

Turning Solution for High Precision Machining of Micro Components

# AUTO TOOLS







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# Auto Tools

## Auto Tools



An automatic lathe, or a Swiss-type lathe refers to a multi-operational machine where different tools such as turning inserts, milling inserts, and drills can be mounted for automated high precision machining of micro components. It can be fed workpieces automatically by a bar feed system. It is possible to produce automatically large volumes of micro components under  $\varnothing 30$  such as electrical/electronics instruments and medical instruments. Automatic lathes can produce parts 24 hours a day. Generally, a maximum of 6 pieces of turning tools, a back plate, single sided drills, milling tools and drills can be mounted on the inner turrets.

Many industrial products are getting smaller, lighter and more precise, while the demand grows for composite hard-to-cut materials, such as titanium alloy, nickel alloy, Inconel, etc. These parts require exacting requirements for sharp cutting edges with high class tolerances while reducing production cost and time.

Auto Tools KF / KM are ISO type positive grooving inserts with class an E tolerance. These were designed for high feed or high depth of cut machining of both external and internal diameters. Sharp cutting edges produced by the highest quality grinding technology reduces cutting forces and provides an excellent surface finish.

Auto Tools VP1 is a ground type insert for high precision machining. Its sharp cutting edges reduce cutting force and improve surface finish. The optimized chip breaker design provides smooth chip evacuation in hard to control applications with low depths of cut and low feeds.

Auto Tools Blade type and multifunctional type are for high precision external machining of small parts. 4 types of inserts are available each for parting off, grooving, back turning, and threading. All can be clamped on a single holder for easy and fast tool changes, while also reducing inventory requirements.

Auto Tools KGT/MGT are for parting off. Both provide a strong clamping system to improve stable and precise machining. They provide a wide selection of chip breakers in different cutting conditions ranging from low feed to high feed, and from continuous to interrupted machining.

Auto Tools MSB is for internal machining of small diameters. Its high hardness grade provides excellent surface finish and long tool life. A wide application range is possible such as internal boring, grooving, threading, chamfering, etc.

## Features

- High precision machining of small parts and complex forms, etc.
- High quality products through stable machining
- Exclusive insert for automatic lathes

## Type



ISO

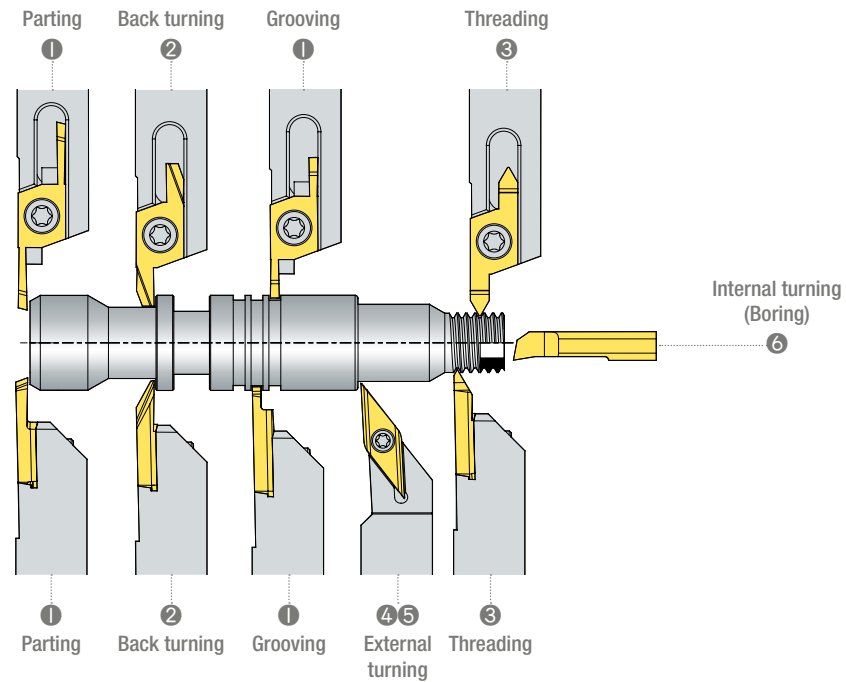
Blade

Multi utility

MGT, KGT

MSB tools

## Application example



## Index

Specification	① Parting and Grooving						② Back turning			Specification	③ Threading	
Holder	SXGNR/L	SXGNR/L	KGEHR/L	SBHR/L	SBHR/L	MGEHR/L	SXGNR/L	SXGNR/L	SBHR/L	Holder	SXGNR/L	SBHR/L
Insert	SG	SC	KGMN	SBG	SBC	MGMN	SB	SGB	SBB	Insert	ST	SBT
Holder size	10-25mm	10-25mm	10-16mm	10-16mm	10-16mm	10-16mm	10-25mm	10-25mm	10-16mm	Holder size	10-25mm	10-16mm
Insert shape										Insert shape		
Cutting width	1-3mm	1-3mm	1.5-2.5mm	0.7-2.0mm	0.7-2.0mm	1.5-2.5mm	2-4mm	2-3mm	3.2mm	Screw ranges	Pitch ranges 0.5-1.5/ 1.5-3.0	Pitch ranges 0.2-1.5/ 1.0-2.0
ØDmax	Ø18	Ø18	Ø32	Ø16	Ø16	Ø32	Tmax 8.0	Tmax 8.5	Tmax 8.0			

Specification	④ External turning and Copy machining				⑤ External turning and Facing		
Holder	SDJCR/L	SDNCN	SVJBR/L	SVJCR/L	SCACR/L	SCLCR/L	STACR/L
Insert	DC□T	DC□T	VB□T	VC□T	CC□T	CC□T	TC□T
Holder size	8-16mm	8-16mm	10-16mm	10-16mm	8-16mm	8-16mm	8-10mm
Insert shape							
Feature	Offset "0"				Offset "0"		

Specification	⑥ Internal turning (Boring)				
Holder	SCLCR/L	STUBR/L	STUPR/L	SWUBR/L	MSB
Insert	CC□T	TB□T	TP□T	WB□T	-
Holder size	Ø4-10	Ø8	Ø8	Ø5-8	Ø4-6
Insert shape					
ØDmax	Ø5	Ø8	Ø10	Ø5	Ø3.2

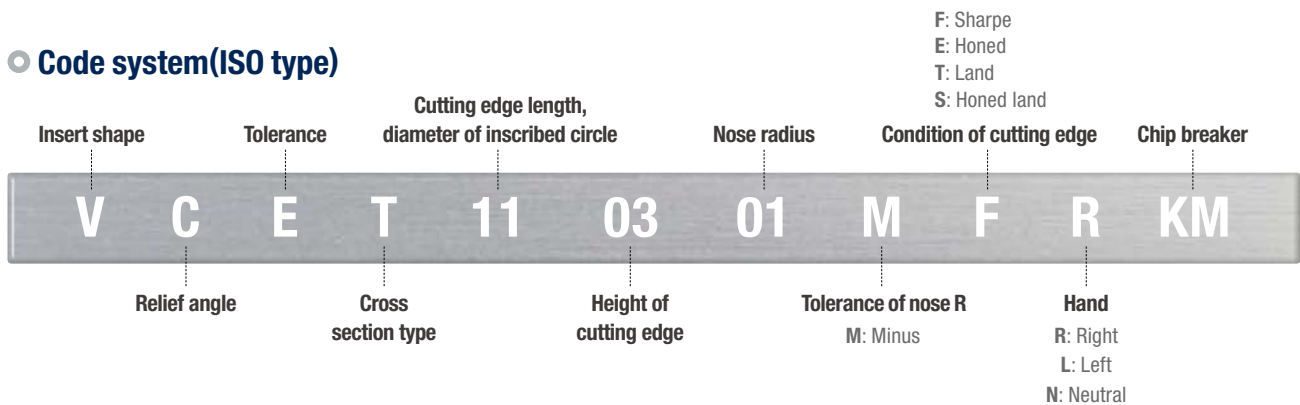
# Auto Tools

(ISO Type)



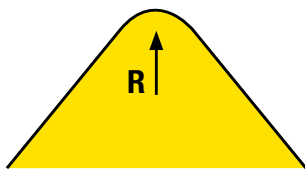
- ISO inserts for automatic lathes
- Precise R shape with the use of minus tolerance of nose R
- Tolerance class precise enough in no need for adjusting tools with the use of accurate cutting edge height
- Sharp blade for excellent chip control and surface roughness with low cutting force
- High precision tools for electrical/ electronics instruments and medical instruments

## Code system(ISO type)



## Only for Premium Classes

### Nose R(Tolerance of Corner R)



Symbol	Tolerance	No
M	-0.02	Tolerance of Corner R

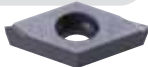
### Cutting edge condition

Symbol	Shape	Edge prep State
F		Sharp Selection
E		Honing Selection
T		Land
S		Land & Honing

### Hand of insert

Symbol	Shape
R	
L	
N	

### KF (E & G class tolerance)



- For finishing
- Low cutting loads with sharp cutting edges
- Longer tool life due to lower chip evacuation resistance at high speed
- Excellent surface roughness

### KM (E & G class tolerance)



- For medium cutting to finishing
- Better chip flow due to wide chip pockets
- Longer tool life and better cutting action due to improved chip evacuation
- Excellent surface roughness

### VP1 (G class tolerance)



- Finish and medium machining
- Sharp edges for low cutting load and low cutting heat
- Wide range machining
- Smooth and stable chip evacuation

### MS (G class tolerance)

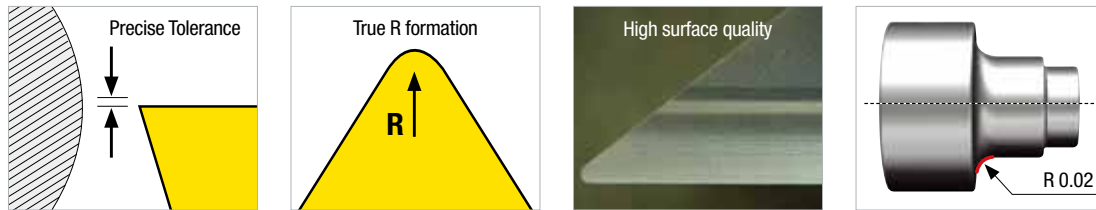


- Sharp cutting edges for medium cutting
- Less built-up edge in Titanium machining
- Better chip evaluation in high feed machining
- Shape for good chip control protects cutting edge.

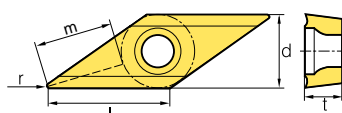


## Insert Tolerance

- Grinding inserts with inscribed circle, height of cutting edge and M measurement tolerance within  $\pm 0.001$  are classified as premium class, featured with corner nose R less than 0.008(0.004, 0.002R), a high degree of fixation and high quality.
- The tolerance of nose R should be managed as "-", because the size of nose R 0.008 may expand after machining in case of non-maintained inserts are used.

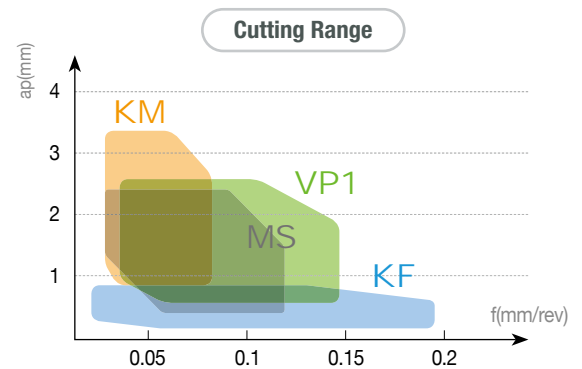
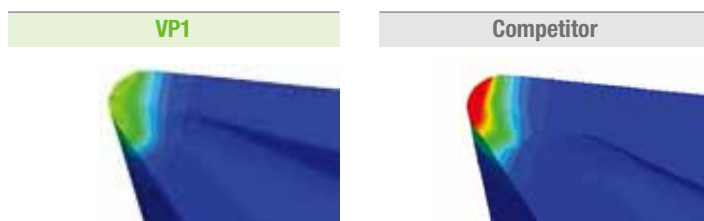


Symbol	d	t	m	r
	Inscribed circle	Thickness	Refer to figure	Nose Radius
<b>G</b>	$\pm 0.025$	$\pm 0.04$	$\pm 0.025$	-
<b>G+MFN</b> (high precision)	$\pm 0.02$	$\pm 0.02$	$\pm 0.02$	0 ~ -0.02
<b>E+MFN</b> (high precision)	$\pm 0.013$	$\pm 0.02$	$\pm 0.013$	0 ~ -0.02



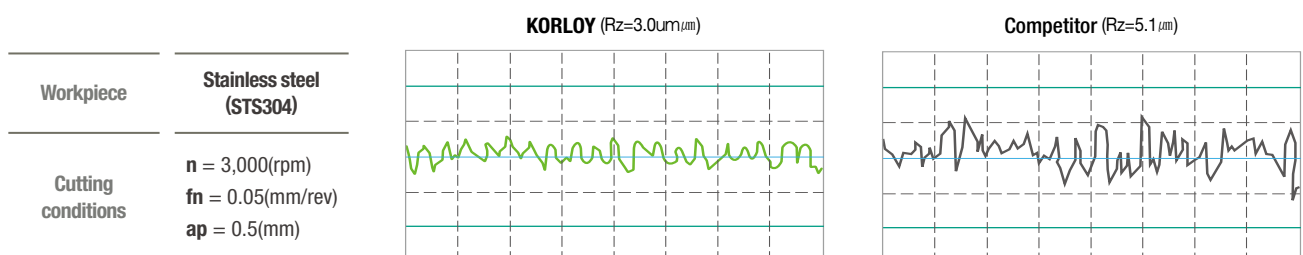
## Sharp Cutting Edge

- To minimize cutting load and heat, extremely sharp and stable cutting edges have been realized by high technology (without full abrasive honing)



## Precise Cutting Process and Superior Surface Roughness

- Compared to other competitors our insert provides a sharper cutting edge, which helps ensure a uniform surface roughness.



## VP1 Cutting Performance

### Wear Resistance(SUS316) - External Machining

•  $vc = 100\text{m/min}$  •  $fn = 0.07\text{mm/rev}$  •  $ap = 0.5\text{mm}$ , Wet • etc = External 30mm, Dia,  $\varnothing 20\text{mm}$ , Machining 20 Pass

#### DCGT11T302MFN-VP1(PC8110)

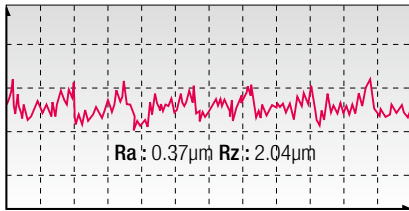


#### Competitor

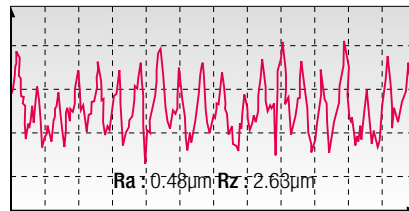


### Roughness(SUS316) - External Machining

•  $vc = 100\text{m/min}$  •  $fn = 0.07\text{mm/rev}$  •  $ap = 0.5\text{mm}$ , Wet



DCGT 11T302MFN-VP1

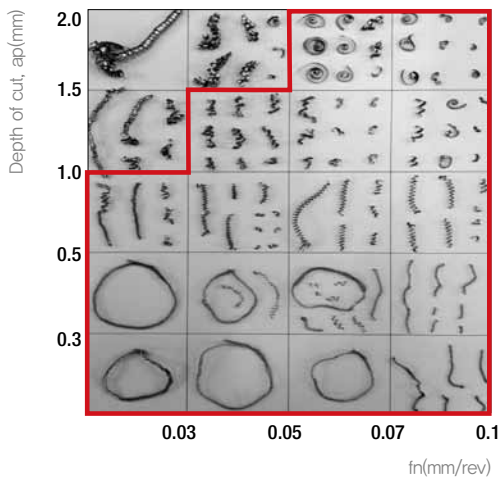


DCGT 11T302

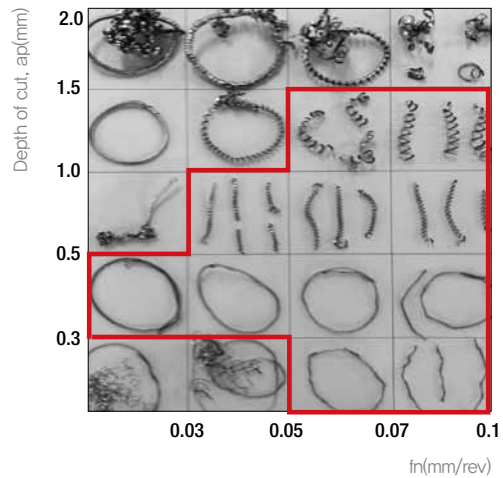
### Chip Breaking(SUS316) - External Machining

•  $vc = 100\text{m/min}$  •  $fn = 0.03\sim 0.1\text{mm/rev}$  •  $ap = 0.3\sim 2.0\text{mm}$ , Wet

#### DCGT11T302MFN-VP1(PC8110)



#### Competitor







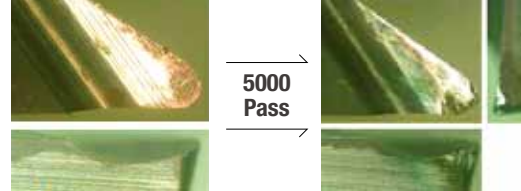
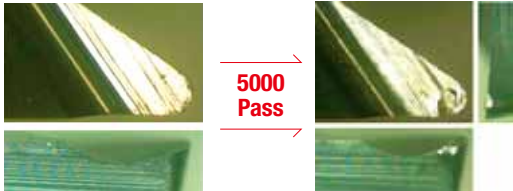
## ○ KF Cutting Performance

### Wear Resistance(SUS304) - External Machining

• n = 5000rpm • fn = 0.05mm/rev • ap = 0.5mm, Wet • etc = External 30mm, Dia, 20mm, Machining 20 Pass

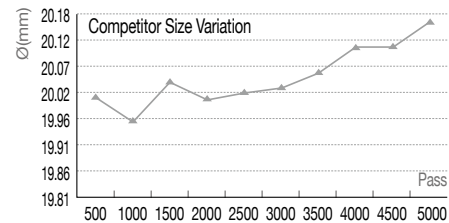
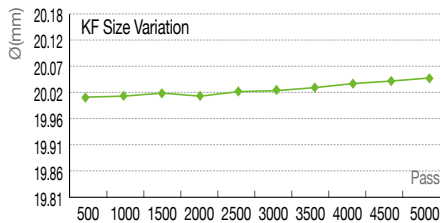
**VPET080202MFR-KF(PC8110)**

**Competitor**



### W/P size variation(SUS304) - External Machining

• n = 5000rpm • fn = 0.05mm/rev • ap = 0.5mm, Wet

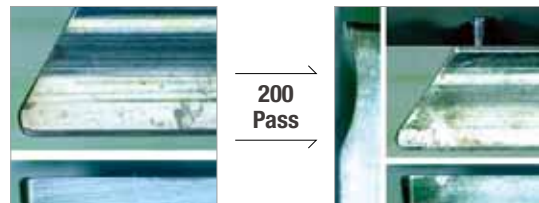


### Wear Resistance(SUS316) - External Machining

• n = 5000rpm • fn = 0.05mm/rev • ap = 0.5mm, Wet • etc = External 30mm, Dia, 20mm, Machining 20 Pass

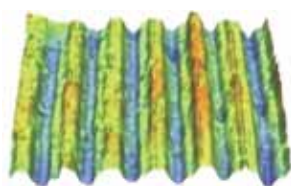
**DCET11T302MFR-KM(PC8110)**

**Competitor**

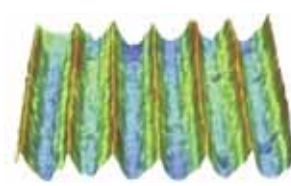


### Roughness(SUS316) - External Machining

• n = 5000rpm • fn = 0.05mm/rev • ap = 0.5mm, Wet

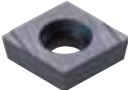
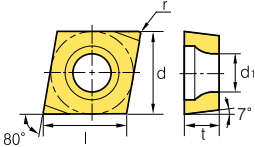

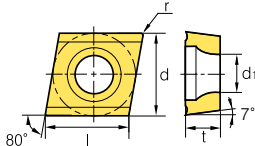
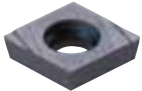
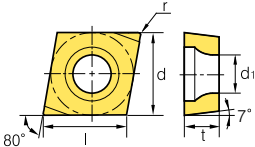


Rz : 2.71µm



Rz : 4.62µm

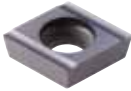
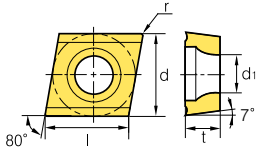

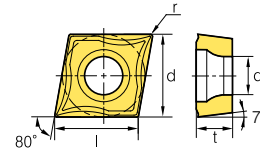
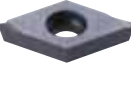
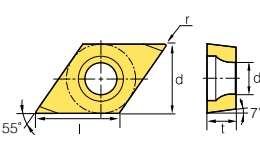
● Applicable inserts

Insert															
Type	C/B		Designation	Coated					Uncoated	Dimensions(mm)					Configuration
	Picture			PC5300	PC8105	PC8110	PC8115	PC9030	H01	l	Ød	t	r	Ød <sup>1</sup>	
Finishing		CCET	0602005MFR-KF	●	●					6.6	6.35	2.38	0.05	2.8	
			060201MFR-KF	●	●					6.4	6.35	2.38	0.1	2.8	
			060202MFR-KF	●	●					6.2	6.35	2.38	0.2	2.8	
			09T3005MFR-KF	●	●					9.8	9.525	3.97	0.05	4.4	
			09T301MFR-KF	●	●					9.6	9.525	3.97	0.1	4.4	
			09T302MFR-KF	●	●					9.2	9.525	3.97	0.2	4.4	
			0602005MFL-KF	●	●					6.6	6.35	2.38	0.05	2.8	
			060201MFL-KF	●	●					6.4	6.35	2.38	0.1	2.8	
			060202MFL-KF	●	●					6.2	6.35	2.38	0.2	2.8	
			09T3005MFL-KF	●	●					9.8	9.525	3.97	0.05	4.4	
			09T301MFL-KF	●	●					9.6	9.525	3.97	0.1	4.4	
			09T302MFL-KF	●	●					9.2	9.525	3.97	0.2	4.4	
Medium to finishing		CCET	0602005MFR-KM	●	●					6.6	6.35	2.38	0.05	2.8	
			060201MFR-KM	●	●					6.4	6.35	2.38	0.1	2.8	
			060202MFR-KM	●	●					6.2	6.35	2.38	0.2	2.8	
			09T3005MFR-KM	●	●					9.8	9.525	3.97	0.05	4.4	
			09T301MFR-KM	●	●					9.6	9.525	3.97	0.1	4.4	
			09T302MFR-KM	●	●					9.2	9.525	3.97	0.2	4.4	
			0602005MFL-KM	●	●					6.6	6.35	2.38	0.05	2.8	
			060201MFL-KM	●	●					6.4	6.35	2.38	0.1	2.8	
			060202MFL-KM	●	●					6.2	6.35	2.38	0.2	2.8	
			09T3005MFL-KM	●	●					9.8	9.525	3.97	0.05	4.4	
			09T301MFL-KM	●	●					9.6	9.525	3.97	0.1	4.4	
			09T302MFL-KM	●	●					9.2	9.525	3.97	0.2	4.4	
Finishing		CCGT	0602005R-KF							6.6	6.35	2.38	0.05	2.8	
			060201R-KF							6.4	6.35	2.38	0.1	2.8	
			060202R-KF							6.2	6.35	2.38	0.2	2.8	
			09T3005R-KF							9.8	9.525	3.97	0.05	4.4	
			09T301R-KF							9.6	9.525	3.97	0.1	4.4	
			09T302R-KF							9.2	9.525	3.97	0.2	4.4	
			0602005L-KF							6.6	6.35	2.38	0.05	2.8	
			060201L-KF							6.4	6.35	2.38	0.1	2.8	
			060202L-KF							6.2	6.35	2.38	0.2	2.8	
			09T3005L-KF							9.8	9.525	3.97	0.05	4.4	
			09T301L-KF							9.6	9.525	3.97	0.1	4.4	
			09T302L-KF							9.2	9.525	3.97	0.2	4.4	

● : Stock item

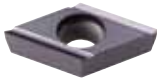
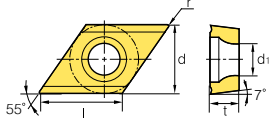

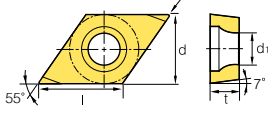

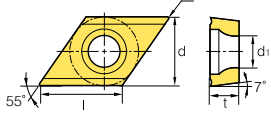


## Insert

Type	C/B	Designation	Coated					Uncoated	Dimensions(mm)					Configuration
	Picture		PC5300	PC8105	PC8110	PC8115	PC9030	H01	l	Ød	t	r	Ød <sup>1</sup>	
Medium to finishing	 <b>KM</b>	<b>CCGT</b> 0602005R-KM							6.6	6.35	2.38	0.05	2.8	
		060201R-KM							6.4	6.35	2.38	0.1	2.8	
		060202R-KM							6.2	6.35	2.38	0.2	2.8	
		09T3005R-KM							9.8	9.525	3.97	0.05	4.4	
		09T301R-KM							9.6	9.525	3.97	0.1	4.4	
		09T302R-KM							9.2	9.525	3.97	0.2	4.4	
		0602005L-KM							6.6	6.35	2.38	0.05	2.8	
		060201L-KM							6.4	6.35	2.38	0.1	2.8	
		060202L-KM							6.2	6.35	2.38	0.2	2.8	
		09T3005L-KM							9.8	9.525	3.97	0.05	4.4	
		09T301L-KM							9.6	9.525	3.97	0.1	4.4	
		09T302L-KM							9.2	9.525	3.97	0.2	4.4	
Finishing	 <b>VP1</b>	<b>CCGT</b> 60201-VP1	●	●	●	●	●	●	6.6	6.35	2.38	0.1	2.8	
		60202-VP1	●	●	●	●	●	●	6.4	6.35	2.38	0.2	2.8	
		60204-VP1	●	●	●	●	●	●	6.2	6.35	2.38	0.4	2.8	
		09T301-VP1	●	●	●	●	●	●	9.8	9.525	3.97	0.1	4.4	
		09T302-VP1	●	●	●	●	●	●	9.6	9.525	3.97	0.2	4.4	
		09T304-VP1	●	●	●	●	●	●	9.2	9.525	3.97	0.4	4.4	
		060201MFN-VP1	●	●					6.6	6.35	2.38	0.1	2.8	
		060202MFN-VP1	●	●					6.4	6.35	2.38	0.2	2.8	
		060204MFN-VP1	●	●					6.2	6.35	2.38	0.4	2.8	
		09T301MFN-VP1	●	●					9.8	9.525	3.97	0.1	4.4	
		09T302MFN-VP1	●	●					9.6	9.525	3.97	0.2	4.4	
		09T304MFN-VP1	●	●					9.2	9.525	3.97	0.3	4.4	
Finishing	 <b>KF</b>	<b>DCET</b> 0702005MFR-KF	●	●					7.8	6.35	2.38	0.05	2.8	
		070201MFR-KF	●	●					7.8	6.35	2.38	0.1	2.8	
		070202MFR-KF	●	●					7.8	6.35	2.38	0.2	2.8	
		11T3005MFR-KF	●	●					11.6	9.525	3.97	0.05	4.4	
		11T301MFR-KF	●	●					11.6	9.525	3.97	0.1	4.4	
		11T302MFR-KF	●	●					11.6	9.525	3.97	0.2	4.4	
		0702005MFL-KF	●	●					7.8	6.35	2.38	0.05	2.8	
		070201MFL-KF	●	●					7.8	6.35	2.38	0.1	2.8	
		070202MFL-KF	●	●					7.8	6.35	2.38	0.2	2.8	
		11T3005MFL-KF	●	●					11.6	9.525	3.97	0.05	4.4	
		11T301MFL-KF	●	●					11.6	9.525	3.97	0.1	4.4	
		11T302MFL-KF	●	●					11.6	9.525	3.97	0.2	4.4	

● : Stock item

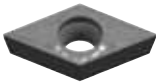
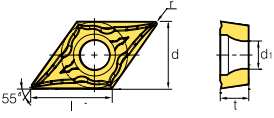

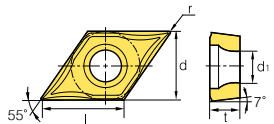

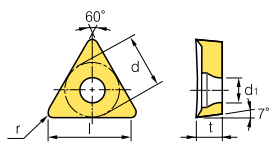

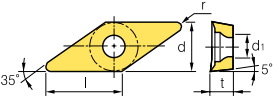

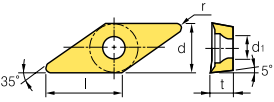
## Insert

Type	C/B		Coated					Uncoated	Dimensions(mm)					Configuration
	Picture	Designation	PC5300	PC8105	PC8110	PC8115	PC9030	H01	l	Ød	t	r	Ød <sup>1</sup>	
Medium to finishing	 <p style="text-align: center;"><b>KM</b></p>	<b>DCET</b> 0702005MFR-KM	●	●					7.8	6.35	2.38	0.05	2.8	
		070201MFR-KM	●	●					7.8	6.35	2.38	0.1	2.8	
		070202MFR-KM	●	●					7.8	6.35	2.38	0.2	2.8	
		11T3005MFR-KM		●					11.6	9.525	3.97	0.05	4.4	
		11T301MFR-KM	●	●					11.6	9.525	3.97	0.1	4.4	
		11T302MFR-KM	●	●					11.6	9.525	3.97	0.2	4.4	
		0702005MFL-KM	●	●					7.8	6.35	2.38	0.05	2.8	
		070201MFL-KM	●	●					7.8	6.35	2.38	0.1	2.8	
		070202MFL-KM	●	●					7.8	6.35	2.38	0.2	2.8	
		11T3005MFL-KM	●	●					11.6	9.525	3.97	0.05	4.4	
		11T301MFL-KM	●	●					11.6	9.525	3.97	0.1	4.4	
		11T302MFL-KM	●	●					11.6	9.525	3.97	0.2	4.4	
Finishing	 <p style="text-align: center;"><b>KF</b></p>	<b>DCGT</b> 0702005R-KF							7.8	6.35	2.38	0.05	2.8	
		070201R-KF							7.8	6.35	2.38	0.1	2.8	
		070202R-KF							7.8	6.35	2.38	0.2	2.8	
		11T3005R-KF							11.6	9.525	3.97	0.05	4.4	
		11T301R-KF							11.6	9.525	3.97	0.1	4.4	
		11T302R-KF							11.6	9.525	3.97	0.2	4.4	
		0702005L-KF							7.8	6.35	2.38	0.05	2.8	
		070201L-KF							7.8	6.35	2.38	0.1	2.8	
		070202L-KF							7.8	6.35	2.38	0.2	2.8	
		11T3005L-KF							11.6	9.525	3.97	0.05	4.4	
		11T301L-KF							11.6	9.525	3.97	0.1	4.4	
		11T302L-KF							11.6	9.525	3.97	0.2	4.4	
Medium to finishing	 <p style="text-align: center;"><b>KM</b></p>	<b>DCGT</b> 0702005R-KM							7.8	6.35	2.38	0.05	2.8	
		070201R-KM							7.8	6.35	2.38	0.1	2.8	
		070202R-KM							7.8	6.35	2.38	0.2	2.8	
		11T3005R-KM							11.6	9.525	3.97	0.05	4.4	
		11T301R-KM							11.6	9.525	3.97	0.1	4.4	
		11T302R-KM							11.6	9.525	3.97	0.2	4.4	
		0702005L-KM							7.8	6.35	2.38	0.05	2.8	
		070201L-KM							7.8	6.35	2.38	0.1	2.8	
		070202L-KM							7.8	6.35	2.38	0.2	2.8	
		11T3005L-KM							11.6	9.525	3.97	0.05	4.4	
		11T301L-KM							11.6	9.525	3.97	0.1	4.4	
		11T302L-KM							11.6	9.525	3.97	0.2	4.4	

● : Stock item


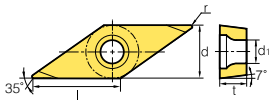

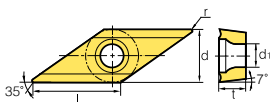

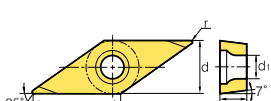

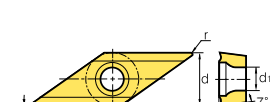
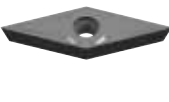
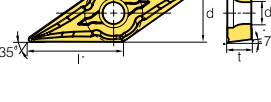

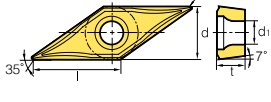


## Insert

Type	C/B		Designation	Coated					Uncoated	Dimensions(mm)					Configuration	
	Picture			PC5300	PC8105	PC8110	PC8115	PC9030	H01	l	Ød	t	r	Ød <sup>1</sup>		
Medium cutting		DCGT	11T301-MS								11.6	9.525	3.97	0.09	4.4	
			11T302-MS								11.6	9.525	3.97	0.19	4.4	
			11T304-MS								11.6	9.525	3.97	0.39	4.4	
			11T301MFN-MS	●	●						11.6	9.525	3.97	0.09	4.4	
			11T302MFN-MS	●	●						11.6	9.525	3.97	0.19	4.4	
			11T304MFN-MS	●	●						11.6	9.525	3.97	0.39	4.4	
Finishing		DCGT	070201-VP1	●	●	●	●		●		7.8	6.35	2.38	0.1	2.8	
			070202-VP1	●	●	●	●		●		7.8	6.35	2.38	0.2	2.8	
			070204-VP1	●	●	●	●		●		7.8	6.35	2.38	0.4	2.8	
			11T301-VP1	●	●						11.6	9.525	3.97	0.1	4.4	
			11T302-VP1	●	●	●	●			●	11.6	9.525	3.97	0.2	4.4	
			11T304-VP1	●	●	●	●			●	11.6	9.525	3.97	0.4	4.4	
			070201MFN-VP1	●	●						7.8	6.35	2.38	0.1	2.8	
			070202MFN-VP1	●	●						7.8	6.35	2.38	0.2	2.8	
			070204MFN-VP1	●	●						7.8	6.35	2.38	0.4	2.8	
			11T301MFN-VP1	●	●						11.6	9.525	3.97	0.1	4.4	
			11T302MFN-VP1	●	●						11.6	9.525	3.97	0.2	4.4	
			11T304MFN-VP1	●	●						11.6	9.525	3.97	0.3	4.4	
Finishing		TCGT	0802003R-KF								8.15	4.76	2.38	0.05	2.38	
			080201R-KF								8	4.76	2.38	0.1	2.38	
			080202R-KF								7.7	4.76	2.38	0.2	2.38	
			08020003L-KF								8.15	4.76	2.38	0.05	2.38	
			080201L-KF								8	4.76	2.38	0.1	2.38	
			080202L-KF								7.7	4.76	2.38	0.2	2.38	
Finishing		VBGT	1103003R-KF								7.8	6.35	2.38	0.05	2.8	
			110301R-KF								7.8	6.35	2.38	0.1	2.8	
			110302R-KF				●				7.8	6.35	2.38	0.2	2.8	
			1103003L-KF								11.6	9.525	3.97	0.05	4.4	
			110301L-KF								11.6	9.525	3.97	0.1	4.4	
			110302L-KF								11.6	9.525	3.97	0.2	4.4	
Medium to finishing		VBGT	113003R-KM								7.8	6.35	2.38	0.05	2.8	
			110301R-KM								7.8	6.35	2.38	0.1	2.8	
			110302R-KM								7.8	6.35	2.38	0.2	2.8	
			1103003L-KM								11.6	9.525	3.97	0.05	4.4	
			110301L-KM								11.6	9.525	3.97	0.1	4.4	
			110302L-KM								11.6	9.525	3.97	0.2	4.4	

● : Stock item


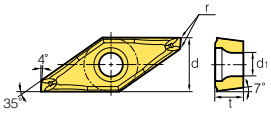

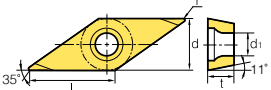

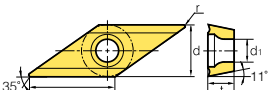

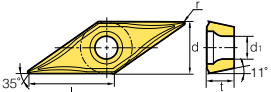
## Insert

Type	C/B		Designation	Coated					Uncoated	Dimensions(mm)					Configuration
	Picture			PC5300	PC8105	PC8110	PC8115	PC9030	H01	l	Ød	t	r	Ød <sup>1</sup>	
Finishing		VCET	1103005MFR-KF	●	●					11	6.35	3.18	0.05	2.8	
			110301MFR-KF	●	●					11	6.35	3.18	0.1	2.8	
			110302MFR-KF	●	●					11	6.35	3.18	0.2	2.8	
			1103005MFL-KF	●	●					11	6.35	3.18	0.05	2.8	
			110301MFL-KF	●	●					11	6.35	3.18	0.1	2.8	
			110302MFL-KF	●	●					11	6.35	3.18	0.2	2.8	
Medium to finishing		VCET	1103005MFR-KM	●	●					11	6.35	3.18	0.05	2.8	
			110301MFR-KM	●	●					11	6.35	3.18	0.1	2.8	
			110302MFR-KM	●	●					11	6.35	3.18	0.2	2.8	
			11T3005MFL-KM	●	●					11	6.35	3.18	0.05	2.8	
			11T301MFL-KM	●	●					11	6.35	3.18	0.1	2.8	
			11T302MFL-KM	●	●					11	6.35	3.18	0.2	2.8	
Finishing		VCGT	1103003R-KF							11	6.35	3.18	0.03	2.8	
			110301R-KF							11	6.35	3.18	0.1	2.8	
			110302R-KF				●			11	6.35	3.18	0.2	2.8	
			1103003L-KF							11	6.35	3.18	0.03	2.8	
			110301L-KF							11	6.35	3.18	0.1	2.8	
			110302L-KF							11	6.35	3.18	0.2	2.8	
Medium to finishing		VCGT	1103003R-KM							11	6.35	3.18	0.03	2.8	
			110301R-KM							11	6.35	3.18	0.1	2.8	
			110302R-KM				●			11	6.35	3.18	0.2	2.8	
			1103003L-KM							11	6.35	3.18	0.03	2.8	
			110301L-KM							11	6.35	3.18	0.1	2.8	
			110302L-KM							11	6.35	3.18	0.2	2.8	
Medium cutting		VCGT	1203008FN-MS							11.0	7.50	3.00	0.08	2.8	
			120301FN-MS							11.0	7.50	3.00	0.10	2.8	
			120302FN-MS							11.0	7.50	3.00	0.20	2.8	
			120304FN-MS							11.0	7.50	3.00	0.40	2.8	
Finishing		VCGT	110301-VP1	●	●	●	●		●	11	6.35	3.18	0.1	2.8	
			110302-VP1	●	●	●	●		●	11	6.35	3.18	0.2	2.8	
			110304-VP1	●	●	●	●		●	11	6.35	3.18	0.4	2.8	
			110301MFN-VP1	●	●					11	6.35	3.18	0.1	2.8	
			110302MFN-VP1	●	●					11	6.35	3.18	0.2	2.8	
			110304MFN-VP1	●	●					11	6.35	3.18	0.4	2.8	

● : Stock item



## Insert

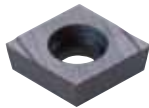
Type	C/B		Coated					Uncoated	Dimensions(mm)					Configuration
	Picture	Designation	PC5300	PC8105	PC8110	PC8115	PC9030	H01	l	Ød	t	r	Ød <sup>1</sup>	
Finishing (High precision)		<b>VCGX</b>	120300MFR-VP1	●	●				11	7.50	3.18	0.0	2.8	
			120301MFR-VP1	●	●				11	7.50	3.18	0.1	2.8	
			120302MFR-VP1	●	●				11	7.50	3.18	0.2	2.8	
			120304MFR-VP1	●	●				11	7.50	3.18	0.4	2.8	
			120308MFR-VP1	●	●				11	7.50	3.18	0.8	2.8	
Finishing		<b>VPET</b>	0802005MFR-KF	●	●				8	6.35	2.38	0.1	2.3	
			080201MFR-KF	●	●				8	6.35	2.38	0.1	2.3	
			080202MFR-KF	●	●				8	6.35	2.38	0.2	2.3	
			0802005MFL-KF	●	●				8	6.35	2.38	0.1	2.3	
			080201MFL-KF	●	●				8	6.35	2.38	0.1	2.3	
			080202MFL-KF	●	●				8	6.35	2.38	0.2	2.3	
Medium to finishing		<b>VPET</b>	0802005MFR-KM	●	●				8	6.35	3.18	0.05	2.8	
			080201MFR-KM	●	●				8	6.35	3.18	0.1	2.8	
			080202MFR-KM	●	●				8	6.35	3.18	0.2	2.8	
			0802005MFL-KM	●	●				8	6.35	3.18	0.05	2.8	
			080201MFL-KM	●	●				8	6.35	3.18	0.1	2.8	
			080202MFL-KM	●	●				8	6.35	3.18	0.2	2.8	
Finishing		<b>VPGT</b>	110301-VP1	●	●	●	●	●	11	6.35	3.18	0.1	2.8	
			110302-VP1	●	●	●	●	●	11	6.35	3.18	0.2	2.8	
			110304-VP1	●	●	●	●	●	11	6.35	3.18	0.4	2.8	
			110301MFN-VP1	●	●				11	6.35	3.18	0.1	2.8	
			110302MFN-VP1	●	●				11	6.35	3.18	0.2	2.8	
			110304MFN-VP1	●	●				11	6.35	3.18	0.4	2.8	

● : Stock item

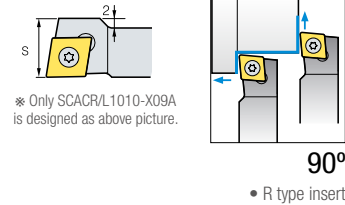
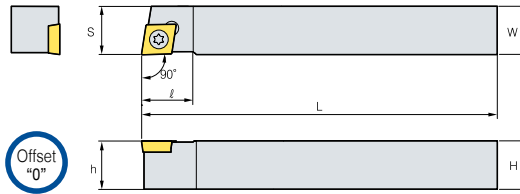
● Available tool holders

# Holders

## SCACR/L

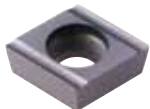


CC□T

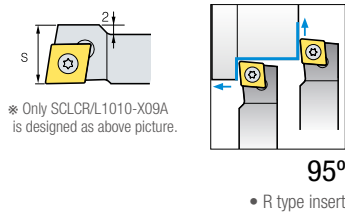
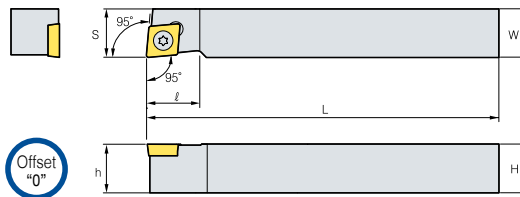


Designation	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	H	W	L	S	h	ℓ				
SCACR/L	0808-X06A	●	-	8	8	120	8	8	10	CC□T0602□□	FTKA02565	TW07P
	1010-X06A	-	-	10	10	120	10	10	10			
	1010-X09A	●	-	10	10	120	12	10	13	CC□T09T3□□	FTKA0410	TW15P
	1212-X09A	●	-	12	12	120	12	12	16			
1616-X09A	●	-	16	16	120	16	16	16				

## SCLCR/L

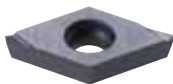


CC□T

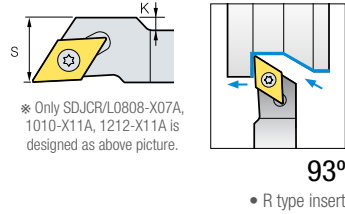
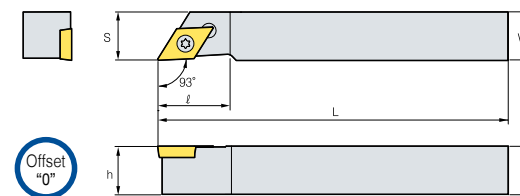


Designation	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	H	W	L	S	h	ℓ				
SCLCR/L	0808-X06A	-	-	8	8	120	8	8	10	CC□T0602□□	FTKA02565	TW07P
	1010-X06A	●	-	10	10	120	10	10	10			
	1010-X09A	-	-	10	10	120	12	10	13	CC□T09T3□□	FTKA0410	TW15P
	1212-X09A	●	-	12	12	120	12	12	16			
	1616-X09A	-	-	16	16	120	16	16	16			

## SDJCR/L



DC□T



Designation	Stock		치수(mm)							Insert	Screw	Wrench	
	R	L	H	W	L	S	h	K	ℓ				
SDJCR/L	0808-X07A	-	-	8	8	120	10	8	2	18	DC□T0702□□	FTKA02565	TW07P
	1010-X07A	●	-	10	10	120	10	10	-	15			
	1010-X11A	●	-	10	10	120	14	10	4	18	DC□T11T3□□	FTKA0410	TW15P
	1212-X11A	●	-	12	12	120	14	12	2	18			
	1616-X11A	-	-	16	16	120	16	16	-	22			

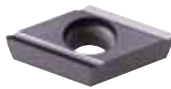
● : Stock item



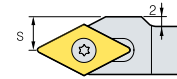
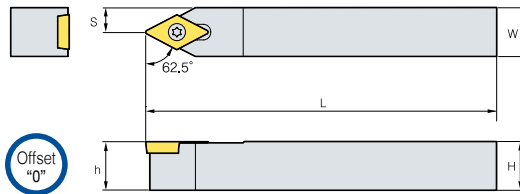


## Holder

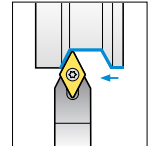
### SDNCN



DC□□



\* Only SDNCN1010-X11A is designed as above picture.

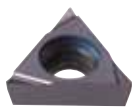


62.5°

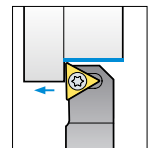
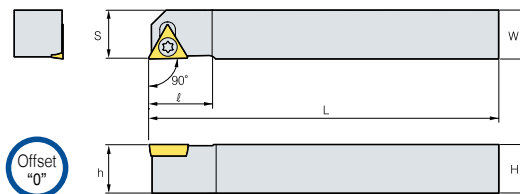
• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	H	W	L	S	h				
SDNCN	0808-X07A	-	-	8	8	120	4	8	DC□T0702□□	FTKA02565	TW07P
	1010-X07A	-	-	10	10	120	5	10			
	1010-X11A	-	-	10	10	120	7	10	DC□T11T3□□	FTKA0410	TW15P
	1212-X11A	●	-	12	12	120	6	12			
1616-X11A	●	-	16	16	120	8	16				

### STACR/L



TC□□



90°

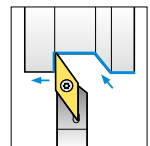
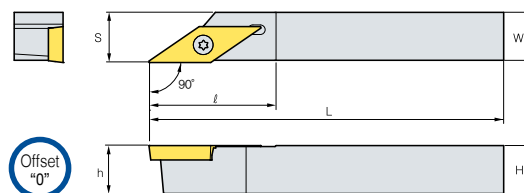
• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench		
	R	L	H	W	L	S	h	K				ℓ	
STACR/L	0808-X08A	-	-	8	8	120	8	8	1	18	TC□T0802□□	FTKA0206	TW06P
	1010-X08A	-	-	10	10	120	10	10	3	15			

### SVACR/L



VC□□



90°

• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench	
	R	L	H	W	L	S	h	ℓ				
SVACR/L	0808-X12A	-	-	8	8	120	8.5	8	26	VC□T1203	FTKA02565	TW07P
	1010-X12A	-	-	10	10	120	10.5	10	26			
	1212-X12A	-	-	12	12	120	12.5	12	26			
	1616-X12A	-	-	16	16	120	16.5	16	26			
SVACR/L	0808-X12C	-	-	8	8	120	8.5	8	26	VC□X1203□□R/L	FTKA02565	TW07P
	1010-X12C	-	-	10	10	120	10.5	10	26			
	1212-X12C	-	-	12	12	120	12.5	12	26			
	1616-X12C	-	-	16	16	120	16.5	16	26			

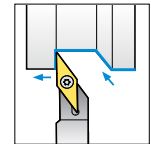
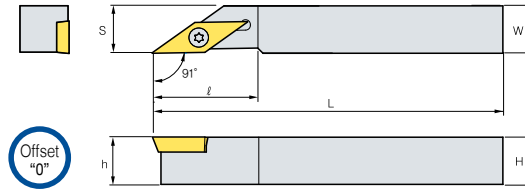
● : Stock item

## Holders

### SVAPR/L



VP□T



91°

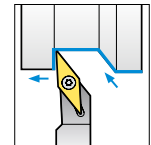
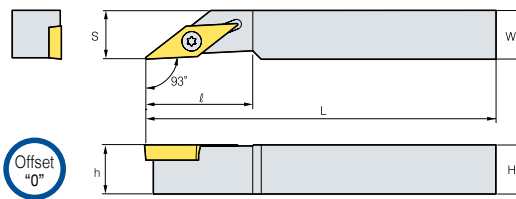
• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	H	W	L	S	h	∅			
SVAPR/L 0808-X11A	●	-	8	8	120	8	8	22	VP□T1103□□	FKTA02565	TW07P
1010-X11A	●	-	10	10	120	10	10	22			
1212-X11A	●	-	12	12	120	12	12	22			
1616-X11A	●	-	16	16	120	16	16	24			

### SVJBR/L



VB□T



93°

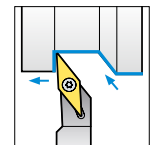
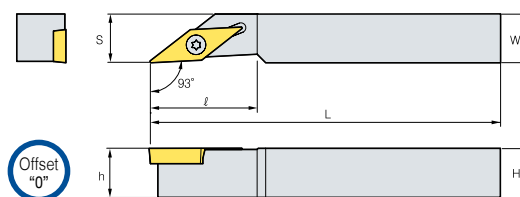
• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	H	W	L	S	h	∅			
SVJBR/L 1010-X11A	-	-	10	10	120	10	10	22	VB□T1103□□	FKTA02565	TW07P
1212-X11A	●	-	12	12	120	12	12	22			
1616-X11A	-	-	16	16	120	16	16	24			

### SVJCR/L



VC□T



93°

• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	H	W	L	S	h	∅			
SVJCR/L 1010-X11A	-	-	10	10	120	10	10	22	VC□T1103□□	FKTA02565	TW07P
1212-X11A	●	-	12	12	120	12	12	22			
1616-X11A	-	-	16	16	120	16	16	24			
0810-X12A	-	-	8	10	120	10	8	26	VC□T1203	FKTA02565	TW07P
1010-X12A	-	-	10	10	120	10	10	26			
1212-X12A	-	-	12	12	120	12	12	26			
1616-X12A	-	-	16	16	120	16	16	26			
SVJCR/L 0810-X12C	-	-	8	10	120	10	8	26	VC□X1203□□R/L	FKTA02565	TW07P
1010-X12C	-	-	10	10	120	10	10	26			
1212-X12C	-	-	12	12	120	12	12	26			
1616-X12C	-	-	16	16	120	16	16	26			

● : Stock item

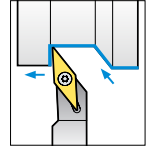
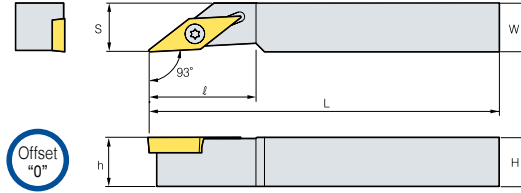


## Holder

### SVJPR/L



VP□T



93°

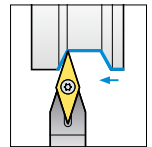
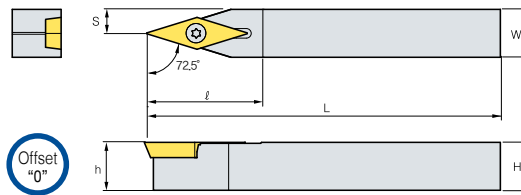
• R type insert

Designation	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	H	W	L	S	h	ℓ				
SVJPR/L	0810-X11A	●	-	8	10	120	8	10	22	VP□T1103□□	FTKA02565	TW07P
	1010-X11A	●	-	10	10	120	10	10	22			
	1212-X11A	●	-	12	12	120	12	12	22			
	1616-X11A	●	-	16	16	120	16	16	24			

### SVVPN



VP□T



72.5°

• R type insert

Designation	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	H	W	L	S	h	ℓ				
SVVPN	0808-X11A	●	-	8	8	120	4	8	24	VP□T1103□□	FTKA02565	TW07P
	1010-X11A	●	-	10	10	120	5	10	24			
	1212-X11A	●	-	12	12	120	6	12	24			
	1616-X11A	●	-	16	16	120	8	16	28			

● : Stock item



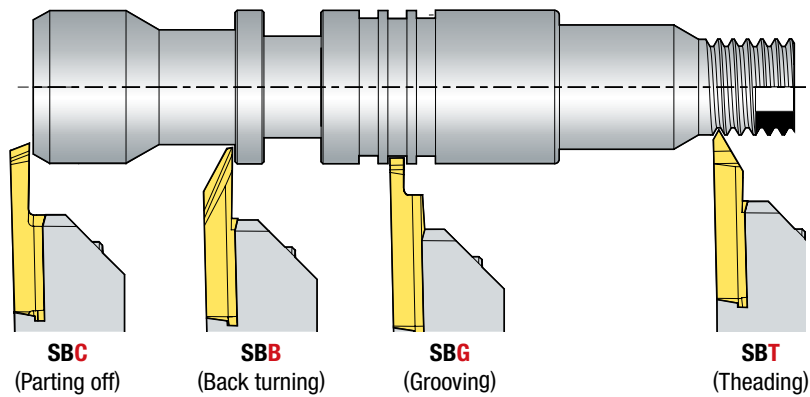
# Auto tools

## (Blade Type)

- Blade insert for automatic lathes
- For external machining of precise small parts
- 4types - SSB(for back turning), SGB(for grooving), SBT(for threading), SBC(for parting off)
- Convenient use of one holder to all blade inserts
- Exclusive holder for close cutting action to the sub spindle



### Application Example



### Types of blade insert

#### SBC - For cut off/Parting

- Cutting width: 0.7~2.0
- D Max.: 16mm
- Nose R: 0.05mm



#### SBB - For back turning

- Approach angle: 59°
- Max. cutting depth: 4mm
- Nose R: 0.05, 0.1, 0.2mm



#### SGB - For grooving

- Width: 0.5~2.5mm
- Nose R: 0.05mm



#### SBT - For threading

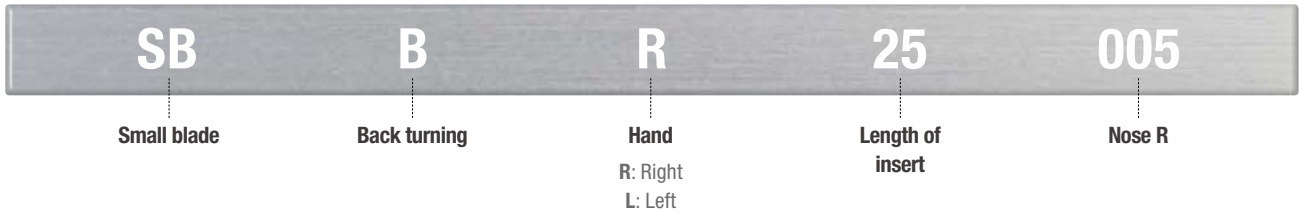
- V profile: 60°
- Pitch: 0.2~1.0mm
- Nose R: 0.05mm



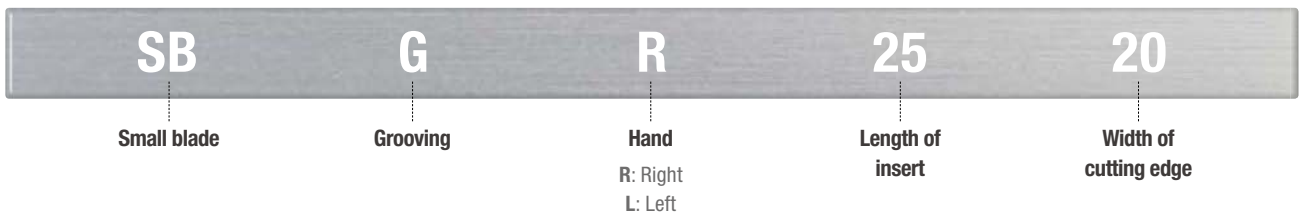


## Code system of auto tools insert

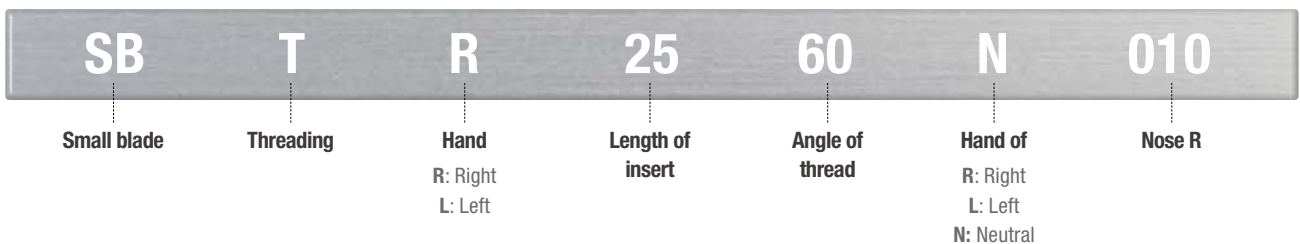
### Turning(Back turning)



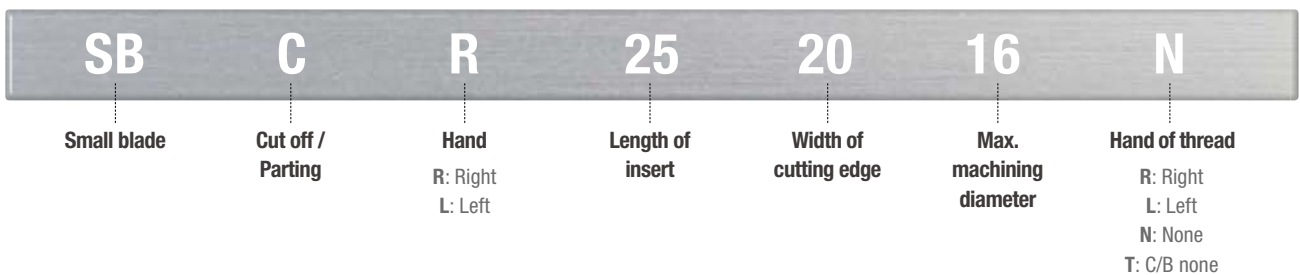
### Grooving



### Threading

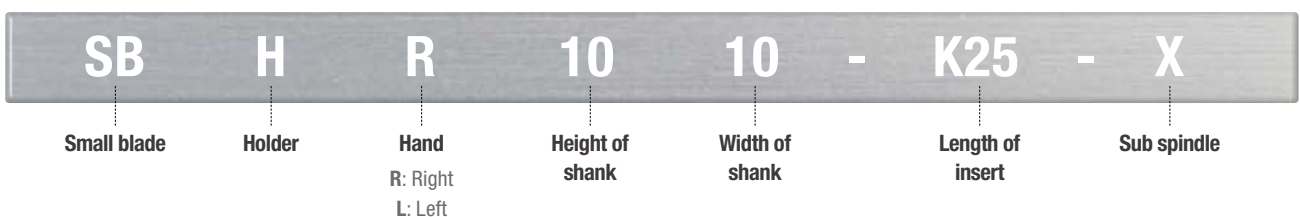


### Parting



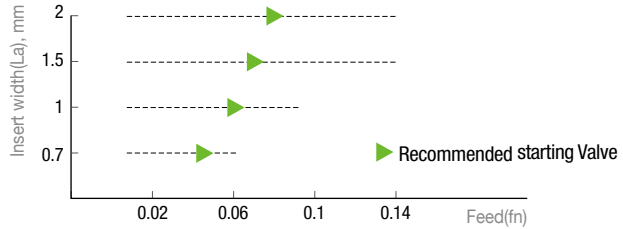
## Code system of auto tools holder

### Blade



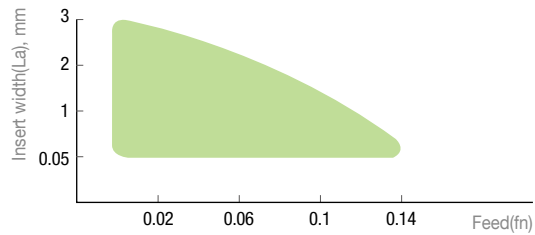
○ Recommended Cutting Condition

**SBCR insert**



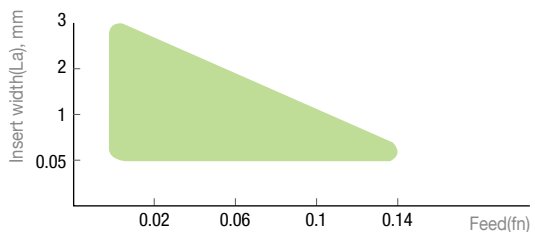
- When parting with a sub-spindle it is more productive to use a straight cutting edge. This is a more stable parting method and will generate the best surface finish.
- When parting without a sub-spindle we recommend you use an insert with a maximum 15° front angle to minimise the risk of burr and pips on the component.
- When parting off with 15° front angled inserts we recommend reducing the feed by approximately 30%.

**SBGR insert**



- Try not to use a smaller cutting depth than the nose radius. This will generate higher radial forces and will result in inaccurate dimensions.
- Too low cutting speed will result in inadequate tool life and it is advisable to follow cutting speed recommendations

**SBBR insert**



- If running with a cutting depth larger than 0.079 inch we recommend you use the insert with 0.008 inch nose radius.
- When using a large cutting depth it is important to reduce the feed as there is a large amount of pressure on the actual insert tip.
- If a larger cutting depth than 0.118 inch is needed switch to the VCGX inserts which have more edge strength.



## Grades for Recommended Application Range

Workpiece	Grade	Order of recommended grade	Recommended cutting speed $v_c$ (m/min)									
			45	90	140	180	230	270	320	370	410	
P	PC8110	1		60			200					
M	PC8110	1		60		180						
N	PC8110	1			90						400	
S	PC8110	1	20	50								

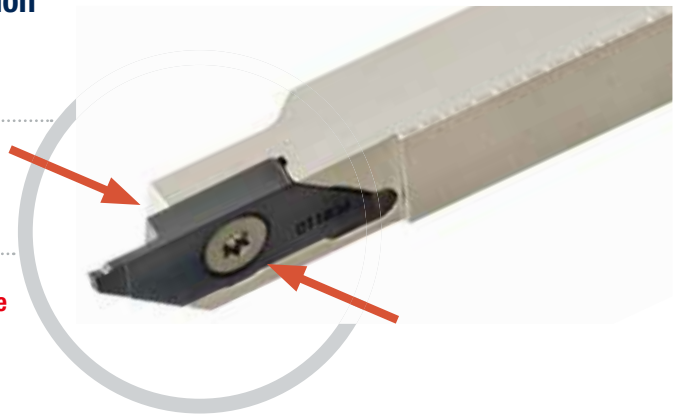
## Easy Tool Change with Constant High Precision

### Screw holes on both sides

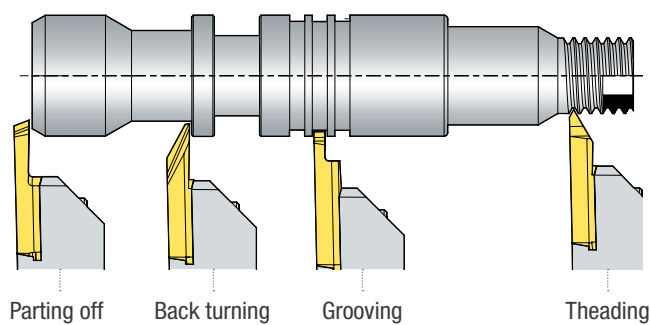
- Easy to exchange inserts → **Improved productivity**

### Insert corner change

- Tolerance repetition  $\pm 0.001$  within → **Save setting time**



## Combination of Inserts and Holders



Processed form		Cut off	Back turning	Grooving	Threading
Insert	Designation	<b>SBCR252016-R</b>	<b>SBBR25010</b>	<b>SBGR2515</b>	<b>SBTR2560-R-005</b>
	Nose R	0.05	0.05, 0.1, 0.2	0.05	0.05, 0.1
	Edge width	0.7, 1.0, 1.5, 2.0	3.18	0.5, 1.0, 1.5, 2.0, 2.5	-
Holder	Designation	SBHR1212-K25	SBHR1212-K25	SBHR1212-K25	SBHR1212-K25
	Size	10x10, 12x12, 16x16	10x10, 12x12, 16x16	10x10, 12x12, 16x16	10x10, 12x12, 16x16

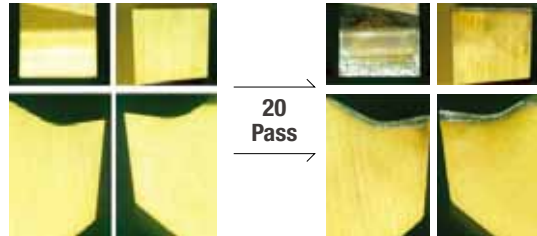
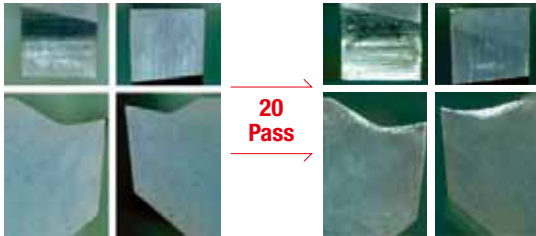
### ○ Blade Cutting Performance

#### Wear Resistance(SUS304) - External Machining

•  $vc = 100\text{m/min}$  •  $fn = 0.14\text{mm/rev}$  •  $ap = 2.0\text{mm}$ , Wet

SBCR252016(PC8110)

Competitor



#### Chip Breaking(SUS304) - External Machining

•  $vc = 100\text{m/min}$  •  $fn = 0.02\sim 0.18\text{mm/rev}$  •  $ap = 0.5\sim 4.0\text{mm}$ , Wet

SBCR252016(PC8110)

Competitor

	0.06	0.1	0.14	0.18
4.0	약 165mm			
2.0	약 170mm			
0.5	약 200mm			

	0.06	0.1	0.14	0.18
4.0	약 80mm			
2.0	약 300mm			
0.5	약 140mm			







## Applicable inserts

### Insert


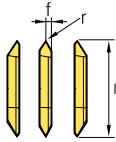
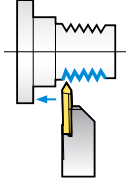
Application	Picture	Designation	Coated		Dimensions(mm)						Configuration	Feed Direction	
			PC8110		l	$\alpha^\circ$	t	r	ar	D <sub>MAX</sub>			
			R	L									
Back turning		<b>SBBR/L</b>	25005	●	-	25	59	3.18	0.05				
			25010	●	-	25	59	3.18	0.1				
			25020	●	-	25	59	3.18	0.2				

Application	Picture	Designation	Coated		Dimensions(mm)						Configuration	Feed Direction			
			PC8110		l	$\alpha^\circ$	r	L <sub>a</sub>	ar	D <sub>MAX</sub>					
			R	L											
Parting off		<b>SBCR/L</b>	250708-N	●	-	25	0	0.05	0.1	4.3	8				
			251012-N	●	-	25	0	0.05	1	6.3	12				
			251512-N	●	-	25	0	0.05	1.5	6.3	12				
			252016-N	●	-	25	0	0.05	2	8.3	16				
				<b>SBCR/R</b>	250708-R	●	-	25	15	0.05	0.1	4.3	8		
					251012-R	●	-	25	15	0.05	1	6.3	12		
					251512-R	●	-	25	15	0.05	1.5	6.3	12		
					252016-R	●	-	25	15	0.05	2	8.3	16		
				<b>SBCR/L</b>	250708-L	●	-	25	15	0.05	0.1	4.3	8		
					251012-L	●	-	25	15	0.05	1	6.3	12		
					251512-L	●	-	25	15	0.05	1.5	6.3	12		
					252016-L	●	-	25	15	0.05	2	8.3	16		
					<b>SBCR/T</b>	251012-T	●	-	25	0	0.05	1	6.3	12	
251512-T	●				-	25	0	0.05	1.5	6.3	12				
252016-T	●				-	25	0	0.05	2	8.3	16				

Application	Picture	Designation	Coated		Dimensions(mm)						Configuration	Feed Direction	
			PC8110		l	r	L <sub>a</sub>	ar	ar	D <sub>MAX</sub>			
			R	L									
Grooving		<b>SBGR/L</b>	2505	●	-	25	0.05	0.5	1.35				
			2510	●	-	25	0.05	1	2.75				
			2515	●	-	25	0.05	1.5	3.75				
			2520	●	-	25	0.05	2	3.75				
			2525	●	-	25	0.05	2.5	3.75				

● : Stock item

## Insert

Application	Picture	Designation	Coated		Dimensions(mm)						Configuration	Feed Direction
			PC8110		l	r	f	Pitch range				
			R	L				Min.	Max.			
Threading		<b>SBTR/L</b>	2560-N-005	●	-	25	0.05	1.59	0.2	2		
			2560-N-010	●	-	25	0.1	1.59	1	2		
			2560-R-005	●	-	25	0.05	0.6	0.2	1.5		
			2560-R-010	●	-	25	0.1	0.6	1	1.5		
			2560-L-005	●	-	25	0.05	0.6	0.2	1.5		
			2560-L-010	●	-	25	0.1	0.6	1	1.5		

● : Stock item

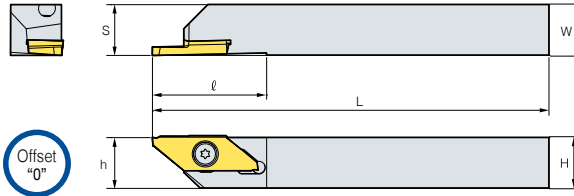
### ○ Available tool holders

## Holders

### SBHR/L



**SBBR SBGR**  
**SBTR SBCR**

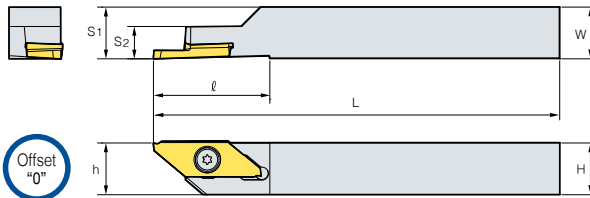


Designation	Stock	Dimensions(mm)								Insert	Screw	Wrench
		R	L	H	W	L	S	h	ℓ			
<b>SBHR/L</b>	1010-X09A	●	-	10	10	125	10	10	27	SB □ R/L25	FTKA0409S	T9
	1212-X09A	●	-	12	12	125	12	12	27			
	1616-X09A	●	-	16	16	125	16	16	27			

### SBHR/L-X



**SBBR SBGR**  
**SBTR SBCR**



Designation	Stock	Dimensions(mm)								Insert	Screw	Wrench	
		R	L	H	W	L	S <sub>1</sub>	S <sub>2</sub>	h				ℓ
<b>SBHR/L-X</b>	1010-K25-X	●	-	10	10	125	10	7.5	10	27	SB □ R/L25	FTKA0409S	T9
	1212-K25-X	●	-	12	12	125	12	7.5	12	27			

● : Stock item



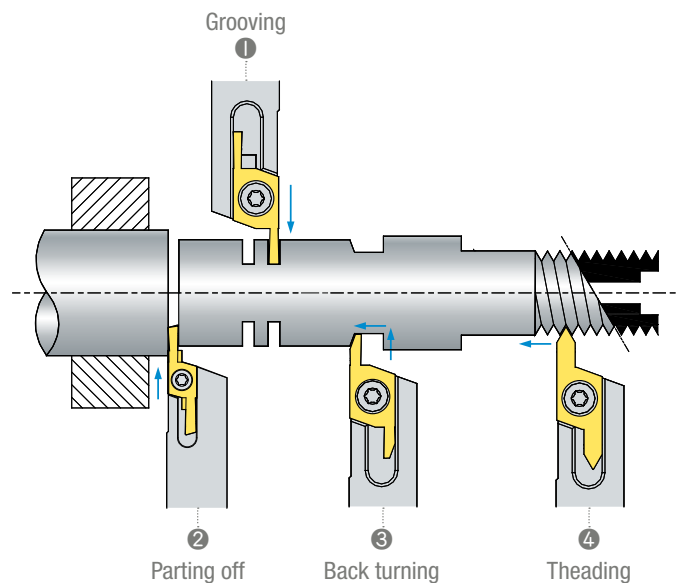
# Auto Tools

## (Multy Utility)

### Features

- Multifunctional insert for automatic lathes
- For external machining of precise small parts
- 5types - SB(for back turning), SG(for grooving), ST(for threading), SC(for parting off), SGB(for grooving and back turning)
- Convenient use of one holder to all inserts
- Offset "0" to all ISO type holders

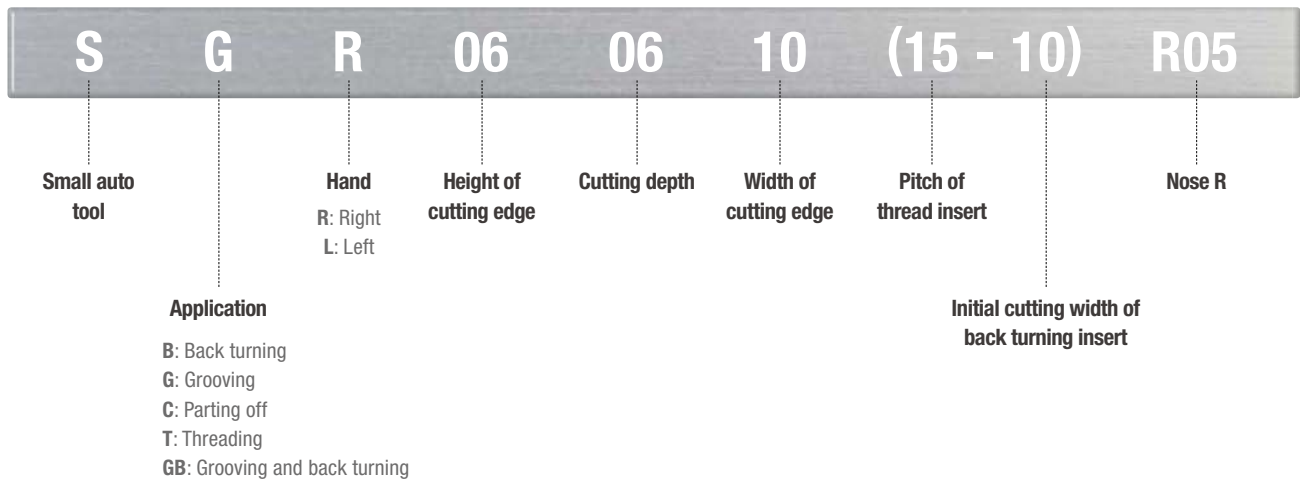
### ○ Combination of Inserts and Holders



○ Types of multifunctional insert



○ Insert code system (Multi utility type)



○ Recommended cutting conditions

Workpiece	Turning		Grooving		Parting off		Back turning	
	Cutting speed, vc(m/min)	Feed, fn(mm/rev)	Cutting speed, vc(m/min)	Feed, fn(mm/rev)	Cutting speed, vc(m/min)	Feed, fn(mm/rev)	Cutting speed, vc(m/min)	Feed, fn(mm/rev)
Stainless steel	50~120	0.02~0.20	30~120	0.02~0.05	30~120	0.02~0.05	30~120	0.02~0.20
Carbon steel	50~150	0.01~0.25	50~150	0.02~0.08	50~150	0.01~0.08	50~150	0.01~0.25
Free cutting steel	30~150	0.02~0.25	30~150	0.02~0.08	30~150	0.01~0.08	30~150	0.01~0.25
Non-ferrous metal	70~200	0.03~0.25	70~200	0.03~0.10	70~200	0.03~0.10	70~200	0.03~0.30



● **Applicable inserts**


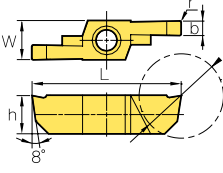
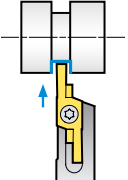
**Insert**

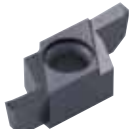
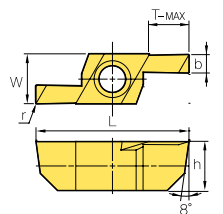
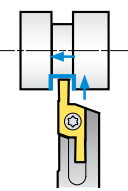
Application	Picture	Designation	Coated		Dimensions(mm)							Configuration	Feed Direction
			PC9030		b <sub>1</sub>	b <sub>2</sub>	w	L	r	h	T-max		
			R	L									
Back turning		<b>SBR/L</b> 060520-10-R00	-	-	1	2	8	22	0	6	5.5		
		060520-10-R05	-	-	1	2	8	22	0.05	6	5.5		
		060520-10-R10	-	-	1	2	8	22	0.1	6	5.5		
		060630-20-R00	-	-	2	3	8	24	0	6	6.5		
		060630-20-R05	-	-	2	3	8	24	0.05	6	6.5		
		060630-20-R10	-	-	2	3	8	24	0.1	6	6.5		
		080630-20-R00	-	-	2	3	8	23	0	8	6.5		
		080630-20-R05	-	-	2	3	8	23	0.05	8	6.5		
		080630-20-R10	-	-	2	3	8	23	0.1	8	6.5		
		080840-20-R00	-	-	2	4	8	27	0	8	8.5		
		080840-20-R05	-	-	2	4	8	27	0.05	8	8.5		
		080840-20-R10	-	-	2	4	8	27	0.1	8	8.5		

Application	Picture	Designation	Coated		Dimensions(mm)							Configuration	Feed Direction
			PC9030		b	w	L	r	h	ØD			
			R	L									
Parting off		<b>SCR/L</b> 060610-R00	-	-	1	8	24	0	6	11			
		060610-R05	●	-	1	8	24	0.05	6	11			
		060610-R10	●	-	1	8	24	0.1	6	11			
		060615-R00	-	-	1.5	8	24	0	6	11			
		060615-R05	●	-	1.5	8	24	0.05	6	11			
		060615-R10	●	-	1.5	8	24	0.1	6	11			
		060620-R00	-	-	2	8	24	0	6	11			
		060620-R05	●	-	2	8	24	0.05	6	11			
		060620-R10	●	-	2	8	24	0.1	6	11			
		081015-R00	-	-	1.5	8	31	0	8	18			
		081015-R05	-	-	1.5	8	31	0.05	8	18			
		081015-R10	-	-	1.5	8	31	0.1	8	18			
		081020-R00	-	-	2	8	31	0	8	18			
		081020-R05	-	-	2	8	31	0.05	8	18			
		081020-R10	●	-	2	8	31	0.1	8	18			
		081025-R00	-	-	2.5	8	31	0	8	18			
		081025-R05	●	-	2.5	8	31	0.05	8	18			
		081025-R10	●	-	2.5	8	31	0.1	8	18			
		081030-R00	-	-	3	8	31	0	8	18			
		081030-R05	●	-	3	8	31	0.05	8	18			
081030-R10	-	-	3	8	31	0.1	8	18					

● : Stock item

## Insert

Application	Picture	Designation	Coated		Dimensions(mm)						Configuration	Feed Direction
			PC9030		b	w	L	r	h	ØD		
			R	L								
Grooving		<b>SGR/L</b> 060610-R00	-	-	1	8	24	0	6	11		
		060610-R05	●	-	1	8	24	0.05	6	11		
		060610-R10	●	-	1	8	24	0.1	6	11		
		060615-R00	-	-	1.5	8	24	0	6	11		
		060615-R05	●	-	1.5	8	24	0.05	6	11		
		060615-R10	●	-	1.5	8	24	0.1	6	11		
		060620-R00	-	-	2	8	24	0	6	11		
		060620-R05	-	-	2	8	24	0.05	6	11		
		060620-R10	-	-	2	8	24	0.1	6	11		
		081015-R00	-	-	1.5	8	31	0	8	18		
		081015-R05	-	-	1.5	8	31	0.05	8	18		
		081015-R10	-	-	1.5	8	31	0.1	8	18		
		081020-R00	-	-	2	8	31	0	8	18		
		081020-R05	●	-	2	8	31	0.05	8	18		
		081020-R10	-	-	2	8	31	0.1	8	18		
		081025-R00	-	-	2.5	8	31	0	8	18		
		081025-R05	-	-	2.5	8	31	0.05	8	18		
		081025-R10	-	-	2.5	8	31	0.1	8	18		
		081030-R00	-	-	3	8	31	0	8	18		
		081030-R05	-	-	3	8	31	0.05	8	18		
081030-R10	-	-	3	8	31	0.1	8	18				

Application	Picture	Designation	Coated		Dimensions(mm)						Configuration	Feed Direction
			PC9030		b	w	L	r	h	T-max		
			R	L								
Grooving and back turning		<b>SGBR/L</b> 0604520-R00	-	-	2	8	22	0	6	4.5		
		0604520-R05	-	-	2	8	22	0.05	6	4.5		
		0604520-R10	-	-	2	8	22	0.1	6	4.5		
		0604525-R00	-	-	2.5	8	22	0	6	4.5		
		0604525-R05	-	-	2.5	8	22	0.05	6	4.5		
		0604525-R10	-	-	2.5	8	22	0.1	6	4.5		
		0605530-R00	-	-	3	8	24	0	6	5.5		
		0605530-R05	-	-	3	8	24	0.05	6	5.5		
		0605530-R10	-	-	3	8	24	0.1	6	5.5		
		0805525-R00	-	-	2.5	8	24	0	8	5.5		
		0805525-R05	-	-	2.5	8	24	0.05	8	5.5		
		0805525-R10	-	-	2.5	8	24	0.1	8	5.5		
		0806530-R00	-	-	3	8	26	0	8	6.5		
		0806530-R05	-	-	3	8	26	0.05	8	6.5		
		0806530-R10	-	-	3	8	26	0.1	8	6.5		

● : Stock item



## Insert

Application	Picture	Designation	Coated		Dimensions(mm)							Configuration	Feed Direction	
			PC9030		b	w	L	r	h	T-max	Pitch			
			R	L										
Threading		STR/L	06073215	-	-	3.2	8	25	0.06	6	7	0.5 ~1.5		
			06073230	-	-	3.2	8	25	0.19	6	7	1.5 ~3.0		
			08103215	-	-	3.2	8	31	0.06	8	10.5	0.5 ~1.5		
			08103230	-	-	3.2	8	31	0.19	8	10.5	1.5 ~3.0		

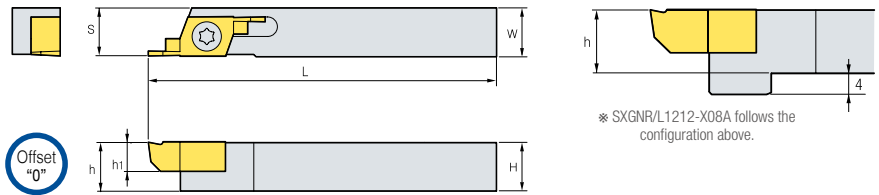
## Available tool holders

## Holder

### SXGNR/L



SBR SGBR  
SCR STR SGR



• R type insert

Designation	Stock		Dimensions(mm)						Insert	Screw	Wrench	
	R	L	H	W	L	S	h	H <sub>1</sub>				
SXGNR/L	1010-X06A	•	-	10	10	125	10	10	6	S□R/L 06	FTNA0408	TW15P
	1212-X06A	•	-	12	12	125	12	12	6			
	1616-X06A	•	-	16	16	125	16	16	6			
	2020-X06A	•	-	20	20	125	20	20	6			
SXGNR/L	1212-X08A	•	-	12	12	130	12	12	8	S□R/L 08	FTNA0411	TW15P
	1616-X08A	-	-	16	16	130	16	16	8			
	2020-X08A	-	-	20	20	130	20	20	8			

• : Stock item

# Auto tools

(KGT/MGT type)



- Grooving insert for automatic lathes
- Exclusive holder for automatic lathes
- Economic double sided insert
- Strong clamping system secures stable machining and precision.
- A wide selection of chip breakers according to various cutting conditions such as low/high feed, continuous/interrupted machining, etc.

## ○ Chip breaker line-up - KGT insert

### KGMM - L



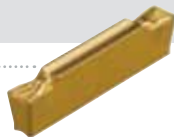
- Sharp cutting edge
- For low feed machining
- For small diameter parts

### KGMM - R



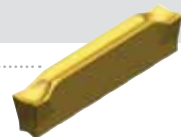
- Reinforced cutting edge
- For high feed machining
- For interrupted cutting

### KGMM - T



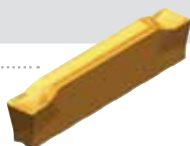
- Sharp cutting edge
- Stronger chip control
- For turning and grooving

### KGMR/L - LP



- Sharp cutting edge
- For low feed machining
- Small diameter component
- Right/Left handed
- Low carbon steel

### KGMR/L - RP



- Strong cutting edge
- For high feed machining
- For interrupted cutting
- Right/Left handed

### KRMN - C



- Improved chip control
- Copying
- Relief





## ○ Chip breaker line-up - MGT insert

### MGMN-M



- Easier chip control by narrowing chip width with the use of chip breaker on rake surface center
- Smooth chip flow by small dots in external machining
- Available for both external machining and grooving

### MGMN - G



- Specially designed chip breaker allows narrower chips to promote better chip flow with the use of center dots
- Exclusive chip breaker for grooving

## ○ Insert code system(KGT)

<b>KG</b>	<b>M</b>	<b>N</b>	<b>300</b>	<b>04</b>	<b>T</b>
<b>System code</b> KG SYSTEM (KORLOY Grooving)	<b>Tolerance</b> M: Pressed class G: Ground class	<b>Hand</b> N: Neutral R: Right L: Light I: Internal	<b>Width of cutting edge</b> 2.0~8.0mm	<b>Corner nose radius of insert</b> 0.2mm 0.3mm 0.4mm	<b>Chip breaker</b> C/L/R/T LP/RP


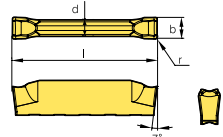

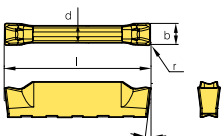

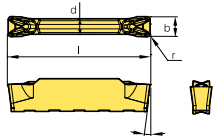

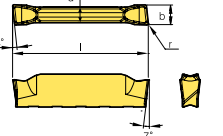

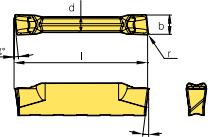

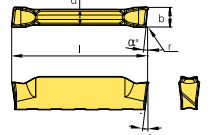

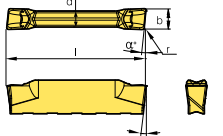

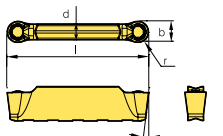
## ○ Insert code system(MGT)

<b>MG</b>	<b>M</b>	<b>N</b>	<b>300</b>	<b>04</b>	<b>T</b>
<b>System code</b> MG SYSTEM (Multi Grooving)	<b>Tolerance</b> M: Pressed class G: Ground class	<b>Hand</b> N: Neutral R: Right L: Light I: Internal	<b>Width of cutting edge</b> 2.0~8.0mm	<b>Corner nose radius of insert</b> 0.2mm 0.3mm 0.4mm	<b>Chip breaker</b> M/G L/R/T

## ○ Holder code system(KGT/MGT)

<b>KG</b>	<b>E</b>	<b>H</b>	<b>R</b>	<b>1212</b>	<b>3</b>	<b>D25A</b>
<b>System code</b> KGT MGT	<b>Application</b> E: External machining I: Internal machining	<b>Holder type</b> H: Horizontal type V: Vertical type U: Undercut type	<b>Hand</b> R: Right L: Light	<b>Shank size</b> Height 12mm, width 12mm (For internal machining: Min. machining diameter)	<b>Cutting width</b> 2.0~3.0mm	<b>Max. cutting diameter</b> Ø15~32mm A : Compact type B: high rigidity type

● Applicable inserts(KGT)

Insert														
Application	C/B		Designation	Coated					Dimensions(mm)					Configuration
	Picture			NC3220	NC3225	NC5330	PC5300	PC9030	b	r	ℓ	d	α°	
Grooving		KGML	200-02-L	●	●	●	●	●	2	0.2	20	1.7	-	
			300-02-L	●	●	●	●	●	3	0.2	20	2.3	-	
Grooving Parting off		KGML	200-02-R	●	●	●	●	●	2	0.2	20	1.7	-	
			300-02-R	●	●	●	●	●	3	0.2	20	2.3	-	
Grooving turning		KGML	200-02-T	●	●	●	●	●	2	0.2	20	1.7	-	
			300-02-T	●	●	●	●	●	3	0.2	20	2.3	-	
			300-04-T	●	●	●	●	●	3	0.4	20	2.3	-	
Parting off (Right handed)		KGMR	200-6D-LP	●	●				2	0.2	20	1.7	6	
			200-15D-LP	●	●				2	0.2	20	1.7	15	
			300-6D-LP	●	●				3	0.2	20	2.3	6	
			300-15D-LP	●	●				3	0.2	20	2.3	15	
Parting off (Right handed)		KGMR	200-6D-RP	●	●				2	0.2	20	1.7	6	
			200-15D-RP	●	●				2	0.2	20	1.7	15	
			300-6D-RP	●	●				3	0.2	20	2.3	6	
			300-15D-RP	●	●				3	0.2	20	2.3	15	
Parting off (Left handed)		KGML	200-6D-LP						2	0.2	20	1.7	6	
			200-15D-LP						2	0.2	20	1.7	15	
			300-6D-LP						3	0.2	20	2.3	6	
			300-15D-LP						3	0.2	20	2.3	15	
Parting off (Left handed)		KGML	200-6D-RP						2	0.2	20	1.7	6	
			200-15D-RP						2	0.2	20	1.7	15	
			300-6D-RP						3	0.2	20	2.3	6	
			300-15D-RP						3	0.2	20	2.3	15	
Grooving Turning		KRMN	200-C	●	●	●			2	1	20	1.7	-	
			300-C	●	●	●			3	1.5	20	2.2	-	

● : Stock item



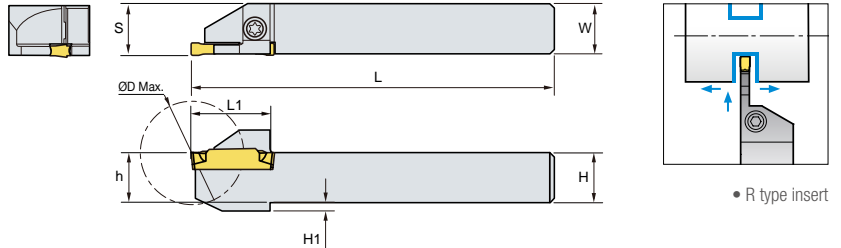
Available tool holders(KGT)

## Holders

**KGEHR/L (Compact type)**



**KGGN KGMN KGMR/L**  
**KRGN KRMN**



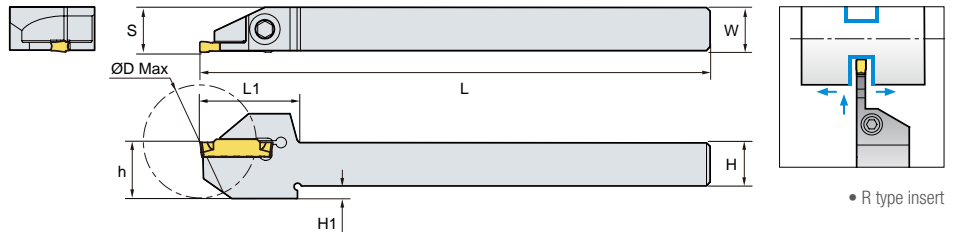
Designation	Stock		Dimensions(mm)							Insert	Screw	Wrench	
	R	L	H	W	L1	L	S	H1	ØD				
<b>KGEHR/L</b>	1010-2-D20A	●	-	10	10	19	125	10.2	2	20	KGMN200-□-□ KGMR/L200-□-□ KRMN200-C KRGN200-□-□	ETNA0412	TW15L
	1212-2-D25A	●	-	12	12	19	125	12.2	2	25			
	1414-2-D25A	●	-	14	14	19	125	14.2	-	25			
	1616-2-D32A	●	-	16	16	24	125	16.2	-	32			
	1212-3-D25A	●	-	12	12	19	130	12.4	2	25			
	1616-3-D32A	●	-	16	16	24	130	16.4	-	32			

● : Stock item

**KGEHR/L (High rigidity type)**




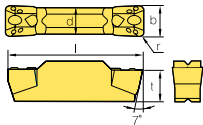

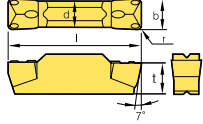

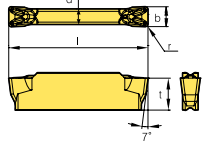

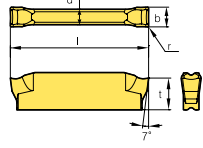

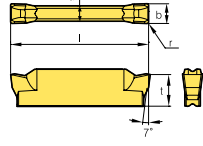
**KGGN KGMN KGMR/L**  
**KRGN KRMN**



Designation	Stock		Dimensions(mm)							Insert	Screw	Wrench	
	R	L	H	W	L1	L	S	H1	ØD				
<b>KGEHR/L</b>	1010-2-D30B	●	-	10	10	29.6	140	10.2	6.6	30	KGMN200-□-□ KGMR/L200-□-□ KRMN200-C KRGN200-□-□	MHA0512	HW40L
	1212-2-D25B	●	-	12	12	27.1	140	12.2	3.5	25			
	1212-2-D30B	●	-	12	12	29.6	140	12.2	3.5	30			
	1616-2-D32B	●	-	16	16	30.6	140	16.2	-	32			
	1212-3-D25B	●	-	12	12	27.1	140	12.4	3.5	25			
	1212-3-D32B	●	-	12	12	30.6	140	12.4	3.5	32			
	1616-3-D32B	●	-	16	16	30.6	140	16.4	-	32			

● : Stock item

● Applicable inserts(MGT)

Insert												
Application	C/B	Designation	Coated				Dimensions(mm)					Configuration
	Picture		NC3030	NC3120	PC5300	PC9030	b	r	l	d	t	
Grooving turning		MGMN 200-M	●	●	●	●	2.0	0.15	16.0	1.2	3.50	
			MGMN 250-M	●	●	●	●	2.5	0.20	18.5	2.0	
Grooving		MGMN 150-G	●	●	●	●	1.5	0.15	16.0	1.2	3.50	
		MGMN 200-G	●	●	●	●	2.0	0.20	16.0	1.6	3.50	
		MGMN 250-G	●	●	●	●	2.5	0.20	18.5	2.0	3.85	
Grooving turning		MGMN 150-015-T	●	●			1.5	0.15	16.0	1.2	3.50	
		MGMN 200-T	●	●			2.0	0.20	16.0	1.6	3.50	
		MGMN 250-T	●	●			2.5	0.20	18.5	2.0	3.85	
Grooving		MGMN 200-02-L	●	●			2.0	0.20	16.0	1.6	3.50	
		MGMN 200-04-L		●			2.0	0.40	16.0	1.7	3.50	
		MGMN 250-02-L	●	●			2.5	0.20	18.5	2.0	3.85	
Grooving Parting off		MGMN 150-015-R	●	●			1.5	0.15	16.0	1.2	3.50	
		MGMN 200-02-R	●	●			2.0	0.20	16.0	1.6	3.50	
		MGMN 200-04-R	●	●			2.0	0.40	16.0	1.7	3.50	
		MGMN 250-02-R	●	●			2.5	0.20	18.5	2.0	3.85	

● : Stock item



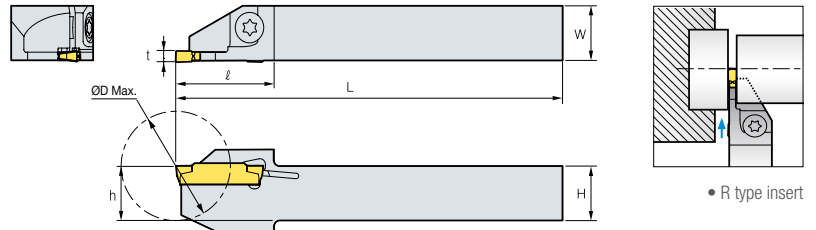
## Available tool holders(MGT)



### Holders

#### MGEHR/L



MGGN MG MN



Designation	Stock		Dimensions(mm)							Insert	Screw 	Wrench 
	R	L	H	W	L	l	t	ØD				
<b>MGEHR/L</b>	1010-X15A	●	-	10	10	125	18	1.5	20	MG MN150-G	ETNA0412	TW15L
	1212-X15A	●	-	12	12	125	19.5	1.5	25			
	1010-X20A	●	-	10	10	125	18	2	20	MG MN200-M MG MN200-G	ETNA0412	TW15L
	1212-X20A	●	-	12	12	125	19.5	2	25			
	1616-X20A	-	-	16	16	125	25	2	32	MG MN250-M MG MN250-G	ETNA0412	TW15L
	1010-X25A	●	-	10	10	125	20	2.5	20			
	1212-X25A	●	-	12	12	125	20	2.5	25			
	1616-X25A	-	-	16	16	125	25	2.5	32			

● : Stock item

# Auto Tools

(MSB tool)



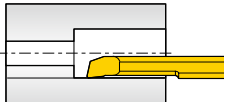
- High hardness grade guarantees longer tool life
- Various kinds of machining(Fitting, Valve, Medical parts, Automobile component, and Semiconductor equipment) are available
- Various types of MSB tools(Boring, Grooving, Threading)

## Grades

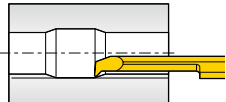
Grades	Coating	Application and features
<b>Z12M</b>	Carbide	<ul style="list-style-type: none"> <li>• Ultra fine grain substrate ensures superior wear resistance and toughness</li> <li>• Application: Cast iron, Aluminum alloy and Non-ferrous metals machining</li> </ul>
<b>PC30M</b>	TiN coating	<ul style="list-style-type: none"> <li>• TiN coated ultra fine grain substrate ensures long tool life</li> <li>• Application: Stainless steel, heat resisting alloy and hard-to-cut material machining</li> </ul>

## Types

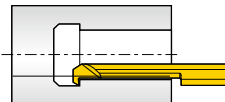
**Boring**



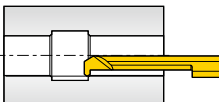
**Boring**  
Min. dia. of machining: Ø3.2



**Copying**  
Min. dia. of machining: Ø4.2

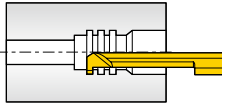


**Back Boring**  
Min. dia. of machining: Ø3.2

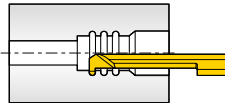


**Chamfering**  
Min. dia. of machining: Ø4.2

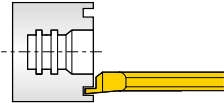
**Grooving**



**Square Grooving**  
Min. dia. of machining: Ø3.2

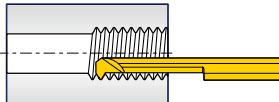


**Round Grooving**  
Min. dia. of machining: Ø3.2



**Face Grooving**  
Min. dia. of machining: Ø6.0

**Threading**



**Threading**  
Min. dia. of machining: Ø3.3





### Code system

<b>M</b>	<b>G</b>	<b>R</b>	<b>06</b>	<b>06</b>	$\frac{1.5}{\diamond 60}$	<b>-</b>	<b>1</b>																					
<b>Type</b> M: Micro		<b>Hand</b> R: Right L: Left		<b>Max. aspect ratio</b> 10 : 10.0 15 : 15.0 20 : 20.0 25 : 25.0 30 : 30.0			<b>Cutting edge</b> 1: Single ended None: Double ended																					
	<b>Application</b> B : Boring BC : Copying BB : Back Boring BF : Chamfering G : Square Grooving GR : Round Grooving GF : Face Grooving T : Threading		<b>Shank Dia.</b> 03 : 3.0 04 : 4.0 06 : 6.0 08 : 8.0 10 : 10.0		<b>Machining size</b>																							
					<table border="1" style="font-size: 8pt;"> <tr> <td>Boring</td> <td colspan="2">No Code</td> </tr> <tr> <td>Copying</td> <td colspan="2">Width of Groove</td> </tr> <tr> <td rowspan="2">Threading</td> <td>60°</td> <td>55°</td> </tr> <tr> <td>Pitch</td> <td>tpi</td> </tr> <tr> <td rowspan="3" style="text-align: center;"><math>\diamond</math></td> <td>F</td> <td>0.25~1.0</td> <td>72~24</td> </tr> <tr> <td>A</td> <td>0.5~1.5</td> <td>48~16</td> </tr> <tr> <td>AG</td> <td>0.5~3.0</td> <td>48~8</td> </tr> </table>		Boring	No Code		Copying	Width of Groove		Threading	60°	55°	Pitch	tpi	$\diamond$	F	0.25~1.0	72~24	A	0.5~1.5	48~16	AG	0.5~3.0	48~8	
Boring	No Code																											
Copying	Width of Groove																											
Threading	60°	55°																										
	Pitch	tpi																										
$\diamond$	F	0.25~1.0	72~24																									
	A	0.5~1.5	48~16																									
	AG	0.5~3.0	48~8																									

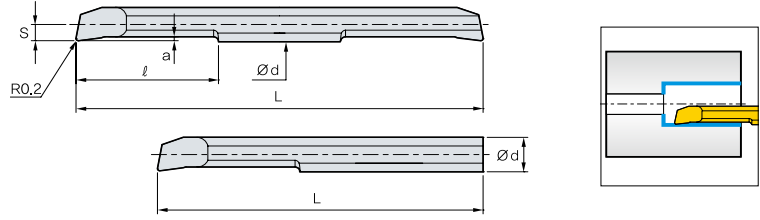
### MSB tool code system

Types		Application		Designation	
01	<b>Boring</b>	Boring		MBR/LA○○○○☆☆☆	
02		Copying		MBCR/LA○○○○☆☆☆	
03		Back Boring		MBBR/LA○○○○☆☆☆	
04		Chamfering		MBFR/LA○○○○☆☆☆	
05	<b>Grooving</b>	Square Grooving		MGR/LA○○○○☆☆☆-□□	
06		Round Grooving		MGRR/LA○○○○☆☆☆-□□	
07		Face Grooving		MGFR/LA○○○○☆☆☆-□□	
08	<b>Threading</b>	Partial	60°	MTR/LA○○○○☆☆☆-◇60	
			55°	MTR/LA○○○○☆☆☆-◇55	
<b>Marks</b>	○○○○	Shank Dia.			
	☆☆☆	Max. depth of boring			
	□□	Width of groove			
	$\diamond$	Pitch/tpi	F	0.25~1.0	72~24
			A	0.5~1.5	48~16
		AG	0.5~3.0	48~8	

○ Applicable MSB tools

**MSB tools**

**Boring(MBR)**

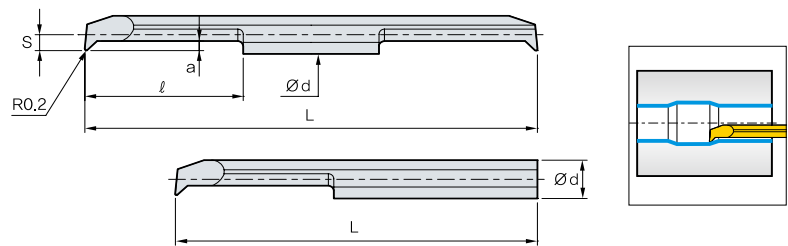


(mm)

Twin Edge			Single Edge			Ød	Min.dia. of machining	ℓ	Overall length		Detailed cutting edge	
Designation	Coated	Designation	Coated	L	a				s			
	PC30M		PC30M							Double ended	Single ended	
<b>MBR</b>	0310	●	<b>MBR</b>	0310-1	-	3.0	3.2	10	40	35	0.5	1.4
	0315	●		0315-1	-			15	50	45		
	0410	●		0410-1	-			10	40	35		
	0415	●		0415-1	-	4.0	4.2	15	50	45	0.6	1.9
	0420	●		0420-1	-			20	60	50		
	0610	-		0610-1	-			10	45	40		
	0615	●		0615-1	-	6.0	6.2	15	55	45	0.75	2.9
	0620	●		0620-1	-			20	65	50		
	0810	-		0810-1	-			10	50	45		
	0820	●		0820-1	-	8.0	8.2	20	70	60	0.8	3.9
	0830	-		0830-1	-			30	80	70		
	1015	-		1015-1	-			15	60	60		
	1025	●		1025-1	-	10.0	10.2	25	80	70	1.0	4.9
	1035	-		1035-1	-			35	100	80		

● : Stock item

**Boring(MBCR)**



(mm)

Twin Edge			Single Edge			Ød	Min.dia. of machining	ℓ	Overall length		Detailed cutting edge	
Designation	Coated	Designation	Coated	L	a				s			
	PC30M		PC30M							Double ended	Single ended	
<b>MBCR</b>	0410	-	<b>MBCR</b>	0410-1	-	4.0	4.2	10	40	35	1.0	1.9
	0415	●		0415-1	-			15	50	45		
	0420	●		0420-1	-			20	60	50		
	0610	-		0610-1	-	6.0	6.2	10	45	40	1.3	2.9
	0615	●		0615-1	-			15	55	45		
	0620	●		0620-1	-			20	60	50		

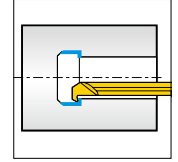
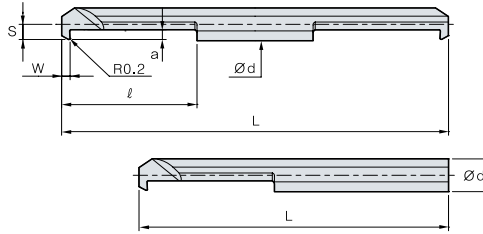
● : Stock item





## MSB tools

### Back Boring(MBBR)

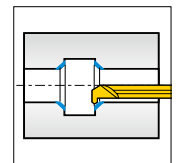
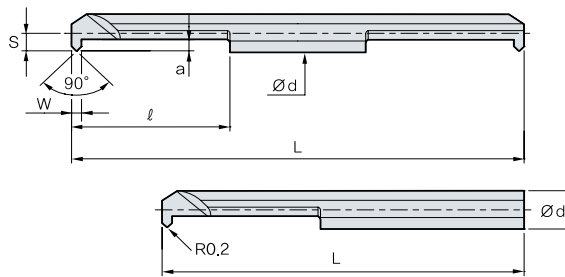


(mm)

Twin Edge			Single Edge			Ød	Min.dia. of machining	ℓ	Overall length		Detailed cutting edge		
Designation	Coated	Designation	Coated	L	W				a	S			
	PC30M		PC30M								Double ended	Single ended	
<b>MBBR</b> 0310	-	<b>MBBR</b> 0310-1	-	10	1.5	0.8	1.4						
	-		-					15	50	45			
	-		-					10	40	35			
0315	-	0315-1	-	15	2	1.3	1.9						
	-		-					10	40	35			
	-		-					15	50	45			
0410	-	0410-1	-	10	2	1.3	1.9						
	-		-					15	50	45			
	-		-					20	60	50			
0415	-	0415-1	-	15	2	1.9	2.9						
	-		-					10	45	40			
	-		-					15	55	45			
0420	-	0420-1	-	20	2	1.9	2.9						
	-		-					10	45	40			
	-		-					15	55	45			
0610	-	0610-1	-	10	2	1.9	2.9						
	-		-					15	55	45			
	-		-					20	65	50			
0615	-	0615-1	-	15	2	1.9	2.9						
	-		-					10	45	40			
	-		-					15	55	45			
0620	-	0620-1	-	20	2	1.9	2.9						
	-		-					10	45	40			
	-		-					15	55	45			

● : Stock item

### Chamfering(MBFR)



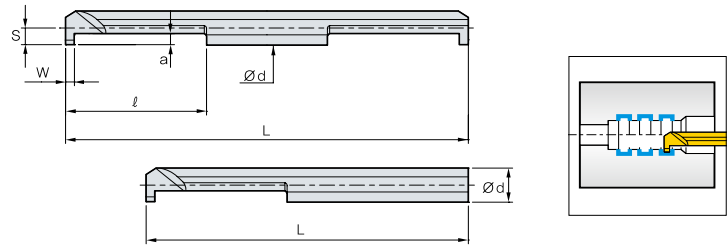
(mm)

Twin Edge			Single Edge			Ød	Min.dia. of machining	ℓ	Overall length		Detailed cutting edge		
Designation	Coated	Designation	Coated	L	W				a	S			
	PC30M		PC30M								Double ended	Single ended	
<b>MBFR</b> 0410	-	<b>MBFR</b> 0410-1	-	10	0.8	1	1.9						
	-		-					15	50	45			
	-		-					20	60	50			
0415	-	0415-1	-	15	1.4	1.2	2.9						
	-		-					10	45	40			
	-		-					15	55	45			
0420	-	0420-1	-	20	1.4	1.2	2.9						
	-		-					10	45	40			
	-		-					15	55	45			
0610	-	0610-1	-	10	1.4	1.2	2.9						
	-		-					15	55	45			
	-		-					60	50				
0615	-	0615-1	-	15	1.4	1.2	2.9						
	-		-					10	45	40			
	-		-					15	55	45			
0620	-	0620-1	-	20	1.4	1.2	2.9						
	-		-					10	45	40			
	-		-					15	55	45			

● : Stock item

## MSB tools

### Square Grooving(MGR)



(mm)

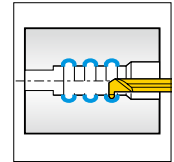
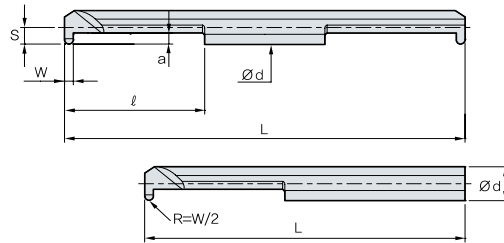
Twin Edge			Single Edge			Ød	Min.dia. of machining	l	Overall length		Detailed cutting edge			
Designation	Coated	Designation	Coated	L	W				a	S	Double ended	Single ended		
	PC30M		PC30M											
MGR	0310-1.0	-	MGR	0310-1.0-1	-	3.0	3.2	10	40	35	1	0.8	1.4	
	0310-1.0	-		0310-1.0-1	-			15	50	45				
	0310-1.5	-		0310-1.5-1	-			10	40	35				1.5
	0315-1.5	-		0315-1.5-1	-			15	50	45				
	0410-1.0	-		0410-1.0-1	-	4.0	4.2	10	40	35	1	1.4	1.9	
	0420-1.0	-		0420-1.0-1	-			20	60	50				
	0410-1.5	-		0410-1.5-1	-			10	40	35	1.5			
	0420-1.5	-		0420-2.0-1	-			20	60	50				
	0410-2.0	-		0410-2.0-1	-			10	40	35	2			
	0420-2.0	-		0420-2.0-1	-			20	60	50				
	0610-1.0	-		0610-1.0-1	-	6.0	6.2	10	45	40	1	1.8	2.9	
	0620-1.0	-		0620-1.0-1	-			20	65	50				
	0610-1.5	-		0610-1.5-1	-			10	45	40	1.5			
	0620-1.5	-		0620-1.5-1	-			20	65	50				
	0610-2.0	-		0610-2.0-1	-			10	45	40	2			
	0620-2.0	-		0620-2.0-1	-			20	65	50				
	0610-2.5	-		0610-2.5-1	-			10	45	40	2.5			
	0620-2.5	-		0620-2.5-1	-			20	65	50				
	0820-1.5	-		0820-1.5-1	-	8.0	8.2	20	70	60	1.5	0.8	3.9	
	0820-2.0	-		0820-2.0-1	-						2			
0820-2.5	-	0820-2.5-1	-	2.5	1.3									
0820-3.0	-	0820-3.0-1	-	3										
1025-1.5	-	1025-1.5-1	-	10.0	10.2	25	80	70	1.5	0.8	4.9			
1025-2.0	-	1025-2.0-1	-						2					
1025-2.5	-	1025-2.5-1	-						2.5			1.3		
1025-3.0	-	1025-3.0-1	-						3					

● : Stock item



## MSB tools

### Round Grooving(MGRR)



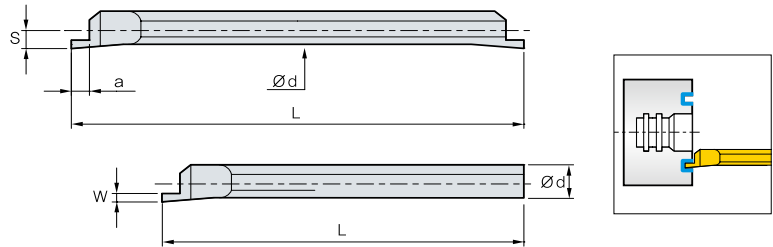
(mm)

Twin Edge			Single Edge			Ød	Min. dia. of machining	l	Overall length		Detailed cutting edge			
Designation	Coated	Designation	Coated	L	W				a	S	Double ended	Single ended		
	PC30M		PC30M											
MGRR	0310-0.8	-	MGRR	0310-0.8-1	-	3.0	3.2	10	40	35	0.8	0.8	1.4	
	0315-0.8	-		0315-0.8-1	-				15	50				45
	0410-1.0	-		0410-1.0-1	-	4.0	4.2	10	40	35	1.0	1.0	1.9	
	0420-1.0	-		0420-1.0-1	-				20	60				50
	0610-1.0	-		0610-1.0-1	-	6.0	6.2	10	45	40	1.0	2.0	2.9	
	0620-1.0	-		0620-1.0-1	-				20	65				50
	0610-1.5	-		0610-1.5-1	-				10	45	40			1.5
	0620-1.5	-		0620-1.5-1	-				20	65	50			
	0610-2.0	-		0610-2.0-1	-				10	45	40			2
	0620-2.0	-		0620-2.0-1	-				20	65	50			
	0820-1.0	-		0820-1.0-1	-	8.0	8.2	20	70	60	1	2.3	3.9	
	0820-1.5	-		0820-1.5-1	-						1.5			
	0820-2.0	-		0820-2.0-1	-						2			
	1025-1.0	-		1025-1.0-1	-	10.0	10.2	25	80	70	1	2.8	4.9	
	1025-1.5	-		1025-1.5-1	-						1.5			
	1025-2.0	-		1025-2.0-1	-						2			

● : Stock item

## MSB tools

### Face Grooving(MGFR)

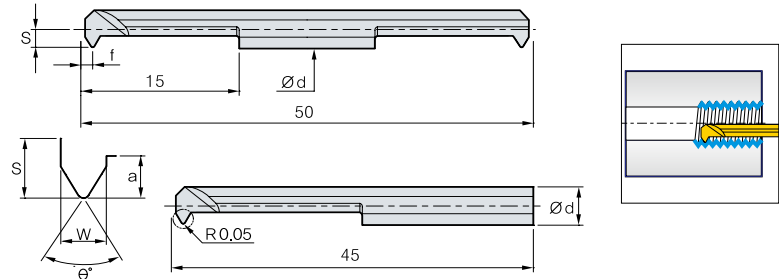


(mm)

Twin Edge			Single Edge			Ød	Min.dia. of machining	Overall length		Detailed cutting edge		
Designation	Coated PC30M	Designation	Coated PC30M	L	L			W	a	S		
											Double ended	Single ended
MGFR	0400-1.0	-	MBFR	0400-1.0-1	-	4.0	6	50	45	1	1.5	1.8
	0400-1.5	-		0400-1.5-1	-					1.5	2	
	0600-1.0	-		0600-1.0-1	-			1	1.5			
	0600-1.5	-		0600-1.5-1	-	6.0	8.5	50	45	1.5	2	2.9
	0600-2.0	-		0622-2.0-1	-					2	2.5	
	0800-1.0	-		0800-1.0-1	-			1	1.5			
	0800-1.5	-		0800-1.5-1	-	8.0	10.4	70	60	1.5	2	3.9
	0800-2.0	-		0800-2.0-1	-					2	2.5	
	1000-2.0	-		1000-2.0-1	-			2	2.5			
	1000-2.5	-		1000-2.5-1	-	10.0	12.4	80	70	2.5	3	4.9
	1000-3.0	-		1000-3.0-1	-					3	3.5	
	1000-3.5	-		1000-3.5-1	-					3.5	4	
	1000-4.0	-		1000-4.0-1	-					4	4.5	
	1000-4.5	-		1000-4.5-1	-					4.5	5	

● : Stock item

### Threading(MTR)



(mm)

Twin Edge			Single Edge			Ød	Min.dia. of machining	Threading			Detailed cutting edge		
Designation	Coated PC30M	Designation	Coated PC30M	W	Pitch /tpi			θ°	S	a	f		
												MTR	0315-F60
0415-F80	-	0415-F80-1	-	1.95									
0615-A60	-	0615-A60-1	-	2	0.5~1.5	2.9	2.2	1					
0315-F55	-	0315-F55-1	-	1.2	48~24	55°	1.45	1.2	0.6				
0415-F55	-	0415-F55-1	-				1.95						
0615-A55	-	0615-A55-1	-				2			28~16	2.9		2.2

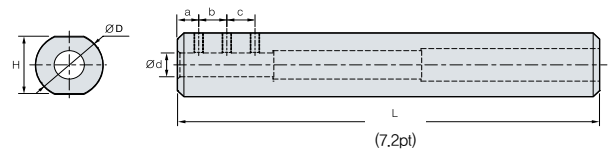
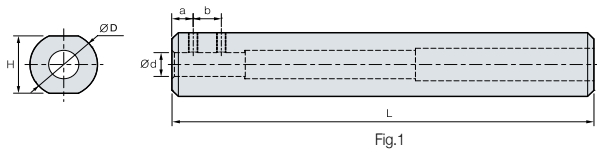
● : Stock item



● Applicable Sleeve

# Sleeve

## Sleeve(SL)



Designation	Stock	Dimensions(mm)							Screw 	Wrench 	Fig.
		Ød	a	B	c	ØD	H	L			
<b>SL</b> 1603	●	3	5	-	-	16	14	100	M3	HW15L	1
	●	4	5	6	-	16	14	100	M4	HW20L	
	●	5	5	8	-	16	14	100	M4	HW20L	
1606	●	6	5	6	6	16	14	100	M4	HW20L	3
1607	●	7	5	6	8	16	14	100	M4	HW20L	
2008	●	8	5	10	10	20	18	100	M4	HW20L	
2010	●	10	5	10	10	20	18	100	M5	HW20L	

(mm)

● : Stock item

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