.76	11	-	0.14	0.74	0.30	3.00	
	SEKN 1203EDTR	-	12.7	3.18	20	-	0.10	0.46	0.50	6.00	
	SEKN 1504EDTR	-	15.88	4.76	20	-	0.10	5.00	0.50	8.00	
	SEKR 1203AFTN	-	12.7	3.18	20	-	0.10	5.00	0.50	6.00	

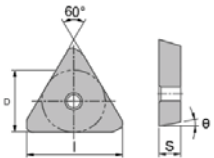
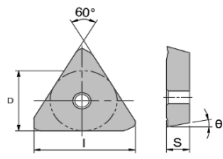
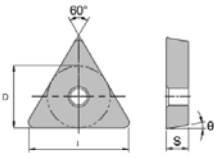
* Product image shown on this catalogue may differ from actual products.

Unit : mm

Insert Shape	Designation	Dimensions					Feed (mm/tooth)		Depth of Cut		Geometry & Relative Cutter
		l	D	S	Ø	r	min.	max.	min.	max.	
	SEKT 12T3AGSN	-	13.4	4	20	-	0.10	0.46	0.50	7.00	
	SEKT 1204AFTN	-	12.7	4.76	20	-	0.10	0.46	0.50	7.00	
	SEMT 1204AFTN	-	12.7	5.06	20	-	0.10	0.46	0.50	7.00	
	SEKT 13T3AGSN	-	13.4	4	20	-	0.10	0.46	0.50	7.00	
	SPKN 1203EDTR	-	12.7	3.18	11	-	0.10	0.43	0.50	9.00	
	SPKN 1504EDTR	-	15.88	4.76	11	-	0.10	0.43	0.50	12.00	
	SPKN 1203EDTR	-	12.7	3.18	11	-	0.10	0.43	0.50	9.00	
	SPMT 12T308	-	13.29	3.97	11	0.8	0.07	0.29	0.50	9.00	
	SPUN 120308	-	12.7	3.18	11	-	0.10	0.37	0.50	6.00	

* Product image shown on this catalogue may differ from actual products.

Unit : mm

Insert Shape	Designation	Dimensions					Feed (mm/tooth)		Depth of Cut		Geometry & Relative Cutter
		I	D	S	O	r	min.	max.	min.	max.	
	TPKN 1603PDTR	16.4	9.525	3.18	11	-	0.08	0.27	0.50	12.00	
	TPKN 2204PDTR	22.1	12.7	4.76	11	-	0.09	0.27	0.50	18.00	
	TPKR 1603PDTR	16.4	9.525	3.18	11	-	0.09	0.22	0.50	12.00	
	TPKR 2204PDTR	16.4	9.525	3.18	11	-	0.09	0.22	0.50	18.00	
	TPUN 160308	16.4	9.525	3.18	11	-	0.08	0.27	0.50	12.00	

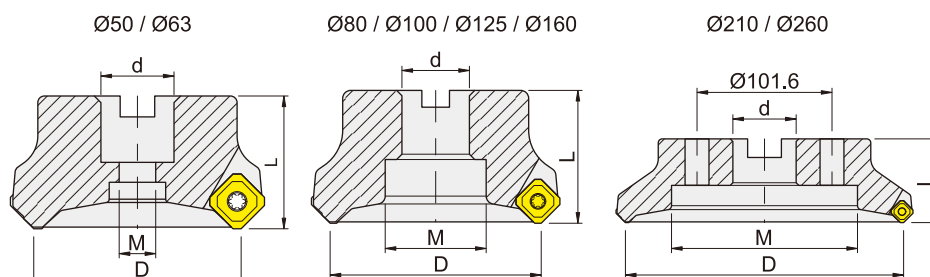
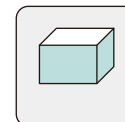
* Product image shown on this catalogue may differ from actual products.

brisloy

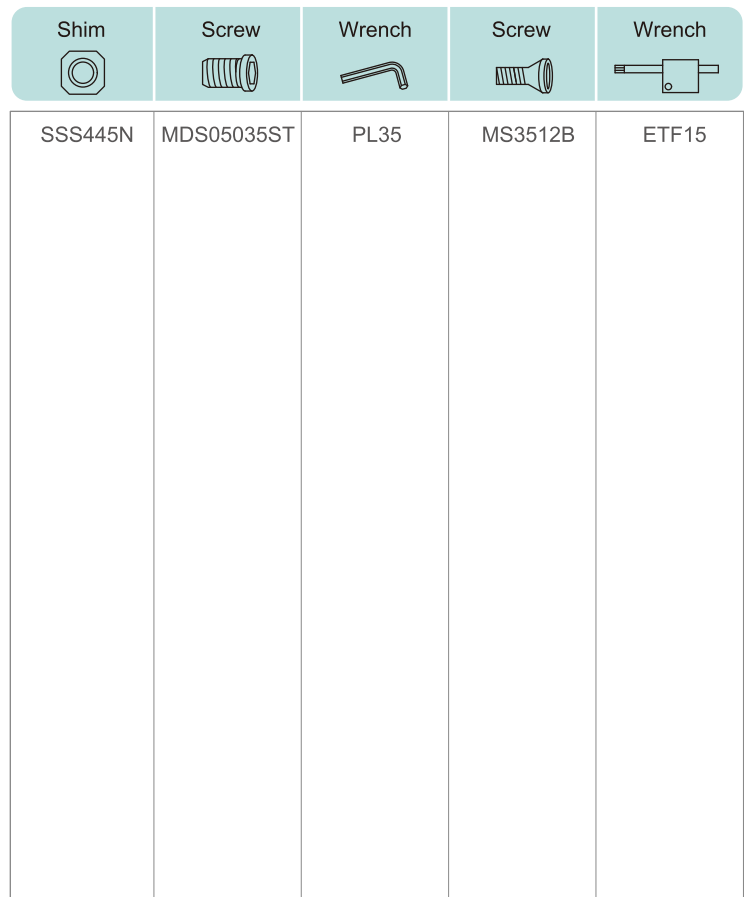


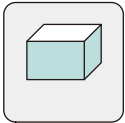
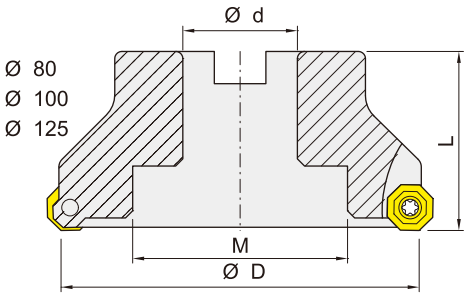
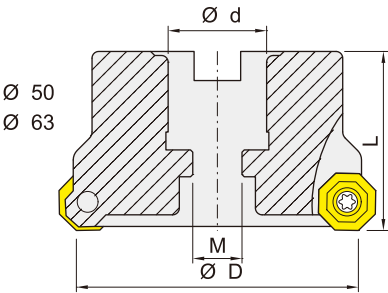
MILLING



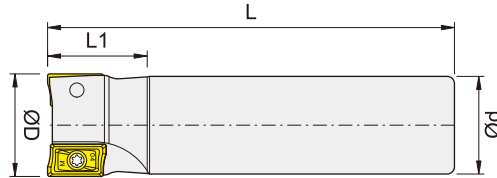
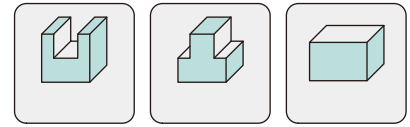


Item code		Dimensions, mm				Teeth		Insert
Right hand	Left hand	D	d	L	M			
ASX445-050A03R-22.0	ASX445-050A03L-22.0	50	22.0	40	11	3		SE..13T3.. WE..13T3..
-063A04R-22.0	-063A04L-22.0	63	22.0	40	11	4		
R05003C-25.4	L05003C-25.4	50	25.4	50	13	3		
R06304C-25.4	L06304C-25.4	63	25.4	50	13	4		
R08004C-25.4	L08004C-25.4	80	25.4	50	38	4		
080B04R-27.0	080B04L-27.0	80	27.0	50	38	4		
R10005D-31.75	L10005D-31.75	100	31.75	50	45	5		
100B05R-32.0	100B05L-32.0	100	32.0	50	45	5		
R12506E-38.1	L12506E-38.1	125	38.1	63	60	6		
125B06R-40.0	125B06L-40.0	125	40.0	63	60	6		
160B07R-40.0	160B07L-40.0	160	40.0	63	80	7		
R16007F-50.8	L16007F-50.8	160	50.8	63	80	7		
R21008K-47.625	L21008K-47.625	210	47.625	63	140	8		
R26010K-47.625	L26010K-47.625	260	47.625	63	180	10		
ASX445-050A04R-22.0	ASX445-050A04L-22.0	50	22.0	40	11	4		SE..13T3.. WE..13T3..
-063A05R-22.0	-063A05L-22.0	63	22.0	40	11	5		
R05004C-25.4	L05004C-25.4	50	25.4	50	13	4		
R06305C-25.4	L06305C-25.4	63	25.4	50	13	5		
R08006C-25.4	L08006C-25.4	80	25.4	50	38	6		
080B06R-27.0	080B06L-27.0	80	27.0	50	38	6		
R10007D-31.75	L10007D-31.75	100	31.75	50	45	7		
100B07R-32.0	100B07L-32.0	100	32.0	50	45	7		
R12508E-38.1	L12508E-38.1	125	38.1	63	60	8		
125B08R-40.0	125B08L-40.0	125	40.0	63	60	8		
160B10R-40.0	160B10L-40.0	160	40.0	63	80	10		
R16010F-50.8	L16010F-50.8	160	50.8	63	80	10		
R21012K-47.625	L21012K-47.625	210	47.625	63	140	12		
R26014K-47.625	L26014K-47.625	260	47.625	63	180	14		
ASX445-050A05R-22.0	ASX445-050A05L-22.0	50	22.0	40	11	5		SE..13T3.. WE..13T3..
-063A06R-22.0	-063A06L-22.0	63	22.0	40	11	6		
R05005C-25.4	L05005C-25.4	50	25.4	50	13	5		
R06306C-25.4	L06306C-25.4	63	25.4	50	13	6		
R08008C-25.4	L08008C-25.4	80	25.4	50	38	8		
080B08R-27.0	080B08L-27.0	80	27.0	50	38	8		
R10010D-31.75	L10010D-31.75	100	31.75	50	45	10		
100B10R-32.0	100B10L-32.0	100	32.0	50	45	10		
R12512E-38.1	L12512E-38.1	125	38.1	63	60	12		
125B12R-40.0	125B12L-40.0	125	40.0	63	60	12		
160B16R-40.0	160B16L-40.0	160	40.0	63	80	16		
R16016F-50.8	L16016F-50.8	160	50.8	63	80	16		





Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
TFM435R-05005-22.0	50	22.0	40	11	5	OFMT05T3 TN-ML	MS4011A	ETF15
TFM435R-06306-22.0	63	22.0	40	11	6			
TFM435R-06306-25.4	63	25.4	50	13	6			
TFM435R-08007-25.4	80	25.4	50	13	7			
TFM435R-08007-27.0	80	27.0	50	38	7			
TFM435R-10008-31.75	100	31.75	50	46	8			
TFM435R-10008-32.0	100	32.0	50	46	8			
TFM435R-12509-38.1	125	38.1	63	60	9			
TFM435R-12509-40.0	125	40.0	63	60	9			
TFM435R-16011-50.8	160	50.8	63	80	11			



Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
APM131-S12-130	13	12	130	20	1	AOMT-1236..	MS2506B	ETF09
APM162-S16-150	16	16	150	28	2			
APM162-S16-200			200					
APM172-S16-150	17	16	150	20	2			
APM172-S16-200			200					
APM182-S20-150	18	20	150	25	2			
APM182-S20-200			200					
APM192-S20-150	19	20	150	25	2			
APM192-S20-200			200					
APM202-S20-150	20	20	150	30	2			
APM202-S20-200			200					
APM203-S20-150	20	20	150	30	3			
APM203-S20-200			200					
APM212-S20-150	21	20	150	20	2			
APM212-S20-200			200					
APM213-S20-150	21	20	150	20	3			
APM213-S20-200			200					
APM222-S20-150	22	20	150	30	2			
APM222-S20-200			200					
APM223-S20-150	22	20	150	30	3			
APM232-S25-150	23	25	150	30	2			
APM232-S25-200			200					
APM243-S25-150	24	25	150	35	3			
APM243-S25-200			200					
APM253-S25-150	25	25	150	35	3			
APM253-S25-200			200					
APM254-S25-150	25	25	150	35	4			
APM263-S25-150	26	25	150	25	3			
APM263-S25-200			200					
APM264-S25-150	26	25	150	25	4			
APM264-S25-200			200					
APM323-S32-150	32	32	150	40	3			
APM323-S32-200			200					
APM324-S32-150	32	32	150	40	4			
APM324-S32-200			200					
APM333-S32-150	33	32	150	32	3			
APM333-S32-200			200					
APM334-S32-150	33	32	150	32	4			
APM334-S32-200			200					
APM353-S32-150	35	32	150	32	3			
APM353-S32-200			200					
APM354-S32-150	35	32	150	32	4			
APM354-S32-200			200					



FIG-1

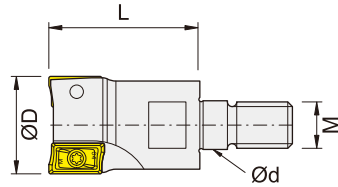


FIG-2

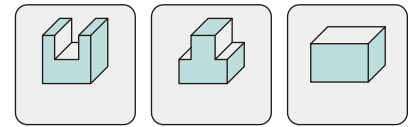
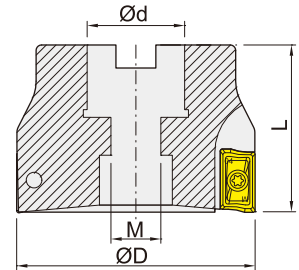
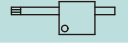
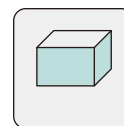
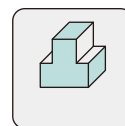
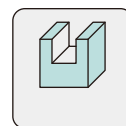
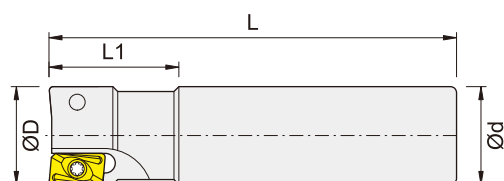


FIG-1 Item code	Dimensions,mm				Teeth	Insert	Screw	Wrench
	D	d	L	M				
APM162-MD14	16	8.5	26	M8	2	AOMT-1236..	MS2506B	ETF09
APM172-MD14	17							
APM202-MD18	20	10.5	30	M10	2			
APM203-MD18	20							
APM212-MD18	21							
APM253-MD23	25	12.5	35	M12	3			
APM254-MD23	26				4			
APM263-MD23					3			
APM264-MD23					4			
APM323-MD29	32	17	43	M16	3			
APM324-MD29	33				4			
APM333-MD29					3			
APM334-MD29					4			
APM353-MD29	35	17	43	M16	3			
APM354-MD29	4							

FIG-2 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
APM 05004-22.0	50	22.0	40	11	4	AOMT-1236..	MS2506B	ETF09
APM 05007-22.0	50	25.4	50	13	7			
APM 05007-25.4					7			
APM 06308-25.4					8			
APM 08009-25.4					9			



Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
BAP3-14.22-S16-100	14.2	16	100	20	2	APMT1135....	MS2506E	ETF08
BAP3-15.5-S16-100	15.5	16	100	25	2			
BAP3-162-S16-100	16	16	100	28	2			
BAP3-162-S16-150			150					
BAP3-162-S16-200			200					
BAP3-172-S16-150	17	16	150	20	2			
BAP3-172-S16-200			200					
BAP3-182-S20-100	18	20	100	28	2			
BAP3-182-S20-150			150					
BAP3-202-S20-100	20	20	100	28	2			
BAP3-202-S20-150			150					
BAP3-202-S20-200			200					
BAP3-203-S20-150	20	20	150	25	3			
BAP3-203-S20-200			200					
BAP3-212-S20-150	21	20	150	25	2			
BAP3-212-S20-200			200					
BAP3-213-S20-150			150		3			
BAP3-213-S20-200			200					
BAP3-21.3-S20-150	21.3	20	150	25	3			
BAP3-222-S20-150	22	20	150	25	2			
BAP3-243-S25-125	24	25	125	35	3			
BAP3-253-S25-125	25	25	125	35	3			
BAP3-253-S25-150			150					
BAP3-253-S25-200			200					
BAP3-254-S25-125	25	25	125	35	4			
BAP3-254-S25-150			150					
BAP3-254-S25-200			200					
BAP3-263-S25-150	26		150		3			
BAP3-263-S25-200			200					
BAP3-264-S25-150			150		4			
BAP3-264-S25-200			200					
BAP3-323-S32-150	32	32	150	35	3			
BAP3-324-S32-150			150		4			
BAP3-324-S32-200			200					
BAP4-252-S25-125	25	25	125	40	2	APMT1604....	MS4009A	ETF15
BAP4-252-S25-150			150					
BAP4-252-S25-200			200					
BAP4-262-S25-150	26	25	150	30	2			
BAP4-292-S32-150	29	32	150	40	2			
BAP4-322-S32-150	32	32	150	45	2			
BAP4-322-S32-200			200					
BAP4-323-S32-150			150		3			
BAP4-323-S32-200			200					
BAP4-332-S32-150	33	32	150	35	2	APMT1604....	MS4011A	ETF15
BAP4-332-S32-200			200					
BAP4-332-S32-250			250					
BAP4-333-S32-150			150		3			
BAP4-333-S32-200			200					
BAP4-333-S32-250			250					
BAP4-353-S32-150			150					
BAP4-353-S32-200	35		200					
BAP4-353-S32-250			250					

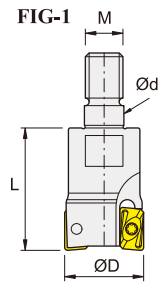


FIG-2

Ø 50
Ø 63
Ø 66
Ø 80

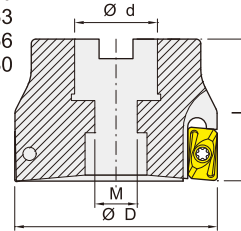


FIG-2

Ø 100
Ø 125

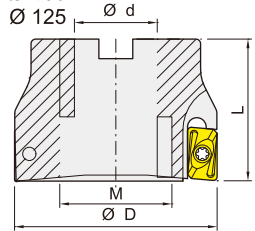
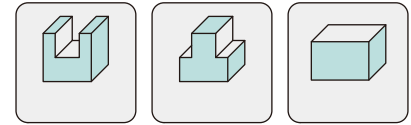
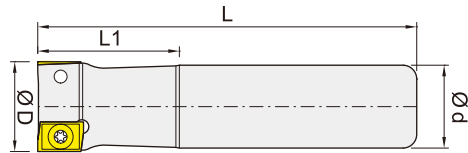


FIG-1 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
BAP3-111-MD10	11	5.5	21	M5	1	APMT1135....	MS2506E	ETF08
BAP3-131-MD11	13	6.5	23	M6	2			
BAP3-162-MD14	16	8.5	25	M8				
BAP3-172-MD14	17	10.5	30	M10				
BAP3-202-MD18	20				3			
BAP3-203-MD18	21				2			
BAP3-212-MD18					3			
BAP3-213-MD18								
BAP3-223-MD18	22				12.5			
BAP3-253-MD23	25	4						
BAP3-254-MD23	26	3						
BAP3-263-MD23		4						
BAP3-264-MD23								
BAP3-324-MD29	32	17	43	M16				
BAP3-325-MD29	33				4			
BAP3-334-MD29					5			
BAP3-335-MD29					4			
BAP3-354-MD29	35				5			
BAP3-355-MD29	36				12.5	38	M12	2
BAP4-252-MD23	25	M16	APMT1604	MS4009A				ETF15
BAP4-262-MD23	26							
BAP4-322-MD29	32						2	
BAP4-323-MD29	33			3				
BAP4-332-MD29				2				
BAP4-333-MD29		3						
BAP4-353-MD29	35							

FIG-2 Item code	D	d	L	M	Teeth	Insert	Screw	Wrench
BAP3-505-22.0	50	22.0	40	11	5	APMT1135....	MS2506E	ETF08
BAP3-507-22.0					7			
BAP3-638-25.4	63	25.4	50	13	8			
BAP3-809-25.4	80				9	APMT1604....	MS4011A	ETF15
BAP4-504-22.0	50	22.0		11	4			
BAP4-504-25.4		25.4		13				
BAP4-505-22.0		22.0		11	5			
BAP4-583-22.0	58				3			
BAP4-585-22.0					5			
BAP4-604-25.4	60	25.4		13	4			
BAP4-635-22.0	63	22.0		11	5			
BAP4-635-25.4		25.4		13				
BAP4-636-22.0		22.0		11	6			
BAP4-664-25.4	66	25.4		13	4			
BAP4-665-25.4	80				5			
BAP4-806-25.4					6			
BAP4-806-27.0		27.0						
BAP4-1008-31.75	100	31.75		45	8			
BAP4-1008-32.0		32.0						
BAP4-1259-38.1	125	38.1		60	9			



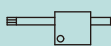
Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
MEC07-102-S10-120	10	10	120	20	2	BDMT0703..	MS2004A	ETF06
MEC07-112-S10-120	11			13				
MEC07-122-S12-120	12			20				
MEC07-132-S12-120	13			20				
MEC11-162-S16-150	16	16	150	28	2	BDMT11T3..	MS2506A	ETF09
MEC11-162-S16-200			200					
MEC11-172-S16-150	17	16	150	28				
MEC11-172-S16-200			200					
MEC11-203-S20-150	20	20	150	30	3			
MEC11-203-S20-200			200					
MEC11-253-S25-150	25	25	150	35				
MEC11-253-S25-200			200					
MEC11-324-S32-150	32	32	150	35	4			
MEC11-324-S32-200			200					
MEC11-325-S32-150	32	32	150	35	5			
MEC11-325-S32-200			200					



FIG-1

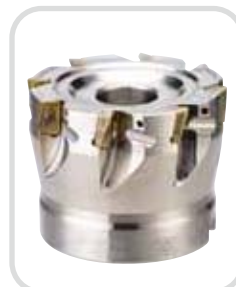
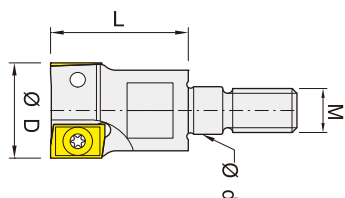


FIG-2

Ø 50
Ø 63

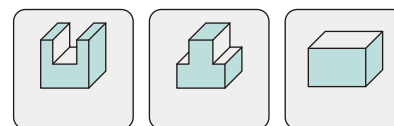
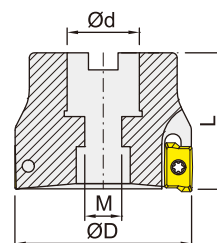


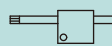
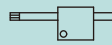
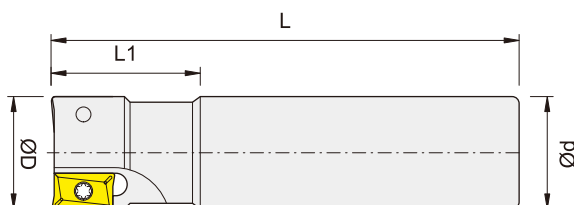
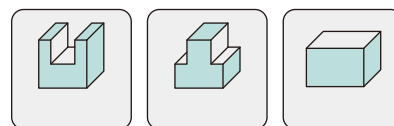
FIG-1 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
MEC07-102-MD10	10	5.5	16	M5	2	BDMT0703..	MS2004A	ETF06
MEC07-112-MD10	11	5.5	16	M5				
MEC07-122-MD11	12	6.5	18	M6				
MEC07-132-MD11	13	6.5	18	M6				
MEC11-162-MD14	16	8.5	25	M8	2	BDMT11T3..	MS2506A	ETF09
MEC11-172-MD14	17	8.5	25	M8	2			
MEC11-203-MD18	20	10.5	30	M10	3			
MEC11-253-MD23	25	12.5	35	M12	3			
MEC11-324-MD29	32	17	43	M16	4			
MEC11-325-MD29	32	17	43	M16	5			

FIG-2 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
MEC11-406-16.0	40	16.0	40	9	6	BDMT11T3..	MS2506A	ETF09
MEC11-507-22.0	50	22.0	40	11	7			
MEC11-507-25.4	50	25.4	50	13	7			
MEC11-638-25.4	63	25.4	50	13	8			
MEC11-638-27.0	63	27.0	50	13	8			



Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
CAP3-162-S16-100	16	16	100	28	2	APKT1003..	MS2506B	ETF09
CAP3-162-S16-150			150					
CAP3-162-S16-200			200					
CAP3-172-S16-150	17	16	150	26	2			
CAP3-172-S16-200			200					
CAP3-182-S20-150	18	20	150	30	2			
CAP3-182-S20-200			200					
CAP3-192-S20-150	19	20	150	30	2			
CAP3-202-S20-100	20	20	100	30	2			
CAP3-202-S20-150			150		3			
CAP3-203-S20-100			100					
CAP3-203-S20-150			150					
CAP3-203-S20-200			200					
CAP3-212-S20-150	21	20	150	30	2			
CAP3-212-S20-200			200		3			
CAP3-213-S20-150			150					
CAP3-253-S25-125	25	25	125	30	3			
CAP3-253-S25-150	25	25	150	30	3			
CAP3-263-S25-150	26	25	150	30	3			
CAP3-263-S25-200			200		4			
CAP3-264-S25-150			150					
CAP3-264-S25-200			200					
CAP3-324-S32-150			32		32	150	40	4
CAP3-324-S32-200	200							
CAP4-242-S25-125	24	25	125	40	2	APKT1604..	MS4009A	ETF15
CAP4-252-S25-125	25	25	125	40	2			
CAP4-252-S25-150			150					
CAP4-262-S25-150	26	25	150	30	2			
CAP4-262-S25-200			200					
CAP4-323-S32-150	32	32	150	45	3	APKT1604..	MS4011A	ETF15
CAP4-323-S32-200			200					
CAP4-323-S32-250			250					
CAP4-333-S32-150	33	32	150	35	3			
CAP4-333-S32-200			200					
CAP4-352-S32-150	35	32	150	35	2			
CAP4-352-S32-200			200		3			
CAP4-353-S32-150			150					
CAP4-353-S32-200			200					



FIG-1

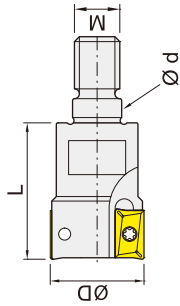


FIG-2

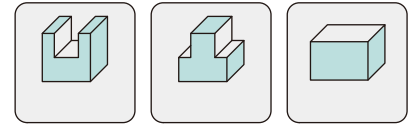
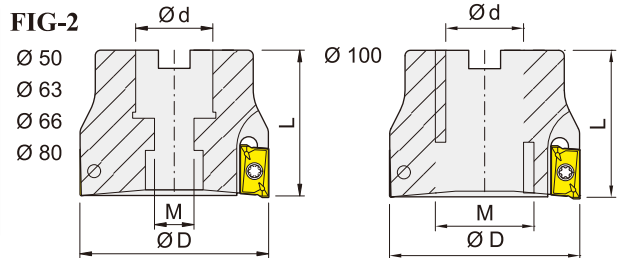


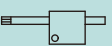
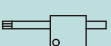
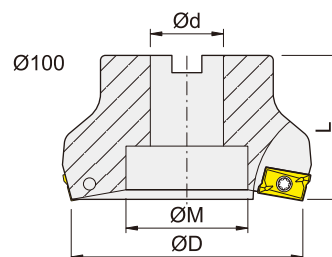
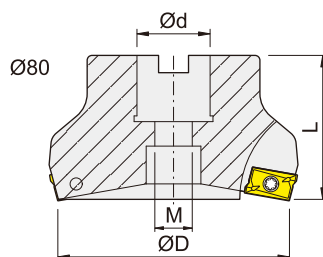
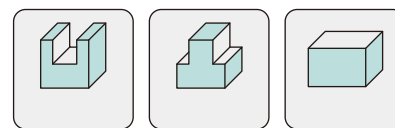
FIG-1 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
CAP3-162-MD14	16	8.5	25	M8	2	APKT1003..	MS2506B	ETF09
CAP3-172-MD14	17							
CAP3-182-MD14	18							
CAP3-202-MD18	20	10.5	30	M10	2			
CAP3-203-MD18					3			
CAP3-212-MD18	21	10.5	30	M10	2			
CAP3-213-MD18					3			
CAP3-253-MD23	25	12.5	35	M12	3			
CAP3-263-MD23	26	12.5	35	M12	3			
CAP3-264-MD23					4			

FIG-2 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
CAP4-403-16.0	40	16.0	40	9	3	APKT1604..	MS4011A	ETF15
CAP4-403-22.0	40	22.0	50	11	3			
CAP4-403-25.4	40	25.4	50	13	3			
CAP4-504-22.0	50	22.0	50	11	4			
CAP4-504-25.4	50	25.4		13	5			
CAP4-635-22.0	63	22.0		11				
CAP4-635-25.4	63	25.4		13				
CAP4-665-25.4	66	25.4		6				
CAP4-806-25.4	80	25.4						
CAP4-806-27.0	80	27.0						
CAP4-806-31.75	80	31.75						
CAP4-1008-31.75	100	31.75	50	45	8			



Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	M				
CAPW4-806-25.4	80	25.4	50	13	6	APKT1604..	MS4011A	ETF15
CAPW4-1007-31.75	100	31.75	50	45	7			



FIG-1

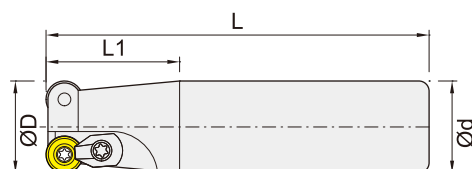


FIG-2

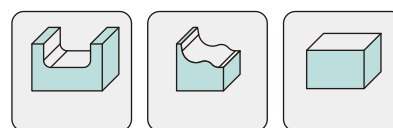
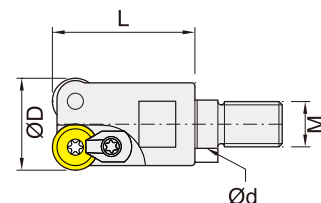


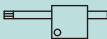
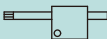
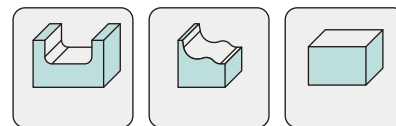
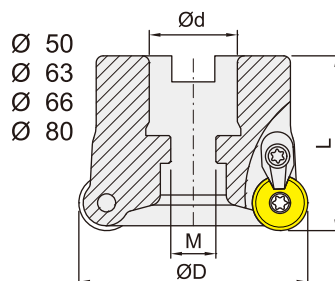
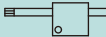
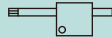
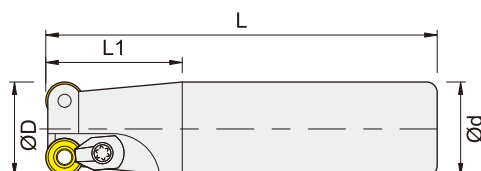
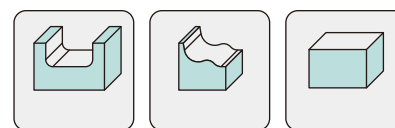
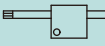
FIG-1 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 	Screw 	Clamp 	Wrench 
	D	d	L	L1							
BRP08-202-S20-150	20	20	150	35	2	RP..08T2	MS2506A	ETF09	MS3509A	MC35-143	ETF15
BRP08-202-S20-200			200								
BRP10-252-S25-150	25	25	150	40	2	RP..10T3	MS3509A	ETF15	MS3509A	MC35-143	ETF15
BRP10-252-S25-200			200								
BRP10-252-S25-250			250								
BRP12-252-S25-150	25	25	150	45	2	RP..1204	MS4009A	ETF15	MS3509A	MC35-143	ETF15
BRP12-252-S25-200			200								
BRP12-252-S25-250			250								
BRP12-262-S25-150	26	25	150	35	2	RP..1204	MS4011A	ETF15	MS3509A	MC35-143	ETF15
BRP12-262-S25-200			200								
BRP12-262-S25-250			250								
BRP12-322-S32-150	32	32	150	45	2						
BRP12-322-S32-200			200								
BRP12-323-S32-150			150		3						
BRP12-323-S32-200			200								
BRP12-323-S32-250			250								
RP103-202-S20-150	20	20	150	35	2	RP..1003	MS4009A	ETF15	--	--	--
RP103-202-S20-200			200								
RP103-212-S20-150	21	20	150	25	2						
RP103-212-S20-200			200								
RP103-252-S25-150	25	25	150	40	2	RP..1003	MS4009A	ETF15	MS3509A	MC35-143	ETF15
RP103-252-S25-200			200								
RP103-262-S25-150	26	25	150	30	2						
RP103-262-S25-200			200								

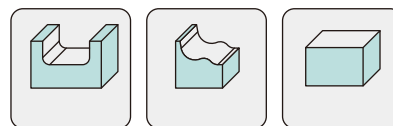
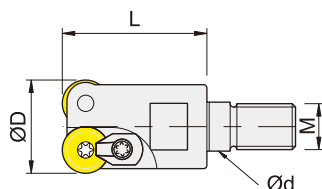
FIG-2 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 	Screw 	Clamp 	Wrench 
	D	d	L	M							
BRP12-252-MD23	25	12.5	35	M12	2	RP..1204	MS4009A	ETF15	MS3509A	MC35-143	ETF15
BRP12-262-MD23	26						MS4011A				
RP103-202-MD18	20	10.5	30	M10	2	RP..1003	MS4009A	ETF15	--	--	--
RP103-212-MD18	21										
RP103-252-MD23	25	12.5	35	M12	2	RP..1003	MS4009A	ETF15	MS3509A	MC35-143	ETF15
RP103-253-MD23					3				--	--	--
RP103-262-MD23	26	12.5	35	M12	2				MS3509A	MC35-143	ETF15
RP103-303-MD23	30				3						
RP103-353-MD29	35	17	43	M16	3						
RP103-354-MD29					4						

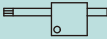
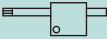


Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 	Screw 	Clamp 	Wrench 
	D	d	L	M							
RPM-6R504-22.0	50	22.0	50	11	4	RP..1204	MS4011A	ETF15	MS3509A	MC35-143	ETF15
RPM-6R504-25.4	50	25.4	50	13	4						
RPM-6R635-25.4	63	25.4	50	13	5						
RPM-6R665-25.4	66										
RPM-6R806-25.4	80	25.4	50	13	6						
RPM-6R1006-31.75	100	31.75	50	13	6						



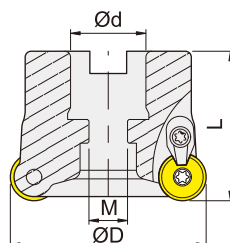
Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 	Screw 	Clamp 	Wrench 
	D	d	L	L1							
C12-4R12-130	12	12	130	30	1	RD..0802	MS3006B	ETF09	MS3509A	MC35-143	ETF15
C12-4R13-130	13	12	130	20	1						
C16-4R16-150	16	16	150	35	1						
C16-4R16-200			200								
C16-4R17-150	17	16	150	25	1	RD..0802	MS3006B	ETF09	—	—	—
C16-4R172-150			150		2						
C20-4R20-150	20	20	150	40	2						
C20-4R20-200			200								
C20-4R21-150	21	20	150	25	2	RD..0802	MS3008B	ETF09	MS3509A	MC35-143	ETF15
C20-4R21-200			200								
C25-4R25-150	25	25	150	50	3						
C25-4R26-150	26	25	150	25	3						
C25-5R25-150	25	25	150	45	2	RD..10T3	MS4009B	ETF15	MS3509A	MC35-143	ETF15
C25-5R25-200			200								
C25-5R25-250			250								
C25-5R26-150	26	25	150	30	2						
C25-5R26-200			200								
C25-5R26-250			250								
C25-5R302-150	30	25	150	30	2						
C25-5R302-200			200								
C25-5R302-250			250								
C25-5R303-150	30	25	150	30	3						
C25-5R303-200			200								
C25-5R303-250			250								
C32-5R32-150	32	32	150	45	3						
C32-5R32-200			200								
C32-5R32-250			250								
C32-5R32-300			300								
C32-5R35-150	35	32	150	30	3						
C32-5R35-200			200								
C32-5R35-250			250								
C32-5R35-300			300								
C32-5R40-150	40	32	150	30	3						
C32-5R40-200			200								
C32-5R40-250			250								
C32-5R40-300			300								
HAR12-252-S25-100	25	25	100	45	2	RD..1204	MS4009A	ETF15	MS3509A	MC35-143	ETF15
HAR12-252-S25-150			150								
HAR12-252-S25-200			200								



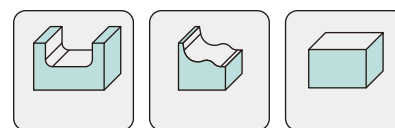
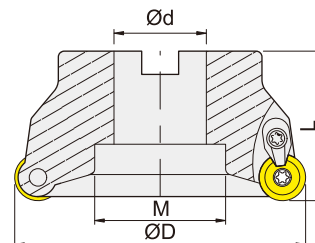
Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 	Screw 	Clamp 	Wrench 
	D	d	L	M							
HAR08-162-MD14	16	8.5	23	M8	2	RD..0802	MS3006B	ETF09	--	--	--
HAR08-172-MD14	17										
HAR08-202-MD18	20								MS3509A	MC35-143	ETF15
HAR08-212-MD18	21	10.5	30	M10	2		MS3008B				
HAR08-253-MD23	25										
HAR10-202-MD18	20										
HAR10-212-MD18	21	12.5	35	M12	2	RD..10T3	MS4008B	ETF15	--	--	--
HAR10-252-MD23	25										
HAR10-253-MD23											
HAR10-262-MD23	26	12.5	35	M12	2	RD..10T3	MS4009B	ETF15	MS3509A	MC35-143	ETF15
HAR10-263-MD23											
HAR10-302-MD29	30										
HAR10-323-MD29	32	17	43	M16	3	RD..10T3	MS4009B	ETF15	MS3509A	MC35-143	ETF15
HAR10-353-MD29	35										
HAR10-354-MD29											
HAR10-404-MD29	40										
HAR10-424-MD29	42										
HAR10-425-MD29		12.5	35	M12	2	RD..10T3	MS4009B	ETF15	--	--	--
HAR12-252-MD23	25										
HAR12-353-MD29	35								MS3509A	MC35-143	ETF15
HAR12-404-MD29	40										
HAR12-424-MD29	42										



Ø50 / Ø63 / Ø66 / Ø80



Ø100



Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 	Clamp 	Screw 	Wrench 					
	D	d	L	M												
RM-5R504-22.0	50	22.0	50	11	4	RD..10T3	MS4009B	ETF15	MC35-143	MS3509A	ETF15					
RM-5R504-25.4		25.4	50	13	4											
RM-5R505-22.0		22.0	50	11	5											
RM-5R525-22.0	52	22.0	50	11	5											
RM-5R635-25.4	63	25.4	50	13	5											
RM-5R806-25.4	80	25.4	50	13	6											
RM-5R866-25.4	86	25.4	50	13	6											
RM-6R504-22.0	50	22.0	50	11	4	RD..1204	MS4011A	ETF15	MC35-143	MS3509A	ETF15					
RM-6R504-25.4		25.4	50	13	4											
RM-6R505-22.0		22.0	50	11	5		MS4009A									
RM-6R525-22.0	52	22.0	50	11	5											
RM-6R635-22.0	63	22.0	50	11	5		MS4011A									
RM-6R635-25.4		25.4	50	13	5											
RM-6R635-27.0		27.0	50	13	5											
RM-6R636-22.0		22.0	50	11	6											
RM-6R665-25.4	66	25.4	50	13	5											
RM-6R666-22.0		22.0	50	11	6											
RM-6R806-25.4	80	25.4	50	13	6											
RM-6R805-27.0		27.0	50	13	5											
RM-6R806-27.0		27.0	50	13	6											
RM-8R503-22.0	50	22.0	50	11	3	RD..1604	MS5011A	ETF20	MC50-147	MS5011A	ETF20					
RM-8R524-22.0	52	22.0	50	11	4											
RM-8R633-25.4	63	25.4	50	13	3											
RM-8R634-25.4		25.4	50	13	4											
RM-8R635-25.4		25.4	50	13	5											
RM-8R635-27.0		27.0	50	13	5											
RM-8R664-25.4	66	25.4	50	13	4											
RM-8R665-25.4		25.4	50	13	5											
RM-8R664-27.0		27.0	50	13	4											
RM-8R665-27.0		27.0	50	13	5											
RM-8R724-25.4	72	25.4	50	13	4											
RM-8R805-25.4	80	25.4	50	13	5											
RM-8R805-27.0		27.0	50	13	5											
RM-8R806-27.0		27.0	50	13	6											
RM-8R1006-31.75	100	31.75	50	45	6											
RM-8R16008-50.8	160	50.8	60	64	8											

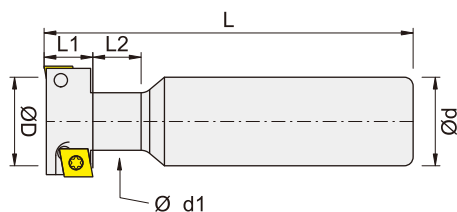
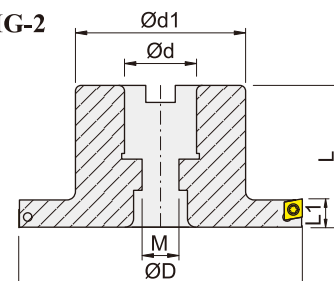
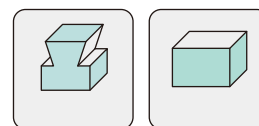
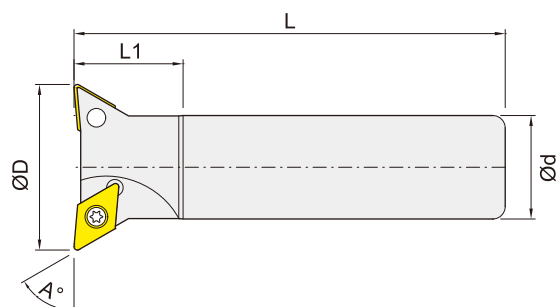
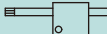
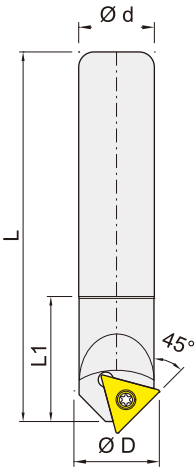
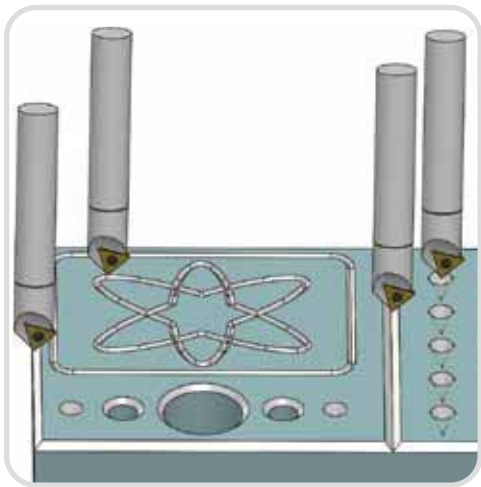

FIG-1

FIG-2


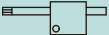
FIG-1 Item code	Dimensions,mm						Teeth	Insert	Screw 	Wrench 
	D	d	d1	L	L1	L2				
CCT09-D21-S16-100	21	16	10	100	9	16	2	CCMT060204	MS2506A	ETF09
CCT09-D40-S20-150	40	20	19.8	150	9	17	4			
CCT11-D25-S20-90	25	20	12.5	90	11	17	4			
CCT11-D30-S25-100	30	25	14	100	11	20	4			
CCT11-D40-S20-150	40	20	19.8	150	11	15	4			
CCT14-D32-S25-100	32	25	16	100	14	22	4	CCMT080304	MS3008A	ETF09
CCT14-D45-S25-150	45	25	24.8	150	14	15	4			
CCT18-D40-S25-110	40	25	20	110	18	27	4	CCMT09T308	MS4011A	ETF15
CCT18-D50-S25-150	50	25	24.8	150	18	15	4			
CCT22-D50-S32-140	50	32	26	140	22	34	4	CCMT120408	MS5011A	ETF20

FIG-2 Item code	Dimensions,mm						Teeth	Insert	Screw 	Wrench 
	D	d	d1	L	L1	M				
CCT08-10008-25.4	100	25.4	60	50	8	13	8	CCMT060204	MS2506A	ETF09
CCT10-12510-31.75	125	31.75	70	50	10	13	10			
CCT12-08006-22.0	80	22.0	48	40	12	11	6	CCMT080304	MS3008A	ETF09



Item code	Dimensions,mm				Teeth	A°	Insert	Screw	Wrench
	D	d	L	L1					
DCWR60-20-S20-100	20	20	100	25	1	60	DCMT0702..	MS2506A	ETF09
DCWR60-25-S20-120	25	20	120	25	3				
DCWR60-30-S20-120	30								
DCWR60-40-S25-150	40	25	150	25	3		DCMT11T3	MS4011A	ETF15
DCWR60-44-S25-150	44								
DCWR60-50-S25-120	50	32	120	30	3				
DCWR60-50-S32-150	50								
DCWR60-56-S32-150	56				4				
DCWR60-60-S32-150	60								
DCWR75-50-S32-150	50					3			



Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
TCRM90-20-S20-130	21.5	20	130	35	1	TCMX16T308CR	MS4011A	ETF15

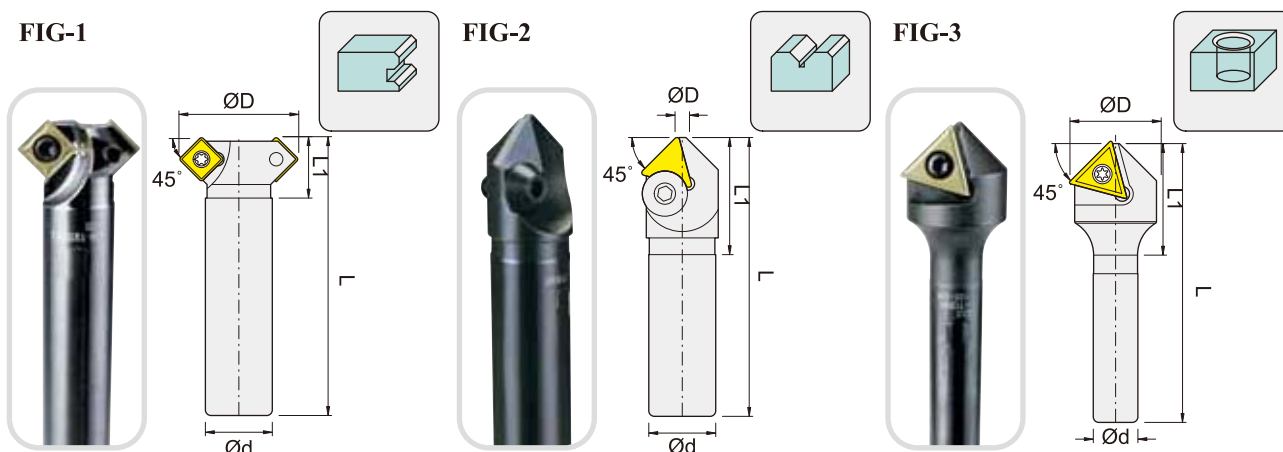


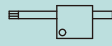
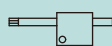
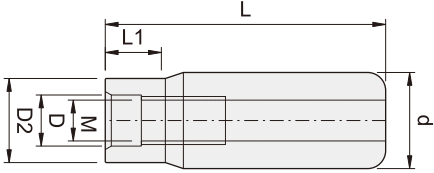
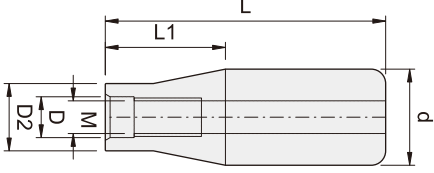
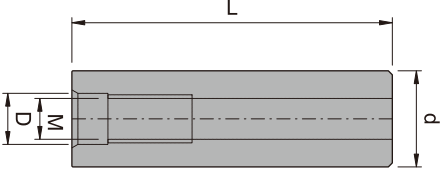
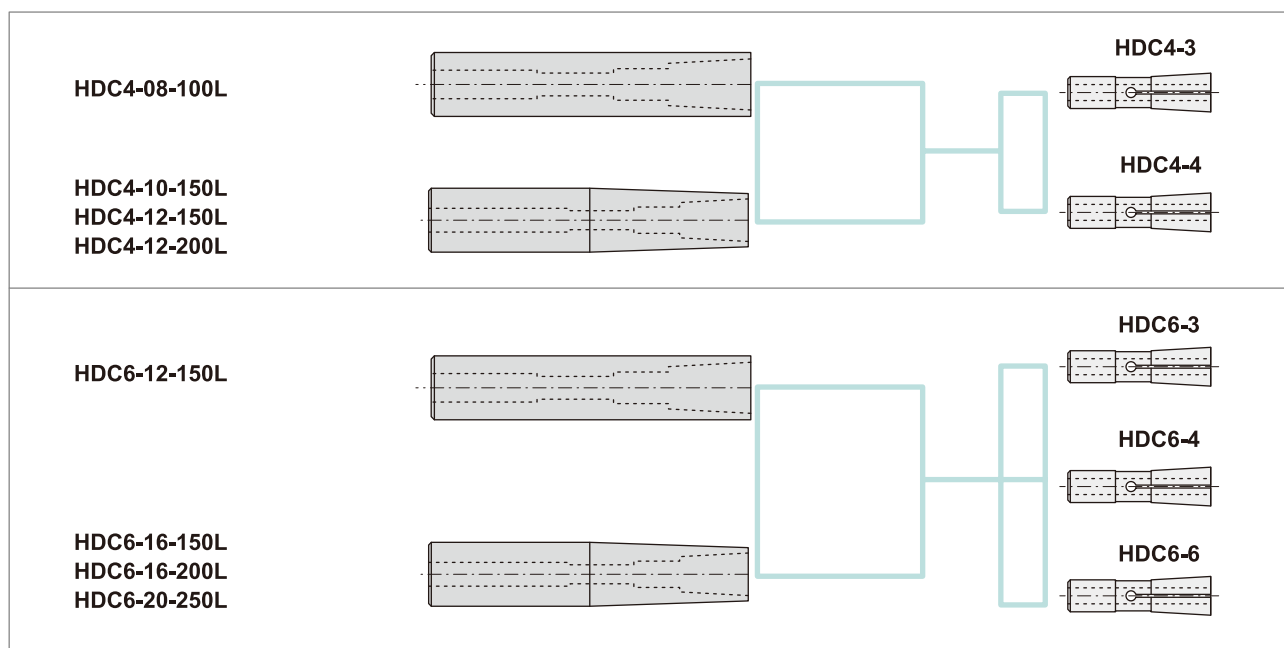
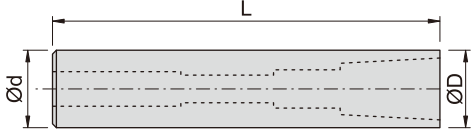
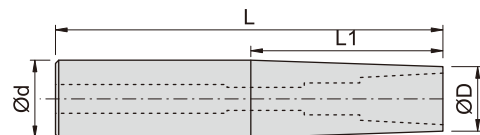
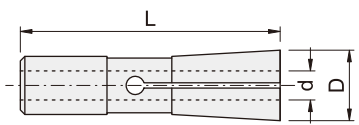
FIG-1 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
C20-VMSP22-120	22	20	120	25	1	SP..0903..	MS4009A	ETF15
C16-VMSP26.5-120	26.5	16	120	17	2			
C20-VMSP35-120	35	20	120	17	2		MS4011A	

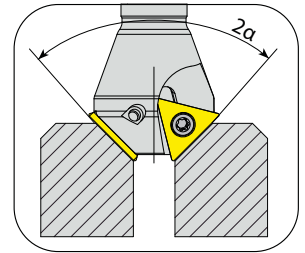
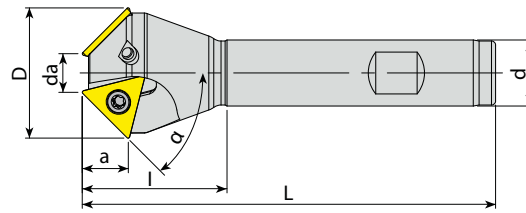
FIG-2 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
C20-TPR90-120	4	20	120	35	1	TP..1603..	MSR63	PL4

FIG-3 Item code	Dimensions,mm				Teeth	Insert	Screw 	Wrench 
	D	d	L	L1				
C12-TCR90-22-120	25	12	120	30	1	TC..16T3..	MS4011A	ETF15
C20-TCR90-22-120	25	20	120	35	1			

SHAPE	Item code	Dimensions,mm					
		d	L	M	D	D2	L1
 	MD11-A12-120K	12	120	M6	6.5	11	10
	MD14-A16-150K	16	150	M8	8.5	14	10
	MD14-A16-200K		200				
	MD18-A20-150K	20	150	M10	10.5	18	12
	MD18-A20-250K		250				
	MD23-A25-200K	25	200	M12	12.5	23	15
	MD23-A25-300K		300				
	MD29-A32-200K	32	200	M16	17	29	18
	MD29-A32-350K		350				
 	MD11-A16-150K	16	150	M6	6.5	11	32
	MD11-A16-200K		200				
	MD14-A20-200K	20	200	M8	8.5	14	50
	MD14-A20-250K		250				
	MD18-A25-200K	25	200	M10	10.5	18	60
	MD18-A25-250K		250				
	MD23-A32-250K	32	250	M12	12.5	23	70
	MD23-A32-350K		350				
	MD29-A42-250K	42	250	M16	17	29	100
	MD29-A42-350K		350				
 	HD08-060-M4	8	60	M4	4.5		
	HD08-100-M4		100				
	HD08-120-M4		120				
	HD10-075-M5	10	75	M5	5.5		
	HD10-100-M5		100				
	HD10-150-M5		150				
	HD12-100-M6	12	100	M6	6.5		
	HD12-150-M6		150				
	HD12-200-M6		200				
	HD16-100-M8	16	100	M8	8.5		
	HD16-150-M8		150				
	HD16-200-M8		200				
	HD20-100-M10	20	100	M10	10.5		
	HD20-150-M10		150				
	HD20-200-M10		200				
	HD20-300-M10		300				
	HD25-100-M12	25	100	M12	12.5		
	HD25-150-M12		150				
	HD25-200-M12		200				
	HD25-300-M12		300				
Carbide	HD32-150-M16	32	150	M16	17		
	HD32-200-M16		200				
	HD32-300-M16		300				
	HD32-400-M16		400				



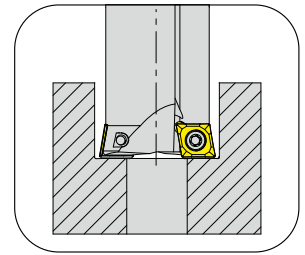
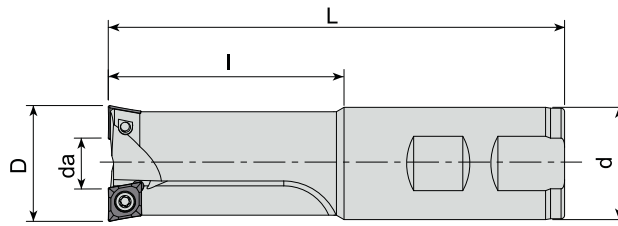
SHAPE	Item code	Dimensions,mm				
		d	L	D	L1	
HDC CHUCK  	HDC4-08-100L	8	100	8	--	HDC4..
	HDC4-10-150L	10	150	10	--	
	HDC6-12-100L	12	100	12	--	HDC6..
	HDC6-12-150L	12	150	12	--	
	HUC10-20-150L	20	150	20	--	HUC10..
	HUC10-20-200L	20	200	20	--	
HDC CHUCK  	HDC4-12-150L	12	150	10	60	HDC4..
	HDC4-16-200L	16	200	10	100	
	HDC6-16-150L	16	150	12.5	60	HDC6..
	HDC6-16-200L	16	200	12.5	90	
	HDC6-20-250L	20	250	12.8	110	
	HUC10-25-250L	25	250	23	120	HUC10..
	HUC10-25-300L	25	300	23	120	
HDC COLLET  	HDC4-3	3	31	7	--	
	HDC4-4	4				
	HDC6-3	3	36	9.6	--	
	HDC6-4	4				
	HDC6-6	6	56.5	15	--	
	HUC10-06	6				
	HUC10-08	8				
	HUC10-10	10				

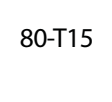
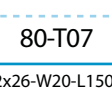


Ordering Code	Stock	Dimension (mm)								Insert	Spare Parts	
		α	da	D	d	L	l	Z	a		Screw	Torx Key
ACM10-TC16-D17X20-W16-L90-Z01	●	10°	17	20	16	90	30	1	15.2	TC.T 16T304	4015-M3.5x9	80-T15
ACM15-TC16-D17X22-W16-L90-Z01	●	15°	17	22	16	90	30	1	14.9			
ACM17.5-TC16-D17X24-W16-L90-Z01	●	17.5°	17	24	16	90	30	1	14.7			
ACM18.5-TC16-D21.3X30-W20-L100-Z02	●	18.5°	21.3	30	20	100	30	2	13.5			
ACM20-TC16-D12X20-W16-L100-Z01	●	20°	12	20	16	100	30	1	14.4			
ACM20-TC16-D17X26-W16-L100-Z01	●	20°	17	26	16	100	30	1	14.4			
ACM22.5-TC16-D17X28-W16-L100-Z01	●	22.5°	17	28	16	100	30	1	14.2			
ACM25-TC16-D17X30-W16-L100-Z01	●	25°	17	30	16	100	30	1	13.9			
ACM30-TC16-D6X20-W16-L100-Z01	●	30°	6	20	16	100	30	1	13.3			
ACM30-TC16-D20X35-W16-L100-Z02	●	30°	20	35	16	100	35	2	13.3			
ACM30-TC16-D30X45-W20-L100-Z02	●	30°	30	45	20	100	40	2	13.3	TC.T 090204	3007-M2.2x5	80-T07
ACM45-TC09-D7X19-W16-L100-Z02	●	45°	7	19	16	100	25	2	5.9			
ACM45-TC11-D11X24-W16-L100-Z02	●	45°	11	24	16	100	25	2	6.9	TC.T 110204	3008-M2.5x6	80-T08
ACM45-TC16-D5X23-W16-L100-Z01	●	45°	5	23	16	100	30	1	10.8	TC.T 16T304	4015-M3.5x9	80-T15
ACM45-TC16-D10X30-W16-L100-Z02	●	45°	10	30	16	100	35	2	10.8			
ACM45-TC16-D10X30-W20-L100-Z02	●	45°	10	30	20	100	35	2	10.8			
ACM45-TC16-D18X37-W20-L100-Z02	●	45°	18	37	20	100	40	2	10.8			
ACM45-TC16-D20X40-W20-L100-Z02	●	45°	20	40	20	100	40	2	10.8			
ACM45-TC16-D30X50-W20-L100-Z02	●	45°	30	50	20	100	40	2	10.8			
ACM55-TC16-D16X40-W20-L100-Z03	●	55°	16	40	20	100	40	3	8.7			
ACM62-TC16-D14X40-W20-L100-Z03	●	62°	14	40	20	100	40	3	7.1			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

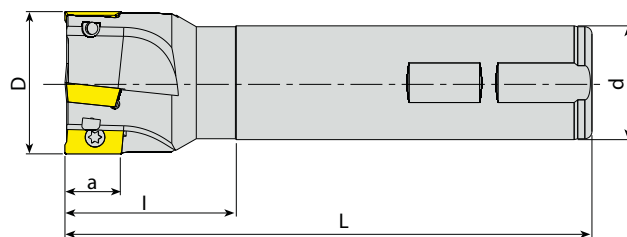
Ordering Example : 1 pcs. ACM10-TC16-D17X20-W16-L90-Z01



Ordering Code	Stock	Dimension (mm)						Insert	Spare Parts	
			D	d	l	L	For Screws		Screw	Torx Key
ACBM-CC06-D17X6-W16-L150-Z02	●	6	17	16	30	150	-			
ACBM-CC06-D18X7-W16-L100-Z02-H	●	7	18	16	32	100	M10			
ACBM-CC06-D18X7-W16-L160-Z02-H	●	7	18	16	32	160	M10			
ACBM-CC06-D20X9-W20-L100-Z02-H	●	9	20	20	40	100	M12			
ACBM-CC06-D20X9-W20-L160-Z02-H	●	9	20	20	38	160	M12			
ACBM-CC09-D26X8.5-W25-L130-Z02-H	●	8.5	26	25	50	130	M16			
ACBM-CC09-D26X8.5-W25-L200-Z02	●	8.5	26	25	50	200	M16			
ACBM-CC09-D33X15.5-W32-L130-Z02-H	●	15.5	33	32	65	130	M20			
ACBM-CC09-D33X15.5-W32-L200-Z2	●	15.5	33	32	65	200	M20			
ACBM-SP06-D15X4-W16-L160-Z02-H	●	4	15	16	80	160	M8			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

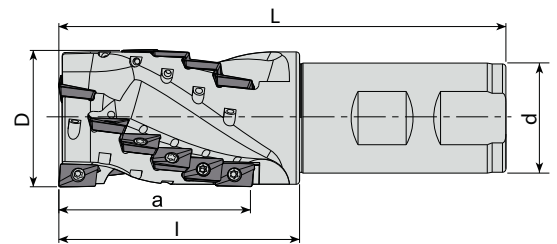
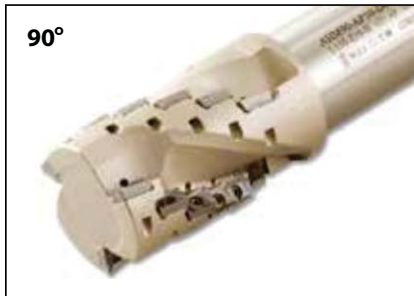
Ordering Example : 1 pcs. ACM45-SP1104-D12x26-W20-L150-Z01

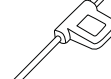


Ordering Code	Stock	Dimension (mm)						Insert	Spare Parts	
		D	Z	d	L	l	a		Screw	Torx Key
AEM90-AP1705-D25-C25-L120-Z02	●	25	2	25	120	40	16	 AP.. 1705.. FOR TGTC-LMN INSERT.	 1515-M4x9	 80-T15
AEM90-AP1705-D26-C25-L200-Z02	●	26	2	25	200	40	16			
AEM90-AP1705-D26-C25-L250-Z02	●	26	2	25	250	40	16			
AEM90-AP1705-D32-C25-L150-Z03	●	32	3	25	150	40	16			
AEM90-AP1705-D33-C32-L300-Z02	●	33	2	32	300	40	16			

R: Right L: Left ● In Stock ○ Non Stock Item

Ordering Example : 1 pcs. AEM90-AP16D-D25-W25-L150-Z02

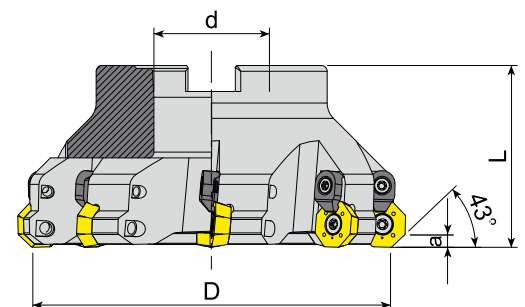


Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		Z		D	d	a	l	L		Screw	Torx Key
		Total	Effective								
AHM90-AP10-D20-W20-L087-Z04	●	4	2	20	20	28	37	87			
AHM90-AP10-D20-W20-L087-Z0206-H	●	6	2	20	20	28	37	87			
AHM90-AP10-D25-W25-L105-Z0208-H	●	8	2	25	25	37	47	105			
AHM90-AP10-D32-W32-L115-Z0315-H	●	15	3	32	32	46	55	115			
AHM90-AP10-D40-W32-L130-Z0318-H	●	18	3	40	32	55	64	130			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pcs. AHM90-AP10-D20-W20-L087-Z04

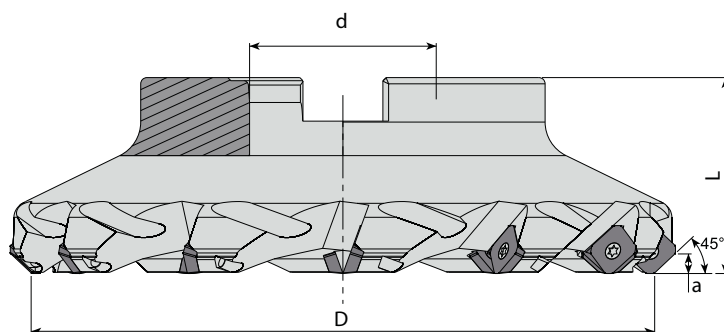
Face Milling



Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts									
		D	Z	d	L	a		Screw	Wedge Clamp	Clamp Screw	Torx Key	Mounting Screw					
AFM43C-OD0605-D080-A27-Z06-H	●	80	6	27	50	4						2510-M12x35					
AFM43C-OD0605-D100-A32-Z07-H	●	100	7	32	50	4						OD.. 0605..	1020-M5x11	ACK-05	1515-M4x11	80-T20	2514-M16x35
AFM43C-OD0605-D125-B40-Z08	●	125	8	40	63	4											-

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with WLTR-LMN Insert.

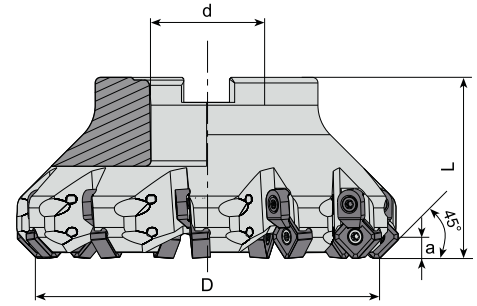
Ordering Example : 1 pcs. AFM43-OD0504-D040-A16-Z04-H



Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts		
		D	Z	d	L	a		Screw	Torx Key	Mounting Screw
										
AFM45-SE12-D050-A22-Z04-H	●	50	4	22	40	6	SE.. 12T3.. R245-12T3..	4015-M3.5x11	80-T15	2407-M10x30
AFM45L-SE12-D050-A22-Z04-H	●	50	4	22	40	6				
AFM45-SE12-D063-A22-Z05-H	●	63	5	22	40	6				
AFM45L-SE12-D063-A22-Z05-H	●	63	5	22	40	6				
AFM45-SE12-D080-A27-Z06-H	●	80	6	27	50	6				2510-M12x35
AFM45L-SE12-D080-A27-Z06-H	●	80	6	27	50	6				
AFM45-SE12-D100-A32-Z07-H	●	100	7	32	50	6				2514-M16x35
AFM45-SE12-D125-B40-Z08	●	125	8	40	63	6				
AFM45-SE12-D160-C40-Z10	●	160	10	40	63	6				-
AFM45-SE12-D200-C60-Z12	●	200	12	60	63	6				

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ZCC-SNDVK Insert.

Ordering Example : 1 pcs. AFM45-HN0905-D050-A22-Z05-H

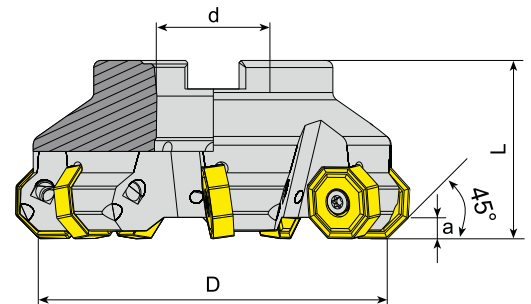


Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts				
		D	Z	d	L	a		Screw	Wedge Clamp	Clamp Screw	Torx Key	Mounting Screw
AFM45C-SN1206-D050-A22-Z05-H	●	50	5	22	42	6	SN.. 1206..	1515-M4x11	ACK-05	1515-M4x11	80-T15	2407-M10x30
AFM45C-SN1206-D063-A22-Z07-H	●	63	7	22	42	6						
AFM45CL-SN1206-D063-A22-Z07-H	●	63	7	22	42	6						
AFM45C-SN1206-D080-A27-Z08-H	●	80	8	27	52	6						
AFM45C-SN1206-D100-A32-Z10-H	●	100	10	32	52	6						2510-M12x35
AFM45CL-SN1206-D100-A32-Z10-H	●	100	10	32	52	6						2514-M16x35
AFM45C-SN1206-D125-B40-Z11	●	125	11	40	65	6						-
AFM45CL-SN1206-D125-B40-Z11	●	125	11	40	65	6						
AFM45C-SN1206-D160-C40-Z12	●	160	12	40	65	6						
AFM45C-SN1206-D200-C60-Z14	●	200	14	60	65	6						
AFM45CL-SN1206-D200-C60-Z14	●	200	14	60	65	6						

Compatible with ISO Insert.

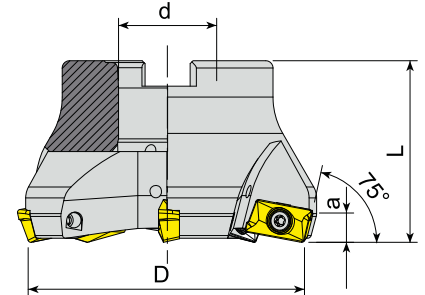
If will be used with WLTR insert, should be mentioned on order.

Face Milling



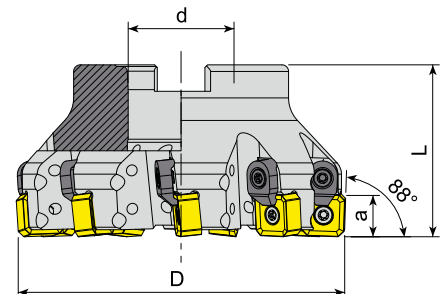
Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts		
		D	Z	d	L	a		Screw	Torx Key	Mounting Screw
AFM45-ON0806-D063-A22-Z05-H	●	63	5	22	40	4	ON.. 0806..	1020-M5x11	80-T20	2508-M10x30
AFM45-ON0806-D080-A27-Z06-H	●	80	6	27	50	4				2510-M12x35
AFM45-ON0806-D100-A32-Z07-H	●	100	7	32	50	4				2514-M16x35
AFM45-ON0806-D125-A40-Z08-H	●	125	8	40	63	4				-
AFM45-ON0806-D160-C40-Z10	●	160	10	40	63	4				
AFM45-ON0806-D200-C60-Z12	●	200	12	60	63	4				

Compatible with ISO Insert.



Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts		
		D	Z	d	L	a		Screw	Torx Key	Mounting Screw
AFM75-AP16-D063-A22-Z04-H	●	63	4	22	40	6	AP.. 1604..	1515-M4x11	80-T15	2508-M10x30
AFM75-AP16-D080-A27-Z05-H	●	80	5	27	50	6				2510-M12x35
AFM75-AP16-D100-A32-Z06-H	●	100	6	32	50	6				2514-M16x35
AFM75-AP16-D125-B40-Z07	●	125	7	40	63	6				-

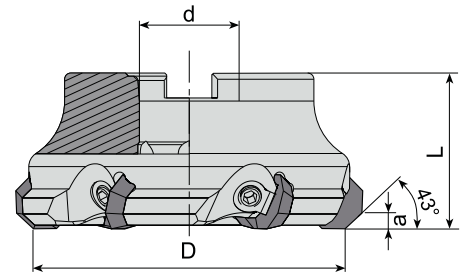
Compatible with ISO Insert.



Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts				
		D	Z	d	L	a		Screw	Wedge Clamp	Clamp Screw	Torx Key	Mounting Screw
AFM88C-SN1206-D063-A22-Z06-H	●	63	6	22	40	11.5	SN.. 1206..	1615-M4x11	ACK-05	1515-M4x11	80-T15	2508-M10x30
AFM88C-SN1206-D080-A27-Z07-H	●	80	7	27	50	11.5						2510-M12x35
AFM88C-SN1206-D100-A32-Z09-H	●	100	9	32	52	11.5						2514-M16x35

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

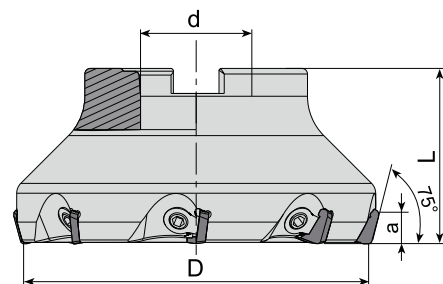
Ordering Example : 1 pcs. AFM75-AP16-D063-A22-Z04-H



Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts			
		D	Z	d	L	a		Wedge Clamp	Clamp Screw	Allen Key	Mounting Screw
AFM43C-0F07-D063-A22-Z04	●	63	4	22	45	5	OF.. 0704..	ACK-11	AKV-15-M8x1x20	AAL-05-4	2508-M10x30
AFM43C-0F07-D080-A27-Z05	●	80	5	27	50	5					2510-M12x35
AFM43C-0F07-D100-A32-Z06	●	100	6	32	50	5					2514-M16x35
AFM43C-0F07-D125-B40-Z08	●	125	8	40	63	5					-
AFM43C-0F07-D160-C40-Z09	●	160	9	40	63	5					-

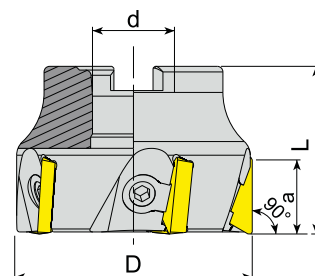
R: Right L: Left
 ● In Stock ○ Non Stock Item
 Compatible with ISO Insert.

Ordering Example : 1 pcs. AFM45C-HN0905-D063-A22-Z07



Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts			
		D	Z	d	L	a		Wedge Clamp	Clamp Screw	Allen Key	Mounting Screw
AFM75C-SP12-D050-A22-Z04	●	50	4	22	42	8	SPKN 1203..	ACK-10	AKV-13-M8x1x16	AAL-05-4	2508-M10x30
AFM75C-SP12-D063-A22-Z05	●	63	5	22	40	8					2510-M12x35
AFM75C-SP12-D080-A27-Z06	●	80	6	27	50	8					2514-M16x35
AFM75C-SP12-D100-A32-Z07	●	100	7	32	50	8					-
AFM75C-SP12-D125-B40-Z08	●	125	8	40	63	8					-
AFM75C-SP12-D160-C40-Z09	●	160	9	40	63	8					-
AFM75C-SP12-D200-C60-Z12	●	200	12	60	63	8					-

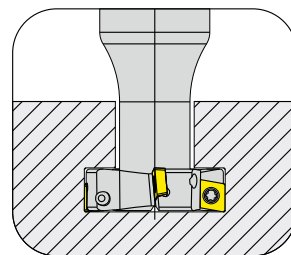
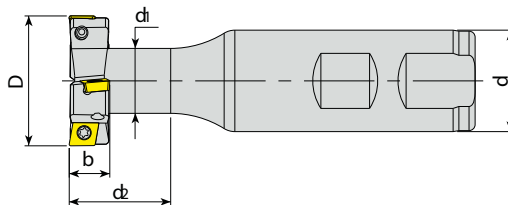
Compatible with ISO Insert.

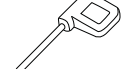


Ordering Code	Stock	Dimension (mm)					Insert	Spare Parts			
		D	Z	d	L	a		Wedge Clamp	Clamp Screw	Allen Key	Mounting Screw
AFM90C-TP16-D050-A22-Z04	●	50	4	22	40	12	TP.. 1603..	ACK-10	AKV-22-M8x1x14 AKV-13-M8x1x16	AAL-05-4	2408-M10x30
AFM90C-TP16-D063-A22-Z06	●	63	6	22	45	12					2508-M10x30
AFM90C-TP16-D080-A27-Z07	●	80	7	27	50	12					2510-M12x35
AFM90C-TP16-D100-A32-Z08	●	100	8	32	50	12					2514-M16x35
AFM90C-TP22-D063-A22-Z05	●	63	5	22	45	18	TP.. 2204..	ACK-11	AKV-14-M8x1x18	AAL-05-4	2508-M10x30
AFM90C-TP22-D080-A27-Z06	●	80	6	27	50	18					2510-M12x35
AFM90C-TP22-D100-A32-Z07	●	100	7	32	50	18					2514-M16x35
AFM90C-TP22-D125-B40-Z08	●	125	8	40	63	18					-
AFM90C-TP22-D160-C40-Z09	●	160	9	40	63	18					-
AFM90C-TP22-D200-C60-Z12	●	200	12	60	63	18					-
AFM90C-TP22-D250-C60-Z15	●	250	15	60	63	18					-
AFM90C-TP22-D315-D60-Z18	●	315	18	60	63	18					-

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pcs. AFM75C-SP12-D050-A22-Z04



Ordering Code	Stock	Dimension (mm)								Spare Parts		
		Z		D	b	d	L	d1	d2	Insert	Screw	Torx Key
		Total	Effective									
ATSM90-CC06-D17X8-W16-L85-Z02	●	2	1	17	8	16	85	10	16	CC.. 0602..	3008-M2.5x6	80-T08
ATSM90-CC06-D32X8-W25-L100-Z04	●	4	2	32	8	25	100	16	23			
ATSM90-CC06-D63X8-W32-L125-Z08	●	8	4	63	8	32	125	31.5	30			
ATSM90-CC06-D18X9-W16-L90-Z02	●	2	1	18	9	16	90	10	16			
ATSM90-CC06-D20X9-W16-L85-Z04	●	4	2	20	9	16	85	10	16			
ATSM90-CC06-D23X10-W20-L90-Z04	●	4	2	23	10	20	90	12	25			
ATSM90-CC06-D32X10-W25-L100-Z04	●	4	2	32	10	25	100	16	25			
ATSM90-CC06-D45X10-W32-L120-Z06	●	6	3	45	10	32	120	20	25			
ATSM90-CC06-D25X11-W25-L100-Z04	●	4	2	25	11	25	100	13	20	CC.. 09T3..	4015-M3.5x9	80-T15
ATSM90-CC09-D30X12-W25-L100-Z04	●	4	2	30	12	25	100	16	25			
ATSM90-CC09-D32X12-W25-L100-Z02	●	2	1	32	12	25	100	16	25			
ATSM90-CC09-D32X12-W25-L100-Z04	●	4	2	32	12	25	100	16	25			
ATSM90-CC09-D32X14-W25-L100-Z04	●	4	2	32	14	25	100	16	25			
ATSM90-CC09-D37X16-W32-L120-Z04	●	4	2	37	16	32	120	17	30			
ATSM90-CC09-D42X17-W32-L120-Z04	●	4	2	42	17	32	120	19	30			
ATSM90-CC09-D40X17-W32-L120-Z04-H	●	4	2	40	17	32	120	19	30			
ATSM90-CC12-D47X20-W32-L120-Z04	●	4	2	47	20	32	120	25	45	CC.. 1204..	1020-M5x11	80-T20
ATSM90-CC12-D52X21-W32-L120-Z04	●	4	2	52	21	32	120	25	45			
ATSM90-CC12-D50X22-W32-L120-Z04	●	4	2	50	22	32	120	25	45			
ATSM90-CC12-D55X22-W32-L120-Z04	●	4	2	55	22	32	120	25	45			

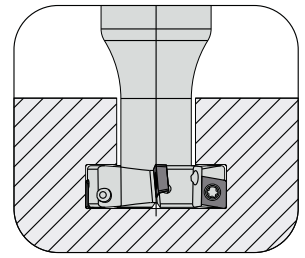
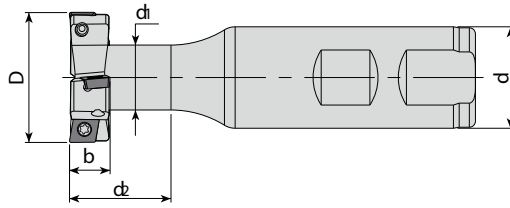
R: Right L: Left

● In Stock

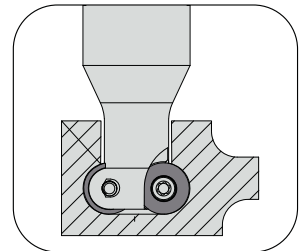
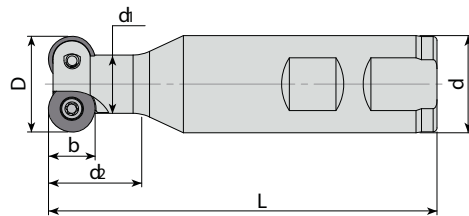
○ Non Stock Item

Ordering Example : 1 pcs. ATSM90-CC06-D17X8-W16-L85-Z02





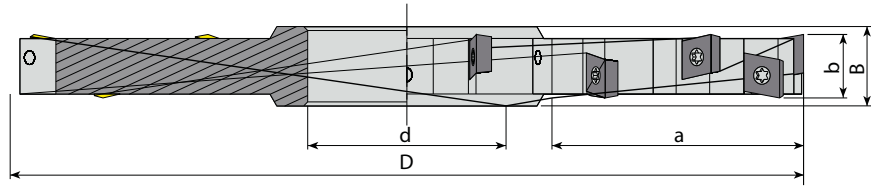
Ordering Code	Stock	Dimension (mm)								Spare Parts		
		Z		D	b	d	L	d ₁	d ₂	Insert	Screw	Torx Key
		Total	Effective									
ATSM90-SPGT0904-D37X16-W32-L120-Z04-H	●	4	2	37	16	32	120	21	40	SPGT 090408 FOR ZCC INSERT.	4015-M3.5x9	80-T15
ATSM90-SPGT0904-D42X17-W32-L120-Z04-H	●	4	2	42	17	32	120	21	40			
ATSM90-SPGT1104-D47X20-W32-L120-Z04-H	●	4	2	47	20	32	120	24	45	SPGT 110408 FOR TGTC INSERT.	1515-M4x11	80-T07
ATSM90-SP..06-D80X7-W32-L120-Z10	●	10	5	80	7	32	120	32	30			



Ordering Code	Stock	Dimension (mm)								Spare Parts		
		Z		D	b	d	L	d ₁	d ₂	Insert	Screw	Torx Key
		Total	Effective									
ATSMR-RD1003-D21-W25-L100-Z02	●	2	21	10	25	100	12	20		RD.. 1003 RD.. 12T3 RD.. 1604	4015-M3.5x9	80-T15
ATSMR-RD12T3-D25-W25-L100-Z02	●	2	25	12	25	100	15	24				
ATSMR-RD1604-D34-W32-L110-Z02	●	2	34	16	32	110	20	30				

R: Right L: Left ● In Stock ○ Non Stock Item

Ordering Example : 1 pcs. ATSM90-SPGT0904-D37X16-W32-L120-Z04-H

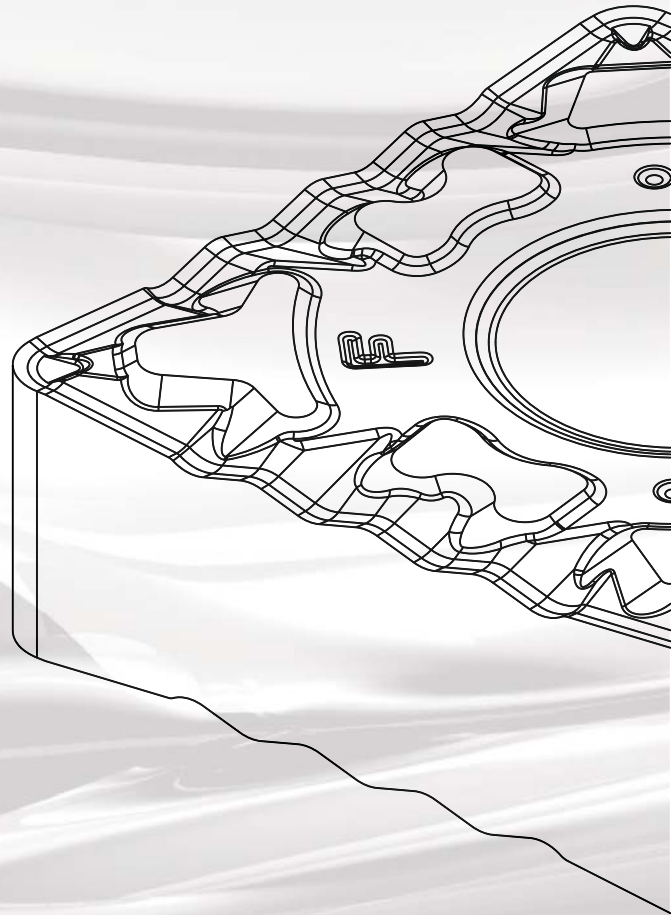


Ordering Code	Stock	Dimension (mm)							Spare Parts		
		Z		D	b	a	d	B	Insert	Screw	Torx Key
		Total	Effective								
ASDM-CC06-D80x8-d27-Z10	●	10	5	80	8	17	27	12	CC.. 0602.. FOR ISO INSERT.	3008-M2.5x6	80-T08
ASDM-CC06-D100x8-d32-Z12	●	12	6	100	8	25	32	12			
ASDM-CC06-D125x8-d40-Z14	●	14	7	125	8	35	40	12			
ASDM-CC06-D160x8-d40-Z16	●	16	8	160	8	52	40	12			
ASDM-CC06-D200x8-d40-Z18	●	18	9	200	8	70	40	12			
ASDM-CC06-D80x10-d27-Z10	●	10	5	80	10	17	27	14			
ASDM-CC06-D100x10-d32-Z12	●	12	6	100	10	25	32	14			
ASDM-CC06-D125x10-d40-Z14	●	14	7	125	10	35	40	14			
ASDM-CC06-D160x10-d40-Z16	●	16	8	160	10	52	40	14			
ASDM-CC06-D200x10-d40-Z18	●	18	9	200	10	70	40	14			
ASDM-CC09-D80x12-d27-Z08	●	8	4	80	12	17	27	16	CC.. 09T3.. FOR ISO INSERT.	4015-M3.5x11	80-T15
ASDM-CC09-D100x12-d32-Z10	●	10	5	100	12	25	32	16			
ASDM-CC09-D125x12-d40-Z12	●	12	6	125	12	35	40	16			
ASDM-CC09-D160x12-d40-Z14	●	14	7	160	12	52	40	16			
ASDM-CC09-D200x12-d40-Z16	●	16	8	200	12	70	40	16			
ASDM-CC09-D80x14-d27-Z08	●	8	4	80	14	17	27	18			
ASDM-CC09-D100x14-d32-Z10	●	10	5	100	14	25	32	18			
ASDM-CC09-D125x14-d40-Z12	●	12	6	125	14	35	40	18			
ASDM-CC09-D160x14-d40-Z14	●	14	7	160	14	52	40	18			
ASDM-CC09-D200x14-d40-Z16	●	16	8	200	14	70	40	18			
ASDM-CC12-D80x16-d27-Z06	●	6	3	80	16	17	27	20	CC.. 1204.. FOR ISO INSERT.	1020-M5x11	80-T20
ASDM-CC12-D100x16-d32-Z08	●	8	4	100	16	25	32	20			
ASDM-CC12-D125x16-d40-Z10	●	10	5	125	16	35	40	20			
ASDM-CC12-D160x16-d40-Z12	●	12	6	160	16	52	40	20			
ASDM-CC12-D200x16-d40-Z14	●	14	7	200	16	70	40	20			
ASDM-CC12-D80x18-d27-Z06	●	6	3	80	18	17	27	22			
ASDM-CC12-D100x18-d32-Z08	●	8	4	100	18	25	32	22			
ASDM-CC12-D125x18-d40-Z10	●	10	5	125	18	35	40	22			
ASDM-CC12-D160x18-d40-Z12	●	12	6	160	18	52	40	22			
ASDM-CC12-D200x18-d40-Z14	●	14	7	200	18	70	40	22			
ASDM-CC12-D250x18-d40-Z16	●	16	8	250	18	90	40	22			
ASDM-CC12-D80x20-d27-Z06	●	6	3	80	20	17	27	24			
ASDM-CC12-D100x20-d32-Z08	●	8	4	100	20	25	32	24			
ASDM-CC12-D125x20-d40-Z10	●	10	5	125	20	35	40	24			
ASDM-CC12-D160x20-d40-Z12	●	12	6	160	20	52	40	24			
ASDM-CC12-D200x20-d40-Z14	●	14	7	200	20	70	40	24			
ASDM-CC12-D250x20-d40-Z16	●	16	8	250	20	90	40	24			

R: Right L: Left ● In Stock ○ Non Stock Item

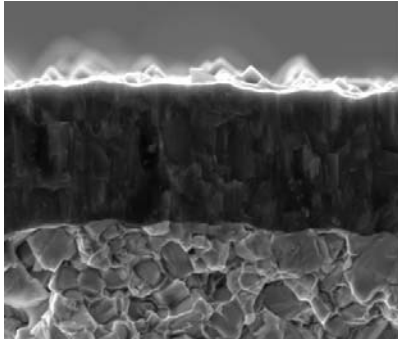
Ordering Example : 1 pcs. ASDM-CC06-D80x8-d27-Z10

DRILLING



Features of Grades

BT 6800 - PVD Coating for Drilling Application



- PVD coating with optimal thermal resistance & added strength
- Tough carbide substrate designed for demanding application

Drilling Applications

ISO	Material Group	VDI Group	Relative materials(DIN)	Hardness HB	Cutting speed (m/min)
P	Non-alloy steel	1 - 5	9 SMn 28, C35C50, C40E, C45E, 49 CrMo 4	125 - 250	150 - 250
	Low alloy steel	6 - 9	13 CrMo 44, 40NiCrMo22, 58 CrV 4	200 - 350	140 - 200
	High alloy steel	10 - 11	X 40 CrMoV 5 1, X100 CrMoV 5 1, S6-5-5	200 - 325	80 - 130
M	Ferritic/martensitic Stainless steel	12 - 13	X6Cr13, X10CrA118, X20CrNi175	200 - 240	130 - 190
	Austenitic Stainless steel	14	X5 CrNi 18 9, X5 CrNiMo 17 13 3, X6 CrNiTi 18 9	180	100 - 200
K	Grey cast iron	15 - 16	GG15, GG20, GGG40, GG-35	180 - 260	160 - 200
	Malleable cast iron	19 - 20	GTS-35-10, GTS-35, GTS70-02, 20mN5	130 - 230	130 - 180
S	Fe, Ni or Co based	31 - 35	X12 NiCrAlTi 31 20, TiAl5Sn2	200 - 350	30 - 50
	Titanium and Ti-alloy based	36 - 37	TiCu2, TiAl6V4, TiAl6V4ELI	-	35 - 75
H	Hardened steel	38 - 39	C 105 W1,75 CrMoNiW 6 7	55 - 60 HRc	55 - 65
	Chilled cast iron	40	G-X 260 NiCr 4 2, X15 CrNiSi 25 20	400	45 - 55
	Cast iron	41	G-X 300 CrMo 15 3	55 HRc	55 - 65

*Above recommend cutting condition can be changed according to the customer's machining condition.

DRILLING

	ISO	Symbol	BRISLOY	SANDVIK	KENNAMETAL	SECO	ISCAR	MITSUBISHI	SUMITOMO	TUNGALOY	TAEGUTEC
MILLING	P	P10	BT6800	GC1010 GC1025	KC715M		IC250 IC808 IC908		ACP200		TT2510 TT7080
		P20	BT6800	GC1010 GC1025 GC2030	KC522M KC525M	F25M MP3000	IC250 IC808 IC908 IC928	MP6120 VP15TF	ACP200	AH725 AH120 AH330 GH330	TT2510 TT7080 TT9080
		P30	BT6800*	GC1010 GC1030 GC2030	KC725M KC530M	F25M MP3000 F30M	IC250 IC808 IC908 IC928"	MP6120 VP15TF MP6130 VP30RT"	ACP200 ACP300	AH725 AH120 AH130 GH130	TT8080 TT9080
		P40	BT6800*	GC1030	KC735M	F40M T60M		VP30RT	ACP300	AH140	TT8080 TT9080
	M	M10	BT6800*	GC1025 GC1030	KC715M		IC903				
		M20	BT6800*	GC1025 GC1030 GC1040 GC2030	KC730 KC522M KC525M	F25M MP3000	IC250 IC300 IC808 IC928	VP15TF MP7130 MP7030 VP20RT	ACP200	AH725 AH120 AH330 GH330	TT9080
		M30	BT6800	GC1040 GC2030	KC725M KC735M	F30M F40M MP3000	IC250 IC300 IC808 IC928	VP15TF MP7130 MP7030 VP20RT	ACP200 ACP300	AH120 AH725 GH130 GH340	TT8080 TT9080
		M40	BT6800			F40M		MP7140 VP30RT	ACP300	AH140	TT8080 TT9080
	K	K10	BT6800	GC1010	KC510M		IC350 IC810 IC900 IC910 IC950"	MP8010		AH110 GH110 AH330	TT6080 TT7080
		K20	BT6800*	GC1010 GC1020	KC520M KC525M"	MK2000	IC350 IC830 IC928	VP15TF VP20RT	ACK300	GH130	TT6080 TT7080
		K30	BT6800*	GC1020	KC725M KC735M		IC350 IC830 IC928	VP15TF VP20RT	ACK300		
	S	S10	BT6800*	GC1025	KC510M		IC903	MP9120 VP15TF			
		S20	BT6800*	GC1025 GC2030	KC522M KC525M		IC300 IC808 IC908 IC328	MP9120 VP15TF MP9130 MP9030			TT9080
		S30	BT6800	GC2030	KC725M	F40M	IC830 IC928				TT8080 TT9080
	H	H10	BT6800	GC1010 GC1030	KC635M	MH1000 F15M	IC900	VP15TF VP10H			TT2510 TT6080
		H20	BT6800	GC1010 GC1030	KC635M	F15M	IC900 IC808 IC908	VP15TF			TT2510 TT6080
		H30	BT6800		KC530M	MP3000 F30M	IC808 IC908 IC1008				

** Above chart is selected from a publication. We have not obtained approval from each company.

* Outstanding performance.

S

1

P

2

G

3

T

4

06

5

02

6

04

7

1 Insert Form



W



S

2 Clearance angle of Insert



C



P

4 Type of Insert

A



B



C



F



G



H



J



M



N



Q



R



T



U



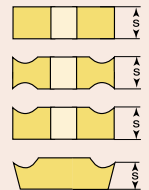
W



X

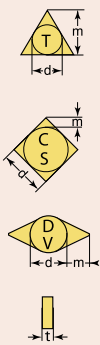
Special / Özel

6 Thickness



01	s = 1.59
T1	s = 1.98
02	s = 2.38
T2	s = 2.78
03	s = 3.18
T3	s = 3.97
04	s = 4.76
05	s = 5.56
06	s = 6.35
07	s = 7.94
09	s = 9.52

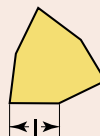
3 Tolerance Classes



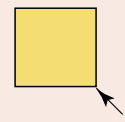
	d	m	t
A	± 0.025	± 0.005	± 0.025
C	± 0.025	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
F	± 0.013	± 0.005	± 0.025
G	± 0.025	± 0.025	± 0.130
H	± 0.013	± 0.013	± 0.025
J	± 0.05-0.15	± 0.005	± 0.025
K	± 0.05-0.15	± 0.013	± 0.025
L	± 0.05-0.15	± 0.025	± 0.025
M	± 0.05-0.15	± 0.08-0.20	± 0.130
N	± 0.05-0.15	± 0.08-0.20	± 0.025
U	± 0.08-0.25	± 0.13-0.38	± 0.130

d : Inscribed Circle
m : Refer to Figure
t : Thickness

5 Cutting Edge Length

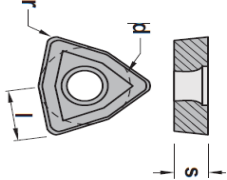
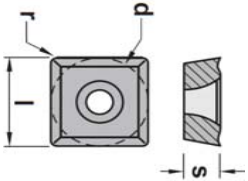


7 Corner Radius



01	r = 0.1
02	r = 0.2
04	r = 0.4
08	r = 0.8
12	r = 1.2
16	r = 1.6
24	r = 2.4

Unit : mm

Insert Shape	Designation	Dimensions					Feed (mm/tooth)		Geometry & Relative Holder
		I	D	S	Ø	r	min.	max.	
	WCMX 040208	3.99	6.35	2.38	7	0.8	0.05	0.11	
	WCMX 050308	5.07	7.94	3.18	7	0.8	0.06	0.11	
	WCMX 06T308	6.14	9.52	3.97	7	0.8	0.06	0.13	
	WCMX 080412	8.14	12.7	4.76	7	1.2	0.06	0.18	
	SPMG 050204	5.00	-	2.38	11	0.4	0.04	0.10	
	SPMG 060204	6.00	-	2.38	11	0.4	0.04	0.10	
	SPMG 07T308	7.94	-	3.97	11	0.8	0.05	0.11	
	SPMG 090408	9.80	-	4.30	11	0.8	0.06	0.12	

* Product image shown on this catalogue may differ from actual products.

brisloy

U-DRILL



TUM

1

16

2

x

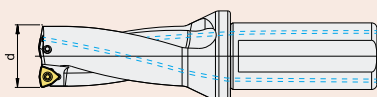
D3

3

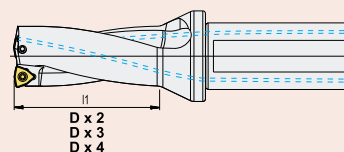
1 Cutter Style

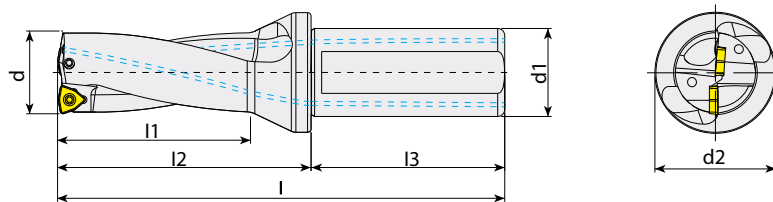
U-Drill

2 Tool Diameter

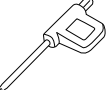


3 Drilling Depth



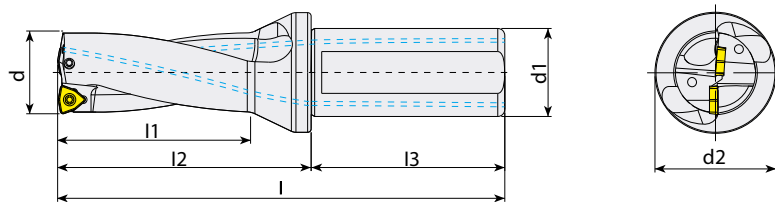


Drilling Depth = 2xDiameter

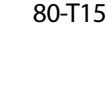
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d1	d2	l	l1	l2	l3		Screw	Torx Key
											
ATUM 16XD2 WCM. 030208	●	16	25	34	110	32	54	56	WCM. 030208	3008-M2.5x6	80-T08
ATUM 16.5XD2 WCM. 030208	●	16.5	25	34	110	32	54	56			
ATUM 17XD2 WCM. 030208	●	17	25	34	112	34	56	56			
ATUM 17.5XD2 WCM. 030208	●	17.5	25	34	112	34	56	56			
ATUM 18XD2 WCM. 030208	●	18	25	34	114	36	58	56			
ATUM 18.5XD2 WCM. 030208	●	18.5	25	34	114	36	58	56			
ATUM 19XD2 WCM. 030208	●	19	25	34	116	38	60	56			
ATUM 19.5XD2 WCM. 030208	●	19.5	25	34	116	38	60	56			
ATUM 20XD2 WCM. 040208	●	20	25	34	118	40	62	56	WCM. 040208	3008-M2.5x6	80-T08
ATUM 20.5XD2 WCM. 040208	●	20.5	25	34	118	40	62	56			
ATUM 21XD2 WCM. 040208	●	21	25	34	120	42	64	56			
ATUM 21.5XD2 WCM. 040208	●	21.5	25	34	120	42	64	56			
ATUM 22XD2 WCM. 040208	●	22	25	34	122	44	66	56			
ATUM 22.5XD2 WCM. 040208	●	22.5	25	34	122	44	66	56			
ATUM 23XD2 WCM. 040208	●	23	25	34	124	46	68	56			
ATUM 23.5XD2 WCM. 040208	●	23.5	25	34	124	46	68	56			
ATUM 24XD2 WCM. 050308	●	24	25	34	126	48	70	56	WCM. 050308	1008-M3x8	80-T08
ATUM 24.5XD2 WCM. 050308	●	24.5	25	34	126	48	70	56			
ATUM 25XD2 WCM. 050308	●	25	25	34	128	50	72	56			
ATUM 25.5XD2 WCM. 050308	●	25.5	25	34	128	50	72	56			
ATUM 26XD2 WCM. 050308	●	26	25	34	130	52	74	56			
ATUM 26.5XD2 WCM. 050308	●	26.5	25	34	130	52	74	56			
ATUM 27XD2 WCM. 050308	●	27	25	34	132	54	76	56			
ATUM 27.5XD2 WCM. 050308	●	27.5	25	34	132	54	76	56			
ATUM 28XD2 WCM. 050308	●	28	25	34	134	56	78	56			
ATUM 28.5XD2 WCM. 050308	●	28.5	25	34	134	56	78	56			
ATUM 29XD2 WCM. 050308	●	29	25	34	136	58	80	56			
ATUM 29.5XD2 WCM. 050308	●	29.5	25	34	136	58	80	56			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pc. ATUM 16xD2 WCM. 030208

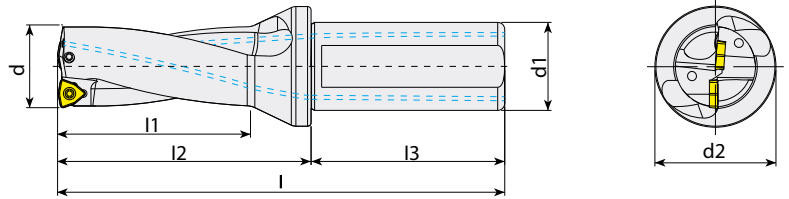


Drilling Depth = 2xDiameter

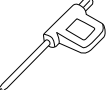
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d1	d2	l	l1	l2	l3		Screw	Torx Key
ATUM 30XD2 WCM. 06T308	●	30	32	44	147	60	87	60			
ATUM 31XD2 WCM. 06T308	●	31	32	44	149	62	89	60			
ATUM 32XD2 WCM. 06T308	●	32	32	44	151	64	91	60			
ATUM 33XD2 WCM. 06T308	●	33	32	44	153	66	93	60			
ATUM 34XD2 WCM. 06T308	●	34	32	44	155	68	95	60			
ATUM 35XD2 WCM. 06T308	●	35	32	44	157	70	97	60			
ATUM 36XD2 WCM. 06T308	●	36	32	44	159	72	99	60			
ATUM 37XD2 WCM. 06T308	●	37	32	44	161	74	101	60			
ATUM 38XD2 WCM. 06T308	●	38	32	44	163	76	103	60			
ATUM 39XD2 WCM. 06T308	●	39	32	44	165	78	105	60			
ATUM 40XD2 WCM. 06T308	●	40	32	44	167	80	107	60			
ATUM 41XD2 WCM. 06T308	●	41	32	44	169	82	109	60			
ATUM 42XD2 WCM. 06T308	●	42	32	44	171	84	111	60			
ATUM 43XD2 WCM. 06T308	●	43	32	44	173	86	113	60			
ATUM 44XD2 WCM. 06T308	●	44	32	44	175	88	115	60			
ATUM 45XD2 WCM. 080412	●	45	40	54	192	90	122	70			
ATUM 46XD2 WCM. 080412	●	46	40	54	194	92	124	70			
ATUM 47XD2 WCM. 080412	●	47	40	54	196	94	126	70			
ATUM 48XD2 WCM. 080412	●	48	40	54	198	96	128	70			
ATUM 49XD2 WCM. 080412	●	49	40	54	200	98	130	70			
ATUM 50XD2 WCM. 080412	●	50	40	54	202	100	132	70			
ATUM 51XD2 WCM. 080412	●	51	40	54	204	102	134	70			
ATUM 52XD2 WCM. 080412	●	52	40	54	206	104	136	70			
ATUM 53XD2 WCM. 080412	●	53	40	54	208	106	138	70			
ATUM 54XD2 WCM. 080412	●	54	40	54	210	108	140	70			
ATUM 55XD2 WCM. 080412	●	55	40	54	212	110	142	70			
ATUM 56XD2 WCM. 080412	●	56	40	64	214	112	144	70			
ATUM 57XD2 WCM. 080412	●	57	40	64	216	114	146	70			
ATUM 58XD2 WCM. 080412	●	58	40	64	218	116	148	70			
ATUM 59XD2 WCM. 080412	●	59	40	64	220	118	150	70			
ATUM 60XD2 WCM. 080412	●	60	40	64	222	120	152	70			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pc. ATUM 30xD2 WCM. 06T308

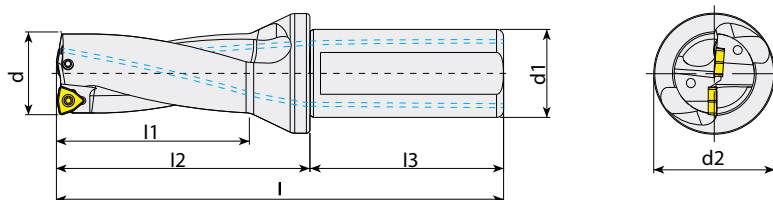


Drilling Depth = 3xDiameter

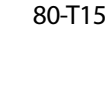
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d ₁	d ₂	l	l ₁	l ₂	l ₃		Screw	Torx Key
ATUM 16XD3 WCM. 030208	●	16	25	34	126	48	70	56			
ATUM 16.5XD3 WCM. 030208	●	16.5	25	34	126	48	70	56			
ATUM 17XD3 WCM. 030208	●	17	25	34	129	51	73	56			
ATUM 17.5XD3 WCM. 030208	●	17.5	25	34	129	51	73	56			
ATUM 18XD3 WCM. 030208	●	18	25	34	132	54	76	56			
ATUM 18.5XD3 WCM. 030208	●	18.5	25	34	132	54	76	56			
ATUM 19XD3 WCM. 030208	●	19	25	34	135	57	79	56			
ATUM 19.5XD3 WCM. 030208	●	19.5	25	34	135	57	79	56			
ATUM 20XD3 WCM. 040208	●	20	25	34	138	60	82	56		3008-M2.5x6	80-T08
ATUM 20.5XD3 WCM. 040208	●	20.5	25	34	138	60	82	56			
ATUM 21XD3 WCM. 040208	●	21	25	34	141	63	85	56			
ATUM 21.5XD3 WCM. 040208	●	21.5	25	34	141	63	85	56			
ATUM 22XD3 WCM. 040208	●	22	25	34	144	66	88	56			
ATUM 22.5XD3 WCM. 040208	●	22.5	25	34	144	66	88	56			
ATUM 23XD3 WCM. 040208	●	23	25	34	147	69	91	56			
ATUM 23.5XD3 WCM. 040208	●	23.5	25	34	147	69	91	56			
ATUM 24XD3 WCM. 050308	●	24	25	34	150	72	94	56		1008-M3x8	
ATUM 24.5XD3 WCM. 050308	●	24.5	25	34	150	72	94	56			
ATUM 25XD3 WCM. 050308	●	25	25	34	153	75	97	56			
ATUM 25.5XD3 WCM. 050308	●	25.5	25	34	153	75	97	56			
ATUM 26XD3 WCM. 050308	●	26	25	34	156	78	100	56			
ATUM 26.5XD3 WCM. 050308	●	26.5	25	34	156	78	100	56			
ATUM 27XD3 WCM. 050308	●	27	25	34	159	81	103	56			
ATUM 27.5XD3 WCM. 050308	●	27.5	25	34	159	81	103	56			
ATUM 28XD3 WCM. 050308	●	28	25	34	162	84	106	56		1510-M3.5x9	80-T10
ATUM 28.5XD3 WCM. 050308	●	28.5	25	34	162	84	106	56			
ATUM 29XD3 WCM. 050308	●	29	25	34	165	87	109	56			
ATUM 29.5XD3 WCM. 050308	●	29.5	25	34	165	87	109	56			
ATUM 30XD3 WCM. 06T308	●	30	32	44	177	90	117	60			
ATUM 30.5XD3 WCM. 06T308	●	30.5	32	44	177	90	117	60			
ATUM 31XD3 WCM. 06T308	●	31	32	44	180	93	120	60			
ATUM 31.5XD3 WCM. 06T308	●	31.5	32	44	180	93	120	60			
ATUM 32XD3 WCM. 06T308	●	32	32	44	183	96	123	60			
ATUM 32.5XD3 WCM. 06T308	●	32.5	32	44	183	96	123	60			
ATUM 33XD3 WCM. 06T308	●	33	32	44	186	99	126	60			
ATUM 33.5XD3 WCM. 06T308	●	33.5	32	44	186	99	126	60			
ATUM 34XD3 WCM. 06T308	●	34	32	44	189	102	129	60			
ATUM 34.5XD3 WCM. 06T308	●	34.5	32	44	189	102	129	60			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pc. ATUM 16xD3 WCM. 030208

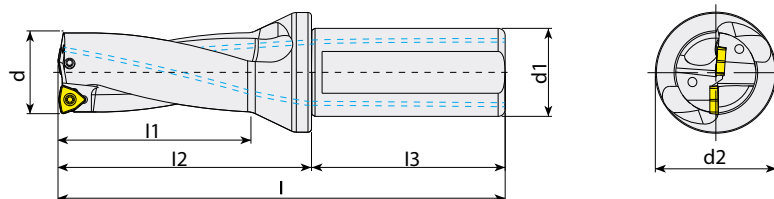


Drilling Depth = 3xDiameter

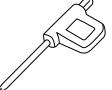
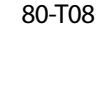
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d ₁	d ₂	l	l ₁	l ₂	l ₃		Screw	Torx Key
ATUM 35XD3 WCM. 06T308	●	35	32	44	192	105	132	60			
ATUM 35.5XD3 WCM. 06T308	●	35.5	32	44	192	105	132	60			
ATUM 36XD3 WCM. 06T308	●	36	32	44	195	108	135	60			
ATUM 36.5XD3 WCM. 06T308	●	36.5	32	44	195	108	135	60			
ATUM 37XD3 WCM. 06T308	●	37	32	44	198	111	138	60			
ATUM 37.5XD3 WCM. 06T308	●	37.5	32	44	198	111	138	60			
ATUM 38XD3 WCM. 06T308	●	38	32	44	201	114	141	60			
ATUM 38.5XD3 WCM. 06T308	●	38.5	32	44	201	114	141	60			
ATUM 39XD3 WCM. 06T308	●	39	32	44	204	117	144	60			
ATUM 39.5XD3 WCM. 06T308	●	39.5	32	44	204	117	144	60			
ATUM 40XD3 WCM. 06T308	●	40	32	44	207	120	147	60			
ATUM 40.5XD3 WCM. 06T308	●	40.5	32	44	207	120	147	60			
ATUM 41XD3 WCM. 06T308	●	41	32	44	210	123	150	60			
ATUM 41.5XD3 WCM. 06T308	●	41.5	32	44	210	123	150	60			
ATUM 42XD3 WCM. 06T308	●	42	32	44	213	126	153	60			
ATUM 42.5XD3 WCM. 06T308	●	42.5	32	44	213	126	153	60			
ATUM 43XD3 WCM. 06T308	●	43	32	44	216	129	156	60			
ATUM 43.5XD3 WCM. 06T308	●	43.5	32	44	216	129	156	60			
ATUM 44XD3 WCM. 06T308	●	44	32	44	219	132	159	60			
ATUM 44.5XD3 WCM. 06T308	●	44.5	32	44	219	132	159	60			
ATUM 45XD3 WCM. 080412	●	45	40	54	237	135	167	70			
ATUM 45.5XD3 WCM. 080412	●	45.5	40	54	237	135	167	70			
ATUM 46XD3 WCM. 080412	●	46	40	54	240	138	170	70			
ATUM 47XD3 WCM. 080412	●	47	40	54	243	141	173	70			
ATUM 48XD3 WCM. 080412	●	48	40	54	246	144	176	70			
ATUM 49XD3 WCM. 080412	●	49	40	54	249	147	179	70			
ATUM 50XD3 WCM. 080412	●	50	40	54	252	150	182	70			
ATUM 51XD3 WCM. 080412	●	51	40	54	255	153	185	70			
ATUM 52XD3 WCM. 080412	●	52	40	54	258	156	188	70			
ATUM 53XD3 WCM. 080412	●	53	40	54	261	159	191	70			
ATUM 54XD3 WCM. 080412	●	54	40	54	264	162	194	70			
ATUM 55XD3 WCM. 080412	●	55	40	54	267	165	197	70			
ATUM 56XD3 WCM. 080412	●	56	40	64	270	168	200	70			
ATUM 57XD3 WCM. 080412	●	57	40	64	273	171	203	70			
ATUM 58XD3 WCM. 080412	●	58	40	64	276	174	206	70			
ATUM 59XD3 WCM. 080412	●	59	40	64	279	177	209	70			
ATUM 60XD3 WCM. 080412	●	60	40	64	282	180	212	70			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pc. ATUM 35xD3 WCM. 06T308

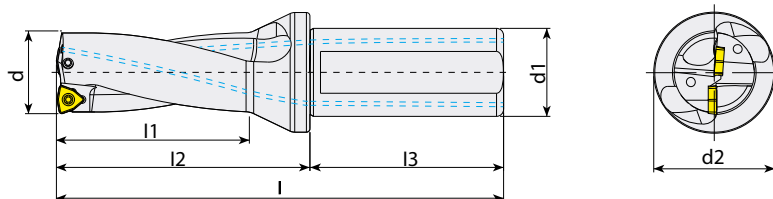


Drilling Depth = 4xDiameter

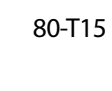
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d ₁	d ₂	l	l ₁	l ₂	l ₃		Screw	Torx Key
ATUM 16XD4 WCM. 030208	●	16	25	34	142	64	86	56			
ATUM 16.5XD4 WCM. 030208	○	16.5	25	34	142	64	86	56			
ATUM 17XD4 WCM. 030208	●	17	25	34	146	68	90	56			
ATUM 17.5XD4 WCM. 030208	○	17.5	25	34	146	68	90	56			
ATUM 18XD4 WCM. 030208	●	18	25	34	150	72	94	56			
ATUM 18.5XD4 WCM. 030208	○	18.5	25	34	150	72	94	56			
ATUM 19XD4 WCM. 030208	●	19	25	34	154	76	98	56			
ATUM 19.5XD4 WCM. 030208	○	19.5	25	34	154	76	98	56			
ATUM 20XD4 WCM. 040208	●	20	25	34	158	80	102	56			
ATUM 20.5XD4 WCM. 040208	○	20.5	25	34	158	80	102	56			
ATUM 21XD4 WCM. 040208	●	21	25	34	162	84	106	56			
ATUM 21.5XD4 WCM. 040208	○	21.5	25	34	162	84	106	56			
ATUM 22XD4 WCM. 040208	●	22	25	34	166	88	110	56			
ATUM 22.5XD4 WCM. 040208	○	22.5	25	34	166	88	110	56			
ATUM 23XD4 WCM. 040208	●	23	25	34	170	92	114	56			
ATUM 23.5XD4 WCM. 040208	○	23.5	25	34	170	92	114	56			
ATUM 24XD4 WCM. 050308	●	24	25	34	174	96	118	56			
ATUM 24.5XD4 WCM. 050308	○	24.5	25	34	174	96	118	56			
ATUM 25XD4 WCM. 050308	●	25	25	34	178	100	122	56			
ATUM 25.5XD4 WCM. 050308	○	25.5	25	34	178	100	122	56			
ATUM 26XD4 WCM. 050308	●	26	25	34	182	104	126	56			
ATUM 26.5XD4 WCM. 050308	○	26.5	25	34	182	104	126	56			
ATUM 27XD4 WCM. 050308	●	27	25	34	186	108	130	56			
ATUM 27.5XD4 WCM. 050308	○	27.5	25	34	186	108	130	56			
ATUM 28XD4 WCM. 050308	●	28	25	34	190	112	134	56			
ATUM 28.5XD4 WCM. 050308	○	28.5	25	34	190	112	134	56			
ATUM 29XD4 WCM. 050308	●	29	25	34	194	116	138	56			
ATUM 29.5XD4 WCM. 050308	○	29.5	25	34	194	116	138	56			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pc. ATUM 16xD4 WCM. 030208

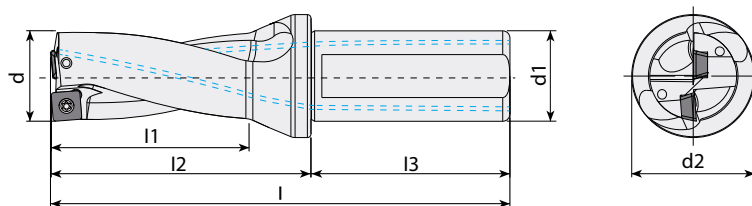


Drilling Depth = 4xDiameter

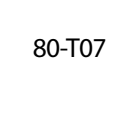
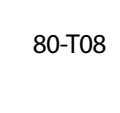
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d ₁	d ₂	l	l ₁	l ₂	l ₃		Screw	Torx Key
ATUM 30XD4 WCM. 06T308	●	30	32	44	207	120	147	60	 WCM. 06T308	 1510-M3.5x9	 80-T10
ATUM 31XD4 WCM. 06T308	●	31	32	44	211	124	151	60			
ATUM 32XD4 WCM. 06T308	●	32	32	44	215	128	155	60			
ATUM 33XD4 WCM. 06T308	●	33	32	44	219	132	159	60			
ATUM 33.5XD4 WCM. 06T308	●	33.5	32	44	219	132	159	60			
ATUM 34XD4 WCM. 06T308	●	34	32	44	223	136	163	60			
ATUM 35XD4 WCM. 06T308	●	35	32	44	227	140	167	60			
ATUM 36XD4 WCM. 06T308	●	36	32	44	231	144	171	60			
ATUM 37XD4 WCM. 06T308	●	37	32	44	235	148	175	60			
ATUM 38XD4 WCM. 06T308	●	38	32	44	239	152	179	60			
ATUM 38.5XD4 WCM. 06T308	●	38.5	32	44	239	152	179	60			
ATUM 39XD4 WCM. 06T308	●	39	32	44	243	156	183	60			
ATUM 40XD4 WCM. 06T308	●	40	32	44	247	160	187	60			
ATUM 41XD4 WCM. 06T308	●	41	32	44	251	164	191	60			
ATUM 42XD4 WCM. 06T308	●	42	32	44	255	168	195	60			
ATUM 43XD4 WCM. 06T308	●	43	32	44	259	172	199	60			
ATUM 44XD4 WCM. 06T308	●	44	32	44	263	176	203	60			
ATUM 45XD4 WCM. 080412	●	45	40	54	282	180	212	70	 WCM. 080412	 1515-M4x11	 80-T15
ATUM 46XD4 WCM. 080412	●	46	40	54	286	184	216	70			
ATUM 47XD4 WCM. 080412	●	47	40	54	290	188	220	70			
ATUM 48XD4 WCM. 080412	●	48	40	54	294	192	224	70			
ATUM 49XD4 WCM. 080412	●	49	40	54	298	196	228	70			
ATUM 50XD4 WCM. 080412	●	50	40	54	302	200	232	70			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with ISO Insert.

Ordering Example : 1 pc. ATUM 30xD4 WCM. 06T308

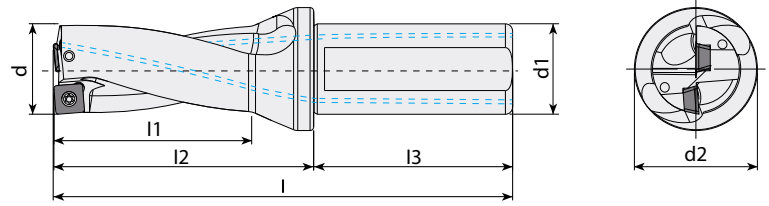


Drilling Depth = 2xDiameter

Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d1	d2	l	l1	l2	l3		Screw	Torx Key
ATUM 12.5XD2 SP.. 050204	●	12.5	20	25	96	24	46	50	 SP.. 050204	 3006-M2x4	 80-T06
ATUM 13XD2 SP.. 050204	●	13	20	25	98	26	48	50			
ATUM 13.5XD2 SP.. 050204	●	13.5	20	25	98	26	48	50			
ATUM 14XD2 SP.. 050204	●	14	20	25	100	28	50	50			
ATUM 14.5XD2 SP.. 050204	●	14.5	20	25	100	28	50	50			
ATUM 15XD2 SP.. 050204	●	15	20	25	102	30	52	50			
ATUM 15.5XD2 SP.. 060204	●	15.5	20	25	102	30	52	50	 SP.. 060204	 3007-M2.2x5	 80-T07
ATUM 16XD2 SP.. 060204	●	16	25	34	110	32	54	56			
ATUM 16.5XD2 SP.. 060204	●	16.5	25	34	110	32	54	56			
ATUM 17XD2 SP.. 060204	●	17	25	34	112	34	56	56			
ATUM 17.5XD2 SP.. 060204	●	17.5	25	34	112	34	56	56			
ATUM 18XD2 SP.. 060204	●	18	25	34	114	36	58	56			
ATUM 18.5XD2 SP.. 060204	●	18.5	25	34	114	36	58	56			
ATUM 19XD2 SP.. 060204	●	19	25	34	116	38	60	56			
ATUM 19.5XD2 SP.. 060204	●	19.5	25	34	116	38	60	56			
ATUM 20XD2 SP.. 060204	●	20	25	34	118	40	62	56			
ATUM 20.5XD2 SP.. 060204	●	20.5	25	34	118	40	62	56			
ATUM 21XD2 SP.. 060204	●	21	25	34	120	42	64	56			
ATUM 21.5XD2 SP.. 060204	●	21.5	25	34	120	42	64	56			
ATUM 22XD2 SP.. 07T308	●	22	25	34	122	44	66	56	 SP.. 07T308	 3008-M2.5x6	 80-T08
ATUM 22.5XD2 SP.. 07T308	●	22.5	25	34	122	44	66	56			
ATUM 23XD2 SP.. 07T308	●	23	25	34	124	46	68	56			
ATUM 23.5XD2 SP.. 07T308	●	23.5	25	34	124	46	68	56			
ATUM 24XD2 SP.. 07T308	●	24	25	34	126	48	70	56			
ATUM 24.5XD2 SP.. 07T308	●	24.5	25	34	126	48	70	56			
ATUM 25XD2 SP.. 07T308	●	25	25	34	128	50	72	56			
ATUM 25.5XD2 SP.. 07T308	●	25.5	25	34	128	50	72	56			
ATUM 26XD2 SP.. 07T308	●	26	25	34	130	52	74	56			
ATUM 26.5XD2 SP.. 07T308	●	26.5	25	34	130	52	74	56			
ATUM 27XD2 SP.. 07T308	●	27	25	34	132	54	76	56			
ATUM 27.5XD2 SP.. 07T308	●	27.5	25	34	132	54	76	56			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with TGTC Insert.

Ordering Example : 1 pc. ATUM 12.5xD2 SP.. 050204



Drilling Depth = 2xDiameter

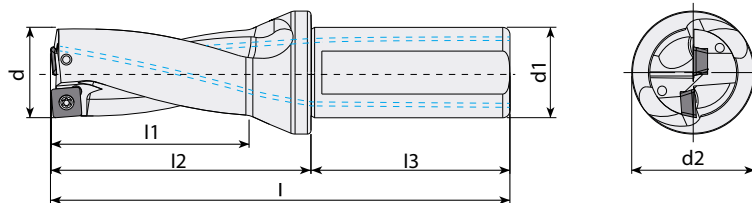
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d ₁	d ₂	l	l ₁	l ₂	l ₃		Screw	Torx Key
ATUM 28XD2 SP.. 090408	●	28	25	34	134	56	78	56	 SP.. 090408	 4015-M3.5x9	 80-T15
ATUM 28.5XD2 SP.. 090408	●	28.5	25	34	134	56	78	56			
ATUM 29XD2 SP.. 090408	●	29	25	34	136	58	80	56			
ATUM 29.5XD2 SP.. 090408	●	29.5	25	34	136	58	80	56			
ATUM 30XD2 SP.. 090408	●	30	32	44	147	60	87	60			
ATUM 31XD2 SP.. 090408	●	31	32	44	149	62	89	60			
ATUM 32XD2 SP.. 090408	●	32	32	44	151	64	91	60			
ATUM 33XD2 SP.. 090408	●	33	32	44	153	66	93	60			
ATUM 34XD2 SP.. 110408	●	34	32	44	155	68	95	60	 SP.. 110408	 1515-M4x11	 80-T15
ATUM 35XD2 SP.. 110408	●	35	32	44	157	70	97	60			
ATUM 36XD2 SP.. 110408	●	36	32	44	159	72	99	60			
ATUM 37XD2 SP.. 110408	●	37	32	44	161	74	101	60			
ATUM 38XD2 SP.. 110408	●	38	32	44	163	76	103	60			
ATUM 39XD2 SP.. 110408	●	39	32	44	165	78	105	60			
ATUM 40XD2 SP.. 110408	●	40	32	44	167	80	107	60			
ATUM 41XD2 SP.. 110408	●	41	32	44	169	82	109	60			
ATUM 42XD2 SP.. 140512	●	42	32	44	171	84	111	60	 SP.. 140512	 1020-M5x11	 80-T20
ATUM 43XD2 SP.. 140512	●	43	32	44	173	86	113	60			
ATUM 44XD2 SP.. 140512	●	44	32	44	175	88	115	60			
ATUM 45XD2 SP.. 140512	●	45	40	54	192	90	122	70			
ATUM 46XD2 SP.. 140512	●	46	40	54	194	92	124	70			
ATUM 47XD2 SP.. 140512	●	47	40	54	196	94	126	70			
ATUM 48XD2 SP.. 140512	●	48	40	54	198	96	128	70			
ATUM 49XD2 SP.. 140512	●	49	40	54	200	98	130	70			
ATUM 50XD2 SP.. 140512	●	50	40	54	202	100	132	70			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with TGTC Insert.

Ordering Example : 1 pc. ATUM 28xD2 SP.. 090408



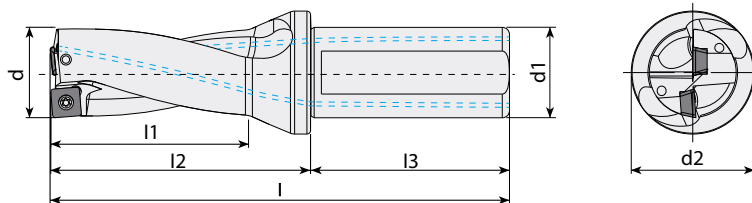
Drilling Depth = 3xDiameter



Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d ₁	d ₂	l	l ₁	l ₂	l ₃		Screw	Torx Key
ATUM 12.5XD3 SP.. 050204	●	12.5	20	25	108	36	58	50			
ATUM 13XD3 SP.. 050204	●	13	20	25	111	39	61	50			
ATUM 13.5XD3 SP.. 050204	●	13.5	20	25	111	39	61	50			
ATUM 14XD3 SP.. 050204	●	14	20	25	114	42	64	50			
ATUM 14.5XD3 SP.. 050204	●	14.5	20	25	114	42	64	50			
ATUM 15XD3 SP.. 050204	●	15	20	25	117	45	67	50			
ATUM 15.5XD3 SP.. 060204	●	15.5	20	25	117	45	67	50			
ATUM 16XD3 SP.. 060204	●	16	25	34	126	48	70	56			
ATUM 16.5XD3 SP.. 060204	●	16.5	25	34	126	48	70	56			
ATUM 17XD3 SP.. 060204	●	17	25	34	129	51	73	56			
ATUM 17.5XD3 SP.. 060204	●	17.5	25	34	129	51	73	56			
ATUM 18XD3 SP.. 060204	●	18	25	34	132	54	76	56			
ATUM 18.5XD3 SP.. 060204	●	18.5	25	34	132	54	76	56			
ATUM 19XD3 SP.. 060204	●	19	25	34	135	57	79	56			
ATUM 19.5XD3 SP.. 060204	●	19.5	25	34	135	57	79	56			
ATUM 20XD3 SP.. 060204	●	20	25	34	138	60	82	56			
ATUM 20.5XD3 SP.. 060204	●	20.5	25	34	138	60	82	56			
ATUM 21XD3 SP.. 060204	●	21	25	34	141	63	85	56			
ATUM 21.5XD3 SP.. 060204	●	21.5	25	34	141	63	85	56			
ATUM 22XD3 SP.. 07T308	●	22	25	34	144	66	88	56			
ATUM 22.5XD3 SP.. 07T308	●	22.5	25	34	144	66	88	56			
ATUM 23XD3 SP.. 07T308	●	23	25	34	147	69	91	56			
ATUM 23.5XD3 SP.. 07T308	●	23.5	25	34	147	69	91	56			
ATUM 24XD3 SP.. 07T308	●	24	25	34	150	72	94	56			
ATUM 24.5XD3 SP.. 07T308	●	24.5	25	34	150	72	94	56			
ATUM 25XD3 SP.. 07T308	●	25	25	34	153	75	97	56			
ATUM 25.5XD3 SP.. 07T308	●	25.5	25	34	153	75	97	56			
ATUM 26XD3 SP.. 07T308	●	26	25	34	156	78	100	56			
ATUM 26.5XD3 SP.. 07T308	●	26.5	25	34	156	78	100	56			
ATUM 27XD3 SP.. 07T308	●	27	25	34	159	81	103	56			
ATUM 27.5XD3 SP.. 07T308	●	27.5	25	34	159	81	103	56			
ATUM 28XD3 SP.. 090408	●	28	25	34	162	84	106	56			
ATUM 28.5XD3 SP.. 090408	●	28.5	25	34	162	84	106	56			
ATUM 29XD3 SP.. 090408	●	29	25	34	165	87	109	56			
ATUM 29.5XD3 SP.. 090408	●	29.5	25	34	165	87	109	56			
ATUM 30XD3 SP.. 090408	●	30	32	44	177	90	117	60			
ATUM 30.5XD3 SP.. 090408	●	30.5	32	44	177	90	117	60			
ATUM 31XD3 SP.. 090408	●	31	32	44	180	93	120	60			
ATUM 31.5XD3 SP.. 090408	●	31.5	32	44	180	93	120	60			
ATUM 32XD3 SP.. 090408	●	32	32	44	183	96	123	60			
ATUM 32.5XD3 SP.. 090408	●	32.5	32	44	183	96	123	60			
ATUM 33XD3 SP.. 090408	●	33	32	44	186	99	126	60			
ATUM 33.5XD3 SP.. 090408	●	33.5	32	44	186	99	126	60			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with TGTC Insert.

Ordering Example : 1 pc. ATUM 12.5XD3 SP.. 050204



Drilling Depth = 3xDiameter

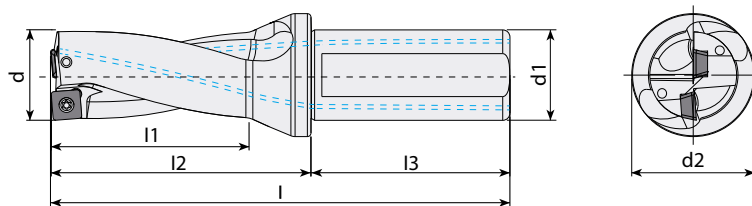
Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d1	d2	l	l1	l2	l3		Screw	Torx Key
ATUM 34XD3 SP.. 110408	●	34	32	44	189	102	129	60	SP.. 110408	1515-M4x11	80-T15
ATUM 34.5XD3 SP.. 110408	●	34.5	32	44	189	102	129	60			
ATUM 35XD3 SP.. 110408	●	35	32	44	192	105	132	60			
ATUM 35.5XD3 SP.. 110408	●	35.5	32	44	192	105	132	60			
ATUM 36XD3 SP.. 110408	●	36	32	44	195	108	135	60			
ATUM 36.5XD3 SP.. 110408	●	36.5	32	44	195	108	135	60			
ATUM 37XD3 SP.. 110408	●	37	32	44	198	111	138	60			
ATUM 37.5XD3 SP.. 110408	●	37.5	32	44	198	111	138	60			
ATUM 38XD3 SP.. 110408	●	38	32	44	201	114	141	60			
ATUM 38.5XD3 SP.. 110408	●	38.5	32	44	201	114	141	60			
ATUM 39XD3 SP.. 110408	●	39	32	44	204	117	144	60			
ATUM 39.5XD3 SP.. 110408	●	39.5	32	44	204	117	144	60			
ATUM 40XD3 SP.. 110408	●	40	32	44	207	120	147	60			
ATUM 40.5XD3 SP.. 110408	●	40.5	32	44	207	120	147	60			
ATUM 41XD3 SP.. 110408	●	41	32	44	210	123	150	60			
ATUM 41.5XD3 SP.. 110408	●	41.5	32	44	210	123	150	60			
ATUM 42XD3 SP.. 140512	●	42	32	44	213	126	153	60	SP.. 140512	1020-M5x11	80-T20
ATUM 42.5XD3 SP.. 140512	●	42.5	32	44	213	126	153	60			
ATUM 43XD3 SP.. 140512	●	43	32	44	216	129	156	60			
ATUM 43.5XD3 SP.. 140512	●	43.5	32	44	216	129	156	60			
ATUM 44XD3 SP.. 140512	●	44	32	44	219	132	159	60			
ATUM 44.5XD3 SP.. 140512	●	44.5	32	44	219	132	159	60			
ATUM 45XD3 SP.. 140512	●	45	40	54	237	135	167	70			
ATUM 45.5XD3 SP.. 140512	●	45.5	40	54	237	135	167	70			
ATUM 46XD3 SP.. 140512	●	46	40	54	240	138	170	70			
ATUM 47XD3 SP.. 140512	●	47	40	54	243	141	173	70			
ATUM 48XD3 SP.. 140512	●	48	40	54	246	144	176	70			
ATUM 49XD3 SP.. 140512	●	49	40	54	249	147	179	70			
ATUM 50XD3 SP.. 140512	●	50	40	54	252	150	182	70			
ATUM 51XD3 SP.. 140512	●	51	40	54	255	153	185	70			
ATUM 52XD3 SP.. 140512	●	52	40	54	258	156	188	70			
ATUM 53XD3 SP.. 140512	●	53	40	54	261	159	191	70			
ATUM 54XD3 SP.. 140512	●	54	40	54	264	162	194	70			

R: Right L: Left ● In Stock ○ Non Stock Item
Compatible with TGTC Insert.

Ordering Example : 1 pc. ATUM 34xD3 SP.. 110408



Drilling Depth = 4xDiameter



Ordering Code	Stock	Dimension (mm)							Insert	Spare Parts	
		d	d1	d2	l	l1	l2	l3		Screw	Torx Key
ATUM 13XD4 SP.. 050204	●	13	20	25	124	52	74	50	SP.. 050204	3006-M2x4	80-T06
ATUM 14XD4 SP.. 050204	●	14	20	25	128	56	78	50			
ATUM 15XD4 SP.. 050204	●	15	20	25	132	60	82	50			
ATUM 16XD4 SP.. 060204	●	16	25	34	142	64	86	56	SP.. 060204	3007-M2.2x5	80-T07
ATUM 17XD4 SP.. 060204	●	17	25	34	146	68	90	56			
ATUM 17.5XD4 SP.. 060204	●	17	25	34	146	68	90	56			
ATUM 18XD4 SP.. 060204	●	18	25	34	150	72	94	56			
ATUM 19XD4 SP.. 060204	●	19	25	34	154	76	98	56			
ATUM 19.5XD4 SP.. 060204	●	19.5	25	34	154	76	98	56			
ATUM 20XD4 SP.. 060204	●	20	25	34	158	80	102	56			
ATUM 21XD4 SP.. 060204	●	21	25	34	162	84	106	56	SP.. 07T308	3008-M2.5x6	80-T08
ATUM 22XD4 SP.. 07T308	●	22	25	34	166	88	110	56			
ATUM 23XD4 SP.. 07T308	●	23	25	34	170	92	114	56			
ATUM 23.5XD4 SP.. 07T308	●	23.5	25	34	170	92	114	56			
ATUM 24XD4 SP.. 07T308	●	24	25	34	174	96	118	56			
ATUM 25XD4 SP.. 07T308	●	25	25	34	178	100	122	56			
ATUM 26XD4 SP.. 07T308	●	26	25	34	182	104	126	56			
ATUM 27XD4 SP.. 07T308	●	27	25	34	186	108	130	56	SP.. 090408	4015-M3.5x9	80-T15
ATUM 27.5XD4 SP.. 07T308	●	27.5	25	34	186	108	130	56			
ATUM 28XD4 SP.. 090408	●	28	25	34	190	112	134	56			
ATUM 29XD4 SP.. 090408	●	29	25	34	194	116	138	56			
ATUM 30XD4 SP.. 090408	●	30	32	44	207	120	147	60			
ATUM 31XD4 SP.. 090408	●	31	32	44	211	124	151	60			
ATUM 32XD4 SP.. 090408	●	32	32	44	215	128	155	60			
ATUM 33XD4 SP.. 090408	●	33	32	44	219	132	159	60	SP.. 110408	1515-M4x11	80-T15
ATUM 33.5XD4 SP.. 090408	●	33.5	32	44	219	132	159	60			
ATUM 34XD4 SP.. 110408	●	34	32	44	223	136	163	60			
ATUM 35XD4 SP.. 110408	●	35	32	44	227	140	167	60			
ATUM 36XD4 SP.. 110408	●	36	32	44	231	144	171	60			
ATUM 37XD4 SP.. 110408	●	37	32	44	235	148	175	60			
ATUM 38XD4 SP.. 110408	●	38	32	44	239	152	179	60			
ATUM 39XD4 SP.. 110408	●	39	32	44	243	156	183	60	SP.. 140512	1020-M5x11	80-T20
ATUM 40XD4 SP.. 110408	●	40	32	44	247	160	187	60			
ATUM 41XD4 SP.. 110408	●	41	32	44	251	164	191	60			
ATUM 42XD4 SP.. 140512	●	42	32	44	255	168	195	60			
ATUM 43XD4 SP.. 140512	●	43	32	44	259	172	199	60			
ATUM 44XD4 SP.. 140512	●	44	32	44	263	176	203	60			

R: Right L: Left ● In Stock ○ Non Stock Item

Compatible with TGTC Insert.

Ordering Example : 1 pc. ATUM 13xD4 SP.. 050204

Technical

Cutting speed (Vc) [m/min]

$$V_c = \frac{d \cdot \pi \cdot n}{1000} \text{ [m/min]}$$

Revolutions per minute (n) [rev./min]

$$n = \frac{V_c \cdot 1000}{d \cdot \pi} \text{ [rev./min]}$$

Feed rate (Vf) [mm/min]

$$V_f = f \cdot n \text{ [mm/min]}$$

Feed per tooth [mm]

$$f_z = \frac{V_f}{n \cdot z} \text{ [mm]}$$

Feed per revolution [mm]

$$V_f = f \cdot n \text{ [mm/min]}$$

Metal removal rate [cm³/min]

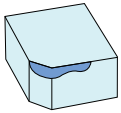
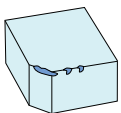
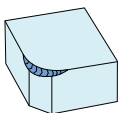
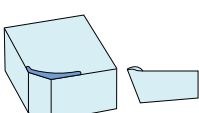
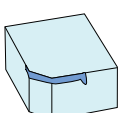
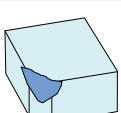
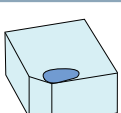
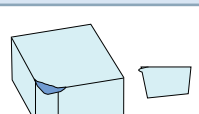
$$Q = \frac{a_p a_e v_f}{1000} \text{ [cm}^3/\text{min]}$$

Power consumption [kW]

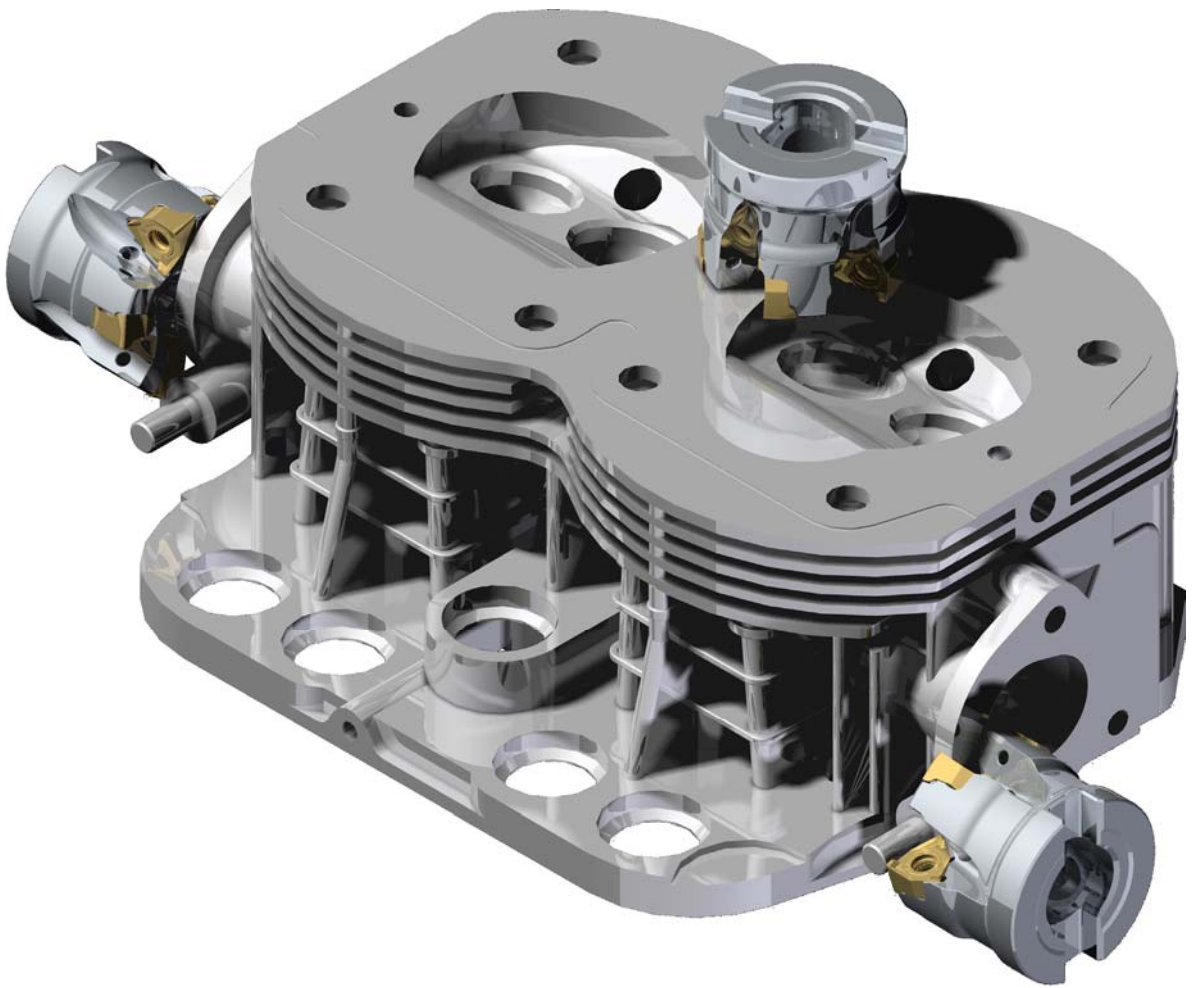
$$P_m = \frac{a_p a_e v_f}{60 \cdot 10^6 \eta_m} \cdot K_C$$

Material designations & dimensions

ap	Cutting dth [mm]
ap	Depth of cut [mm]
d1	Cutter diameter [mm]
Dw	Work piece diameter [mm]
fz	Feed per tooth
hm	Medium chip thickness
k	Number of insert rows
kc	Specific cutting force [N/mm²]
kc1.1	Specific cutting force for 1mm² chip cross section
l1	Length of wiper facet [mm]
mc	Increase of specific cutting force
n	Revolutions of spindle [min⁻¹]
Pmot	Power consumption [kW]
Q	Mechanical efficiency [%]
Vc	Cutting speed [m/min]
Vf	Feed rate [mm/min]
z	Effective number of edges [pcs.]
ηm	Mechanical efficiency [%]
Y0	Perpendicular rake angle (effective rake angle) [°]
Yf	Lateral rake angle (radial rake angle) [°]
Yp	Tool back clearance (axial rake angle) [°]
Yw	Rake angle of the insert [°]
k	Cutting edge angle [°]
λs	Inclination angle [°]
a	Clearance angle [°]
a1	Clearance angle of the corner facet [°]

	Description	Solution
 Rapid Flank wear	1. Inappropriate feed(f) rate 2. Cutting speed(s) too high	1. Adjust feed(f) rate according to depth(ap), width(ae) 2. Reduce cutting speed(s)
 Chipping	1. Feed(f) rate too high 2. Cutting speed(s) too low 3. Vibration of holder & machine	1. Reduce feed(f) rate 2. Increase cutting speed(s) 3. Reduce the tool overhang & improve the rigidity of machine and workpiece
 Thermal crack	1. Insufficient coolant 2. Cutting speed(s) too high	1. Check cooling system, supply enough coolant or use dry milling 2. Reduce cutting speed(s)
 Built-up edge	1. Cutting speed(s) too low 2. Insufficient coolant 3. Not enough rake angle	1. Increase cutting speed(s) 2. Supply enough coolant 3. Increase rake angle of change inserts
 Notching	1. Scaling or work hardening in workpiece surface area 2. Burrs in workpiece	1. Change/Vary cutting condition (feed & depth) 2. Change path or direction
 Fracture	1. Wrong insert shape or corner radius 2. Corner radius too small 3. Cutting force fluctuation too high	1. Choose the insert with bigger corner or radius
 Cratering	1. Insufficient coolant supply 2. Cutting speed(s) and feed(f) rate too high	1. Increase coolant supply or concentration 2. Reduce cutting speed(s) and feed(f) rate
 Plastic deformation	1. Cutting speed(s) too high 2. Too much stress applied on the cutting edge	1. Reduce cutting speed(s) 2. Supply enough coolant 3. Choose insert with bigger corner radius

Trouble	Cause	Counter measure			
		Cutting conditions			
		Cutting speed	Feed rate	Depth of cut	Coolant
Heat	Inappropriate cutting condition	↓	↓	↓	
Poor surface quality of machined surface	Premature insert wear	↓			●
	Chipping of cutting edge		↓	↓	
	Built up edge	↑	↑		●
	Inappropriate cutting condition	↑	↓	↓	●
	Chatter	↓	↓	↓	●
Change of cutting edge line	Inappropriate cutting condition	↓	↑		
Burr, Chipping (Steel, Aluminum)	Inappropriate cutting condition	↓	↑		●
Chipping of workpiece (Cast Iron)	Inappropriate cutting condition		↓	↓	
Burr (Mild steel)	Inappropriate cutting condition	↑	↕		●



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