Grooving & parting tools



Cutting speed recommendations

Material	Carbon steel S50C\Q235		Alloy steel 25–35HRC 4Cr5MoSiVi/Cr12		Stainless steel SUS304/316/ OCr19Ni9		Cast iron HT250/QT450		Aluminium alloy	
Speed	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev
External Circular groove	80–150	0.05–0.30	30–100	0.05–0.30	70–120	0.05–0.30	80–150	0.05–0.30	120–300	0.05–0.30
Internal Circular groove	60–120	0.05–0.30	20–80	0.05–0.30	50–100	0.05–0.30	50–100	0.05–0.30	80–250	0.05–0.30
End face groove	80–150	0.05–0.30	30–100	0.05–0.30	70–120	0.05–0.30	60–120	0.05–0.30	80–250	0.05–0.30

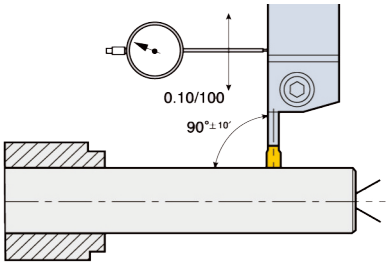
■Toolholder or blade Size

To minimize risk of vibration and deflection always choose:

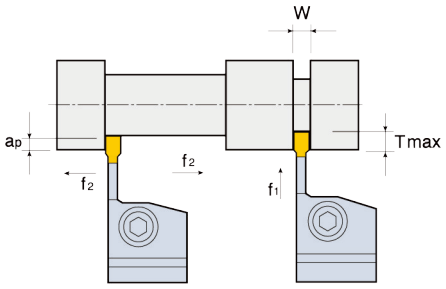
- Toolholder or blade with the smallest possible overhang
- Toolholder with maximum shank dimension

■90° Mounting

It is rery important that the insert is mounted at 90° to the center line of the workpiece in order to obtain a perpendicular surface and reduce the risk of vibration.



■Machining Definitions



Grooving

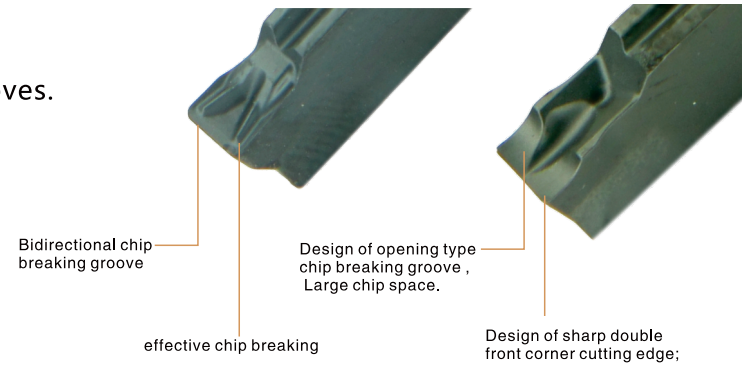
- Vc–Cutting Speed(m/min)
- T–Maximum Depth(mm)
- f_1–Feed in Radial Direction(mm/rev)

Turning

- Vc–Cutting Speed(m/min)
- a_{pmax}–Maximum Depth of Cut(mm)
- f_2–Feed in Lateral Direction(mm/rev)

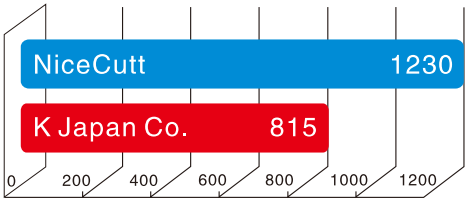
MGMN** Case Study

1.It has square head and double grooves.
The notch depth is less than 20mm
2.Suitable for P/M/K processing
3.Suitable for stainless steel , high temperature alloy steel , titaninum alloy steel which used in general industry and aerospace industry.





Workpiece material	316(HB200)Stainless steel
Machining parts	Slot cutters
Insert	MGMN300–T–NS4125



The cutting parameters
Vc=106m/min
f=0.11mm/r
ap=3mm
Φd=22mm

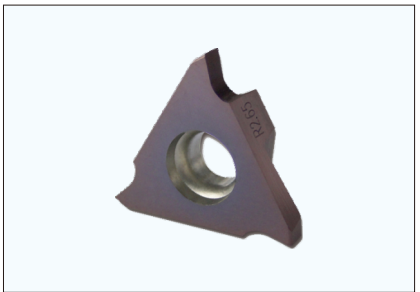


Cutting life
+30%

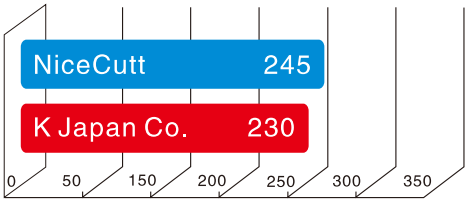
GBA43** Case Study

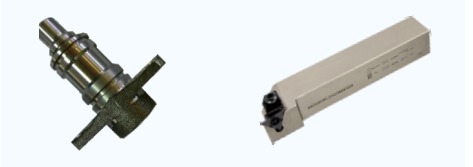
1.Fine cutting groove
2.E level accuracy
3.Suitable for P/M/K processing





Workpiece material	20CrMnTi(180–220HB)
Machining parts	Slot cutters
Insert	GBA43250–NS4125

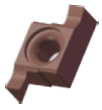
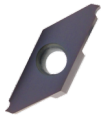


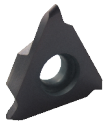
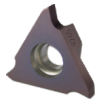


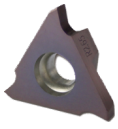
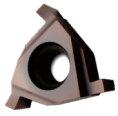
The cutting parameters
Vc=114m/min
f=0.10mm/r
ap=2.5mm
Φd=45mm

Cutting life
+5%

GER/L-A	GER/L-AR	GER/L-C	GER/L-D
			
P118	P118	P118	P118

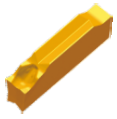
GER/L-D	GER/L-CR	GER-D	TKF-S
			
P118	P119	P119	P119

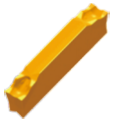
NG2/NG3	NR2/NR3	GBA32R/43R	GBA32
			
P119~P120	P120	P120	P121

GBA43	T11EN	T16EN	FMM
			
P121	P121	P121~P122	P122

FGD	MFMN300R	SP-NM	MGGN*L
			
P122	P122	P122	P122

MGMN*J	MGMN*T	MRMN*M	MRGN*M
			
P122	P122	P123	P123

ZPE-MG

P123

TDJ

P123

TDC

P123

THC-CE

P123

TKFB*M

P123

SIGER/L

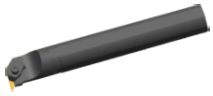
P124

SEGER/L**

P124

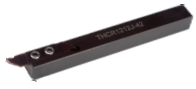
GNSR/L

P125

GNAR/L**

P125

KTKFR/L

P126

TKGFL

P126

SGWHR/L

P127

MGWHR/L

P127

SPB

P128

ZQR/L

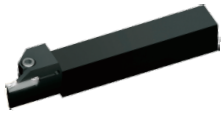
P128

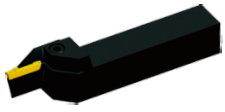
QE*S

P129

SMBB

P129

MGFHRR

P130

MGFHR/L

P130

MGFVR/L

P131

MGNVR/L

P131

FGDHX

P132

MGEHR/L

P133

TTER/L

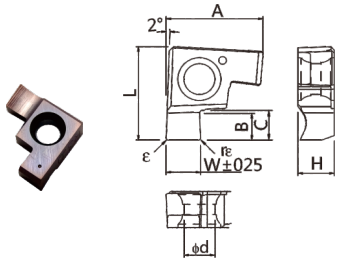
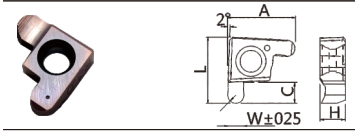
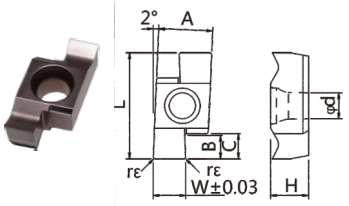
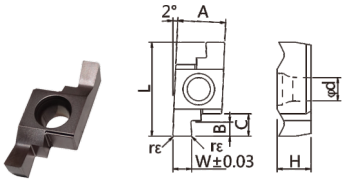
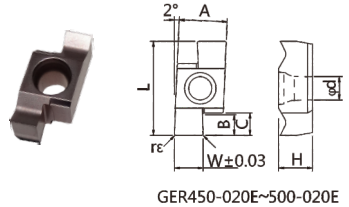
P134

continuous

lightInterruption

Interruption

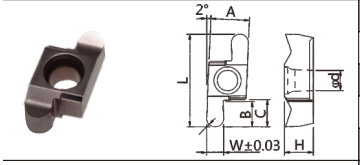
P	Steel																		
M	Stainless Steel																		
K	Cast Iron																		
N	Non–ferrous Metal																		
S	Heat–resistant Alloy,TiAlloy																		

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	GER/L100–005A	●	○	1.00	0.05	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L120–005A	○	○	1.20	0.05	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L125–005A	●	○	1.25	0.05	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L150–010A	●	○	1.50	0.10	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L200–010A	●	○	2.00	0.10	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L100–005B	●	○	1.00	0.05	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L120–005B	○	○	1.20	0.05	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L125–005B	●	○	1.25	0.05	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L145–010B	○	○	1.45	0.10	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L150–010B	●	○	1.50	0.10	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L200–010B	●	○	2.00	0.10	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L250–020B	●	○	2.50	0.20	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L300–020B	●	○	3.00	0.20	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L100–050AR	●	○	1.00	0.50	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L200–100AR	●	○	2.00	1.00	1.50	2.50	6.50	2.58	6.69						●	○
	GER/L100–050BR	●	○	1.00	0.50	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L200–100BR	●	○	2.00	1.00	2.20	2.70	8.20	3.18	8.46						●	○
	GER/L100–005C	●	○	1.00	0.05	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L120–005C	●	○	1.20	0.05	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L125–005C	○	○	1.25	0.05	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L145–010C	●	○	1.45	0.10	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L150–010C	○	○	1.50	0.10	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L170–010C	●	○	1.70	0.10	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L185–010C	●	○	2.00	0.10	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L200–010C	●	○	2.00	0.10	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L250–020C	●	○	2.50	0.20	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L300–020C	●	○	3.00	0.20	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L350–020C	●	○	3.50	0.20	2.50	2.80	11.48	4.05	5.8						●	○
 GER100-005E~430-020E	GER/L100–005D	●	○	1.00	0.05	2.50	4.40	16.44	5.05	6.8						●	○
	GER/L120–005D	○	○	1.20	0.05	2.50	4.40	16.44	5.05	6.8						●	○
	GER/L125–005D	●	○	1.25	0.05	2.50	4.40	16.44	5.05	6.8						●	○
	GER/L145–010D	○	○	1.45	0.10	2.50	4.40	16.44	5.05	6.8						●	○
	GER/L150–010D	●	○	1.50	0.10	3.00	4.40	16.44	5.05	6.8						●	○
	GER/L170–010D	●	○	1.70	0.10	3.00	4.40	16.44	5.05	6.8						●	○
	GER/L185–010D	●	○	2.00	0.10	3.00	4.40	16.44	5.05	6.8						●	○
	GER/L200–010D	●	○	2.00	0.10	3.20	4.40	16.44	5.05	6.8						●	○
 GER450-020E~500-020E	GER/L230–010D	●	○	2.30	0.10	3.20	4.40	16.44	5.05	6.8						●	○
	GER/L250–020D	●	○	2.50	0.20	3.20	4.40	16.44	5.05	6.8						●	○
	GER/L280–020D	●	○	2.80	0.20	3.20	4.40	16.44	5.05	6.8						●	○
	GER/L300–020D	●	○	3.00	0.20	4.50	4.40	16.44	5.05	6.8						●	○
	GER/L330–020D	●	○	3.30	0.20	4.50	4.40	16.44	5.05	6.8						●	○
	GER/L350–020D	●	○	3.50	0.20	4.50	4.40	16.44	5.05	6.8						●	○
	GER/L400–020D	●	○	4.00	0.20	4.50	4.40	16.44	5.05	6.8						●	○

●Stock ○Availabie upon Order

continuous
light Interruption
Interruption

P	Steel													●	◔		
M	Stainless Steel											◔	○	◔			
K	Cast Iron													●	◔		
N	Non–ferrous Metal															●	
S	Heat–resistant Alloy,TiAlloy													●	◔		

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	GER/L200–100CR	●	○	2.00	1.00	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L250–125CR	●	○	2.50	1.25	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L300–150CR	●	○	3.00	1.50	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L200–100DR	●	○	2.00	1.00	3.20	4.40	16.44	5.05	6.8						●	○
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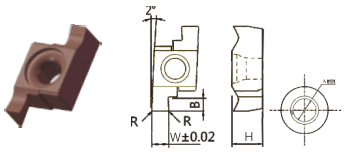
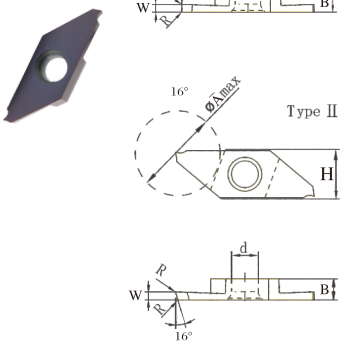
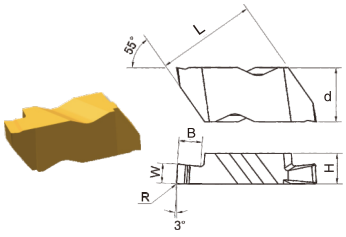
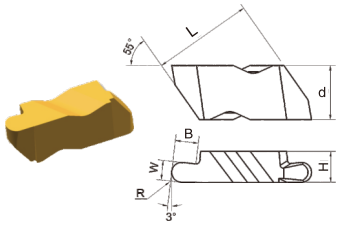
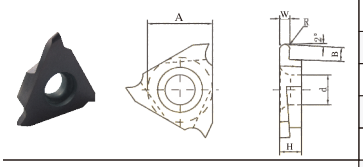
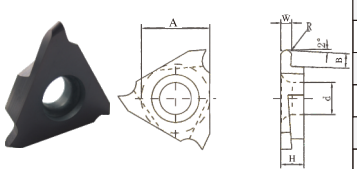
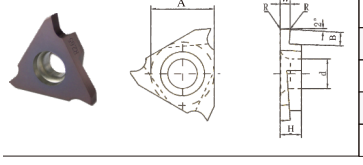
	GER150DM10–D	●		1.50	0.1	2.5	3.0		5.05	10						●	○
	GER200DM10–D	●		2.00	0.1	3	3.0		5.05	10						●	○
	GER250DM15–D	●		2.50	0.2	3.2	3.0		5.05	15						●	○
	GER300DM15–D	●		3.00	0.2	4.5	3.0		5.05	15						●	○
	GER400DM15–D	●		4.00	0.2	4.5	3.0		5.05	15						●	○
	TKF12R/L050–S	●	○	0.5	0.03	3	5	0°	8.7	5						●	○
	TKF12R/L070–S	●	○	0.7	0.03	3	5	0°	8.7	8						●	○
	TKF12R/L100–S	●	○	1	0.03	3	5	0°	8.7	12						●	○
	TKF12R/L150–S	●	○	1.5	0.03	3	5	0°	8.7	12						●	○
	TKF12R/L200–S	●	○	2	0.03	3	5	0°	8.7	12						●	○
	TKF12R/L050–S16R	●	○	0.5	0.05	3	5	16°	8.7	5						●	○
	TKF12R/L070–S16R	●	○	0.7	0.05	3	5	16°	8.7	8						●	○
	TKF12R/L100–S16R	●	○	1	0.05	3	5	16°	8.7	12						●	○
	TKF12R/L150–S16R	●	○	1.5	0.05	3	5	16°	8.7	12						●	○
	TKF12R/L200–S16R	●	○	2	0.05	3	5	16°	8.7	12						●	○
	TKF16R/L150–S	●	○	1.5	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L200–S	●	○	2	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L250–S	●	○	2.5	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L300–S	●	○	3	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L150–S16R	●	○	1.5	0.05	4	5	16°	9.5	16						●	○
	TKF16R/L200–S16R	●	○	2	0.05	4	5	16°	9.5	16						●	○
	TKF16R/L250–S16R	●	○	2.5	0.05	4	5	16°	9.5	16						●	○
	TKF16R/L300–S16R	●	○	3	0.05	4	5	16°	9.5	16						●	○
	NG2031R/L	○	○	0.79	0.09	1.27	5.56	8.74	3.81								
	NG2M100R/L	●	●	1.00	0.09	1.27	5.56	8.74	3.81							●	
	NG2047LR/L	●	●	1.19	0.09	1.27	5.56	8.74	3.81					●		○	
	NG2M120R/L	○	○	1.20	0.09	1.27	5.56	8.74	3.81							○	
	NG2M150R/L	●	●	1.50	0.19	2.79	5.56	8.74	3.81							●	
	NG2062R/L	●	●	1.58	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M170R/L	○	○	1.70	0.19	2.79	5.56	8.74	3.81							●	
	NG2078R/L	●	●	1.98	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M200R/L	○	○	2.00	0.19	2.79	5.56	8.74	3.81							●	
	NG2M220R/L	●	●	2.20	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M250R/L	○	○	2.50	0.19	2.79	5.56	8.74	3.81					●		●	
	NG2M275R/L	○	○	2.75	0.19	2.79	5.56	8.74	3.81								
	NG2M300R/L	○	○	3.00	0.19	2.79	5.56	8.74	3.81							○	
	NG2125R/L	●	●	3.18	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M325R/L	○	○	3.25	0.19	2.79	5.56	8.74	3.81							○	

●Stock ○Availabie upon Order

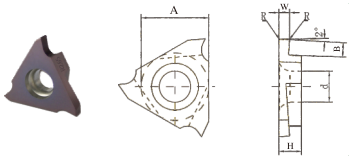
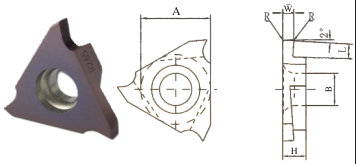
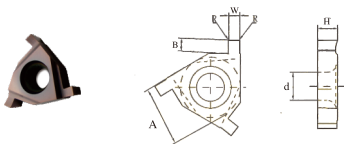
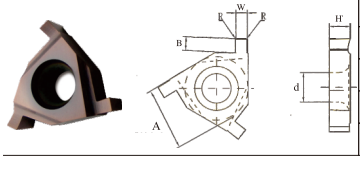
○ continuous	P	Steel										●	◐					
◐ light Interruption	M	Stainless Steel									◐	●	◐					
⋕ Interruption	K	Cast Iron										●	◐					
	N	Non–ferrous Metal												●				
	S	Heat–resistant Alloy,TiAlloy										●	◐					

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	NG3031R/L	●	●	0.79	0.09	1.27	8.74	16.1	4.95					●		○	
	NG3M100R/L	●	●	1.00	0.19	1.91	8.74	16.1	4.95					●		○	
	NG3047R/L	●	●	1.19	0.19	1.91	8.74	16.1	4.95					●		○	
	NG3M120R/L	○	○	1.20	0.19	1.91	8.74	16.1	4.95							○	
	NG3M150R/L	●	●	1.50	0.19	2.39	8.74	16.1	4.95					●		●	
	NG3062R/L	●	●	1.58	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3070R/L	○	○	1.78	0.19	2.39	8.74	16.1	4.95							○	
	NG3078R/L	●	●	1.98	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3M200R/L	●	●	2.00	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3M220R/L	○	○	2.20	0.19	2.39	8.74	16.1	4.95							○	
	NG3094R/L	●	●	2.39	0.19	2.39	8.74	16.1	4.95					●		●	
	NG3M250R/L	●	●	2.50	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3M275R/L	○	○	2.75	0.19	2.39	8.74	16.1	4.95							○	
	NG3M300R/L	●	●	3.00	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3125R/L	●	●	3.18	0.19	2.39	8.74	16.1	4.95					●		●	
	NG3M350R/L	●	●	3.50	0.19	2.39	8.74	16.1	4.95					●		○	
	NR2031R/L	○	○	1.58	0.79	1.27	5.56	8.74	3.81							○	
	NR2M100R/L	○	○	2.00	1.00	1.27	5.56	8.74	3.81							○	
	NR2047LR/L	○	○	2.38	1.19	1.27	5.56	8.74	3.81							○	
	NR2M150R/L	○	○	3.00	1.50	1.27	5.56	8.74	3.81						○	○	
	NR2062R/L	○	○	3.18	1.59	1.27	5.56	8.74	3.81							○	
	NR3031R/L	○	○	1.58	0.79	2.39	8.74	16.1	4.95							○	
	NR3M100R/L	●	●	2.00	1.00	2.39	8.74	16.1	4.95					●		○	
	NR3047R/L	○	○	2.38	1.19	2.39	8.74	16.1	4.95							○	
	NR3M150R/L	●	●	3.00	1.50	2.39	8.74	16.1	4.95					●		○	
	NR3062R/L	●	●	3.18	1.59	2.39	8.74	16.1	4.95					●		○	
	GBA32R050R/L	○	○	1.00	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32R075R/L	○	○	1.50	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32R100R/L	○	○	2.00	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32R125R/L	○	○	2.50	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32R150R/L	○	○	3.00	0.20	2.80	4.50		3.18	9.52						○	○
	GBA43R050R/L	○	○	1.00	0.50	2.30	5.40		4.76	12.70						○	○
	GBA43R075R/L	○	○	1.50	0.75	2.30	5.40		4.76	12.70						○	○
	GBA43R100R/L	○	○	2.00	1.00	2.80	5.40		4.76	12.70						○	○
	GBA43R125R/L	○	○	2.50	1.25	2.80	5.40		4.76	12.70						○	○
	GBA43R150R/L	○	○	3.00	1.50	2.80	5.40		4.76	12.70						○	○
	GBA43R200R/L	○	○	4.00	2.00	5.00	5.40		4.76	12.70						○	○
	GBA32050R/L	●	○	0.50	0.05	1.30	4.50		3.18	9.52						●	○
	GBA32075R/L	●	●	0.75	0.10	2.10	4.50		3.18	9.52						●	○
	GBA32080R/L	●	●	0.80	0.10	2.10	4.50		3.18	9.52						●	○
	GBA32090R/L	●	○	0.85	0.10	2.10	4.50		3.18	9.52						●	○
	GBA32100R/L	●	●	1.00	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32110R/L	○	○	1.10	0.10	2.30	4.50		3.18	9.52						○	○

●Stock ○Availabie upon Order

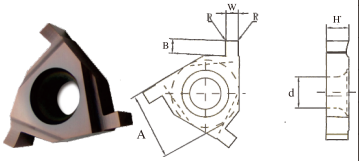
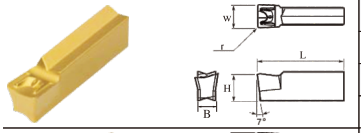
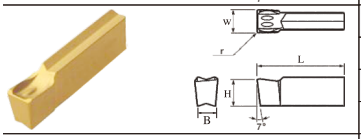
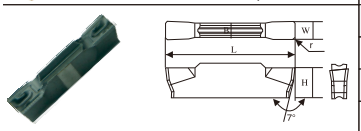
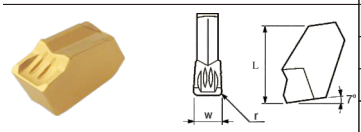
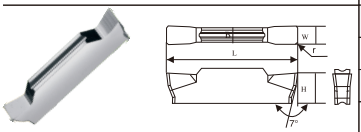
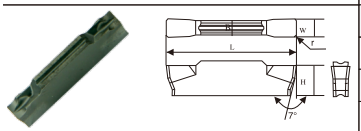
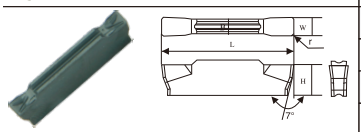
continuous
light Interruption
Interruption

P	Steel																
M	Stainless Steel																
K	Cast Iron																
N	Non–ferrous Metal																
S	Heat–resistant Alloy,TiAlloy																

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	GBA32120R/L	○	○	1.20	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32125R/L	●	●	1.25	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32130R/L	○	○	1.30	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32140R/L	○	○	1.40	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32145R/L	○	○	1.45	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32150R/L	●	●	1.50	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32160R/L	○	○	1.60	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32175R/L	●	○	1.75	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32180R/L	○	○	1.80	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32200R/L	●	●	2.00	0.10	2.80	4.50		3.18	9.52						●	○
	GBA32225R/L	○	○	2.25	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32250R/L	●	●	2.50	0.10	2.80	4.50		3.18	9.52						●	○
	GBA32275R/L	○	○	2.75	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32300R/L	●	○	3.00	0.20	2.80	4.50		3.18	9.52						●	○
	GBA43125R/L	●	○	1.25	0.20	2.00	5.40		4.76	12.70						●	○
	GBA43140R/L	○	○	1.40	0.20	2.00	5.40		4.76	12.70						○	○
	GBA43145R/L	○	○	1.45	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43150R/L	●	○	1.50	0.20	3.50	5.40		4.76	12.70						●	○
	GBA43170R/L	○	○	1.70	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43175R/L	●	○	1.75	0.20	3.50	5.40		4.76	12.70						●	○
	GBA43185R/L	○	○	1.85	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43195R/L	○	○	1.95	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43200R/L	●	○	2.00	0.20	3.50	5.40		4.76	12.70						●	○
	GBA43225R/L	○	○	2.25	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43230R/L	○	○	2.30	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43250R/L	●	○	2.50	0.30	4.00	5.40		4.76	12.70						●	○
	GBA43265R/L	○	○	2.65	0.30	4.00	5.40		4.76	12.70						○	○
	GBA43280R/L	○	○	2.80	0.30	4.00	5.40		4.76	12.70						○	○
	GBA43300R/L	●	○	3.00	0.30	4.00	5.40		4.76	12.70						●	○
	GBA43350R/L	○	○	3.50	0.30	5	5.40		4.76	12.70						○	○
	GBA43400R/L	○	○	4.00	0.40	5	5.40		4.76	12.70						○	○
	T11EN050R/L	○	○	0.50	0.06	1.00	3.00		3.10	6.35						○	○
	T11EN060R/L	○	○	0.60	0.06	1.00	3.00		3.10	6.35						○	○
	T11EN080R/L	○	●	0.80	0.06	1.20	3.00		3.10	6.35						●	○
	T11EN100R/L	○	●	1.00	0.10	1.50	3.00		3.10	6.35						●	○
	T11EN120R/L	○	○	1.20	0.10	1.50	3.00		3.10	6.35						○	○
	T11ENR140/L	○	○	1.40	0.10	1.50	3.00		3.10	6.35						○	○
	T11ENR150/L	○	●	1.50	0.10	1.50	3.00		3.10	6.35						●	○
	T16EN050R/L	○	○	0.50	0.06	1.50	4.00		3.50	9.52						○	○
	T16EN060R/L	○	●	0.60	0.06	1.50	4.00		3.50	9.52						●	○
	T16EN080R/L	○	●	0.80	0.06	1.50	4.00		3.50	9.52						●	○
	T16EN090R/L	○	○	0.90	0.06	1.50	4.00		3.50	9.52						○	○
	T16EN100R/L	○	●	1.00	0.06	1.50	4.00		3.50	9.52						●	○

●Stock ○Availabie upon Order

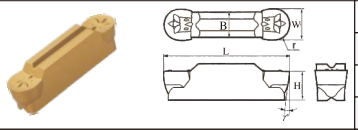
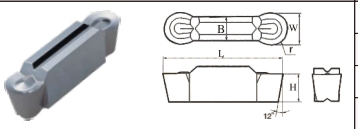
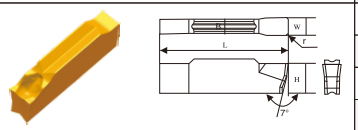
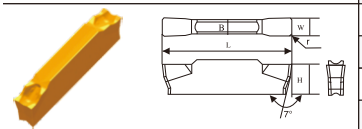
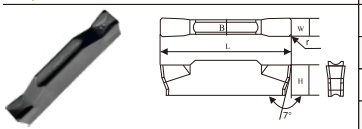
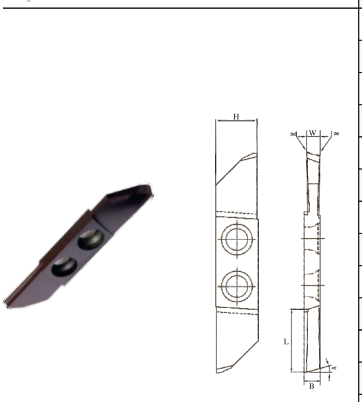
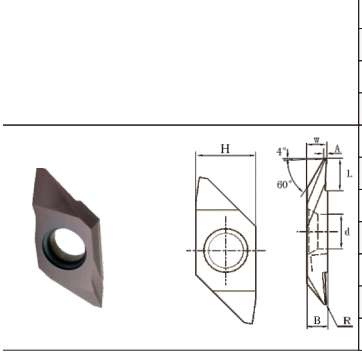
○ continuous	P	Steel																	
◔ light Interruption	M	Stainless Steel																	
⧓ Interruption	K	Cast Iron																	
	N	Non–ferrous Metal																	
	S	Heat–resistant Alloy,TiAlloy																	

The basic shape of inserts	Ordering Code	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	T16EN110R/L	○	○	1.10	0.06	1.50	4.00		3.50	9.52						○	○
	T16EN120R/L	○	●	1.20	0.06	1.50	4.00		3.50	9.52						●	○
	T16EN125R/L	○	●	1.25	0.06	1.50	4.00		3.50	9.52						●	○
	T16EN130R/L	○	○	1.3	0.10	1.50	4.00		3.50	9.52						○	○
	T16EN140R/L	○	○	1.4	0.10	1.8	4.00		3.50	9.52						○	○
	T16EN150R/L	○	●	1.5	0.10	1.8	4.00		3.50	9.52						●	○
	T16EN160R/L	○	○	1.6	0.10	1.8	4.00		3.50	9.52						○	○
	T16EN170R/L	○	○	1.7	0.10	1.8	4.00		3.50	9.52						○	○
	T16EN175R/L	○	●	1.75	0.10	1.8	4.00		3.50	9.52						●	○
	T16EN180R/L	○	●	1.80	0.10	1.8	4.00		3.50	9.52						●	○
	T16EN200R/L	○	●	2.00	0.10	1.8	4.00		3.50	9.52						●	○
	T16EN215R/L	○	○	2.15	0.10	2.00	4.00		3.50	9.52						○	○
	T16EN225R/L	○	○	2.25	0.20	2.00	4.00		3.50	9.52						○	○
	T16EN230R/L	○	●	2.30	0.20	2.00	4.00		3.50	9.52						●	○
	T16EN250R/L	○	●	2.50	0.20	2.00	4.00		3.50	9.52						●	○
	FMM300R–03	●		3.00	0.30	2.00		15.00	3.91		○					●	
	FMM400R–03	●		4.00	0.40	3.00		15.00	3.96		○					●	
	FMM500R–04	●		5.00	0.40	4.00		15.00	4.42		○					●	
	FGD300R–03	●		3.00	0.30	2.00		15.00	4.00		○					●	
	FGD400R–03	●		4.00	0.40	3.00		15.00	4.50		○					●	
	FGD500R–04	●		5.00	0.40	4.00		15.00	5.00		○					●	
	MFMN300R	●	○	3.00	0.30	2.1		19.00	5.40		●				●		
	SP200–NM	●		2.2	0.2			9.3			●					●	
	SP300–NM	●		3.1	0.2			11.3			●					●	
	SP400–NM	●		4.1	0.25			11.3			●					●	
	SP500–NM	●		5.1	0.3			11.4			●					●	
	MGGN200L	●		2	0.2	1.5		16	3.5		●				●		●
	MGGN300L	●		3	0.4	2.35		21	4.8		●				●		●
	MGGN400L	●		4	0.4	3.3		21	4.8		●				●		●
	MGGN500L	●		5	0.8	4.12		25.9	5.8		●				●		●
	MGMN200J	●		2	0.2	1.6		16	3.5		○					●	
	MGMN300J	●		3	0.4	2.35		21	4.8		○					●	
	MGMN400J	●		4	0.4	3.3		21	4.8		○					●	
	MGMN500J	●		5	0.8	4.12		26	5.8		○					●	
	MGMN200T	●		2	0.2	1.6		16	3.5		○					●	
	MGMN300T	●		3	0.4	2.35		21	4.8		○					●	
	MGMN400T	●		4	0.4	3.3		21	4.8		○					●	
	MGMN500T	●		5	0.8	4.12		26	5.8		○					●	

●Stock ○Availabie upon Order

continuous
light Interruption
Interruption

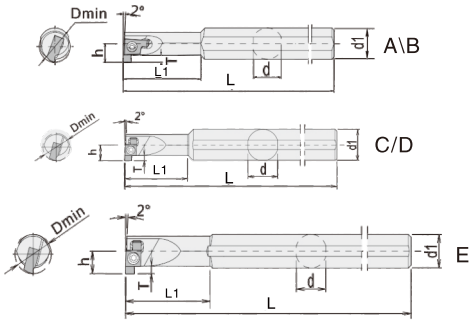
P	Steel											●	○				
M	Stainless Steel											○	○				
K	Cast Iron											●	○				
N	Non–ferrous Metal															●	
S	Heat–resistant Alloy,TiAlloy											○	○				

The basic shape of inserts	OrderingCode	Stock	Dimensions(mm)							CVD		PVD					Uncoated
			W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125		NN9115
	MRMN200M	●	2	1	1.6		16	3.5		●				●			
	MRMN300M	●	3	1.5	2.35		21	4.8		●				●			
	MRMN400M	●	4	2	3.3		21	4.8		●				●			
	MRMN500M	●	5	2.5	4.12		26	5.8		●				●			
	MRGN400M	●	2	1	1.6		16	3.5									●
	MRGN500M	●	3	1.5	2.35		21	4.8									●
	MRGN600M	●	4	2	3.3		21	4.8									●
	MRGN800M	●	5	2.5	4.12		26	5.8									●
	ZPES02502–MG	●	2.5	0.2			20	3.9		○					●		
	ZPFS0302–MG	●	3	0.2			20	4		○					●		
	ZPGS0402–MG	●	4	0.2			20	4		○					●		
	ZPHS0503–MG	●	5	0.3			25	4.9		○					●		
	TDJ2	●	2	0.2	1.7		20	3.9		○					●		
	TDJ3	●	3	0.2	2.4		20	4		○					●		
	TDJ4	●	4	0.3	3		20	4		○					●		
	TDJ5	●	5	0.3	4		25	4.9		○					●		
	TDC2	●	2	0.2	1.7		20	3.9		○					●		
	TDC3	●	3	0.2	2.4		20	4		○					●		
	TDC4	●	4	0.3	3		20	4		○					●		
	TDC5	●	5	0.3	4		25	4.9		○					●		
	THC42R100–CE	●	1	0.06	3.04		5	7.94	0°						○		○
	THC42R100–CE15R	●	1	0.06	3.04		5	7.94	15°						○		○
	THC42R150–CE	●	1.5	0.06	3.04		8.5	7.94	0°						○		○
	THC42R150–CE15R	●	1.5	0.06	3.04		8.5	7.94	15°						○		○
	THC42R200–CE	●	2	0.1	3.04		11.5	7.94	0°						○		○
	THC42R200–CE15R	●	2	0.1	3.04		11.5	7.94	15°						○		○
	THC42R250–CE	●	2.5	0.1	3.04		11.5	7.94	0°						○		○
	THC42R250–CE15R	●	2.5	0.1	3.04		11.5	7.94	15°						○		○
	THC42R300–CE	●	3	0.2	3.04		11.5	7.94	0°						○		○
	THC42R300–CE15R	●	3	0.2	3.04		11.5	7.94	15°						○		○
	THC42R200–CN	●	2	0.1	3.04		11.5	7.94	0°						○		○
	THC42R200–CU15R	●	2	0.1	3.04		11.5	7.94	15°						○		○
	THC42R250–CN	●	2.5	0.1	3.04		11.5	7.94	0°						○		○
	THC42R250–CU15R	●	2.5	0.1	3.04		11.5	7.94	15°						○		○
	THC42R300–CN	●	3	0.2	3.04		11.5	7.94	0°						○		○
	THC42R300–CU15R	●	3	0.2	3.04		11.5	7.94	15°						○		○
	TKFB12R15005M	●	1.5	0.05	3	5.0	2.6	8.7	0.25						○		○
	TKFB12R28005M	●	2.8	0.05	3	5.0	4.6	8.7	0.3						○		○
	TKFB12R28010M	●	2.8	0.1	3	5.0	4.6	8.7	0.3						○		○
	TKFB16R38005M	●	3.8	0.05	4	5.0	6.3	9.5	0.3						○		○
	TKFB16R38010M	●	3.8	0.1	4	5.0	6.3	9.5	0.3						○		○

●Stock ○Availabie upon Order

SIGER/L

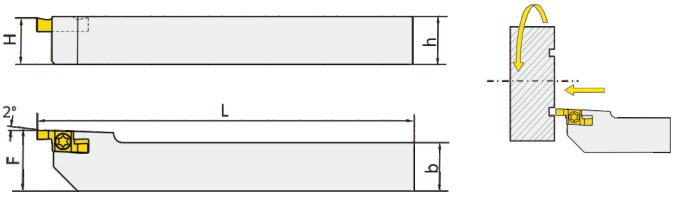




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	Dimin	d	d1	T	h	L	L1			
SIGER/L0808A	●	○	8	7.2	8	1.5	4.8	100	20	GER/L***A	M2.2*5	T-7
SIGER/L1010B	●	○	10	9	10	2.2	6.2	125	25	GER/L***B	M2.5*6	T-8
SIGER/L1210B	●	○	12	9	12	2.2	7	125	30			
SIGER/L1412C	●	○	14	11.4	14	2.5	8	150	33	GER/L***B	M2.5*6	T-8
SIGER/L1612C	●	○	16	11.4	16	2.5	8.5	150	20			
SIGER/L1616C	●	○	16	15	16	2.5	9	160	36			
SIGER/L2020D	●	○	20	19	20	4.5	12.1	180	40	GER/L***D	M3*8	T-10

SEGER/L**

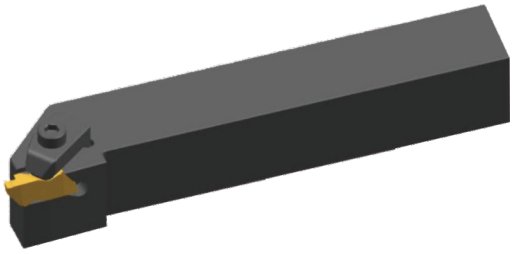


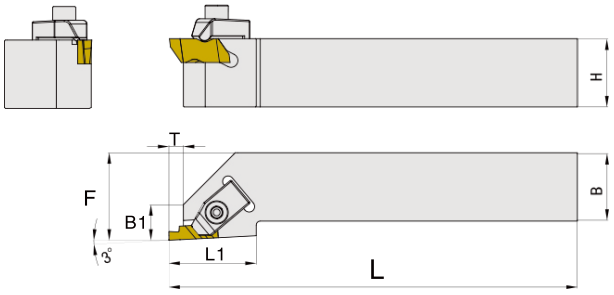


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	Dimin	H	b	F	L	h			
SEGER/L1010K-D	○	●	10	10	10	10	125	10	GER/L***DM	M3*8	T-10
SEGER/L1212K-D	○	●	10	12	12	12	125	12			
SEGER/L1616H-D	○	●	10	16	16	20	100	16			
SEGER/L2020K-D	○	●	10	20	20	25	125	20			
SEGER/L2525M-D	○	●	10	25	25	32	150	25			

●Stock ○Availabie upon Order

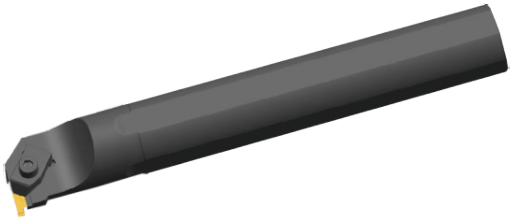
GNSR/L

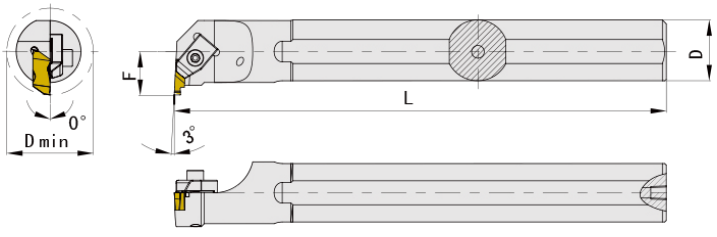




Ordering Code	Stock		Dimensions(mm)							Insert	Clamp	Screw	Wrench
	R	L	H	B	F	L	L1	B1	T				
GNSR/L1616H2	●	○	16	16	20	100	19	9	3.5	NG2***	YBNG2	NG2520	L4.0
GNSR/L2020K2	●	○	20	20	25	125	19	9	3.5				
GNSR/L2525M2	●	○	25	25	32	150	19	9	3.5				
GNSR/L2020K3	●	○	20	20	25	125	32	13	5.3	NG3***	YBNG3	NG3620	L5.0
GNSR/L2525K3	●	○	25	25	32	150	32	13	5.3				

GNAR/L**



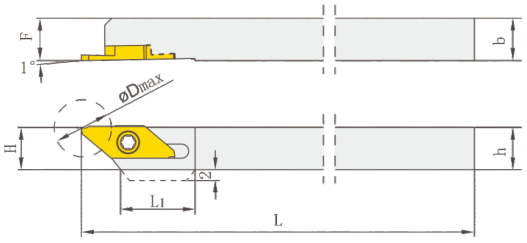


Ordering Code	Stock		Dimensions(mm)				Insert	Clamp	Screw	Wrench
	R	L	Dimin	D	F	L				
GNAR/L20Q2	●	○	26	20	13	180	NG2***	YBNG2	NG2520	L4.0
GNAR/L25R2	●	○	34	25	17	200				
GNAR/L25R3	●	○	34	25	17	200	NG3***	YBNG3	NG3620	L5.0

●Stock ○Availabie upon Order

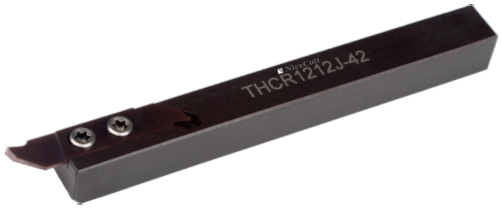
KTKFR/L

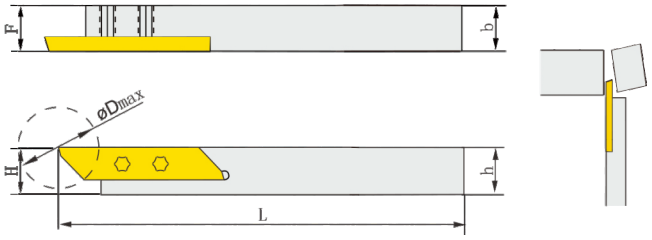




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	h	b	L	L1	f	H			
KTKFR/L1010K12	●	○	12	10	10	125	15	10	10	TKFT12***	SPM4*10	T-15
KTKFR/L1212M12	●	○	12	12	12	150	15	12	12			
KTKFR/L1616M12	●	○	12	16	16	150	15	16	16			
KTKFR/L1010K16	●	○	16	10	10	125	20	10	10	TKFT16***		
KTKFR/L1212M16	●	○	16	12	12	150	20	12	12			
KTKFR/L1616M16	●	○	16	16	16	150	20	16	16			

THCR



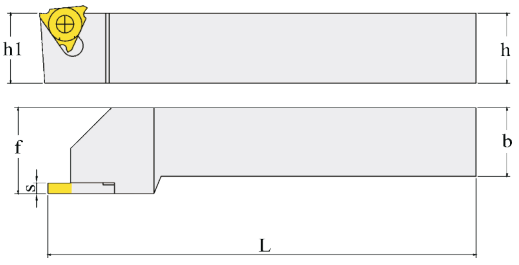


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	H	F	L	D			
THCR/L1010J42	○	○	10	10	10	12	85	21	THC42R/L	M4X8	T-15
THCR/L1212J42	○	○	12	12	12	16	100				
THCR/L1616J42	○	○	16	16	16	20	100				
THCR/L2020K42	○	○	20	20	20	25	125				
THCR/L2525M42	○	○	25	25	25	32	150				

●Stock ○Availabie upon Order

SGWHR/L

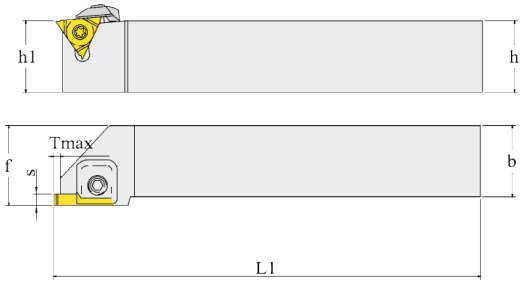




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	f	S	h1			
SGWHR/L1212H3200	●	●	12	12	100	16	0.5–1.8	12	GBA32***	M3.5*8	T–15
SGWHR/L1212H3215	●	●	12	12	100	16	1.8–2.3	12			
SGWHR/L1616H3200	●	●	16	16	100	20	0.5–1.8	16			
SGWHR/L1616H3215	●	●	16	16	100	20	1.8–2.3	16			
SGWHR/L2020K3200	●	●	20	20	125	25	0.5–1.8	20			
SGWHR/L2020K3215	●	●	20	20	125	25	1.8–2.3	20			
SGWHR/L2020K3223	●	●	20	20	125	25	2.3–3.3	20			
SGWHR/L2525M3200	●	●	25	25	150	32	0.5–1.8	25			
SGWHR/L2525M3215	●	●	25	25	150	32	1.8–2.3	25			
SGWHR/L2525M3223	●	●	25	25	150	32	2.3–3.3	25			

MGWHR/L



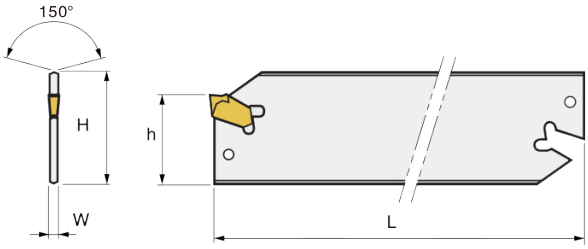


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw	Spring	Wrench
	R	L	h	b	L	f	S	h1					
MGWHR/L1616H4315A	●	●	16	16	100	20	1.25–1.5	16	GBA43***	NLJ0522	YB1318	DTH0814	L4.0
MGWHR/L1616H4315	●	●	16	16	100	20	1.5–2.3	16					
MGWHR/L1616H4325	●	●	16	16	100	20	2.3–3.3	16					
MGWHR/L2020K4315A	●	●	20	20	125	25	1.25–1.5	20					
MGWHR/L2020K4315	●	●	20	20	125	25	1.5–2.3	20					
MGWHR/L2020K4323	●	●	20	20	125	25	2.3–3.3	20					
MGWHR/L2525K4315A	●	●	25	25	150	32	1.25–1.5	25					
MGWHR/L2525K4315	●	●	25	25	150	32	1.5–2.3	25					
MGWHR/L2525K4323	●	●	25	25	150	32	2.3–3.3	25					
MGWHR/L2525K4333	●	●	25	25	150	32	3.3–4.7	25					

●Stock ○Availabie upon Order

SPB

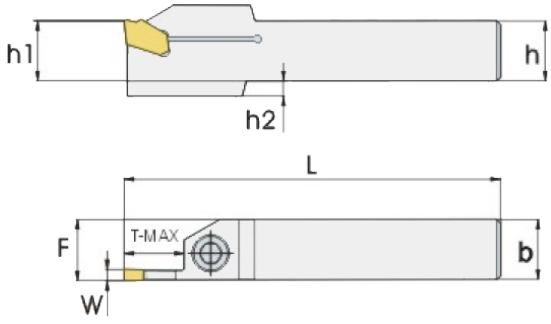




Ordering Code	Stock	Dimensions(mm)				Insert	Screw
	R	W	h	H	L		
SPB226-S	●	1.6	21	26	110	SP200	SW80-S
SPB326-S	●	2.4	21	26	110	SP300	
SPB426-S	●	3.2	21	26	110	SP400	
SPB526-S	●	4	21	26	110	SP500	
SPB232-S	●	1.6	25	32	150	SP200	
SPB332-S	●	2.4	25	32	150	SP300	
SPB432-S	●	3.2	25	32	150	SP400	
SPB532-S	●	4	25	32	150	SP500	

ZQR/L



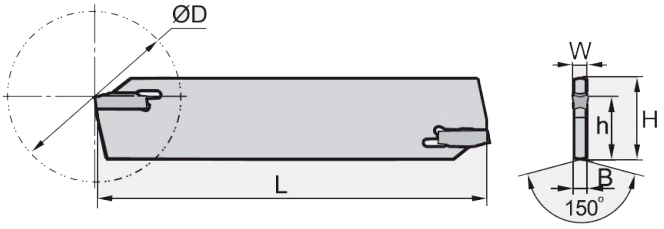


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	W	h	H	b	F	L			
ZQR/L1616H-02	●	●	1.6	16	16	16	16.3	100	SP200	NLJ0416	L3.0
ZQR/L2020K-02	●	●	1.6	20	20	20	20.3	125			
ZQR/L1616H-03	●	●	2.4	16	16	16	16.3	100	SP300	NLJ0520	L4.0
ZQR/L2020K-03	●	●	2.4	20	20	20	20.3	125			
ZQR/L2525M-03	●	●	2.4	25	25	25	25.3	150			
ZQR/L3232P-03	●	●	2.4	32	32	32	32.3	170			
ZQR/L1616H-04	●	●	3.2	16	16	16	16.3	100	SP400		
ZQR/L2020K-04	●	●	3.2	20	20	20	20.3	125			
ZQR/L2525M-04	●	●	3.2	25	25	25	25.3	150			
ZQR/L3232P-04	●	●	3.2	32	32	32	32.3	170			

●Stock ○Availabie upon Order

QE*S

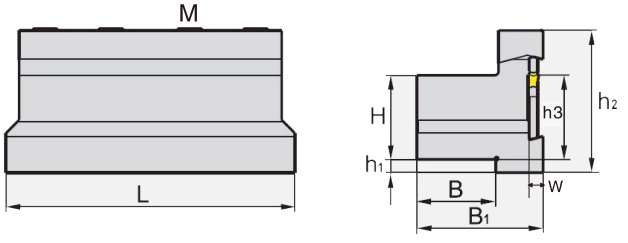




Ordering Code	Stock		Dimensions(mm)						Insert	Wrench
	R	L	L	H	h	B	W	ϕD		
QEES226N	●	●	110	26	19	2	2.5	60	ZPES02502-MG	L5.0
QEFS326N	●	●	110	26	19	2.4	3	60	ZPES0302-MG	
QEGS426N	●	●	110	26	19	3.2	4	70	ZPGS0402-MG	
QEHS526N	●	●	110	26	19	4	5	70	ZPHS0503-MG	
QEKS626N	●	●	110	26	19	5	6	70	ZPKS0604-MG	
QEES232N	●	●	150	32	24.6	2	2.5	100	ZPES0202-MG	
QEFS332N	●	●	150	32	24.6	2.4	3	100	ZPFS0302-MG	
QEGS432N	●	●	150	32	24.6	3.2	4	120	ZPGS0402-MG	
QEHS532N	●	●	150	32	24.6	4	5	120	ZPHS0503-MG	
QEKS632N	●	●	150	32	24.6	5	6	120	ZPKS0604-MG	

SMBB

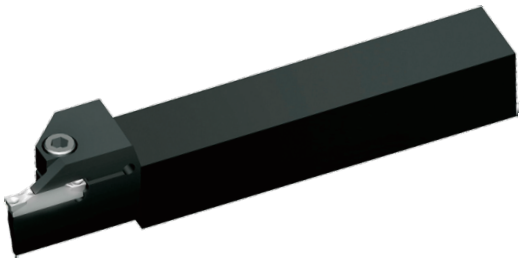


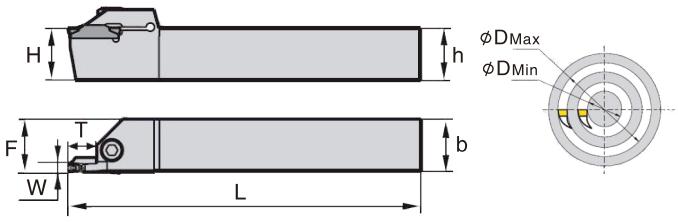


Ordering Code	Stock		Dimensions(mm)									Insert	Wrench
	R	L	H	B	h3	L	h2	h1	B1	W	M		
SMBB1626	●	●	16	12	26	86	43	13	30	5.3	3-M6	SPB□□□(S) QEES**N	L5.0
SMBB2026	●	●	20	19	26	86	43	9	38	5.3	3-M6		
SMBB2032	●	●	20	19	32	100	50	13	38	5.3	4-M6		
SMBB2526	●	●	25	23	26	86	43	4	42	5.3	3-M6		
SMBB2532	●	●	25	23	32	110	50	8	42	5.3	4-M6		
SMBB3232	●	●	32	30	32	110	54	5	48	5.3	4-M6		

●Stock ○Availabie upon Order

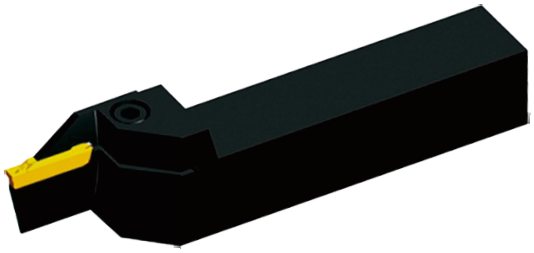
MGFHRR

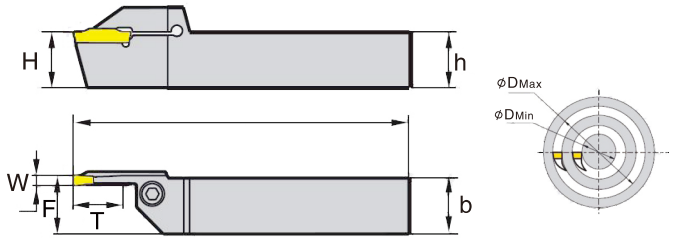




Ordering Code	Stock	Dimensions(mm)								Insert	Screw	Wrench
	R	h	b	L	S	D	H	T	W			
MGFHRR 325–24/35–T10	●	25	25	150	25.6	24–35	25	10	3.0	MFMN300R	NLJ0620	L5.0
MGFHRR 325–29/40–T10	●					29–40						
MGFHRR 325–34/50–T10	●					34–50						
MGFHRR 325–44/70–T10	●					44–70						
MGFHRR 325–64/99–T10	●					64–99						
MGFHRR 425–62/120–T15	●					62–120		15	4.0	MG*N400		
MGFHRR 425–112/200–T15	●					112–200						

MGFHR/L



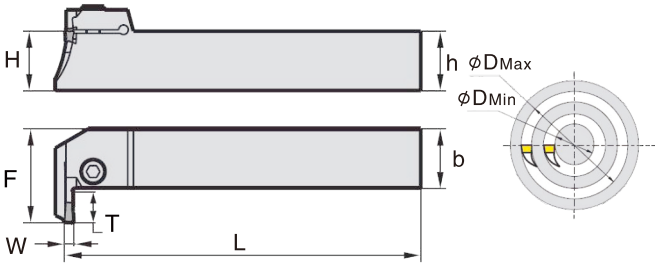


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	h	b	L	F	D	H	T	W			
MGFHR/L 325–24/35–T10	●	○	25	25	150	25.6	24–35	25	10	3.0	MFMN300R	NLJ0620	L5.0
MGFHR/L 325–29/40–T10	●	○					29–40						
MGFHR/L 325–34/50–T10	●	○					34–50						
MGFHR/L 325–44/70–T10	●	○					44–70						
MGFHR/L 325–64/99–T10	●	○					64–99						
MGFHR/L 320–44/62–T15	●	○	20	20	125	20.6	44–62	20	15	3.0	MG*N300		
MGFHR/L 320–62/120–T15	●	○					62–120						
MGFHR/L 320–112/200–T15	●	○					112–200						
MGFHR/L 325–44/62–T15	●	○	25	25	150	25.6	44–62	25					
MGFHR/L 325–62/120–T15	●	○					62–120						
MGFHR/L 325–112/200–T15	●	○					112–200						
MGFHR/L 420–44/62–T15	●	○	20	20	125	20.6	44–62	20		4.0	MG*N400		
MGFHR/L 420–62/120–T15	●	○					62–120						
MGFHR/L 420–112/200–T15	●	○					112–200						
MGFHR/L 425–44/62–T15	●	○	25	25	150	25.6	44–62	25					
MGFHR/L 425–62/120–T15	●	○					62–120						
MGFHR/L 425–112/200–T15	●	○					112–200						

●Stock ○Availabie upon Order

MGFVR/L

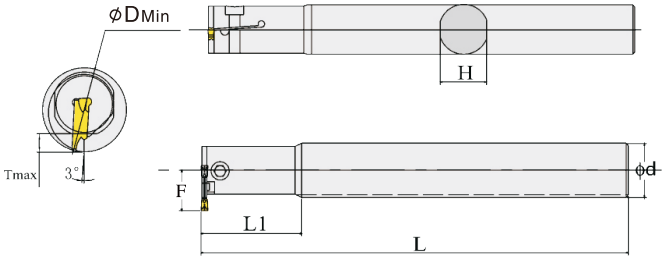




Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	h	b	L	F	D	H	T	W			
MGFVR/L 320–44/62–T15	●	○	20	20	125	20.6	44–64	20	15	3.0	MG*N300	NLJ0620	L5.0
MGFVR/L 320–62/120–T15	●	○					62–120						
MGFVR/L 320–112/200–T15	●	○					112–200						
MGFVR/L 325–44/62–T15	●	○	25	25	150	25.6		25					
MGFVR/L 325–62/120–T15	●	○					62–120						
MGFVR/L 325–112/200–T15	●	○					112–200						
MGFVR/L 420–44/62–T15	●	○	20	20	125	20.6		20		4.0	MG*N400		
MGFVR/L 420–62/120–T15	●	○					62–120						
MGFVR/L 420–112/200–T15	●	○					112–200						
MGFVR/L 425–44/62–T15	●	○	25	25	150	25.6		25					
MGFVR/L 425–62/120–T15	●	○					62–120						
MGFVR/L 425–112/200–T15	●	○					112–200						

MGNVR/L



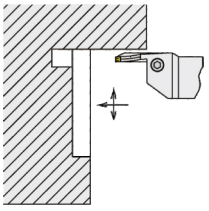


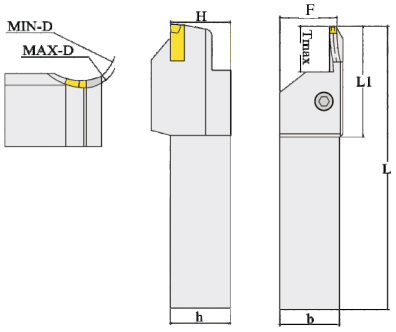
Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	T	H	F			
MGNVR/L 2016K–2	●	●	20	16	125	35	5	15	12.4	MG*N200	M5*15	T–20
MGNVR/L 2520M–2	●	●	25	20	150	45		18	14			
MGNVR/L 2925R–2	●	●	29	25	200	45		23	17.2		NLJ0516	L4.0
MGNVR/L 2520M–2.5	●	●	25	20	150	45	6	18	15.1	MG*N250		
MGNVR/L 2925R–2.5	●	●	29	25	200	45		23	18.2			
MGNVR/L 2520M–3	●	●	25	20	150	45		18	15.6	MG*N300	M5*15	T–20
MGNVR/L 3125R–3	●	●	31	25	200	45		23	18.9		NLJ0516	L4.0
MGEVR/L 3732S–3	●	●	37	32	250	65		29	21.5			
MGNVR/L 2520M–4	●	●	25	20	150	45		18	15.6	MG*N400	M5*15	T–20
MGNVR/L 3125R–4	●	●	31	25	200	45		23	18.9		NLJ0516	L4.0
MGEVR/L 3732S–4	●	●	27	32	250	65		29	21.5			
MGNVR/L 3125R–5	●	●	31	25	200	45	8	23	19.4	MG*N500		
MGEVR/L 3732S–5	●	●	37	32	250	65		29	21.5			

●Stock ○Availabie upon Order

FGDHX





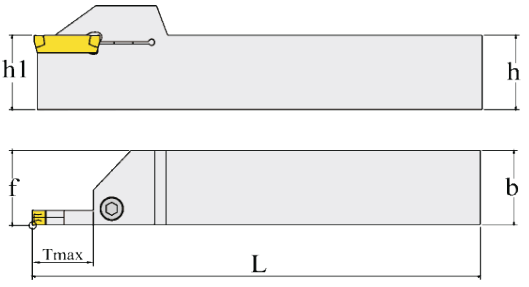


Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
	R	h	b	L	F	D	H	T			
FGDHX2020K25/30–3	●	20	20	125	21.8	25–30	20	12	FMM300	NLJ0520	L4.0
FGDHX2020K30/35–3	●					30–35					
FGDHX2020K35/48–3	●					35–48					
FGDHX2020K48/60–3	●					48–60		22	FGD300		
FGDHX2020K60/75–3	●					60–75					
FGDHX2020K75/100–3	●					75–100					
FGDHX2020K100/140–3	●					100–140					
FGDHX2525M25/30–3	●	25	25	150	27.8	25–30	25	12	FMM300	NLJ0520	L4.0
FGDHX2525M30/35–3	●					30–35					
FGDHX2525M35/48–3	●					35–48					
FGDHX2525M48/60–3	●					48–60		22	FGD300		
FGDHX2525M60/75–3	●					60–75					
FGDHX2525M75/100–3	●					75–100					
FGDHX2525M100/140–3	●					100–140					
FGDHX2020K25/30–4	●	20	20	125	21.8	25–30	20	12	FMM400	NLJ0520	L4.0
FGDHX2020K30/35–4	●					30–35					
FGDHX2020K35/48–4	●					35–48					
FGDHX2020K48/60–4	●					48–60		22	FGD400		
FGDHX2020K60/75–4	●					60–75					
FGDHX2020K75/100–4	●					75–100					
FGDHX2020K100/140–4	●					100–140					
FGDHX2525M25/30–4	●	25	25	150	27.8	25–30	25	12	FMM400	NLJ0520	L4.0
FGDHX2525M30/35–4	●					30–35					
FGDHX2525M35/48–4	●					35–48					
FGDHX2525M48/60–4	●					48–60		22	FGD400		
FGDHX2525M60/75–4	●					60–75					
FGDHX2525M75/100–4	●					75–100					
FGDHX2525M100/140–4	●					100–140					
FGDHX2020K25/30–5	●	20	20	125	21.8	25–30	20	12	FMM500	NLJ0520	L4.0
FGDHX2020K30/35–5	●					30–35					
FGDHX2020K35/48–5	●					35–48					
FGDHX2020K48/60–5	●					48–60		22	FGD500		
FGDHX2020K60/75–5	●					60–75					
FGDHX2020K75/100–5	●					75–100					
FGDHX2020K100/140–5	●					100–140					
FGDHX2525M25/30–5	●	25	25	150	27.8	25–30	25	12	FMM500	NLJ0520	L4.0
FGDHX2525M30/35–5	●					30–35					
FGDHX2525M35/48–5	●					35–48					
FGDHX2525M48/60–5	●					48–60		22	FGD500		
FGDHX2525M60/75–5	●					60–75					
FGDHX2525M75/100–5	●					75–100					
FGDHX2525M100/140–5	●					100–140					

●Stock ○Availabie upon Order

MGEHR/L



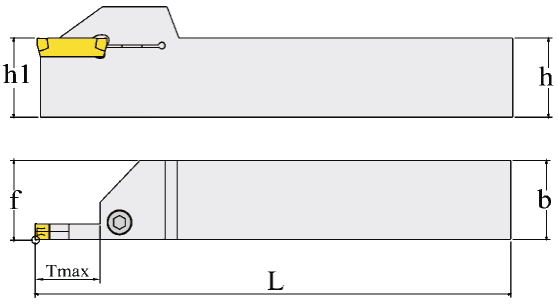


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	f	T	h1			
MGEHR/L1616H–2	●	●	16	16	100	16.25	14.5	16	MG*N200	NLJ0520	L4.0
MGEHR/L2020K–2	●	●	20	20	125	20.25	14.5	20			
MGEHR/L2020K–2–T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M–2	●	●	25	25	150	25.25	14.5	25			
MGEHR/L2525M–2–T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P–2	●	●	32	32	170	32.25	14.5	32		NLJ0620	L5.0
MGEHR/L1616H–2.5	●	●	16	16	100	16.25	16	16	MG*N250	NLJ0520	L4.0
MGEHR/L2020K–2.5	●	●	20	20	125	20.25	16	20			
MGEHR/L2020K–2.5–T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M–2.5	●	●	25	25	150	25.25	16	25			
MGEHR/L2525M–2.5–T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P–2.5	●	●	32	32	170	32.25	16	32		NLJ0620	L5.0
MGEHR/L1616H–3	●	●	16	16	100	16.25	18	16	MG*N300	NLJ0520	L4.0
MGEHR/L2020K–3	●	●	20	20	125	20.25	18	20			
MGEHR/L2020K–3–T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M–3	●	●	25	25	150	25.25	18	25			
MGEHR/L2525M–3–T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P–3	●	●	32	32	170	32.25	18	32		NLJ0620	L5.0
MGEHR/L3232P–3–T10	●	●	16	16	100	16.25	10	32			
MGEHR/L2020K–4	●	●	20	20	125	20.25	18	20	MG*N400	NLJ0520	L4.0
MGEHR/L2020K–4–T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M–4	●	●	25	25	150	25.25	18	25			
MGEHR/L2525M–4–T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P–4	●	●	32	32	170	32.25	18	32		NLJ0620	L5.0
MGEHR/L3232P–4–T10	●	●	16	16	100	16.25	10	32			
MGEHR/L2020K–5	●	●	20	20	125	20.25	23	20	MG*N500	NLJ0520	L4.0
MGEHR/L2020K–5–T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M–5	●	●	25	25	150	25.25	23	25			
MGEHR/L2525M–5–T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P–5	●	●	32	32	170	32.25	23	32		NLJ0620	L5.0
MGEHR/L3232P–5–T10	●	●	16	16	100	16.25	10	32			

●Stock ○Availabie upon Order

TTER/L





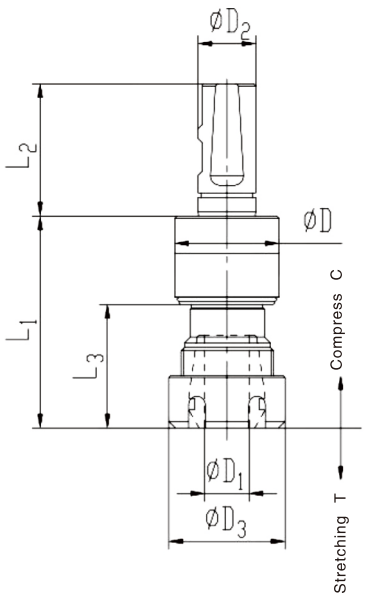
Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	F	T	h1			
TTER/L1616H–2	●	●	16	16	100	16.1	12	16	TD*200	NLJ0520	L4.0
TTER/L1616H–2–T17	●	●	16	16	125	16.1	17	16			
TTER/L2020K–2	●	●	20	20	125	20.1	12	20			
TTER/L2020K–2–T17	●	●	20	20	150	20.1	17	20			
TTER/L2525M–2	●	●	25	25	150	25.1	12	25			
TTER/L2525M–2–T17	●	●	25	25	170	25.1	17	25			
TTER/L1616H–3	●	●	16	16	100	16.25	12	16	TD*300	NLJ0520	L4.0
TTER/L1616H–3–T20	●	●	16	16	125	16.25	20	16			
TTER/L2020K–3	●	●	20	20	125	20.25	12	20			
TTER/L2020K–3–T20	●	●	20	20	150	20.25	20	20			
TTER/L2525M–3	●	●	25	25	150	25.25	12	25			
TTER/L2525M–3–T20	●	●	25	25	170	25.25	20	25			
TTER/L1616H–4	●	●	16	16	100	16.5	15	16	TD*400	NLJ0520	L4.0
TTER/L1616H–4–T25	●	●	16	16	125	16.5	25	16			
TTER/L2020K–4	●	●	20	20	125	20.5	15	20			
TTER/L2020K–4–T25	●	●	20	20	150	20.5	25	20			
TTER/L2525M–4	●	●	25	25	150	25.5	15	25			
TTER/L2525M–4–T25	●	●	25	25	170	25.5	25	25			
TTER/L2020K–5	●	●	20	20	125	20.6	20	20	TD*500	NLJ0520	L4.0
TTER/L2020K–5–T25	●	●	20	20	150	20.6	25	20			
TTER/L2525M–5	●	●	25	25	150	25.6	20	25			
TTER/L2525M–5–T25	●	●	25	25	170	25.6	25	25			

●Stock ○Availabie upon Order

Tool Holder Series







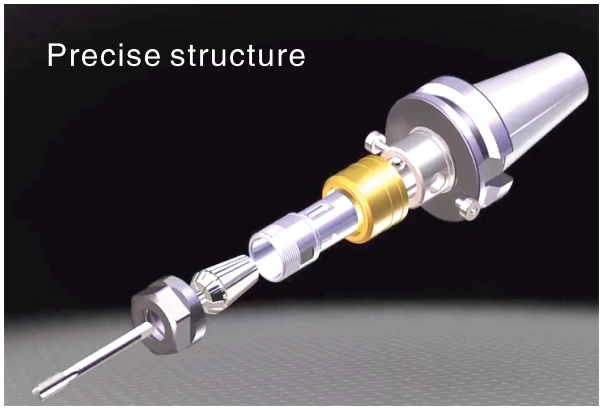
· ERNuts S type for the internal cooling type, A type for the cold type。

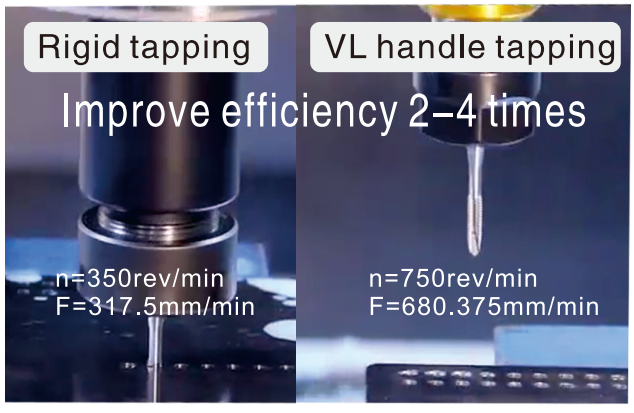
Unit：mm

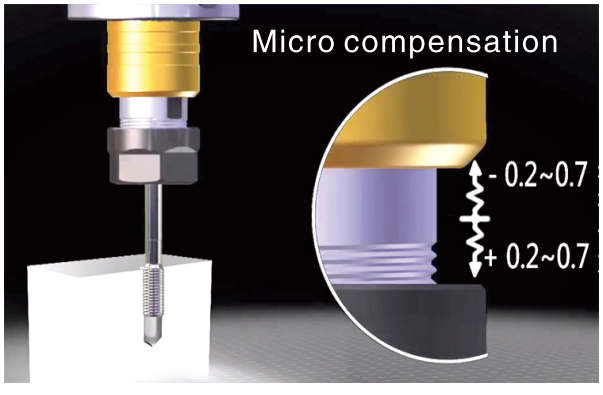
Model	Stock	ERJacket	ϕD	ϕD1	ϕD2	ϕD3	L1	L2	L3	C	T	Applicable taps
VLERS20–C25	●	ER20	34	4.5–10	25	34	68	57	45	0.5	0.5	M4–M12 (Nr.8–7/16)
VLERS32–C25	●	ER32	45	4.5–16	25	50	90	57	51	0.5	0.5	

●Stock ○Availabie upon Order

Characteristic





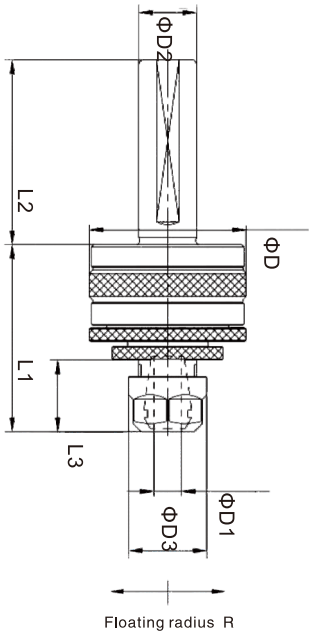




The problem we met usually as below,

1. The size of the hole is bigger ， the accuracy of the hole dimension doesn't meet the requirements.
2. The middle section of the hole is oversized and two ends section are smaller. Cylindricity doesn't meet the requirements
3. The roughness of the hole surface finish can not meet the requirements
4. The reamer is not durable.
5. The straightness of the hole is bad.
6. The quality of the hole machined is not stable when mass production





Unit：mm

Model	Stock	ERJacket	ϕD1	ϕD2	ϕD	ϕD3	L1	L2	L3	R (MAX)
SV-FTER20-D25	●	ER20	3-13	25	68	34	80	80	30	0.5

●Stock ○Availabie upon Order

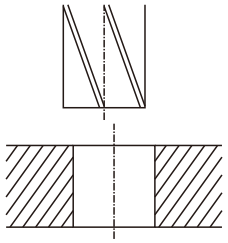
Characteristic

Using "floating reamer holder" , it's special can make the reamer find the center line of the main spindle, by auto floating the reamer in axial and redial direction. by this way the deviation between the center line of the reamer and the center line of the hole to be reamed can be auto compensated.

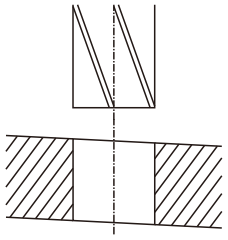
A、By using this floating holder, the reamer in the reaming process can complete the reaming task flexibly, smoothly and evenly, the reamed hole roundness and cylindrical degree can reach to 0.002mm, the roughness can reach to Ra0.2μm.

B、The spindle and center of the reamer in the floating range that can keep coincident with the center of the workpieces all the time. All flutes of the reamer cut evenly and no shock. It can make the life of the reamer longer more than 5 times.

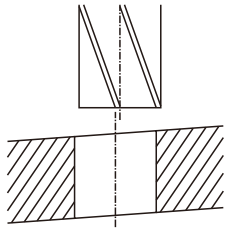
The possible deviation of the reaming process



1、The center line of the pre-processing hole deviated from the center line of the reamer.



2、There is angle between pre-processing hole center and reamer



3、The deviation in picture1 and picture2 are existing at the same time.

Milling Chuck

P238

Apu Drill Chuck Holder

P238

Collet Chuck

P239

SK Collet Chuck

P240

SK Collet Chuck

P241

FMA Face Mill Holder

P242

FMB Mill Holder

P243

SLN Side Lock End Mill Holder

P244

NC

P245

NC

P245

Shrink Chuck

P246

BT Hydrulic Chuck

P247

MX Collet Chuck

P247

TPM

P248

TER

P248

Taper Chuck

P249

SK□-L1

P250

FMB□-L1

P251

SLN□-L1

P252

ER Collet Chuck DIN69893

P253

End Mill Holder Weldon DIN69893

P253

FMB Face Mill Holder

P254

Micro compensation tapping tool holder

P255

Floating knife series

P255

ER Collet Chuck Holder

P256

ER Collet

P257

Sealed Collet with Slitting

P257

ER Straight Collet

P258

SC Sealed Collet

P258

SKS Collet

P259

MX Collet

P259

BT Pull Studs

P260

JT Pull Studs

P260

ER Clamping Nuts

P261

Clamping Nuts

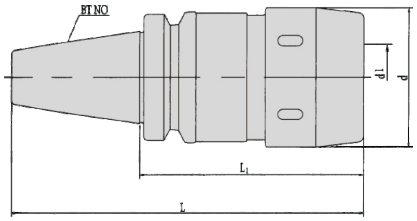
P261

Wrenches

P262

Milling Chuck

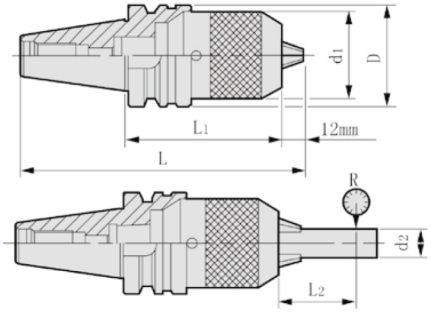




Ordering Code		Stock	d1	d	L1	Draw Bar
BT30	GMC16-80	○	16	45	80	M12
	GMC20-75	●	20	50	80	
	GMC25-90	●	25	55	80	
BT40	GMC16-90	○	16	45	90	M16
	GMC20-80	●	20	50	90	
	GMC25-90	●	25	55	90	
	GMC32-105	●	32	72.5	105	
BT50	GMC32-110	●	32	72.5	110	M24
	GMC32-165	●	32	72.5	150	
	GMC32-200	●	32	72.5	200	
	GMC32-250	●	32	72.5	250	
	GMC32-300	●	32	72.5	300	
	GMC42-110	●	42	82	110	
	GMC42-150	●	42	82	150	
	GMC42-200	●	42	82	200	
	GMC42-250	●	42	82	250	
	GMC42-300	●	42	82	300	

Apu Drill Chuck Holder



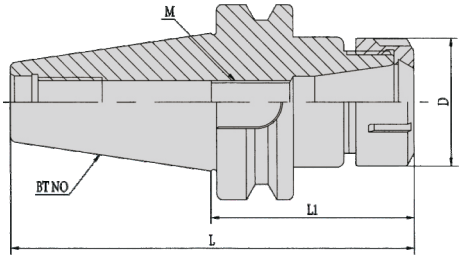


Ordering Code	Stock	L	L1	d
BT30-APU08-80	●	128.4	80	37
BT30-APU13-110	●	148.4	100	49
BT30-APU16-110	●	163.4	115	54
BT40-APU08-85	●	150.4	85	37
BT40-APU13-105	●	170.4	105	49
BT40-APU16-110	●	185.4	120	54
BT50-APU08-90	●	196.8	95	37
BT50-APU13-120	●	221.8	120	49
BT50-APU16-130	○	231.8	130	54
BT50-APU16-165	○	266.8	165	54
BT50-APU16-190	●	291.8	190	54

●Stock ○Availabie upon Order

Collet Chuck





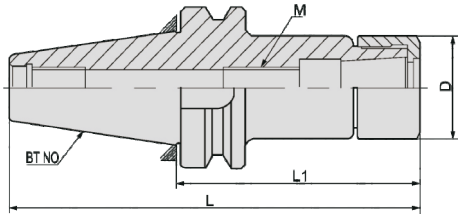
Ordering Code	Stock	Capacity	L	L1	D	Collet	NUT	Wrench
BT30-ER11-60	●	0.5-7	108.4	60	19	ER11	CAN-ER11	W-ER11A
-100			148.4	100	19			
BT30-ER16-60	●	1-10	108.4	60	28	ER16	CAN-ER16	W-ER16A
-100			148.4	100	28			
BT30-ER20-60	●	2-13	108.4	60	34	ER20	CAN-ER20	W-ER20A
-100			148.4	100	34			
BT30-ER25-60	●	2-16	108.4	60	42	ER25	CAUM-ER25	W-ER25UM
-100			148.4	100	42			
BT30-ER32-60	●	3-20	108.4	60	50	ER32	CAUM-ER32	W-ER32UM
-100			148.4	100	50			
BT40-ER11-70	●	0.5-7	135.4	70	19	ER11	CAN-ER11	W-ER11A
-100			165.4	100	19			
BT40-ER16-70	●	1-10	135.4	70	28	ER16	CAN-ER16	W-ER16A
-100			165.4	100	28			
-150			215.4	150	28			
BT40-ER20-70	●	2-13	135.4	70	34	ER20	CAN-ER20	W-ER20A
-100			165.4	100	34			
-150			215.4	150	34			
BT40-ER25-70	●	2-16	135.4	70	42	ER25	CAUM-ER25	W-ER25UM
-100			165.4	100	42			
-150			215.4	150	42			
BT40-ER32-70	●	3-20	135.4	70	50	ER32	CAUM-ER32	W-ER32UM
-100			165.4	100	50			
-150			215.4	150	50			
BT40-ER40-80	●	3-26	135.4	70	63	ER40	CAUM-ER40	W-ER40UM
-100			165.4	100	63			
-150			215.4	150	63			
BT50-ER16-70	●	1-10	171.8	70	28	ER16	CAN-ER16	W-ER16A
-100			201.8	100	28			
-150			251.8	150	28			
BT50-ER20-70	●	2-13	171.8	70	34	ER20	CAN-ER20	W-ER20A
-100			201.8	100	34			
-150			251.8	150	34			
BT50-ER25-70	●	2-16	171.8	70	42	ER25	CAUM-ER25	W-ER25UM
-100			201.8	100	42			
-150			251.8	150	42			
BT50-ER32-70	●	3-20	171.8	70	50	ER32	CAUM-ER32	W-ER32UM
-100			201.8	100	50			
-150			251.8	150	50			
BT50-ER40-80	●	3-26	181.8	80	63	ER40	CAUM-ER40	W-ER40UM
-100			201.8	100	63			
-150			251.8	150	63			
-200			301.8	200	63			

●Stock ○Availabie upon Order

SK Collet Chuck BT □–SK□–L1

◎BT taper shank is in conformity with AT3 standard
◎Concentricity of the inner and outer cone 0.005mm
◎Default balancing design





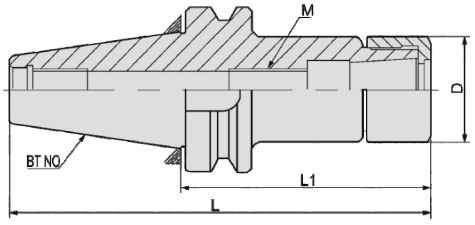
Ordering Code	Stock	Capacity	L	L1	D	Collet	Nut	Wrench
BT30–SK06–60	●	2–6	108.4	60	20	SK06	SK06	OW/SK06 or OB/SK06
–80	●		128.4	80				
BT30–SK10–70	●	2–10	118.4	70	27	SK10	SK10	OW/SK10 or OB/SK10
–95	●		143.4	95				
BT30–SK16–60	●	3–16	108.4	60	40	SK16	SK16	A/38–42 or OB/SK16
–80	●		128.4	80				
–100	●		148.4	100				
BT30–SK25–80	●	6–25.4	128.4	80	54	SK25	SK25	A/45–52 or OB/SK25
BT40–SK06–65	●	2–6	130.4	65	20	SK06	SK06	OW/SK06 or OB/SK06
–85	●		150.4	85				
BT40–SK10–55	●	2–10	120.4	55	27	SK10	SK10	OW/SK10 or OB/SK10
–80	●		145.4	80				
–100	●		165.4	100				
–150	●		215.4	150				
BT40–SK16–55	●	3–16	120.4	55	40	SK16	SK16	A/38–42 or OB/SK16
–80	●		145.4	80				
–100	●		165.4	100				
–150	●		215.4	150				
BT40–SK25–70	●	6–25.4	135.4	70	54	SK25	SK25	A/45–52 or OB/SK25
–95	●		160.4	95				
–110	●		175.4	110				
BT50–SK06–70	●	2–6	171.8	70	20	SK06	SK06	OW/SK06 or OB/SK06
–100	●		201.8	100				
BT50–SK10–100	●	2–10	201.8	100	27	SK10	SK10	OW/SK10 or OB/SK10
–130	●		231.8	130				
–150	●		251.8	150				
BT50–SK16–100	●	3–16	201.8	100	40	SK16	SK16	A/38–42 or OB/SK16
–130	●		231.8	130				
–150	●		251.8	150				
BT50–SK25–100	●	6–25.4	201.8	100	54	Sk25	Sk25	A/45–52 or OB/SK25
–130	●		231.8	130				
–150	●		251.8	150				

●Stock ○Availabie upon Order

SK Collet Chuck BT □–GSK□–L1

◎BT taper shank is in conformity with AT3 standard
◎Concentricity of the inner and outer cone 0.005mm
◎Default balancing design





Ordering Code	Stock	Capacity	L	L1	D	Collet	Nut	Wrench
BT30–GSK06–60	●	2–6	108.4	60	20	SK06	GSK06	OB/SK06
–80	●		128.4	80				
BT30–GSK10–70	●	2–10	118.4	70	27	SK10	GSK10	OB/SK10
–95	●		143.4	95				
BT30–GSK16–60	●	3–16	108.4	60	40	SK16	GSK16	OB/SK16
–80	●		128.4	80				
–100	●		148.4	100				
–SK25–80	●	6–25.4	128.4	80	54	SK25	GSK25	OB/SK25
BT40–GSK06–65	●	2–6	130.4	65	20	SK06	GSK06	OB/SK06
–85	●		150.4	85				
BT40–GSK10–55	●	2–10	120.4	55	27	SK10	GSK10	OB/SK10
–80	●		145.4	80				
–100	●		165.4	100				
–150	●		215.4	150				
BT40–GSK16–55	●	3–16	120.4	55	40	SK16	GSK16	OB/SK16
–80	●		145.4	80				
–100	●		165.4	100				
–150	●		215.4	150				
BT40–GSK25–70	●	6–25.4	135.4	70	54	SK25	GSK25	OB/SK25
–95	●		160.4	95				
–110	●		175.4	110				
BT50–GSK06–70	●	2–6	171.8	70	20	SK06	GSK06	OB/SK06
–100	●		201.8	100				
BT50–GSK10–100	●	2–10	201.8	100	27	SK10	GSK10	OB/SK10
–130	●		231.8	130				
–150	●		251.8	150				
BT50–GSK16–100	●	3–16	201.8	100	40	SK16	GSK16	OB/SK16
–130	●		231.8	130				
–150	●		251.8	150				
BT50–GSK25–100	●	6–25.4	201.8	100	54	SK25	GSK25	OB/SK25
–130	●		231.8	130				
–150	●		251.8	150				

●Stock ○Availabie upon Order

FMA Face Mill Holder



Fig.1

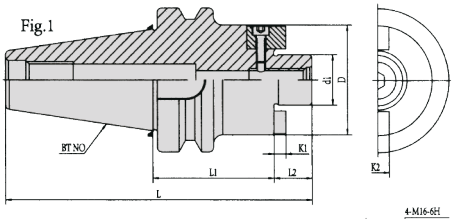
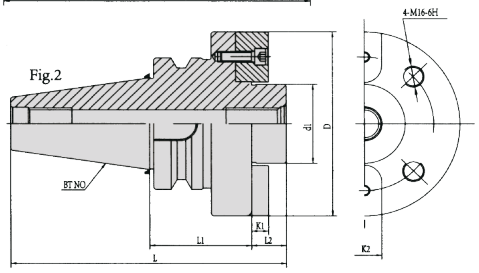


Fig.2

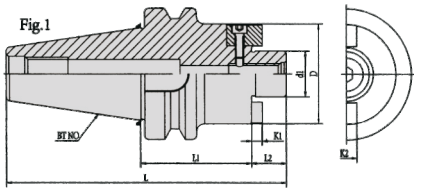


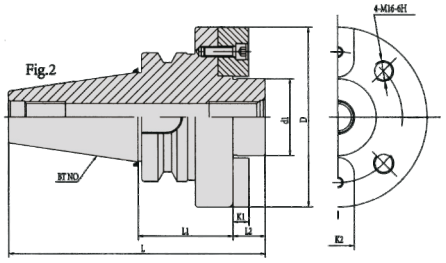
Ordering Code	Stock	Type	d1	D	L	L1	L2	K1	K2
BT30–FMA25.4–45	●	Fig.1	25.40	50	113.4	45	20	4.52	9.52
–60					128.4	60			
BT30–FMA31.75–45	●	Fig.1	31.75	60	115.4	45	22	6.70	12.70
BT40–FMA25.4–45	●	Fig.1	25.40	50	130.4	45	20	4.52	9.52
–60					145.4	60			
–90					175.4	90			
–105					190.4	105			
BT40–FMA31.75–45	●	Fig.1	31.75	60	132.4	45	22	6.70	12.70
–75					162.4	75			
–90					177.4	90			
BT40–FMA38.1–60	●	Fig.1	38.10	75	150.4	60	25	8.87	15.87
BT40–FMA50.8–60	●	Fig.1	50.80	98	161.4	60	36	9.75	19.05
BT50–FMA25.4–45	●	Fig.1	25.40	50	166.8	45	20	4.52	9.52
–90					211.8	90			
–150					271.8	150			
BT50–FMA31.75–45	●	Fig.1	31.75	60	168.8	45	22	6.70	12.70
–75					198.8	75			
–105					228.8	105			
BT50–FMA38.10–45	●	Fig.1	38.10	80	171.8	45	25	8.87	15.87
–75					201.8	75			
BT50–FMA50.80–45	●	Fig.1	50.80	98	182.8	45	36	9.75	19.05
–75					212.8	75			
BT50–FMA47.62–75	●	Fig.1	47.62	128.75	208.8	75	32	12.50	25.40

●Stock ○Availabie upon Order

FMB Mill Holder





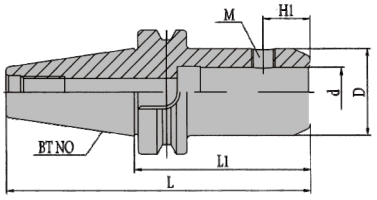


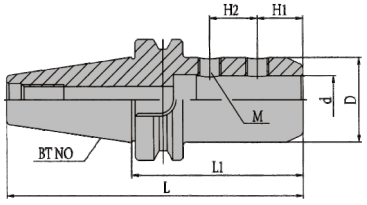
Ordering Code	Stock	Type	d1	d2	D	L	L1	L2	K1	K2	T
BT30–FMB22–45	●	Fig.1	22	26	45	109.9	45	16.5	4.8	10	M10x30
–60						124.9	60				
BT30–FMB27–45	●	Fig.1	27	33	54	111.9	45	18.5	5.8	12	M12x30
–60						126.9	60				
BT30–FMB32–60	●	Fig.1	32	41	58	130.4	60	22	6.8	14	M16x35
BT40–FMB22–45	●	Fig.1	22	26	48	126.9	45	16.5	4.8	10	M10x30
–60						141.9	60				
–100						181.9	100				
–150						231.9	150				
BT40–FMB27–45	●	Fig.1	27	33	60	128.9	45	18.5	5.8	12	M12x30
–60						143.9	60				
–100						183.9	100				
–150						233.9	150				
–200						283.9	200				
BT40–FMB32–60	●	Fig.1	32	41	62	147.9	60	22	6.8	14	M16x35
–100						187.4	100				
–150						237.4	150				
–200						287.4	200				
BT40–FMB40–60	●	Fig.1	40	48	80	150.4	60	25	8	16	M16x35
–100						190.4	100				
–150						240.4	150				
–200						290.4	200				
BT50–FMB22–60	●	Fig.1	22	26	48	178.3	60	16.5	4.8	10	M10x30
–100						218.3	100				
–150						268.3	150				
–200						318.3	200				
BT50–FMB27–60	●	Fig.1	27	33	60	180.3	60	18.5	5.8	12	M12x30
–100						220.3	100				
–150						270.3	150				
–200						320.3	200				
BT50–FMB32–60	●	Fig.1	32	41	73	183.8	60	22	6.8	14	M16x35
–100						223.8	100				
–150						273.8	150				
–200						323.8	200				
BT50–FMB40–60	●	Fig.1	40	48	80	186.8	60	25	8	16	M16x35
–100						226.8	100				
–150						276.8	150				
–200						326.8	200				
BT50–FMB60–75	●	Fig.1	60	–	140	201.8	75	25	12.5	25.4	
–100						226.8	100				

●Stock ○Availabie upon Order

SLN Side Lock End Mill Holder





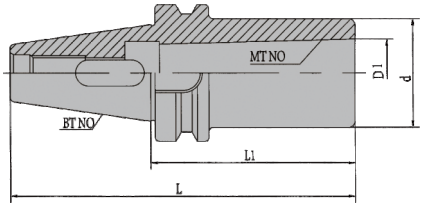


Ordering Code	Stock	Type	L	L1	H1	H2	M	D	d
BT30-SLN6-60	●	Fig.1	108.4	60	18		M6	25	6
BT30-SLN8-60	●	Fig.1					M8	28	8
BT30-SLN10-60	●	Fig.1			20		M10	35	10
BT30-SLN12-60	●	Fig.1			22.5		M12	42	12
BT30-SLN16-75	●	Fig.1	123.4	75	24		M14	48	16
BT30-SLN20-63	●	Fig.1	111.4	63	25		M16	52	20
BT30-SLN20-75	●	Fig.1	123.4	75					
BT30-SLN25-80	●	Fig.2	128.4	80	24	25	M18	65	25
BT30-SLN25-90	●	Fig.2	138.4	90					
BT30-SLN25-100	●	Fig.2	148.4	100					
BT40-SLN6-50	●	Fig.1	115.4	50	18		M6	25	6
BT40-SLN8-50	●	Fig.1					M8	28	8
BT40-SLN10-63	●	Fig.1	128.4	63	20		M10	35	10
BT40-SLN12-63	●	Fig.1			22.5		M12	42	12
BT40-SLN16-63	●	Fig.1			24		M14	48	16
BT40-SLN20-63	●	Fig.1			25		M16	52	20
BT40-SLN25-90	●	Fig.2	155.4	90	24	25	M18	65	25
BT40-SLN25-100	●	Fig.2	165.4	100					
BT40-SLN32-100	●	Fig.2				28	M20	72	32
BT40-SLN40-105	●	Fig.2	170.4	105	30	32		80	40
BT40-SLN42-105	●	Fig.2						82	42
BT50-SLN6-63	●	Fig.1	164.8	63	18		M6	25	6
BT50-SLN8-63	●	Fig.1					M8	28	8
BT50-SLN10-63	●	Fig.1			20		M10	35	10
BT50-SLN12-80	●	Fig.1	181.8	80	22.5		M12	42	12
BT50-SLN16-80	●	Fig.1			24		M14	48	16
BT50-SLN20-80	●	Fig.1			25		M16	52	20
BT50-SLN25-100	●	Fig.2	201.8	100	24	25	M18	65	25
BT50-SLN32-105	●	Fig.2	206.8	105		28	M20	72	32
BT50-SLN40-115	●	Fig.2	216.8	115	30	32		80	40
BT50-SLN42-100	●	Fig.2	221.8	120				82	42

●Stock ○Availabie upon Order

NC Morse Taper Holder(A Type)





Ordering Code	Stock	L	L1	D1	D
BT40-MTA1-45	●	110.4	45	12.065	25
-120	●	185.4	120		
BT40-MTA2-16	●	125.4	60	17.78	32
-120	●	185.4	120		
BT40-MTA3-75	●	140.4	75	23.825	40
-135	●	200.4	135		
BT40-MTA4-95	●	160.4	95	31.267	48
-165	●	230.4	165		
BT50-MTA1-45	●	146.8	45	12.065	25
-120	●	221.8	120		
BT50-MTA2-60	●	161.8	60	17.78	32
-135	●	236.8	135		
BT50-MTA3-75	●	176.8	75	23.825	40
-150	●	251.8	150		
BT50-MTA4-90	●	191.8	90	31.267	48
-180	●	281.8	180		
BT50-MTA5-105	●	211.8	110	44.399	63
-210	●	311.8	210		

NC Morse Taper Holder(B Type)



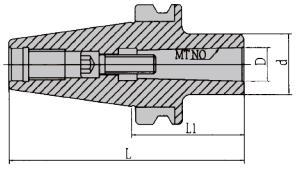


Fig 1

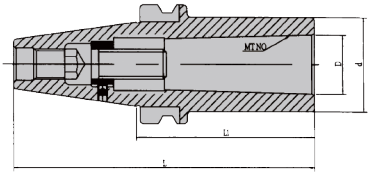


Fig 2

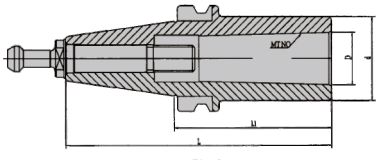
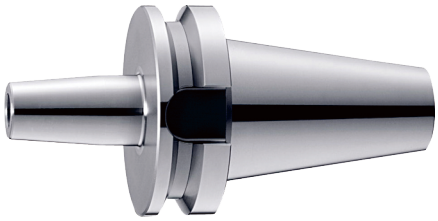


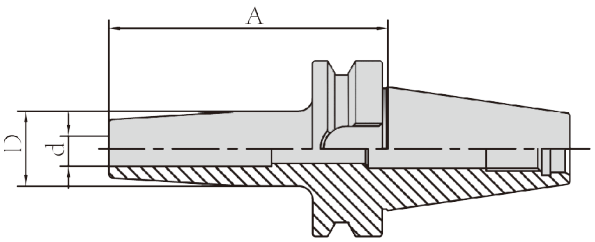
Fig 3

Ordering Code	Stock	Type	L	L1	D	d
BT40-MTB1-45	●	Fig.1	110.4	45	12.065	25
BT40-MTB2-50	●	Fig.1	115.4	50	17.78	32
BT40-MTB3-75	●	Fig.1,3	140.4	75	23.825	40
BT40-MTB4-90	●	Fig.3	155.4	90	31.267	48
BT40-MTB4-95	●	Fig.2	160.4	95	31.267	48
BT50-MTB1-45	●	Fig.1	146.8	45	12.065	25
BT50-MTB2-45	●	Fig.1	146.8	45	17.78	32
BT50-MTB3-60	●	Fig.1	161.8	60	23.825	40
BT50-MTB4-90	●	Fig.1	191.8	90	31.267	48
BT50-MTB5-120	●	Fig.2	221.8	120	44.399	63

●Stock ○Availabie upon Order

Shrink Chuck



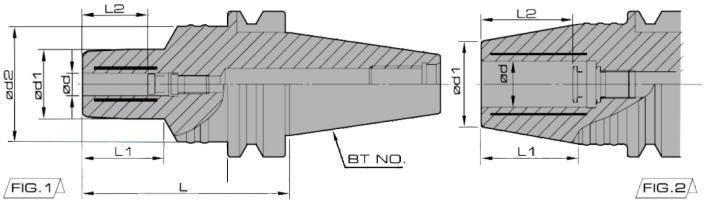


Ordering Code	Stock	d	A	D	D1	l1	l2
BT30–SRC6–90	○	6	90	24	32	41	10
BT30–SRC8–90	○	8	90	24	32	47	10
BT30–SRC10–90	○	10	90	27	34	47	10
BT30–SRC12–90	○	12	90	27	34	50	10
BT30–SRC14–90	○	14	90	33	42	50	10
BT30–SRC16–90	○	16	90	33	42	52	10
BT40–SRC6–90	●	6	90	21	27	36	10
BT40–SRC8–90	●	8	90	21	27	36	10
BT40–SRC10–90	●	10	90	24	32	41	10
BT40–SRC12–90	●	12	90	24	32	47	10
BT40–SRC14–90	●	14	90	27	34	47	10
BT40–SRC16–90	●	16	90	27	34	50	10
BT40–SRC18–90	●	18	90	33	42	50	10
BT40–SRC20–90	○	20	90	33	42	52	10
BT40–SRC25–100	○	25	100	44	53	58	10
BT40–SRC32–100	○	32	100	44	53	58	10
BT50–SRC4–100	○	4	100	14	22	20	5
BT50–SRC5–100	○	5	100	16	22	20	5
BT50–SRC6–100	○	6	100	21	27	36	10
BT50–SRC8–100	○	8	100	21	27	36	10
BT50–SRC10–100	○	10	100	24	32	41	10
BT50–SRC12–100	○	12	100	24	32	47	10
BT50–SRC14–100	○	14	100	27	34	47	10
BT50–SRC16–100	○	16	100	27	34	50	10
BT50–SRC18–110	○	18	110	33	42	50	10
BT50–SRC20–110	○	20	110	33	42	52	10
BT50–SRC25–120	○	25	120	44	53	58	10
BT50–SRC32–120	○	32	120	44	53	62	10

●Stock ○Availabie upon Order

BT Hydrulic Chuck

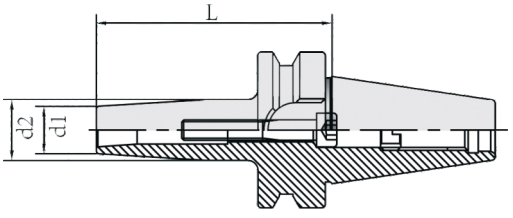




Ordering Code	Stock	Size(mm)					
		dm	D1	D2	L1	L	
BT30–HC06–80	○	06	28	50	35	80	–
BT30–HC08–80	○	08	30	50	35	80	–
BT30–HC10–80	○	10	32	50	35	80	–
BT30–HC12–90	●	12	35	50	43	90	HC12
BT30–HC16–95	●	16	38	50	51	95	–
BT30–HC20–95	●	20	42	50	52	95	HC20
BT40–HC06–85	○	06	28	50	35	85	–
BT40–HC08–85	○	08	30	50	35	85	–
BT40–HC10–85	○	10	32	50	35	85	–
BT40–HC12–90	●	12	35	50	43	90	HC12
BT40–HC16–95	●	16	38	50	51	95	–
BT40–HC20–95	●	20	42	50	52	95	HC20
BT40–HC25–115	●	25	57	70	63	115	–
BT50–HC12–100	●	12	35	50	43	100	HC12
BT50–HC16–105	●	16	38	50	51	105	–
BT50–HC20–105	●	20	42	50	52	105	HC20
BT50–HC25–120	●	25	57	70	63	120	–
BT50–HC32–120	●	32	64	70	65	120	HC32

MX Collet Chuck



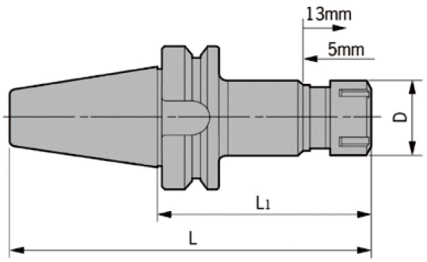


Ordering Code	Stock	Clamping Range	L	L1	D	
BT30–MX8–90	○	2–8	90	36	20	MX8
BT30–MX12–105	○	4–12	105	35	30	MX12
BT40–MX8–85	○	2–8	85	36	20	MX8
BT40–MX8–120	○	2–8	120	43	20	MX8
BT40–MX12–90	○	4–12	90	35	30	MX12
BT50–MX8–105	○	2–8	105	40	20	MX8
BT50–MX8–135	○	2–8	135	43	20	MX8
BT50–MX8–165	○	2–8	165	43	20	MX8
BT50–MX12–105	○	4–12	105	35	30	MX12

●Stock ○Availabie upon Order

TER Tension And Compression Taper Holder BT □-TER □-L1

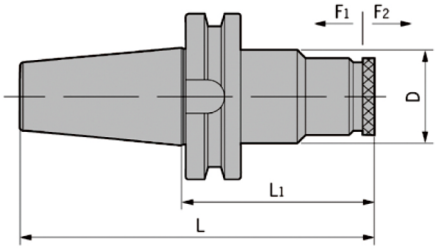




Ordering Code	Stock	L	L1	D	Range	Suitable Collet
BT30-TER16-75	●	123.4	75	28	M3-M10	ER16
BT30-TER20-90	●	138.4	90	34	M3-M10	ER20
BT40-TER16-120	●	185.4	120	28	M3-M10	ER16
BT40-TER20-100	●	165.4	100	34	M3-M17	ER20
BT40-TER32-120	●	185.4	120	50	M3-M20	ER32
BT50-TER16-120	●	221.8	120	28	M3-M10	ER16
BT50-TER20-100	●	201.8	100	24	M3-M17	ER20
BT50-TER32-120	●	221.8	120	50	M3-M20	ER32

TPM Quick Change Tension And Compression Taper Holder BT □-TPM □





Ordering Code	Stock	L	L1	d	Range	Expansion Capaci	
						F1	F2
BT30-TPM316	●	162	111.6	50	M3-16	6	12
BT40-TPM316	●	168	101	50	M3-16	6	12
BT40-TPM830	○	208	141	66	M8-M30	12.5	12.5
BT50-TPM316	●	222.8	118	50	M3-16	6	12
BT50-TPM830	●	235	130.2	66	M8-M30	12.5	12.5

●Stock ○Availabie upon Order

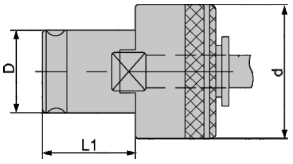
Taper Chuck BT □–L1 □–C

Technical specifications



Model	Stock	d	D	L1	Range
TPM316	●	32	19	21.5	M3–M16
TPM830	●	51.5	31	36	M8–M22

Taper chuck specifications table



TPC316

JIS	Φd	□	ISO	Φd	□	DIN371	Φd	□	DIN376	Φd	□
TPC316 M03 W1/8	4	3.2	TPC316 M03	3.15	2.5	TPC316 M03	3.5	2.7	TPC316 M03	2.2	–
TPC316 M04	5	4	TPC316 M04	4	3.15	TPC316 M04	4.5	3.4	TPC316 M04	2.8	2.1
TPC316 M05 W3/16	5.5	4.5	TPC316 M05	5	4	TPC316 M05	6	4.9	TPC316 M05	3.5	2.7
TPC316 M06 W1/4	6	4.5	TPC316 M06	6.3	5	TPC316 M06	6	4.9	TPC316 M06	4.5	3.4
TPC316 M08	6.2	5	TPC316 M08	8	6.3	TPC316 M08	8	6.2	TPC316 M08	6	4.9
TPC316 M10 W3/8	7	5.5	TPC316 M10	10	8	TPC316 M10	10	8	TPC316 M10	7	5.5
TPC316 M12	8.5	6.5	TPC316 M12	9	7.1				TPC316 M12	9	7
TPC316 M14	10.5	8	TPC316 M14	11.2	9				TPC316 M14	11	9
TPC316 M16	12.5	10	TPC316 M16	12.5	10				TPC316 M16	12	9
TPC316 W5/16	6.1	5									
TPC316 W7/16 PT1/8	8	6									
TPC316 W1/2	9	7									
TPC316 W5/8	12	9									
TPC316 PT1/4	11	9									

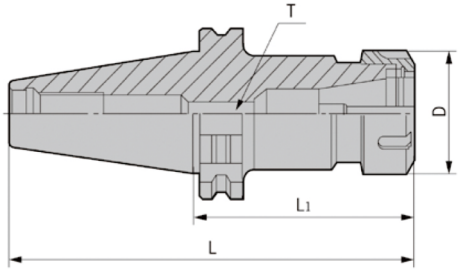
TPC830

JIS	Φd	□	ISO	Φd	□	DIN371	Φd	□	DIN376	Φd	□
TPC830 M08	6.2	5	TPC830 M08	8		TPC830 M08	8	6.2	TPC830 M08	6	4.9
TPC830 M10 W3/8	7	5.5	TPC830 M10	10		TPC830 M10	10	8	TPC830 M10	7	5.5
TPC830 M12	8.5	6	TPC830 M12	9					TPC830 M12	9	7
TPC830 M14	10.5	8	TPC830 M14	11.2					TPC830 M14	11	9
TPC830 M16	12.5	10	TPC830 M16	12.5					TPC830 M16	12	9
TPC830 M18 W3/4 PT3/8	14	11	TPC830 M18	14					TPC830 M18	14	11
TPC830 M20	15	12	TPC830 M20	14					TPC830 M20	16	12
TPC830 M22 W7/8	17	13	TPC830 M22	16					TPC830 M22	18	14.5
TPC830 M24	19	15	TPC830 M24	18					TPC830 M24	18	14.5
TPC830 M27 W1 PT5/8	20	15	TPC830 M27	20					TPC830 M27	20	16
TPC830 M30 PT3/4	23	17	TPC830 M30	20					TPC830 M30	22	18
TPC830 W5/16	6.1	5	TPC830 PT1/2	16							
TPC830 W7/16 PT1/8	8	6									
TPC830 M1/2	9	7									
TPC830 W5/8	12	9									
TPC830 PT1/4	11	9									
TPC830 PT1/2	18	14									

●Stock ○Availabie upon Order

Stock Collet Chuck BT □–SK□–L1



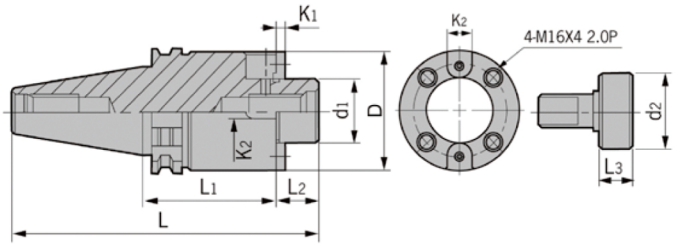


Ordering Code	Stock	Capacity	L	L1	D	Collet	Nut	Wrench
SK40–ER11–70	●	0.5–7	138.4	70	19	ER11	ER11–A	OW/ER11
–100	●		168.4	100	19			
SK40–ER16–70	●	1–10	138.4	70	28	ER16	ER16–A	OW/ER16
–100	●		168.4	100	28			
–150	●		218.4	150	28			
SK40–ER20–70	●	2–13	138.4	70	34	ER20	ER20–A	OW/ER20
–100	●		168.4	100	34			
–150	●		218.4	150	34			
SK40–ER25–70	●	2–16	138.4	70	42	ER25	ER25–UM	UW/ER25
–100	●		168.4	100	42			
–150	●		218.4	150	42			
SK40–ER32–70	●	3–20	138.4	70	50	ER32	ER32–UM	UW/ER32
–100	●		168.4	100	50			
–150	●		218.4	150	50			
SK40–ER40–80	●	3–26	148.4	80	63	ER40	ER40–UM	UW/ER40
–100	●		168.4	100	63			
–150	●		218.4	150	63			
SK50–ER16–70	●	1–10	171.8	70	28	ER16	ER16–A	OW/ER16
–100	●		201.8	100	28			
–150	●		251.8	150	28			
SK50–ER20–70	●	2–13	171.8	70	34	ER20	ER20–A	OW/ER20
–100	●		201.8	100	34			
–150	●		251.8	150	34			
SK50–ER25–70	●	2–16	171.8	70	42	ER25	ER25–UM	UW/ER25
–100	●		201.8	100	42			
–150	●		251.8	150	42			
SK50–ER32–70	●	3–20	171.8	70	50	ER32	ER32–UM	UW/ER32
–100	●		201.8	100	50			
–150	●		251.8	150	50			
SK50–ER40–80	●	3–26	171.8	80	63	ER40	ER40–UM	UW/ER40
–100	●		201.8	100	63			
–150	●		251.8	150	63			
–200	●		301.8	200	63			

●Stock ○Availabie upon Order

SK Shank Face Mill Holder SK □–FMB□–L1





Ordering Code	Stock	d1	d2	D	L	L1	L2	K1	K2	T
SK40–FMB22–45	●	22	26	48	129.9	45	16.5	4.8	10	M10X30
–60	●				144.9	60				
–100	●				184.9	100				
–150	●				234.9	150				
SK40–FMB27–45	●	27	33	60	131.9	45	18.5	5.8	12	M12X30
–60	●				146.9	60				
–100	●				186.9	100				
–150	●				236.9	150				
–200	●				286.9	200				
SK40–FMB32–60	●	32	41	62	150.4	60	22	6.8	14	M16X35
–100	●				190.4	100				
–150	●				240.4	150				
–200	●				290.4	200				
SK40–FMB40–60	●	40	48	80	153.4	60	25	8	16	M16X35
–100	●				193.4	100				
–150	●				243.4	150				
–200	●				293.4	200				
SK50–FMB22–60	●	22	26	48	178.25	60	16.5	4.8	10	M10X30
–100	●				218.25	100				
–150	●				268.25	150				
–200	●				318.25	200				
SK50–FMB27–60	●	27	33	60	180.25	60	18.5	5.8	12	M12X30
–100	●				220.25	100				
–150	●				270.25	150				
–200	●				320.25	200				
SK50–FMB32–60	●	32	41	73	183.75	60	22	6.8	14	M16X35
–100	●				223.75	100				
–150	●				273.75	150				
–200	●				333.75	200				
SK50–FMB40–60	●	40	48	80	186.75	60	25	8	16	M16X35
–100	●				226.75	100				
–150	●				276.75	150				
–200	●				326.75	200				

Note:1.When order center cooling or flangecooling,please specify.

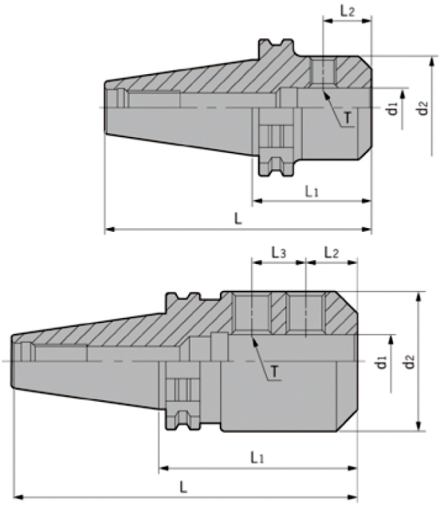
●Stock ○Availabie upon Order

SK Shank SLN Side Lock End Mill Holder
SK □–SLN□–L1

◎SK taper shank is in conformity with At3 standard
◎Tolerance H5 for inner bore d
◎Default balancing design

DIN68971/DIN1835





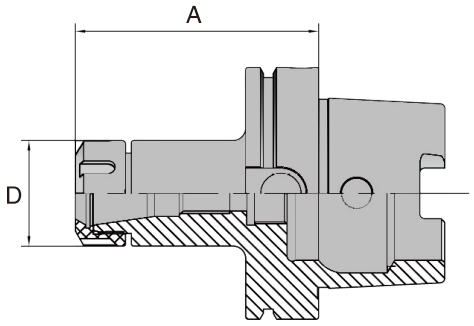
Ordering Code	Stock	Type	L	L1	H1	H2	M	D	d
SK30–SLN6–50	●	Fig.1	97.8	50	18	–	M6	25	6
SK30–SLN8–50	●	Fig.1					M8	28	8
SK30–SLN10–50	●	Fig.1			20		M10	35	10
SK30–SLN12–50	●	Fig.1			22.5		M12	42	12
SK30–SLN16–63	●	Fig.1	110.8	63		–	M14	48	16
SK30–SLN20–63	●	Fig.1					M16	52	20
SK40–SLN6–50	●	Fig.1	118.4	50	18	–	M6	25	6
SK40–SLN8–50	●	Fig.1					M8	28	8
SK40–SLN10–50	●	Fig.1			20		M10	35	10
SK40–SLN12–50	●	Fig.1			22.5		M12	42	12
SK40–SLN16–63	●	Fig.1	131.4	63	24	–	M14	48	16
SK40–SLN20–63	●	Fig.1			25		M16	52	20
SK40–SLN25–100	●	Fig.2	168.4	100	24	25	M18	65	25
SK40–SLN32–100	●	Fig.2			24	28	M20	72	32
SK50–SLN6–63	●	Fig.1	164.75	63	18	–	M6	25	6
SK50–SLN8–63	●	Fig.1					M8	28	8
SK50–SLN10–63	●	Fig.1			20		M10	35	10
SK50–SLN12–63	●	Fig.1			22.5		M12	42	12
SK50–SLN16–63	●	Fig.1			24		M14	48	16
SK50–SLN20–63	●	Fig.1			25		M16	52	20
SK50–SLN25–80	●	Fig.2	181.75	80	24	25	M18	65	25
SK50–SLN32–100	●	Fig.2	201.75	100		28	M20	72	32
SK50–SLN40–100	●	Fig.2			30	32	M20	90	40
SK50–SLN42–100	●	Fig.2			30	32	M20	100	42

Note:1.We can provide dynamic balabce G6.3/12000rpm,Price would be advanced.

●Stock ○Availabie upon Order

ER Collet Chuck DIN69893

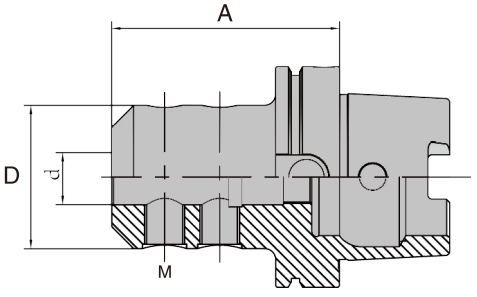




Ordering Code	Stock	Capacity	A	D	
HSK63A-ER16-100	●	1-10	100	32	ER16
HSK63A-ER20-100	●	1-12	100	38	ER20
HSK63A-ER25-100	●	2-16	100	42	ER25
HSK63A-ER32-100	●	2-20	100	50	ER32
HSK63A-ER16-160	●	1-10	160	32	ER16
HSK63A-ER20-160	●	1-12	160	38	ER20
HSK63A-ER25-160	●	2-16	160	42	ER25
HSK63A-ER32-160	●	2-20	160	50	ER32
HSK100A-ER32-100	●	2-20	100	50	ER32

End Mill Holder Weldon DIN69893



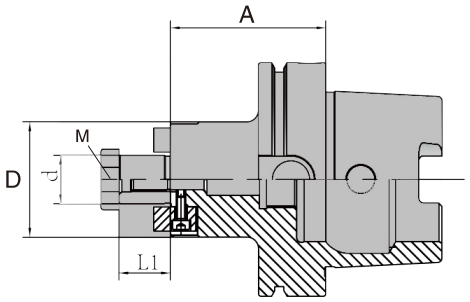


Ordering Code	Stock	d	A	D	M
HSK63A-SLA16-80	●	16	80	48	M14
HSK63A-SLA20-80	●	20	80	52	M16
HSK63A-SLA25-110	●	25	110	65	M18
HSK63A-SLA32-110	●	32	110	72	M20
HSK63A-SLA40-125	●	40	125	80	M20
HSK100A-SLA16-100	●	16	100	48	M14
HSK100A-SLA20-100	●	20	100	52	M16
HSK100A-SLA25-100	●	25	100	65	M18
HSK100A-SLA32-100	●	32	100	72	M20
HSK100A-SLA40-105	●	40	105	80	M20

●Stock ○Availabie upon Order

FMB Face Mill Holder



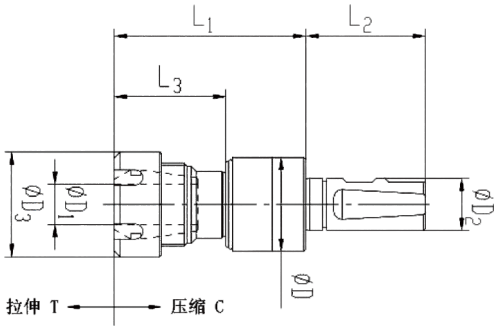


Ordering Code	Stock	d	A	L1	D	M
HSK50-FMB16-50	●	16	50	17	38	M8X30
HSK50-FMB22-60	●	22	60	19	48	M10X30
HSK50-FMB27-60	●	27	60	21	58	M12X30
HSK50-FMB32-60	●	32	60	24	78	M16X35
HSK63-FMB16-50	●	16	50	17	38	M8X30
HSK63-FMB22-50	●	22	50	19	48	M10X30
HSK63-FMB27-60	●	27	60	21	58	M12X30
HSK63-FMB32-60	●	32	60	24	78	M16X35
HSK63-FMB40-60	●	40	60	27	88	M16X35
HSK63-FMB16-100	●	16	100	17	38	M8X30
HSK63-FMB22-100	●	22	100	19	48	M10X30
HSK63-FMB27-100	●	27	100	21	58	M12X30
HSK63-FMB32-100	●	32	100	24	78	M16X35
HSK63-FMB40-100	●	40	100	27	88	M16X35
HSK80-FMB22-50	●	22	50	19	48	M10X30
HSK80-FMB27-50	●	27	50	21	58	M12X30
HSK80-FMB32-60	●	32	60	24	78	M16X35
HSK80-FMB40-60	●	40	60	27	88	M16X35
HSK100-FMB22-50	●	22	50	19	48	M10X30
HSK100-FMB27-50	●	27	50	21	58	M12X30
HSK100-FMB32-50	●	32	60	24	78	M16X35
HSK100-FMB40-60	●	40	60	27	88	M16X35
HSK100-FMB60-70	●	60	70	40	130	M16X35

●Stock ○Availabie upon Order

Micro compensation tapping tool holder series





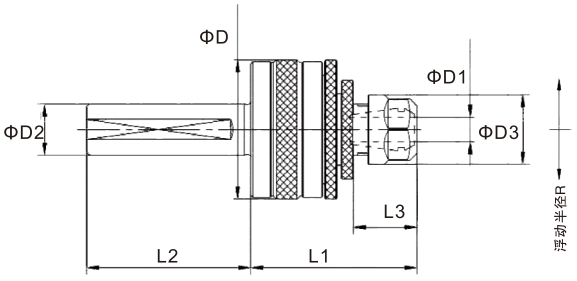
・ERNuts S type for the internal cooling type, A type for the cold type。

Unit：mm

Ordering Code	Stock	ERJacket	ϕD	ϕD1	ϕD2	ϕD3	L1	L2	L3	C	T	Applicable taps
VLERS20–C25	●	ER20	34	4.5–10	25	34	68	57	45	0.5	0.5	M4–M12 (Nr.8–7/16)
VLERS32–C25	●	ER32	45	4.5–16	25	50	90	57	51	0.5	0.5	

Floating knife series





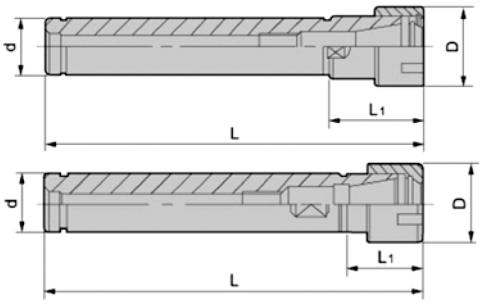
Unit：mm

Ordering Code	Stock	ERJacket	ϕD1	ϕD2	ϕD	ϕD3	L1	L2	L3	R (MAX)
SV–FTER20–D25	●	ER20	3–13	25	68	34	80	80	30	0.5

●Stock ○Availabie upon Order

ER Collet Chuck Holder



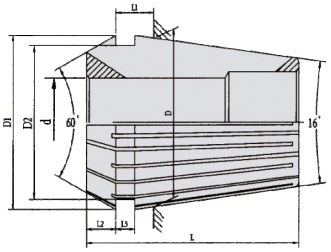


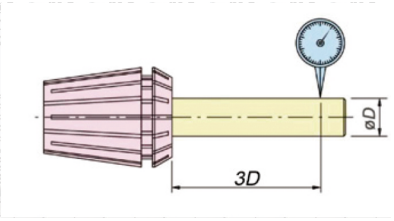
Ordering Code	Stock	D	d	L1	L	Nut	Wrench	Collet
C8-ER8M-55	●	12	8	24	79	CNM-ER08	ER08	ER08
C10-ER8M-180	●	12	10	17	197			
C12-ER8M-120	●	12	12	17	137			
C12-ER8M-180	●			17	197			
C12-ER11M-80	●	16	12	26.5	106.5	CNM-ER11	ER11M	ER11
C16-ER11M-100	●	0	16	18.5	118.5			
C16-ER11M-140	●	0	16	18.5	158.5			
C16-ER16M-80	●	23	16	37	117	CNM-ER16	ER16M	ER16
C20-ER16M-100	●	23	20	25	125			
C20-ER16M-160	●	23	20	25	185			
C20-ER20M-100	●	28	20	40	140	CNM-ER20	ER20M	ER20
C20-ER20M-150	●	28	20	40	190			
C20-ER20M-180	●	28	20	40	220			
C25-ER20M-140	●	28	25	28	168			
C20-ER25M-100	●	35	20	40	140	CNM-ER25	ER25M	ER25
C20-ER16-100	●	28	20	30	130	CAN-ER16	ER16A	ER16
C20-ER16-150	●	28	20	30	180			
C20-ER20-100	●	34	20	36	136	CAN-ER20	ER20A	ER20
C20-ER20-150	●	34	20	36	186			
C20-ER20-170	●	34	20	36	206			
C20-ER25-100	●	42	20	46	146	CAN-ER25	ER25UM	ER25
C20-ER25-150	●	42	20	46	196			
C25-ER16-100	●	28	25	30	130	CAN-ER16	ER16A	ER16
C25-ER16-150	●	28	25	30	180			
C25-ER20-150	●	34	25	36	186	CAN-ER20	ER20A	ER20
C25-ER25-100	●	42	25	46	146	CAN-ER25	ER25UM	ER25
C25-ER25-150	●	42	25	46	196			
C25-ER32-80	●	50	25	54	134	CAUM-ER32	ER32UM	ER32
C32-ER25-60	●	42	32	46	106	CAUM-ER25	ER25UM	ER25
C32-ER32-100	●	50	32	54	154	CAUM-ER32	ER32UM	ER32
C32-ER40-100	●	63	32	55	155	CAUM-ER40	ER40UM	ER40
C40-ER32-100	●	50	40	54	154	CAUM-ER32	ER32UM	ER32
C40-ER40-100	●	63	40	55	155	CAUM-ER40	ER40UM	ER40

●Stock ○Availabie upon Order

ER Collet



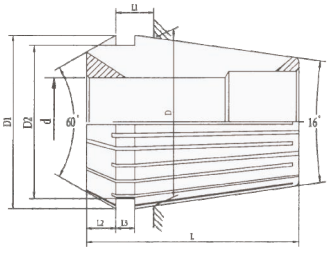


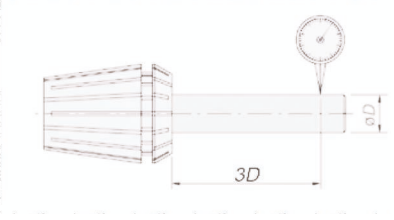


Ordering Code	Stock	DH7	D	D1	D2	L	L1	L2	L3	Elastic shrinkage
ER8	●	1.0–5.0	8	8.45	6.5	13.5	2.98	1.5	1.2	0.5
ER11	●	1.0–7.0	11	11.5	9.5	18	3.8	2.5	2	0.5
ER16	●	1.0–2.5	16	17	13.8	27.5	27.5	4	2.7	0.5
		2.5–10.0	16	17	13.8	27.5	27.5	4	2.7	1
ER20	●	1.0–2.5	20	21	17.4	31.5	31.5	4.8	2.8	0.5
		2.5–13.0	20	21	17.4	31.5	31.5	4.8	2.8	1
ER25	●	1.0–2.5	25	26	22	34	34	5	3.1	0.5
		2.5–16.0	25	26	22	34	34	5	3.1	1
ER32	●	2.0–2.5	32	33	29.2	40	40	5.5	3.6	0.5
		2.5–20.0	32	33	29.2	40	40	5.5	3.6	1
ER40	●	3.0–26.0	40	41	36.2	46	46	7	4.1	1
ER50	●	6.0–10.0	50	52	46	60	60	8.5	5.5	1
		10.0–34.0	50	52	46	60	60	8.5	5.5	2

Sealed Collet with Slitting







Ordering Code	Stock	DH7	D	D1	D2	L	L1	L2	L3	Elastic shrinkage
SER16	●	3.0–10.0	16	17	13.8	27.5	27.5	4	2.7	1
SER20	●	3.0–13.0	20	21	17.4	31.5	31.5	4.8	2.8	1
SER25	●	3.0–16.0	25	26	22	34	34	5	3.1	1
SER32	●	3.0–20.0	32	33	29.2	40	40	5.5	3.6	1
SER40	●	3.0–26.0	40	41	36.2	46	46	7	4.1	1

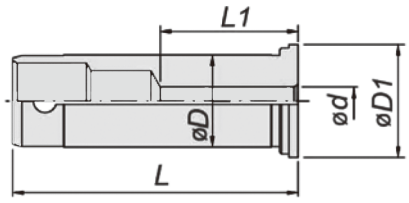
Clamping dianetrer	At the 4*D times the diameter of the clamping tool accuracy class			
J02308	ER	ER–A	ER–AA	ER–AA
J02311	0.02	0.01	0.006	0.003

According to the model number when ordering requirements plus accuracy class;
example:ER32–**AA

●Stock ○Availabie upon Order

ER Straight Collet



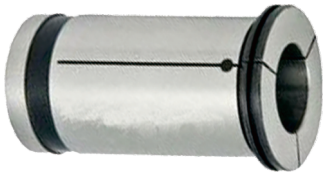


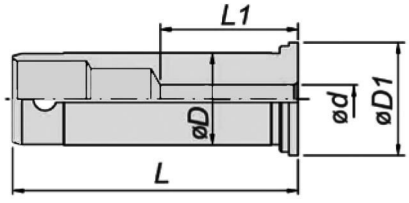
Ordering Code	Stock	Size(mm)	
		D	d
C20–06	●	20	6
C20–08	●		8
C20–10	●		10
C20–12	●		12
C20–16	●		16
	●		
	●		
	●		

Model	Stock	Size(mm)	
		D	d
C32–06	●	32	6
C32–08	●		8
C32–10	●		10
C32–12	●		12
C32–16	●		16
C32–20	●		20
C32–25	●		25
	●		

Ordering Code	Stock	Size(mm)	
		D	d
C42–06	●	42	6
C42–08	●		8
C42–10	●		10
C42–12	●		12
C42–16	●		16
C42–20	●		20
C42–25	●		25
C42–32	●		32

SC Sealed Collet





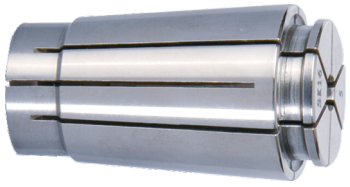
Ordering Code	Stock	Size(mm)	
		D	d
SC20–06	●	20	6
SC20–08	●		8
SC20–10	●		10
SC20–12	●		12
SC20–16	●		16
	●		
	●		
	●		

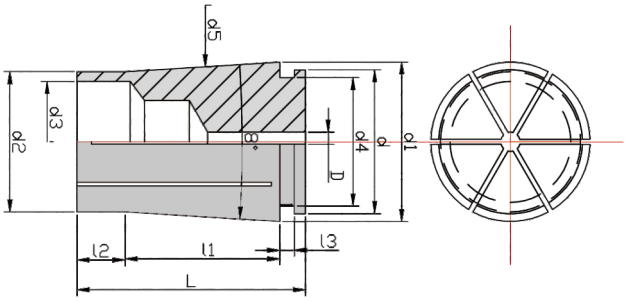
Model	Stock	Size(mm)	
		D	d
SC32–06	●	32	6
SC32–08	●		8
SC32–10	●		10
SC32–12	●		12
SC32–16	●		16
SC32–20	●		20
SC32–25	●		25
	●		

Ordering Code	Stock	Size(mm)	
		D	d
SC42–06	●	42	6
SC42–08	●		8
SC42–10	●		10
SC42–12	●		12
SC42–16	●		16
SC42–20	●		20
SC42–25	●		25
SC42–32	●		32

●Stock ○Availabie upon Order

SKS Collet



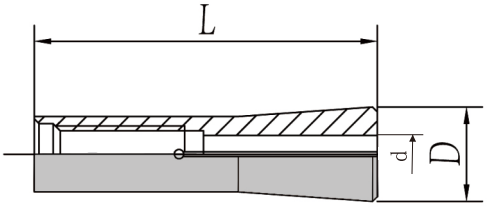


Ordering Code	Stock	L	l1	l2	l3	d	d1	d2	d3	d4	d5
SK06	●	25.7	17.5	4	2.4	9.26	10.5	7.5	6	7.8	9.964
SK10	●	32	22	5	2.5	13.7	15.6	12	10	12	15.013
SK16	●	46	32	8	2.8	21	24.6	18.8	16	19	23.939
SK25	●	58	43	8.5	3.6	31	35.6	28.9	25.5	28.2	35.029

Ordering Code	D
SK06	2,2.5,3,3.5,4,4.5,5,5.5,6
SK10	2,2.5,3,3.5,4,4.5,5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10
SK16	3,3.5,4,4.5,5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10,10.5,11,11.5,12,12.5,13,13.5,14,14.5,15,15.5,16
SK25	6,8,10,12,14,16,16.5,17,17.5,18,18.5,19,19.5,20, 20.5,21,21.5,22,22.5,23,23.5,24,24.5,25

MX Collet





Ordering Code	Stock	d	Standard	P Class	D	L
MX6–2,3,4,5,6,3.175	●	2–6	0.005	0.003	9.6	36
MX8–3,4,5,6,8	●	3–8	0.005	0.003	15	45
MX10–3,4,5,6,8,10	●	3–10	0.005	0.003	16	52
MX12–3,4,5,8,10,12	●	3–12	0.005	0.003	22	57

●Stock ○Availabie upon Order

BT Pull Studs



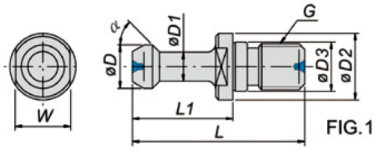


FIG.1

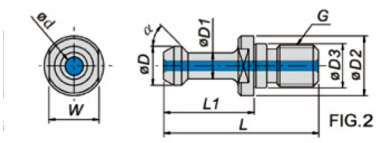


FIG.2

Ordering Code	Figure	Stock	D	D1	D2	D3	L	L1	a	G	W
BT30–45°	Fig.1	●	11	7	16.5	12.5	43	23	45°	M12	13
BT30–60°		●							60°		
BT40–45°		●	15	10	23	17	60	35	45°	M16	19
BT40–60°		●							60°		
BT40–90°		●							90°		
BT50–45°		●	23	17	38	25	85	45	45°	M24	30
BT50–60°		●									
BT50–90°		●									
BT40–45° –S	Fig.2	●	15	10	23	17	60	35	45°	M16	19
BT40–60° –S		●							60°		
BT40–90° –S		●							90°		
BT50–45° –S		●	23	17	38	25	85	45	45°	M24	30
BT50–60° –S		●									
BT50–90° –S		●									

JT Pull Studs



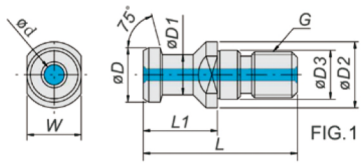


FIG.1

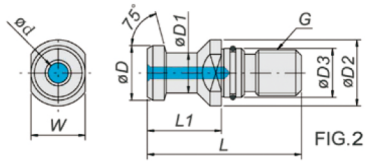


FIG.2

Ordering Code	Figure	Stock	D	D1	D2	D3	d	L	L1	W	G
SK40–A	Fig.1	●	19	14	23	17	7	54	26	19	M16
SK50–A		●	28	21	36	25	11.5	74	34	30	M24
SK40–B	Fig.2	●	19	14	23	17	7	54	26	19	M16
SK50–B		●	28	21	36	25	11.5	74	34	30	M24

●Stock ○Availabie upon Order

ER Clamping Nuts(DIN6499)

ER–M M Type Clamping Nuts

Part NO.	M	Fig.	ØD	L	Max.Tightening Torque Nm
CNM–ER08	M10*0.75P	1	12	10.8	10
CNM–ER11	M13*0.75P		16	12	30
CNM–ER16	M19*1.00P		22	18	70
CNM–ER20	M24*1.00P		28	19	100

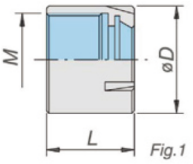


Fig.1



ER–SH High Speed Balanced Clamping Nuts

Part NO.	M	Fig.	ØD	L	H	Max.Tightening Torque Nm
CAN–ER11	M14*0.75P	2	19	11.3	17	30
CAN–ER16	M22*1.50P		28	17.5	25	70
CAN–ER20	M25*1.50P		34	19	30	100
CAUM–ER16	M22*1.50P	3	32	17	–	70
CAUM–ER20	M25*1.50P		35	19		100
CAUM–ER25	M32*1.50P		42	20		130
CAUM–ER32	M40*1.50P		50	23		170
CAUM–ER40	M50*1.50P		63	25		220

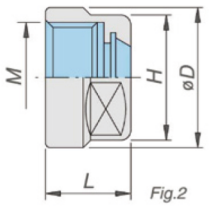
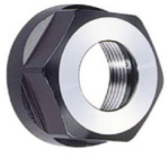


Fig.2



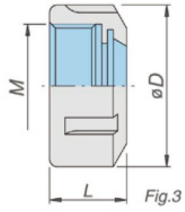


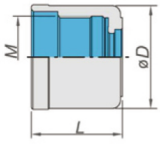
Fig.3



Clamping Nuts

NR Nuts

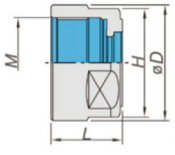
Part NO.	M	ØD	L	Max.Tightening Torque Nm
GSK 06	M15.5*1.00P	20.0	21.5	30
GSK 10	M21.5*1.00P	27.1	24	40
GSK 16	M32.0*1.50P	40.0	31	60
GSK 25	M45.0*1.50P	55.0	37.5	100





NR–WD Nuts

Part NO.	M	ØD	H	L	Max.Tightening Torque Nm
SK 10M	M21.5*1.00P	27.5	25.4	17	40
SK 16M	M32.0*1.50P	40.0	–	24	60

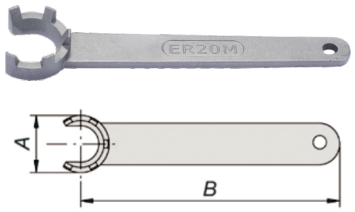




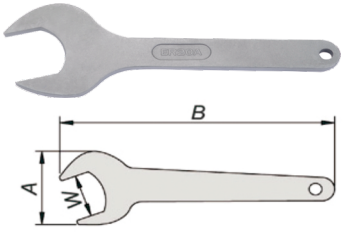


Wrenches

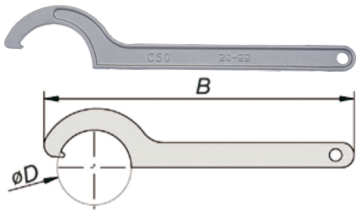
Part N0.	A	B	Nuts
W-ER 8M	12.8	75	CNM-ER08
W-ER 11M	16.8	90	CNM-ER11
W-ER 16M	22.8	110	CNM-ER16
W-ER 20M	29	120	CNM-ER20



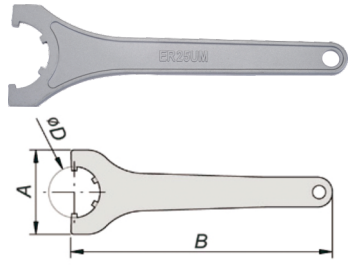
Part N0.	A	B	W	Nuts
W-ER 11A	32	95	17	CAN-ER11
W-ER 16A	44	145	25	CAN-ER16
W-ER 20A	52	170	30	CAN-ER20



Part N0.	∅D	B	Nuts
W-FK 04	Φ30-Φ33	135	ER16GM
W-FK 05	Φ34-Φ36	160	ER20GM
W-FK 06	Φ40-Φ42	170	NR16/ER25SH/NR16WD
W-FK 07	Φ44-Φ49	195	ER25GM
W-FK 08	Φ52-Φ55	210	C20/ER32SH
W-FK 09	Φ58-Φ62	230	CTH25/ER40SH/C25
W-FK 10	Φ68-Φ75	245	CTH32/C32
W-FK 11	Φ80-Φ93	270	ARH42

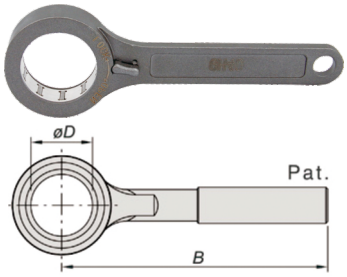


Part N0.	∅D	A	B	Nuts
W-ER 25UM	42	65	210	CAUM-ER25
W-ER 32UM	50	75	250	CAUM-ER32
W-ER 40UM	63	90	290	CAUM-ER40
W-ER 50UM	80	110	355	CAUM-ER50



High Speed Tooling Wrenches

Part N0.	∅D	B	Nuts
W-SK06	19.7	118	SK06
W-SK10	27.7		SK10
W-SK16	40	155	SK16
W-SK20	48	212	SK20
W-SK25	55		SK25



Milling tools



Recommended Cutting Data

Workpiece Materials		Materials Hardness	Grade	Recommended Cutting Speed Vc (m/min)	mm/tooth Light Cutting	Medium Cutting	Heavy Cutting
P	Low Carbon Steel	≤HB180	NS4115 NS4125 NP115T	180 (150–220)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Carbon Steel、Alloy Steel	HB180–350	NS4115 NS4125	160 (140–200)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Per–hardened Steel	HRC35–45	NS4115 NS4125	120 (100–160)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
M	Stainless Steel (Ferrite、Martensite)	≤HB270	NS4115 NS4125	140 (120–180)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Stainless Steel (Austenite、Diphasic)	≤HB270	NS4115 NS4125	120 (100–160)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
K	Grey Cast Iron	≤HB280	NS4115 NS4125	180 (150–220)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Nodular Cast Iron Vermicular Cast Iron	≤HB350	NS4115 NS4125	120 (100–180)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
S	Heat–resistant Alloy and Titanium Alloy	HRC25–35	NS4115 NS4125	40 (30–60)	0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.1 (0.05–0.15)	0.12 (0.08–0.2)	0.15 (0.1–0.25)
					0.1 (0.05–0.15)	0.12 (0.08–0.2)	0.15 (0.1–0.25)
N	Aluminum Alloy	HB60–210	NN9115	500 (200–900)	0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)

★ Tool RPM (min^(–1)) = (1000 XCutting Speed) / (3.14 X Diameter of Cutter)
★ Workpiece Feed (mm/min) =Feed Per Tooth XNumber Of Tooth XTool RPM

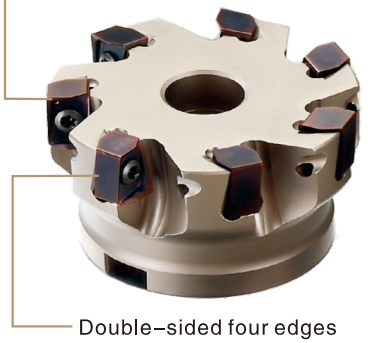
Millling cutter

Two–side spiral blade 90 degree shoulder facing end mill— — it is suitable for all kinds of plane,ladder, slotting machining,is in best efficiency and precision.



Main Characters

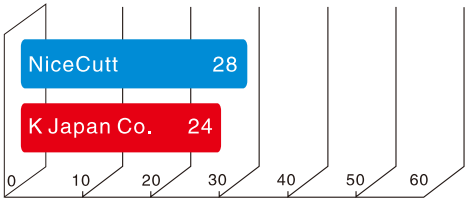
1.The inserts are in two–side and four–blade design, and they are thick and strong for deep milling process.
2.The design of swallow tail oblique trough, conbined with insert reparing blade, could satisfy milling process for high finishing surface requirement.
3.Cutters adopt to orthogonal screw clamp to ensure higher clamp rigidity and safety.
4.Cutters' thick teeth design, combined with the design of low cutting resistance is n high process efficiency.
5.The model 06 thickness design could ensure the most cutting depth up to more than 10mm.
6.The diameter of cutter is from 40mm to 250mm, and it could cover the whole plane.



Case Study 1



Material Science	304 Stainless steel
Processing method	Slotting machining
Insert	ANMX080408–PDR–NS4125
Cutter head	BAN08–1616T2–160





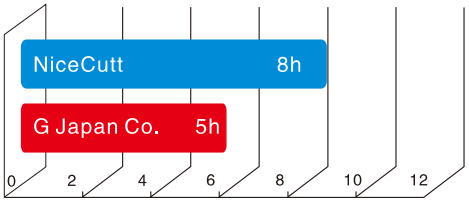
The cutting parameters
Vc=110m/min
fz=0.8mm/t
ap=1.2mm
ae=16mm

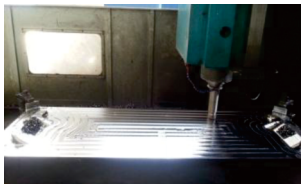
Cutting life
+17%

Case Study 2



Material Science	45# (HRC22)
Processing method	Face milling, dry cutting
Insert	ANMX160608–PDR–NS4125
Cutter head	BAN16D063T5–22





The cutting parameters
Vc=180m/min
f=1.34mm
ap=1.5mm
ae=40mm

Cutting life
+60%

Two face spiral blade 4S degree face milling cutter

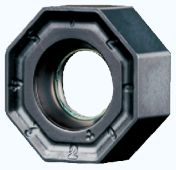
It is suitable for all kinds of plane process, and it is used for many places.And we provide goods in high quality at good price.It can clamp two kind of inserts to the same retaining nest. The inserts are the two–side square ones with 8 cutting edges and the two–side octagonal ones with 16 cutting edges



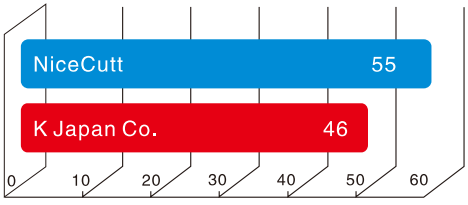
Main characters

- Orthogonal screw clamp could ensure better clamp rigidity and safety.
- Thick tooth design makes much higher efficiency.
- Square inserts could cut 5mm in depth at most, and the orthogonal ones 3mm.
- One cutter with two kinds of inserts is suitable for roughing, semi–finishing and finishing.
- It is very economical, with 8 cutting edges and 16 cutting edges.
- It has repairing light blade inserts, and could lead to high quality.
- The diameter of cutter is from 40mm to 315mm, and it could cover the whole plane.

Case Study 1



Material Science	HT300(HB230)
Processing method	Face milling, dry cutting
Insert	ONMU1205ANEN–NM–NS4125
Cutter head	SONFM45D080T06–27



The quantity(pieces)/tip



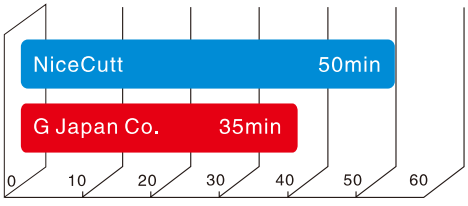
The cutting parameters
Vc=200m/min
fz=0.15mm/t
ap=3.5mm
ae=50mm

Cutting life
+20%

Case Study 2



Material Science	45# (HRC22)
Processing method	Face milling, dry cutting
Insert	SNMU1205ANEN–NM–NS4125
Cutter head	SONFM45D080T06–27



The quantity Time(min)/tip

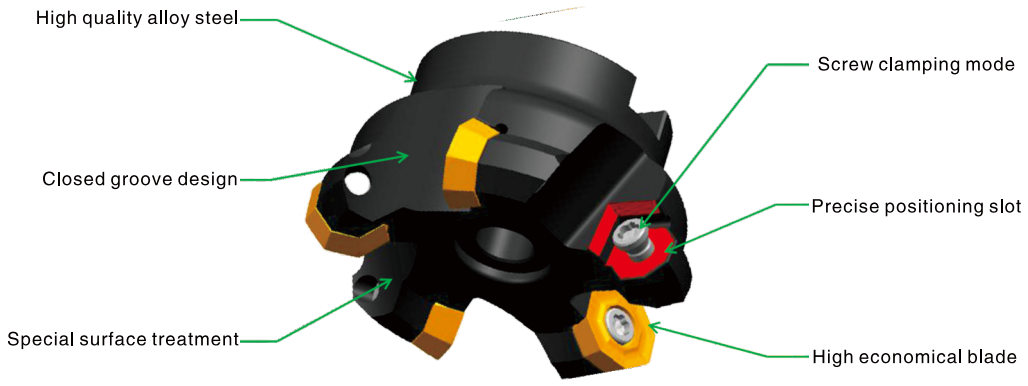


The cutting parameters
Vc=250m/min
fz=0.2mm/t
ap=2mm
ae=25mm

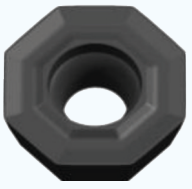
Cutting life
+40%

ODKT Insert

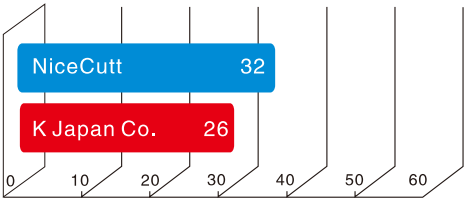
- The main angle is 43 DEG collocation type cutter body angle, ensuring quick cutting;
- The collocation excellent high universal brands: NS4115, NS4125; NN9115
- Is the most suitable for steel (P), stainless steel (M), iron (K), Aluminum Alloy (N) high economic face milling.

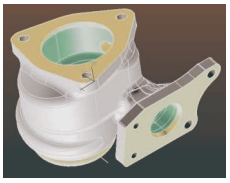


Case Study 1



Material Science	High temperature alloy steel (1.4839)
Processing method	Plane milling, finish machining
Insert	ODKT060508–NM–NS4125
Cutter head	FM45–D063T05–22–OD06

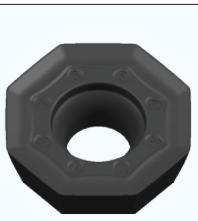




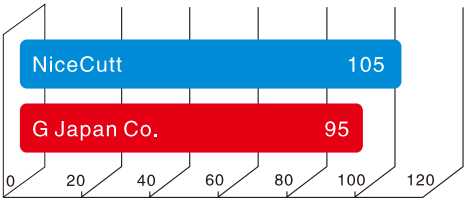
The cutting parameters
Vc=100m/min
fz=0.2mm/t
ap=1.5mm
D=63mm

Cutting life
+25%

Case Study 2



Material Science	45# (HRC22)
Processing method	Face milling, dry cutting
Insert	ONMU1205ANEN–NM–NS4125
Cutter head	SONFM45D080T06–27

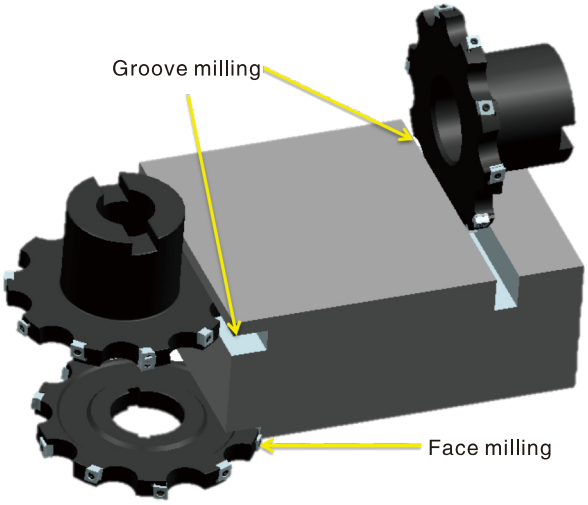


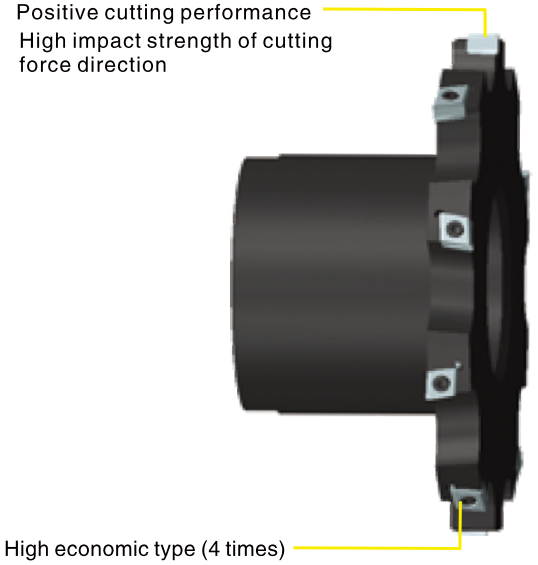


The cutting parameters
Vc=130m/min
fz=0.2mm/t
ap=0.3mm
ae=80mm

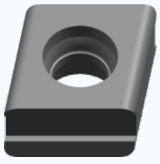
Cutting life
+20%

TMR Milling Cutter

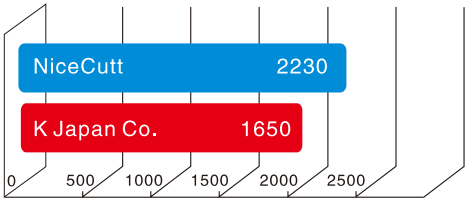


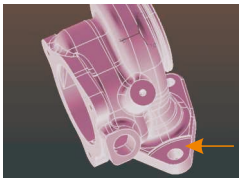


Case Study 1



Material Science	HT250 (HB180–230)
Processing method	Milling back
Insert	CNEU070508–NM–NS4125
Cutter head	TMR–080.H10.06T27–CN07





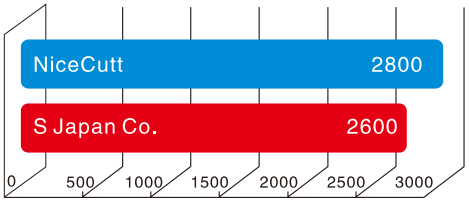
The cutting parameters
Vc=220m/min
fz=0.2mm/t
ap=3.5mm
D=80mm

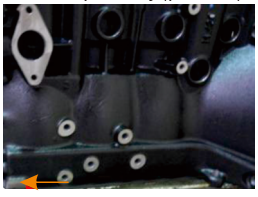
Cutting life
+35%

Case Study 2



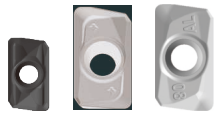
Material Science	HT250
Processing method	Milling back
Insert	CNEU070508–NM–NS4125
Cutter head	TMR–125.H10.10T32–CN07





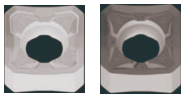
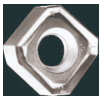
The cutting parameters
Vc=220m/min
fz=0.2mm/t
ap=15mm
ae=125mm

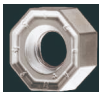
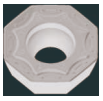
Cutting life
+6%

APMT**/APGT	ANMX	SEEN/SEEX	SPKN/SPER
			
P170	P170	P171	P171

SPEN	SEET**PL	SEET**PM	SEET**PK
			
P171	P172	P172	P172

SEET**PH	SEET**PG	SEET**PL	SEET**PW
			
P172	P172	P172	P172

SNEU**NL	SNEU**NM	SNEU**NW	SNMU
			
P173	P173	P173	P173

ONMU	ODKT**NL	ODKT**NM	ODKT**NH
			
P173	P174	P174	P174

TPKN	TPER	RPET/RDET**NL/NM	RPEW/RDEW
			
P174	P174	P175~P176	P175~P176

RCET**NE

P123

RDET**MH

P123

UDET

P124

UDMT

P123

CNEU

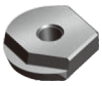
P177

HNMX/SNEX

P178

SNEX

P178

QOHX

P179

QPHT

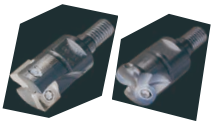
P179

MFT

P180

T2139-P32**

P181

BAP/RP

P182

BFR

P183

BAP

P184~P185

BRP

P186~P187

BRD

P188~P189

DX45

P190

BTC

P190

TP

P191

BSC

P191

AJU

P192

ATS

P192

BUD

P193

BAP

P194

BRP/BRD

P194~P195

BAN

P196

BAN

P196

SONFM

P197

TFM55°

P197

SE12 45°

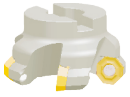
P198

BSE45°

P198

SE13 45°

P199

FM

P199

BM90°

P200

BM90°

P200

BT

P201

HMC

P201

HMC

P202

TMR

P202

SMR

P203

STF

P203

STF

P203

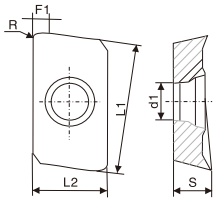
BBMS

P204

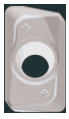
APMT

Shoulder Milling Inserts

○ continuous ◔ light Interruption ⧓ Interruption



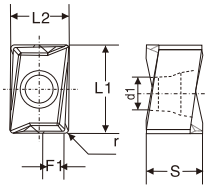
		○ continuous	◔ light Interruption	⧓ Interruption
P	Steel	●	◔	●
M	Stainless Steel	●	◔	
K	Cast Iron	●	◔	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L1	L2	S	F1	d1	R	NS4115	NS4125	NN9115	NP115T
	APMT1135PDER–NL	10.83	6.16	3.50	1.92	2.80	0.80	○	●		
	APMT1604PDER–NL	16.26	9.26	4.76	2.00	4.60	0.80	●	●		
	APMT1135PDER–NM	10.83	6.16	3.50	1.92	2.80	0.80	●	●		○
	APMT1604PDER–NM	16.26	9.26	4.76	2.00	4.60	0.80	●	●		○
	APMT1135PDER–NR	10.83	6.16	3.50	1.92	2.80	0.80	●	●		○
	APMT1604PDER–NR	16.26	9.26	4.76	2.20	4.40	0.80	●	●		○
	APGT1135PDFR–AL	10.83	6.16	3.50	1.92	2.80	0.80			●	
	APGT1604PDFR–AL	16.26	9.26	4.76	2.20	4.40	0.80			●	

ANMX

Shoulder Milling Inserts

○ continuous ◔ light Interruption ⧓ Interruption



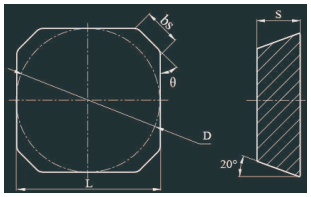
		○ continuous	◔ light Interruption	⧓ Interruption
P	Steel	●	◔	
M	Stainless Steel	●	◔	
K	Cast Iron	●	◔	
N	Non–ferrous Metal			
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L1	L2	S	F1	d1	R	NS4115	NS4125	NN9115	NP115T
	ANMX080404–PDR	8.60	6.60	5.20	2.50	3.50	0.40	○	○		
	ANMX080408–PDR	8.60	6.60	5.20	2.50	3.50	0.80	●	●		
	ANMX130508–PDR	13.70	10.00	8.90	3.40	4.40	0.80	●	●		
	ANMX130512–PDR	13.70	10.00	8.90	3.40	4.40	1.20	○	○		
	ANMX160608–PDR	16.70	11.20	10.40	4.70	5.40	0.80	●	●		
	ANMX160612–PDR	16.70	11.20	10.40	4.70	5.40	1.20	○	○		

●Stock ○Availabie upon Order

SEEN SPKN SPEN

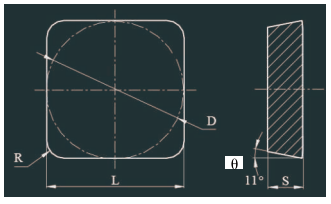
Face Milling Inserts



		○ continuous	◔ light Interruption		⊕ Interruption
P	Steel	●	◔		●
M	Stainless Steel	○	◔		
K	Cast Iron	●	◔	●	
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

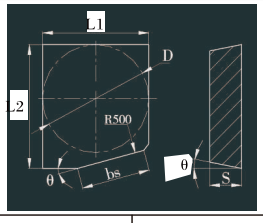
Shape	Ordering Code	Dimensions(mm)					Coated–PVD		Uncoated	Cermet
		L	D	S	θ	bs	NS4115	NS4125	NN9115	NP115T
	SEEN1203AFTN	12.70	12.70	3.18	45°	2.30	○	○	○	○
	SEEN1204AFTN	12.70	12.70	4.76	45°	2.40	○	○	○	○
	SEEN1504AFTN	15.88	15.88	4.76	45°	2.40	○	○	○	○

Face Milling Inserts



		Dimensions(mm)					Coated–PVD		Uncoated	Cermet
		L	D	S	θ	R	NS4115	NS4125	NN9115	NP115T
	SPKN1203EDR	12.70	12.70	3.18	15°	1.40	○	○	○	○
	SPKN1203EDL	12.70	12.70	3.18	15°	1.40	○	○	○	○
	SPKN1504EDR	15.88	15.88	4.76	15°	1.40	○	○	○	○
	SPKN1504EDL	15.88	15.88	4.76	15°	1.40	○	○	○	○

Face Milling Inserts

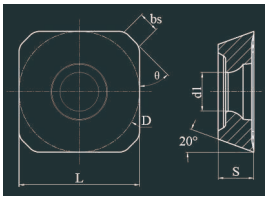


		Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L1	L2	D	S	θ	bs	NS4115	NS4125	NN9115	NP115T
	SPEN1504EDR–W	15.88	18.20	15.88	4.76	15°	10.20	○	○	○	○
	SPEN1504EDL–W	15.88	18.20	15.88	4.76	15°	10.20	○	○	○	○

●Stock ○Availabie upon Order

SEET

Face Milling Inserts



		● continuous	◔ light Interruption		⌗ Interruption
P	Steel	●	◔		●
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔		
N	Non-ferrous Metal			●	
S	Heat-resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

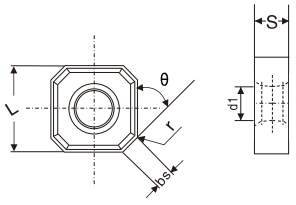
Shape	Ordering Code	Dimensions(mm)						Coated-PVD		Uncoated	Cermet
		L	D	S	d1	θ	bs	NS4115	NS4125	NN9115	NP115T
	SEET1204AFEN-NL*	12.70	12.70	4.76	5.50	45°	2.50	●	○	○	○
	SEET1204AFEN-NL	12.70	12.70	4.76	5.50	45°	2.50			●	
	SEET13T3AGEN-NL	13.40	13.40	3.97	4.40	45°	1.70	●	●		○
	SEET13T3AGEN-NM	13.40	13.40	3.97	4.40	45°	1.20	●	●		
	SEET13T3AGSN-NK	13.40	13.40	3.97	4.40	45°	1.30	○	●		
	SEET13T3AGSN-NH	13.40	13.40	3.97	4.40	45°	1.30	○	●		
	SEET13T3AGSN-NG	13.40	13.40	3.97	4.40	45°	1.30	○	●		
	SEET13T3AGFN-AL	13.40	13.40	3.97	4.40	45°	2.20			●	
	SEET13T3AGEN-NW	7.69	13.40	3.97	4.40	45°	2.20	○	●		

●Stock ○Availabie upon Order

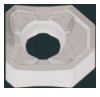
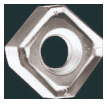
SNEU

Face Milling Inserts

○ continuous ◔ light Interruption ⊕ Interruption

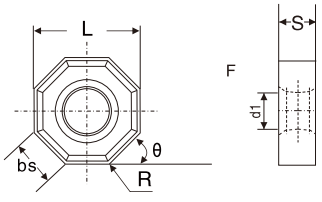


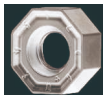
P	Steel	●	◔	
M	Stainless Steel	○	◔	
K	Cast Iron	●	◔	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L	S	d1	θ	bs	R	NS4115	NS4125	NN9115	NP115T
	SNEU1205ANEN–NL	12.70	6.35	6.00	45°	2.20	0.80	○	●		
	SNEU1205ANEN–NM	12.70	6.35	6.00	45°	2.20	0.80	○	●		
	SNEU1205ANFN–NL	12.70	6.35	6.00	45°	2.20	0.80			●	
	SNEU1205ANEN–NW	12.70	6.35	6.00	45°	5.60	0.80	●	●		
	SNMU1205ANER–NM	12.90	5.50	6.00	45°	3.00	0.50	●	●		

ONMU

Face Milling Inserts

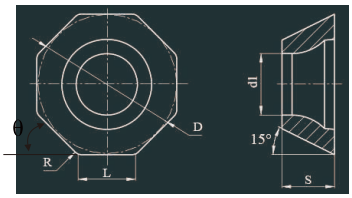


Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L	S	d1	θ	bs	R	NS4115	NS4125	NN9115	NP115T
	ONMU1205ANEN–NM	12.90	5.50	6.00	45°	5.00	0.50	●	●		

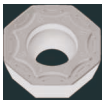
●Stock ○Availabie upon Order

ODKT TPKN

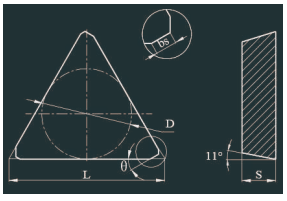
Face Milling Inserts



		● continuous	◔ light Interruption	⌗ Interruption	
P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔	●	
N	Non-ferrous Metal			●	
S	Heat-resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)						Coated-PVD		Uncoated	Cermet
		L	D	S	d1	θ	R	NS4115	NS4125	NN9115	NP115T
	ODKT060508-NL	6.50	15.88	5.56	5.56	45°	0.80	○	●		
	ODKT060508-NM	6.50	15.88	5.56	5.56	45°	0.80	○	●		
	ODKT060508-NR	6.50	15.88	5.56	5.56	45°	0.80	○	●		
	ODKT060508-NL	6.50	15.88	5.56	5.56	45°	0.80			●	

Face Milling Inserts

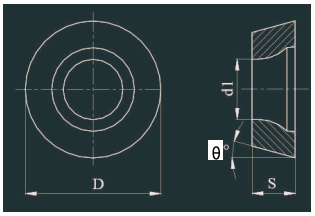


	Dimensions(mm)					Coated-PVD		Uncoated	Cermet
	L	D	S	θ	bs	NS4115	NS4125	NN0115	NP115T
 TPKN1603PDR	16.50	9.53	3.18	30°	1.30			●	
TPKN2204PDR	22.00	12.70	4.76	30°	1.40			●	
 TPER1603PDTR-NR	16.50	9.53	3.18	30°	1.30			●	

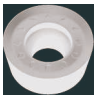
●Stock ○Availabie upon Order

RPET/RPEW/RCET

Profiling Milling Inserts



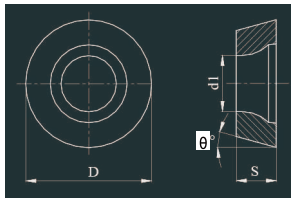
		○ continuous	◔ light Interruption	⊕ Interruption	
P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)				Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	NS4115	NS4125	NN9115	NP115T
	RPET1003M0–NL	10.00	3.18	4.40	11°	○	●		
	RPET1204M0–NL	12.00	4.76	4.40	11°	○	●		
	RPET08T2M0–NM	8.00	2.78	2.94	11°	○	○		
	RPET1003M0T–NM	10.00	3.18	4.40	11°	○	●		
	RPMT1003M0T–NM	10.00	3.18	4.40	11°	●	●		
	RPET1204M0–NM	12.00	4.76	4.40	11°	●	●		
	RPMT1204M0–NM	12.00	4.76	4.40	11°	○	●		
	RPET1204M0T–NM	12.00	4.76	4.40	11°	○	●		
	RPET1606M0T–MM	16.00	6.35	5.50	11°	○	●		
	RPEW08T2M0	8.00	2.78	2.94	11°	○	○		
	RPEW1003M0	10.00	3.18	4.40	11°	○	●		
	RPEW10T3M0	10.00	3.18	4.40	11°	○	●		
	RPMW10T3M0	10.00	3.18	4.40	11°	●	●		
	RPEW1204M0T	12.00	4.76	4.40	11°	●	●		
	RPMW1204M0T	12.00	4.76	4.40	11°	●	●		
	RCET10T3M0–NE	10.00	3.97	4.40	7°	●	●		
	RCET1204M0–NE	12.00	4.76	4.00	7°	○	●		

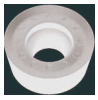
●Stock ○Availabie upon Order

RDET/RDEW/RDMW

Profiling Milling Inserts



		● continuous	◐ light Interruption	⊕ Interruption	
P	Steel	●	◐		
M	Stainless Steel	●	◐		
K	Cast Iron	●	◐		
N	Non-ferrous Metal				
S	Heat-resistant Alloy,TiAlloy	●	◐		
H	High Hardness Materials				

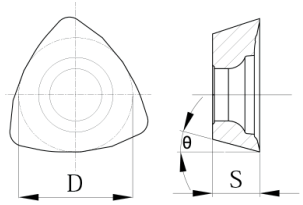
Shape	Ordering Code	Dimensions(mm)				Coated-PVD		Uncoated	Cermet
		D	S	d1	θ	NS4115	NS4125	NN9115	NP115T
	RDET0803M0-NL	8.00	3.18	2.94	15°	○	○		
	RDET10T3M0-NL	10.00	3.97	4.40	15°	○	●		
	RDET1204M0-NL	12.00	4.76	4.40	15°	○	●		
	RDET1604M0-NL	16.00	4.76	5.50	15°	○	●		
	RDET0802M0-NM*	8.00	2.38	2.94	15°	●			
	RDET0803M0-NM	8.00	3.18	2.94	15°	○	○		
	RDET10T3M0-NM	10.00	3.97	4.40	15°	●	●		
	RDMT10T3M0-NM	10.00	3.97	4.40	15°	●	●		
	RDET1204M0-NM	12.00	4.76	4.40	15°	●	●		
	RDMT1204M0-NM	12.00	4.76	4.40	15°	●	●		
	RDET1604M0-NM	16.00	4.76	5.50	15°	○	●		
	RDET1204M0T-NH	12.00	4.76	4.40	15°	●			
	RDMW1605MOT-NH	16.00	5.56	5.50	15°				
	RDEW0501M0	5.00	1.51	2.20	15°	●	○		
	RDEW0702M0T	7.00	2.38	2.80	15°	○	○		
	RDEW0803M0T	8.00	3.18	2.94	15°	●	○		
	RDEW10T3M0T	10.00	3.97	4.40	15°	●	●		
	RDEW1204M0T	12.00	4.76	4.40	15°	●	●		
	RDEW1604M0T	16.00	4.76	5.50	15°	●	●		

●Stock ○Availabie upon Order

UDET/UDMT SDMT CNEU

Face Milling Inserts

● continuous ◔ light Interruption ⋕ Interruption

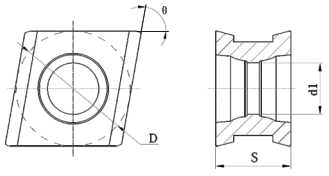


P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)				Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	NS4115	NS4125	NN9115	NP115T
	UDET080308–NM	6.80	3.18	2.94	15°	●	●		
	UDET12T312–NM	9.60	3.97	4.40	15°	●	●		
	UDMT080308T–NH	6.80	3.18	2.94	15°	●	●		
	UDMT12T312T–NH	9.60	3.97	4.40	15°	●	●		

Face Milling Inserts

● continuous ◔ light Interruption ⋕ Interruption



P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

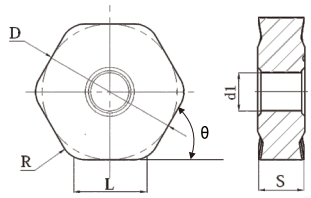
Shape	Ordering Code	Dimensions(mm)					Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	R	NS4115	NS4125	NN9115	NP115T
	CNEU070508–NM	7.60	5.00	3.40	80°	0.80	○	●		

●Stock ○Availabie upon Order

HNMX SNEX

Face Milling Inserts

● continuous ◔ light Interruption ⌗ Interruption

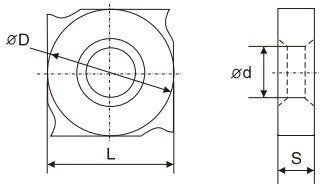


P	Steel	●	◔	●	◔
M	Stainless Steel			●	◔
K	Cast Iron			●	◔
N	Non-ferrous Metal				
S	Heat-resistant Alloy,TiAlloy			●	◔
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)						Coated-CVD		Coated-PVD	
		L	D	S	d1	θ	R	NP1115	NP1225	NS4115	NS4125
	HNMX050410-NM	7.10	12.70	5.00	5.00	55°	1.00	○	○	○	●

SNEX

Shoulder Milling Inserts



P	Steel	●	◔	●	◔
M	Stainless Steel			●	◔
K	Cast Iron			●	◔
N	Non-ferrous Metal				
S	Heat-resistant Alloy,TiAlloy			●	◔
H	High Hardness Materials				

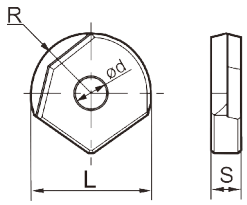
Shape	Ordering Code	Dimensions(mm)				Coated-CVD		Coated-PVD	
		D	L	S	d1	NP1115	NP1225	NS4115	NS4125
	SNEX1202-GM	12.70	12.70	2.30	5.00	○	●	○	●
	SNEX1203-GM	12.70	12.70	3.00	5.00	○	●	○	●
	SNEX12T3-GM	12.70	12.70	3.50	5.00	○	●	○	●
	SNEX1204-GM	12.70	12.70	4.00	5.00	○	●	○	●
	SNEX12T4-GM	12.70	12.70	4.50	5.00	○	●	○	●

●Stock ○Availabie upon Order

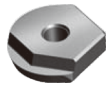
QOHX

Shoulder Milling Inserts

○ continuous ◔ light Interruption ⌗ Interruption



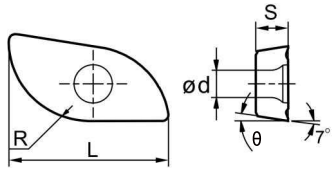
P	Steel								◔
M	Stainless Steel								◔
K	Cast Iron								◔
N	Non–ferrous Metal								
S	Heat–resistant Alloy,TiAlloy								◔
H	High Hardness Materials								

Shape	Ordering Code	Dimensions(mm)				Coated–CVD		Coated–PVD	
		L	S	d	R	NP1115	NP1125	NS4115	NS4125
	P3201–D10	10.00	3.00	4.00	5.00				●
	P3201–D12	12.00	3.00	4.00	6.00				●
	P3201–D16	16.00	4.00	5.00	8.00				●
	P3201–D20	20.00	5.00	5.00	10.00				●
	P3201–D25	25.00	6.00	6.00	12.50				●
	P3201–D32	32.00	7.00	8.00	16.00				●

QPHT

Face Milling Inserts

○ continuous ◔ light Interruption ⌗ Interruption



P	Steel								◔
M	Stainless Steel								◔
K	Cast Iron								◔
N	Non–ferrous Metal								
S	Heat–resistant Alloy,TiAlloy								◔
H	High Hardness Materials								

Shape	Ordering Code	Dimensions(mm)					Coated–CVD		Coated–PVD	
		L	R	S	d1	θ	NP1115	NP1125	NS4115	NS4125
	ZCEW100CE	20.00	10.00	3.97	4.00	11°				●
	ZCEW100SE	20.00	10.00	3.97	4.00	11°				●
	ZCEW125CE	25.00	12.50	4.76	4.70	11°				●
	ZCEW125SE	25.00	12.50	4.76	4.70	11°				●
	ZCEW150CE	30.00	15.00	6.35	5.80	11°				●
	ZCEW150SE	30.00	15.00	6.35	5.80	11°				●
	ZCEW160CE	32.00	16.00	6.35	5.80	11°				●
	ZCEW160SE	32.00	16.00	6.35	5.80	11°				●

●Stock ○Availabie upon Order

MFT Anti vibration milling tool bar series

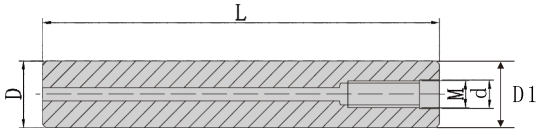










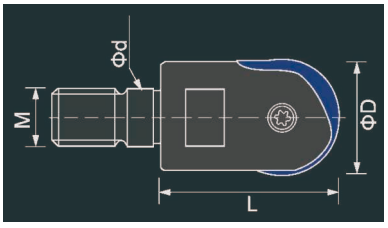


Ordering Code	Stock	Dimensions(mm)				
		D	D1	L	M	d
MFT10–10–100–M5	●	10	10	100	M5	5.5
MFT10–10–150–M5	●	10	10	150	M5	5.5
MFT12–12–100–M6	●	12	12	100	M6	6.5
MFT12–12–150–M6	●	12	12	150	M6	6.5
MFT12–12–200–M6	●	12	12	200	M6	6.5
MFT16–16–100–M8	●	16	16	100	M8	8.5
MFT16–16–150–M8	●	16	16	150	M8	8.5
MFT16–16–200–M8	●	16	16	200	M8	8.5
MFT20–20–150–M10	●	20	20	100	M10	10.5
MFT20–20–200–M10	●	20	20	150	M10	10.5
MFT20–20–250–M10	●	20	20	200	M10	10.5
MFT25–25–150–M12	●	25	25	150	M12	12.5
MFT25–25–200–M12	●	25	25	200	M12	12.5
MFT25–25–250–M12	●	25	25	250	M12	12.5
MFT25–25–300–M12	●	25	25	300	M12	12.5
MFT32–32–150–M16	●	32	32	150	M16	17
MFT32–32–200–M16	●	32	32	200	M16	17
MFT32–32–250–M16	●	32	32	250	M16	17
MFT32–32–300–M16	●	32	32	300	M16	17
MFT32–32–400–M16	●	32	32	400	M16	17

●Stock ○Availabie upon Order

BF Ball End,finish milling cutters(thread)

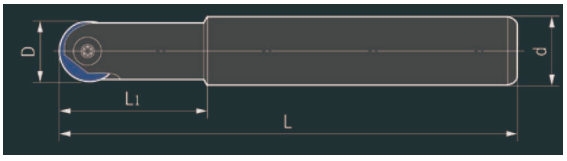




Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	M			
WGR10–M05	●	10	5.5	20	M5	P3202–D10	P32–M4	T–15
WGR12–M06	●	12	6.5	22	M6	P3202–D12	P32–M5	T–320
WGR16–M08	●	16	8.5	28	M8	P3202–D16		
WGR20–M10	●	20	10.5	30	M10	P3202–D20		
WGR25–M12	●	25	12.5	40	M12	P3202–D25	P32–M6	T–30
WGR32–M16	●	32	17.0	43	M16	P3202–D32	P32–M8	

BF Ball End,finish milling cutters



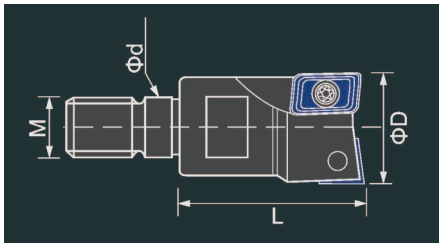


Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	L1			
T2139–5R–120–C10	●	10	10	130	30	P3202–D10	P32–M4	T–15
T2139–5R–150–C16	●	10	10	160	35			
T2139–6R–130–C12	●	12	12	130	30	P3202–D12	P32–M5	T20
T2139–6R–150–C12	●	12	12	160	30			
T2139–8R–130–C16	●	16	16	120	30	P3202–D16		
T2139–8R–150–C16	●	16	16	160	30			
T2139–8R–200–C16	●	16	16	200	45			
T2139–10R–150–C20	●	20	20	160	30	P3202–D20		
T2139–10R–200–C20	●	20	20	200	35			
T2139–12.5R–150–C25	●	25	25	160	35	P3202–D25	P32–M6	T30
T2139–12.5R–200–C25	●	25	25	200	40			
T2139–12.5R–250–C25	●	25	25	250	60			
T2139–16R–200–C32	●	32	32	200	55	P3202–D32	P32–M8	
T2139–16R–250–C32	●	32	32	250	70			
T2139–16R–300–C32	●	32	32	300	80			

●Stock ○Availabie upon Order

BAP Shoulder milling cutters

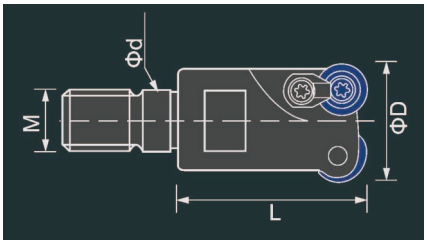




Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	M			
BAP3-16-2T-M08	●	16	8.5	25	M8	AP**1135	M2.5*6	T-8
BAP3-17-2T-M08	●	17	8.5	25	M8			
BAP3-20-2T-M10	●	20	10.5	30	M10			
BAP3-21-3T-M10	●	21	10.5	30	M10			
BAP3-25-3T-M12	●	15	12.5	35	M12			
BAP3-26-2T-M12	●	26	12.5	35	M12			
BAP4-25-2T-M12	●	25	12.5	35	M12	AP**1604	M4*10	T-15
BAP4-32-3T-M16	●	32	17	43	M16			
BAP4-35-3T-M16	●	35	17	43	M16			

RP Corner radius milling cutters

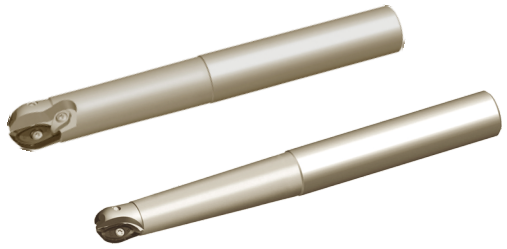


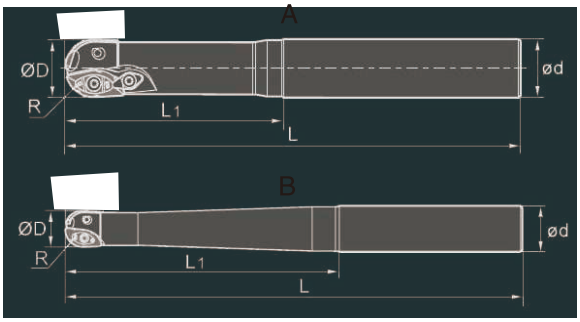


Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	M			
RD0802-20-2T-M10	●	20	10.5	32	M10	RD**0802	M2.5*6	T-8
RD0802-21-2T-M10	●	21	10.5	32	M10			
RP1003-25-2T-M12	●	25	12.5	35	M12	RP**1003	M3.5*8	T-15
RP1003-26-2T-M12	●	26	12.5	35	M12			
RP1003-30-3T-M12	●	30	12.5	35	M12			
RP1003-32-3T-M16	●	32	17	43	M16			
RP1003-35-3T-M16	●	35	17	43	M16			

●Stock ○Availabie upon Order

BFR Ball End,milling bar





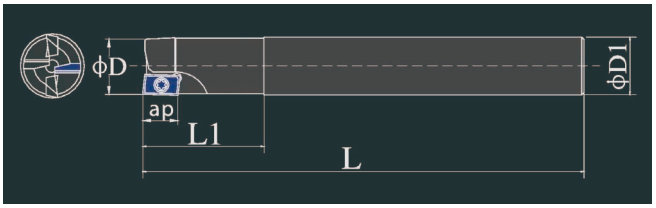
Ordering Code	Stock	Dimensions(mm)				Fig	Insert	Screw	Screw	Wrench
		D	d	L	L1					
BCF–10R–150–C20	●	20	20	150	70	A	ZCEW100CE ZCEW100SE	– – –	M2.5*6 M3*8	T–7 T–10
BCF–10R–200–C25	●	20	25	200	100	B				
BCF–10R–250–C25	●	20	25	250	150					
BCF–12.5R–150–C25	●	25	25	150	80	A	ZCEW125CE ZCEW125SE	– – –	M4*11	T–15
BCF–12.5R–200–C25	●	25	25	200	100					
BCF–12.5R–250–C25	●	25	25	250	110					
BCF–12.5R–300–C32	●	25	32	300	120	B	ZCEW150CE ZCEW150SE	– – –	M4*11 M5*13	T–15 T–20
BCF–15R–160–C32	●	30	32	160	70					
BCF–15R–200–C32	●	30	32	200	100					
BCF–15R–250–C32	●	30	32	250	120					
BCF–16R–160–C32	●	32	32	160	70	A	ZCEW160CE ZCEW160SE	– – –	M4*11 M5*13	T–15 T–20
BCF–16R–200–C32	●	32	32	200	100					
BCF–16R–250–C32	●	32	32	250	120					
BCF–16R–300–C32	●	32	32	300	150					

Ordering Code	Stock	Dimensions(mm)				Fig	Insert	Screw	Screw	Wrench
		D	d	L	L1					
BCFL–10R–150–C20	●	20	20	150	70	A	ZCEW100CE ZCEW100SE CPMT080204	– – –	M2.5*6 M3*8	T–7 T–10
BCFL–10R–200–C25	●	20	25	200	100	B				
BCFL–10R–250–C25	●	20	25	250	150					
BCFL–12.5R–150–C25	●	25	25	150	80	A	ZCEW125CE ZCEW125SE CPMT090308	– – –	M4*11	T–15
BCFL–12.5R–200–C25	●	25	25	200	100					
BCFL–12.5R–250–C25	●	25	25	250	110					
BCFL–12.5R–300–C32	●	25	32	300	120	B	ZCEW150CE ZCEW150SE CPMT090308	– – –	M4*11 M5*13	T–15 T–20
BCFL–15R–160–C32	●	30	32	160	70					
BCFL–15R–200–C32	●	30	32	200	100					
BCFL–15R–250–C32	●	30	32	250	120					
BCFL–16R–160–C32	●	32	32	160	70	A	ZCEW160CE ZCEW160SE CPMT090308	– – –	M4*11 M5*13	T–15 T–20
BCFL–16R–200–C32	●	32	32	200	100					
BCFL–16R–250–C32	●	32	32	250	120					
BCFL–16R–300–C32	●	32	32	300	150					

●Stock ○Availabie upon Order

BAP Straight shank milling cutter BAP series



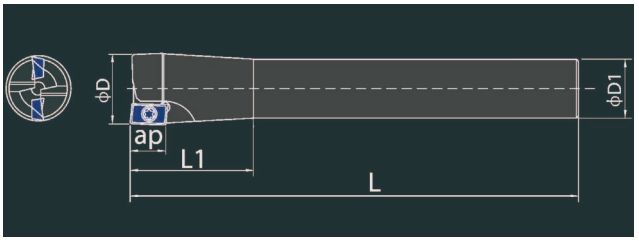


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	Z	ap			
BAP300R-10-1T-10-120	●	10	10	120	1	9	AP**1135	M2.5*6	T-8
BAP300R-12-1T-12-120	●	12	12	120					
BAP300R-16-2T-16-120	●	16	16	120	2				
BAP300R-16-2T-16-150	●	16	16	150					
BAP300R-16-2T-16-160	●	16	16	160					
BAP300R-16-2T-16-200	●	16	16	200					
BAP300R-20-2T-20-120	●	20	20	120					
BAP300R-20-2T-20-150	●	20	20	150					
BAP300R-20-2T-20-160	●	20	20	160					
BAP300R-20-2T-20-200	●	20	20	200					
BAP300R-25-3T-25-120	●	25	25	120	3				
BAP300R-25-3T-25-150	●	25	25	150					
BAP300R-25-3T-25-160	●	25	25	160					
BAP300R-25-3T-25-200	●	25	25	200					
BAP300R-32-3T-32-160	●	32	32	160					
BAP300R-32-3T-32-200	●	32	32	200					
BAP300R-32-3T-32-250	●	32	32	250					
BAP400R-25-2T-25-120	●	25	25	120	2	14	AP**1604	M4*10	T-15
BAP400R-25-2T-25-150	●	25	25	150					
BAP400R-25-2T-25-160	●	25	25	160					
BAP400R-25-2T-25-200	●	25	25	200					
BAP400R-25-2T-25-250	●	25	25	250					
BAP400R-32-2T-32-160	●	32	32	160					
BAP400R-32-2T-32-200	●	32	32	200					
BAP400R-32-2T-32-250	●	32	32	250					

●Stock ○Availabie upon Order

BAP Variable Head,mills BAP series



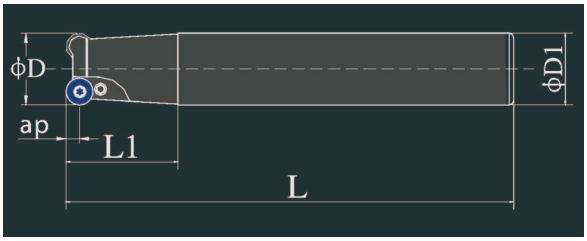


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	Z	ap			
BAP300R-17-2T-16-120	●	17	16	120	2	9	AP**1135	M2.5*6	T-8
BAP300R-17-2T-16-150	●	17	16	150					
BAP300R-17-2T-16-160	●	17	16	160					
BAP300R-17-2T-16-200	●	17	16	200					
BAP300R-21-2T-20-120	●	21	20	120					
BAP300R-21-2T-20-150	●	21	20	150					
BAP300R-21-2T-20-160	●	21	20	160					
BAP300R-21-2T-20-200	●	21	20	200					
BAP300R-26-3T-25-120	●	26	25	120	3				
BAP300R-26-3T-25-150	●	26	25	150					
BAP300R-26-3T-25-160	●	26	25	160					
BAP300R-26-3T-25-200	●	26	25	200					
BAP300R-26-3T-25-250	●	26	25	250					
BAP300R-32-3T-25-120	●	32	25	120					
BAP300R-32-3T-25-150	●	32	25	150					
BAP300R-32-3T-25-160	●	32	25	160					
BAP300R-32-3T-25-200	●	32	25	200					
BAP300R-32-3T-25-250	●	32	25	250					
BAP300R-35-3T-32-160	●	35	32	160					
BAP300R-35-3T-32-200	●	35	32	200					
BAP300R-35-3T-32-250	●	35	32	250					
BAP400R-26-2T-25-120	●	26	25	120	2	14	AP**1604	M4*10	T-15
BAP400R-26-2T-25-150	●	26	25	150					
BAP400R-26-2T-25-160	●	26	25	160					
BAP400R-26-2T-25-200	●	26	25	200					
BAP400R-26-2T-25-250	●	26	25	250					
BAP400R-32-2T-25-160	●	32	25	160					
BAP400R-32-2T-25-200	●	32	25	200					
BAP400R-32-2T-25-250	●	32	25	250					
BAP400R-35-3T-32-160	●	35	32	160	3				
BAP400R-35-3T-32-200	●	35	32	200					
BAP400R-35-3T-32-250	●	35	32	250					

●Stock ○Availabie upon Order

BRP Straight shank milling cutter BRP series



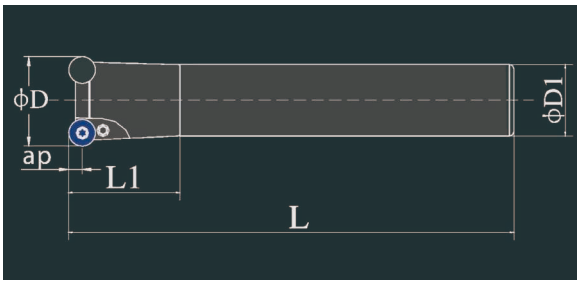


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRP4R-16-2T-16-120	●	16	16	120	2	4	RP**08T2	M3.0*6	T-10	R4YD
BRP4R-16-2T-16-150	●	16	16	150						
BRP4R-16-2T-16-160	●	16	16	160						
BRP4R-16-2T-16-200	●	16	16	200						
BRP4R-20-2T-20-120	●	20	20	120						
BRP4R-20-2T-20-150	●	20	20	150						
BRP4R-20-2T-20-160	●	20	20	160						
BRP4R-20-2T-20-200	●	20	20	200						
BRP4R-25-3T-25-120	●	25	25	120	3					
BRP4R-25-3T-25-150	●	25	25	150						
BRP4R-25-3T-25-160	●	25	25	160						
BRP4R-25-3T-25-200	●	25	25	200						
BRP5R-16-1T-16-120	●	16	16	120	1	5	RP**10T3	M3.5*8	T-15	R5YD
BRP5R-16-1T-16-160	●	16	16	160						
BRP5R-16-1T-16-200	●	16	16	200						
BRP5R-20-1T-20-120	●	20	20	120						
BRP5R-20-1T-20-160	●	20	20	160						
BRP5R-20-1T-20-200	●	20	20	200						
BRP5R-25-2T-25-120	●	25	25	120	2					
BRP5R-25-2T-25-160	●	25	25	160						
BRP5R-25-2T-25-200	●	25	25	200						
BRP5R-25-2T-25-250	●	25	25	250						
BRP5R-32-3T-32-160	●	32	32	160	3					
BRP5R-32-3T-32-200	●	32	32	200						
BRP5R-32-3T-32-250	●	32	32	250						
BRP6R-25-2T-25-160	●	25	25	160	2	6	RP**1204	M4.0*10	T-15	R6YD
BRP6R-25-2T-25-200	●	25	25	200						
BRP6R-25-2T-25-250	●	25	25	250						
BRP6R-32-3T-32-160	●	32	32	160	3					
BRP6R-32-3T-32-200	●	32	32	200						
BRP6R-32-3T-32-250	●	32	32	250						

●Stock ○Availabie upon Order

BRP Mills,variable head BRP series



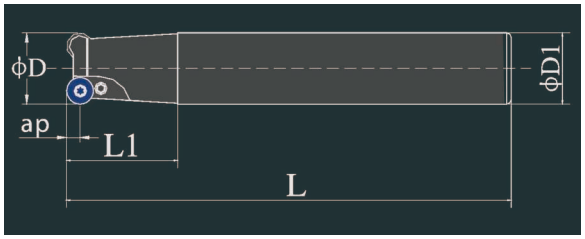


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRP4R–17–2T–16–120	●	17	16	120	2	4	RP**08T2	M3.0*6	T–10	R4YD
BRP4R–17–2T–16–160	●	17	16	160						
BRP4R–17–2T–16–200	●	17	16	200						
BRP4R–21–2T–20–120	●	21	20	120						
BRP4R–21–2T–20–160	●	21	20	160						
BRP4R–21–2T–20–200	●	21	20	200						
BRP4R–26–3T–25–120	●	26	25	120	3					
BRP4R–26–3T–25–160	●	26	25	160						
BRP4R–26–3T–25–200	●	26	25	200						
BRP5R–17–1T–16–120	●	17	16	120	1	5	RP**10T3	M3.5*8	T–15	R5YD
BRP5R–17–1T–16–160	●	17	16	160						
BRP5R–17–1T–16–200	●	17	16	200						
BRP5R–21–1T–20–120	●	21	20	120						
BRP5R–21–1T–20–160	●	21	20	160						
BRP5R–21–1T–20–200	●	21	20	200						
BRP5R–26–2T–25–120	●	26	25	120	2					
BRP5R–26–2T–25–160	●	26	25	160						
BRP5R–26–2T–25–200	●	26	25	200						
BRP5R–26–2T–25–250	●	26	25	250						
BRP5R–32–3T–25–160	●	32	25	160	3					
BRP5R–32–3T–25–200	●	32	25	200						
BRP5R–32–3T–25–250	●	32	25	250						
BRP5R–35–3T–32–160	●	35	32	160						
BRP5R–35–3T–32–200	●	35	32	200						
BRP5R–35–3T–32–250	●	35	32	250						
BRP6R–26–2T–25–160	●	26	25	160	2	6	RP**1204	M4.0*10	T–15	R6YD
BRP6R–26–2T–25–200	●	26	25	200						
BRP6R–26–2T–25–250	●	26	25	250						
BRP6R–32–3T–25–160	●	32	25	160	3					
BRP6R–32–3T–25–200	●	32	25	200						
BRP6R–32–3T–25–250	●	32	25	250						
BRP6R–35–3T–32–160	●	35	32	160						
BRP6R–35–3T–32–200	●	35	32	200						
BRP6R–35–3T–32–250	●	35	32	250						

●Stock ○Availabie upon Order

BRD Straight shank milling cutter BRD series



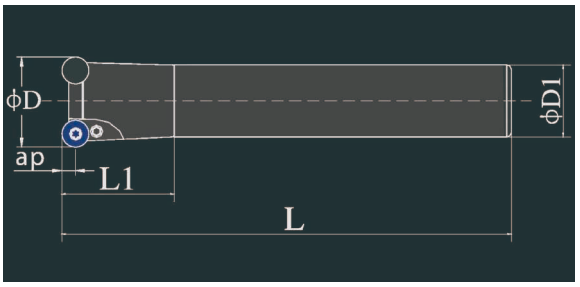


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRD4R-16-2T-16-120	●	16	16	120	2	4	RD**0802	M3.0*6	T-10	R4YD
BRD4R-16-2T-16-150	●	16	16	150						
BRD4R-16-2T-16-160	●	16	16	160						
BRD4R-16-2T-16-200	●	16	16	200						
BRD4R-20-2T-20-120	●	20	20	120						
BRD4R-20-2T-20-150	●	20	20	150						
BRD4R-20-2T-20-160	●	20	20	160						
BRD4R-20-2T-20-200	●	20	20	200						
BRD4R-25-3T-25-120	●	25	25	120	3					
BRD4R-25-3T-25-150	●	25	25	150						
BRD4R-25-3T-25-160	●	25	25	160						
BRD4R-25-3T-25-200	●	25	25	200						
BRD5R-16-1T-16-120	●	16	16	120	1	5	RD**10T3	M3.5*8	T-15	R5YD
BRD5R-16-1T-16-160	●	16	16	160						
BRD5R-16-1T-16-200	●	16	16	200						
BRD5R-20-1T-20-120	●	20	20	120						
BRD5R-20-1T-20-160	●	20	20	160						
BRD5R-20-1T-20-200	●	20	20	200						
BRD5R-25-2T-25-120	●	25	25	120	2					
BRD5R-25-2T-25-160	●	25	25	160						
BRD5R-25-2T-25-200	●	25	25	200						
BRD5R-25-2T-25-250	●	25	25	250						
BRD5R-32-3T-32-160	●	32	32	160	3					
BRD5R-32-3T-32-200	●	32	32	200						
BRD5R-32-3T-32-250	●	32	32	250						
BRD6R-25-2T-25-160	●	25	25	160	2	6	RD**1204	M4.0*10	T-15	R6YD
BRD6R-25-2T-25-200	●	25	25	200						
BRD6R-25-2T-25-250	●	25	25	250						
BRD6R-32-3T-32-160	●	32	32	160	3					
BRD6R-32-3T-32-200	●	32	32	200						
BRD6R-32-3T-32-250	●	32	32	250						

●Stock ○Availabie upon Order

BRD Mills,variable head BRD series



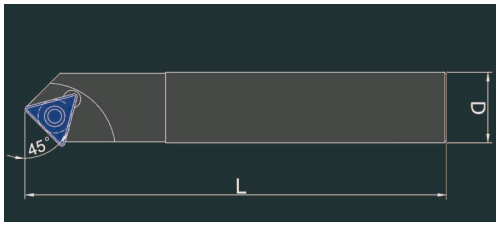


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRD4R-17-2T-16-120	●	17	16	120	2	4	RD**0802	M3.0*6	T-10	R4YD
BRD4R-17-2T-16-160	●	17	16	160						
BRD4R-17-2T-16-200	●	17	16	200						
BRD4R-21-2T-20-120	●	21	20	120						
BRD4R-21-2T-20-160	●	21	20	160						
BRD4R-21-2T-20-200	●	21	20	200						
BRD4R-26-3T-25-120	●	26	25	120	3					
BRD4R-26-3T-25-160	●	26	25	160						
BRD4R-26-3T-25-200	●	26	25	200						
BRD5R-17-1T-16-120	●	17	16	120	1	5	RD**10T3	M3.5*8	T-15	R5YD
BRD5R-17-1T-16-160	●	17	16	160						
BRD5R-17-1T-16-200	●	17	16	200						
BRD5R-21-1T-20-120	●	21	20	120						
BRD5R-21-1T-20-160	●	21	20	160						
BRD5R-21-1T-20-200	●	21	20	200						
BRD5R-26-2T-25-120	●	26	25	120	2					
BRD5R-26-2T-25-160	●	26	25	160						
BRD5R-26-2T-25-200	●	26	25	200						
BRD5R-26-2T-25-250	●	26	25	250						
BRD5R-32-3T-25-160	●	32	25	160	3					
BRD5R-32-3T-25-200	●	32	25	200						
BRD5R-32-3T-25-250	●	32	25	250						
BRD5R-35-3T-32-160	●	35	32	160						
BRD5R-35-3T-32-200	●	35	32	200						
BRD5R-35-3T-32-250	●	35	32	250						
BRD6R-26-2T-25-160	●	26	25	160	2	6	RD**1204	M4.0*10	T-15	R6YD
BRD6R-26-2T-25-200	●	26	25	200						
BRD6R-26-2T-25-250	●	26	25	250						
BRD6R-32-3T-25-160	●	32	25	160	3					
BRD6R-32-3T-25-200	●	32	25	200						
BRD6R-32-3T-25-250	●	32	25	250						
BRD6R-35-3T-32-160	●	35	32	160						
BRD6R-35-3T-32-200	●	35	32	200						
BRD6R-35-3T-32-250	●	35	32	250						

●Stock ○Availabie upon Order

DX45 Pilot drill series

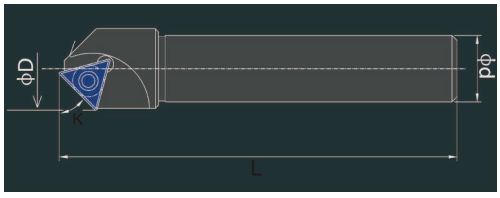




Ordering Code	Stock	Dimensions(mm)		Insert	Screw	Wrench
		D	L			
DX45–16–120	●	20	120	TCGT16T302	M4.0*10	T–15

B30TC Chamfer cutter BTC series



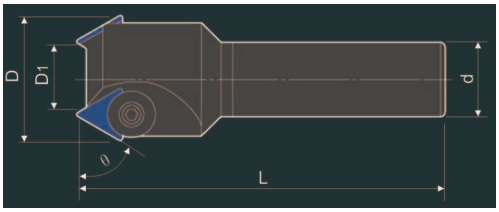


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	Z	K			
B30TC11 20 1T20–120	●	20	20	120	1	30°	TC**1102	M2.5*6	T–8
B30TC11 25 2T20–120	●	25	20	120	2	30°			
B45TC11 20 1T20–120	●	20	20	120	1	45°			
B45TC11 25 2T20–120	●	25	20	120	2	45°			
B60TC11 20 1T20–120	●	20	20	120	1	60°			
B60TC11 25 2T20–120	●	25	20	120	2	60°			
B30TC16 20 1T20–120	●	20	20	120	1	30°	TC**16T3	M2.5*7	T–9
B30TC16 32 2T25–120	●	32	25	120	2	30°			
B45TC16 20 1T20–120	●	20	20	120	1	45°			
B45TC16 32 2T25–120	●	32	25	120	2	45°			
B60TC16 20 1T20–120	●	20	20	120	1	60°			
B60TC16 32 2T25–120	●	32	25	120	2	60°			

●Stock ○Availabie upon Order

TP Chamfer cutter bar

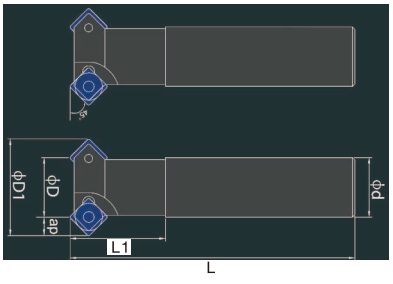




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	d	L	Z	K			
TP60–C25–40–120–2T	●	37.7	15.8	25	120	2	60°	TP**1603	M060H080	L4.0
TP45–C20–20–120–1T	●	20.4	4	20	120	1	45°			
TP45–C20–32–120–2T	●	30.2	12	20	120	2	45°			
TP45–C25–50–160–3T	●	49	24	25	160	3	45°	TP**2204	M080H120	L5.0
TP30–C25–40–120–2T	●	39	26	25	120	2	30°	TP**1603	M060H080	L4.0
TP30–C32–55–160–3T	●	54.5	36	32	160	3	30°	TP**2204	M080H120	L5.0

B45SC Chamfer cutter BSC series(Multi–purpose)



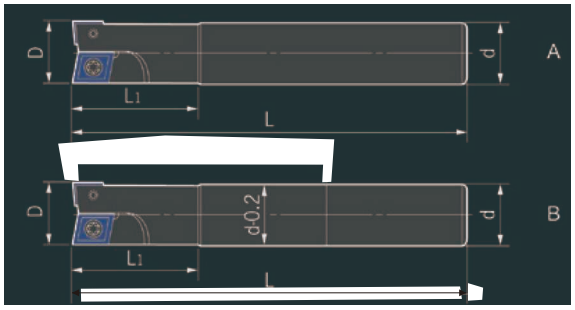


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	d	L	Z	K			
B45SC–09–1T20–120	●	9	22.6	20	120	1	45°	SC**09T3	M3.5*8	T–15
B45SC–19–2T20–120	●	19	32.1	20	120	2	45°			
B45SC–25–2T25–120	●	25	41.3	25	120	2	45°	SC**1204	M5*12	T–20

●Stock ○Availabie upon Order

AJU Center drilling mills

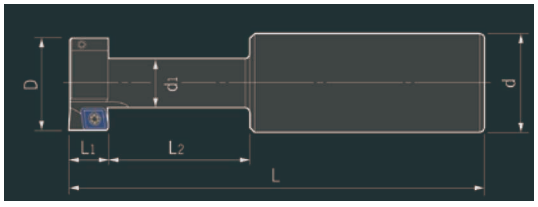




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
AJU-C16-16-120-2T	●	16	16	120	35	2	CCMT060204	M2.5*6	T-8
AJU-C16-16-150-2T	●	16	16	150	35		CPMT080204Z		
AJU-C16-16-200-2T	●	16	16	200	40				
AJU-C20-20-160-2T	●	20	20	160	50		CCMT060204	M2.5*6	T-8
AJU-C20-20-200-2T	●	20	20	200	60		CPMT090204Z	M3.5*8	T-15
AJU-C25-25-160-2T	●	25	25	160	60		CCMT090308	M4.0*8	T-15
AJU-C25-25-200-2T	●	25	25	200	70		CPMT120308Z		
AJU-C25-25-250-2T	●	25	25	250	80				
AJU-C32-32-200-2T	●	32	32	200	60		CPMT120408	M5.0*11	T-20
AJU-C32-32-250-2T	●	32	32	250	70		CPMT160408Z		

ATS T-Slot Milling cutter



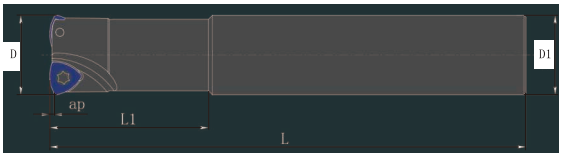


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	d	d1	L	L1	l2			
ATS25-C25-120-2T-06	●	25	25	12.5	120	11	21	CCMT060204	M2.5*6	T-8
ATS30-C25-120-4T-06	●	30	25	15	120	14	30	CCMT060204		
ATS32-C25-120-4T-08	●	32	25	16	120	14	30	CPMT080204		
ATS35-C32-120-4T-09	●	35	25	17.5	120	18	32	CCMT09T308	M4.0*8	T-15
ATS40-C32-120-4T-09	●	40	32	20	120	18	32	CCMT09T308		
ATS50-C32-120-4T-12	●	50	32	25	120	22	39	CCMT120408	M5.0*11	T-20

●Stock ○Availabie upon Order

BUD

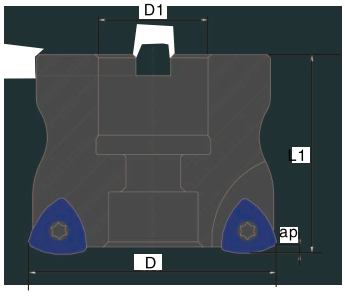




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	L	L1	ap	Z			
BUD08-20-2T20-120	○	20	20	120	40	1.0	2	UD**0803	M3*7	T-8
BUD08-20-2T20-160	○	20	20	160	50	1.0				
BUD08-20-2T20-200	○	20	20	200	60	1.0				
BUD08-25-2T25-120	○	25	25	120	40	1.0				
BUD08-25-2T25-160	○	25	25	160	50	1.0				
BUD08-25-2T25-200	○	25	25	200	60	1.0				
BUD12-25-2T25-160	○	25	25	160	50	1.5		UD**12T3	M4*10	T-15
BUD12-25-2T25-200	○	25	25	200	60	1.5				
BUD12-32-3T32-160	○	32	32	160	50	1.5	3			
BUD12-32-3T32-200	○	32	32	200	60	1.5				

BUD



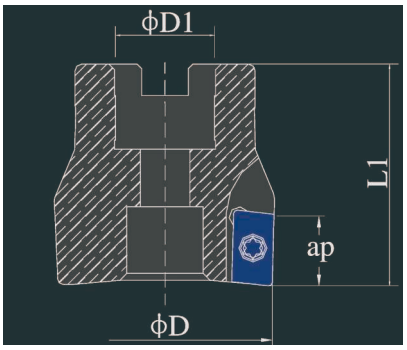


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
BUD12-050-4T-22	○	50	22	50	1.5	4	UD**12T3	M4*10	T-15
BUD12-063-4T-22	○	63	22	50		4			
BUD12-080-5T-27	○	80	27	50		5			
BUD12-100-6T-32	○	100	32	50		6			

●Stock ○Availabie upon Order

BAP Mills series

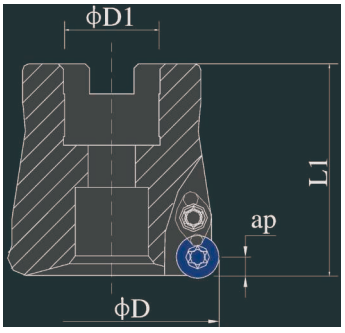




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
BAP400R 050 4T 22	●	50	22	50	16	4	AP**1604	M4*10	T-15
BAP400R 063 4T 22	●	63	22	50		4			
BAP400R 063 5T 22	●	63	22	50		5			
BAP400R 080 6T 27	●	80	27	50		6			
BAP400R 100 6T 32	●	100	32	50		6			
BAP400R 125 6T 40	●	125	40	63		6			
BAP400R 050 4T 25.4	○	50	25.4	50		4			
BAP400R 063 5T 25.4	○	63	25.4	50		5			
BAP400R 080 6T 25.4	○	80	25.4	50		6			
BAP400R 100 6T 31.75	○	100	31.75	50		6			

BRP Mills series



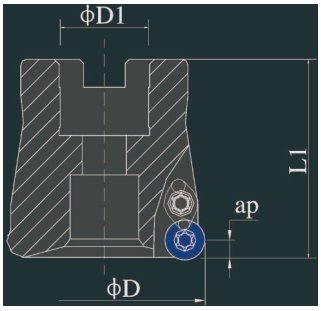


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L1	ap	Z				
BRP 5R 050 4T 22	●	50	22	50	5	4	RP**1003	M3.5*8	T-15	R5YD
BRP 5R 063 4T 22	●	63	22	50		4				
BRP 5R 063 5T 22	●	63	22	50		5				
BRP 5R 080 6T 27	●	80	27	50		6				
BRP 5R 100 6T 32	●	100	32	50		6				
BRP 6R 050 4T 22	●	50	22	50	6	4	RP**1204	M4.0*10	T-15	R6YD
BRP 6R 063 4T 22	●	63	22	50		4				
BRP 6R 080 6T 27	●	80	27	50		6				
BRP 6R 100 6T 32	●	100	32	50		6				

●Stock ○Availabie upon Order

BRD Mills series



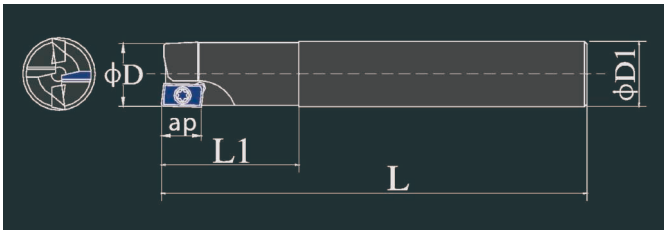


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L1	ap	Z				
BRD 5R 050 4T 22	●	50	22	50	5	4	RD**10T3	M3.5*8	T-15	R5YD
BRD 5R 063 4T 22	●	63	22	50		4				
BRD 5R 063 5T 22	●	63	22	50		5				
BRD 5R 080 6T 27	●	80	27	50		6				
BRD 5R 100 6T 32	●	100	32	50		6				
BRD 5R 125 7T 40	●	125	40	63		7				
BRD 5R 050 4T 25.4	○	50	25.4	50		4				
BRD 5R 063 4T 25.4	○	63	25.4	50		4				
BRD 5R 080 6T 25.4	○	80	25.4	50		6				
BRD 5R 100 6T 31.75	○	100	31.75	50		6				
BRD 5R 125 7T 38.1	○	125	38.1	63		7				
BRD 6R 050 4T 22	●	50	22	50	6	4	RD**1204	M4.0*10	T-15	R6YD
BRD 6R 063 4T 22	●	63	22	50		4				
BRD 6R 063 5T 22	●	63	22	50		5				
BRD 6R 080 6T 27	●	80	27	50		6				
BRD 6R 100 6T 32	●	100	32	50		6				
BRD 6R 125 7T 40	●	125	40	63		7				
BRD 6R 050 4T 25.4	○	50	25.4	50		4				
BRD 6R 063 4T 25.4	○	63	25.4	50		4				
BRD 6R 080 6T 25.4	○	80	25.4	50		6				
BRD 6R 100 6T 31.75	○	100	31.75	50		6				
BRD 6R 125 7T 38.1	○	125	38.1	63		7				
BRD 8R 063 4T 22	●	63	22	50	8	4	RD**1604	M5.0*12	T-20	R6YD
BRD 8R 080 5T 27	●	80	27	50		5				
BRD 8R 100 6T 32	●	100	32	50		6				
BRD 8R 125 7T 40	●	125	40	63		7				
BRD 8R 160 8T 40	●	160	40	63		8				
BRD 10R 100 6T 40	○	100	31.75	50	10	6	RD**2006			R10YD
BRD 10R 125 7T 40	○	125	38.1	63		7				
BRD 10R 160 8T 60	○	160	50.8	63		8				

●Stock ○Availabie upon Order

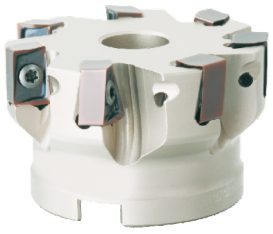
BAN





Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	L	L1	ap	Z			
BAN08–1616T2–125	●	16	16	125	26	8	2	AN**0804	AN09–M2.5	T–8
BAN08–1616T2–160	○	16	16	160			2			
BAN08–2020T3–125	●	20	20	125			3			
BAN08–2020T3–160	○	20	20	160			3			
BAN08–2525T4–125	●	25	25	125			4			
BAN08–2525T4–160	○	25	25	160			4			
BAN08–3232T5–160	○	32	32	160			5			
BAN13–2525T2–125	●	25	25	125		13	2	AN**1305	AN13–M4.0	T–15
BAN13–2525T2–160	○	25	25	160			2			
BAN13–3232T3–160	●	32	32	160			3			
BAN13–3232T3–200	○	32	32	200			3			
BAN13–4040T4–160	○	40	40	160			4			
BAN13–4040T4–200	○	40	40	200			4			

BAN

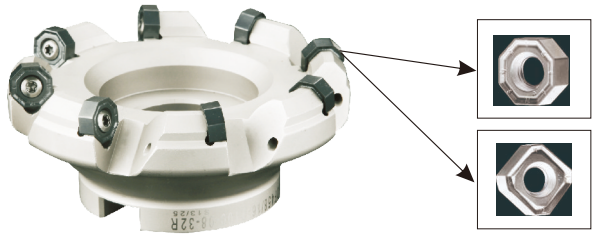


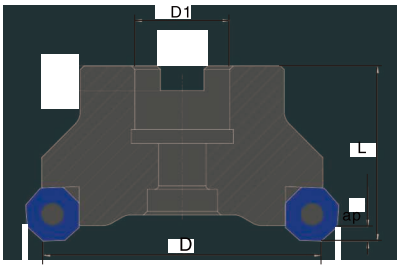


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
BAN16D050T4–22	●	50	22	50	16	4	AN**1606	AN16–M5.0	T–20
BAN16D063T5–22	●	63	22	50		5			
BAN16D080T6–27	●	80	27	50		6			
BAN16D100T7–32	●	100	32	50		7			
BAN16D125T8–40	●	125	40	63		8			
BAN16D160T10–40	○	160	40	63		10			
BAN16D200T12–60	○	200	60	63		12			
BAN16D250T14–60	○	250	60	63		14			

●Stock ○Availabie upon Order

SONFM

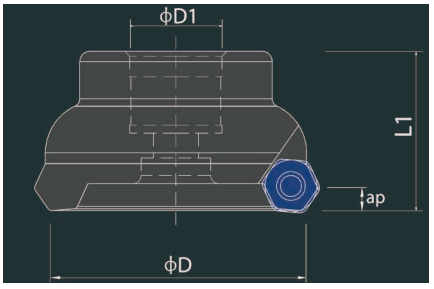




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	ap	Z			
SONFM45D050T04–22	●	50	22	50	3–6	4	SN**1205 0N**1205	SNON–M4.0	T–15
SONFM45D063T05–22	●	63	22	50		5			
SONFM45D080T06–27	●	80	27	50		6			
SONFM45D100T07–32	●	100	32	50		7			
SONFM45D125T08–40	●	125	40	63		8			
SONFM45D160T10–40	●	160	40	63		10			
SONFM45D200T12–60	●	200	60	63		12			
SONFM45D250T14–60	●	250	60	63		14			
SONFM45D315T18–60	●	315	60	63		18			

TFM55° Facing mills series



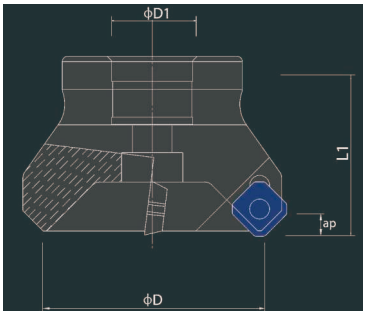


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
TFM55AHNS 050 4T 22	●	50	22	50	4	4	HN**0504	M4.5*12	T–20
TFM55AHNS 063 5T 22	●	63	22	50		5			
TFM55AHNS 080 6T 27	●	80	27	50		6			
TFM55AHNS 100 7T 32	●	100	32	50		7			
TFM55AHNS 125 8T 40	●	125	40	63		8			
TFM55AHNS 160 9T 40	●	160	40	63		9			

●Stock ○Availabie upon Order

SE45° Facing mills series

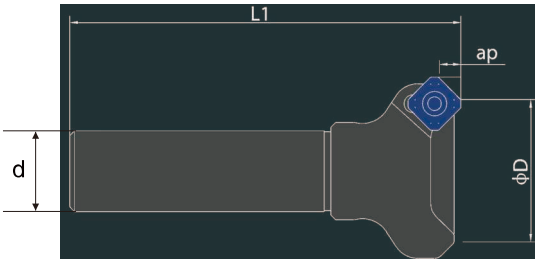




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
SE13 050 4T 22	●	50	22	50	5	4	SE**13T3	M3.5*8	T-15
SE13 063 5T 22	●	63	22	50		5			
SE13 080 5T 27	●	80	27	50		5			
SE13 100 6T 32	●	100	32	50		6			
SE13 125 7T 40	●	125	40	63		7			
SE13 160 8T 40	●	160	40	63		8			
SE13 200 10T 60	●	200	60	63		10			

BSE45° Straight shank facing mills series



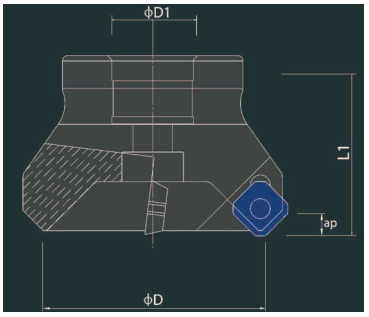


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L1	ap	Z			
BSE13 050 4T 120	●	50	32	120	6	4	SE**13T3	M3.5*8	T-15
BSE13 063 5T 120	●	63				5			
BSE13 080 5T 120	●	80				5			
BSE13 100 6T 120	●	100				6			

●Stock ○Availabie upon Order

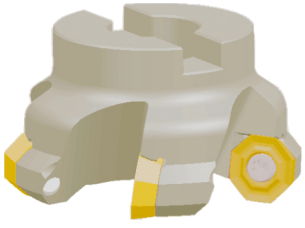
SE45° Facing mills series

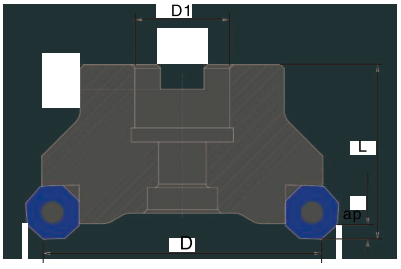




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
SE12 050 4T 22	●	50	22	50	5	4	SE**1204	M5.0*12	T-20
SE12 063 5T 22	●	63	22	50		5			
SE12 080 5T 27	●	80	27	50		5			
SE12 100 6T 32	●	100	32	50		6			
SE12 125 7T 40	●	125	40	63		7			
SE12 160 8T 40	●	160	40	63		8			
SE12 200 10T 60	●	200	60	63		10			

FM



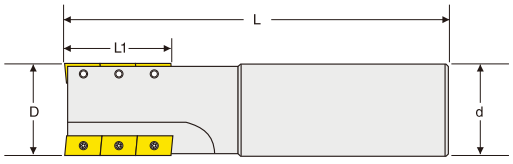


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	ap	Z			
FM45-D050T04-22-OD06	●	50	22	50	4	4	OD**0605	M5*12	T-20
FM45-D063T05-22-OD06	●	63	22	50		5			
FM45-D080T06-27-OD06	●	80	27	50		6			
FM45-D100T07-32-OD06	●	100	32	50		7			
FM45-D125T08-40-OD06	●	125	40	63		8			
FM45-D160T10-40-OD06	●	160	40	63		10			
FM45-D200T12-60-OD06	●	200	60	63		12			

●Stock ○Availabie upon Order

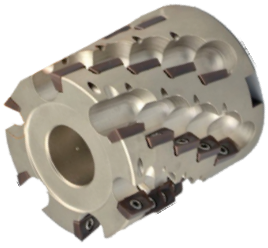
BM90° Corn mills

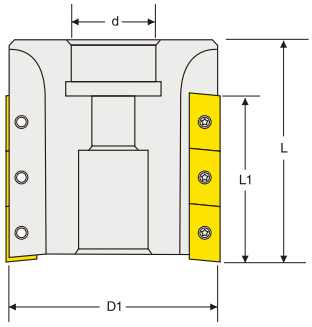




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
TAP11–20C20–28M–2T120	●	20	20	120	28	2	APMT1135	M2.5*6	T–18
TAP11–25C25–38M–2T130	●	25	25	130	38	2			
TAP11–25C25–48M–2T130	●	25	25	130	48	2			
TAP11–32C32–48M–3T140	●	32	32	140	48	3			
TAP16–32C32–70M–2T150	●	32	32	150	70	2	APMT1604	M4*10	T–15
TAP16–40C32–70M–2T150	●	40	32	150	70	2			
TAP16–40C32–70M–3T150	●	40	32	150	70	3			
TAP16–50C32–70M–3T150	●	50	32	150	70	3			

BM90° Corn mills



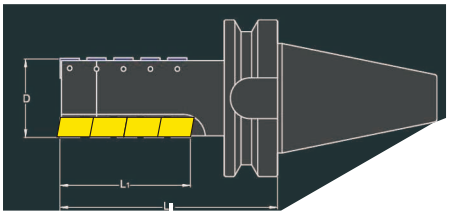


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
TAP16–D050–22–42M3T	●	50	22	120	42	3	APMT1604	M4*10	T–15
TAP16–D063–27–42M4T	●	63	27		42	4			
TAP16–D063–27–60M4T	●	63	27		60	4			
TAP16–D080–32–72M5T	●	80	32		72	5			

●Stock ○Availabie upon Order

BT Corn mills

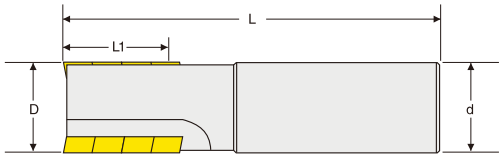




Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	L	L1	Z			
BT50–D50–70M4T–AP16	●	50		70	4	APMT1604	M4*10	T–15
BT50–D63–70M4T–AP16	●	63		70	4			
BT50–D63–85M4T–AP16	●	63		85	4			
BT50–D63–100M4T–AP16	●	63		100	5			
BT50–D80–99M5T–AP16	●	80		99	5			
BT50–D80–120M5T–AP16	●	80		120	5			
BT50–D100–118M6T–AP16	●	100		118	6			
BT50–D100–160M6T–AP16	●	100		160	6			
BT50–D100–280M6T–AP16	●	100		280	6			

HMC Corn mills



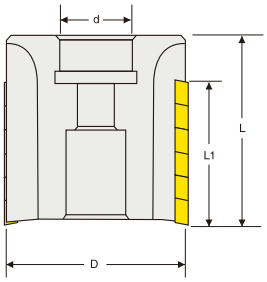


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
HMC90–025.029.2T25–CN07	●	25	25	106	29	2	CN**07	M3*12	T–9
HMC90–032.035.2T32–CN07	●	32	32	117	35	2			
HMC90–040.040.3T32–CN07	●	40	32	125	40	3			

●Stock ○Availabie upon Order

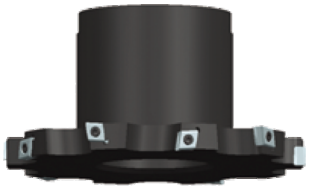
HMC Corn mills

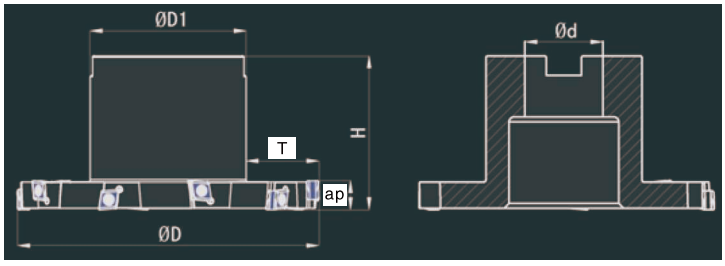




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
HMC90-050.052.4T22-CN07	●	50	22	70	52	4	CN**07	M3*12	T-9
HMC90-063.052.4T22-CN07	●	63	22		52	5			
HMC90-080.052.5T27-CN07	●	80	27		52	5			

TMR Side and face milling



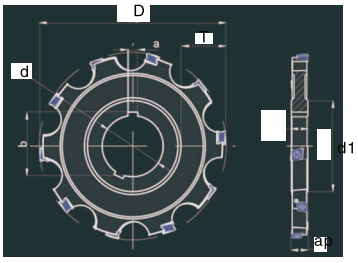


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	d	L	ap	Z	T			
TMR-063.H10.05T22-CN07	●	63	22	50	10	5	10	CN**07	M3*12	T-9
TMR-080.H10.06T27-CN07	●	80	27	50	10	6	14			
TMR-100.H10.08T32-CN07	●	100	32	50	10	8	19			
TMR-125.H10.10T32-CN07	●	125	32	63	10	10	29			
TMR-160.H10.12T40-CN07	●	160	40	63	10	12	43			
TMR-063.H12.05T22-CN07	●	63	22	50	12	5	10			
TMR-080.H12.06T27-CN07	●	80	27	50	12	6	14			
TMR-100.H12.08T32-CN07	●	100	32	50	12	8	19			
TMR-125.H12.10T32-CN07	●	125	32	63	12	10	29			
TMR-160.H12.12T40-CN07	●	160	40	63	12	12	43			

●Stock ○Availabie upon Order

SMR Side and face mills

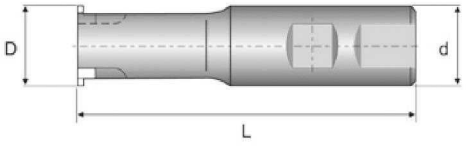




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	d	d1	ap	Z	T			
SMR-063.H10.05T22-CN07	●	63	22	50	10	5	10	CN**07	M3*12	T-9
SMR-080.H10.06T27-CN07	●	80	27	50	10	6	14			
SMR-100.H10.08T32-CN07	●	100	32	50	10	8	19			
SMR-125.H10.10T32-CN07	●	125	32	63	10	10	29			
SMR-160.H10.12T40-CN07	●	160	40	63	10	12	43			
SMR-063.H12.05T22-CN07	●	63	22	50	12	5	10			
SMR-080.H12.06T27-CN07	●	80	27	50	12	6	14			
SMR-100.H12.08T32-CN07	●	100	32	50	12	8	19			
SMR-125.H12.10T32-CN07	●	125	32	63	12	10	29			
SMR-160.H12.12T40-CN07	●	160	40	63	12	12	43			

STF Slot mills

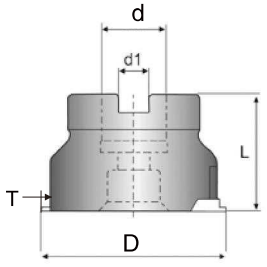




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	T	Z			
STF-2520.1T.GBA32-100L	●	20	16	100	0.8-2.0	1	GBA32**	M3.5*8	T-15
STF-3225.2T.GBA32-120L	●	25	20	120		2			
STF-4032.3T.GBA32-150L	●	32	25	150		3			

STF Solt mills



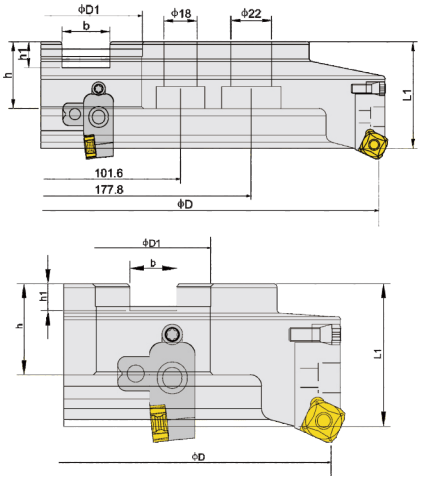


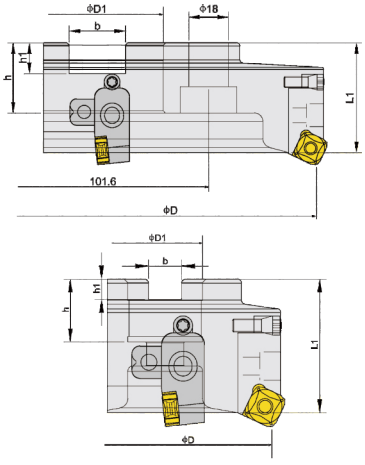
Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	H	T	Z			
STF-054.22.4T.GBA32	●	54	22	40	0.8-2.0	4	GBA32**	M3.5*8	T-15
STF-063.22.5T.GBA32	●	63	22	40		5			
STF-080.27.6T.GBA32	●	80	27	50		6			
STF-100.32.8T.GBA33	●	100	32	50		8			

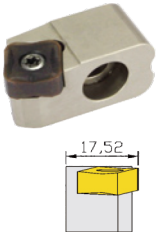
●Stock ○Availabie upon Order

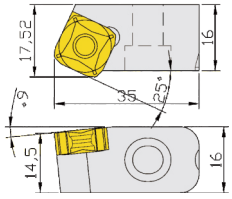
BBMS Mills

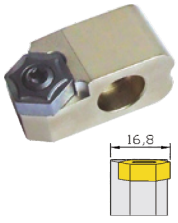


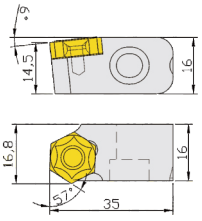


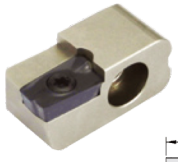


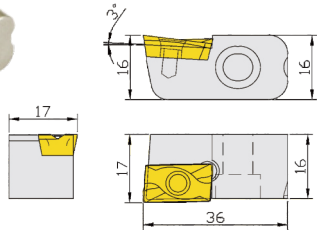


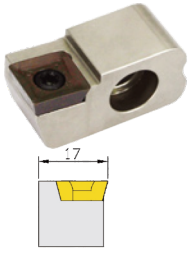


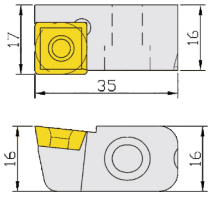












Ordering Code	Stock	Dimensions(mm)				Holder	Clamp	Insert	Screw	Wrench	Screw	Screw
		D	D1	L	Z							
BBMS.DP063.22.04T	●	63	22	50	4	DJ-SNMT	BYB1210	SNMT1205	M4*10	L1.5 L3.0 L5.0 T-15	TJLS0510	DGD0620 ST0625
BBMS.DP080.27.05T	●	80	27	50	5							
BBMS.DP100.32.06T	●	100	32	50	6							
BBMS.DP125.40.08T	●	125	40	50	8							
BBMS.DP160.40.10T	●	160	40	50	10							
BBMS.DP200.60.12T	●	200	60	50	12							
BBMS.DP250.60.14T	●	250	60	50	14							
BBMS.DP315.60.16T	●	315	60	58	16							

●Stock ○Availabie upon Order

Internal turning tools











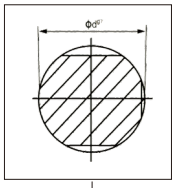




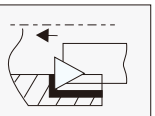
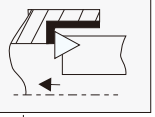


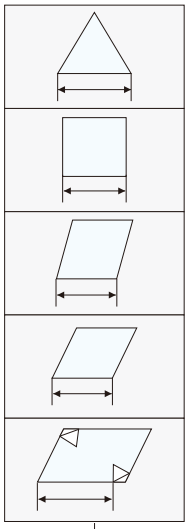
S–steel
A–steel(w)thru coolant
D–Devibrator
C–Carbide
E–Carbide(w)thru coolant
H–Interchangeable head
R–Rotating head

Boring bar or head type



Insert Clearance	
N	0°
P	11°
C	7°
B	5°
E	15°
D	20°

R	
L	

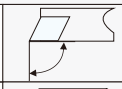
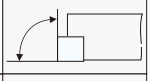
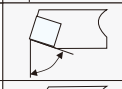
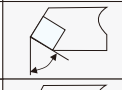
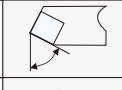
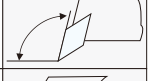
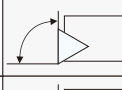
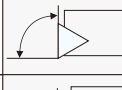
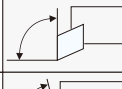
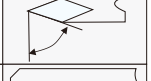
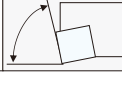
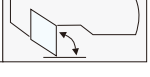


S	32	S	D	C	L	N	R	12	

Shank length l1 (mm)	
K	125
M	150
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special

Method of Holding	
	D
	M
	P
	B
	S

Insert Shape	
C	80° Rhombic
D	55° Rhombic
R	Round
S	Square
T	Triangle
V	35° Rhombic
W	Trigon

Cutting Edge Angle					
A	90°		L	95°	
B	75°		N	63°	
D	45°		P	62.5°	
E	60°		Q	108°	
F	91°		S	45°	
G	90°		T	60°	
U	93°		V	72.5°	
K	75°		Z	93°	

S**MCLNR/L



P083

S**PCLNR/L



P083

S**DCLNR/L



P084

S**BCLNR/L



P084

S**MCKNR/L



P085

S**MCWNR/L



P085

S**MSKNR/L



P086

S**DDUNR/L



P086

S**PDUNR/L



P087

S**DDQNR/L



P087

S**DDZNR/L



P088

S**MTQNR/L



P088

S**MTJNR/L



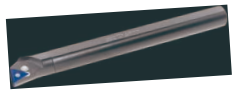
P089

S**MTFNR/L



P089

S**PTUNR/L



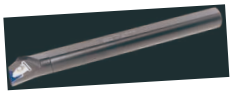
P090

S**MTUNR/L



P090

S**DTUNR/L



P091

S**MTWNR/L



P091

S**MWLNR/L



P092

S**PWLNR/L



P092

S**DWLNR/L



P093

S**DVXNR/L



P093

S**DVQNR/L



P094

S**DVUNR/L



P094

S**DVWNR/L



P094

C**-SCLCR/L



P095

C**-SCLCR/L-A



P095

H**-SCLCR/L



P096

C****-SDQCR/L



P096

C**-SDUCR/L



P09\

H**-SDUCR/L



P097

H**-SDQCR/L



P098

C**-STFCR/L



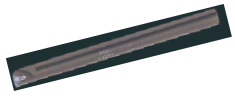
P098

C****-STFCR/L-A



P099

H**-STFCR/L



P099

C**-STUBR/L



P100

C**-STUBR/L-A



P100

C**-STUPR/L



P101

C**-STUPR/L-A



P101

H**-STUPR/L



P102

C**-SWUBR/L



P102

C**-SWUBR/L-A



P103

H**-SWUBR/L



P103

SHB Cutter



P104

S**-SCLCR/L



P104

S**-SCLCR/L



P105

S**-SCKCR/L



P105

S**-SCZCR/L



P106

S**-SDQCR/L

P106

S**-SDUCR/L

P107

S**-SDZCR/L

P107

S**-SDWCR/L

P108

S**-SSSCR/L

P108

S**-SSKCR/L

P109

S**-STFCR/L

P109

S**-STUCR/L

P110

S**-STWCR/L

P110

S**-SVQB(C)R/L

P111

S**-SVUB(C)R/L

P111

S**-SVXB(C)R/L

P112

S**-SVZB(C)R/L

P112

S**-SVWCR/L

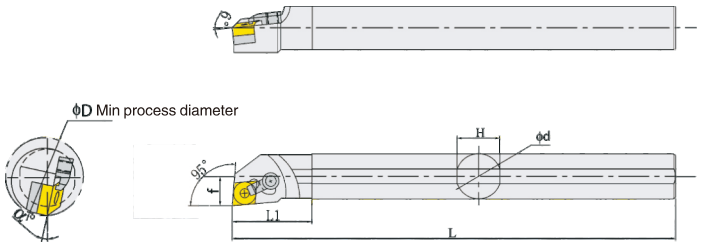
P113

S**-SWLCR/L

P113

S**MCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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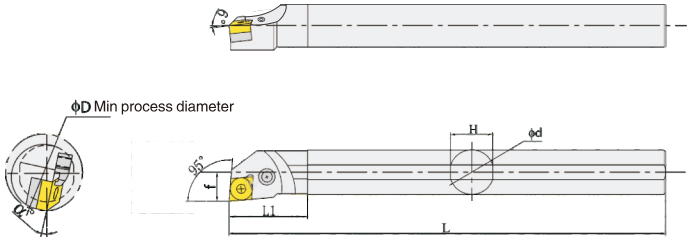
S20R-MCLNR/L12	●	●	25	20	200	45	18	13	15						
S25R-MCLNR/L12	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S-MCLNR/L12	●	●	32	25	250	45	23	16.5	12						
S32S-MCLNR/L12	●	●	40	32	250	50	29	22.5	17		CN-M1204	MXD0617			
S32T-MCLNR/L12	●	●	40	32	300	50	29	22.5	17						
S40T-MCLNR/L12	●	●	50	40	300	55	37	26	15						
S40U-MCLNR/L12	●	●	50	40	350	55	37	26	15						

S**PCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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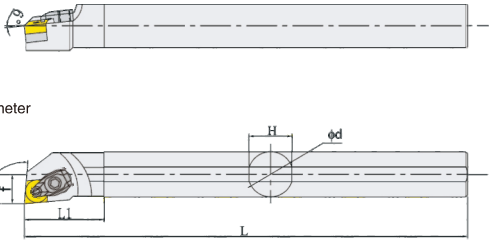
S25S-PCLNR/L12	●	●	32	25	250	40	20	17	12	CN**1204		GGX0514A		NLJ0816	
S32T-PCLNR/L12	●	●	40	32	300	50	32	22	17		CN-P1203	GGX0514	DPX0803	NLJ0820	
S40U-PCLNR/L12	●	●	50	40	350	55	40	27	15						

●Stock ○Availabie upon Order

S**DCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Spring	Wrench
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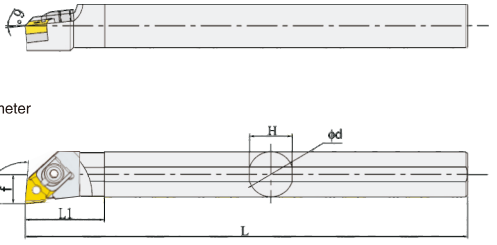
S25S-DCLNR/L12	●	●	32	25	250	40	20	17	12							
S32T-DCLNR/L12	●	●	40	32	300	50	32	22	17		CN-D1204	DXD0614				
S40U-DCLNR/L12	●	●	50	40	350	55	40	27	15							

S**BCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Spring	Wrench
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S32T-BCLNR/L12	●	●	40	32	300	50	32	22	17							
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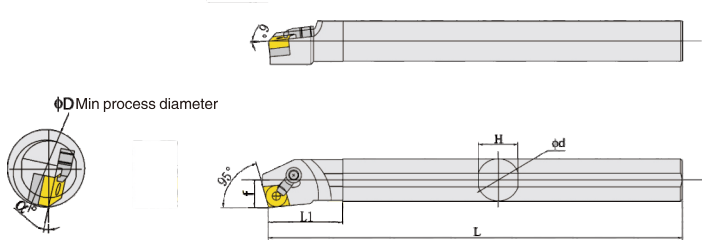
●Stock ○Availabie upon Order

S**MCKNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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S20R–MCKNR/L12	●	●	25	20	200	45	18	13	15						
S25R–MCKNR/L12	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S–MCKNR/L12	●	●	32	25	250	45	23	16.5	12						
S32S–MCKNR/L12	●	●	40	32	250	50	29	22.5	17		CN–M1204	MXD0617			
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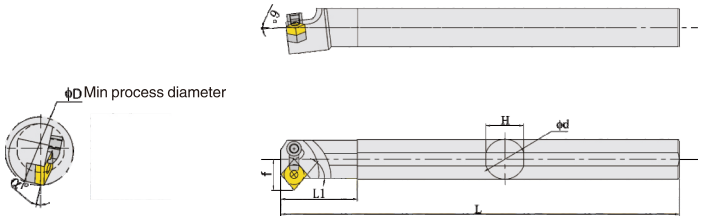
S**MCWNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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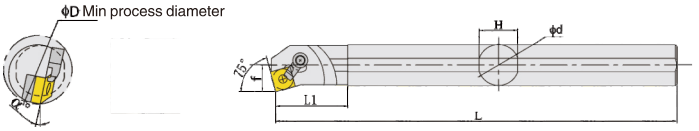
S25S–MCWNR/L12	●	●	32	25	250	45	23	16.5	12				MYB1814	ST0625	
S32T–MCWNR/L12	●	●	40	32	300	50	29	22.5	17		CN–M1204	MXD0617			

●Stock ○Availabie upon Order

S**MSKNR/L







Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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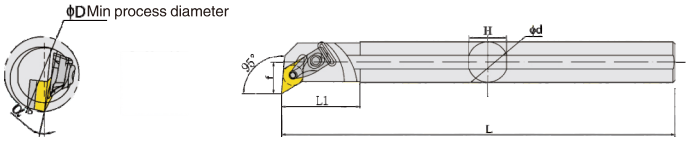
S25S–MSKNR/L12	●	●	32	25	250	45	23	16.5	12				MYB1814	ST0625	
S32T–MSKNR/L12	●	●	40	32	300	50	29	22.5	17		CN–M1204	MXD0617			

S**DDUNR/L







Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
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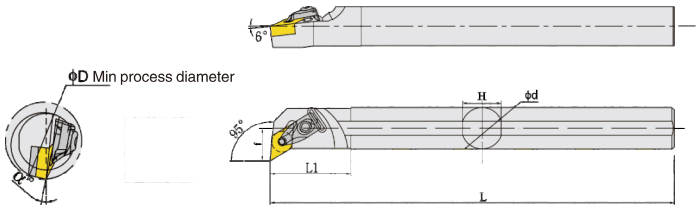
S32T–DDUNR/L1504	●	●	40	32	300	50	29	22.5	17		DN–D1506	DXD0614				
S40U–DDUNR/L1504	●	●	50	40	350	55	37	26	15							
S32T–DDUNR/L1506	●	●	42	32	300	50	29	22.5	17	DN**1506	DN–D1504					
S40U–DDUNR/L1506	●	●	50	40	350	55	37	26	15							

●Stock ○Availabie upon Order

S**PDUNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Shim pin	Screw	Wrench
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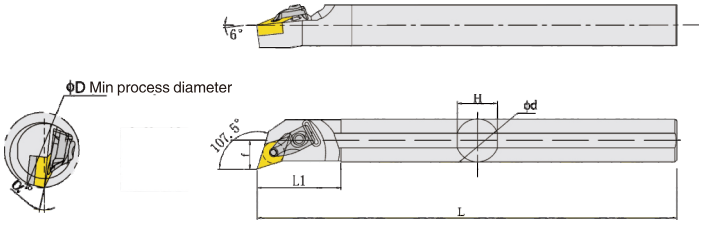
S25S–PDUNR/L1506	●	●	32	25	250	35	23	17	12	DN**1506		GGX0514A		NLJ0816	
S32T–PDUNR/L1506	●	●	40	32	300	40	30	22	17		DN–P1503	GGX0514D	DPX0606	NLJ0820	
S40U–PDUNR/L1506	●	●	50	40	350	50	37	27	15						

S**DDQNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
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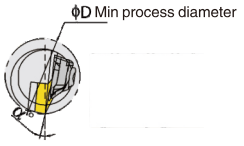
S32T–DDQNR/L1504	●	●	40	32	300	50	29	22.5	17		DN–D1506	DXD0614				
S40U–DDQNR/L1504	●	●	50	40	350	55	37	26	15							
S32T–DDQNR/L1506	●	●	40	32	300	50	29	22.5	17	DN**1506	DN–D1504					
S40U–DDQNR/L1506	●	●	50	40	350	55	37	26	15							

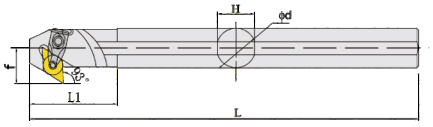
●Stock ○Availabie upon Order

S**DDZNR/L









Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Spring	Wrench
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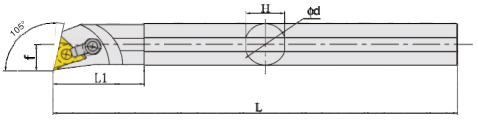
S40U–DDZNR/L1504	●	●	50	40	350	55	37	26	15							
S32T–DDZNR/L1506	●	●	40	32	300	50	29	22.5	17	DN**1506	DN–D1504					
S40U–DDZNR/L1506	●	●	50	40	350	55	37	26	15							

S**MTQNR/L









Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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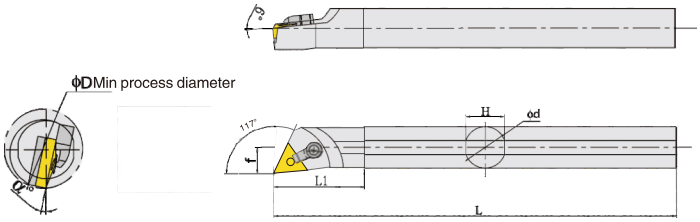
S25S–MTQNR/L16	●	●	32	25	250	45	23	16	12				MYB1814	ST0625	
S32T–MTQNR/L16	●	●	41	32	300	54	29	22.5	17		TN–M1603	MXD0513			

●Stock ○Availabie upon Order

S**MTJNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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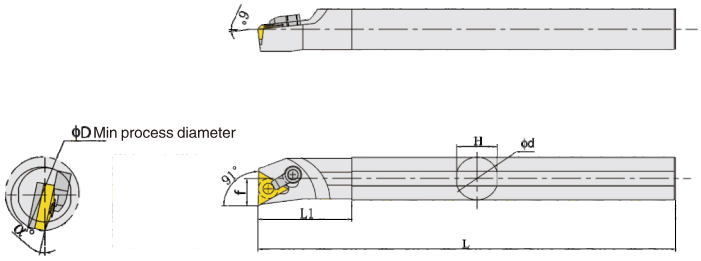
S20R-MTJNR/L16	●	●	25	20	200	40	18	13	15						
S25R-MTJNR/L16	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S-MTJNR/L16	●	●	32	25	250	45	23	16.5	12						
S32S-MTJNR/L16	●	●	41	32	250	54	29	22.5	17		TN-M1603	MXD0513			
S32T-MTJNR/L16	●	●	41	32	300	54	29	22.5	17						

S**MTFNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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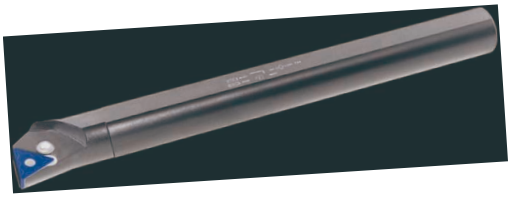
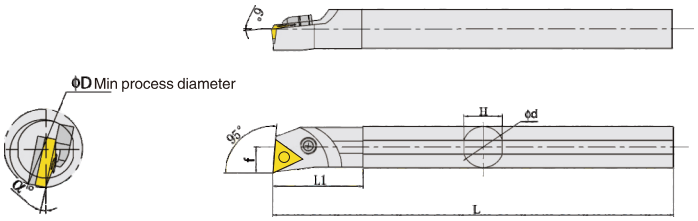
S20Q-MTFNR/L16	●	●	25	20	180	45	18	13	15						
S20R-MTFNR/L16	●	●	25	20	200	45	18	13	15				MYB1814	ST0625	
S25R-MTFNR/L16	●	●	32	25	200	45	23	16.5	12						
S25S-MTFNR/L16	●	●	32	25	250	45	23	16.5	12						
S32S-MTFNR/L16	●	●	41	32	250	50	29	22.5	17		TN-M1603	MXD0513			
S32T-MTFNR/L16	●	●	41	32	300	50	29	22.5	17						

●Stock ○Availabie upon Order

S**PTUNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Shim pin	Screw	Wrench
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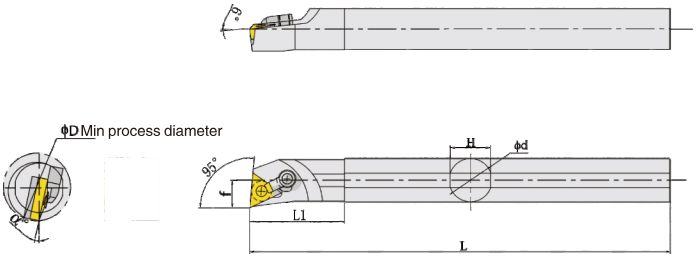
S25S–PTUNR/L16	●	●	32	25	250	42	23	17	12						
S32T–PTUNR/L16	●	●	44	32	300	50	30	22	17		TN–P1603	GGX0310	DPX0505	NLJ0618	
S40T–PTUNR/L16	●	●	54	40	300	55	37	27	15						

S**MTUNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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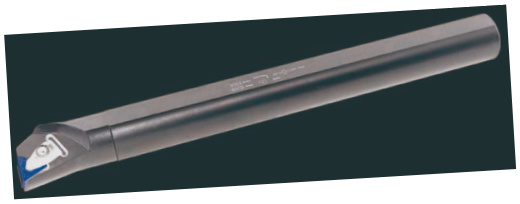
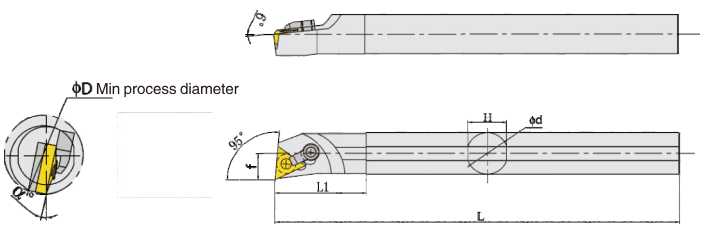
S20Q–MTUNR/L16	●	●	25	20	180	45	18	13	15						
S20R–MTUNR/L16	●	●	25	20	200	45	18	13	15				MYB1814	St0625	
S25R–MTUNR/L16	●	●	32	25	200	45	23	16.5	12						
S25S–MTUNR/L16	●	●	32	25	250	45	23	16.5	12						
S32S–MTUNR/L16	●	●	41	32	250	50	29	22.5	17		TN–M1603	MXD0513			
S32T–MTUNR/L16	●	●	41	32	300	50	29	22.5	17						

●Stock ○Availabie upon Order

S**DTUNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S20R–DTUNR/L16	●	●	25	20	200	45	18	13	15	TN**1604	※	※	DYB2313	DGD0520	DTH0814	L4.0
S25S–DTUNR/L16	●	●	32	25	250	45	23	16.5	12							
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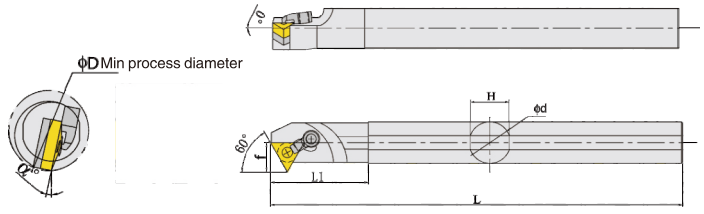
S**MTWNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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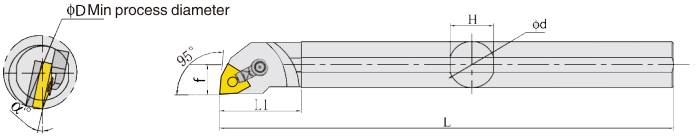
S25S–MTWNR/L16	●	●	32	25	250	45	23	16	12				MYB1814	ST0625	
S32T–MTWNR/L16	●	●	41	32	300	50	29	20	17		TN–M1603	MXD0513			

●Stock ○Availabie upon Order

S**MWLNR/L





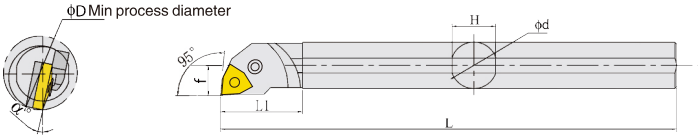


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Clamp	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S16Q-MWLNR/L06	●	●	22	16	180	38	15	11	15	WN**0604	※	MXD0511	MYB1811	ST0620	L2.0 L3.0
S20R-MWLNR/L06	●	●	25	20	200	45	18	13	15						
S25S-MWLNR/L06	●	●	32	25	250	45	23	16.5	12				MYB1814	ST0625	L2.0 L3.0
S20Q-MWLNR/L08	●	●	25	20	180	45	18	13	15	WN**0804		MXD0614	MYB1811	ST0620	
S20R-MWLNR/L08	●	●	25	20	200	45	18	13	15						
S25R-MWLNR/L08	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S-MWLNR/L08	●	●	32	25	250	45	23	16.5	12						
S32S-MWLNR/L08	●	●	41	32	250	50	29	22.5	17		WN-M0804	MXD0617			
S32T-MWLNR/L08	●	●	41	32	300	50	29	22.5	17						
S40U-MWLNR/L08	●	●	50	40	350	55	37	26	15						

S**PWLNR/L







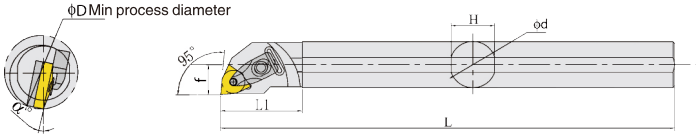
Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Shim pin	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S20R-PWLNR/L06	●	●	25	20	200	45	18	13	15	WN**0604	※	GGX0310	※	NLJ0615	L3.0
S25S-PWLNR/L08	●	●	32	25	250	45	23	16.5	12	WN**0804		GGX0514A		NLJ0816	
S32T-PWLNR/L08	●	●	44	32	300	50	29	22.5	17		WN-P0803	GGX0514	DPX0606	NLJ0820	
S40T-PWLNR/L08	●	●	54	40	300	55	37	26	15						

●Stock ○Availabie upon Order

S**DWLNR/L





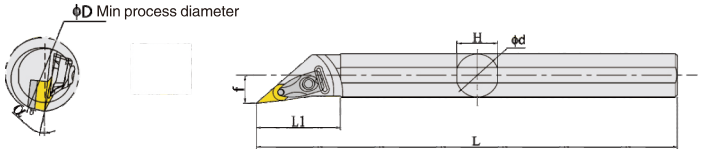


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S20R–DWLNR/L08	●	●	25	20	200	45	18	13	15	WN**0804	※	※	DYB2214	DGD0520	DTN0814	L4.0
S25S–DWLNR/L08	●	●	32	25	250	45	23	16.5	12							
S32T–DWLNR/L08	●	●	42	32	300	50	29	22.5	17		WN–D0804	DXD0614				
S40U–DWLNR/L08	●	●	50	40	350	55	37	26	15							

S**DVXNR/L







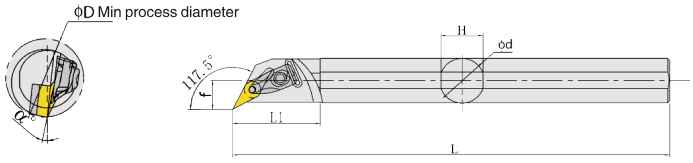
Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S20R–DVXNR/L16	●	●	27	20	200	45	18	14	15	VN**1604	※	※	DYB2914	DGD0520	DTN0814	L4.0
S25S–DVXNR/L16	●	●	32	25	250	45	23	17	12							
S32T–DVXNR/L16	●	●	42	32	300	50	29	23	17		VN–D1603	DXD0512				
S40U–DVXNR/L16	●	●	50	40	350	55	37	27	15							

●Stock ○Availabie upon Order

S**DVQNR/L





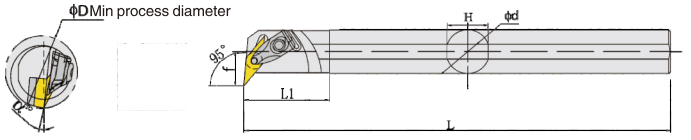


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S25S-DVQNR/L16	●	●	32	25	250	45	23	17	12	VN**1604	※	※	DYB2914	DGD0520	DTH0814	L4.0
S32T-DVQNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				
S40U-DVQNR/L16	●	●	50	40	350	55	37	27	15							

S**DVUNR/L

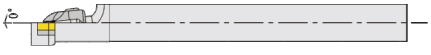




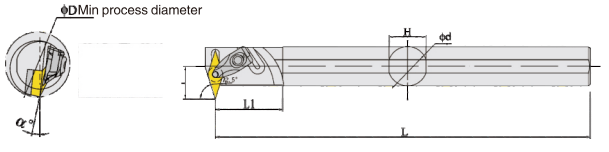


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S25S-DVUNR/L16	●	●	32	25	250	45	23	17	12	VN**1604	※	※	DYB2914	DGD0520	DTH0814	L4.0
S32T-DVUNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				
S40U-DVUNR/L16	●	●	50	40	350	55	37	27	15							

S**DVWNR/L





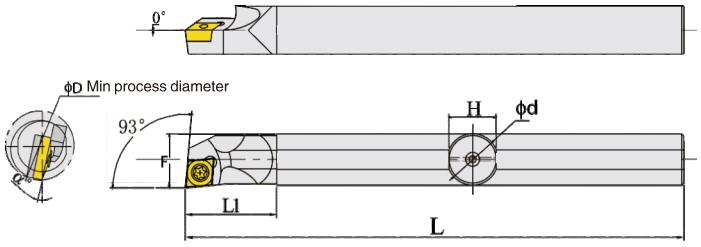


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S25S-DVWNR/L16	●	●	32	25	250	45	23	17	12	VN**1604	※	※	DYB2914	DGD0520	DTH0814	L4.0
S32T-DVWNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				

●Stock ○Availabie upon Order

C**–SCLCR/L (Carbide Holder)

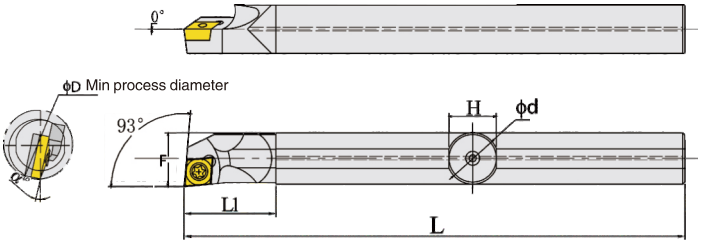




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C04G–SCLCR/L03	●	○	5	4	2.5	3.8	90	15	15°	CCGT0301	M1.8*3.5	T–6
C05H–SCLCR/L03	●	○	6	5	3	4.4	100	15	13°			
C06H–SCLCR/L04	●	○	7	6	3.5	5.4	100	15	13°	CCGT0401	M2.0*4	T–6
C07K–SCLCR/L04	●	○	8	7	4	6.4	125	20	15°			
C08K–SCLCR/L06	●	○	10	8	5	7	125	20	13	CC**0602	M2.5*6	T–8
C10K–SCLCR/L06	●	○	13	10	6.5	9	125	22	12			
C12M–SCLCR/L06	●	○	16	12	8	11	150	25	10			
C12Q–SCLCR/L06	●	○	16	12	8	11	180	25	12			
C16Q–SCLCR/L09	●	○	20	16	10	15	180	28	10	CC**09T3	M3.5*8	T–15
C20S–SCLCR/L09	●	○	25	20	12.5	18	250	33	8			

C**–SCLCR/L–A (Carbide Holder)



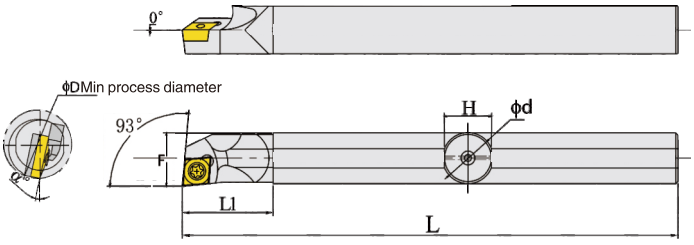


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C0604G–SCLCR/L03–A	●	○	5	4	2.5	3.8	90	15	15°	CCGT0301	M1.8*3.5	T–6
C0605H–SCLCR/L03–A	●	○	6	5	3	4.4	100	15	13°			
C06H–SCLCR/L04–A	●	○	7	6	3.5	5.4	100	15	13°	CCGT0401	M2.0*4	T–6
C07K–SCLCR/L04–A	●	○	8	7	4	6.4	125	20	15°			
C08K–SCLCR/L06–A	●	○	10	8	5	7	125	20	13	CC**0602	M2.5*6	T–8
C10K–SCLCR/L06–A	●	○	13	10	6.5	9	125	22	12			
C12M–SCLCR/L06–A	●	○	16	12	8	11	150	25	10			
C12Q–SCLCR/L06–A	●	○	16	12	8	11	180	25	12			
C16Q–SCLCR/L09–A	●	○	20	16	10	15	180	28	10	CC**09T3	M3.5*8	T–15
C20S–SCLCR/L09–A	●	○	25	20	12.5	18	250	33	8			

●Stock ○Availabie upon Order

H**–SCLCR/L (HSS Holder)

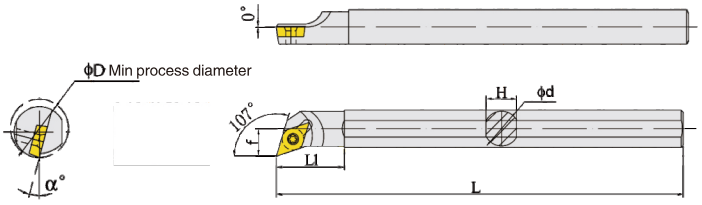




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
H04H–SCLCR/L03	●	○	5	4	2.5	3.8	100	15	15°	CCGT0301	M1.8*3.5	T–6
H05H–SCLCR/L03	●	○	6	5	3	4.4	100	15	13°			
H1004H–SCLCR/L03	●	○	5	10	2.5	3.8	100	15	15°	CCGT0301	M1.8*3.5	T–6
H1005H–SCLCR/L03	●	○	6	10	3	4.4	100	15	13°			
H06H–SCLCR/L04	●	○	7	6	3.5	5.4	100	15	13°	CCGT0401	M2.0*4	T–6
H07K–SCLCR/L04	●	○	8	7	4	6.4	125	20	15°			
H08K–SCLCR/L06	●	○	10	8	5	7	125	20	13	CC**0602	M2.5*6	T–8
H10K–SCLCR/L06	●	○	13	10	6.5	9	125	22	12			
H12K–SCLCR/L06	●	○	16	12	8	11	125	25	10			
H12M–SCLCR/L09	○	○	16	12	8	11	150	25	12	CC**09T3	M3.5*8	T–15

C****–SDQCR/L (Carbide Holder)



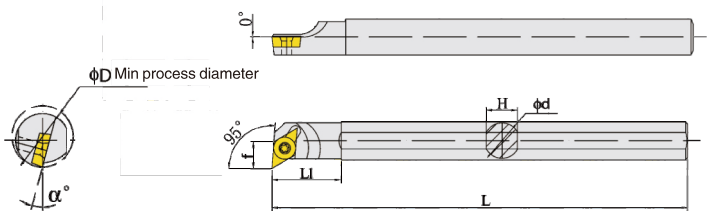


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C08K–SDQCR/L07	●	○	13	8	6	7	125	20	12	DC**0702	M2.5*6	T–8
C10K–SDQCR/L07	●	○	16	10	7	9	125	23	10			
C12M–SDQCR/L07	●	○	20	12	9	11	150	30	8			
C12Q–SDQCR/L07	●	○	20	12	9	11	150	30	8			
C16Q–SDQCR/L07	●	○	25	16	10.5	15	180	30	6			
C16Q–SDQCR/L11	●	○	25	16	11	15	180	30	6	DC**11T3	M3.5*8	T–15
C16R–SDQCR/L11	●	○	25	16	11	15	200	30	6			
C20S–SDQCR/L11	●	○	28	20	12.5	18	250	39	6			

●Stock ○Availabie upon Order

C**–SDUCR/L (Carbide Holder)

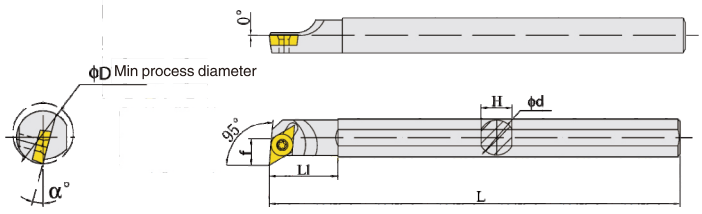




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C08K–SDUCR/L07	●	○	10	8	7	13	125	25	12	DC**0702	M2.5*6	T–8
C10K–SDUCR/L07	●	○	13	10	8	12	125	25	10			
C12M–SDUCR/L07	●	○	16	12	9	10	150	28	8			
C12Q–SDUCR/L07	●	○	16	12	9	12	150	28	8			
C16Q–SDUCR/L07	●	○	20	16	11	10	180	30	6			
C16Q–SDUCR/L11	●	○	20	16	11.5	10	180	35	6	DC**11T3	M3.5*8	T–15
C16R–SDUCR/L11	●	○	20	16	11.5	10	200	35	6			
C20S–SDUCR/L11	●	○	25	20	13	8	250	40	6			

H**–SDUCR/L (HSS Holder)



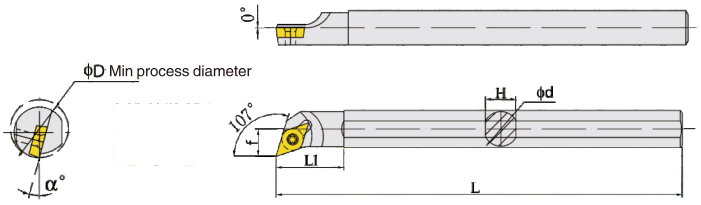


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
H08K–SDUCR/L07	○	○	10	8	7	13	125	25	12	DC**0702	M2.5*6	T–8
H10K–SDUCR/L07	○	○	13	10	8	12	125	25	10			
H12M–SDUCR/L07	○	○	16	12	9	10	150	28	8			
H16Q–SDUCR/L07	○	○	20	16	11	10	180	30	6			
H16Q–SDUCR/L11	○	○	20	16	11.5	10	180	35	6	DC**11T3	M3.5*8	T–15
H20R–SDUCR/L11	○	○	25	20	13	8	200	40	6			

●Stock ○Availabie upon Order

H**–SDQCR/L (HSS Holder)

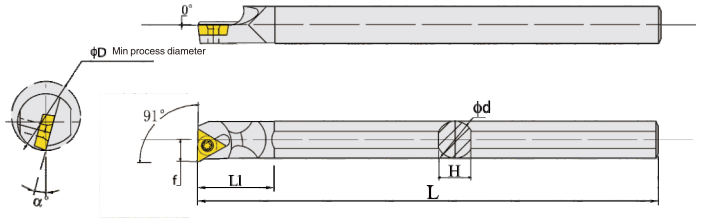




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
H08K–SDQCR/L07	○	○	10	8	7	13	125	25	12	DC**0702	M2.5*6	T–8
H10K–SDQCR/L07	○	○	13	10	8	12	125	25	10			
H12M–SDQCR/L07	○	○	16	12	9	10	150	28	8			
H16Q–SDQCR/L07	○	○	20	16	11	10	180	30	6			
H16Q–SDQCR/L11	○	○	20	16	11.5	10	180	35	6	DC**11T3	M3.5*8	T–15
H20R–SDQCR/L11	○	○	25	20	13	8	200	40	6			

C**–STFB(C)R/L (Carbide Holder)



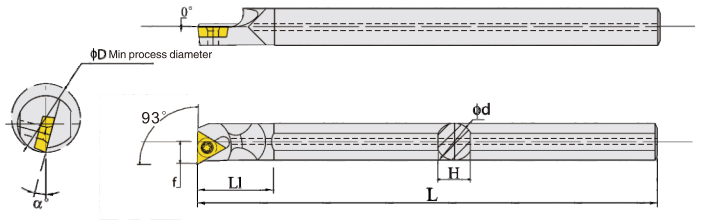


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	D	d	d1	f	L1	L	H	a°			
C06J–STFBR/L06	●	○	7	6	3.5		5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STFBR/L06	●	○	8	7	4		6.4	100	20	15°			
C08K–STFCR/L09	●	○	10	8	5		7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STFCR/L09	●	○	13	10	6.5		9	125	22	12			
C10K–STFCR/L11	●	○	13	10	6.5		9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STFCR/L11	●	○	16	12	8		11	150	25	10			
C12Q–STFCR/L11	●	○	16	12	8		11	180	25	12			
C16Q–STFCR/L11	●	○	20	16	10		15	180	28	10			
C16R–STFCR/L11	●	○	20	16	10		15	200	28	10			
C20S–STFCR/L16	●	○	25	20	12.5		18	250	33	8	TC**16T3	M3.5*8	T–15

●Stock ○Availabie upon Order

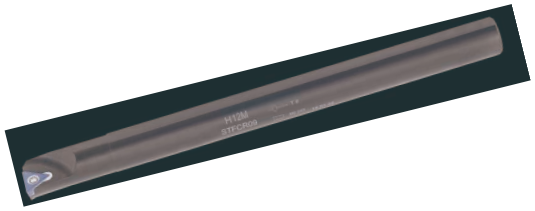
C****–STFB(C)R/L–A (Carbide Holder)

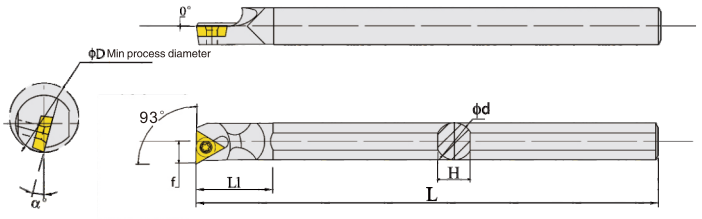




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C06J–STFBR/L06–A	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STFBR/L06–A	○	○	8	7	4	6.4	100	20	15°			
C08K–STFCR/L09–A	●	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STFCR/L09–A	●	○	13	10	6.5	9	125	22	12			
C10K–STFCR/L11–A	●	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STFCR/L11–A	●	○	16	12	8	11	150	25	10			
C12Q–STFCR/L11–A	●	○	16	12	8	11	180	25	12			
C16Q–STFCR/L11–A	●	○	20	16	10	15	180	28	10			
C16R–STFCR/L11–A	●	○	20	16	10	15	200	28	10			
C20S–STFCR/L16–A	●	○	25	20	12.5	18	250	33	8	TC**16T3	M3.5*8	T–15

H**–STUB(C)R/L (HSS Holder)



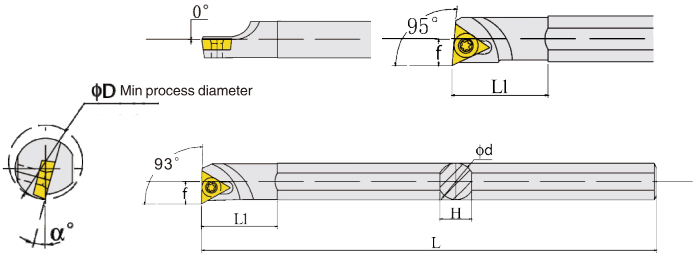


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
H06H–STUBR/L06	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
H07H–STUBR/L06	●	○	8	7	4	6.4	100	20	15°			
H1006K–STUBR06	●	○	7	10	3.5	5.4	100	20	13°	TC**0902	M2.0*4	T–6
H1007K–STUBR06	●	○	8	10	4	6.4	100	20	15°			
H08K–STUCR/L09	○	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
H10K–STUCR/L09	○	○	13	10	6.5	9	125	22	12			
H10K–STUCR/L11	○	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
H12M–STUCR/L11	○	○	16	12	8	11	150	25	10			
H16Q–STUCR/L11	○	○	20	16	10	15	180	28	10			
H20R–STUCR/L16	○	○	25	20	12.5	18	200	33	8	TC**16T3	M3.5*8	T–15

●Stock ○Availabie upon Order

C**–STUB(C)R/L (Carbide Holder)

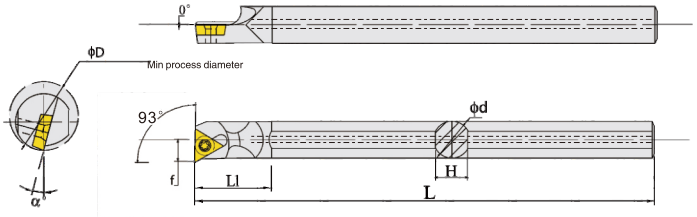




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C06J–STUBR/L06	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STUBR/L06	●	○	8	7	4	6.4	100	20	15°			
C08K–STUCR/L09	●	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STUCR/L09	●	○	13	10	6.5	9	125	22	12			
C10K–STUCR/L11	●	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STUCR/L11	●	○	16	12	8	11	150	25	10			
C12Q–STUCR/L11	○	○	16	12	8	11	180	25	12			
C16Q–STUCR/L11	●	○	20	16	10	15	180	28	10			
C16R–STUCR/L11	●	○	20	16	10	15	200	28	10			
C20S–STUCR/L16	●	○	25	20	13	18	250	33	8	TC**16T3	M3.5*8	T–15

C**–STUB(C)R/L–A (Carbide Holder)



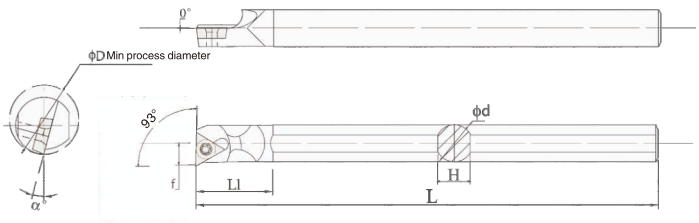


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C06J–STUBR/L06–A	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STUBR/L06–A	○	○	8	7	4	6.4	100	20	15°			
C08K–STUCR/L09–A	●	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STUCR/L09–A	●	○	13	10	6.5	9	125	22	12			
C10K–STUCR/L11–A	●	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STUCR/L11–A	●	○	16	12	8	11	150	25	10			
C12Q–STUCR/L11–A	○	○	16	12	8	11	180	25	12			
C16Q–STUCR/L11–A	●	○	20	16	10	15	180	28	10			
C16R–STUCR/L11–A	●	○	20	16	10	15	200	28	10			
C20S–STUCR/L16–A	●	○	25	20	12.5	18	250	33	8	TC**16T3	M3.5*8	T–15

●Stock ○Availabie upon Order

C**–STUPR/L (Carbide Holder)



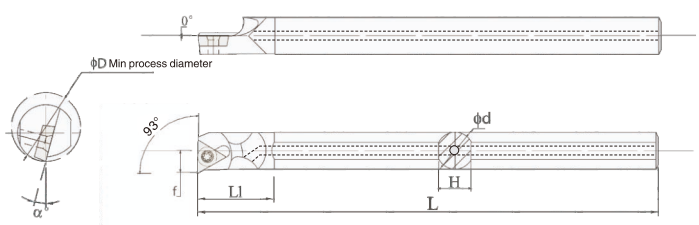


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C08K–STUPR/L09	●	○	10	8	5	7	125	20	13	TP**0903	M2.0*4	T–6
C10K–STUPR/L09	●	○	13	10	6.5	9	125	22	12			
C10K–STUPR/L11	●	○	13	10	6.5	9	125	22	12	TP**1103	M2.5*6	T–8
C12M–STUPR/L11	●	○	16	12	8	11	150	25	10			
C12Q–STUPR/L11	●	○	16	12	8	11	180	25	12			
C16Q–STUPR/L11	●	○	20	16	10	15	180	28	10			
C16R–STUPR/L11	●	○	20	16	10	15	200	28	10			
C20R–STUPR/L16	●	○	25	20	13	18	200	33	8	TP**1603	M3.5*8	T–15
C20S–STUPR/L16	●	○	25	20	13	18	250	33	8			

C**–STUPR/L–A (Carbide Holder)

—Coolant through center



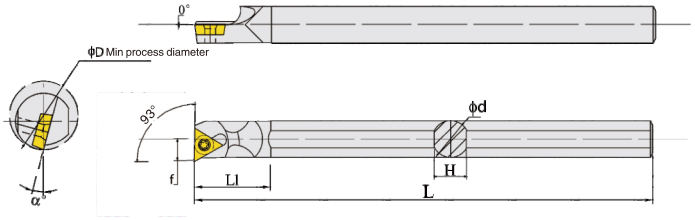


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C08K–STUPR/L09–A	●	○	10	8	5	7	125	20	13	TP**0903	M2.0*4	T–6
C10K–STUPR/L09–A	●	○	13	10	6.5	9	125	22	12			
C10K–STUPR/L11–A	●	○	13	10	6.5	9	125	22	12	TP**1103	M2.5*6	T–8
C12M–STUPR/L11–A	●	○	16	12	8	11	150	25	10			
C12Q–STUPR/L11–A	●	○	16	12	8	11	180	25	12			
C16Q–STUPR/L11–A	●	○	20	16	10	15	180	28	10			
C16R–STUPR/L11–A	●	○	20	16	10	15	200	28	10			
C20R–STUPR/L16–A	●	○	25	20	13	18	200	33	8	TP**1603	M3.5*8	T–15
C20S–STUPR/L16–A	●	○	25	20	13	18	250	33	8			

●Stock ○Availabie upon Order

H**–STUPR/L (HSS Holder)

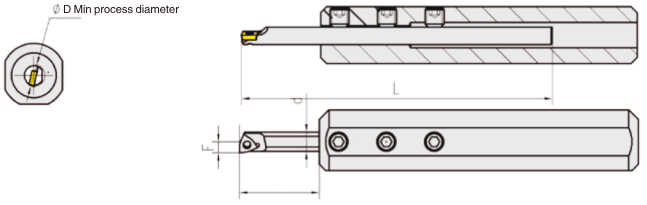




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
H08K–STUPR09	○	○	10	8	5	7	125	20	13	TP**0903	M2.0*4	T–6
H10K–STUPR09	○	○	13	10	6.5	9	125	22	12			
H10K–STUPR11	○	○	13	10	6.5	9	125	22	12	TP**1103	M2.5*6	T–8
H12M–STUPR11	○	○	16	12	8	11	150	25	10			
H12Q–STUPR11	○	○	16	12	8	11	180	25	12			
H16Q–STUPR11	○	○	20	16	10	15	180	28	10			
H16R–STUPR11	○	○	20	16	10	15	200	28	10			
H20R–STUPR16	○	○	25	20	13	18	200	33	8	TP**1603	M3.5*8	T–15
H20S–STUPR16	○	○	25	20	13	18	250	33	8			

C**–SWUBR/L (Carbide Holder)

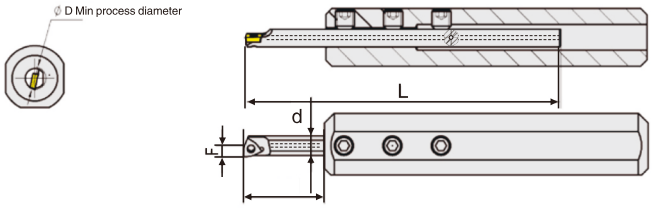




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	F	H	L	L1	a°			
C05H–SWUBR06	●	○	6	5	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
C06J–SWUBR06	●	○	7	6	3.5	5.4	110	15	13°			
C07J–SWUBR06	●	○	8	7	4	6.4	110	15	13°			

●Stock ○Availabie upon Order

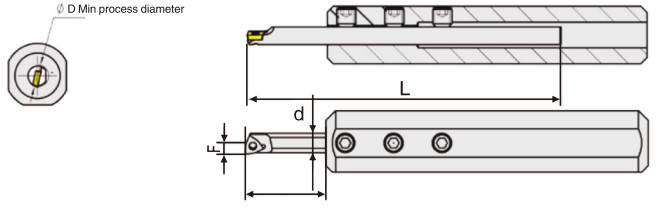
C**–SWUBR/L–A (Carbide Holder)



Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	F	H	L	L1	a°			
C05H–SWUBR06–A	●	○	6	5	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
C06J–SWUBR06–A	●	○	7	6	3.5	5.4	110	15	13°			
C07J–SWUBR06–A	●	○	8	7	4	6.4	110	15	13°			

H**–SWUBR/L (HSS Holder)



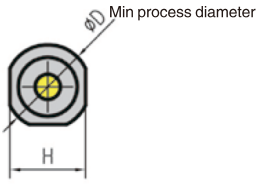


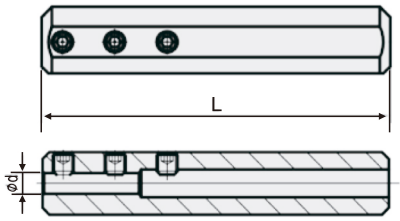
Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	F	H	L	L1	a°			
H05H–SWUBR06	●	○	6	5	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
H06H–SWUBR06	●	○	7	6	3.5	5.4	110	15	13°			
H07H–SWUBR06	●	○	8	7	4	6.4	110	15	13°			
H1005K–SWUBR06	●	○	6	10	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
H1006K–SWUBR06	●	○	7	10	3.5	5.4	110	15	13°			
H1007K–SWUBR06	●	○	8	10	4	6.4	110	15	13°			

●Stock ○Availabie upon Order

SHB Cutter





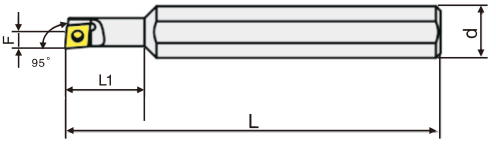


Ordering Code	Stock	Dimensions(mm)				Screw	Wrench
		D	d	L	H		
SHB 0416–100	●	16	4	100	15	ES40	L2.0
SHB 0516–100	●	16	5	100	15		
SHB 0616–100	●	16	6	100	15		
SHB 0716–100	●	16	7	100	15		
SHB 0816–100	●	16	8	100	15		
SHB 0420–100	●	20	4	100	18		
SHB 0520–100	●	20	5	100	18		
SHB 0620–100	●	20	6	100	18		
SHB 0820–100	●	20	8	100	18		
SH B1020–100	●	20	10	100	18	ES50	L3.0

S**–SCLCR/L





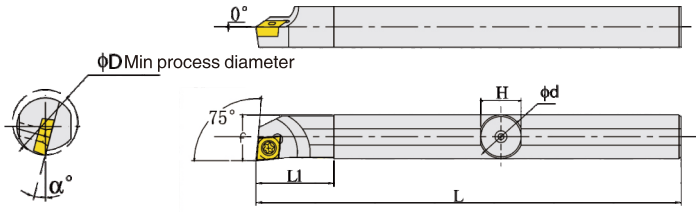


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	D	d	d1	f	L1	L	H	a°			
S0612K–SCLCR/L04	●	○	7	12	6	3.5	18	125	11	10	CC**0401	M2.0*4	T–6
S0812K–SCLCR/L06	●	○	10	12	8	5	24	125	11	10	CC**0602	M2.5*6	T–8
S0616M–SCLCR/L04	●	○	7	16	6	3.5	18	150	11	10	CC**0401	M2.0*4	T–6
S0816M–SCLCR/L06	●	○	10	16	8	5	24	150	15	10	CC**0602	M2.5*6	T–8
S1016M–SCLCR/L06	●	○	13	16	10	6	30	150	15	10			
S1216M–SCLCR/L06	●	○	16	16	12	7	36	150	15	10			
S1020M–SCLCR/L06	●	○	13	20	10	6	30	150	18	8			
S1220M–SCLCR/L06	●	○	16	20	12	7	36	150	18	8			
S1220M–SCLCR/L09	●	○	16	20	12	7.5	36	150	18	8	CC**09T3	M3.5*8	T–15

●Stock ○Availabie upon Order

S**–SCLCR/L

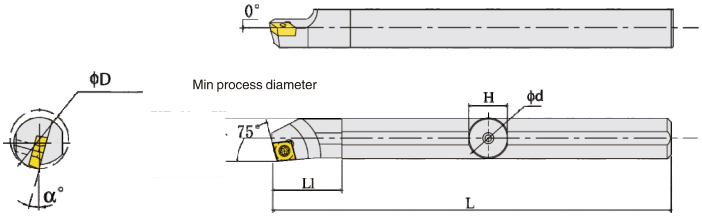




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SCLCR/L06	●	●	10	8	5	125	20	7	13	CC**0602	M2.5*6	T–8
S10K–SCLCR/L06	●	●	13	10	6	125	22	9	12			
S12M–SCLCR/L06	●	●	16	12	7	150	25	11	10			
S16Q–SCLCR/L09	●	●	20	16	9.5	160	30	15	10	CC**09T3	M3.5*8	T–15
S20R–SCLCR/L09	●	●	25	20	11.5	200	35	18	8			
S25R–SCLCR/L09	●	●	31	25	14	200	35	23	6			
S25S–SCLCR/L09	●	●	31	25	14	250	40	23	6			
S25S–SCLCR/L12	●	●	31	25	14.5	250	40	23	6	CC**1204	M5.0*12	T–20
S32S–SCLCR/L12	●	●	39	32	18	250	45	29	4			
S32T–SCLCR/L12	●	●	39	32	18	300	45	29	4			

S**–SCKCR/L



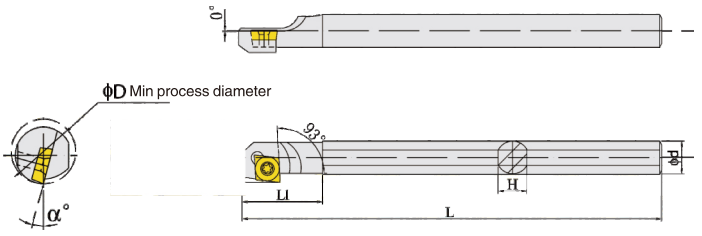


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SCKCR/L06	●	●	10	8	5.5	125	20	7	13	CC**0602	M2.5*6	T–8
S10K–SCKCR/L06	●	●	13	10	6	125	22	9	12			
S12M–SCKCR/L06	●	●	16	12	7	150	25	11	10			
S16Q–SCKCR/L09	●	●	20	16	9.5	180	30	15	10	CC**09T3	M3.5*8	T–15
S20Q–SCKCR/L09	●	●	25	20	11.5	180	35	18	8			
S20R–SCKCR/L09	●	●	31	25	11.5	200	35	18	6			
S25R–SCKCR/L09	●	●	31	25	14	200	35	23	6			
S25S–SCKCR/L09	●	●	31	25	14	250	40	23	6			

●Stock ○Availabie upon Order

S**–SCZCR/L

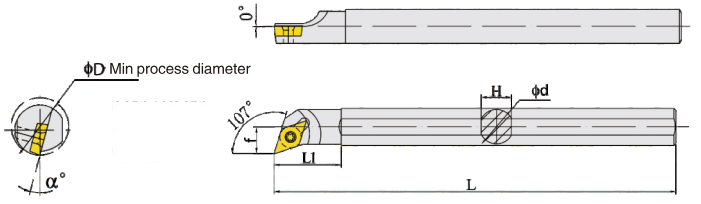




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SCZCR/L06	●	●	12.5	8	6.5	125	26	7	13	CC**0602	M2.5*6	T–8
S10K–SCZCR/L06	●	●	14	10	7.5	125	28	9	12			
S12M–SCZCR/L06	●	●	16	12	8.5	150	32	11	10			
S16Q–SCZCR/L09	●	●	20	16	10.5	180	28	15	10	CC**09T3	M3.5*8	T–15
S20R–SCZCR/L09	●	●	25	20	13.5	200	40	18	8			
S25S–SCZCR/L09	●	●	32	25	16	250	45	23	6			

S**–SDQCR/L



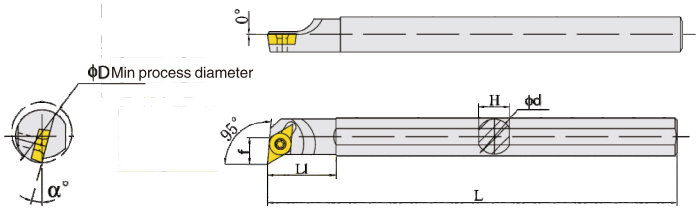


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SDQCR/L07	●	●	13	8	6	125	20	7	13	DC**0702	M2.5*6	T–8
S10K–SDQCR/L07	●	●	16	10	7	125	23	9	12			
S12M–SDQCR/L07	●	●	20	12	9	150	30	11	10			
S16Q–SDQCR/L11	●	●	25	16	11	180	30	15	10	DC**11T3	M3.5*8	T–15
S20Q–SDQCR/L11	●	●	28	20	13	180	39	18	8			
S20R–SDQCR/L11	●	●	38	20	13	200	39	18	8			
S25R–SDQCR/L11	●	●	33	25	16	200	40	23	6			
S25S–SDQCR/L11	●	●	33	25	16	250	40	23	6			
S32S–SDQCR/L11	●	●	41	32	20	250	43	29	4			
S32T–SDQCR/L11	●	●	41	32	20	300	43	29	4			

●Stock ○Availabie upon Order

S**–SDUCR/L

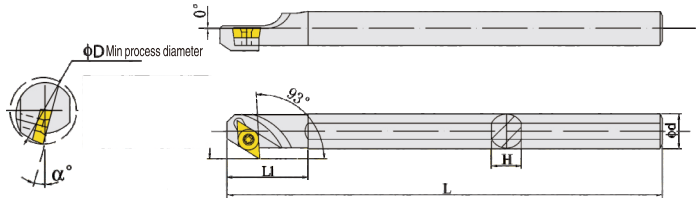




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SDUCR/L07	●	●	13	8	7	125	25	9	13	DC**0702	M2.5*6	T–8
S10K–SDUCR/L07	●	●	15	10	8	125	25	9	12			
S12M–SDUCR/L07	●	●	17	12	9	150	28	11	10			
S16Q–SDUCR/L11	●	●	23	16	11.5	180	30	15	10	DC**11T3	M3.5*8	T–15
S20Q–SDUCR/L11	●	●	25	20	13	180	35	18	8			
S20R–SDUCR/L11	●	●	25	20	13	200	35	18	8			
S25R–SDUCR/L11	●	●	32	25	16	200	40	23	6			
S25S–SDUCR/L11	●	●	32	25	16	250	40	23	6			
S32S–SDUCR/L11	●	●	39	32	20	250	45	29	4			
S32T–SDUCR/L11	●	●	39	32	20	300	45	29	4			

S**–SDZCR/L



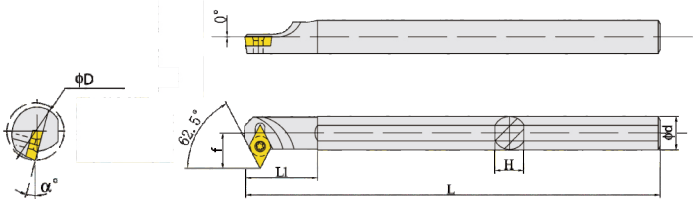


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S10K–SDZCR/L07	●	●	16	10	8	125	28	9	12	DC**0702	M2.5*6	T–8
S12M–SDZCR/L07	●	●	18	12	9	150	30	11	10			
S16Q–SDZCR/L07	●	●	22	16	11	180	30	15	10			
S16Q–SDZCR/L11	●	●	24	16	12	180	35	15	10	DC**11T3	M3.5*8	T–15
S20R–SDZCR/L11	●	●	28	20	13	200	40	18	8			
S25S–SDZCR/L11	●	●	34	25	16	250	45	23	6			
S32T–SDZCR/L11	●	●	38	32	20.5	300	50	29	4			

●Stock ○Availabie upon Order

S**–SDWCR/L

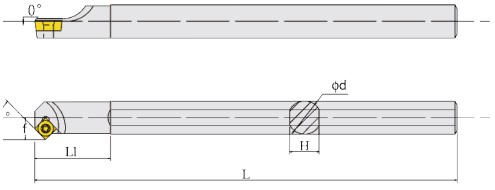




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S10K–SDWCR/L07	●	●	16	10	8	125	28	9	12	DC**0702	M2.5*6	T–8
S12M–SDWCR/L07	●	●	18	12	9	150	30	11	10			
S16Q–SDWCR/L07	●	●	22	16	11	180	30	15	10			
S16Q–SDWCR/L11	●	●	24	16	12	180	35	15	10	DC**11T3	M3.5*8	T–15
S20R–SDWCR/L11	●	●	28	20	13	200	40	18	8			
S25S–SDWCR/L11	●	●	34	25	16	250	45	23	6			
S32T–SDWCR/L11	●	●	38	32	20.5	300	50	29	4			

S**–SSSCR/L



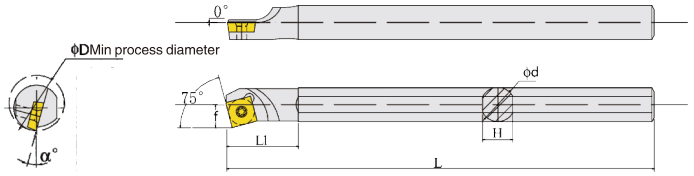


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S12M–SSSCR/L09	●	●	16	12	8.5	150	30	11	12	SC**09T3	M3.5*8	T–15
S16Q–SSSCR/L09	●	●	22	16	11.5	180	35	15	10			
S20R–SSSCR/L09	●	●	26	20	13.5	200	40	18	8			
S25S–SSSCR/L09	●	●	31	25	16	250	40	23	6			
S20R–SSSCR/L12	●	●	26	20	14	200	40	15	8	SC**1204	M5*12	T–20
S25S–SSSCR/L12	●	●	31	25	16.5	250	40	23	6			

●Stock ○Availabie upon Order

S**–SSKCR/L

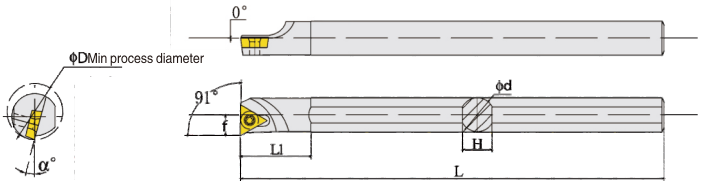




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S12M–SSKCR/L09	●	●	16	12	8.5	150	30	11	12	SC**09T3	M3.5*8	T–15
S16Q–SSKCR/L09	●	●	22	16	11.5	180	35	15	10			
S20R–SSKCR/L09	●	●	26	20	13.5	200	40	18	8			
S25S–SSKCR/L09	●	●	31	25	16	250	40	23	6			
S20R–SSKCR/L12	●	●	26	20	14	200	40	15	8	SC**1204	M5*12	T–20
S25S–SSKCR/L12	●	●	31	25	16.5	250	40	23	6			

S**–STFCR/L



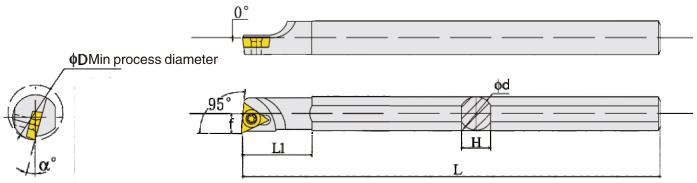


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S10K–STFCR/L09	●	●	13	10	5	125	24	9	13	TC**0902	M2.2*6	T–6
S12M–STFCR/L09	●	●	16	12	7	150	27	11	10			
S10K–STFCR/L11	●	●	13	10	5	125	24	9	13	TC**1102	M2.5*6	T–8
S12M–STFCR/L11	●	●	16	12	7	150	27	11	10			
S16Q–STFCR/L11	●	●	20	16	9	180	30	15	8			
S20R–STFCR/L11	●	●	25	20	11	200	35	18	6			
S20R–STFCR/L16	●	●	25	20	11.5	200	40	18	8	TC**16T3	M3.5*8	T–15
S25S–STFCR/L16	●	●	31	25	14	250	40	23	4			
S32T–STFCR/L16	●	●	39	32	17.5	300	45	29	4			

●Stock ○Availabie upon Order

S**–STUCR/L

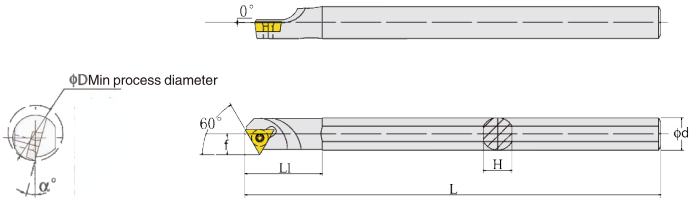




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S06H–STUCR/L06	●	●	8	6	3.5	100	15	5	15	TB**0601	M1.8*3	T–6
S08K–STUCR/L09	●	●	10.5	8	5	125	23	7	15	TC**0902	M2.2*6	T–6
S10K–STUCR/L09	●	●	13	10	6	125	24	9	13			
S12M–STUCR/L09	●	●	16	12	7	150	27	11	10			
S12M–STUCR/L11	●	●	16	12	7	150	27	11	10	TC**1102	M2.5*6	T–8
S16Q–STUCR/L11	●	●	20	16	9	180	30	15	8			
S20R–STUCR/L11	●	●	25	20	11	200	35	18	6			
S20R–STUCR/L16	●	●	25	20	11.5	200	40	18	8	TC**16T3	M3.5*8	T–15
S25S–STUCR/L16	●	●	31	25	14	250	40	23	4			
S32T–STUCR/L16	●	●	39	32	17.5	300	45	29	4			

S**–STWCR/L



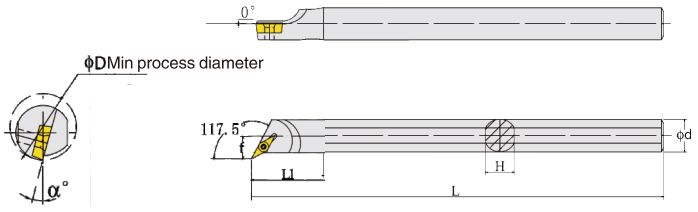


Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
		D	d	f	L	L1	H	a°			
S08K–STWCR/L09	●	10.5	8	5	125	23	7	15	TC**0902	M2.2*6	T–6
S10K–STWCR/L09	●	13	10	6	125	24	9	13			
S10K–STWCR/L11	●	13	10	5	125	24	9	13	TC**1102	M2.5*6	T–8
S12M–STWCR/L11	●	16	12	7	150	27	11	10			
S14N–STWCR/L11	●	18	14	7	160	30	13	10			
S16Q–STWCR/L11	●	20	16	9	180	30	15	8			
S20R–STWCR/L16	●	25	20	11.5	200	40	18	8	TC**16T3	M3.5*8	T–15
S25S–STWCR/L16	●	31	25	14	250	40	23	4			

●Stock ○Availabie upon Order

S**–SVQB(C)R/L

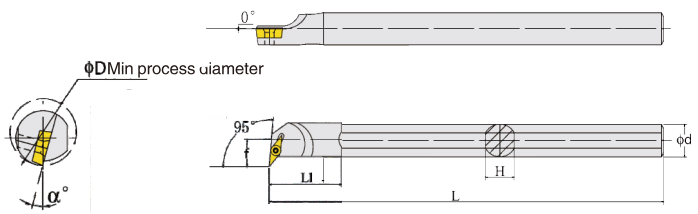




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVQB(C)R/L11	●	●	22	16	11.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVQB(C)R/L11	●	●	27	20	14	200	39	18	12			
S20R–SVQB(C)R/L16	●	●	27	20	14	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVQB(C)R/L16	●	●	32	25	16.5	250	50	23	8			
S32T–SVQB(C)R/L16	●	●	41	32	22.5	300	55	29	8			
S16Q–SVQCR/L11	●	●	22	16	11.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVQCR/L11	●	●	27	20	14	200	39	18	6			
S20R–SVQCR/L16	●	●	27	20	14	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVQCR/L16	●	●	32	25	16.5	250	50	23	6			
S32T–SVQCR/L16	●	●	41	32	22.5	300	55	29	8			

S**–SVUCR/L



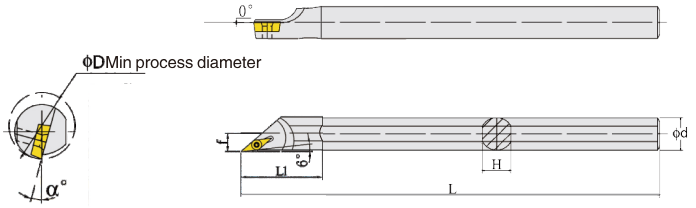


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVUBR/L11	●	●	22	16	11.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVUBR/L11	●	●	27	20	14	200	39	18	12			
S20R–SVUBR/L16	●	●	27	20	14	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVUBR/L16	●	●	32	25	16.5	250	50	23	8			
S32T–SVUBR/L16	●	●	41	32	22.5	300	55	29	8			
S16Q–SVUCR/L11	●	●	22	16	11.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVUCR/L11	●	●	27	20	14	200	39	18	6			
S20R–SVUCR/L16	●	●	27	20	14	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVUCR/L16	●	●	32	25	16.5	250	50	23	6			
S32T–SVUCR/L16	●	●	41	32	22.5	300	55	29	8			

●Stock ○Availabie upon Order

S**–SVXB(C)R/L

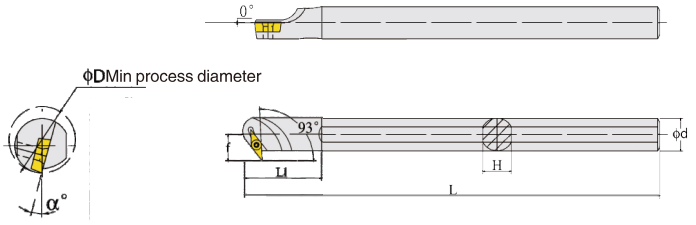




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVXBR/L11	●	●	20	16	9.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVXBR/L11	●	●	23	20	11.5	200	39	18	12			
S20R–SVXBR/L16	●	●	23	20	11.5	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVXBR/L16	●	●	30	25	14	250	50	23	8			
S32T–SVXBR/L16	●	●	35	32	17.5	300	55	29	8			
S16Q–SVXCR/L11	●	●	20	16	9.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVXCR/L11	●	●	23	20	11.5	200	39	18	6			
S20R–SVXCR/L16	●	●	23	20	11.5	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVXCR/L16	●	●	30	25	14	250	50	23	6			
S32T–SVXCR/L16	●	●	35	32	17.5	300	55	29	8			

S**–SVZB(C)R/L



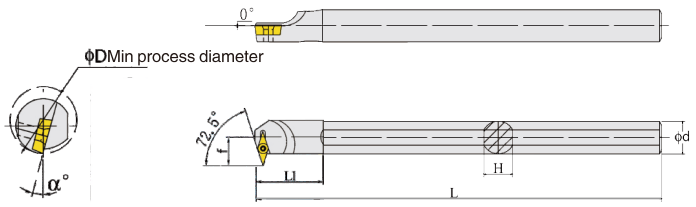


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVZBR/L11	●	●	22	16	11.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVZBR/L11	●	●	27	20	14	200	39	18	12			
S20R–SVZBR/L16	●	●	27	20	14	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVZBR/L16	●	●	32	25	16.5	250	50	23	8			
S32T–SVZBR/L16	●	●	41	32	22.5	300	55	29	8			
S16Q–SVZCR/L11	●	●	22	16	11.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVZCR/L11	●	●	27	20	14	200	39	18	6			
S20R–SVZCR/L16	●	●	27	20	14	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVZCR/L16	●	●	32	25	16.5	250	50	23	6			
S32T–SVZCR/L16	●	●	41	32	22.5	300	55	29	8			

●Stock ○Availabie upon Order

S**–SVWB(C)R/L

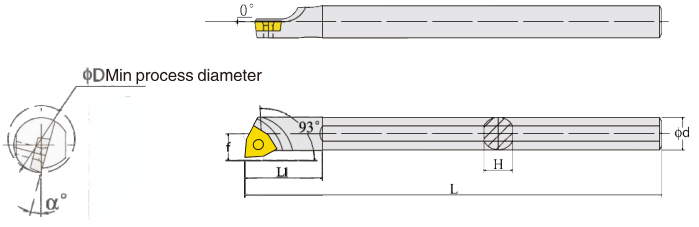




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S25S–SVWBR/L16	●	●	38	25	23	250	35	23	6	VB**1604	M3.5*8	T–15
S32T–SVWBR/L16	●	●	45	32	26	300	40	29	6			
S25S–SVWCR/L16	●	●	38	25	23	250	35	23	4	VC**1604	M3.5*8	T–15
S32T–SVWCR/L16	●	●	45	32	26	300	40	29	4			

S**–SWLCR/L





Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
		D	d	f	L	L1	H	a°			
S08K–SWLCR/L04	●	10.5	8	5.5	125	25	7	13	WC**0402	M2.5*6	T–15
S10K–SWLCR/L04	●	13	10	6.5	125	30	9	10			
S12M–SWLCR/L06	●	16	12	8	150	37	11	13	WC**06T2	M3.5*8	T–15
S16Q–SWLCR/L06	●	20	16	10	180	40	15	10			
S20R–SWLCR/L08	●	25	20	12	200	45	19	8	WC**0804	M5*12	T–20
S25S–SWLCR/L08	●	31	25	14.5	250	45	24	6			

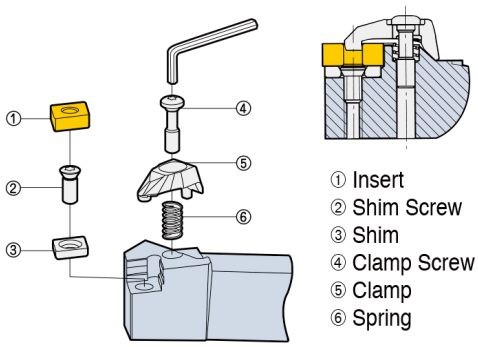
●Stock ○Availabie upon Order

External turning tools



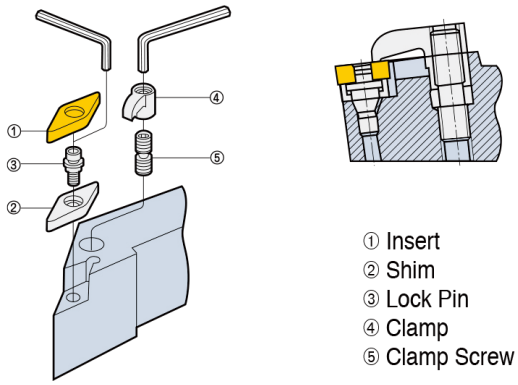
Toolholder Clamping System

D–Clamp Type



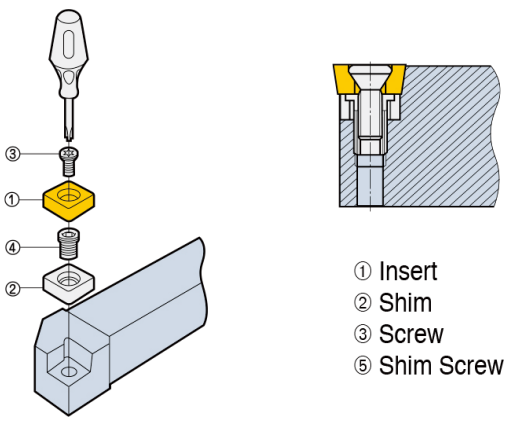
① Insert
② Shim Screw
③ Shim
④ Clamp Screw
⑤ Clamp
⑥ Spring

M–Multi Lock Type



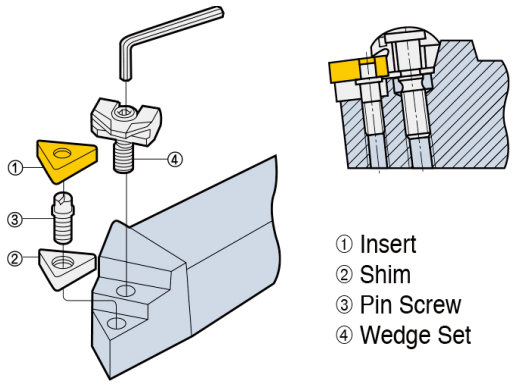
① Insert
② Shim
③ Lock Pin
④ Clamp
⑤ Clamp Screw

S–Screw Clamp Type



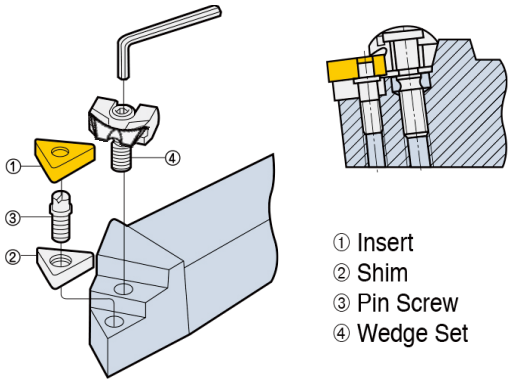
① Insert
② Shim
③ Screw
⑤ Shim Screw

W–Wedge Clamp Type



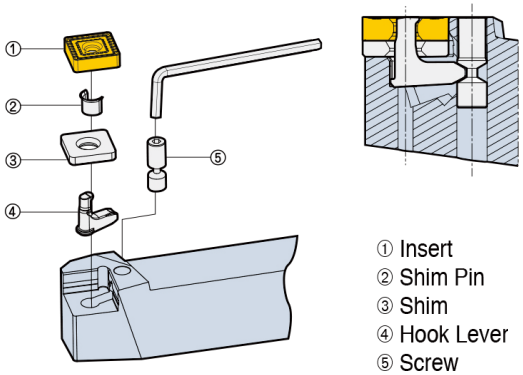
① Insert
② Shim
③ Pin Screw
④ Wedge Set

B–Clamp Holder



① Insert
② Shim
③ Pin Screw
④ Wedge Set

P–Lever Type



① Insert
② Shim Pin
③ Shim
④ Hook Lever
⑤ Screw

External Turning Toolholders Identification System

M	C	L	N	R
①	②	③	④	⑤

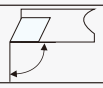
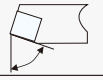
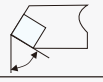
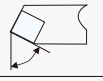
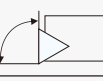
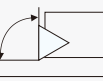
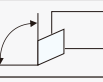
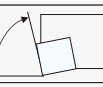
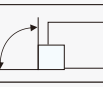
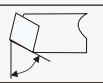
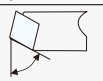
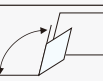
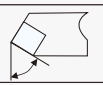
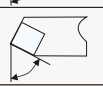
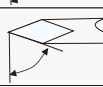
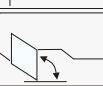
① Method of Clamping

	Double Clamp Type	D
	Wedge Lock Type Heavy Cutting Double Clamp Type	M
	Lever Lock Type	P
	Wedge lock holding	B
	Top clamping	S

② Insert Shape

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

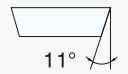
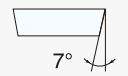
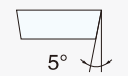
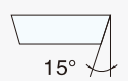
③ Entering angle

A	90°	
B	75°	
D	45°	
E	60°	
F	91°	
G	90°	
U	93°	
K	75°	
L	95°	
N	63°	
P	62.5°	
Q	108°	
S	45°	
T	60°	
V	72.5°	
Z	93°	

⑤ Hand of Tool

R	Right Hand
L	Left Hand
N	Left Right

④ Insert Clearance Angle

N	 0°
P	 11°
C	 7°
B	 5°
E	 15°
D	 20°

External Turning Toolholders Identification System

25	25	M	12
⑥	⑥	⑦	⑧

Shank Size(mm)	
8	8
10	10
12	12
16	16
20	20
25	25
32	32

Tool Length(mm)	
D	60
E	70
F	80
H	100
K	125
M	150
P	170
Q	180
R	200

Cutting Edge Length(mm)						
Insert IC(mm)	Insert Shape					
	Square	Triangle	Round	80° Rhombic	55° Rhombic	35° Rhombic
6	–	–	06	–	–	–
6.35		11		06	07	11
7.94	–	13	–	–	–	–
8			08			
9.525	09	16	–	09	11	16
10	–	–	10	–	–	–
12	–	–	12	–	–	–
12.7	–	22	–	12	15	–
15.875	15	27	–	16	–	–
16	–	–	16	–	–	–
19.05	19	–	19	–	–	–
20	–	–	20	–	–	–
25	–	–	25	–	–	–
25.4	25	–	–	–	–	–
32	–	–	32	–	–	–

MCLNR/L

P039

PCLNR/L

P039

DCLNR/L

P040

BCLNR/L

P040

MCBNR/L

P041

PCBNR/L

P041

MCKNR/L

P042

PCKNR/L

P042

MCMNN / MCMNN-100

P043

MDJNR/L

P043

DDJNR/L

P044

PDJNR/L

P044

MDQNR/L

P045

DDQNR/L

P045

PDPNN

P046

DDPNN

P046

MSBNR/L

P047

PSBNR/L

P047

MSKNR/L

P048

PSKNR/L

P048

MSDNN/PSDNN

P049

MSSNR/L

P050

PSSNR/L

P050

MTJNR/L

P051

PTJNR/L



P051

DTJNR/L



P052

WTJNR/L



P052

BTJNR/L



P053

MTQNR/L



P053

DTQNR/L



P054

WTQNR/L



P054

MTFNR/L



P055

PTFNR/L



P055

MTGNR/L



P056

PTGNR/L



P056

MTENN/PTENN



P057

WTENN



P058

MVJNR/L



P058

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P059

BVJNR/L



P059

MVQNR/L



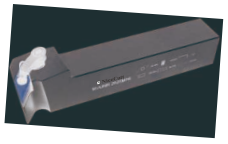
P060

DVQNR/L



P060

MVUNR/L



P061

DVUNR/L



P061

MVVNN/DVVNN



P062

MWLNR/L



P063

PWLNR/L



P063

DWLNR/L



P064

BWLNR/L

P064

SCLCR/L

P065

SCKCR/L

P065

SCBCR/L

P066

SCMCN

P066

SDJCR/L

P067

SDQCR/L

P067

SDFCR/L

P068

SDACR/L

P068

SDNCN

P069

SSBCR/L

P069

SSKCR/L

P070

SSSCR/L

P070

STGCR/L

P071

STFCR/L

P071

SVJCR/L

P072

SVQCR/L

P072

SVJBR/L

P073

SVQBR/L

P073

SVUCR/L

P074

SVVCN

P074

SRACR/L CRACR/L

P075

SRGCR/L

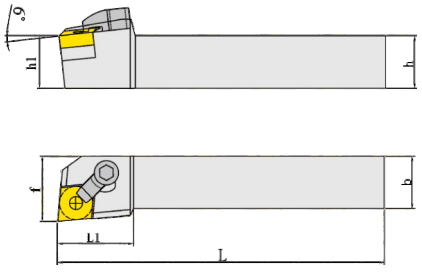
P076

SRDCN/CRDCN

P077

MCLNR/L

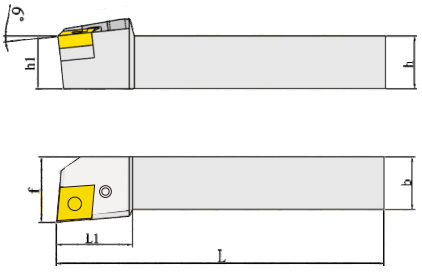




Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
MCLNR/L1616H12	●	●	16	16	100	34	16	20	CN**1204	CN-M1204	MXD0617	MYB1814	ST0625	L2.5 L3.0
MCLNR/L2020K12	●	●	20	20	125	34	20	25						
MCLNR/L2525M12	●	●	25	25	150	34	25	32						
MCLNR/L3232P12	●	●	32	32	170	40	32	40						

PCLNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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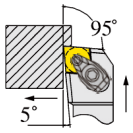
PCLNR/L1616H12	○	○	16	16	100	28	16	20	CN**1204	CN-P1203	GGX0514	DPX0606	NLJ0820	L3.0
PCLNR/L2020K12	●	●	20	20	125	28	20	25						
PCLNR/L2525M12	●	●	25	25	150	28	25	32						
PCLNR/L3232P12	●	●	32	32	170	30	32	40						
PCLNR/L2525M16	●	●	25	25	150	33	25	32	CN**1606	CN-P1604	GGX0617	DPX0808	NLJ0821	
PCLNR/L3232P16	●	●	32	32	170	33	32	40						
PCLNR/L3232P19	●	●	32	32	170	36	32	40	CN**1906	CN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PCLNR/L4040S19	●	●	40	40	250	40	40	50						
PCLNR/L4040S25	●	●	40	40	250	47	40	50	CN**2509	CN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PCLNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

DCLNR/L









Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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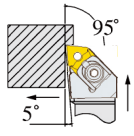
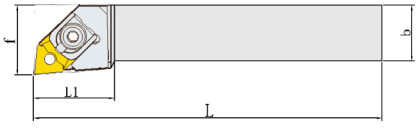
DCLNR/L1616H12	○	○	16	16	100	32	16	20	CN**1204	CN-D1204	DXD0614	DYB2214	DGD0520	DTN0814	L4.0
DCLNR/L2020K12	●	●	20	20	125	32	20	25							
DCLNR/L2525M12	●	●	25	25	150	32	25	32							
DCLNR/L3232P12	●	●	32	32	170	35	32	40							

BCLNR/L







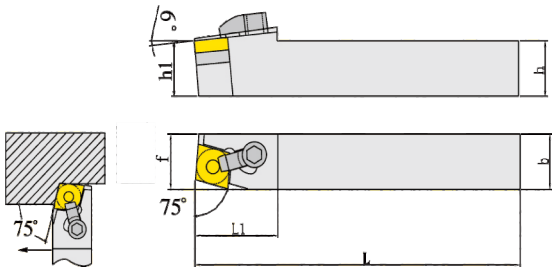


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
BCLNR/L2020K12	●	●	20	20	125	32	20	25	CN**1204	CN-B1204	CTM6-S	BC12	BCS08	CR07	L3.0 L4.0
BCLNR/L2525M12	●	●	25	25	150	32	25	32							
BCLNR/L3232P12	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

MCBNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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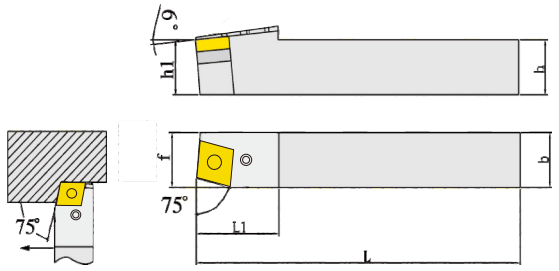
MCBNR/L2020K12	●	●	20	20	125	34	20	25						
MCBNR/L2525M12	●	●	25	25	150	34	25	32						
MCBNR/L3232P12	●	●	32	32	170	40	32	40						

PCBNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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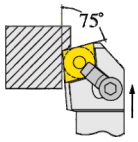
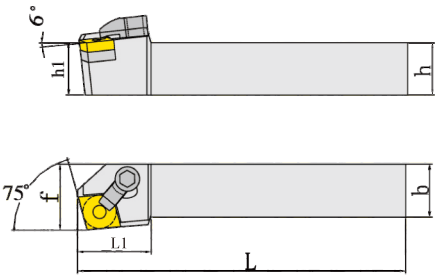
PCBNR/L2020K12	●	●	20	20	125	28	20	25						
PCBNR/L2525M12	●	●	25	25	150	28	25	32						
PCBNR/L3232P12	●	●	32	32	170	30	32	40						
PCBNR/L2525M16	●	●	25	25	150	33	25	32	CN**1606	CN-P1604	GGX0617	DPX0808	NLJ0821	
PCBNR/L3232P16	●	●	32	32	170	33	32	40						
PCBNR/L3232P19	●	●	32	32	170	36	32	40	CN**1906	CN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PCBNR/L4040S19	●	●	40	40	250	40	40	50						
PCBNR/L4040S25	●	●	40	40	250	47	40	50	CN**2509	CN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PCBNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MCKNR/L



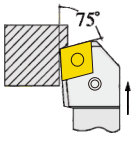


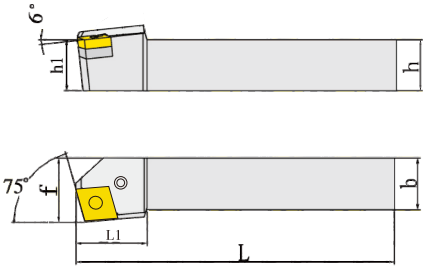


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
MCKNR/L1616H12	○	○	16	16	100	32	16	20	CN**1204	CN-M1204	MXD0617	MYB1814	ST0625	L2.5 L3.0
MCKNR/L2020K12	●	●	20	20	125	32	20	25						
MCKNR/L2525M12	●	●	25	25	150	32	25	32						
MCKNR/L3232P12	●	●	32	32	170	35	32	40						

PCKNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
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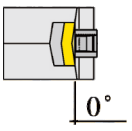
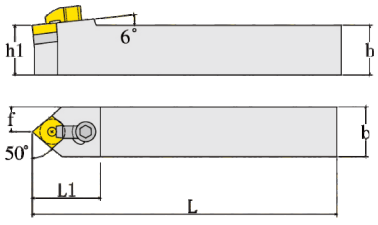
PCKNR/L2020K12	●	●	20	20	125	28	20	25						
PCKNR/L2525M12	●	●	25	25	150	28	25	32						
PCKNR/L3232P12	●	●	32	32	170	30	32	40						
PCKNR/L2525M16	●	●	25	25	150	33	25	32	CN**1606	CN-P1604	GGX0617	DPX0808	NLJ0821	
PCKNR/L3232P16	●	●	32	32	170	33	32	40						
PCKNR/L3232P19	●	●	32	32	170	36	32	40	CN**1906	CN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PCKNR/L4040S19	●	●	40	40	250	40	40	50						
PCKNR/L4040S25	●	●	40	40	250	47	40	50	CN**2509	CN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PCKNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MCMNN / MCMNN–100







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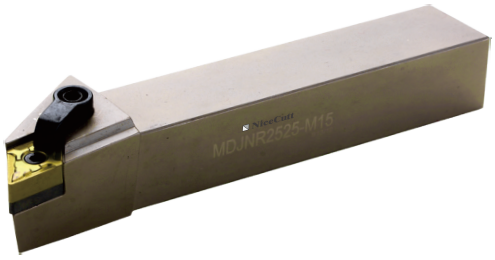
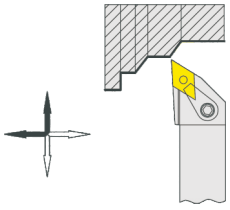
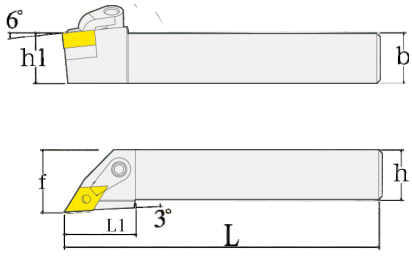
MCMNN2020K12	●	20	20	125	35	20	10						
MCMNN2525M12	●	25	25	150	35	25	12.5						
MCMNN3232P12	●	32	32	170	35	32	40						
MCMNN2020K12–100	●	20	20	125	35	20	10						
MCMNN2525M12–100	●	25	25	150	35	25	12.5						
MCMNN3232P12–100	●	32	32	170	35	32	40						

MDJNR/L







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MDJNR/L2020K11	●	●	20	20	125	32	20	25						
MDJNR/L2525M11	●	●	25	25	150	32	25	32						
MDJNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN–M1506	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDJNR/L2525M1504	●	●	25	25	150	38	25	32						
MDJNR/L3232P1504	●	●	32	32	170	38	32	40						
MDJNR/L2020K1506	●	●	20	20	125	28	20	25	DN**1506	DN–M1504	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDJNR/L2525M1506	●	●	25	25	150	38	25	32						
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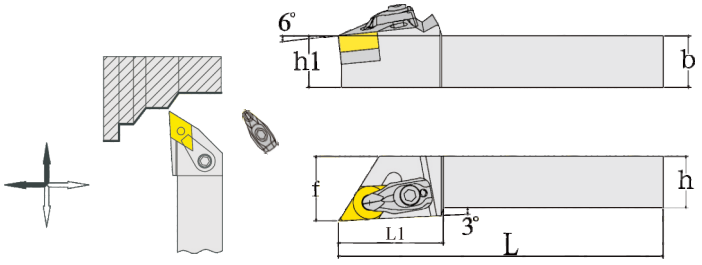
●Stock ○Availabie upon Order

DDJNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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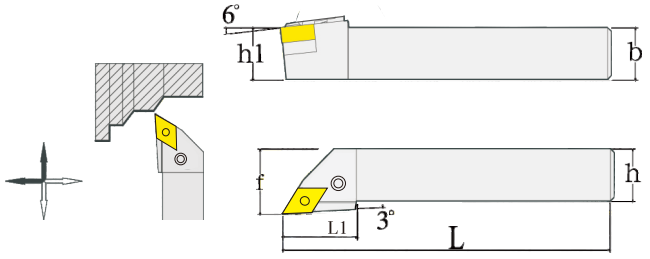
DDJNR/L2020K11	○	○	20	20	125	32	20	25							
DDJNR/L2525M11	○	○	25	25	150	32	25	32							
DDJNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-D1506	DXD0614	DYB2514	DGD0520	DTN0814	L4.0
DDJNR/L2525M1504	●	●	25	25	150	38	25	32							
DDJNR/L3232P1504	●	●	32	32	170	38	32	40							
DDJNR/L2020K1506	●	●	20	20	125	38	20	25	DN**1506	DN-D1504	DXD0614	DYB2515	DGD0520	DTN0814	L4.0
DDJNR/L2525M1506	●	●	25	25	150	38	25	32							
DDJNR/L3232P1506	●	●	32	32	170	38	32	40							

PDJNR/L





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PDJNR/L2020K11	●	●	20	20	125	32	20	25						
PDJNR/L2525M11	●	●	25	25	150	32	25	32						
PDJNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-P1503	GGX0514	DPX0606	NLJ0820	L3.0
PDJNR/L2525M1504	●	●	25	25	150	38	25	32						
PDJNR/L3232P1504	●	●	32	32	170	38	32	40						
PDJNR/L2020K1506	●	●	20	20	125	28	20	25	DN**1506	DN-P1503	GGX0514D	DPX0606	NLJ0821	L3.0
PDJNR/L2525M1506	●	●	25	25	150	38	25	32						
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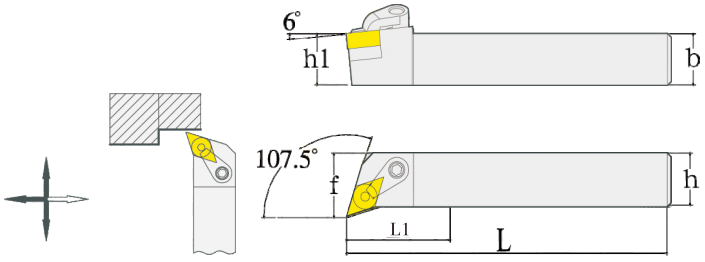
●Stock ○Availabie upon Order

MDQNR/L





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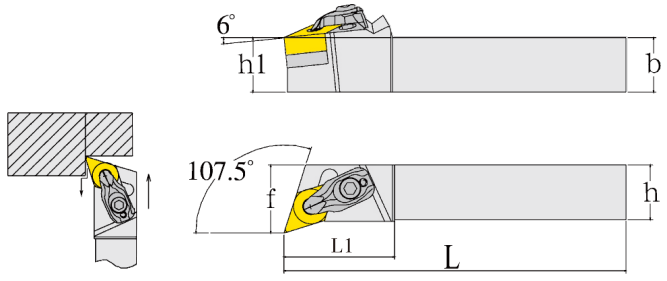
MDQNR/L2020K11	○	○	20	20	125	32	20	25						
MDQNR/L2525M11	○	○	25	25	150	32	25	32						
MDQNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-M1506	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDQNR/L2525M1504	●	●	25	25	150	38	25	32						
MDQNR/L3232P1504	●	●	32	32	170	38	32	40						
MDQNR/L2020K1506	●	●	20	20	125	28	20	25	DN**1506	DN-M1504	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDQNR/L2525M1506	●	●	25	25	150	38	25	32						
MDQNR/L3232P1506	●	●	32	32	170	38	32	40						

DDQNR/L





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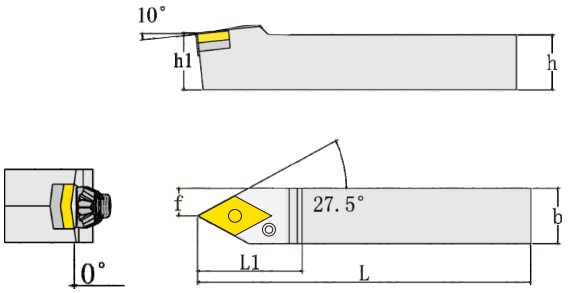
DDQNR/L2020K11	○	○	20	20	125	32	20	25							
DDQNR/L2525M11	○	○	25	25	150	32	25	32							
DDQNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-D1506	DXD0614	DYB2514	DGD0520	DTN0814	L4.0
DDQNR/L2525M1504	●	●	25	25	150	38	25	32							
DDQNR/L3232P1504	●	●	32	32	170	38	32	40							
DDQNR/L2020K1506	●	●	20	20	125	38	20	25	DN**1506	DN-D1504	DXD0614	DYB2515	DGD0520	DTN0814	L4.0
DDQNR/L2525M1506	●	●	25	25	150	38	25	32							
DDQNR/L3232P1506	●	●	32	32	170	38	32	40							

●Stock ○Availabie upon Order

PDPNN





Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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PDPNN2020K11	○	20	20	125	32	20	25						
PDPNN2525M11	○	25	25	150	32	25	32						
PDPNN2020K1504	●	20	20	125	38	20	25	DN**1504	DN-P1503	GGX0514	DPX0606	NLJ0820	L3.0
PDPNN2525M1504	●	25	25	150	38	25	32						
PDPNN3232P1504	●	32	32	170	38	32	40						
PDPNN2020K1506	●	20	20	125	28	20	25	DN**1506	DN-P1503	GGX0514D	DPX0606	NLJ0821	L3.0
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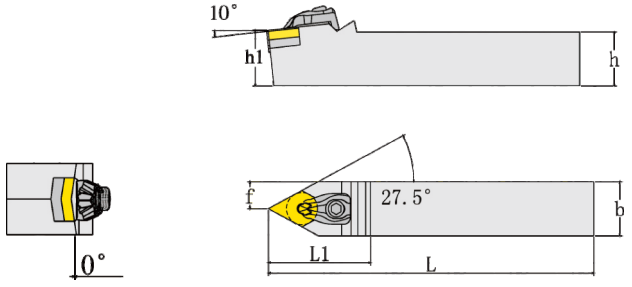
DDPNN





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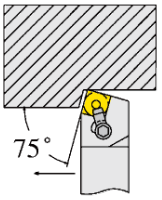
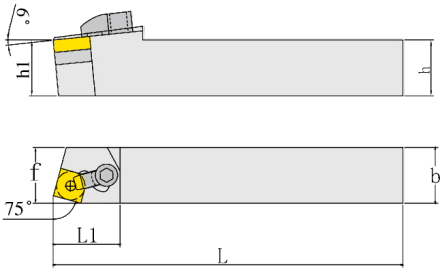
DDPNN2020K11	●	●	20	20	125	32	20	25							
DDPNN2525M11	●	●	25	25	150	32	25	32							
DDPNN2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-D1506	DXD0614	DYB2514	DGD0520	DTN0814	L4.0
DDPNN2525M1504	●	●	25	25	150	38	25	32							
DDPNN3232P1504	●	●	32	32	170	38	32	40							
DDPNN2020K1506	●	●	20	20	125	38	20	25	DN**1506	DN-D1504	DXD0614	BYB2514	DGD0520	DTN0814	L4.0
DDPNN2525M1506	●	●	25	25	150	38	25	32							
DDPNN3232P1506	●	●	32	32	170	38	32	40							

●Stock ○Availabie upon Order

MSBNR/L







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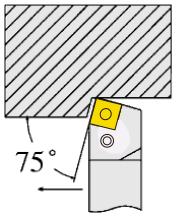
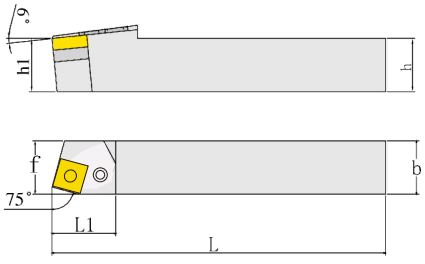
MSBNR/L2020K12	●	●	20	20	125	34	20	25						
MSBNR/L2525M12	●	●	25	25	150	34	25	32						
MSBNR/L3232P12	●	●	32	32	170	40	32	40						

PSBNR/L







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PSBNR/L2020K12	●	●	20	20	125	28	20	25						
PSBNR/L2525M12	●	●	25	25	150	28	25	32						
PSBNR/L3232P12	●	●	32	32	170	30	32	40						
PSBNR/L2525M15	●	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSBNR/L3232P15	●	●	32	32	170	33	32	40						
PSBNR/L3232P19	●	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSBNR/L4040S19	●	●	40	40	250	40	40	50						
PSBNR/L4040S25	●	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
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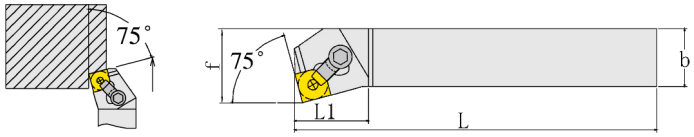
●Stock ○Availabie upon Order

MSKNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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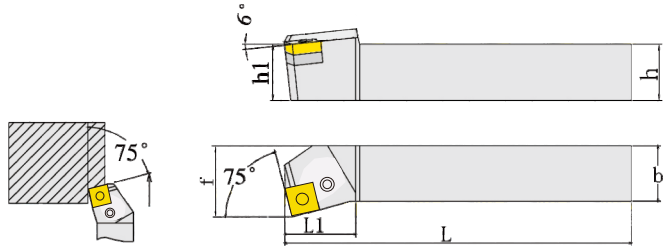
MSKNR/L2020K12	●	●	20	20	125	34	20	25						
MSKNR/L2525M12	●	●	25	25	150	34	25	32						
MSKNR/L3232P12	●	●	32	32	170	40	32	40						

PSKNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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PSKNR/L2020K12	●	●	20	20	125	28	20	25						
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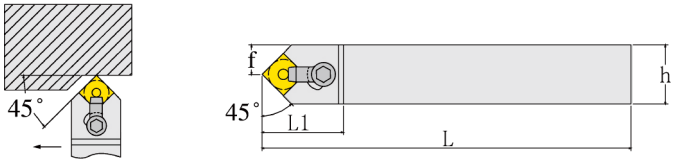
PSKNR/L3232P12	●	●	32	32	170	30	32	40						
PSKNR/L2525M15	●	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSKNR/L3232P15	●	●	32	32	170	33	32	40						
PSKNR/L3232P19	●	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSKNR/L4040S19	●	●	40	40	250	40	40	50						
PSKNR/L4040S25	●	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSKNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MSDNN





Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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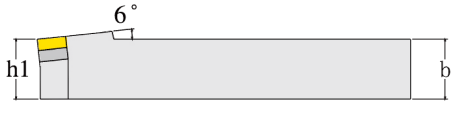
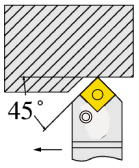
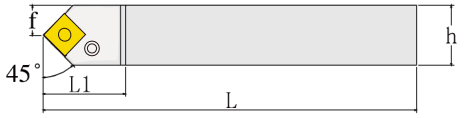
MSDNN2020K12	●	20	20	125	34	20	25						
MSDNN2525M12	●	25	25	150	34	25	32						
MSDNN3232P12	●	32	32	170	40	32	40						

PSDNN









Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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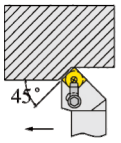
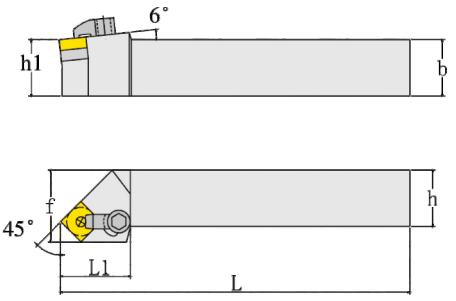
PSDNN2525M12	●	25	25	150	28	25	32						
PSDNN3232P12	●	32	32	170	30	32	40						
PSDNN2525M15	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSDNN3232P15	●	32	32	170	33	32	40						
PSDNN3232P19	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSDNN4040S19	●	40	40	250	40	40	50						
PSDNN4040S25	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSDNN5050T25	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MSSNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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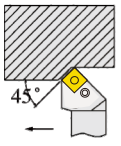
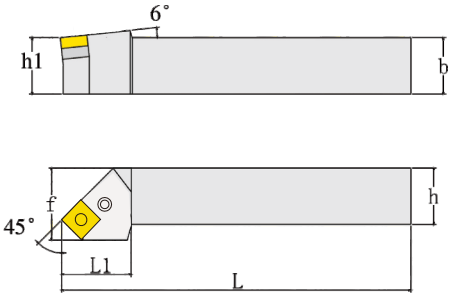
MSSNR/L2020K12	●	●	20	20	125	34	20	25						
MSSNR/L2525M12	●	●	25	25	150	34	25	32						
MSSNR/L3232P12	●	●	32	32	170	40	32	40						

PSSNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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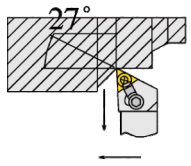
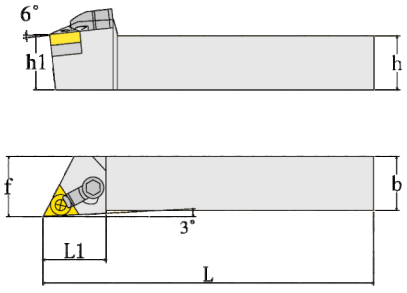
PSSNR/L2020K12	●	●	20	20	125	28	20	25						
PSSNR/L2525M12	●	●	25	25	150	28	25	32						
PSSNR/L3232P12	●	●	32	32	170	30	32	40						
PSSNR/L2525M15	●	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSSNR/L3232P15	●	●	32	32	170	33	32	40						
PSSNR/L3232P19	●	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSSNR/L4040S19	●	●	40	40	250	40	40	50						
PSSNR/L4040S25	●	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSSNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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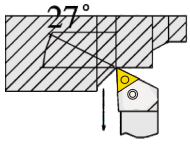
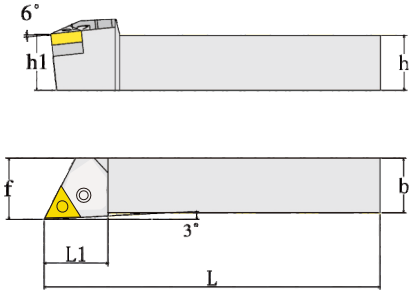
MTJNR/L2020K16	●	●	20	20	125	33	20	25						
MTJNR/L2525M16	●	●	25	25	150	33	25	32						
MTJNR/L3232P16	●	●	32	32	170	37	32	40						

PTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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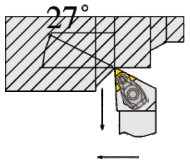
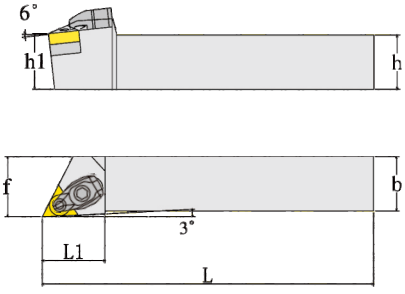
PTJNR/L2020K16	●	●	20	20	125	22	20	25						
PTJNR/L2525M16	●	●	25	25	150	28	25	32						
PTJNR/L3232P16	●	●	32	32	170	32	32	40						

●Stock ○Availabie upon Order

DTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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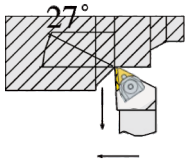
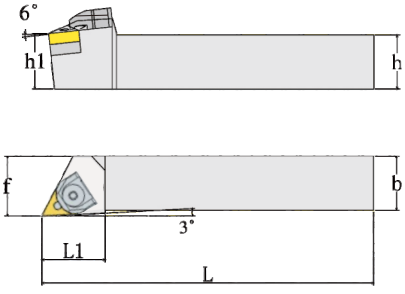
DTJNR/L2020K16	●	●	20	20	125	32	20	25							
DTJNR/L2525M16	●	●	25	25	150	32	25	32							
DTJNR/L3232P16	●	●	32	32	170	35	32	40							

WTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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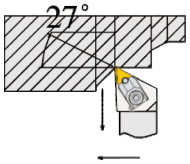
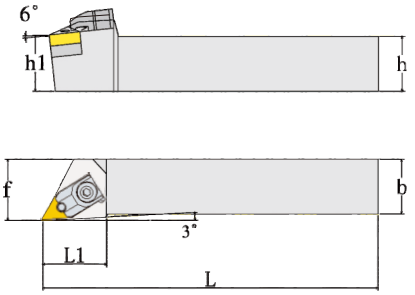
WTJNR/L2020K16	●	●	20	20	125	32	20	25							
WTJNR/L2525M16	●	●	25	25	150	32	25	32							
WTJNR/L3232P16	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

BTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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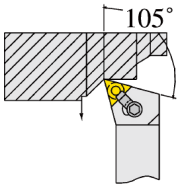
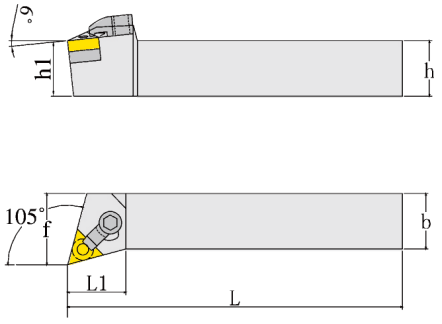
BTJNR/L2525M16	●	●	25	25	150	33	25	32							
BTJNR/L3232P16	●	●	32	32	170	37	32	40							

MTQNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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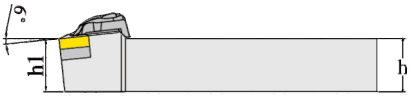
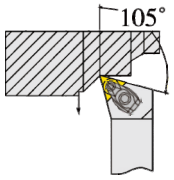
MTQNR/L2020K16	●	●	20	20	125	30	20	25						
MTQNR/L2525M16	●	●	25	25	150	30	25	32						
MTQNR/L3232P16	●	●	32	32	170	32	32	40						

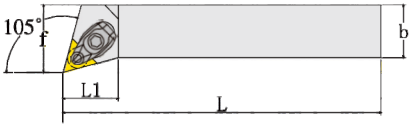
●Stock ○Availabie upon Order

DTQNR/L









Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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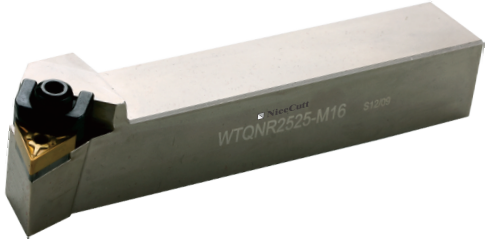
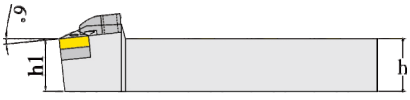
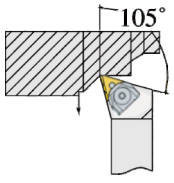
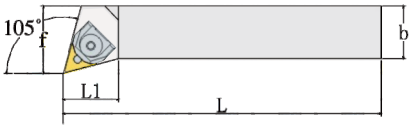
DTQNR/L2020K16	●	●	20	20	125	32	20	25							
DTQNR/L2525M16	●	●	25	25	150	32	25	32							
DTQNR/L3232P16	●	●	32	32	170	35	32	40							

WTQNR/L









Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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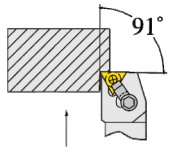
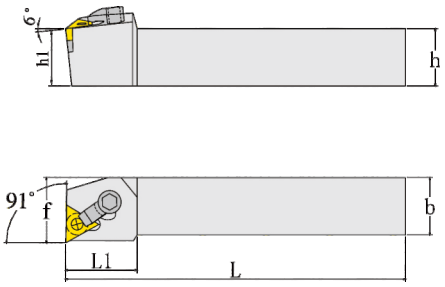
WTQNR/L1616H16	●	●	16	16	100	32	16	20	TN**1604	TN-W1603	WXD0513	WYB1816	DGD0526	DTN0814	L2.5 L4.0
WTQNR/L2020K16	●	●	20	20	125	32	20	25							
WTQNR/L2525M16	●	●	25	25	150	32	25	32							
WTQNR/L3232P16	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

MTFNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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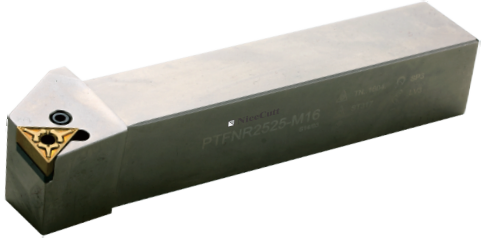
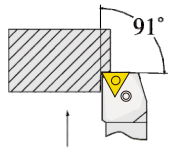
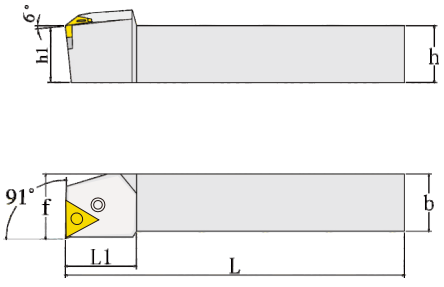
MTFNR/L2020K16	●	●	20	20	125	32	20	25						
MTFNR/L2525M16	●	●	25	25	150	32	25	32						
MTFNR/L3232P16	●	●	32	32	170	35	32	40						

PTFNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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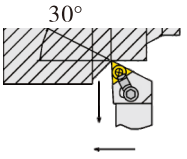
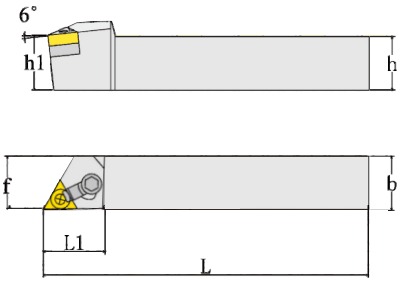
PTFNR/L2020K16	●	●	20	20	125	22	20	25						
PTFNR/L2525M16	●	●	25	25	150	28	25	32						
PTFNR/L3232P16	●	●	32	32	170	32	32	40						

●Stock ○Availabie upon Order

MTGNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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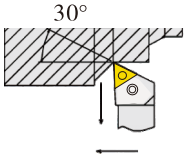
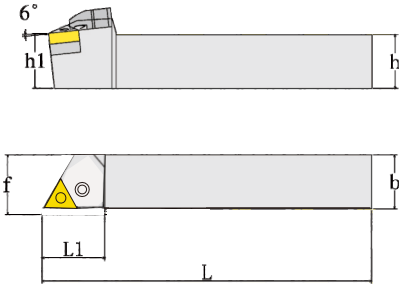
MTGNR/L2020K16	●	●	20	20	125	32	20	25						
MTGNR/L2525M16	●	●	25	25	150	32	25	32						
MTGNR/L3232P16	●	●	32	32	170	35	32	40						

PTGNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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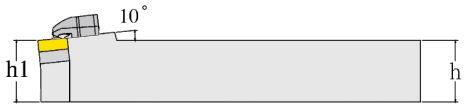
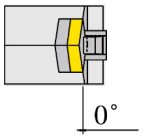
PTGNR/L2020K16	●	●	20	20	125	22	20	25						
PTGNR/L2525M16	●	●	25	25	150	28	25	32						
PTGNR/L3232P16	●	●	32	32	170	32	32	40						

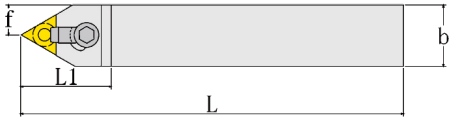
●Stock ○Availabie upon Order

MTENN





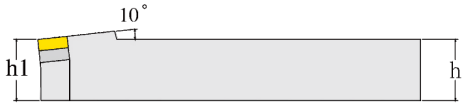


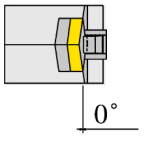


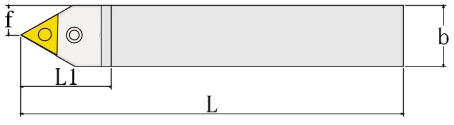
Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
		h	b	L	L1	h1	f						
MTENN1616H16	●	16	16	100	32	16	20	TN**1604	TN-M1603	MXD0513	MYB1814	ST0625	L2.0 L3.0
MTENN2020K16	●	20	20	125	32	20	25						
MTENN2525M16	●	25	25	150	32	25	32						
MTENN3232P16	●	32	32	170	35	32	40						

PTENN









Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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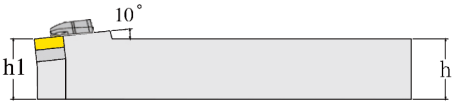
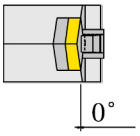
PTENN2020K16	●	20	20	125	22	20	25						
PTENN2525M16	●	25	25	150	28	25	32						
PTENN3232P16	●	32	32	170	32	32	40						

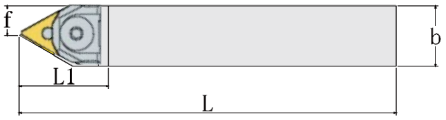
●Stock ○Availabie upon Order

WTENN









Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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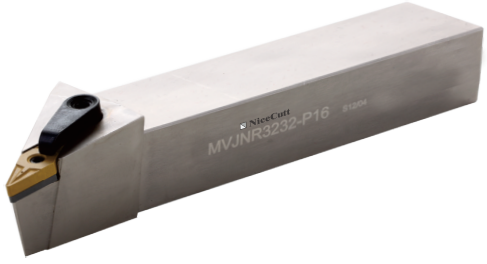
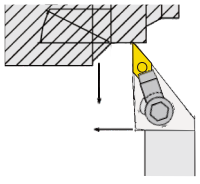
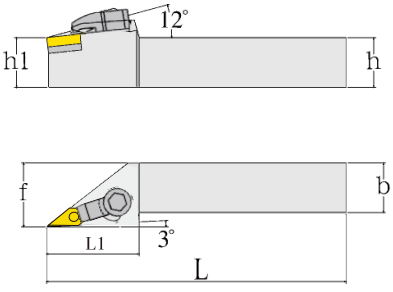
WTENN2020K16	●	20	20	125	35	20	25							
WTENN2525M16	●	25	25	150	35	25	32							
WTENN3232P16	●	32	32	170	38	32	40							

MVJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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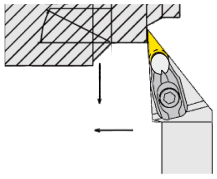
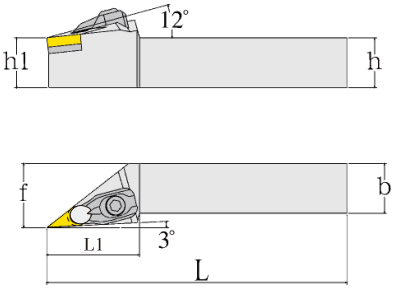
MVJNR/L2020K16	●	●	20	20	125	36	20	25						
MVJNR/L2525M16	●	●	25	25	150	42	25	32						
MVJNR/L3232P16	●	●	32	32	170	45	32	40						

●Stock ○Availabie upon Order

DVJNR/L



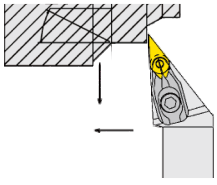


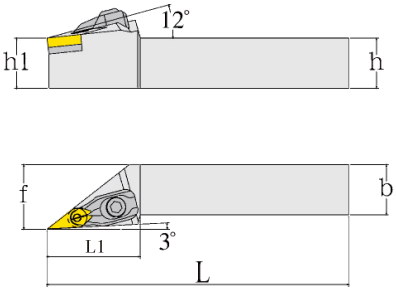


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DVJNR/L1616H16	○	○	16	16	100	45	16	20	VN**1604	VN-D1603	DXD0512	DYB2914	DGD0520	DTN0814	L4.0
DVJNR/L2020K16	●	●	20	20	125	45	20	25							
DVJNR/L2525M16	●	●	25	25	150	45	25	32							
DVJNR/L3232P16	●	●	32	32	170	48	32	40							

BVJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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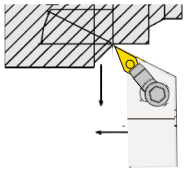
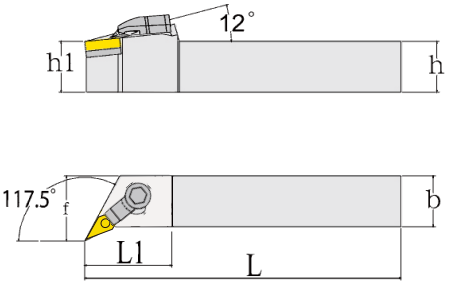
BVJNR/L1616H16	○	○	16	16	100	45	16	20	VN**1604	VN-B1603	CTM5-S	BV16	BCS06	CR05	L2.5 L3.0
BVJNR/L2020K16	●	●	20	20	125	45	20	25							
BVJNR/L2525M16	●	●	25	25	150	45	25	32							
BVJNR/L3232P16	●	●	32	32	170	48	32	40							

●Stock ○Availabie upon Order

MVQNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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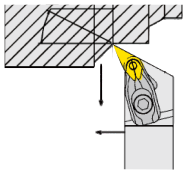
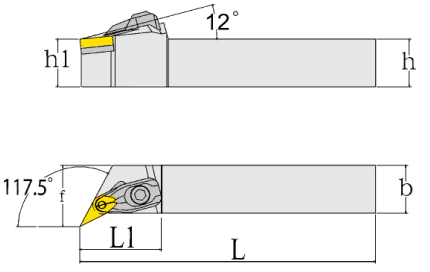
MVQNR/L2020K16	●	●	20	20	125	36	20	25						
MVQNR/L2525M16	●	●	25	25	150	42	25	32						
MVQNR/L3232P16	●	●	32	32	170	45	32	40						

DVQNR/L





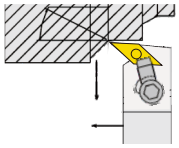


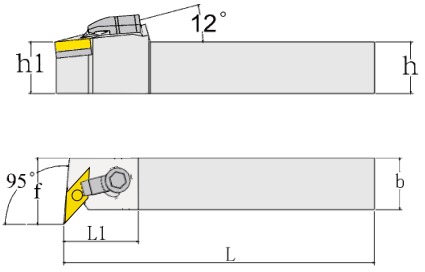
Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DVQNR/L1616H16	○	○	16	16	100	44	16	20	VN**1604	VN-D1603	DXD0512	DYB2914	DGD0520	DTN0814	L4.0
DVQNR/L2020K16	●	●	20	20	125	44	20	25							
DVQNR/L2525M16	●	●	25	25	150	46	25	32							
DVQNR/L3232P16	●	●	32	32	170	46	32	40							

●Stock ○Availabie upon Order

MVUNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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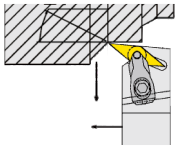
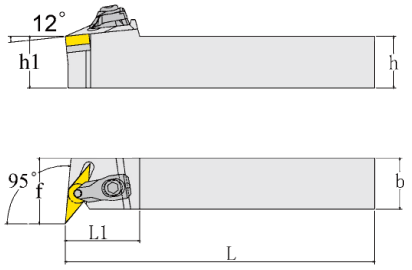
MVUNR/L1616H16	●	●	16	16	100	36	16	20	VN**1604	VN-M1603	MXD0513	MYB2614	ST0625	L2.5 L3.0
MVUNR/L2020K16	●	●	20	20	125	36	20	25						
MVUNR/L2525M16	●	●	25	25	150	42	25	32						
MVUNR/L3232P16	●	●	32	32	170	45	32	40						

DVUNR/L



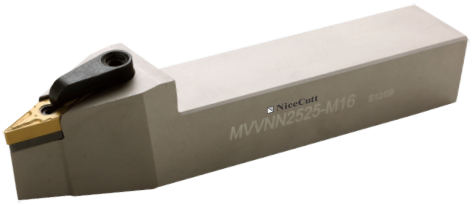


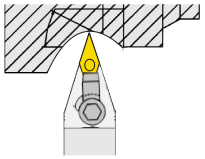


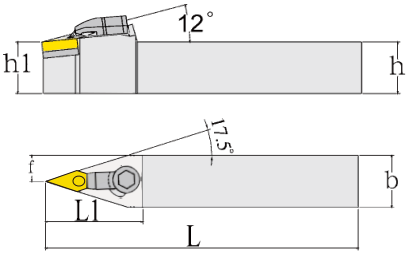
Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DVUNR/L1616H16	○	○	16	16	100	38	16	20	VN**1604	VN-D1603	DXD0512	DYB2914	DGD0520	DTN0814	L4.0
DVUNR/L2020K16	●	●	20	20	125	38	20	25							
DVUNR/L2525M16	●	●	25	25	150	45	25	32							
DVUNR/L3232P16	●	●	32	32	170	45	32	40							

●Stock ○Availabie upon Order

MVVNN







Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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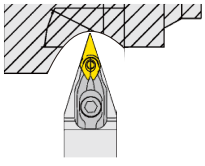
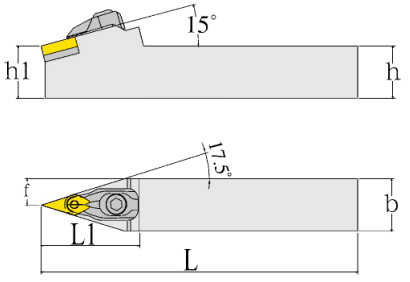
MVVNN1616H16	●	16	16	100	48	16	20	VN**1604	VN-M1603	MXD0513	MYB2614	ST0625	L2.5 L3.0
MVVNN2020K16	●	20	20	125	48	20	25						
MVVNN2525M16	●	25	25	150	48	25	32						
MVVNN3232P16	●	32	32	170	48	32	40						

DVVNN







Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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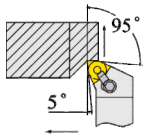
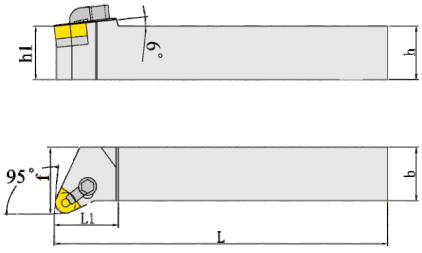
DVVNN2020K16	●	20	20	125	48	20	25							
DVVNN2525M16	●	25	25	150	48	25	32							
DVVNN3232P16	●	32	32	170	48	32	40							

●Stock ○Availabie upon Order

MWLNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
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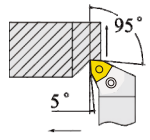
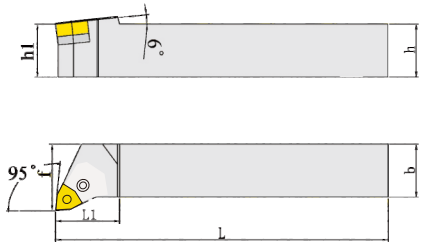
MWLNR/L2020K06	●	●	20	20	125	25	20	25						
MWLNR/L2525M06	●	●	25	25	150	28	25	32						
MWLNR/L1616H08	●	●	32	32	170	30	32	40	WN**0804	WN-M0804	MXD0617	MYB1814	ST0625	L2.5 L3.0
MWLNR/L2020K08	●	●	20	20	125	30	20	25						
MWLNR/L2525M08	●	●	25	25	150	30	25	32						
MWLNR/L3232P08	●	●	32	32	170	30	32	40						

PWLNR/L





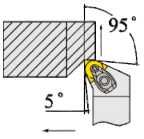


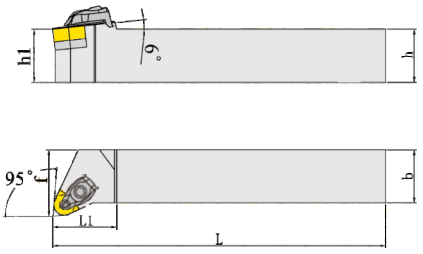
Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
PWLNR/L1616H06	●	●	16	16	100	20	16	20	WN**0604	WN-P0602	GGX0310	DPX0505	NLJ0618	L3.0
PWLNR/L2020K06	●	●	20	20	125	25	20	25						
PWLNR/L2525M06	●	●	25	25	150	25	25	32						
PWLNR/L1616H08	●	●	16	16	100	26	16	20	WN**0804	WN-P0803	GGX0514	DPX0606	NLJ0820	L3.0
PWLNR/L2020K08	●	●	20	20	125	26	20	25						
PWLNR/L2525M08	●	●	25	25	150	26	25	32						
PWLNR/L3232P08	●	●	32	32	170	30	32	40						

●Stock ○Availabie upon Order

DWLNR/L



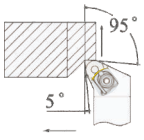


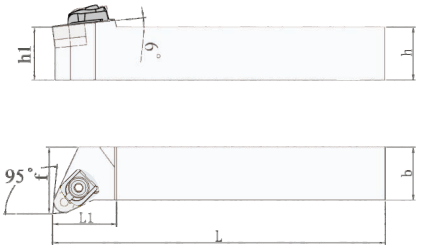


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DWLNR/L1616H06	●	●	16	16	100	28	16	20	WN**0604	WN-D0603	DXD0512	DYB2313	DGD0520	DTN0814	L4.0
DWLNR/L2020K06	●	●	20	20	125	28	20	25							
DWLNR/L2525M06	●	●	25	25	150	30	25	32							
DWLNR/L1616H08	●	●	16	16	100	30	16	20	WN**0804	WN-D0804	DXD0614	DYB2214	DGD0520	DTN0814	L4.0
DWLNR/L2020K08	●	●	20	20	125	32	20	25							
DWLNR/L2525M08	●	●	25	25	150	32	25	32							
DWLNR/L3232P08	●	●	32	32	170	35	32	40							

BWLNR/L





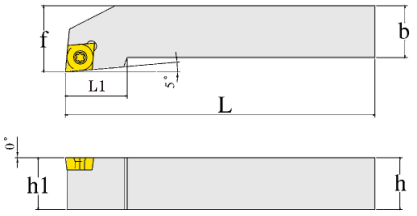


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
BWLNR/L1616H06	○	○	16	16	100	28	16	20	WN**0604	WN-B0603	CTM5-S	BW06	BCS06	CR05	L2.5 L3.0
BWLNR/L2020K06	○	○	20	20	125	28	20	25							
BWLNR/L2525M06	○	○	25	25	150	30	25	32							
BWLNR/L1616H08	●	●	16	16	100	30	16	20	WN**0804	WN-B0804	CTM6-S	BW08	BCS08	CR07	L3.0 L4.0
BWLNR/L2020K08	●	●	20	20	125	32	20	25							
BWLNR/L2525M08	●	●	25	25	150	32	25	32							
BWLNR/L3232P08	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

SCLCR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
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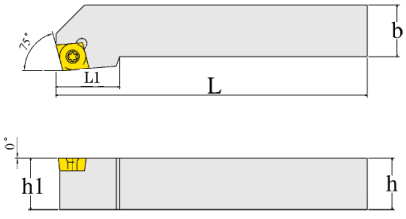
SCLCR/L1010H06	●	●	10	10	100	15	10	12	CC**0602	M2.5*6	T-8
SCLCR/L1212H06	●	●	12	12	100	15	12	16			
SCLCR/L1212H09	●	●	12	12	100	20	12	16	CC**09T3	M3.5*8	T-15
SCLCR/L1616H09	●	●	16	16	100	20	16	20			
SCLCR/L2020K09	●	●	20	20	125	22	20	25			
SCLCR/L2525M09	●	●	25	25	150	22	25	32			
SCLCR/L2020K12	●	●	20	20	125	22	20	25	CC**1204	M5*12	T-20
SCLCR/L2525M12	●	●	25	25	150	28	25	32			
SCLCR/L3232P12	○	○	32	32	170	28	32	40			

SCKCR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
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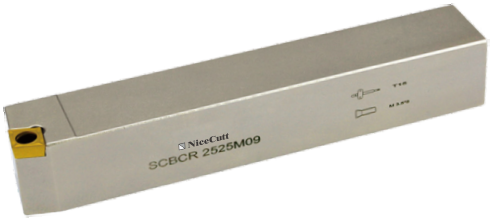
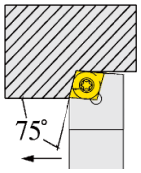
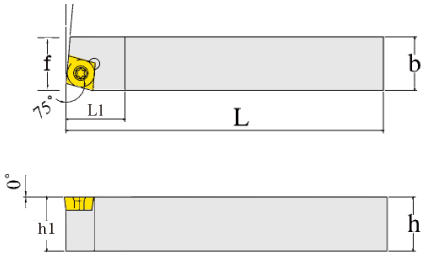
SCKCR/L1616H09	●	●	16	16	100	22	16	20			
SCKCR/L2020K09	●	●	20	20	125	22	20	25			
SCKCR/L2525M09	●	●	25	25	150	22	25	32			
SCKCR/L2020K12	●	●	20	20	125	22	20	25	CC**1204	M5*12	T-20
SCKCR/L2525M12	●	●	25	25	150	22	25	32			
SCKCR/L3232P12	○	○	32	32	170	28	32	40			

●Stock ○Availabie upon Order

SCBCR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
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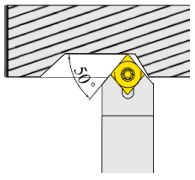
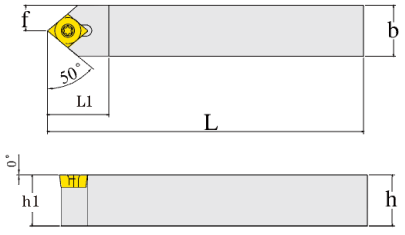
SCBCR/L1616H09	●	●	16	16	100	22	16	20	CC**09T3	M3.5*8	T-15
SCBCR/L2020K09	●	●	20	20	125	22	20	25			
SCBCR/L2525M09	●	●	25	25	150	22	25	32			
SCBCR/L2020K12	●	●	20	20	125	22	20	25	CC**1204	M5*12	T-20
SCBCR/L2525M12	●	●	25	25	150	28	25	32			

SCMCN







Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
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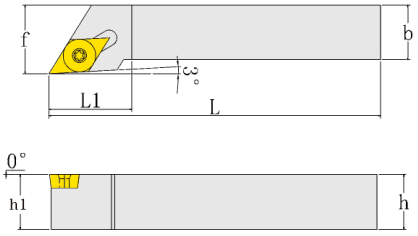
SCMCN1010H06	○	10	10	100	15	10	12	CC**0602	M2.5*6	T-8
SCMCN1212H06	○	12	12	100	15	12	16			
SCMCN1212H09	●	12	12	100	20	12	16	CC**09T3	M3.5*8	T-15
SCMCN1616H09	●	16	16	100	20	16	20			
SCMCN2020K09	●	20	20	125	22	20	25			
SCMCN2525M09	○	25	25	150	22	25	32			

●Stock ○Availabie upon Order

SDJCR/L

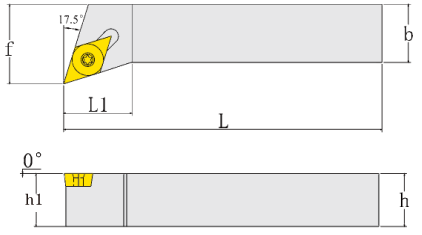




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDJCR/L1010H07	●	●	10	10	100	16	10	12	DC**0702	M2.5*6	T-8
SDJCR/L1212H07	●	●	12	12	100	16	12	16			
SDJCR/L1616H07	●	●	16	16	100	20	16	20	DC**11T3	M3.5*8	T-15
SDJCR/L1212H11	●	●	12	12	100	22	12	16			
SDJCR/L1616H11	●	●	16	16	100	22	16	20			
SDJCR/L2020K11	●	●	20	20	125	25	20	25	DC**11T3	M3.5*8	T-15
SDJCR/L2525M11	●	●	25	25	150	32	25	32			
SDJCR/L3232P11	●	●	32	32	170	32	32	40			

SDQCR/L



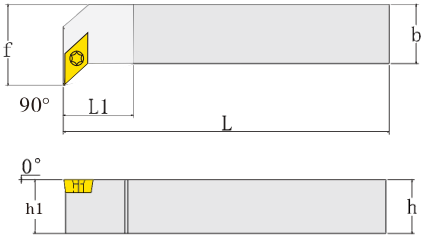


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDQCR/L1010H07	●	●	10	10	100	16	10	12	DC**0702	M2.5*6	T-8
SDQCR/L1212H07	●	●	12	12	100	16	12	16			
SDQCR/L1212H11	●	●	12	12	100	18	12	16	DC**11T3	M3.5*8	T-15
SDQCR/L1616H11	●	●	16	16	100	22	16	20			
SDQCR/L2020K11	●	●	20	20	125	22	20	25			
SDQCR/L2525M11	●	●	25	25	150	22	25	32			

●Stock ○Availabie upon Order

SDFCR/L

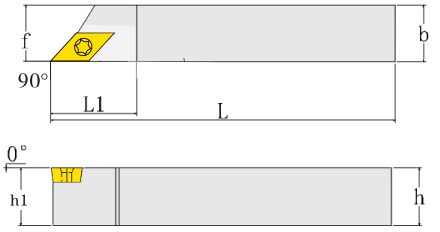




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDFCR/L1212H07	●	●	12	12	100	16	12	16	DC**0702	M2.5*6	T-8
SDFCR/L1616H11	●	●	16	16	100	18	16	20	DC**11T3	M3.5*8	T-15
SDFCR/L2020K11	●	●	20	20	125	22	20	25			
SDFCR/L2525M11	●	●	25	25	150	22	25	32			
SDFCR/L3232P11	●	●	32	32	170	32	32	40			

SDACR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
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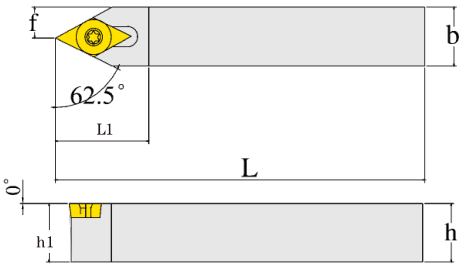
SDACR/L0808H07	●	●	8	8	100	15	8	8	DC**0702	M2.5*6	T-8
SDACR/L1010H07	●	●	10	10	100	15	10	12			
SDACR/L1212H07	●	●	12	12	100	15	12	16	DC**11T3	M3.5*8	T-15
SDACR/L1616H07	●	●	16	16	100	20	16	20			
SDACR/L1212H11	●	●	12	12	100	22	12	16			
SDACR/L1616H11	●	●	16	16	100	22	16	20	DC**11T3	M3.5*8	T-15
SDACR/L2020K11	●	●	20	20	125	22	20	25			
SDACR/L2525M11	●	●	25	25	150	22	25	32			

●Stock ○Availabie upon Order

SDNCN

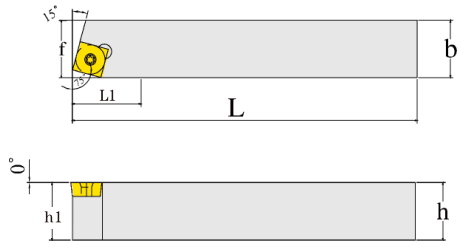




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		h	b	L	L1	h1	f			
SDNCN0808H07	●	8	8	100	16	8	8	DC**0702	M2.5*6	T-8
SDNCN1010H07	●	10	10	100	16	10	12			
SDNCN1212H07	●	12	12	100	18	12	16	DC**11T3	M3.5*8	T-15
SDNCN1616H07	●	16	16	100	22	16	20			
SDNCN1212H11	●	12	12	100	22	12	16			
SDNCN1616H11	●	16	16	100	27	16	20	DC**11T3	M3.5*8	T-15
SDNCN2020K11	●	20	20	125	27	20	25			
SDNCN2525M11	●	25	25	150	27	25	32			

SSBCR/L



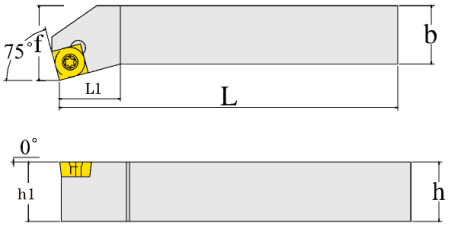


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SSBCR/L1212H09	●	●	12	12	100	16	12	16	SC**09T3	M3.5*8	T-15
SSBCR/L1616H09	●	●	16	16	100	20	16	20			
SSBCR/L2020H09	●	●	20	20	125	20	20	25			
SSBCR/L2020K12	●	●	20	20	125	20	20	25	SC**1204	M5*12	T-20
SSBCR/L2525M12	●	●	25	25	150	25	25	32			

●Stock ○Availabie upon Order

SSKCR/L

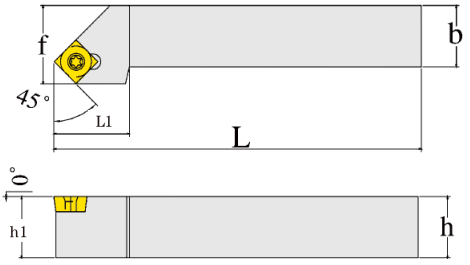




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SSKCR/L1212H09	●	●	12	12	100	16	12	16	SC**09T3	M3.5*8	T-15
SSKCR/L1616H09	●	●	16	16	100	18	16	20			
SSKCR/L2020H09	●	●	20	20	125	22	20	25			
SSKCR/L2020K12	●	●	20	20	125	22	20	25	SC**1204	M5*12	T-20
SSKCR/L2525M12	●	●	25	25	150	30	25	32			

SSSCR/L



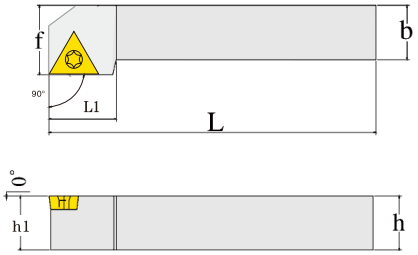


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SSSCR/L1212H09	●	●	12	12	100	16	12	16	SC**09T3	M3.5*8	T-15
SSSCR/L1616H09	●	●	16	16	100	18	16	20			
SSSCR/L2020H09	●	●	20	20	125	22	20	25			
SSSCR/L2020K12	●	●	20	20	125	22	20	25	SC**1204	M5*12	T-20
SSSCR/L2525M12	●	●	25	25	150	30	25	32			

●Stock ○Availabie upon Order

STGCR/L

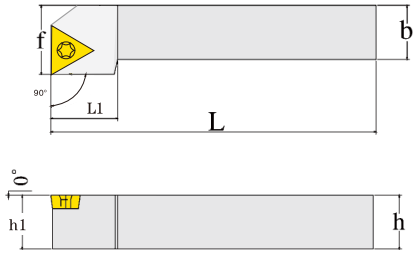




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
STGCR/L1212H11	●	●	12	12	100	18	12	16	TC**1102	M2.5*6	T-8
STGCR/L1616H11	●	●	16	16	100	20	16	20			
STGCR/L2020K16	●	●	20	20	125	30	20	25	TC**16T3	M3.5*8	T-15
STGCR/L2525M16	●	●	25	25	150	30	25	32			

STFCR/L



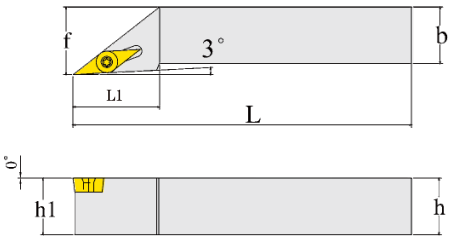


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
STFCR/L1212H11	●	●	12	12	100	18	12	16	TC**1102	M2.5*6	T-8
STFCR/L1616H11	●	●	16	16	100	20	16	20			
STFCR/L2020K16	●	●	20	20	125	30	20	25	TC**16T3	M3.5*8	T-15
STFCR/L2525M16	●	●	25	25	150	30	25	32			

●Stock ○Availabie upon Order

SVJCR/L

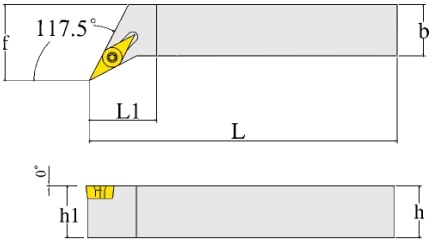




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVJCR/L1212H11	●	●	12	12	100	25	12	16	VC**1103	M2.5*6	T-8
SVJCR/L1616H11	●	●	16	16	100	28	16	20			
SVJCR/L2020K11	●	●	20	20	125	35	20	25			
SVJCR/L2525M11	●	●	25	25	150	32	25	32			
SVJCR/L1616H16	●	●	16	16	100	32	16	20	VC**1604	M3.5*8	T-15
SVJCR/L2020K16	●	●	20	20	125	35	20	25			
SVJCR/L2525M16	●	●	25	25	150	38	25	32			
SVJCR/L3232P16	●	●	32	32	170	45	32	40			

SVQCR/L



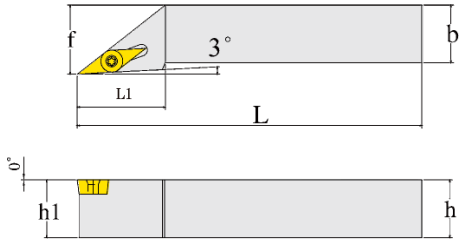


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVQCR/L1616H11	●	●	16	16	100	35	16	20	VC**1103	M2.5*6	T-8
SVQCR/L2020K11	●	●	20	20	125	35	20	25			
SVQCR/L1616H16	●	●	16	16	100	35	16	20	VC**1604	M3.5*8	T-15
SVQCR/L2020K16	●	●	20	20	125	35	20	25			
SVQCR/L2525M16	●	●	25	25	150	35	25	32			
SVQCR/L3232P16	●	●	32	32	170	35	32	40			

●Stock ○Availabie upon Order

SVJBR/L

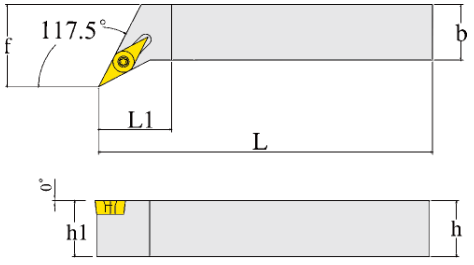




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVJBR/L1212H11	●	●	12	12	100	25	12	16	VB**1103	M2.5*6	T-8
SVJBR/L1616H11	●	●	16	16	100	28	16	20			
SVJBR/L2020K11	●	●	20	20	125	35	20	25			
SVJBR/L2525M11	●	●	25	25	150	32	25	32			
SVJBR/L1616H16	●	●	16	16	100	32	16	20	VB**1604	M3.5*8	T-15
SVJBR/L2020K16	●	●	20	20	125	35	20	25			
SVJBR/L2525M16	●	●	25	25	150	38	25	32			
SVJBR/L3232P16	●	●	32	32	170	45	32	40			

SVQBR/L



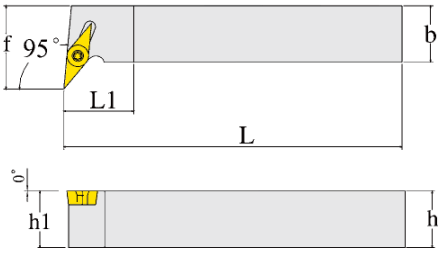


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVQBR/L1616H11	●	●	16	16	100	35	16	20	VB**1103	M2.5*6	T-8
SVQBR/L2020K11	●	●	20	20	125	35	20	25			
SVQBR/L1616H16	●	●	16	16	100	35	16	20	VB**1604	M3.5*8	T-15
SVQBR/L2020K16	●	●	20	20	125	35	20	25			
SVQBR/L2525M16	●	●	25	25	150	35	25	32			
SVQBR/L3232P16	●	●	32	32	170	35	32	40			

●Stock ○Availabie upon Order

SVUC(B)R/L

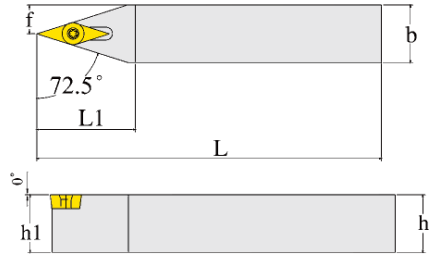




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVUCR/L1616H11	●	●	16	16	100	16	16	20	VC**1103	M2.5*6	T-8
SVUCR/L2020K11	●	●	20	20	125	16	20	25			
SVUCR/L1616H16	○	○	16	16	100	16	16	20	VC**1604	M3.5*8	T-15
SVUCR/L2020K16	●	●	20	20	125	16	20	25			
SVUCR/L2525M16	●	●	25	25	150	16	25	32			
SVUBR/L1616H11	●	●	16	16	100	16	16	20	VB**1103	M2.5*6	T-8
SVUBR/L2020K11	●	●	20	20	125	16	20	25			
SVUBR/L1616H16	○	○	16	16	100	16	16	20	VB**1604	M3.5*8	T-15
SVUBR/L2020K16	●	●	20	20	125	16	20	25			
SVUBR/L2525M16	●	●	25	25	150	16	25	32			

SVVC(B)N





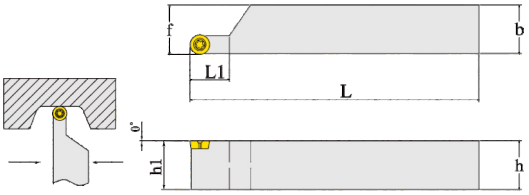
Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		h	b	L	L1	h1	f			
SVVCN1616H11	●	16	16	100	28	16	20	VC**1103	M2.5*6	T-8
SVVCN2020K11	●	20	20	125	35	20	25			
SVVCN1616H16	●	16	16	100	32	16	20	VC**1604	M3.5*8	T-15
SVVCN2020K16	●	20	20	125	35	20	25			
SVVCN2525M16	●	25	25	150	38	25	32			
SVVBN1616H11	●	16	16	100	28	16	20	VB**1103	M2.5*6	T-8
SVVBN2020K11	●	20	20	125	35	20	25			
SVVBN1616H16	●	16	16	100	32	16	20	VB**1604	M3.5*8	T-15
SVVBN2020K16	●	20	20	125	35	20	25			
SVVBN2525M16	●	25	25	150	38	25	32			

●Stock ○Availabie upon Order

SRACR/L CRACR/L







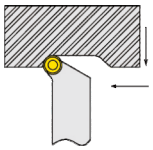
Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SRACR/L1616H06	●	●	16	16	100	15	16	20	RC**0602	M2.5*6	T-8
SRACR/L2020K06	●	●	20	20	125	20	20	25			
SRACR/L2525M06	●	●	25	25	150	25	25	32			
SRACR/L1616H08	●	●	16	16	100	15	16	20	RC**0803	M3.0*10	T-10
SRACR/L2020K08	●	●	20	20	125	20	20	25			
SRACR/L2525M08	●	●	25	25	150	20	25	32			
SRACR/L3232P08	●	●	32	32	170	25	32	40			
SRACR/L1616H10	●	●	16	16	100	15	16	20	RC**10T3	M3.5*10	T-15
SRACR/L2020K10	●	●	20	20	125	20	20	25			
SRACR/L2525M10	●	●	25	25	150	20	25	32			
SRACR/L3232P10	●	●	32	32	170	25	32	40			
SRACR/L2020K12	●	●	20	20	125	20	20	25	RC**1204	M3.5*10	T-15
SRACR/L2525M12	●	●	25	25	150	20	25	32			
SRACR/L3232P12	●	●	32	32	170	25	32	40			
SRACR/L4040P12	●	●	40	40	200	32	40	50			
SRACR/L2525M16	●	●	25	25	150	20	25	32	RC**1606	M5*12	T-20
SRACR/L3232P16	●	●	32	32	170	25	32	40			
SRACR/L4040R16	●	●	40	40	200	32	40	50			
SRACR/L3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20
SRACR/L4040R20	●	●	40	40	200	32	40	50			

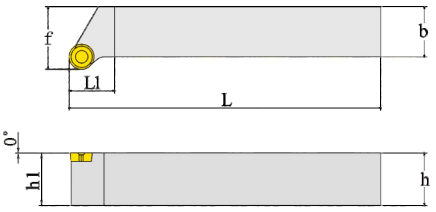
Ordering Code	Stock		Dimensions(mm)						Insert	Pressingplate	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f					
CRACR/L3232P12	●	●	32	32	170	25	32	40	RC**1204	M5*12	NLJ0522	M3.5*10	T-15 L4.0
CRACR/L4040R12	●	●	40	40	200	32	40	50					
CRACR/L3232P16	●	●	32	32	170	25	32	40	RC**1606	M5*12	T-20	M5*12	T-19 L4.0
CRACR/L4040R16	●	●	40	40	200	32	40	50					
CRACR/L3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20	M5*12	T-20 L4.0
CRACR/L4040R20	●	●	40	40	200	32	40	50					

●Stock ○Availabie upon Order

SRGCR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SRGCR/L1616H06	●	●	16	16	100	15	16	20	RC**0602	M2.5*6	T-8
SRGCR/L2020K06	●	●	20	20	125	20	20	25			
SRGCR/L2525M06	●	●	25	25	150	25	25	32			
SRGCR/L1616H08	●	●	16	16	100	15	16	20	RC**0803	M3.0*10	T-10
SRGCR/L2020K08	●	●	20	20	125	20	20	25			
SRGCR/L2525M08	●	●	25	25	150	20	25	32			
SRGCR/L3232P08	●	●	32	32	170	25	32	40			
SRGCR/L1616H10	●	●	16	16	100	15	16	20	RC**10T3	M3.5*10	T-15
SRGCR/L2020K10	●	●	20	20	125	20	20	25			
SRGCR/L2525M10	●	●	25	25	150	20	25	32			
SRGCR/L3232P10	●	●	32	32	170	25	32	40			
SRGCR/L2020K12	●	●	20	20	125	20	20	25	RC**1204	M3.5*10	T-15
SRGCR/L2525M12	●	●	25	25	150	20	25	32			
SRGCR/L3232P12	●	●	32	32	170	25	32	40			
SRGCR/L4040P12	●	●	40	40	200	32	40	50			
SRGCR/L2525M16	●	●	25	25	150	20	25	32	RC**1606	M5*12	T-20
SRGCR/L3232P16	●	●	32	32	170	25	32	40			
SRGCR/L4040R16	●	●	40	40	200	32	40	50			
SRGCR/L3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20
SRGCR/L4040R20	●	●	40	40	200	32	40	50			

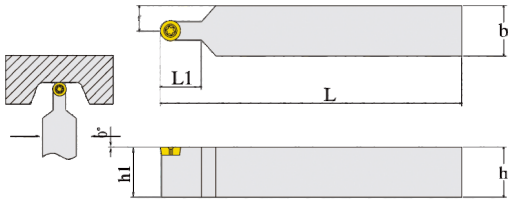
●Stock ○Availabie upon Order

SRDCN



CRDCN





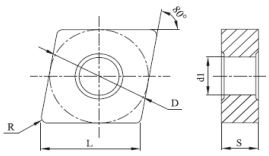
Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SRDCN1616H06	●	●	16	16	100	15	16	20	RC**0602	M2.5*6	T-8
SRDCN2020K06	●	●	20	20	125	20	20	25			
SRDCN2525M06	●	●	25	25	150	25	25	32			
SRDCN1616H08	●	●	16	16	100	15	16	20	RC**0803	M3.0*10	T-10
SRDCN2020K08	●	●	20	20	125	20	20	25			
SRDCN2525M08	●	●	25	25	150	20	25	32			
SRDCN3232P08	●	●	32	32	170	25	32	40			
SRDCN1616H10	●	●	16	16	100	15	16	20	RC**10T3	M3.5*10	T-15
SRDCN2020K10	●	●	20	20	125	20	20	25			
SRDCN2525M10	●	●	25	25	150	20	25	32			
SRDCN3232P10	●	●	32	32	170	25	32	40			
SRDCN2020K12	●	●	20	20	125	20	20	25	RC**1204	M3.5*10	T-15
SRDCN2525M12	●	●	25	25	150	20	25	32			
SRDCN3232P12	●	●	32	32	170	25	32	40			
SRDCN4040P12	●	●	40	40	200	32	40	50			
SRDCN2525M16	●	●	25	25	150	20	25	32	RC**1606	M5*12	T-20
SRDCN3232P16	●	●	32	32	170	25	32	40			
SRDCN4040R16	●	●	40	40	200	32	40	50			
SRDCN3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20
SRDCN4040R20	●	●	40	40	200	32	40	50			

Ordering Code	Stock		Dimensions(mm)						Insert	Pressingplate	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f					
CRDCN3232P12	●	●	32	32	170	25	32	40	RC**1204	M5*12	NLJ0522	M3.5*10	T-15 L4.0
CRDCN4040R12	●	●	40	40	200	32	40	50					
CRDCN3232P16	●	●	32	32	170	25	32	40	RC**1606	M5*12	T-20	M5*12	T-19 L4.0
CRDCN4040R16	●	●	40	40	200	32	40	50					
CRDCN3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20	M5*12	T-20 L4.0
CRDCN4040R20	●	●	40	40	200	32	40	50					

●Stock ○Availabie upon Order

CNMG/CNMA Rhombic80° ,with Hole

Turning Inserts (Negative)



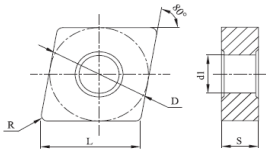
		continuous	light Interruption	Interruption
P	Steel	●	◔	
M	Stainless Steel	○	◔	
K	Cast Iron	●	◔	
N	Non-ferrous Metal	●		
S	Heat-resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	CNMG120404–BF	12.90	12.70	4.76	5.16	0.40							●										
	CNMG120408–BF	12.90	12.70	4.76	5.16	0.80							●										
 Semi–finishing	CNMG120404–NFM	12.90	12.70	4.76	5.16	0.40									●								
	CNMG120408–NFM	12.90	12.70	4.76	5.16	0.80									●								
 Medium	CNMG120404–NM	12.90	12.70	4.76	5.16	0.40	●																
	CNMG120408–NM	12.90	12.70	4.76	5.16	0.80	●																
	CNMG120412–NM	12.90	12.70	4.76	5.16	1.20	●																
 Medium	CNMG120404–NGM	12.90	12.70	4.76	5.16	0.40	●																
	CNMG120408–NGM	12.90	12.70	4.76	5.16	0.80	●																
	CNMG120412–NGM	12.90	12.70	4.76	5.16	1.20	●																
 Roughing	CNMG120408–NR	12.90	12.70	4.76	5.16	0.80	●																
	CNMG120412–NR	12.90	12.70	4.76	5.16	1.20	●																
	CNMG160408–NR	16.10	15.87	6.35	6.35	0.80	○																
	CNMG160612–NR	16.10	15.87	6.35	6.35	1.20	●																
	CNMG160616–NR	16.10	15.87	6.35	6.35	1.60	○																
	CNMG190612–NR	19.05	19.30	6.35	7.94	1.20	●																
	CNMG190616–NR	19.05	19.30	6.35	7.94	1.60	●																
 Semi–finishing	CNMG120404–NL	12.90	12.70	4.76	5.16	0.40									●								
	CNMG120408–NL	12.90	12.70	4.76	5.16	0.80									●								
 Roughing	CNMA120404	12.90	12.70	4.76	5.16	0.40				●													
	CNMA120408	12.90	12.70	4.76	5.16	0.80				●	●												
	CNMA120412	12.90	12.70	4.76	5.16	1.20				●	●												
	CNMA160808	16.10	15.87	6.35	6.35	0.80				●													
	CNMA160612	16.10	15.87	6.35	6.35	1.20				●													
 Medium	CNMG120404–NK1	12.90	12.70	4.76	5.16	0.40				●	●												
	CNMG120408–NK1	12.90	12.70	4.76	5.16	0.80				●	●												
	CNMG120412–NK1	12.90	12.70	4.76	5.16	1.20				●	●												
	CNMG160608–NK1	16.10	15.87	6.35	6.35	0.80				●	●												
	CNMG160612–NK1	16.10	15.87	6.35	6.35	1.20				●	●												
 Roughing	CNMG120408–NK2	12.90	12.70	4.76	5.16	0.80				●	●												
	CNMG120412–NK2	12.90	12.70	4.76	5.16	1.20				●	●												

●Stock ○Availabie upon Order

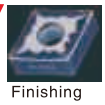
CNMG Rhombic80° ,with Hole

Turning Inserts (Negative)



○ continuous ◐ light Interruption ⌗ Interruption

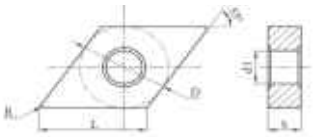
		NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
P	Steel	●	◐						●	◐								
M	Stainless Steel							○	○	◐								
K	Cast Iron				●	◐												
N	Non-ferrous Metal										●							
S	Heat-resistant Alloy,TiAlloy								●	◐								
H	High Hardness Materials																	

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
New  Finishing	CNMG120404-NPL	12.90	12.70	4.76	5.16	0.40		●	●														
	CNMG120408-NPL	12.90	12.70	4.76	5.16	0.80		●															
New  Medium	CNMG120408-NG	12.90	12.70	4.76	5.16	0.80		●	●														
	CNMG120412-NG	12.90	12.70	4.76	5.16	0.12			●														
New  Medium	CNMG120408-NX	12.90	12.70	4.76	5.16	0.80		●	●														
	CNMG120412-NX	12.90	12.70	4.76	5.16	0.12		●	●														
New  Roughing	CNMG120408-NH	12.90	12.70	4.76	5.16	0.80			●														
	CNMG120412-NH	12.90	12.70	4.76	5.16	0.12			●														
New  Medium	CNMG120404-NA	12.90	12.70	4.76	5.16	0.40							●										
	CNMG120408-NA	12.90	12.70	4.76	5.16	0.80							●										
	CNMG120412-NA	12.90	12.70	4.76	5.16	1.20							●										
	CNMG160608-NA	16.61	15.87	6.35	6.35	0.80							●										

●Stock ○Availabie upon Order

DNMG/DNMA Rhombic55° ,with Hole

Turning Inserts (Negative)



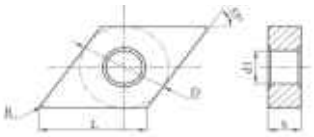
		○ continuous	◔ light Interruption	⊕ Interruption
P	Steel	●	◔	
M	Stainless Steel	○	○	◔
K	Cast Iron	●	◔	
N	Non–ferrous Metal	●		
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	DNMG150404–BF	15.50	12.70	4.76	5.16	0.40							●										
	DNMG150408–BF	15.50	12.70	4.76	5.16	0.80							●										
 Semi–finishing	DNMG150404–NFM	15.50	12.70	4.76	5.16	0.40									●								
	DNMG150408–NFM	15.50	12.70	4.76	5.16	0.80									●								
	DNMG150604–NFM	15.50	12.70	4.76	5.16	0.40									●								
	DNMG150608–NFM	15.50	12.70	4.76	5.16	0.80									●								
 Medium	DNMG150404–NM	15.50	12.70	4.76	5.16	0.40	●																
	DNMG150408–NM	15.50	12.70	4.76	5.16	0.80	●																
	DNMG150604–NM	15.50	12.70	6.35	5.16	0.40	○																
	DNMG150608–NM	15.50	12.70	6.35	5.16	0.80	○																
 Medium	DNMG150404–NGM	15.50	12.70	4.76	5.16	0.40	●																
	DNMG150408–NGM	15.50	12.70	4.76	5.16	0.80	●																
	DNMG150412–NGM	15.50	12.70	4.76	5.16	1.20	●																
 Roughing	DNMG150408–NR	15.50	12.70	6.35	5.16	0.40	□																
	DNMG150412–NR	15.50	12.70	6.35	5.16	0.80	□																
	DNMG150608–NR	15.50	12.70	6.35	5.16	1.20	□																
	DNMG150612–NR	15.50	12.70	4.76	5.16	0.80	○																
 Semi–finishing	DNMG150404–NL	15.50	12.70	4.76	5.16	0.40									●								
	DNMG150408–NL	15.50	12.70	4.76	5.16	0.80									●								
 Roughing	DNMA150404	15.50	12.70	4.76	5.16	0.40				●	○												
	DNMA150408	15.50	12.70	4.76	5.16	0.80				●	○												
	DNMA150412	15.50	12.70	4.76	5.16	1.20				○	○												
	DNMA150608	15.50	12.70	6.35	5.16	0.80				●	○												
	DNMA150612	15.50	12.70	6.35	5.16	1.20				●	○												
 Medium	DNMG150404–NK1	15.50	12.70	4.76	5.16	0.40				●	●												
	DNMG150408–NK1	15.50	12.70	4.76	5.16	0.80				●	●												
	DNMG150412–NK1	15.50	12.70	4.76	5.16	1.20				●	●												
	DNMG150604–NK1	15.50	12.70	6.35	5.16	0.40				●	○												
	DNMG150608–NK1	15.50	12.70	6.35	5.16	0.80				●	●												
	DNMG150612–NK1	15.50	12.70	6.35	5.16	1.20				●	○												
 Roughing	DNMG150408–NK2	15.50	12.70	4.76	5.16	0.80				●	●												
	DNMG150412–NK2	15.50	12.70	4.76	5.16	1.20				●	○												
	DNMG150608–NK2	15.50	12.70	6.35	5.16	0.80				●	●												
	DNMG150612–NK2	15.50	12.70	6.35	5.16	1.20				●	○												

●Stock ○Availabie upon Order

DNMG Rhombic55° ,with Hole

Turning Inserts (Negative)



● continuous ◐ light Interruption ⊕ Interruption

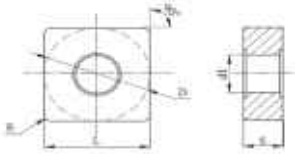
P	Steel	●	◐						●	◐												
M	Stainless Steel							●	●	◐												
K	Cast Iron				●	◐																
N	Non-ferrous Metal										●											
S	Heat-resistant Alloy,TiAlloy								●	◐												
H	High Hardness Materials																					

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
New  Finishing	DNMG150404-NPL	15.50	12.70	4.76	5.16	0.40			●														
	DNMG150408-NPL	15.50	12.70	4.76	5.16	0.80		●	●														
	DNMG150608-NPL	15.50	12.70	4.76	5.16	0.80			●														
New  Medium	DNMG150404-NG	15.50	12.70	4.76	5.16	0.40		●	●														
	DNMG150408-NG	15.50	12.70	4.76	5.16	0.80		●	●														
	DNMG150608-NG	15.50	12.70	4.76	5.16	0.80		●	●														
New  Medium	DNMG150404-NA	15.50	12.70	4.76	5.16	0.40							●										
	DNMG150408-NA	15.50	12.70	4.76	5.16	0.80							●										
	DNMG150604-NA	15..50	12.70	6.35	5.16	0.40							●										
	DNMG150608-NA	15..50	12.70	6.35	5.16	0.80							●										

●Stock ○Availabie upon Order

SNMG/SNMA Rhombic99° ,with Hole

Turning Inserts (Negative)



		○ continuous	◔ light Interruption	⊕ Interruption
P	Steel	●	◔	
M	Stainless Steel	○	◔	
K	Cast Iron	●	◔	
N	Non–ferrous Metal	●		
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

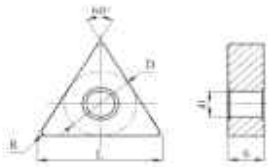
Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	SNMG120404–BF	12.70	12.70	4.76	5.16	0.40							●										
	SNMG120408–BF	12.70	12.70	4.76	5.16	0.80							●										
 Semi–finishing	SNMG120404–NFM	12.70	12.70	4.76	5.16	0.40									●								
	SNMG120408–NFM	12.70	12.70	4.76	5.16	0.80									●								
 Medium	SNMG120404–NM	12.70	12.70	4.76	5.16	0.40	●																
	SNMG120408–NM	12.70	12.70	4.76	5.16	0.80	●																
	SNMG120412–NM	12.70	12.70	4.76	5.16	1.20	●																
 Medium	SNMG120404–NGM	12.70	12.70	4.76	5.16	0.40	●																
	SNMG120408–NGM	12.70	12.70	4.76	5.16	0.80	●																
	SNMG120412–NGM	12.70	12.70	4.76	5.16	1.20	●																
 Roughing	SNMG120408–NR	12.70	12.70	4.76	5.16	0.80	●																
	SNMG120412–NR	12.70	12.70	4.76	5.16	1.20	●																
	SNMG150408–NR	15.87	15.87	6.35	6.35	0.80	●																
	SNMG150612–NR	15.87	15.87	6.35	6.35	1.20	●																
	SNMG190612–NR	19.05	19.05	6.35	7.94	1.20	●																
	SNMG190616–NR	19.05	19.05	6.35	7.94	1.60	●																
 Semi–finishing	SNMG120408–NL	12.70	12.70	4.76	5.16	0.80									●								
	SNMG120412–NL	12.70	12.70	4.76	5.16	1.20									●								
 Roughing	SNMA120404	12.90	12.70	4.76	5.16	0.40				○													
	SNMA120408	12.90	12.70	4.76	5.16	0.80				●	●												
	SNMA120412	12.90	12.70	4.76	5.16	1.20				○													
 Medium	SNMG120408–NK1	12.70	12.70	4.76	5.16	0.80				●													
	SNMG120412–NK1	12.70	12.70	4.76	5.16	1.20				●	●												
	SNMG150608–NK1	15.87	15.87	6.35	6.35	0.80				●	○												
	SNMG150612–NK1	15.87	15.87	6.35	6.35	1.20				○													
	SNMG150616–NK1	15.87	15.87	6.35	6.35	1.60				○	○												
	SNMG190612–NK1	19.05	19.30	6.35	7.94	1.20				○	○												
 Roughing	SNMG190616–NK1	19.05	19.30	6.35	7.94	1.60				○	○												
	SNMG120408–NK2	12.70	12.70	4.76	5.16	0.80				●	●												
	SNMG120412–NK2	12.70	12.70	4.76	5.16	1.20				●	●												

●Stock ○Availabie upon Order

TNMG/TNMA/TNGG Triangle 60° ,with Hole

Turning Inserts (Negative)

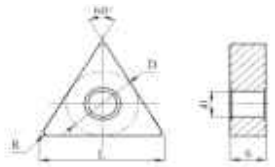
● continuous ◔ light Interruption ⊕ Interruption



| | | |

TNMG Triangle 60° ,with Hole

Turning Inserts (Negative)



		● continuous	◔ light Interruption	⊕ Interruption
P	Steel	● ◔	● ◔	●
M	Stainless Steel	● ● ◔		●
K	Cast Iron	● ◔		
N	Non-ferrous Metal	●		
S	Heat-resistant Alloy,TiAlloy	● ◔		
H	High Hardness Materials			

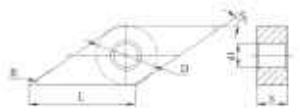
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
New  Finishing	TNMG160404-NPL	16.50	9.52	4.76	3.18	0.40		●	●														
	TNMG160408-NPL	16.50	9.52	4.76	3.18	0.80		●	●														
New  Medium	TNMG160404-NG	16.50	9.52	4.76	3.18	0.40		●	●														
	TNMG160408-NG	16.50	9.52	4.76	3.18	0.80		●	●														
New  Medium	TNMG160404-NA	16.50	9.52	4.76	3.18	0.40							●										
	TNMG160408-NA												●										
	TNMG160412-NA	16.50	9.52	4.76	3.18	0.12							●										
	TNMG220408-NA												●										
	TNMG220412-NA	22	12.7	4.76	3.18	0.12							●										
	TNMG220416-NA												●										

●Stock ○Availabie upon Order

VNGG/VNMG

Rhombic 35° ,with Hole

Turning Inserts (Negative)



		● continuous	◐ light Interruption	⊕ Interruption
P	Steel	●	◐	◐
M	Stainless Steel		●	◐
K	Cast Iron		●	◐
N	Non-ferrous Metal			
S	Heat-resistant Alloy,TiAlloy		●	◐
H	High Hardness Materials			

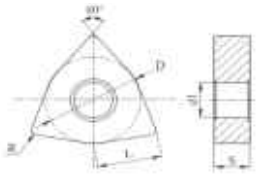
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	VNMG160404-BF	16.60	9.52	4.76	3.81	0.40									●								
	VNMG160408-BF	16.60	9.52	4.76	3.81	0.80									●								
 Semi-finishing	VNMG160404-NL	16.60	9.52	4.76	3.81	0.40							●										
	VNMG160408-NL	16.60	9.52	4.76	3.81	0.80							●										
 Semi-finishing	VNMG160404-NFM	16.60	9.52	4.76	3.81	0.40									●								
	VNMG160408-NFM	16.60	9.52	4.76	3.81	0.80									●								
 Medium	VNMG160404-NM	16.60	9.52	4.76	3.81	0.40	●																
	VNMG160408-NM	16.60	9.52	4.76	3.81	0.80	●																
	VNMG160412-NM	16.60	9.52	4.76	3.81	1.20	○																
 Roughing	VNMG160404-NK1	16.60	9.52	4.76	3.81	0.40				●	●												
	VNMG160408-NK1	16.60	9.52	4.76	3.81	0.80				●	●												
	VNMG160412-NK1	16.60	9.52	4.76	3.81	1.20				●	●												
 Medium	VNMG160408-NK2	16.60	9.52	4.76	3.81	0.80				●	●												
	VNMG160412-NK2	16.60	9.52	4.76	3.81	1.20				●	○												
New  Finishing	VNMG160404-NPL	16.60	9.52	4.76	3.81	0.40		●	●														
	VNMG160408-NPL	16.60	9.52	4.76	3.81	0.80		●	●														
New  Medium	VNMG160408-NG	16.60	9.52	4.76	3.81	0.80		●	●														
New  Medium	VNMG160404-NA	16.60	9.52	4.76	3.81	0.40							●										
	VNMG160408-NA	16.60	9.52	4.76	3.81	0.80							●										

●Stock ○Availabie upon Order

WNMG/WNMA/WNGA

Trigon 80° ,with Hole

Turning Inserts (Negative)



		continuous	light Interruption	Interruption
P	Steel	●	◔	
M	Stainless Steel	○	◔	
K	Cast Iron	●	◔	
N	Non–ferrous Metal			
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

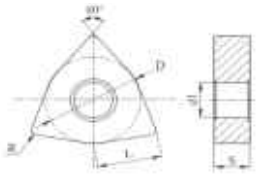
Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	WNMG080404–BF	8.70	12.70	4.76	5.16	0.40							●										
	WNMG080408–BF	8.70	12.70	4.76	5.16	0.80							●										
 Semi–finishing	WNMG080404–NFM	8.70	12.70	4.76	5.16	0.40									●								
	WNMG080408–NFM	8.70	12.70	4.76	5.16	0.80									●								
	WNMG080412–NFM	8.70	12.70	4.76	5.16	1.20									●								
 Medium	WNMG080404–NM	8.70	12.70	4.76	5.16	0.40	●																
	WNMG080408–NM	8.70	12.70	4.76	5.16	0.80	●																
	WNMG080412–NM	8.70	12.70	4.76	5.16	1.20	●																
 Medium	WNMG080404–NGM	8.70	12.70	4.76	5.16	0.40	●																
	WNMG080408–NGM	8.70	12.70	4.76	5.16	0.80	●																
	WNMG080412–NGM	8.70	12.70	4.76	5.16	1.20	●																
 Roughing	WNMG080408–NR	8.70	12.70	4.76	5.16	0.80	●																
	WNMG080412–NR	8.70	12.70	4.76	5.16	1.20	●																
 Semi–finishing	WNMG080404–NL	8.70	12.70	4.76	5.16	0.40									●								
	WNMG080412–NL	8.70	12.70	4.76	5.16	0.12									●								
 Roughing	WNMA080404	8.70	12.70	4.76	5.16	0.40				●	○												
	WNMA080408	8.70	12.70	4.76	5.16	0.80				●	●												
	WNMA080412	8.70	12.70	4.76	5.16	1.20				●	●												
 Medium	WNMG080404–NK1	8.70	12.70	4.76	5.16	0.40				●	●												
	WNMG080408–NK1	8.70	12.70	4.76	5.16	0.80				●	●												
	WNMG080412–NK1	8.70	12.70	4.76	5.16	1.20				●	●												
 Roughing	WNMG080408–NK2	8.70	12.70	4.76	5.16	0.80				●	●												
	WNMG080412–NK2	8.70	12.70	4.76	5.16	1.20				●	●												

●Stock ○Availabie upon Order

WNMG Trigon 80° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔						●	◔																					
M	Stainless Steel							●	●	◔																					
K	Cast Iron				●	◔																									
N	Non–ferrous Metal																														
S	Heat–resistant Alloy,TiAlloy								●	◔																					
H	High Hardness Materials																														

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
New  Finishing	WNMG080404–NPL	8.70	12.70	4.76	5.16	0.40		●	●														
	WNMG080408–NPL	8.70	12.70	4.76	5.16	0.80		●	●														
New  Semi–finishing	WNMG080404–NG	8.70	12.70	4.76	5.16	0.40		●	●														
	WNMG080408–NG	8.70	12.70	4.76	5.16	0.80		●	●														
	WNMG080412–NG	8.70	12.70	4.76	5.16	1.20			●														
New  Medium	WNMG080408–NX	8.70	12.70	4.76	5.16	0.80		●	●														
	WNMG080412–NX	8.70	12.70	4.76	5.16	0.12		●	●														
New  Medium	WNMG080408–NH	8.70	12.70	4.76	5.16	0.80		●	●														
	WNMG080412–NH	8.70	12.70	4.76	5.16	0.12			●														
New  Medium	WNMG080404–NA												●										
	WNMG080408–NA												●										
	WNMG080412–NA												●										

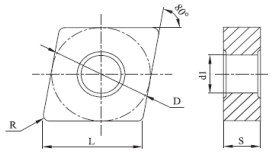
●Stock ○Availabie upon Order

CNGA/CNGG

Rhombic80° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption



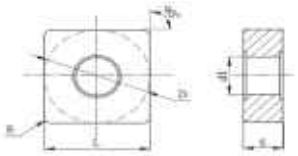
| | | |

SNGA/SNGG

Square 90° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⧓ Interruption



P	Steel	
M	Stainless Steel	
K	Cast Iron	● ◔
N	Non-ferrous Metal	●
S	Heat-resistant Alloy,TiAlloy	
H	High Hardness Materials	○ ◔

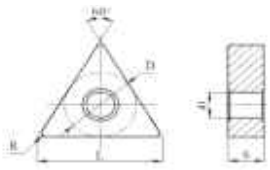
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 CBN	SNGA120404-Z4	12.70	12.70	4.76	5.16	0.40														●	○		
	SNGA120408-Z4	12.70	12.70	4.76	5.16	0.80														●	○		
	SNGA120412-Z4	12.70	12.70	4.76	5.16	1.20														●	○		
 For N	SNGG120404-NL	12.70	12.70	4.76	5.16	0.40										●							
	SNGG120408-NL	12.70	12.70	4.76	5.16	0.80										●							
	SNGG120412-NL	12.70	12.70	4.76	5.16	1.20										○							

TNGA/TNGG

Triangle 60° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⧓ Interruption



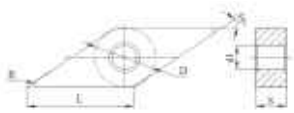
P	Steel	
M	Stainless Steel	
K	Cast Iron	● ◔
N	Non-ferrous Metal	●
S	Heat-resistant Alloy,TiAlloy	
H	High Hardness Materials	○ ◔

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 CBN	TNGA160404-Z3	16.50	9.52	4.76	3.18	0.40														●	○		
	TNGA160408-Z3	16.50	9.52	4.76	3.18	0.80														●	○		
	TNGA160412-Z3	16.50	9.52	4.76	3.18	1.20														●	○		
 For N	TNGG160404-NL	16.50	9.52	4.76	3.18	0.40										●							
	TNGG160408-NL	16.50	9.52	4.76	3.18	0.80										●							
	TNGG160412-NL	16.50	9.52	4.76	3.18	1.20										○							

●Stock ○Availabie upon Order

VNGA/VNGG Rhombic 35° ,with Hole

Turning Inserts (Negative) ○ continuous ◔ light Interruption ⊕ Interruption

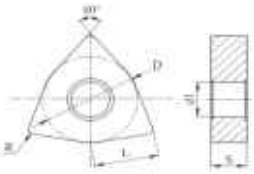


P	Steel																								
M	Stainless Steel																								
K	Cast Iron																						●	●	
N	Non-ferrous Metal														●										
S	Heat-resistant Alloy,TiAlloy																								
H	High Hardness Materials																						○	○	

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 CBN	VNGA160404-Z2	16.60	9.52	4.76	3.81	0.40														●	○		
	VNGA160408-Z2	16.60	9.52	4.76	3.81	0.80														●	○		
 For N	VNGG160404-NL	16.60	9.52	4.76	3.81	0.40										●							
	VNGG160408-NL	16.60	9.52	4.76	3.81	0.80										●							

WNGA/WNGG Trigon 80° ,with Hole

Turning Inserts (Negative) ○ continuous ◔ light Interruption ⊕ Interruption



P	Steel																								
M	Stainless Steel																								
K	Cast Iron																						●	●	
N	Non-ferrous Metal														●										
S	Heat-resistant Alloy,TiAlloy																								
H	High Hardness Materials																						○	○	

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1125	SC4010	SC4025	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 CBN	WNGA080404-Z3	16.60	9.52	4.76	3.18	0.40														●	○		
	WNGA080408-Z3	16.60	9.52	4.76	3.18	0.80														●	○		
	WNGA080412-Z3	16.60	9.52	4.76	3.18	1.20														●	○		
 For N	WNGG080404-NL	16.60	9.52	4.76	3.18	0.40										●							
	WNGG080408-NL	16.60	9.52	4.76	3.18	0.80										●							
	WNGG080412-NL	16.60	9.52	4.76	3.18	1.20										○							

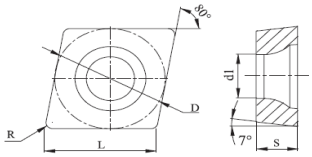
●Stock ○Availabie upon Order

CCMT/CCGW/CCGT

Rhombic 80° ,with Hole

Turning Inserts (Positive)

● continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔						●	●					●									
M	Stainless Steel								●	◔					●									
K	Cast Iron				●	◔							●	●			●	◔						
N	Non-ferrous Metal																					●	◔	
S	Heat-resistant Alloy,TiAlloy								●	◔														
H	High Hardness Materials																		○	◔				

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	CCGT030102L–F	3.5	3.5	1.4	1.9	0.2								●				●					
	CCGT030104L–F	3.5	3.5	1.4	1.9	0.4								●				●					
	CCGT040102L–F	4.3	4.3	1.8	2.3	0.2								●				●					
	CCGT040104L–F	4.3	4.3	1.8	2.3	04								●				●					
	CCGT060602L–F	6.35	6.35	2.38	2.8	0.2								●				●					
	CCGT060604L–F	6.35	6.35	2.38	2.8	0.4								●				●					
Finishing	CCGT09T302L–F	9.525	9.525	3.97	4.4	0.2								●				●					
	CCGT09T304L–F	9.525	9.525	3.97	4.4	0.4								●				●					
	CCMT060204–NF	6.5	6.35	2.38	2.8	0.4									●								
	CCMT060208–NF	6.5	6.35	2.38	2.8	0.8									●								
	CCMT09T304–NF	9.7	9.52	3.97	4.4	0.4									●								
	CCMT09T308–NF	9.7	9.52	3.97	4.4	0.8									●								
Finishing																							
	CCMT060204–NM	6.5	6.35	2.38	2.8	0.4	●	○		●	○												
	CCMT060208–NM	6.5	6.35	2.38	2.8	0.8	●	○		●	○												
	CCMT09T304–NM	9.7	9.52	3.97	4.4	0.4	●	○		●	○												
	CCMT09T308–NM	9.7	9.52	3.97	4.4	0.8	●	○		●	○												
Medium	CCMT120404–NM	12.9	12.7	4.76	5.56	0.4	●	○		●	○												
	CCMT120408–NM	12.9	12.7	4.76	5.56	0.8	●	○		●	○												
	CCMT060204–NFS	6.5	6.35	3.38	2.8	0.4							●										
	CCMT060208–NFS	6.5	6.35	3.97	2.8	0.8							●										
	CCMT09T304–NFS	9.7	9.52	3.97	4.4	0.4							●										
	CCMT09T308–NFS	9.7	9.52	3.97	4.4	0.8							●										
Finishing	CCMT120404–NFS	12.9	12.7	4.76	5.56	0.4							●										
	CCMT120408–NFS	12.9	12.7	4.76	5.56	0.4							●										
	CCGW060202–Z2	6.5	6.35	2.38	2.8	0.2														●	○		
	CCGW060204–Z2	6.5	6.35	2.38	2.8	0.4														●	○		
	CCGW09T304–Z2	9.7	9.52	3.97	4.4	0.4														●	○		
	CCGW09T308–Z2	9.7	9.52	3.97	4.4	0.8														●	○		
CBN	CCGT060202L–Z1	6.5	6.35	2.38	2.8	0.2																●	○
	CCGT060204L–Z1	6.5	6.35	2.38	2.8	0.4																●	○
	CCGT09T304L–Z1	9.7	9.52	3.97	4.4	0.4																●	○
	CCGT09T308L–Z1	9.7	9.52	3.97	4.4	0.8																●	○
PCD																							

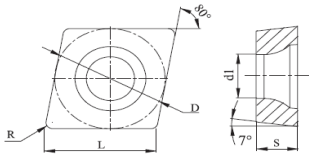
●Stock ○Availabie upon Order

CCGT

Rhombic 80° ,with Hole

Turning Inserts (Positive)

○ continuous ◔ light Interruption ⊕ Interruption



P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	●
S	Heat-resistant Alloy,TiAlloy	
H	High Hardness Materials	

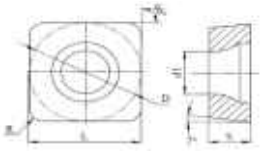
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 For N	CCGT060202-NL	6.5	6.35	2.38	2.8	0.2										●							
	CCGT060204-NL	6.5	6.35	2.38	2.8	0.4										●							
	CCGT060208-NL	6.5	6.35	2.38	2.8	0.8										○							
	CCGT09T302-NL	9.7	9.52	3.97	4.4	0.2										●							
	CCGT09T304-NL	9.7	9.52	3.97	4.4	0.4										●							
	CCGT09T308-NL	9.7	9.52	3.97	4.4	0.8										●							
	CCGT120402-NL	12.9	12.7	4.76	5.56	0.4										○							
	CCGT120404-NL	12.9	12.7	4.76	5.56	0.4										●							
	CCGT120408-NL	12.9	12.7	4.76	5.56	0.4										●							

SCMT/SCGT

Rhombic 80° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption



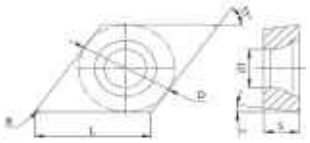
P	Steel	● ◔
M	Stainless Steel	
K	Cast Iron	●
N	Non-ferrous Metal	●
S	Heat-resistant Alloy,TiAlloy	
H	High Hardness Materials	

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1225	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Medium	SCMT09T304-NM	9.52	9.52	3.97	4.4	0.4	●	○		●													
	SCMT09T308-NM	9.52	9.52	3.97	4.4	0.8	●	○		●													
	SCMT120404-NM	12.7	12.7	4.76	5.56	0.4	●	○		●													
	SCMT120408-NM	12.7	12.7	4.76	5.56	0.8	●	○		●													
 Finishing	SCMT09T304-NFS	9.52	9.52	3.97	4.4	0.4							●										
	SCMT09T308-NFS	9.52	9.52	3.97	4.4	0.8							●										
	SCMT120404-NFS	12.7	12.7	4.76	5.56	0.4							●										
	SCMT120408-NFS	12.7	12.7	4.76	5.56	0.8							●										
 For N	SCGT09T304-NL	9.52	9.52	3.97	4.4	0.4										●							
	SCGT09T308-NL	9.52	9.52	3.97	4.4	0.8										●							
	SCGT120404-NL	12.7	12.7	4.76	5.56	0.4										●							
	SCGT120408-NL	12.7	12.7	4.76	5.56	0.8										●							

●Stock ○Availabie upon Order

DCGT/DCMT Rhombic 55° ,with Hole

Turning Inserts (Positive)



		continuous	light Interruption	Interruption
P	Steel	●	◔	⊕
M	Stainless Steel	○	◔	⊕
K	Cast Iron	●	◔	⊕
N	Non-ferrous Metal	●	◔	⊕
S	Heat-resistant Alloy,TiAlloy	●	◔	⊕
H	High Hardness Materials	○	◔	⊕

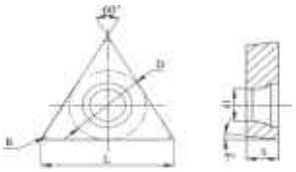
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	DCMT11T302L-F	11.60	9.25	3.97	4.40	0.20								●				●					
	DCMT11T304L-F	11.60	9.25	3.97	4.40	0.40								●				●					
	DCMT11T302R-F	11.60	9.25	3.97	4.40	0.20								●				●					
	DCMT11T304R-F	11.60	9.25	3.97	4.40	0.40								●				●					
 Finishing	DCMT11T304-NF	11.60	9.25	3.97	4.40	0.40									●								
	DCMT11T308-NF	11.60	9.25	3.97	4.40	0.80									●								
 Medium	DCMT070202-NM	7.80	6.35	2.38	2.80	0.20	○	○															
	DCMT070204-NM	7.80	6.35	2.38	2.80	0.40	●	○		●													
	DCMT11T304-NM	11.60	9.25	3.97	4.40	0.40	●	○		●													
	DCMT11T308-NM	11.60	9.25	3.97	4.40	0.80	●	○		●													
 Finishing	DCMT070204-NFS	7.80	6.35	2.38	2.80	0.20							●										
	DCMT070208-NFS	7.80	6.35	2.38	2.80	0.80							●										
	DCMT11T304-NFS	11.60	9.25	3.97	4.40	0.40							●										
	DCMT11T308-NFS	11.60	9.25	3.97	4.40	0.80							●										
 CBN	DCGW070202-Z2	7.80	6.35	2.38	2.80	0.20														●	○		
	DCGW070204-Z2	11.60	9.25	3.97	4.40	0.20														●	○		
	DCGW11T304-Z2	11.60	9.25	3.97	4.40	0.40														●	○		
	DCGW11T308-Z2	11.60	9.25	3.97	4.40	0.80														●	○		
 PCD	DCGT070202L-Z1	7.80	6.35	2.38	2.80	0.20																●	○
	DCGT070204L-Z1	7.80	6.35	2.38	2.80	0.40																●	○
	DCGT11T302L-Z1	11.60	9.25	3.97	4.40	0.20																●	○
	DCGT11T304L-Z1	11.60	9.25	3.97	4.40	0.80																●	○
 For N	DCGT070204-NL	7.80	6.35	2.38	2.80	0.40										●							
	DCGT11T302-NL	11.60	9.25	3.97	4.40	0.20										●							
	DCGT11T304-NL	11.60	9.25	3.97	4.40	0.40										●							
	DCGT11T308-NL	11.60	9.25	3.97	4.40	0.80										●							

●Stock ○Availabie upon Order

TPGT/TCMT/TCGT

Rhombic 55° ,with Hole

Turning Inserts (Positive)



		continuous	light Interruption	Interruption
P	Steel	●	◔	
M	Stainless Steel	○	◔	
K	Cast Iron	●	◔	
N	Non-ferrous Metal	●	◔	
S	Heat-resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials	○	◔	

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	TBGT060102L-F	6	3.97	1.59	2.3	0.2								●				●					
	TBGT060104L-F	6	3.97	1.59	2.3	0.4								●				●					
	TPGH080202L-F	8	4.76	2.38	2.3	0.2								●				●					
	TPGH080204L-F	8	4.76	2.38	2.3	0.4								●				●					
	TPGH090202L-F	9	5.56	2.38	3	0.2								●				●					
	TPGH090204L-F	9	5.56	2.38	3	0.4								●				●					
	TPGH110302L-F	11	6.35	3.18	3.3	0.2								●				●					
	TPGH110304L-F	11	6.35	3.18	3.3	0.4								●				●					
 Finishing	TCMT110204-NF	11	6.35	2.38	2.8	0.4									●								
	TCMT110208-NF	11	6.35	2.38	2.8	0.8									●								
	TCMT16T304-NF	16.5	9.52	3.97	4.4	0.4									●								
	TCMT16T308-NF	16.5	9.52	3.97	4.4	0.8									●								
 Medium	TCMT090204-NM	9.6	5.56	2.38	2.5	0.4	●	○		●													
	TCMT110204-NM	11	6.35	2.38	2.8	0.4	●	○		●													
	TCMT110208-NM	11	6.35	2.38	2.8	0.8	●	○		●													
	TCMT16T304-NM	16.5	9.52	3.97	4.4	0.4	●	○		●													
	TCMT16T308-NM	16.5	9.52	3.97	4.4	0.8	●	○		●													
 Finishing	TCMT090204-NFS	9.6	5.56	2.38	2.5	0.4							●										
	TCMT110204-NFS	11	6.35	2.38	2.8	0.4							●										
	TCMT110208-NFS	11	6.35	2.38	2.8	0.8							●										
	TCMT16T304-NFS	16.5	9.52	3.97	4.4	0.4							●										
	TCMT16T308-NFS	16.5	9.52	3.97	4.4	0.8							●										
 CBN	TCGW110204-Z3	11	6.35	2.38	2.8	0.4														●	○		
	TCGW110208-Z3	11	6.35	2.38	2.8	0.8														●	○		
	TCGW16T304-Z3	16.5	9.52	3.97	4.4	0.4														●	○		
	TCGW16T308-Z3	16.5	9.52	3.97	4.4	0.8														●	○		
 PCD	TPGT110302-Z1	11	6.35	3.18	3.4	0.2																●	○
	TPGT110304-Z1	11	6.35	3.18	3.4	0.4																●	○
	TPGT160302-Z1	16.5	9.52	3.18	4.4	0.2																●	○
	TPGT160304-Z1	16.5	9.52	3.18	4.4	0.4																●	○
	TPGT160308-Z1	16.5	9.52	3.18	4.4	0.8																●	○
 For N	TCGT090202-NL	9.6	5.56	2.38	2.5	0.2																	
	TCGT090204-NL	9.6	5.56	2.38	2.5	0.4										●							
	TCGT110202-NL	11	6.35	2.38	2.8	0.2										●							
	TCGT110204-NL	11	6.35	2.38	2.8	0.4										●							
	TCGT110208-NL	11	6.35	2.38	2.8	0.8										●							
	TCGT16T302-NL	16.5	9.52	3.97	4.4	0.2										●							
	TCGT16T304-NL	16.5	9.52	3.97	4.4	0.4										●							
	TCGT16T308-NL	16.5	9.52	3.97	4.4	0.8										●							

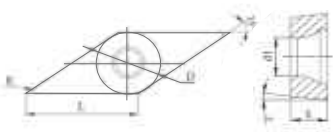
●Stock ○Availabie upon Order

VBGT/VBMT/VCMT/VBGX/VCGX

Rhombic 35° ,with Hole

Turning Inserts (Positive)

● continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔							●	◔				●										
M	Stainless Steel									●	◔				●										
K	Cast Iron				●										●		●	◔							
N	Non-ferrous Metal												●									●	◔		
S	Heat-resistant Alloy,TiAlloy									●	◔														
H	High Hardness Materials																	●	◔						

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	VBGT110302R–F	11.6	6.35	3.18	2.8	0.2								○				○					
	VBGT110304R–F	11.6	6.35	3.18	2.8	0.4								○				○					
	VBGT110308R–F	11.6	6.35	3.18	2.8	0.8								○				○					
	VBGT110302L–F	11.6	6.35	3.18	2.8	0.2								○				○					
	VBGT110304L–F	11.6	6.35	3.18	2.8	0.4								○				○					
	VBGT110308L–F	11.6	6.35	3.18	2.8	0.8								○				○					
 Medium	VBMT160404–NM	16.6	9.52	4.76	4.4	0.4	●	○		●													
	VBMT160408–NM	16.6	9.52	4.76	4.4	0.8	●	○		●													
	VCMT110304–NM	11.6	6.35	3.18	2.8	0.4	●	○		●													
	VCMT110308–NM	11.6	6.35	3.18	2.8	0.8	●	○		●													
	VCMT160404–NM	16.6	9.52	4.76	4.4	0.4	●	○		●													
	VCMT160408–NM	16.6	9.52	4.76	4.4	0.8	●	○		●													
 Finishing	VBMT160404–NFS	16.6	9.52	4.76	4.4	0.4							●										
	VBMT160408–NFS	16.6	9.52	4.76	4.4	0.8							●										
	VCMT160404–NFS	16.6	9.52	4.76	4.4	0.4							●										
	VCMT160408–NFS	16.6	9.52	4.76	4.4	0.8							●										
 For N	VCGT110302–NL	11.6	6.35	3.18	2.8	0.2										○							
	VCGT110304–NL	11.6	6.35	3.18	2.8	0.4										●							
	VCGT110308–NL	11.6	6.35	3.18	2.8	0.8										●							
	VCGT160402–NL	16.6	9.52	4.76	4.4	0.2										○							
	VCGT160404–NL	16.6	9.52	4.76	4.4	0.4										●							
	VCGT160408–NL	16.6	9.52	4.76	4.4	0.8										●							
 CBN	VCGW110302–Z2	11.6	6.35	3.18	2.8	0.2														●	○		
	VCGW110304–Z2	11.6	6.35	3.18	2.8	0.4														●	○		
	VCGW110308–Z2	11.6	6.35	3.18	2.8	0.8														●	○		
	VCGW160402–Z2	16.6	9.52	4.76	4.4	0.2														●	○		
	VCGW160404–Z2	16.6	9.52	4.76	4.4	0.4														●	○		
	VCGW160408–Z2	16.6	9.52	4.76	4.4	0.8														●	○		
 PCD	VCGT110302–Z1	11.6	6.35	3.18	2.8	0.2																●	○
	VCGT110304–Z1	11.6	6.35	3.18	2.8	0.4																●	○
	VCGT110308–Z1	11.6	6.35	3.18	2.8	0.8																●	○
	VCGT160402–Z1	16.6	9.52	4.76	4.4	0.2																●	○
	VCGT160404–Z1	16.6	9.52	4.76	4.4	0.4																●	○
	VCGT160408–Z1	16.6	9.52	4.76	4.4	0.8																●	○

●Stock ○Availabie upon Order

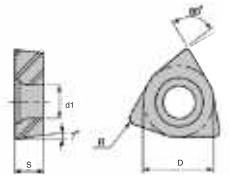
Turning inserts
External turning
Internal turning
Grooving & parting
Threading
Milling
Boring & drilling
Tool holder
Solid carbide end mils
Solid carbide drill & taps
Technical information

WBGT

Rhombic 55° ,with Hole

Turning Inserts (Positive)

continuous | light Interruption | Interruption



P	Steel																	●					
M	Stainless Steel													●				●					
K	Cast Iron																	●					
N	Non-ferrous Metal																						
S	Heat-resistant Alloy,TiAlloy													●									
H	High Hardness Materials																						

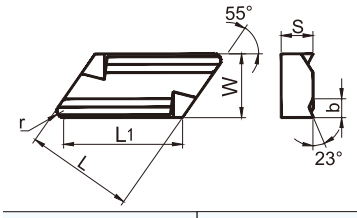
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Finishing	WBGT060102L-F	3.97	3.97	1.59	2.3	0.2								●				●					
	WBGT060104L-F	3.97	3.97	1.59	2.3	0.4								●				●					
	WBGT080202L-F	4.76	4.76	2.38	2.3	0.2								●				●					
	WBGT080204L-F	4.76	4.76	2.38	2.3	0.4								●				●					

KNUX

Rhombic 55° ,with Hole

Turning Inserts (Negative)

continuous | light Interruption | Interruption



P	Steel		◐																				
M	Stainless Steel																						
K	Cast Iron																						
N	Non-ferrous Metal																						
S	Heat-resistant Alloy,TiAlloy																						
H	High Hardness Materials																						

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1225	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Roughing	KNUX160405L11	16	16.15	9.525	4.76	0.5		●															
	KNUX160410L11	16	16.15	9.525	4.76	1.0		●															
	KNUX160405L12	16	16.15	9.525	4.76	0.5		●															
	KNUX160410L12	16	16.15	9.525	4.76	1.0		●															
	KNUX160405R11	16	16.15	9.525	4.76	0.5		●															
	KNUX160410R11	16	16.15	9.525	4.76	1.0		●															
	KNUX160405R12	16	16.15	9.525	4.76	0.5		●															
	KNUX160410R12	16	16.15	9.525	4.76	1.0		●															

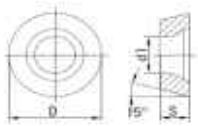
●Stock ○Availabie upon Order

RCMX/RCGT

Rhombic 55° ,with Hole

Turning Inserts (Positive)

continuous | light Interruption | Interruption



P	Steel		◐							◐													
M	Stainless Steel									◐													
K	Cast Iron																						
N	Non-ferrous Metal										●												
S	Heat-resistant Alloy,TiAlloy									◐													
H	High Hardness Materials																						

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
 Semi-finishing	RCMX0803MO		8.0	3.18	3.4			●							○								
	RCMX1003MO		10	3.18	3.6			●							○								
	RCMX1204MO		12	4.76	4.4			●							○								
	RCMX1606MO		16	6.35	5.5			●							○								
	RCMX2006MO		20	6.35	6.5			●							○								
	RCMX2507MO		25	7.94	7.2			●							○								
	RCMX3209MO		32	9.525	9.5			●							○								
 For N	RCGT0602MO-NL	6.0	6.0	2.38	2.5	3										●							
	RCGT0803MO-NL	8.0	8.0	3.18	3.4	4										●							
	RCGT1003MO-NL	10	10	3.18	4.4	5										●							
	RCGT1204MO-NL	12	12	4.76	5.5	6										●							



●Stock ○Availabie upon Order

Company profile

NiceCutt started manufacturing in the early year of 1998, it is specialized in the manufacture of wide range of all type of metal cutting tools, covering turning inserts， external / internal turning holder， milling cutter， solid carbide end mill, drills, etc.

NiceCutt has risen to become a leader in supplying the engineering industry with quality tools at lowest prices.

A lot of customers who has used our products give the feedback, the lifetime of the **NiceCutt** cutting tool is similar as some famous brands. However， the price is much cheaper. We did lots of case study comparing with some Japanese brands, it approves that our life time of cutting tools is even longer, which you can see the report in this catalog or from our web: www.nicecutt.com.

NiceCutt's strategy plan is to try best to provide cheapest quality reliable products to our customers so as to achieve a win–win situation, by bringing them an excellent COST REDUCTION opportunity.

NiceCutt Core Values are: Integrity, innovation, Learning, and Courage.

Integrity
We believe integrity is the foundation of our individual and corporate actions that drives an organization of which we are proud.
We are honest, trustworthy, respectful, and ethical in our actionsWe honor our commitments.

Innovation
We believe performance excellence will drive the results that differentiate us from our competitors.
We continuously look for new ways to improve our products, services, and processes We focus on what is important.

Learning
We believe a learning environment is the way to achieve the full potential of each individual and the company.
We improve by benchmarking and adopting best practices.

Courage
We believe courage empowers us to lead boldly and act decisively.
We imagine and pursue new possibilities for our future.
We embrace change, both collectively and individually.





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Milling tools ---------- P161–205



Boring tools & drilling tools ---------- P206–233



Tool Holder Series ---------- P234–263



Solid carbide end mills ---------- P264–303



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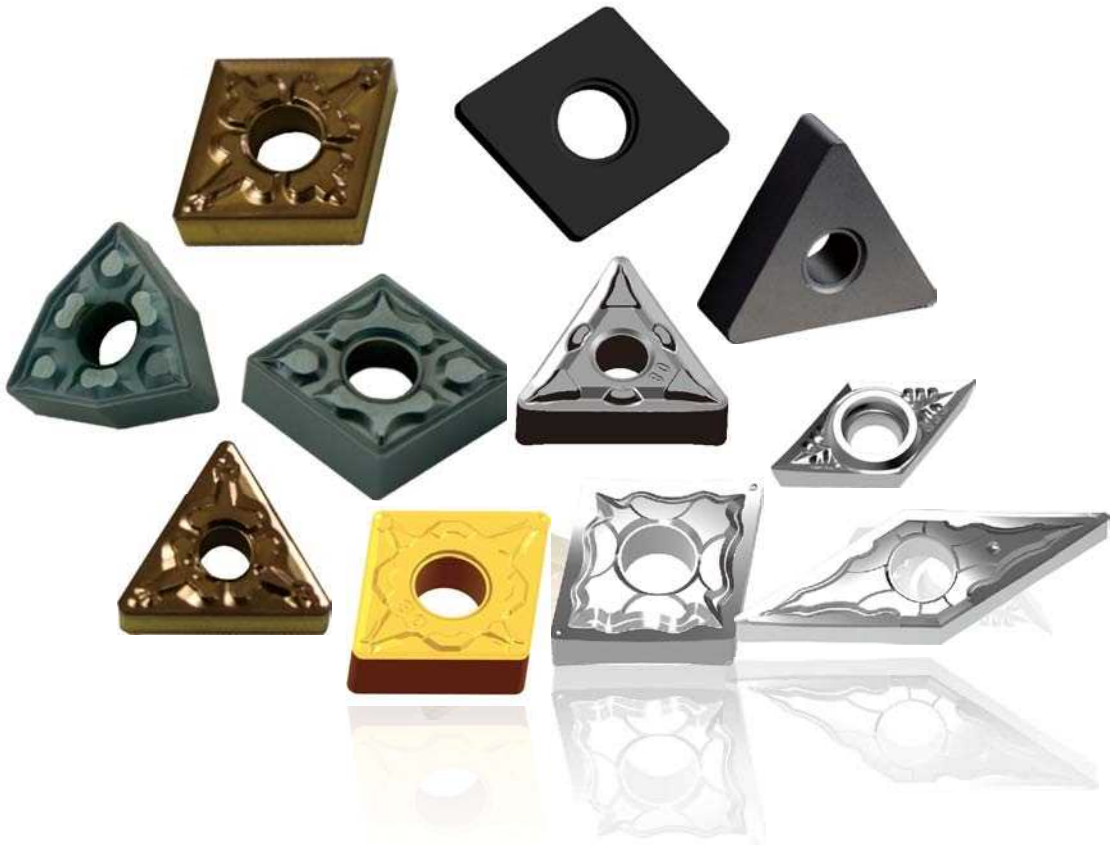
Technical information guide ---------- P344–354

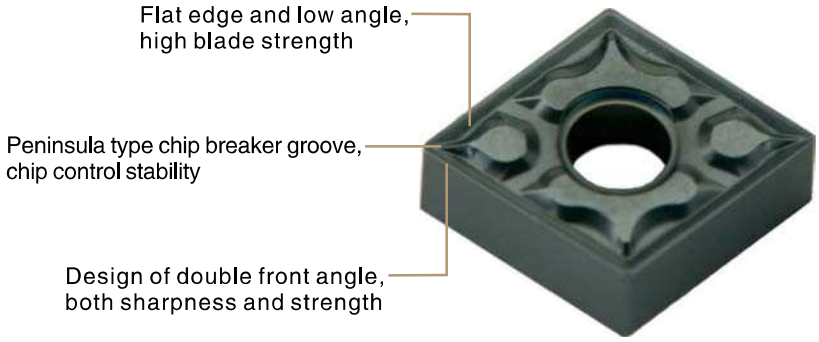


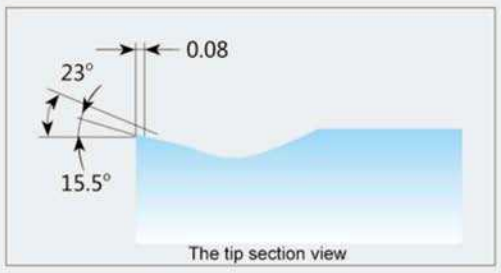
Turning Inserts

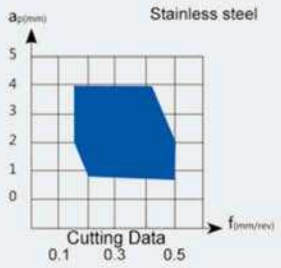


NFM Geometry case study

- The sharp cutting edge, cutting a high sharpness
- double front angle design,two–way guarantee sharpness and high strength
- full week double chip breaking groove, high versatility,is suitable for various conditions



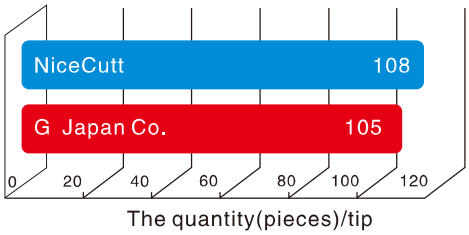




Case 1

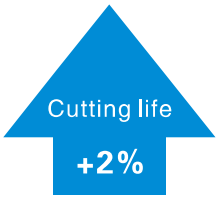


Workpiece material	316(HB200)Stainless steel
Machining parts	The outer circle facing
Insert	TNMG160404–NFM/NS4125





The cutting parameters
Vc=106m/min
f=0.1mm/r
ap=0.5mm

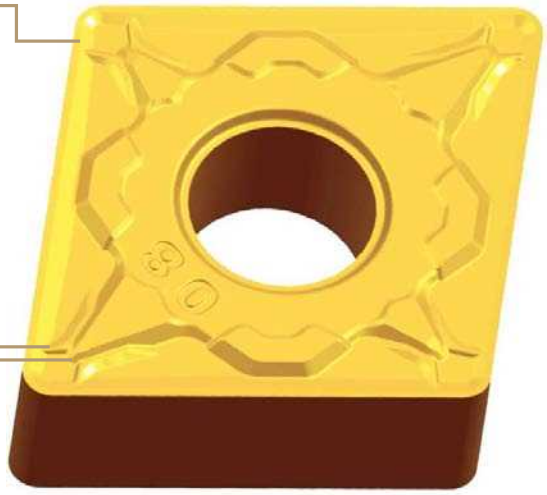


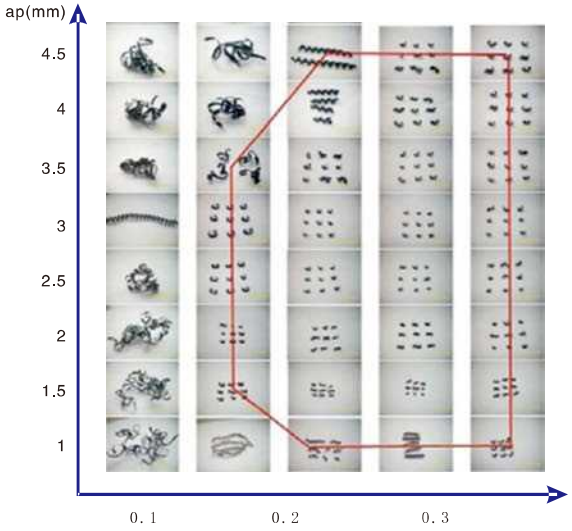
NGM Geometry case study

Variable edge width
- Good balance of sharpness and strength due to Variableland

Strengthening rib
- Strengthening rib decreases the contact area between the insert surface and chips

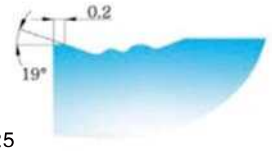
Gradient and waved hump
- Good chip control at low depth of cut and broadened cutting region due to gradient and waved hump



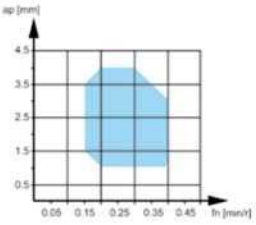


Insert: WNMG080408–NGM–NP1225
Speed:V=200M/min
Material:45# steel

Application
Providing good chip control, low cutting force and high edge strength for medium cutting to heavy excellent cutting performance at semi–finishing to light roughing condition.



Cross Section Geometry

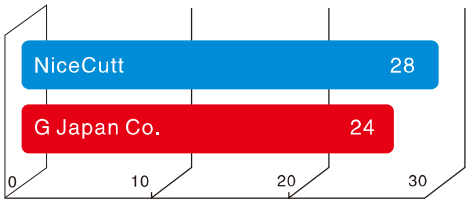


Applicable Chipbreaker

Case 1



Workpiece material	Cr15(HB160–180)
Machining parts	OD and face finishing
Insert	WNMG080408–NGM NP1225



The quantity(pieces)/tip



The cutting parameters
Vc=285m/min
f=0.2mm/r
ap=0.55mm

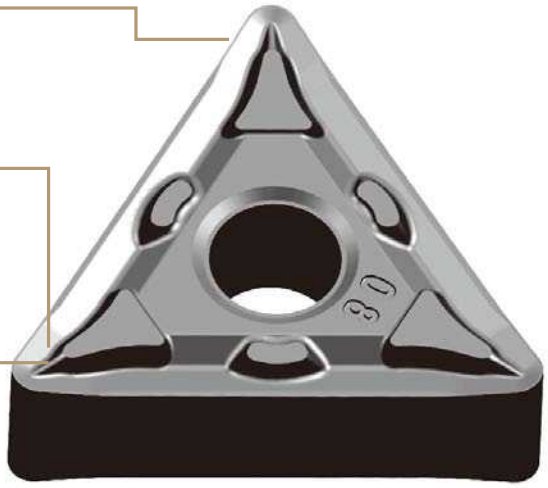
Cutting life
+17%

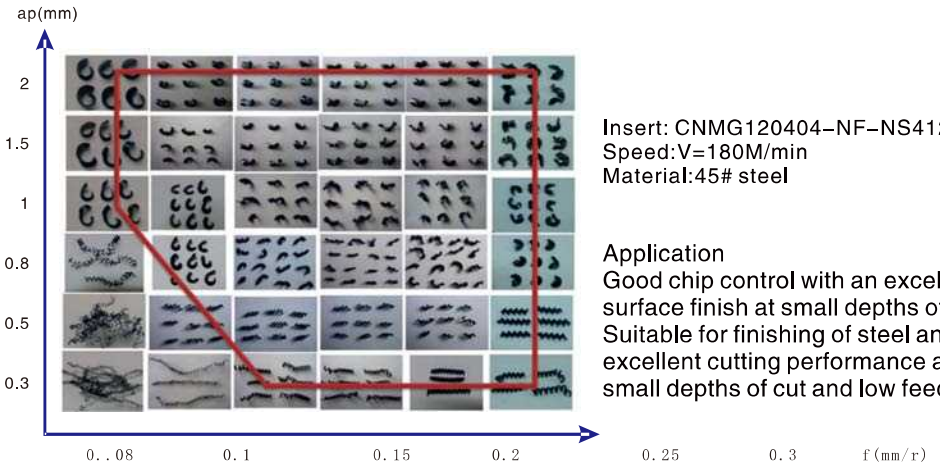
NF Geometry case study

Curved edge
・Well–balanced combination of sharpness and toughness, smooth chip discharge due to cured edge

The butterfly sharp dots at the knifepoint
・Changed chip flow and improved chip control at small depth of cut due to twin dots near corner

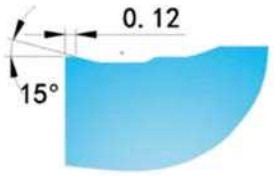
Variable Rake Angle
・Variable rake angle provides enough edge strength at difference depth of cut



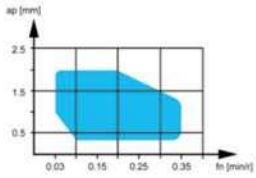


Insert: CNMG120404–NF–NS4125
Speed:V=180M/min
Material:45# steel

Application
Good chip control with an excellent surface finish at small depths of cut. Suitable for finishing of steel and excellent cutting performance at small depths of cut and low feeds.



Cross Section Geometry

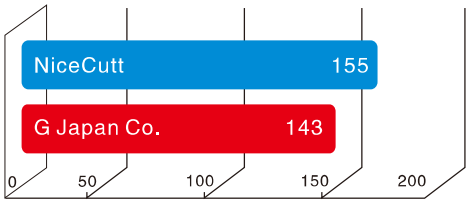


Applicable Chipbreaker

Case 1



Workpiece material	QCM8(HB160–200)
Machining parts	OD and face finishing
Insert	TNMG160404–NF/NS4125



The quantity(pieces)/tip



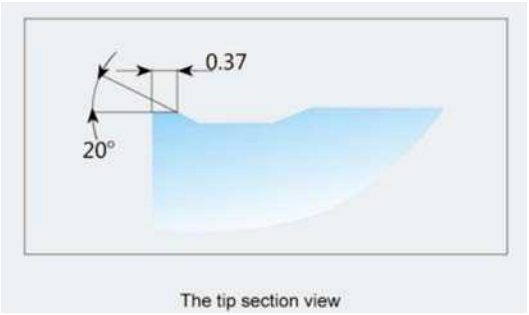
The cutting parameters
Vc=155m/min
f=0.12mm/r
ap=0.2mm

Cutting life
+9%

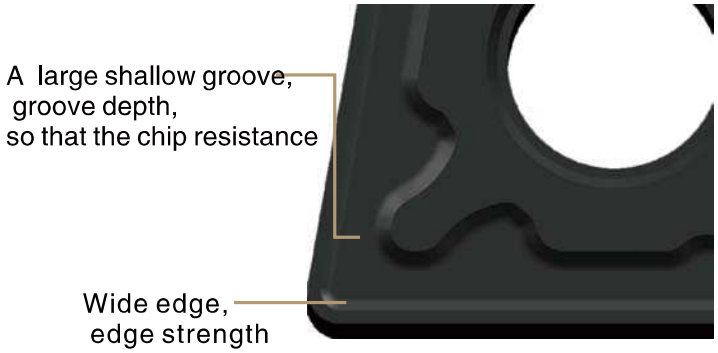
NK2 Geometry case study

Peculiarity

- Wide edge and groove and shallow groove depth combination,can achieve high feed processing and cutting stability
- The strength of the tool tip, in interrupted cutting and descaling cutting performance;
- In turning of cast iron, cutting resistance than flat blade small, extend tool life, the cutting performance;



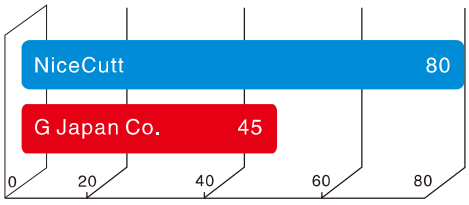
The tip section view



Case 1



Workpiece material	HT250(HB190)
Machining parts	End,cylindrical semi finish turning
Insert	TNMG220412–NK2/NK1115



The Output(pieces)/tip



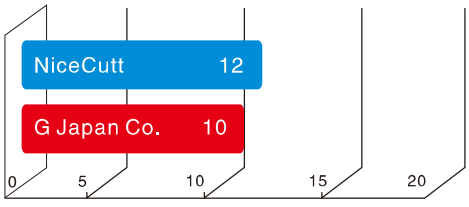
The cutting parameters
Vc=510m/min
f=0.3mm/r
ap=1mm

Cutting life
+78%

Case 2



Workpiece material	QT450–10(HB200)
Machining parts	The outer circle surface finishing,intermittent
Insert	WNMG080412–NK2/NK1125



The Output(pieces)/tip



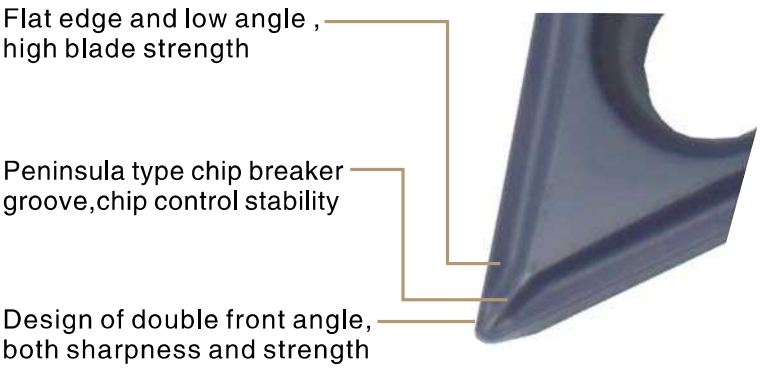
The cutting parameters
Vc=293m/min
f=0.18mm/r
ap=1.5mm

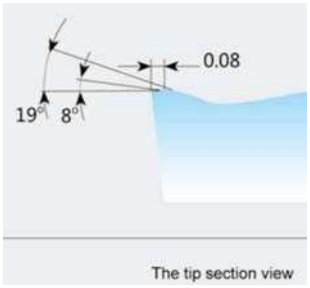
Cutting life
+20%

NF Geometry case study

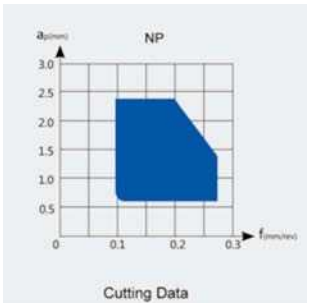
Peculiarity

NF groove insert series, good versatility, stable life, paired with a variety of brands, widely used in a variety of materials round cars drilling and boring.



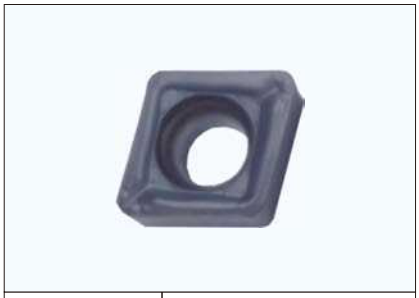


The tip section view

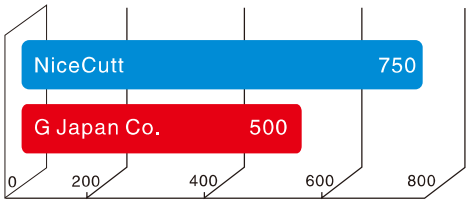


Cutting Data

Case 1



Workpiece material	S45CVS
Machining parts	The outer circle facing
Insert	CCMT09T308–NF/NS4125



The quantity(pieces)/tip



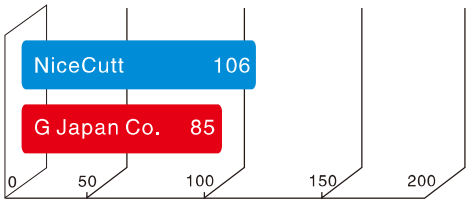
The cutting parameters
Vc=110m/min
f=0.2mm/r
ap=2mm

Cutting life
+50%

Case 2



Workpiece material	S45CVS
Machining parts	The inner hole machining
Insert	TCMT16T304–NF/NF4125



The quantity(pieces)/tip



The cutting parameters
Vc=160m/min
f=0.16mm/r
ap=1.5mm

Cutting life
+25%

NL Geometry case study

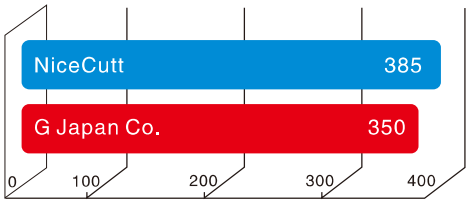
- New polishing process
- The tip is sharpness
- Superior wear resistance
- Chipping stably
- Greatly inhibit the formation o the development humor
- Chipping smoothly
- Very slow cutting resistance,to prevent deformation
- Excellent quality of processing the machine surface
- Adopting new grade of NN9125 and having abrasion resistance and toughness
- Which is open type geometry and the chip flow to the tough surface



Case 1



Workpiece material	A356
Machining parts	Longitudinal and face roughing
Insert	WNGG080408–NL–NN9115



The quantity(pieces)/tip



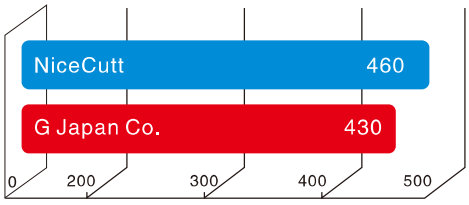
The cutting parameters
Vc=500m/min
f=0.5mm/r
ap=1.5mm

Cutting life
+10%

Case 2



Workpiece material	A356
Machining parts	Internal processing
Insert	CCGT09T304–NL–NN9115



The quantity(pieces)/tip

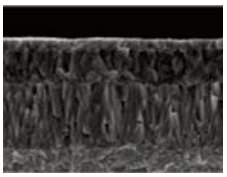
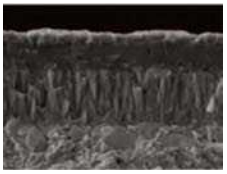
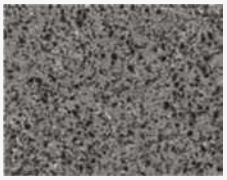
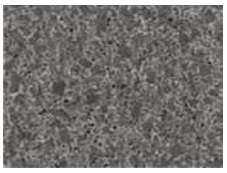


The cutting parameters
Vc=460m/min
f=0.16mm/r
ap=0.8mm

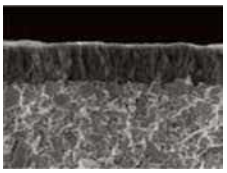
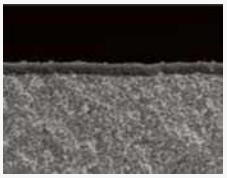
Cutting life
+7%

Turning Insert Grades

1.Grades for P Applications

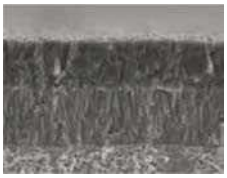
Grade	Cutting Range	Coating	Advantages
NP1115	Finishing and Semi-finishing		●Super fine MT-TiCN, Al_2O_3 and TiNcoating on carbide substrate, smoothsurface and superior wear resistance. ●Application: Suitable for the cuttingof steel and alloy steel in continuous conditions.
NP1125	Semi-finishing to Light Roughing		●Super fine MT-TiCN, Al_2O_3 and TiNcoating on graded carbide substrate,smooth surface and superior wear resistance and improved toughness. ●Application: Suitable for the cutting ofsteel and alloy steel in light interrupted
NP1135	Roughing		●Super fine MT-TiCN, Al_2O_3 and TiN coating ongraded carbide substrate, smooth surface and superior fracture resistance. ●Application: Suitable for cutting of steel and alloy steel under interrupted conditions.
NP115T	Finishing and semi-finishing		●Cermet grade with High wear resistanceand good roughness. ●Application:For turning of steel, cast iron and stainless steel in continuous conditions.
NP9125	Semi-finishing and Roughing		●Micro-grain carbide substrate with high hardness and superior wear resistance. ●Application:Suitable forcutting of copper and aluminum alloys in light interrupted conditions.

2.Grades for M-S Applications

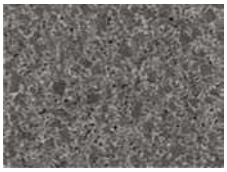
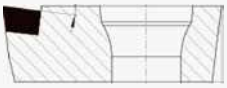
Grade	Cutting Range	Coating	Advantages
NM1125	Semi-finishing		●TiCN and TiN coating on good toughness carbide substrate, with good wear resistance,superior adhesion resistance and longer tool life. ●Application: Suitable for stain lesssteel cutting in continuous and light interruptedconditions.
NM3125	Semi-finishing and Roughing		●TiAlN coating on super microg raincarbide substrate with superior resistance to thermal shock、mechanical shock and good wear resistance. ●Application:Suitable for stainless steel cuttinginlight interrupted conditions.

Turning Insert Grades

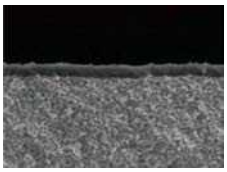
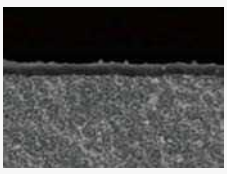
3.Grades for K Applications

Grade	Cutting Range	Coating	Advantages
NK1115	Finishing and Semi-finishing		●MT-TiCN and thick Al_2O_3 coated on micro-grain carbidesubstrate, superior wear resistance.Special post-processing with smooth coating and smooth coating and shows superior wear resistance and fracture resistance. ●Application: Suitable for nodular iron and gray iron in continuous and light interrupted conditions.
NK1125	Semi-finishing and Roughing		●Thick MT-TiCN+Al2O3 coated on toughness micro-grain carbide substrate,keeping superior wear resistance and greatly improved toughness. ●Application:Suitable for bad machining conditions which require high toughness.

4.Grades for N Applications

NN9115	Semi-finishing and Roughing		●Micro-grain carbide substrate with high hardness and superior wear resistance. ●Application:Suitable forcutting of copper and aluminum alloys in light interrupted conditions.
NPCD9115	Semi-finishing and Roughing		●High density sintered by super fine diamond grains ,have highest wear resistance and fracture resistance,excellent shape edge also

5.Grades for S Applications

NS4115	Semi-finishing to Light Roughing		●Nano-structure AlCrN coating on super micro-grain carbide. ●Application: Suitable for medium milling of P&K materials under dry and wet cutting conditions.
NS4125	Semi-finishing and Roughing		●The new upgrade TiAlN+ coating has excellent heat resistance and oxidation resistance. ●Due to the high adhesion strength to the substrateNS4125 can achieve a reliable tool

6.Grades for H Applications

NCBN9115	Finishing		●Fine grain size, high CBN content and metal binder system. ●High abrasion resistance,outsanding impact strength,strength, excellent edge quality and fine surface

Application Summary of Turning Grades

Workpiece	ISO	Coated		Uncoated	Cermet	PCD	CBN
		CVD	PVD				
P Steel	P10	NP1115	NS4115		NP115T		
	P20	Np1125	NS4125				
	P30	NP1135					
	P40						
M Stainless Steel	M10	NM1125	NM3125		NP115T		
	M20		NS4125				
	M30						
	M40						
K Cast Iron	K10	NK1115	NS4115		NP115T		NCBN9115
	K20	NK1125	NS4125				
	K30						
	K40						
N Non-ferrous Metal	N10			NN9115		NPCD9115	
	N20						
	N30						
	N40						
S Heat-resistant Alloy,TiAlloy	S10		NS4115				
	S20		NS4125				
	S30						
	S40						
H High Hardness Materials	H10			NN9115			NCBN9115
	H20						
	H30						
	H40						

Workpiece Material Table

	ISO Material Group	Workpiece Material	Carbon Content	Tensile Strength N/mm2	Brinell Hardness HB	Rockwell Hardness HRC
P Steel	P1	Low-carbon Steels,Long Chipping.	C<0.25%	<530	<125	
	P2	Low-carbon Steels,Short Chipping, Free-cutting Steels.	C<0.25%	<530	<125	
	P3	High-carbon Steels,Medium-carbon Steels.	C<0.25%	<530	<220	<25
	P4	Alloy Steels,Tool Steels.	C<0.25%	600-850	<330	<35
	P5	Alloy Steels,Tool Steels.	C<0.25%	850-1400	340-450	35-48
	P6	Ferritic Stainless Steels,Martensitic Stainless Steels,PH Stainless Steels.	C=(0-0.4)%	600-900	<330	<35
	P7	High-strength Ferritic Stainless Steels, Martensitic Stainless Steels,PHStainless Steels	C=(0.1-0.6)%	900-1350	330-450	35-48
M Stainless Steel	M1	Austenitic Stainless Steels.	C=(0.05-0.15)%	<600	130-200	
	M2	High-strength Austenitic Stainless Steels and Cast Stainless Steels.	C=(0.05-0.15)%	600-800	150-230	<25
	M3	Duplex Stainless Steels.	C=(0.05-0.20)%	<800	135-275	<30
K Cast Iron	K1	Grey Cast Iron.		125-500	120-290	<32
	K2	Moderately Difficult Alloy Cast iron, Nodular Cast Iron.		<600	130-260	<28
	K3	Difficult High-alloy Cast Iron, Nodular Cast Iron.		>600	180-350	<43
N Non-ferrous Metal	N1	Wrought Aluminium Alloys.		<520	60-90	
	N2	Cast Aluminium Alloys.	Si≤12%	<350	70-100	
	N3	Cast Aluminium Alloys.	Si>12%	200-320	60-120	
	N4	Copper,Copper Alloys.		200-650	60-200	
	N5	Graphite,CFK,CFRP Graphite,Composite Materials.		600-1500		
	N6	GFK,CFK Aluminium-based Composite Materials.		<700	<210	
S Heat-resistant Alloy,TiAlloy	S1	Iron-based Heat-resistant Alloys.		500-1200	160-260	25-48
	S2	Cobalt-based Heat-resistant Alloys.		1000-1450	250-450	25-48
	S3	Nickel-based Heat-resistant Alloys.		600-1700	160-450	<48
	S4	Titanium and Titanium Alloys.		900-1600	300-400	33-48
H High Hardness Materials	H1	Hardened STeels.				45-55
	H2	Hardened STeels.				55-60
	H3	Hardened STeels.				60-65
	H4	Hardened Steels.				>65

Cutting Speed Recommendation Table

Workpiece Material		Cutting Speed (Vc=m/min)		Feed Rate (f=mm/rev)		Cutting Depth (ap=mm)	
		NP9115	NP1115/NP1225	NP9115	NP1115/NP1225	NP9115	NP1115/NP1225
P Steel	Low–carbon Steels	180–300	150–250	0.1–0.6	0.1–0.8	0.5–3.0	1.0–5.0
	Medium–carbon Steels	150–250	120–200	0.1–0.5	0.1–0.6	0.5–2	1.0–5.0
	Alloy Steels	120–200	100–180	0.1–0.4	0.1–0.5	0.5–1.5	1.0–4.0
	tools Steels	100–180	80–160	0.1–0.4	0.1–0.5	0.5–1.5	1.0–4.0

Workpiece Material		Cutting Speed (Vc=m/min)		Feed Rate (f=mm/rev)		Cutting Depth (ap=mm)	
		NM1125/NM3125	NS4115/NS4125	NM1125/NM3125	NS4115/NS4125	NM1125/NM3125	NS4115/NS4125
M Stainless Steel	Austenitic	150–250	150–250	0.1–0.5	0.1–0.5	0.5–3.5	0.5–3.5
	High–Strength Austenitic	120–200	120–200	0.1–0.4	0.1–0.4	0.5–3.0	0.5–3.0
	Cast Stainless Steels	100–180	100–180	0.1–0.35	0.1–0.35	0.5–2.0	0.5–2.0
	Duplex Stainless Steels.	80–160	80–160	0.1–0.35	0.1–0.35	0.5–2.0	0.5–2.0

Workpiece Material		Cutting Speed (Vc=m/min)		Feed Rate (f=mm/rev)		Cutting Depth (ap=mm)	
		NK1115/NK1125	NS4115/NS4125	NK1115/NK1125	NS4115/NS4125	NK1115/NK1125	NS4115/NS4125
K Cast Iron	Grey Cast Iron	200–350	180–300	0.1–0.5	0.1–0.5	1.0–5.0	1.0–5.0
	Alloy Cast Iron,	200–400	150–250	0.1–0.4	0.1–0.4	1.0–5.0	1.0–5.0
	Nodular Cast Iron.	120–250	120–200	0.1–0.35	0.1–0.35	1.0–4.0	1.0–4.0

Workpiece Material		Cutting Speed (Vc=m/min)		Feed Rate (f=mm/rev)		Cutting Depth (ap=mm)	
		NN9115	NPCD115	NN9115	NPCD115	NN9115	NPCD115
N Non–ferrous Metal	Wrought Aluminium	400–800	600–1800	0.05–0.25	0.05–0.30	0.5–3.0	0.5–3.0
	Cast Aluminium	300–600	500–1600	0.05–0.25	0.05–0.30	0.5–3.0	0.5–3.0
	Copper,Copper	200–400	200–600	0.05–0.25	0.05–0.30	0.5–3.0	0.5–3.0
	composite Materials	400–800	400–1200	0.05–0.25	0.05–0.30	0.5–3.0	0.5–3.0

Workpiece Material		Cutting Speed (Vc=m/min)		Feed Rate (f=mm/rev)		Cutting Depth (ap=mm)	
		NS4115	NS4125	NS4115	NS4125	NS4115	NS4125
S Heat–resistant Alloy,TiAlloy	Iron–based Alloys	40–100	40–100	0.05–0.2	0.05–0.2	0.5–3.5	0.5–3.5
	Cobalt–based Alloys	40–100	40–100	0.05–0.2	0.05–0.2	0.5–3.0	0.5–3.0
	Nickel–based Alloys	40–100	40–100	0.05–0.2	0.05–0.2	0.5–2.0	0.5–2.0
	Titanium Alloys	40–100	40–100	0.05–0.2	0.05–0.2	0.5–2.0	0.5–2.0

Workpiece Material		Cutting Speed (Vc=m/min)	Feed Rate (f=mm/rev)	Cutting Depth (ap=mm)
		NCBN115	NCBN115	NCBN115
H High Hardness Materials	Hardened HRC45–55	120–250	0.05–0.20	0.3–1.0
	Hardened HRC55–60	120–250	0.05–0.20	0.3–1.0
	Hardened HRC60–65	120–250	0.05–0.20	0.3–1.0

ISO Turning Indexable Inserts Identification System

Symbol	Shape	ComerAngle	Figrure
H	Hexagon	120°	
O	Octagon	135°	
P	Pentagon	108°	
S	Square	90°	
T	Triangle	60°	
C	Rhombic	80°	
D		55°	
E		75°	
F		50°	
M		86°	
V		35°	
W	Trigon	80°	
L	Rectangle	90°	
A	Parellelogram	85°	
B		82°	
K		55°	
R	Round	—	

①Shape Symbol

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

②Relief Angle Symbol

Symbol	Tolerace(mm)			Tolerance(inch)		
	Corner Height(m)	Thickness(S)	I.C.Size(ød)	Corner Height(m)	Thickness(S)	I.C.Size(ød)
A	±0.005	±0.025	±0.025	±0.0002	±0.001	±0.001
F	±0.005	±0.025	±0.013	±0.0002	±0.001	±0.0005
C	±0.013	±0.025	±0.025	±0.0005	±0.001	±0.001
H	±0.013	±0.025	±0.013	±0.0005	±0.001	±0.0005
E	±0.025	±0.025	±0.025	±0.001	±0.001	±0.001
G	±0.025	±0.013	±0.025	±0.001	±0.005	±0.001
J	±0.005	±0.025	±0.05~±0.13	±0.0002	±0.001	±0.002~±0.005
K	±0.013	±0.025	±0.05~±0.13	±0.0005	±0.001	±0.002~±0.005
L	±0.025	±0.025	±0.05~±0.13	±0.001	±0.001	±0.002~±0.005
M	±0.08~±0.18	±0.013	±0.05~±0.13	±0.003~±0.007	±0.005	±0.002~±0.005
N	±0.08~±0.18	±0.025	±0.05~±0.13	±0.003~±0.007	±0.001	±0.002~±0.005
U	±0.13~±0.38	±0.013	±0.08~±0.25	±0.005~±0.015	±0.005	±0.003~±0.01

③Relief Angle Symbol

①	②	③	④	⑤
T	N	M	G	22

④Chipbreaker/Hole Symbol				
Symbol	Hole	Hole Shape	Chipbreaker	Shape
N	Without	—	Without	
R			Single-sided	
F			Double-sided	
A	With	With Hole	Without	
M			Single-sided	
G			Double-sided	
W		With hole and one countersink 40° ~ 60°	Without	
T			Single-sided	
Q		With hole and two countersink 40° ~ 60°	Without	
U			Double-sided	
B		With hole and one countersink 70° ~ 90°	Without	
H			Single-sided	
C		With hole and two countersink 70° ~ 90°	Without	
J			Double-sided	
X	—	—	—	

⑤Cutting Edge Length Symbol(ISO)(mm)

P1		S		C		W		T		D		V		K		I.C.Size (mm)
Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	
		03	3.97	03	4.0			06	6.9	4	4.8					3.97
		04	4.76	04	4.8			08	8.2	5	5.8					4.76
05	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5
		05	5.56	05	5.6	03	3.8	09	9.6	6	6.8					5.56
06	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6
		06	6.35	06	6.5	04	4.3	11	11	7	7.8	11	11.2			6.35
		07	7.94	08	8.1	05	5.4	13	13.8	9	9.7					7.94
08	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8
09	9.525	09	9.525	09	9.7	06	6.5	16	16.5	11	11.6	16	16.6	16	19.7	9.525
10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10
12	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12
12	12.7	12	12.7	12	12.9	08	8.7	22	22	15	15.5	22	22.1			12.7
15	15.875	15	15.875	16	16.1	10	10.9	27	27.5	19	19.4					15.875
16	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
19	19.05	19	19.05	19	19.3	13	13	33	33	23	23.3					19.05
20	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
		22	22.225	22	22.6			38	38.5	27	27.1					22.225
25	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25
25	25.4	25	25.4	25	25.8			44	44	31	31					25.4
31	31.75	31	31.75	32	32.2			55	55	38	38.8					31.75
31	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32

Insert Shape:H.O.P.S.T.C.E.M.W.R									
I.C.Size (mm)	Tolerance of I.C.Size(ød)(mm)		Tolerance of Corner Height(m)(mm)		I.C.Size (inch)	Tolerance of I.C.Size(ød)(mm)		Tolerance of Corner Height(m)(mm)	
	ClassJ.K.L.M.N	ClassU	ClassM.N	ClassU		ClassJ.K.L.M.N	ClassU	ClassJ.K.L.M.N	ClassU
6.35	±0.05	±0.08	±0.08	±0.13	0.250	±0.002	±0.003	±0.003	±0.005
9.525					0.375				
12.7	±0.08	±0.13	±0.13	±0.2	0.500	±0.003	±0.005	±0.005	±0.008
15.875	±0.1	±0.18	±0.15	±0.27	0.625	±0.004	±0.007	±0.006	±0.011
19.05					0.750				
25.4	±0.13	±0.25	±0.18	±0.38	1.000	±0.005	±0.010	±0.007	±0.015
31.75	±0.15	±0.25	±0.2	±0.38	1.250	±0.006	±0.010	±0.008	±0.015
32					1.260				

Insert Shape:D					
Inscribed Circle Size		Tolerance of I.C.Size		Tolerance of Corner Height	
mm	in	mm	in	mm	in
6.35	0.250	±0.05	±0.002	±0.11	±0.004
9.525	0.375	±0.05	±0.002	±0.11	±0.004
12.7	0.500	±0.08	±0.003	±0.15	±0.006
15.875	0.625	±0.10	±0.004	±0.18	±0.007
19.05	0.750	±0.10	±0.004	±0.18	±0.007

Insert Shape:V					
Inscribed Circle Size		Tolerance of I.C.Size		Tolerance of Corner Height	
mm	in	mm	in	mm	in
6.35	0.250	±0.05	±0.002	±0.15	±0.006
9.525	0.375	±0.05	±0.002	±0.15	±0.006
12.7	0.500	±0.08	±0.003	±0.20	±0.008
15.875	0.625	±0.10	±0.004	±0.27	±0.011
19.05	0.750	±0.10	±0.004	±0.27	±0.011

Symbol	Thickness(mm)
01	1.59
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52

Thickness Symbol

⑥ ⑦ ⑧

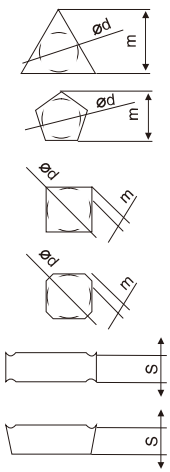
04 08 – NM2

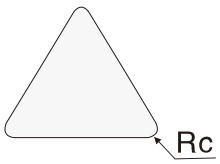
⑥ ⑦ ⑧

Inscribed Circle Size

Thickness(s)

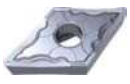
Corner Height(m)



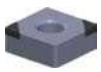
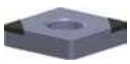
Corner Symbol	
	
Symbol	Corner–Rc(mm)
00	0.03
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
28	2.8
32	3.2

Chipbreaker Symbol
Indicates the cutting properties and chipbreaker

Features of Turning Inserts

Geometry Features	80° Rhombic	55° Rhombic	90° Square	60° Triangle	35° Rhombic	80° Trigon
NF stainless steel and heat resistance super alloy						
NFM medium cutting of stainless steel and mild steel						
NM semi–finishing of general steel and alloy steel						
NGM semi–finishing of general steel and alloy steel						
NR finishing of general steel and alloy steel						
NM1 medium cutting of stainless steel and mild steel						
R–S stainless steel and heat resistance super alloy						
R semi–finishing of general steel and alloy steel						
NL stainless steel and Iron–based Alloys cutting						
None Without chipbreaker; Stable placement machining cast iron						
NK1 machining cast iron						
NK2 cast iron cutting and heavy cutting						

Features of Turning Inserts

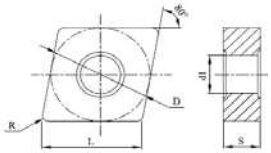
Geometry Features	80° Rhombic	55° Rhombic	90° Square	60° Triangle	35° Rhombic	80° Trigon
NCBN Hardened HRC45–65						
NL aluminum alloy cutting						

Geometry Features	80° Rhombic	55° Rhombic	90° Square	60° Triangle	35° Rhombic	80° Trigon
L–F stainless steel and aluminum alloy cutting						
NF stainless steel and heat resistance super alloy						
NM light cutting of alloy steel, stainless steel and cast iron;						
NR rough cutting action of carbon steels,cast iron and alloy steels						
NL aluminum alloy cutting						
NCBN Hardened HRC45–65						
						

CNMG Rhombic80° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⊕ Interruption



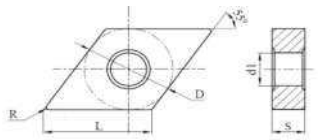
P	Steel	●	◔	⊕					●	◔								●													
M	Stainless Steel						◔	◔	●	◔								●													
K	Cast Iron																	●													
N	Non–ferrous Metal															●															
S	Heat–resistant Alloy,TiAlloy								●	◔																					
H	High Hardness Materials																														

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	CNGG120404–NF	12.90	12.70	4.76	5.16	0.40								●	○								
	CNGG120408–NF	12.90	12.70	4.76	5.16	0.80								●	○								
	CNMG120404–NFM	12.90	12.70	4.76	5.16	0.40									●								
	CNMG120408–NFM	12.90	12.70	4.76	5.16	0.80									●								
	CNMG120404–NM	12.90	12.70	4.76	5.16	0.40	○	●															
	CNMG120408–NM	12.90	12.70	4.76	5.16	0.80	○	●															
	CNMG120404–NGM	12.90	12.70	4.76	5.16	0.40	●	●															
	CNMG120408–NGM	12.90	12.70	4.76	5.16	0.80	●	●															
	CNMG120408–NR	12.90	12.70	4.76	5.16	0.80		●															
	CNMG120412–NR	12.90	12.70	4.76	5.16	1.20		●															
	CNMG160408–NR	16.10	15.87	6.35	6.35	0.80		○															
	CNMG160612–NR	16.10	15.87	6.35	6.35	1.20		●															
	CNMG160616–NR	16.10	15.87	6.35	6.35	1.60		○															
	CNMG190612–NR	19.05	19.30	6.35	7.94	1.20		●															
	CNMG190616–NR	19.05	19.30	6.35	7.94	1.60		●															
	CNMG120404–NL	12.90	12.70	4.76	5.16	0.40									●	●							
	CNMG120408–NL	12.90	12.70	4.76	5.16	0.80									●	●							
	CNMA120404	12.90	12.70	4.76	5.16	0.40				●													
	CNMA120408	12.90	12.70	4.76	5.16	0.80				●	●												
	CNMA120412	12.90	12.70	4.76	5.16	1.20				●	●												
	CNMA160808	16.10	15.87	6.35	6.35	0.80				●													
	CNMA160612	16.10	15.87	6.35	6.35	1.20				●													
	CNMG120404–NK1	12.90	12.70	4.76	5.16	0.40				●	●												
	CNMG120408–NK1	12.90	12.70	4.76	5.16	0.80				●	●												
	CNMG120412–NK1	12.90	12.70	4.76	5.16	1.20				●	●												
	CNMG160608–NK1	16.10	15.87	6.35	6.35	0.80				●	●												
	CNMG160612–NK1	16.10	15.87	6.35	6.35	1.20				●	●												
	CNMG120408–NK2	12.90	12.70	4.76	5.16	0.80				●	●												
	CNMG120412–NK2	12.90	12.70	4.76	5.16	1.20				●	●												

●Stock ○Availabie upon Order

DNMG/DNMA Rhombic55° ,with Hole

Turning Inserts (Negative)

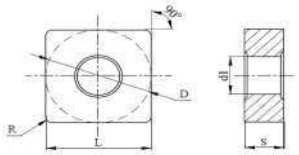


○ continuous ◔ light Interruption ⊕ Interruption

| | | |

SNMG/SNMA Rhombic90° ,with Hole

Turning Inserts (Negative)



○ continuous ◔ light Interruption ⊕ Interruption

P	Steel	●	◔						●	◔			●											
M	Stainless Steel						○	◔		◔			○											
K	Cast Iron				●	◔							○											
N	Non-ferrous Metal													●										
S	Heat-resistant Alloy,TiAlloy												●	◔										
H	High Hardness Materials																							

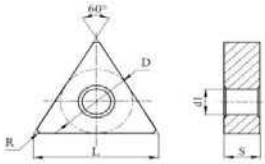
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	SNGG120404-NF	12.70	12.70	4.76	5.16	0.40								●	○								
	SNGG120408-NF	12.70	12.70	4.76	5.16	0.80								●	○								
	SNMG120404-NFM	12.70	12.70	4.76	5.16	0.40									●								
	SNMG120408-NFM	12.70	12.70	4.76	5.16	0.80									●								
	SNMG120404-NM	12.70	12.70	4.76	5.16	0.40		●															
	SNMG120408-NM	12.70	12.70	4.76	5.16	0.80		●															
	SNMG120412-NM	12.70	12.70	4.76	5.16	1.20		●															
	SNMG120404-NGM	12.70	12.70	4.76	5.16	0.40	●	●															
	SNMG120408-NGM	12.70	12.70	4.76	5.16	0.80	●	●															
	SNMG120408-NR	12.70	12.70	4.76	5.16	0.80		●															
	SNMG120412-NR	12.70	12.70	4.76	5.16	1.20		●															
	SNMG150408-NR	15.87	15.87	6.35	6.35	0.80		●															
	SNMG150612-NR	15.87	15.87	6.35	6.35	1.20		●															
	SNMG190612-NR	19.05	19.05	6.35	7.94	1.20		●															
	SNMG190616-NR	19.05	19.05	6.35	7.94	1.60		●															
	SNMG120408-NL	12.70	12.70	4.76	5.16	0.80									●	●							
	SNMG120412-NL	12.70	12.70	4.76	5.16	1.20									●	●							
	SNMA120404	12.90	12.70	4.76	5.16	0.40				○													
	SNMA120408	12.90	12.70	4.76	5.16	0.80				●	●												
	SNMA120412	12.90	12.70	4.76	5.16	1.20				○													
	SNMG120408-NK1	12.70	12.70	4.76	5.16	0.80				●													
	SNMG120412-NK1	12.70	12.70	4.76	5.16	1.20				●	●												
	SNMG150608-NK1	15.87	15.87	6.35	6.35	0.80				●	○												
	SNMG150612-NK1	15.87	15.87	6.35	6.35	1.20				○													
	SNMG150616-NK1	15.87	15.87	6.35	6.35	1.60				○	○												
	SNMG190612-NK1	19.05	19.30	6.35	7.94	1.20				○	○												
	SNMG190616-NK1	19.05	19.30	6.35	7.94	1.60				○	○												
	SNMG120408-NK2	12.70	12.70	4.76	5.16	0.80				●	●												
	SNMG120412-NK2	12.70	12.70	4.76	5.16	1.20				●	●												

●Stock ○Availabie upon Order

TNMG/TNMA/TNGA Triangle 60° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⊕ Interruption



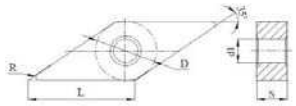
P	Steel	●	◔						●	◔														
M	Stainless Steel									◔														
K	Cast Iron				●	◔																		
N	Non–ferrous Metal													●										
S	Heat–resistant Alloy,TiAlloy								●	◔														
H	High Hardness Materials																							

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	TNGG160404–NF	16.50	9.52	4.76	3.18	0.40								●	○								
	TNGG160408–NF	16.50	9.52	4.76	3.18	0.80								●	○								
	TNMG160404–NFM	16.50	9.52	4.76	3.18	0.40									●								
	TNMG160408–NFM	16.50	9.52	4.76	3.18	0.80									●								
	TNMG160404–NM	16.50	9.52	4.76	3.18	0.40	○	●										●					
	TNMG160408–NM	16.50	9.52	4.76	3.18	0.80	○	●					●					●					
	TNMG160412–NM	16.50	9.52	4.76	3.18	1.20	○	●															
	TNMG160404–NGM	16.50	9.52	4.76	3.18	0.40	●	●															
	TNMG160408–NGM	16.50	9.52	4.76	3.18	0.80	●	●															
	TNMG160404R–S	16.50	9.52	4.76	3.18	0.40												●					
	TNMG160408R–S	16.50	9.52	4.76	3.18	0.80												●					
	TNMG160404L–S	16.50	9.52	4.76	3.18	0.40												●					
	TNMG160408L–S	16.50	9.52	4.76	3.18	0.80												●					
	TNMG160404R	16.50	9.52	4.76	3.18	0.40												●					
	TNMG160408R	16.50	9.52	4.76	3.18	0.80												●					
	TNMG160404L	16.50	9.52	4.76	3.18	0.40												●					
	TNMG160408L	16.50	9.52	4.76	3.18	0.80												●					
	TNMG160408–NL	16.50	9.52	4.76	3.18	0.80									●								
	TNMG160408–NL	16.50	9.52	4.76	3.18	1.20									●								
	TNMA160404	16.50	9.52	4.76	3.18	0.40				○	○												
	TNMA160408	16.50	9.52	4.76	3.18	0.80				●	○												
	TNMA160412	16.50	9.52	4.76	3.18	1.20				●	○												
	TNMG160404–NK1	16.50	9.52	4.76	3.18	0.40				●	●												
	TNMG160408–NK1	16.50	9.52	4.76	3.18	0.80				●	●												
	TNMG160412–NK1	16.50	9.52	4.76	3.18	1.20				●	○												
	TNMG160408–NK2	16.50	9.52	4.76	3.18	0.80				●	●												
	TNMG160412–NK2	16.50	9.52	4.76	3.18	1.20				●	●												

●Stock ○Availabie upon Order

VNGG/VNMG Rhombic 35° ,with Hole

Turning Inserts (Negative)



● continuous ◐ light Interruption ⊕ Interruption

		NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
P	Steel	●	◐						●	◐			●					
M	Stainless Steel						●	◐		◐			●					
K	Cast Iron				●	◐							●					
N	Non-ferrous Metal										●							
S	Heat-resistant Alloy,TiAlloy								●	◐								
H	High Hardness Materials																	

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	VNGG160404-NL	16.60	9.52	4.76	3.81	0.40								●	○								
	VNGG160408-NL	16.60	9.52	4.76	3.81	0.80								●	○								
	VNMG160404-NFM	16.60	9.52	4.76	3.81	0.40									●								
	VNMG160408-NFM	16.60	9.52	4.76	3.81	0.80									●								
	VNMG160404-NM	16.60	9.52	4.76	3.81	0.40	○	●										○					
	VNMG160408-NM	16.60	9.52	4.76	3.81	0.80	○	●										○					
	VNMG160412-NM	16.60	9.52	4.76	3.81	1.20	○	○															
	VNMG160404-NM2	16.60	9.52	4.76	3.81	0.40						●	●										
	VNMG160408-NM2	16.60	9.52	4.76	3.81	0.80						●	●										
	VNMG160404-NK1	16.60	9.52	4.76	3.81	0.40				●	●												
	VNMG160408-NK1	16.60	9.52	4.76	3.81	0.80				●	●												
	VNMG160412-NK1	16.60	9.52	4.76	3.81	1.20				●	●												
	VNMG160404-NK2	16.60	9.52	4.76	3.81	0.40																	
	VNMG160408-NK2	16.60	9.52	4.76	3.81	0.80				●	●												
	VNMG160412-NK2	16.60	9.52	4.76	3.81	1.20				●	○												

●Stock ○Availabie upon Order

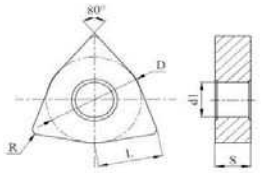
Turning inserts
External turning
Internal turning
Grooving & parting
Threading
Milling
Boring & drilling
Tool holder
Solid carbide end mils
Solid carbide drill & taps
Technical information

WNMG/WNMA/WNGA

Trigon 80° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔						●	◔				●																			
M	Stainless Steel						●	◔		◔				●																			
K	Cast Iron				●	◔								●																			
N	Non–ferrous Metal														●																		
S	Heat–resistant Alloy,TiAlloy								●	◔																							
H	High Hardness Materials																																

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	WNGG080404L–NF	8.70	12.70	4.76	5.16	0.40								●	○								
	WNGG080408L–NF	8.70	12.70	4.76	5.16	0.80								●	○								
	WNMG080404–NFM	8.70	12.70	4.76	5.16	0.40									●								
	WNMG080408–NFM	8.70	12.70	4.76	5.16	0.80									●								
	WNMG080404–NM	8.70	12.70	4.76	5.16	0.40		●							●								
	WNMG080408–NM	8.70	12.70	4.76	5.16	0.80		●							●								
	WNMG080404–NGM	8.70	12.70	4.76	5.16	0.40	●	●										○					
	WNMG080408–NGM	8.70	12.70	4.76	5.16	0.80	●	●										○					
	WNMG080408–NR	8.70	12.70	4.76	5.16	0.80		●															
	WNMG080412–NR\	8.70	12.70	4.76	5.16	1.20		●															
	WNMG080404–NL	8.70	12.70	4.76	5.16	0.40									●	●							
	WNMG080408–NL	8.70	12.70	4.76	5.16	0.80									●	●							
	WNMA080404	8.70	12.70	4.76	5.16	0.40				●	○												
	WNMA080408	8.70	12.70	4.76	5.16	0.80				●	●												
	WNMA080412	8.70	12.70	4.76	5.16	1.20				●	●												
	WNMG080404–NK1	8.70	12.70	4.76	5.16	0.40				●	●												
	WNMG080408–NK1	8.70	12.70	4.76	5.16	0.80				●	●												
	WNMG080412–NK1	8.70	12.70	4.76	5.16	1.20				●	●												
	WNMG080408–NK2	8.70	12.70	4.76	5.16	0.80				●	●												
	WNMG080412–NK2	8.70	12.70	4.76	5.16	1.20				●	●												

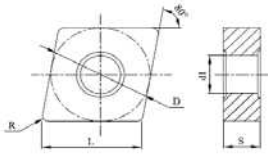
●Stock ○Availabie upon Order

CNGA/CNGG

Rhombic80° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⋕ Interruption



P	Steel																												
M	Stainless Steel																												
K	Cast Iron																									●	●		
N	Non–ferrous Metal																●												
S	Heat–resistant Alloy,TiAlloy																												
H	High Hardness Materials																									◔	◔		

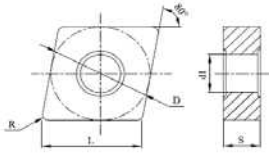
Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	Np1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	CNGA120404–Z2	12.90	12.70	4.76	5.16	0.40														●	○		
	CNGA120408–Z2	12.90	12.70	4.76	5.16	0.80														●	○		
	CNGA120412–Z2	12.90	12.70	4.76	5.16	1.20														●	○		
	CNGG120402–NL	12.90	12.70	4.76	5.16	0.20										●							
	CNGG120404–NL	12.90	12.70	4.76	5.16	0.40										●							
	CNGG120408–NL	12.90	12.70	4.76	5.16	0.80										●							

CNGA/CNGG

Rhombic80° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⋕ Interruption



P	Steel																												
M	Stainless Steel																												
K	Cast Iron																									●	●		
N	Non–ferrous Metal																●												
S	Heat–resistant Alloy,TiAlloy																												
H	High Hardness Materials																									◔	◔		

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1225	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	DNGA150404–Z2	12.90	12.70	4.76	5.16	0.40														●	○		
	DNGA150408–Z2	12.90	12.70	4.76	5.16	0.80														●	○		
	DNGA150412–Z2	12.90	12.70	4.76	5.16	1.20														●	○		
	DNGG150404–NL	12.90	12.70	4.76	5.16	0.40										●							
	DNGG150408–NL	12.90	12.70	4.76	5.16	0.80										●							
	DNGG150412–NL	12.90	12.70	4.76	5.16	1.20																	

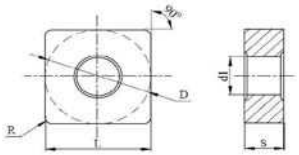
●Stock ○Availabie upon Order

SNGA/SNGG

Square 90° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⧓ Interruption



P	Steel	
M	Stainless Steel	
K	Cast Iron	● ◔
N	Non-ferrous Metal	●
S	Heat-resistant Alloy,TiAlloy	
H	High Hardness Materials	○ ◔

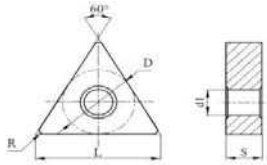
Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	Np1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	SNGA120404-Z4	12.70	12.70	4.76	5.16	0.40														●	○		
	SNGA120408-Z4	12.70	12.70	4.76	5.16	0.80														●	○		
	SNGA120412-Z4	12.70	12.70	4.76	5.16	1.20														●	○		
	SNGG120404-NL	12.70	12.70	4.76	5.16	0.40										●							
	SNGG120408-NL	12.70	12.70	4.76	5.16	0.80										●							
	SNGG120412-NL	12.70	12.70	4.76	5.16	1.20										○							

TNGA/TNGG

Triangle 60° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⧓ Interruption



P	Steel	
M	Stainless Steel	
K	Cast Iron	● ◔
N	Non-ferrous Metal	●
S	Heat-resistant Alloy,TiAlloy	
H	High Hardness Materials	○ ◔

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1225	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	TNGA160404-Z3	16.50	9.52	4.76	3.18	0.40														●	○		
	TNGA160408-Z3	16.50	9.52	4.76	3.18	0.80														●	○		
	TNGA160412-Z3	16.50	9.52	4.76	3.18	1.20														●	○		
	TNGG160404-NL	16.50	9.52	4.76	3.18	0.40										●							
	TNGG160408-NL	16.50	9.52	4.76	3.18	0.80										●							
	TNGG160412-NL	16.50	9.52	4.76	3.18	1.20										○							

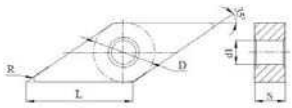
●Stock ○Availabie upon Order

VNGA/VNGG

Rhombic 35° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption



P	Steel																												
M	Stainless Steel																												
K	Cast Iron																							●	●				
N	Non–ferrous Metal															●													
S	Heat–resistant Alloy,TiAlloy																												
H	High Hardness Materials																							◔	◔				

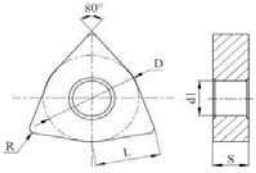
Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	VNGA160404–Z2	16.60	9.52	4.76	3.81	0.40														●	○		
	VNGA160408–Z2	16.60	9.52	4.76	3.81	0.80														●	○		
	VNGG160402–NL	16.60	9.52	4.76	3.81	0.20										○							
	VNGG160404–NL	16.60	9.52	4.76	3.81	0.40										●							
	VNGG160408–NL	16.60	9.52	4.76	3.81	0.80										●							

WNGA/WNGG

Trigon 80° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption



P	Steel																												
M	Stainless Steel																												
K	Cast Iron																							●	●				
N	Non–ferrous Metal															●													
S	Heat–resistant Alloy,TiAlloy																												
H	High Hardness Materials																							◔	◔				

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1225	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	WNGA080404–Z3	16.60	9.52	4.76	3.18	0.40														●	○		
	WNGA080408–Z3	16.60	9.52	4.76	3.18	0.80														●	○		
	WNGA080412–Z3	16.60	9.52	4.76	3.18	1.20														●	○		
	WNGG080404–NL	16.60	9.52	4.76	3.18	0.40										●							
	WNGG080408–NL	16.60	9.52	4.76	3.18	0.80										●							
	WNGG080412–NL	16.60	9.52	4.76	3.18	1.20										○							

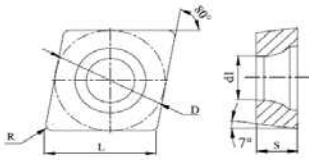
●Stock ○Availabie upon Order

CCMT/CCGW/CCGT

Rhombic 80° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption



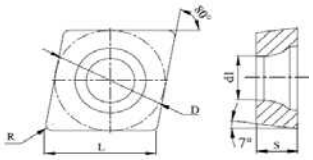
| | | |

CCGT

Rhombic 80° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⧓ Interruption



P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non–ferrous Metal	
S	Heat–resistant Alloy,TiAlloy	●
H	High Hardness Materials	

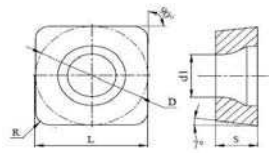
Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	CCGT060202–NL	6.5	6.35	2.38	2.8	0.2										●							
	CCGT060204–NL	6.5	6.35	2.38	2.8	0.4										●							
	CCGT060208–NL	6.5	6.35	2.38	2.8	0.8										○							
	CCGT09T302–NL	9.7	9.52	3.97	4.4	0.2										●							
	CCGT09T304–NL	9.7	9.52	3.97	4.4	0.4										●							
	CCGT09T308–NL	9.7	9.52	3.97	4.4	0.8										●							
	CCGT120402–NL	12.9	12.7	4.76	5.56	0.4										○							
	CCGT120404–NL	12.9	12.7	4.76	5.56	0.4										●							
	CCGT120408–NL	12.9	12.7	4.76	5.56	0.4										●							

SCMT/SCGT

Rhombic 80° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⧓ Interruption



P	Steel	● ◔ ⧓
M	Stainless Steel	⧓
K	Cast Iron	● ⧓
N	Non–ferrous Metal	●
S	Heat–resistant Alloy,TiAlloy	
H	High Hardness Materials	

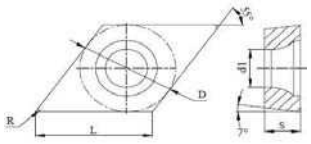
Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1225	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	SCMT09T304–NM	9.52	9.52	3.97	4.4	0.4	●	○		●								○					
	SCMT09T308–NM	9.52	9.52	3.97	4.4	0.8	●	○		●								○					
	SCMT120404–NM	12.7	12.7	4.76	5.56	0.4	●	○		●								○					
	SCMT120408–NM	12.7	12.7	4.76	5.56	0.8	●	○		●								○					
	SCMT09T304–NR	9.52	9.52	3.97	4.4	0.4	○	●															
	SCMT09T308–NR	9.52	9.52	3.97	4.4	0.8	○	●															
	SCMT120404–NR	12.7	12.7	4.76	5.56	0.4	○	●															
	SCMT120408–NR	12.7	12.7	4.76	5.56	0.8	○	●															
	SCGT09T304–NL	9.52	9.52	3.97	4.4	0.4										●							
	SCGT09T308–NL	9.52	9.52	3.97	4.4	0.8										●							
	SCGT120404–NL	12.7	12.7	4.76	5.56	0.4										●							
	SCGT120408–NL	12.7	12.7	4.76	5.56	0.8										●							

●Stock ○Availabie upon Order

DCGT/DCMT Rhombic 55° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption

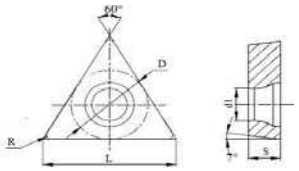


| | | |

TPGT/TCMT/TCGT/TCGW

Rhombic 55° ,with Hole

Turning Inserts (Negative)



		● continuous	◔ light Interruption	⊕ Interruption
P	Steel	●	◔	
M	Stainless Steel	◔	●	
K	Cast Iron	●		● ◔
N	Non-ferrous Metal	●		● ◔
S	Heat-resistant Alloy,TiAlloy	●		
H	High Hardness Materials	○	◔	

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	TBGT060102L-F	6	3.97	1.59	2.3	0.2								●				●					
	TBGT060104L-F	6	3.97	1.59	2.3	0.4								●				●					
	TPGH080202L-F	8	4.76	2.38	2.3	0.2								●				●					
	TPGH080204L-F	8	4.76	2.38	2.3	0.4								●				●					
	TPGH090202L-F	9	5.56	2.38	3	0.2								●				●					
	TPGH090204L-F	9	5.56	2.38	3	0.4								●				●					
	TPGH110302L-F	11	6.35	3.18	3.3	0.2								●				●					
	TPGH110304L-F	11	6.35	3.18	3.3	0.4								●				●					
	TCMT090204-NF	9.6	5.56	2.38	2.5	0.4									●								
	TCMT110204-NF	11	6.35	2.38	2.8	0.4									●								
	TCMT110208-NF	11	6.35	2.38	2.8	0.8									●								
	TCMT16T304-NF	16.5	9.52	3.97	4.4	0.4									●								
	TCMT16T308-NF	16.5	9.52	3.97	4.4	0.8									●								
	TCMT090204-NP	9.6	5.56	2.38	2.5	0.4	●	○		●													
	TCMT110204-NM	11	6.35	2.38	2.8	0.4	●	○		●													
	TCMT110208-NM	11	6.35	2.38	2.8	0.8	●	○		●													
	TCMT16T304-NM	16.5	9.52	3.97	4.4	0.4	●	○		●													
	TCMT16T308-NM	16.5	9.52	3.97	4.4	0.8	●	○		●													
	TCGW110204-Z3	11	6.35	2.38	2.8	0.4														●	○		
	TCGW110208-Z3	11	6.35	2.38	2.8	0.8														●	○		
	TCGW16T304-Z3	16.5	9.52	3.97	4.4	0.4														●	○		
	TCGW16T308-Z3	16.5	9.52	3.97	4.4	0.8														●	○		
	TPGT110302-Z3	11	6.35	3.18	3.4	0.2																●	○
	TPGT110304-Z3	11	6.35	3.18	3.4	0.4																●	○
	TPGT160302-Z3	16.5	9.52	3.18	4.4	0.2																●	○
	TPGT160304-Z3	16.5	9.52	3.18	4.4	0.4																●	○
	TPGT160308-Z3	16.5	9.52	3.18	4.4	0.8																●	○
	TCGT090202-NL	9.6	5.56	2.38	2.5	0.2																	
	TCGT090204-NL	9.6	5.56	2.38	2.5	0.4										●							
	TCGT110202-NL	11	6.35	2.38	2.8	0.2										●							
	TCGT110204-NL	11	6.35	2.38	2.8	0.4										●							
	TCGT110208-NL	11	6.35	2.38	2.8	0.8										●							
	TCGT16T302-NL	16.5	9.52	3.97	4.4	0.2										●							
	TCGT16T304-NL	16.5	9.52	3.97	4.4	0.4										●							
	TCGT16T308-NL	16.5	9.52	3.97	4.4	0.8										●							
	TCMW16T304	16.5	9.52	3.97	4.4	0.4											○						
	TCMW16T308	16.5	9.52	3.97	4.4	0.8											○						

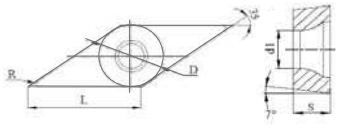
●Stock ○Availabie upon Order

VBGT/VBMT/VCMT/VBGX/VCGX

Rhombic 35° ,with Hole

Turning Inserts (Negative)

○ continuous ◔ light Interruption ⊕ Interruption



P	Steel	● ◔
M	Stainless Steel	◔ ○ ○
K	Cast Iron	● ● ● ◔
N	Non-ferrous Metal	● ● ◔
S	Heat-resistant Alloy,TiAlloy	● ◔
H	High Hardness Materials	○ ◔

Shape	OrderingCode	Dimensions(mm)					Coated-CVD					Coated-PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	VBGT110301R-F	11.6	6.35	3.18	2.8	0.2								○				○					
	VBGT110302R-F	11.6	6.35	3.18	2.8	0.4								○				○					
	VBGT110304R-F	11.6	6.35	3.18	2.8	0.8								○				○					
	VBGT110302L-F	11.6	6.35	3.18	2.8	0.2								○				○					
	VBGT110304L-F	11.6	6.35	3.18	2.8	0.4								○				○					
	VBGT110308L-F	11.6	6.35	3.18	2.8	0.8								○				○					
	VBMT110302-NF	11.6	6.35	3.18	2.8	0.2									○								
	VBMT110304-NF	11.6	6.35	3.18	2.8	0.4									○								
	VBMT110308-NF	11.6	6.35	3.18	2.8	0.8									○								
	VBMT160302-NF	16.6	9.52	4.76	4.4	0.2									○								
	VBMT160304-NF	16.6	9.52	4.76	4.4	0.4									○								
	VBMT160308-NF	16.6	9.52	4.76	4.4	0.8									○								
	VCMT160302-NF	16.6	9.52	4.76	4.4	0.2									○								
	VCMT160304-NF	16.6	9.52	4.76	4.4	0.4									○								
	VCMT160308-NF	16.6	9.52	4.76	4.4	0.8									○								
	VBMT160404-NM	16.6	9.52	4.76	4.4	0.4	●	○		●													
	VBMT160408-NM	16.6	9.52	4.76	4.4	0.8	●	○		●													
	VCMT110304-NM	11.6	6.35	3.18	2.8	0.4	●	○		●													
	VCMT110308-NM	11.6	6.35	3.18	2.8	0.8	●	○		●													
	VCMT160404-NM	16.6	9.52	4.76	4.4	0.4	●	○		●													
	VCMT160408-NM	16.6	9.52	4.76	4.4	0.8	●	○		●													
	VCGT110302-NL	11.6	6.35	3.18	2.8	0.2										○							
	VCGT110304-NL	11.6	6.35	3.18	2.8	0.4										●							
	VCGT110308-NL	11.6	6.35	3.18	2.8	0.8										●							
	VCGT160402-NL	16.6	9.52	4.76	4.4	0.2										○							
	VCGT160404-NL	16.6	9.52	4.76	4.4	0.4										●							
	VCGT160408-NL	16.6	9.52	4.76	4.4	0.8										●							
	VCGW110302-Z2	11.6	6.35	3.18	2.8	0.2														●	○		
	VCGW110304-Z2	11.6	6.35	3.18	2.8	0.4														●	○		
	VCGW110308-Z2	11.6	6.35	3.18	2.8	0.8														●	○		
	VCGW160402-Z2	16.6	9.52	4.76	4.4	0.2														●	○		
	VCGW160404-Z2	16.6	9.52	4.76	4.4	0.4														●	○		
	VCGT160408-Z2	16.6	9.52	4.76	4.4	0.8														●	○		
	VCGT110302-Z1	11.6	6.35	3.18	2.8	0.2																●	○
	VCGT110304-Z1	11.6	6.35	3.18	2.8	0.4																●	○
	VCGT110308-Z1	11.6	6.35	3.18	2.8	0.8																●	○
	VCGT160402-Z1	16.6	9.52	4.76	4.4	0.2																●	○
	VCGT160404-Z1	16.6	9.52	4.76	4.4	0.4																●	○
	VCGT160408-Z1	16.6	9.52	4.76	4.4	0.8																●	○

●Stock ○Availabie upon Order

WBGT

Rhombic 55° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⊕ Interruption

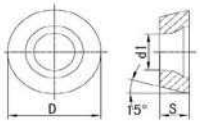
| | | |

RCMT/RCGT

Rhombic 55° ,with Hole

Turning Inserts (Negative)

● continuous ◔ light Interruption ⊕ Interruption



P	Steel		◔								●				●									
M	Stainless Steel									◔														
K	Cast Iron																							
N	Non–ferrous Metal											●												
S	Heat–resistant Alloy,TiAlloy									◔														
H	High Hardness Materials																							

Shape	OrderingCode	Dimensions(mm)					Coated–CVD					Coated–PVD				Uncoated		Cermet		CBN		PCD	
		L	D	S	d1	R	NP1115	NP1125	NP1135	NK1115	NK1125	NM1125	NM3125	NS4115	NS4125	NN9115	NP9125	NP115T	NP125T	NCBN115	NCBN125	NPCD115	NPCD125
	RCMTX0803MO		8.0	3.18	3.4			●							○								
	RCMT1003MO		10	3.18	3.6			●							○								
	RCMT1204MO		12	4.76	4.4			●							○								
	RCMT1606MO		16	6.35	5.5			●							○								
	RCMT2006MO		20	6.35	6.5			●							○								
	RCMT2507MO		25	7.94	7.2			●							○								
	RCMT3209MO		32	9.525	9.5			●							○								
	RCGT0602MO–NL	6.0	6.0	2.38	2.5	3										●							
	RCGT0803MO–NL	8.0	8.0	3.18	3.4	4										●							
	RCGT1003MO–NL	10	10	3.18	4.4	5										●							
	RCGT1204MO–NL	12	12	4.76	5.5	6										●							



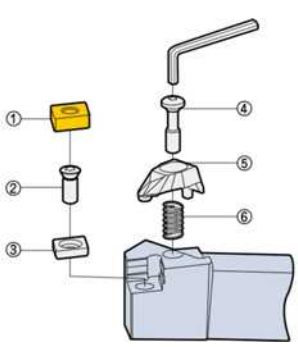
●Stock ○Availabie upon Order

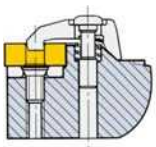
External turning tools



Toolholder Clamping System

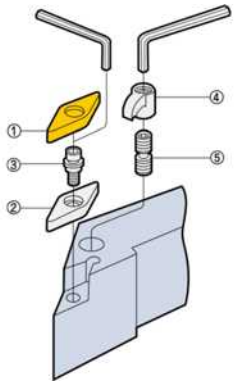
D–Holder Type

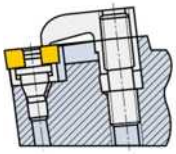




① Insert
② Shim Screw
③ Shim
④ Clamp Screw
⑤ Clamp
⑥ Spring

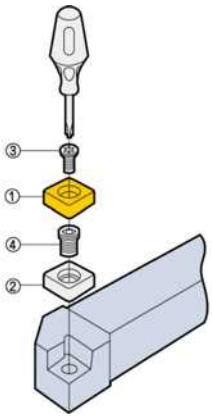
M–Multi Lock Type

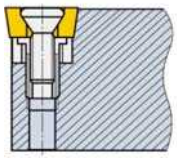




① Insert
② Shim
③ Lock Pin
④ Clamp
⑤ Clamp Screw

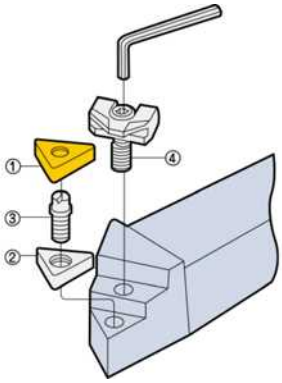
S–Screw Clamp Type

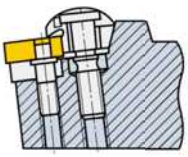




① Insert
② Shim
③ Screw
⑤ Shim Screw

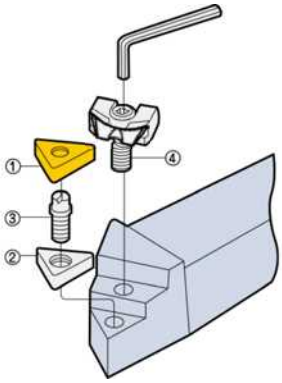
W–Wedge Clamp Type

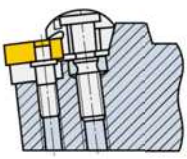




① Insert
② Shim
③ Pin Screw
④ Wedge Set

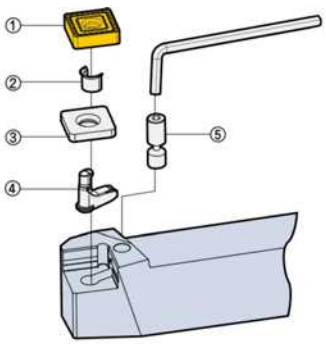
B–Bao Clamp Holder

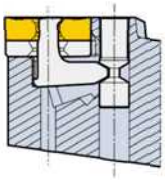




① Insert
② Shim
③ Pin Screw
④ Wedge Set

P–Hook Lever Type





① Insert
② Shim Pin
③ Shim
④ Hook Lever
⑤ Screw

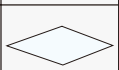
External Turning Toolholders Identification System

M	C	L	N	R
①	②	③	④	⑤

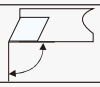
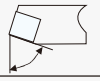
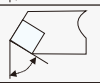
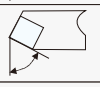
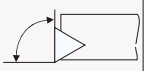
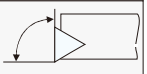
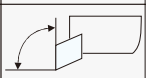
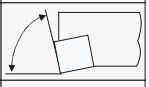
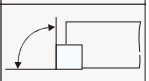
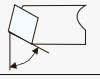
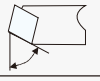
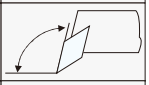
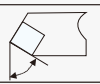
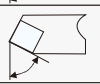
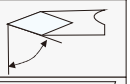
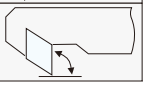
① Method of Holding

	Double Clamp Type	D
	Wedge Lock Type Heavy Cutting Double Clamp Type	M
	Lever Lock Type	P
	Wedge lock holding	B
	Screw–on Type	S

② Insert Shape

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

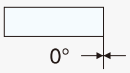
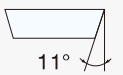
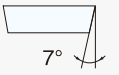
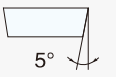
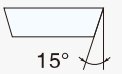
③ Cutting Edge Angle

A	90°	
B	75°	
D	45°	
E	60°	
F	91°	
G	90°	
U	93°	
K	75°	
L	95°	
N	63°	
P	62.5°	
Q	108°	
S	45°	
T	60°	
V	72.5°	
Z	93°	

⑤ Hand of Tool

R	Right Hand
L	Left Hand
N	Left Right

④ Insert Clearance

N	 0°
P	 11°
C	 7°
B	 5°
E	 15°
D	 20°

External Turning Toolholders Identification System

25	25	M	12
⑥	⑥	⑦	⑧

Tool Section(mm)	
8	8
10	10
12	12
16	16
20	20
25	25
32	32

Tool Length(mm)	
D	60
E	70
F	80
H	100
K	125
M	150
P	170
Q	180
R	200

Cutting Edge Length(mm)						
Insert IC(mm)	Insert Shape					
	Square	Triangle	Round	80° Rhombic	55° Rhombic	35° Rhombic
6	–	–	06	–	–	–
6.35		11		06	07	11
7.94	–	13	–	–	–	–
8			08			
9.525	09	16	–	09	11	16
10	–	–	10	–	–	–
12	–	–	12	–	–	–
12.7	–	22	–	12	15	–
15.875	15	27	–	16	–	–
16	–	–	16	–	–	–
19.05	19	–	19	–	–	–
20	–	–	20	–	–	–
25	–	–	25	–	–	–
25.4	25	–	–	–	–	–
32	–	–	32	–	–	–

MCLNR/L

P039

PCLNR/L

P039

DCLNR/L

P040

BCLNR/L

P040

MCBNR/L

P041

PCBNR/L

P041

MCKNR/L

P042

PCKNR/L

P042

MCMNN / MCMNN-100

P043

MDJNR/L

P043

DDJNR/L

P044

PDJNR/L

P044

MDQNR/L

P045

DDQNR/L

P045

PDPNN

P046

DDPNN

P046

MSBNR/L

P047

PSBNR/L

P047

MSKNR/L

P048

PSKNR/L

P048

MSDNN/PSDNN

P049

MSSNR/L

P050

PSSNR/L

P050

MTJNR/L

P051

PTJNR/L



P051

DTJNR/L



P052

WTJNR/L



P052

BTJNR/L



P053

MTQNR/L



P053

DTQNR/L



P054

WTQNR/L



P054

MTFNR/L



P055

PTFNR/L



P055

MTGNR/L



P056

PTGNR/L



P056

MTENN/PTENN



P057

WTENN



P058

MVJNR/L



P058

DVJNR/L



P059

BVJNR/L



P059

MVQNR/L



P060

DVQNR/L



P060

MVUNR/L



P061

DVUNR/L



P061

MVVNN/DVVNN



P062

MWLNR/L



P063

PWLNR/L



P063

DWLNR/L



P064

BWLNR/L



P064

SCLCR/L



P065

SCKCR/L



P065

SCBCR/L



P066

SCMCN



P066

SDJCR/L



P067

SDQCR/L



P067

SDFCR/L



P068

SDACR/L



P068

SDNCN



P069

SSBCR/L



P069

SSKCR/L



P070

SSSCR/L



P070

STGCR/L



P071

STFCR/L



P071

SVJCR/L



P072

SVQCR/L



P072

SVJBR/L



P073

SVQBR/L



P073

SVUCR/L



P074

SVVCN



P074

SRACR/L CRACR/L



P075

SRGCR/L



P076

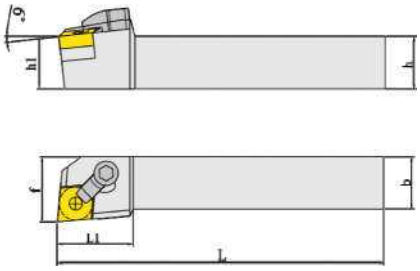
SRDCN/CRDCN



P077

MCLNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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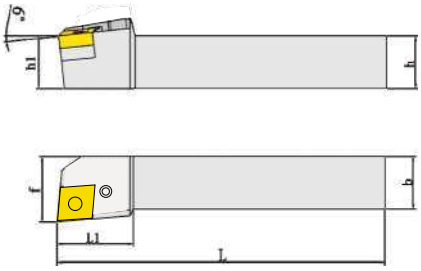
MCLNR/L2020K12	●	●	20	20	125	34	20	25						
MCLNR/L2525M12	●	●	25	25	150	34	25	32						
MCLNR/L3232P12	●	●	32	32	170	40	32	40						

PCLNR/L



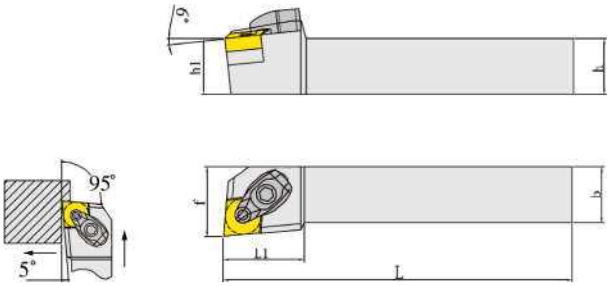


Ordering Code	Stock		■imensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
PCLNR/L1616H12	○	○	16	16	100	28	16	20	CN**1204	CN-P1203	GGX0514	DPX0606	NLJ0820	L3.0
PCLNR/L2020K12	●	●	20	20	125	28	20	25						
PCLNR/L2525M12	●	●	25	25	150	28	25	32						
PCLNR/L3232P12	●	●	32	32	170	30	32	40						
PCLNR/L2525M16	●	●	25	25	150	33	25	32	CN**1606	CN-P1604	GGX0617	DPX0808	NLJ0821	
PCLNR/L3232P16	●	●	32	32	170	33	32	40						
PCLNR/L3232P19	●	●	32	32	170	36	32	40	CN**1906	CN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PCLNR/L4040S19	●	●	40	40	250	40	40	50						
PCLNR/L4040S25	●	●	40	40	250	47	40	50	CN**2509	CN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PCLNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

DCLNR/L

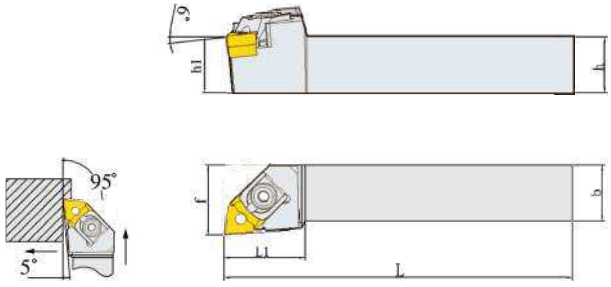




Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DCLNR/L1616H12	○	○	16	16	100	32	16	20	CN**1204	CN-D1204	DXD0614	DYB2214	DGD0520	DTN0814	L4.0
DCLNR/L2020K12	●	●	20	20	125	32	20	25							
DCLNR/L2525M12	●	●	25	25	150	32	25	32							
DCLNR/L3232P12	●	●	32	32	170	35	32	40							

BCLNR/L



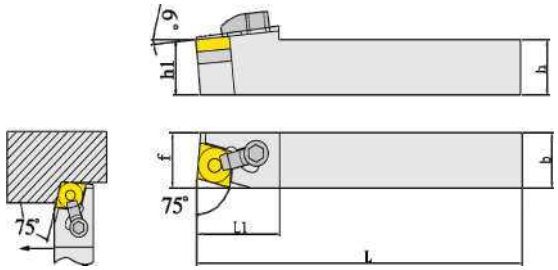


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
BCLNR/L2020K12	●	●	20	20	125	32	20	25	CN**1204	CN-B1204	CTM6-S	BC12	BCS08	CR07	L3.0 L4.0
BCLNR/L2525M12	●	●	25	25	150	32	25	32							
BCLNR/L3232P12	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

MCBNR/L

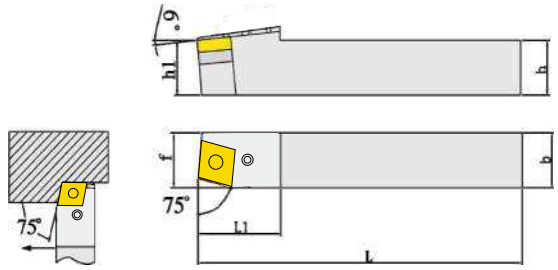




Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
MCBNR/L1616H12			16	16	100	34	16	20	CN**1204	CN-M1204	MXD0617	MYB1814	ST0625	L2.5 L3.0
MCBNR/L2020K12	●	●	20	20	125	34	20	25						
MCBNR/L2525M12	●	●	25	25	150	34	25	32						
MCBNR/L3232P12	●	●	32	32	170	40	32	40						

PCBNR/L



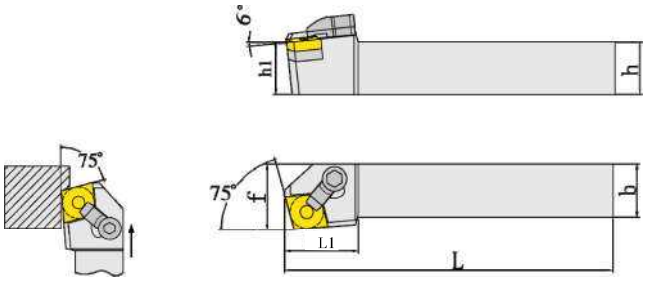


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
PCBNR/L1616H12			16	16	100	28	16	20	CN**1204	CN-P1203	GGX0514	DPX0606	NLJ0820	L3.0
PCBNR/L2020K12	●	●	20	20	125	28	20	25						
PCBNR/L2525M12	●	●	25	25	150	28	25	32						
PCBNR/L3232P12	●	●	32	32	170	30	32	40						
PCBNR/L2525M16	●	●	25	25	150	33	25	32	CN**1606	CN-P1604	GGX0617	DPX0808	NLJ0821	
PCBNR/L3232P16	●	●	32	32	170	33	32	40						
PCBNR/L3232P19	●	●	32	32	170	36	32	40	CN**1906	CN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PCBNR/L4040S19	●	●	40	40	250	40	40	50						
PCBNR/L4040S25	●	●	40	40	250	47	40	50	CN**2509	CN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PCBNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MCKNR/L

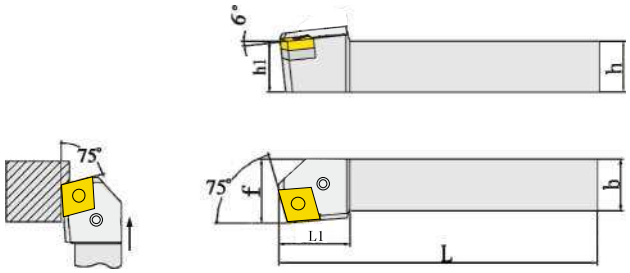




Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
MCKNR/L1616H12	○	○	16	16	100	32	16	20	CN**1204	CN-M1204	MXD0617	MYB1814	ST0625	L2.5 L3.0
MCKNR/L2020K12	●	●	20	20	125	32	20	25						
MCKNR/L2525M12	●	●	25	25	150	32	25	32						
MCKNR/L3232P12	●	●	32	32	170	35	32	40						

PCKNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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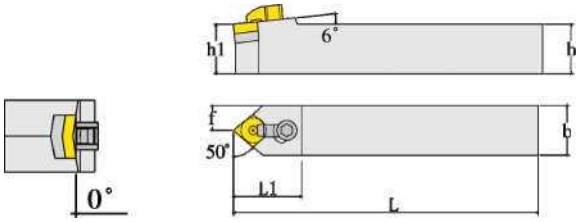
PCKNR/L1616H12	○	○	16	16	100	28	16	20	CN**1204	CN-P1203	GGX0514	DPX0606	NLJ0820	L3.0
PCKNR/L2020K12	●	●	20	20	125	28	20	25						
PCKNR/L2525M12	●	●	25	25	150	28	25	32						
PCKNR/L3232P12	●	●	32	32	170	30	32	40						
PCKNR/L2525M16	●	●	25	25	150	33	25	32	CN**1606	CN-P1604	GGX0617	DPX0808	NLJ0821	
PCKNR/L3232P16	●	●	32	32	170	33	32	40						
PCKNR/L3232P19	●	●	32	32	170	36	32	40	CN**1906	CN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PCKNR/L4040S19	●	●	40	40	250	40	40	50						
PCKNR/L4040S25	●	●	40	40	250	47	40	50	CN**2509	CN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PCKNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MCMNN / MCMNN–100

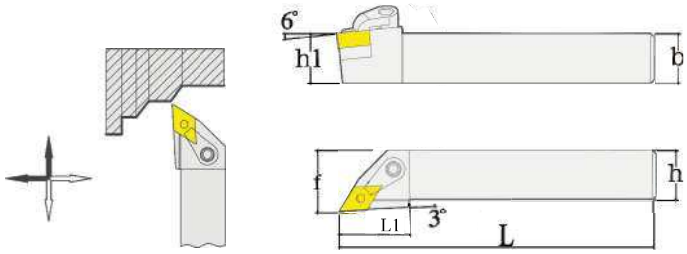




Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
		h	b	L	L1	h1	f						
MCMNN1616H12	○	16	16	100	35	16	8	CN**1204	CN–M1204	MXD0617	MYB1814	ST0625	L2.5 L3.0
MCMNN2020K12	●	20	20	125	35	20	10						
MCMNN2525M12	●	25	25	150	35	25	12.5						
MCMNN3232P12	●	32	32	170	35	32	40						
MCMNN2020K12–100	●	20	20	125	35	20	10						
MCMNN2525M12–100	●	25	25	150	35	25	12.5						
MCMNN3232P12–100	●	32	32	170	35	32	40						

MDJNR/L



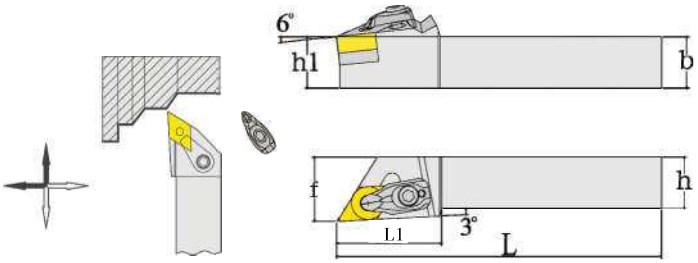


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
MDJNR/L1616H11	●	●	16	16	100	32	16	20	DN**1104	DN–M1104	MXD0513	MYB2214	ST0625	L2.0 L3.0
MDJNR/L2020K11	●	●	20	20	125	32	20	25						
MDJNR/L2525M11	●	●	25	25	150	32	25	32						
MDJNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN–M1506	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDJNR/L2525M1504	●	●	25	25	150	38	25	32						
MDJNR/L3232P1504	●	●	32	32	170	38	32	40						
MDJNR/L2020K1506	●	●	20	20	125	28	20	25	DN**1506	DN–M1504	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDJNR/L2525M1506	●	●	25	25	150	38	25	32						
MDJNR/L3232P1506	●	●	32	32	170	38	32	40						

●Stock ○Availabie upon Order

DDJNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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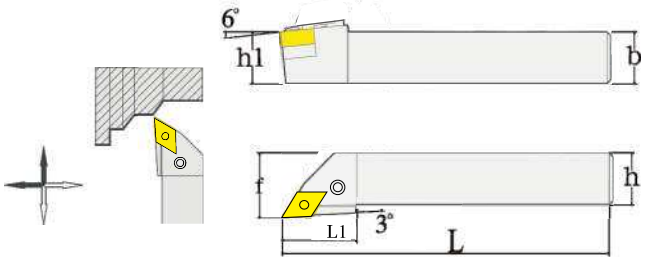
DDJNR/L1616H11	○	○	16	16	100	32	16	20	DN**1104	DN-D1103	DXD0512	DYB2313	DGD0520	DTN0814	L4.0
DDJNR/L2020K11	○	○	20	20	125	32	20	25							
DDJNR/L2525M11	○	○	25	25	150	32	25	32							
DDJNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-D1506	DXD0614	DYB2514	DGD0520	DTN0814	L4.0
DDJNR/L2525M1504	●	●	25	25	150	38	25	32							
DDJNR/L3232P1504	●	●	32	32	170	38	32	40							
DDJNR/L2020K1506	●	●	20	20	125	38	20	25	DN**1506	DN-D1504	DXD0614	DYB2515	DGD0520	DTN0814	L4.0
DDJNR/L2525M1506	●	●	25	25	150	38	25	32							
DDJNR/L3232P1506	●	●	32	32	170	38	32	40							

PDJNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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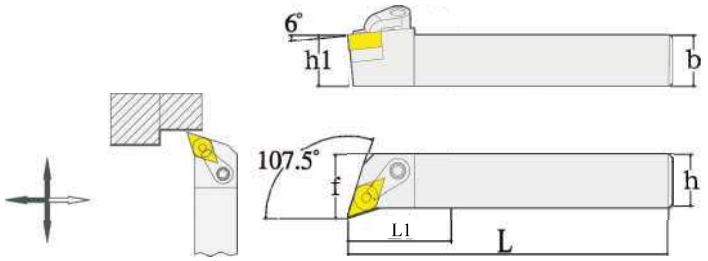
PDJNR/L1616H11	●	●	16	16	100	32	16	20	DN**1104	DN-P1103	GGX0312	DPX0505	NLJ0618	L3.0
PDJNR/L2020K11	●	●	20	20	125	32	20	25						
PDJNR/L2525M11	●	●	25	25	150	32	25	32						
PDJNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-P1503	GGX0514	DPX0606	NLJ0820	L3.0
PDJNR/L2525M1504	●	●	25	25	150	38	25	32						
PDJNR/L3232P1504	●	●	32	32	170	38	32	40						
PDJNR/L2020K1506	●	●	20	20	125	28	20	25	DN**1506	DN-P1503	GGX0514D	DPX0606	NLJ0821	L3.0
PDJNR/L2525M1506	●	●	25	25	150	38	25	32						
PDJNR/L3232P1506	●	●	32	32	170	38	32	40						

●Stock ○Availabie upon Order

MDQNR/L

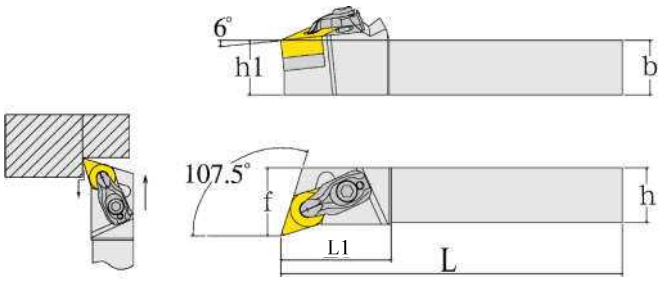




Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
MDQNR/L1616H11	○	○	16	16	100	32	16	20	DN**1104	DN-M1104	MXD0513	MYB2214	ST0625	L2.0 L3.0
MDQNR/L2020K11	○	○	20	20	125	32	20	25						
MDQNR/L2525M11	○	○	25	25	150	32	25	32						
MDQNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-M1506	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDQNR/L2525M1504	●	●	25	25	150	38	25	32						
MDQNR/L3232P1504	●	●	32	32	170	38	32	40						
MDQNR/L2020K1506	●	●	20	20	125	28	20	25	DN**1506	DN-M1504	MXD0619	MYB2214	ST0626	L2.5 L3.0
MDQNR/L2525M1506	●	●	25	25	150	38	25	32						
MDQNR/L3232P1506	●	●	32	32	170	38	32	40						

DDQNR/L



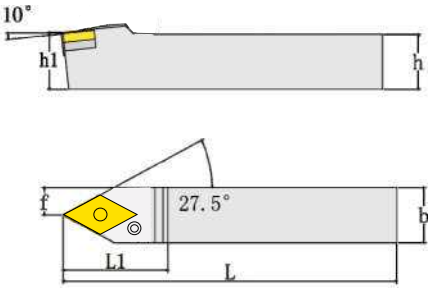


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DDQNR/L1616H11	○	○	16	16	100	32	16	20	DN**1104	DN-D1103	DXD0512	DYB2313	DGD0520	DTN0814	L4.0
DDQNR/L2020K11	○	○	20	20	125	32	20	25							
DDQNR/L2525M11	○	○	25	25	150	32	25	32							
DDQNR/L2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-D1506	DXD0614	DYB2514	DGD0520	DTN0814	L4.0
DDQNR/L2525M1504	●	●	25	25	150	38	25	32							
DDQNR/L3232P1504	●	●	32	32	170	38	32	40							
DDQNR/L2020K1506	●	●	20	20	125	38	20	25	DN**1506	DN-D1504	DXD0614	DYB2515	DGD0520	DTN0814	L4.0
DDQNR/L2525M1506	●	●	25	25	150	38	25	32							
DDQNR/L3232P1506	●	●	32	32	170	38	32	40							

●Stock ○Availabie upon Order

PDPNN

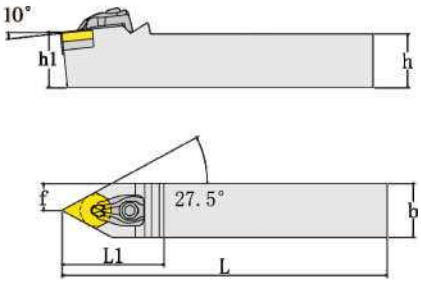




Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
		h	b	L	L1	h1	f						
PDPNN1616H11	○	16	16	100	32	16	20	DN**1104	DN-P1103	GGX0312	DPX0505	NLJ0618	L3.0
PDPNN2020K11	○	20	20	125	32	20	25						
PDPNN2525M11	○	25	25	150	32	25	32						
PDPNN2020K1504	●	20	20	125	38	20	25	DN**1504	DN-P1503	GGX0514	DPX0606	NLJ0820	L3.0
PDPNN2525M1504	●	25	25	150	38	25	32						
PDPNN3232P1504	●	32	32	170	38	32	40						
PDPNN2020K1506	●	20	20	125	28	20	25	DN**1506	DN-P1503	GGX0514D	DPX0606	NLJ0821	L3.0
PDPNN2525M1506	●	25	25	150	38	25	32						
PDPNN3232P1506	●	32	32	170	38	32	40						

DDPNN



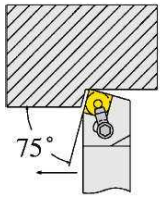


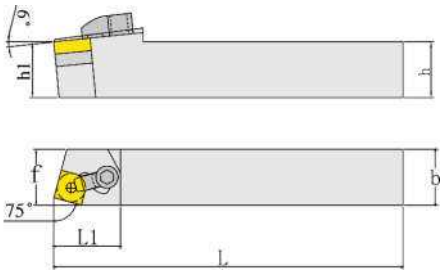
Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DDPNN1616H11	●	●	16	16	100	32	16	20	DN**1104	DN-D1103	DXD0512	DYB2313	DGD0520	DTN0814	L4.0
DDPNN2020K11	●	●	20	20	125	32	20	25							
DDPNN2525M11	●	●	25	25	150	32	25	32							
DDPNN2020K1504	●	●	20	20	125	38	20	25	DN**1504	DN-D1506	DXD0614	DYB2514	DGD0520	DTN0814	L4.0
DDPNN2525M1504	●	●	25	25	150	38	25	32							
DDPNN3232P1504	●	●	32	32	170	38	32	40							
DDPNN2020K1506	●	●	20	20	125	38	20	25	DN**1506	DN-D1504	DXD0614	BYB2514	DGD0520	DTN0814	L4.0
DDPNN2525M1506	●	●	25	25	150	38	25	32							
DDPNN3232P1506	●	●	32	32	170	38	32	40							

●Stock ○Availabie upon Order

MSBNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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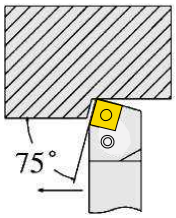
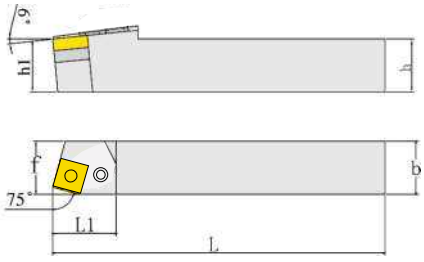
MSBNR/L2020K12	●	●	20	20	125	34	20	25						
MSBNR/L2525M12	●	●	25	25	150	34	25	32						
MSBNR/L3232P12	●	●	32	32	170	40	32	40						

PSBNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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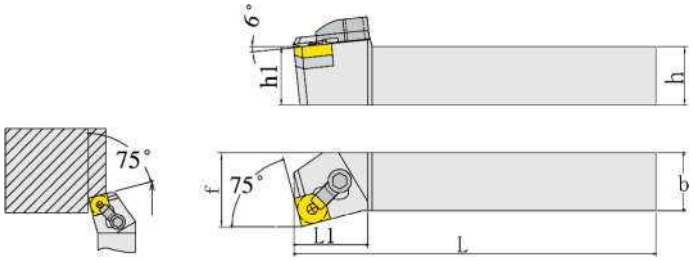
PSBNR/L1616H12			16	16	100	28	16	20	SN**1204	SN-P1203	GGX0514	DPX0606	NLJ0820	L3.0
PSBNR/L2020K12	●	●	20	20	125	28	20	25						
PSBNR/L2525M12	●	●	25	25	150	28	25	32						
PSBNR/L3232P12	●	●	32	32	170	30	32	40						
PSBNR/L2525M15	●	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSBNR/L3232P15	●	●	32	32	170	33	32	40						
PSBNR/L3232P19	●	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSBNR/L4040S19	●	●	40	40	250	40	40	50						
PSBNR/L4040S25	●	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSBNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MSKNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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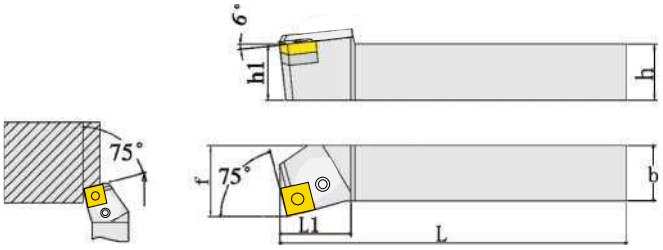
MSKNR/L2020K12	●	●	20	20	125	34	20	25						
MSKNR/L2525M12	●	●	25	25	150	34	25	32						
MSKNR/L3232P12	●	●	32	32	170	40	32	40						

PSKNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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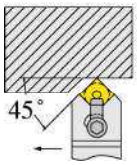
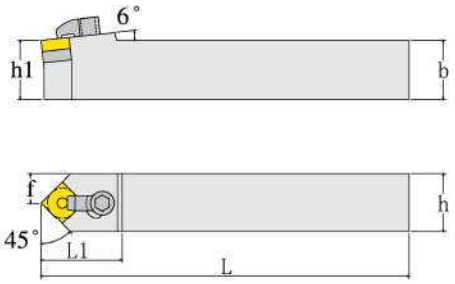
PSKNR/L2020K12	●	●	20	20	125	28	20	25						
PSKNR/L2525M12	●	●	25	25	150	28	25	32						
PSKNR/L3232P12	●	●	32	32	170	30	32	40						
PSKNR/L2525M15	●	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSKNR/L3232P15	●	●	32	32	170	33	32	40						
PSKNR/L3232P19	●	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSKNR/L4040S19	●	●	40	40	250	40	40	50						
PSKNR/L4040S25	●	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSKNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MSDNN







Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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MSDNN2020K12	●	20	20	125	34	20	25						
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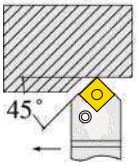
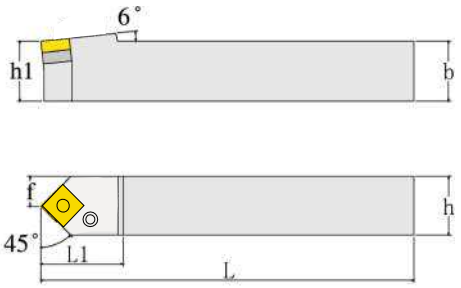
MSDNN3232P12	●	32	32	170	40	32	40						

PSDNN







Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
		h	b	L	L1	h1	f						
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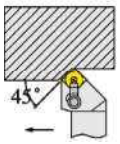
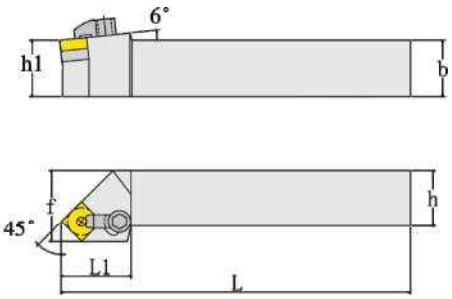
PSDNN2525M12	●	25	25	150	28	25	32						
PSDNN3232P12	●	32	32	170	30	32	40						
PSDNN2525M15	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSDNN3232P15	●	32	32	170	33	32	40						
PSDNN3232P19	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSDNN4040S19	●	40	40	250	40	40	50						
PSDNN4040S25	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSDNN5050T25	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MSSNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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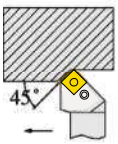
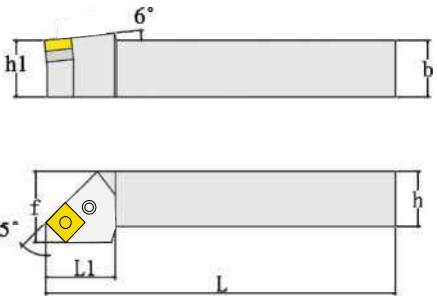
MSSNR/L2020K12	●	●	20	20	125	34	20	25						
MSSNR/L2525M12	●	●	25	25	150	34	25	32						
MSSNR/L3232P12	●	●	32	32	170	40	32	40						

PSSNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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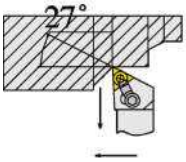
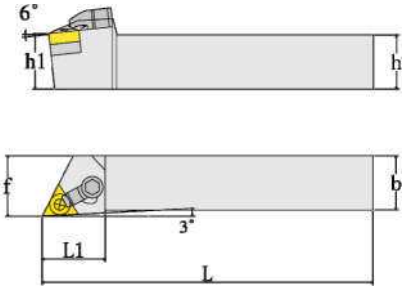
PSSNR/L2020K12	●	●	20	20	125	28	20	25						
PSSNR/L2525M12	●	●	25	25	150	28	25	32						
PSSNR/L3232P12	●	●	32	32	170	30	32	40						
PSSNR/L2525M15	●	●	25	25	150	33	25	32	SN**1506	SN-P1504	GGX0617	DPX0808	NLJ0821	
PSSNR/L3232P15	●	●	32	32	170	33	32	40						
PSSNR/L3232P19	●	●	32	32	170	36	32	40	SN**1906	SN-P1904	GGX0820	DPX0909	NLJ1027	L4.0
PSSNR/L4040S19	●	●	40	40	250	40	40	50						
PSSNR/L4040S25	●	●	40	40	250	47	40	50	SN**2509	SN-P2506	GGX0925	DPX1312	NLJ1237	L5.0
PSSNR/L5050T25	●	●	50	50	300	47	50	60						

●Stock ○Availabie upon Order

MTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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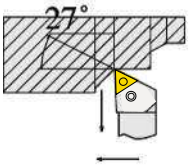
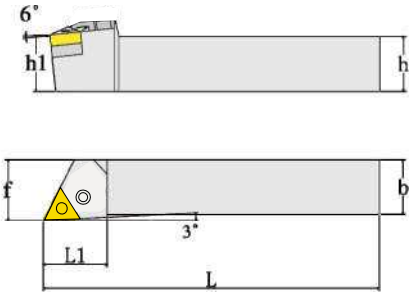
MTJNR/L2020K16	●	●	20	20	125	33	20	25						
MTJNR/L2525M16	●	●	25	25	150	33	25	32						
MTJNR/L3232P16	●	●	32	32	170	37	32	40						

PTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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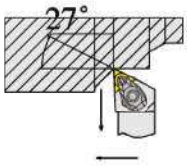
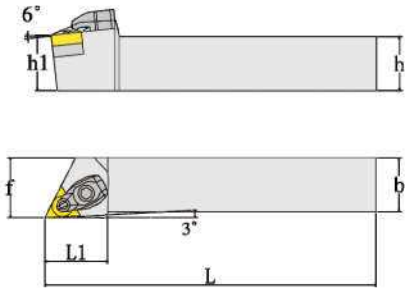
PTJNR/L1616H16	○	○	16	16	100	22	16	20	TN**1604	TN–P1603	GGX0310	DPX0505	NLJ0618	L3.0
PTJNR/L2020K16	●	●	20	20	125	22	20	25						
PTJNR/L2525M16	●	●	25	25	150	28	25	32						
PTJNR/L3232P16	●	●	32	32	170	32	32	40						

●Stock ○Availabie upon Order

DTJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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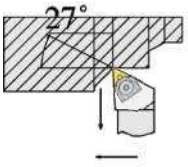
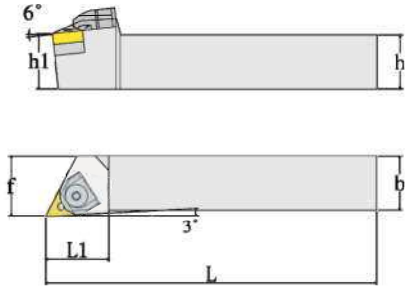
DTJNR/L2020K16	●	●	20	20	125	32	20	25							
DTJNR/L2525M16	●	●	25	25	150	32	25	32							
DTJNR/L3232P16	●	●	32	32	170	35	32	40							

WTJNR/L





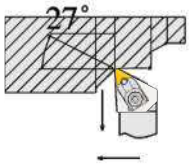


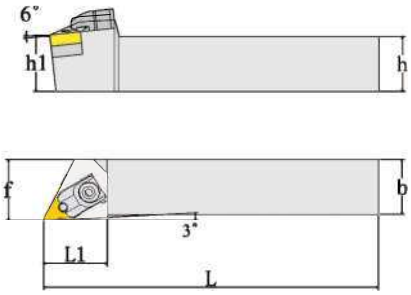
Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
WTJNR/L1616H16	○	○	16	16	100	32	16	20	TN**1604	TN-W1603	WXD0513	WYB1816	DGD0526	DTN0814	L2.5 L4.0
WTJNR/L2020K16	●	●	20	20	125	32	20	25							
WTJNR/L2525M16	●	●	25	25	150	32	25	32							
WTJNR/L3232P16	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

BTJNR/L



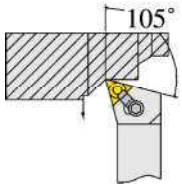


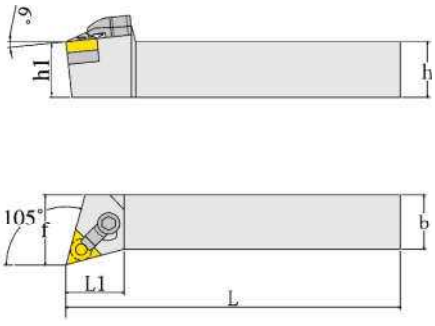


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
BTJNR/L1616H16	●	●	16	16	100	30	16	20	TN**1604	TN-B1603	CTM5-S	BT16-N	BCS06	CR05	L2.5/3.0
BTJNR/L2020K16	●	●	20	20	125	33	20	25				BT16	BCS08	CR07	L3.0 L4.0
BTJNR/L2525M16	●	●	25	25	150	33	25	32							
BTJNR/L3232P16	●	●	32	32	170	37	32	40							

MTQNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
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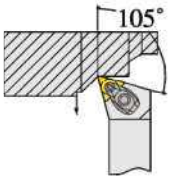
MTQNR/L2020K16	●	●	20	20	125	30	20	25						
MTQNR/L2525M16	●	●	25	25	150	30	25	32						
MTQNR/L3232P16	●	●	32	32	170	32	32	40						

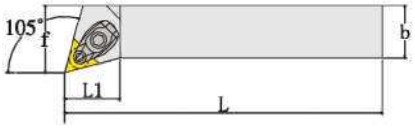
●Stock ○Availabie upon Order

DTQNR/L









Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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DTQNR/L2020K16	●	●	20	20	125	32	20	25							
DTQNR/L2525M16	●	●	25	25	150	32	25	32							
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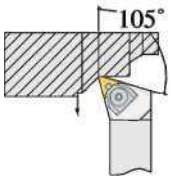
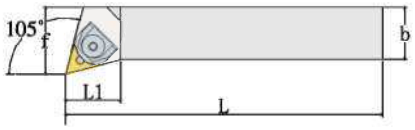
WTQNR/L









Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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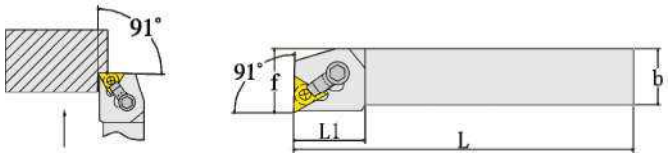
WTQNR/L2020K16	●	●	20	20	125	32	20	25							
WTQNR/L2525M16	●	●	25	25	150	32	25	32							
WTQNR/L3232P16	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

MTFNR/L





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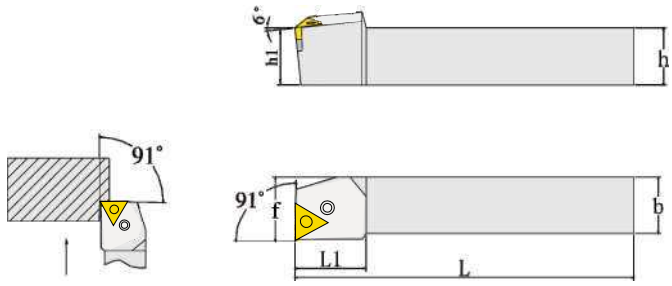
MTFNR/L2020K16	●	●	20	20	125	32	20	25						
MTFNR/L2525M16	●	●	25	25	150	32	25	32						
MTFNR/L3232P16	●	●	32	32	170	35	32	40						

PTFNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
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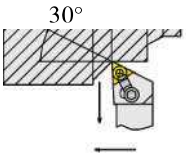
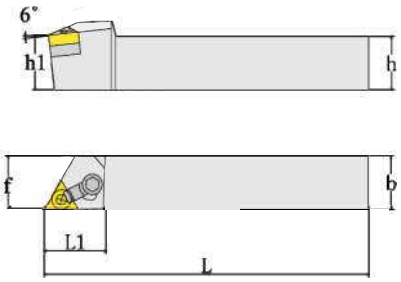
PTFNR/L2020K16	●	●	20	20	125	22	20	25						
PTFNR/L2525M16	●	●	25	25	150	28	25	32						
PTFNR/L3232P16	●	●	32	32	170	32	32	40						

●Stock ○Availabie upon Order

MTGNR/L







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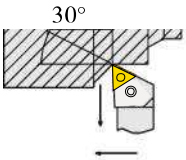
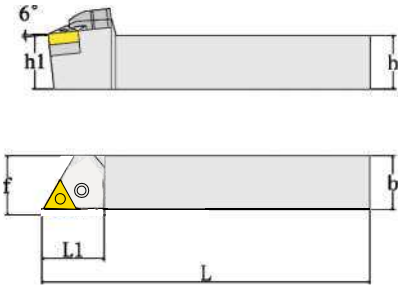
MTGNR/L2020K16	●	●	20	20	125	32	20	25						
MTGNR/L2525M16	●	●	25	25	150	32	25	32						
MTGNR/L3232P16	●	●	32	32	170	35	32	40						

PTGNR/L







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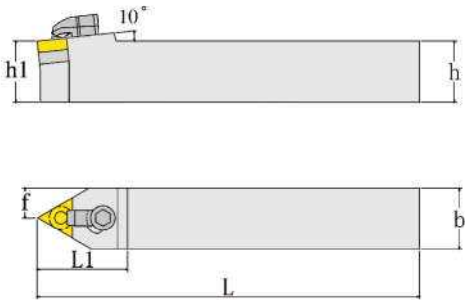
PTGNR/L2020K16	●	●	20	20	125	22	20	25						
PTGNR/L2525M16	●	●	25	25	150	28	25	32						
PTGNR/L3232P16	●	●	32	32	170	32	32	40						

●Stock ○Availabie upon Order

MTENN





Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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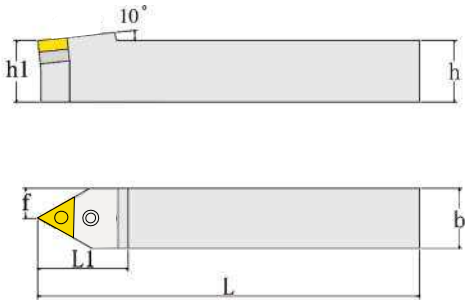
MTENN2020K16	●	20	20	125	32	20	25						
MTENN2525M16	●	25	25	150	32	25	32						
MTENN3232P16	●	32	32	170	35	32	40						

PTENN





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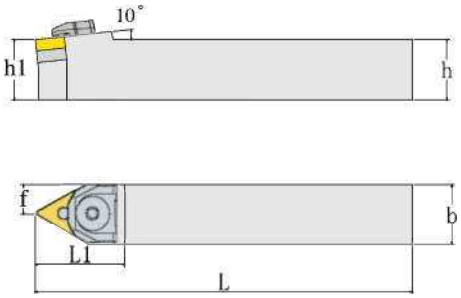
PTENN2020K16	●	20	20	125	22	20	25						
PTENN2525M16	●	25	25	150	28	25	32						
PTENN3232P16	●	32	32	170	32	32	40						

●Stock ○Availabie upon Order

WTENN





Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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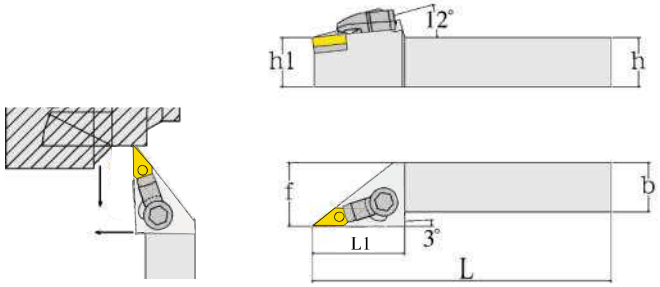
WTENN2020K16	●	20	20	125	35	20	25							
WTENN2525M16	●	25	25	150	35	25	32							
WTENN3232P16	●	32	32	170	38	32	40							

MVJNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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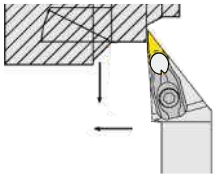
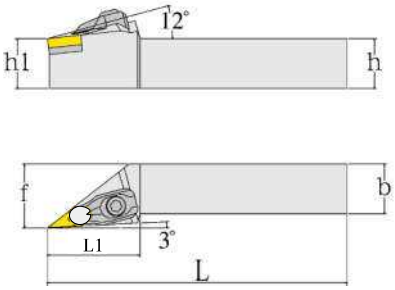
MVJNR/L2020K16	●	●	20	20	125	36	20	25						
MVJNR/L2525M16	●	●	25	25	150	42	25	32						
MVJNR/L3232P16	●	●	32	32	170	45	32	40						

●Stock ○Availabie upon Order

DVJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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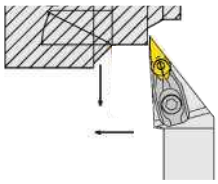
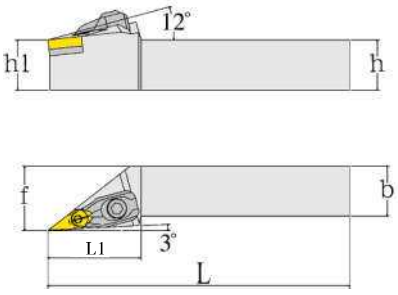
DVJNR/L2020K16	●	●	20	20	125	45	20	25							
DVJNR/L2525M16	●	●	25	25	150	45	25	32							
DVJNR/L3232P16	●	●	32	32	170	48	32	40							

BVJNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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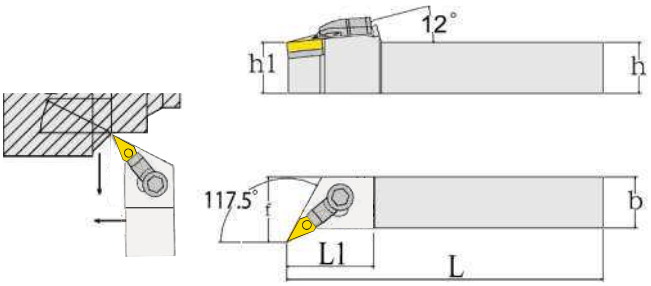
BVJNR/L2020K16	●	●	20	20	125	45	20	25							
BVJNR/L2525M16	●	●	25	25	150	45	25	32							
BVJNR/L3232P16	●	●	32	32	170	48	32	40							

●Stock ○Availabie upon Order

MVQNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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MVQNR/L2020K16	●	●	20	20	125	36	20	25						
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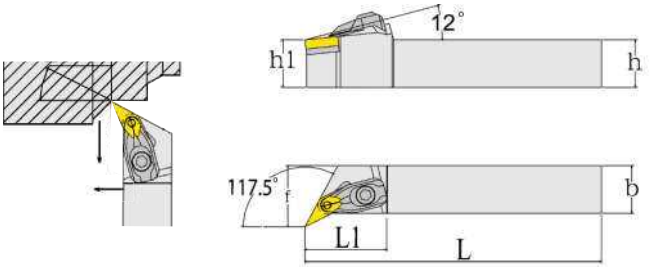
MVQNR/L3232P16	●	●	32	32	170	45	32	40						

DVQNR/L





Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
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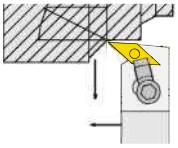
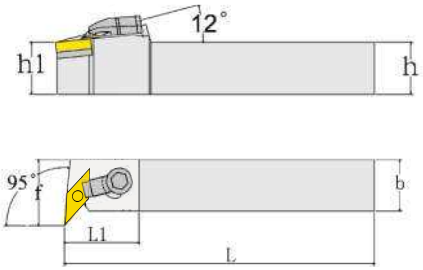
DVQNR/L2020K16	●	●	20	20	125	44	20	25							
DVQNR/L2525M16	●	●	25	25	150	46	25	32							
DVQNR/L3232P16	●	●	32	32	170	46	32	40							

●Stock ○Availabie upon Order

MVUNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Wrench
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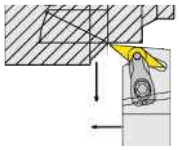
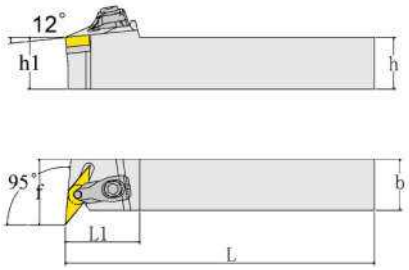
MVUNR/L2020K16	●	●	20	20	125	36	20	25						
MVUNR/L2525M16	●	●	25	25	150	42	25	32						
MVUNR/L3232P16	●	●	32	32	170	45	32	40						

DVUNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
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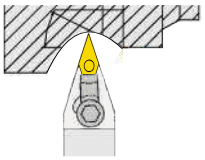
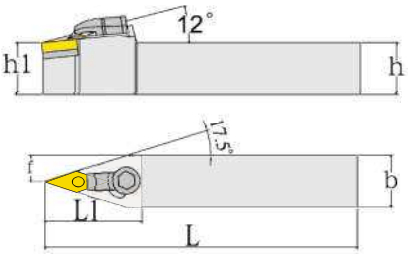
DVUNR/L2020K16	●	●	20	20	125	38	20	25							
DVUNR/L2525M16	●	●	25	25	150	45	25	32							
DVUNR/L3232P16	●	●	32	32	170	45	32	40							

●Stock ○Availabie upon Order

MVVNN







Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
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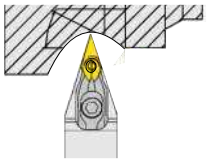
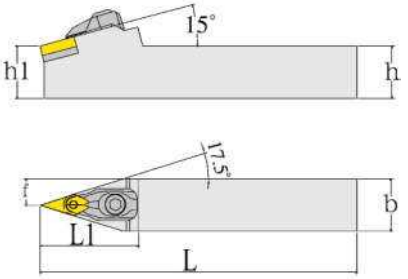
MVVNN2020K16	●	20	20	125	48	20	25						
MVVNN2525M16	●	25	25	150	48	25	32						
MVVNN3232P16	●	32	32	170	48	32	40						

DVVNN







Ordering Code	Stock	Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Spring	Wrench
		h	b	L	L1	h1	f							
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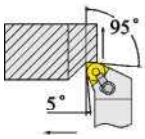
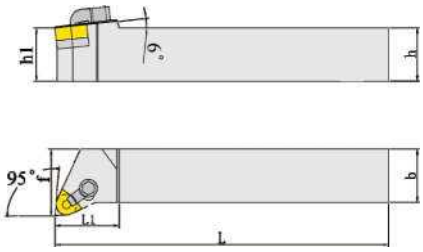
DVVNN2020K16	●	20	20	125	48	20	25							
DVVNN2525M16	●	25	25	150	48	25	32							
DVVNN3232P16	●	32	32	170	48	32	40							

●Stock ○Availabie upon Order

MWLNR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressing plate	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
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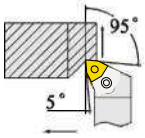
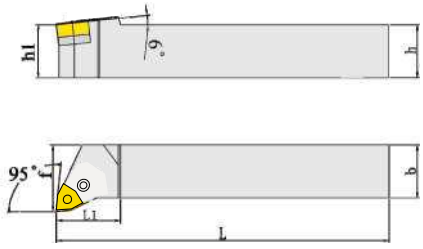
MWLNR/L2020K06	●	●	20	20	125	25	20	25						
MWLNR/L2525M06	●	●	25	25	150	28	25	32						
MWLNR/L1616H08	●	●	32	32	170	30	32	40	WN**0804	WN-M0804	MXD0617	MYB1814	ST0625	L2.5 L3.0
MWLNR/L2020K08	●	●	20	20	125	30	20	25						
MWLNR/L2525M08	●	●	25	25	150	30	25	32						
MWLNR/L3232P08	●	●	32	32	170	30	32	40						

PWLNR/L





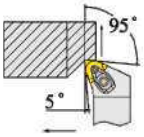


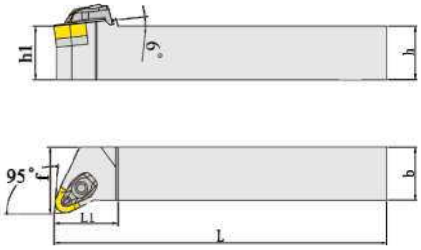
Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Level	Shim	Screw	Wrench
	R	L	h	b	L	L1	h1	f						
PWLNR/L1616H06	●	●	16	16	100	20	16	20	WN**0604	WN-P0602	GGX0310	DPX0505	NLJ0618	L3.0
PWLNR/L2020K06	●	●	20	20	125	25	20	25						
PWLNR/L2525M06	●	●	25	25	150	25	25	32						
PWLNR/L1616H08	●	●	16	16	100	26	16	20	WN**0804	WN-P0803	GGX0514	DPX0606	NLJ0820	L3.0
PWLNR/L2020K08	●	●	20	20	125	26	20	25						
PWLNR/L2525M08	●	●	25	25	150	26	25	32						
PWLNR/L3232P08	●	●	32	32	170	30	32	40						

●Stock ○Availabie upon Order

DWLNR/L



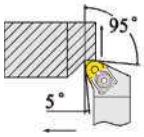


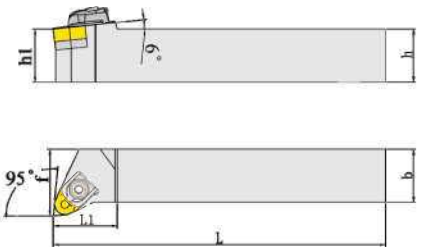


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
DWLNR/L1616H06	●	●	16	16	100	28	16	20	WN**0604	WN-D0603	DXD0512	DYB2313	DGD0520	DTN0814	L4.0
DWLNR/L2020K06	●	●	20	20	125	28	20	25							
DWLNR/L2525M06	●	●	25	25	150	30	25	32							
DWLNR/L1616H08	●	●	16	16	100	30	16	20	WN**0804	WN-D0804	DXD0614	DYB2214	DGD0520	DTN0814	L4.0
DWLNR/L2020K08	●	●	20	20	125	32	20	25							
DWLNR/L2525M08	●	●	25	25	150	32	25	32							
DWLNR/L3232P08	●	●	32	32	170	35	32	40							

BWLNR/L





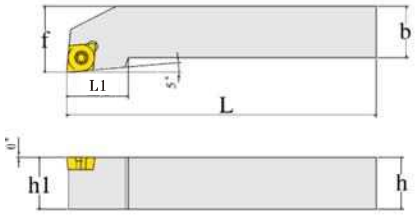


Ordering Code	Stock		Dimensions(mm)						Insert	Pad	Pin	Pressingplate	Screw	Spring	Wrench
	R	L	h	b	L	L1	h1	f							
BWLNR/L1616H06	○	○	16	16	100	28	16	20	WN**0604	WN-B0603	CTM5-S	BW06	BCS06	CR05	L2.5 L3.0
BWLNR/L2020K06	○	○	20	20	125	28	20	25							
BWLNR/L2525M06	○	○	25	25	150	30	25	32							
BWLNR/L1616H08	●	●	16	16	100	30	16	20	WN**0804	WN-B0804	CTM6-S	BW08	BCS08	CR07	L3.0 L4.0
BWLNR/L2020K08	●	●	20	20	125	32	20	25							
BWLNR/L2525M08	●	●	25	25	150	32	25	32							
BWLNR/L3232P08	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

SCLCR/L

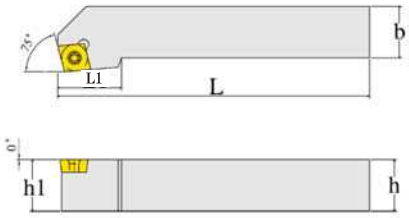




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SCLCR/L1010H06	●	●	10	10	100	15	10	12	CC**0602	M2.5*6	T-8
SCLCR/L1212H06	●	●	12	12	100	15	12	16			
SCLCR/L1212H09	●	●	12	12	100	20	12	16	CC**09T3	M3.5*8	T-15
SCLCR/L1616H09	●	●	16	16	100	20	16	20			
SCLCR/L2020K09	●	●	20	20	125	22	20	25			
SCLCR/L2525M09	●	●	25	25	150	22	25	32			
SCLCR/L2020K12	●	●	20	20	125	22	20	25	CC**1204	M5*12	T-20
SCLCR/L2525M12	●	●	25	25	150	28	25	32			
SCLCR/L3232P12	○	○	32	32	170	28	32	40			

SCKCR/L



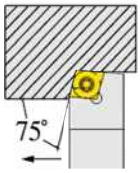


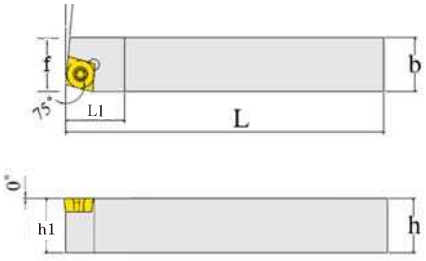
Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SCKCR/L1212H09	●	●	12	12	100	20	12	16	CC**09T3	M3.5*8	T-15
SCKCR/L1616H09	●	●	16	16	100	22	16	20			
SCKCR/L2020K09	●	●	20	20	125	22	20	25			
SCKCR/L2525M09	●	●	25	25	150	22	25	32			
SCKCR/L2020K12	●	●	20	20	125	22	20	25	CC**1204	M5*12	T-20
SCKCR/L2525M12	●	●	25	25	150	22	25	32			
SCKCR/L3232P12	○	○	32	32	170	28	32	40			

●Stock ○Availabie upon Order

SCBCR/L



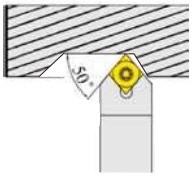


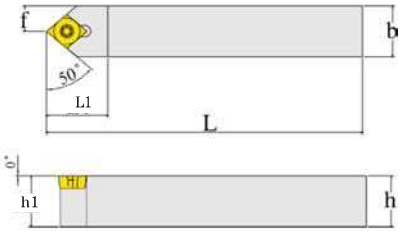


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SCBCR/L1616H09	●	●	16	16	100	22	16	20	CC**09T3	M3.5*8	T-15
SCBCR/L2020K09	●	●	20	20	125	22	20	25			
SCBCR/L2525M09	●	●	25	25	150	22	25	32			
SCBCR/L2020K12	●	●	20	20	125	22	20	25	CC**1204	M5*12	T-20
SCBCR/L2525M12	●	●	25	25	150	28	25	32			

SCMCN





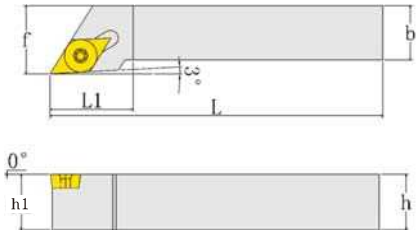


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		h	b	L	L1	h1	f			
SCMCN1010H06	○	10	10	100	15	10	12	CC**0602	M2.5*6	T-8
SCMCN1212H06	○	12	12	100	15	12	16			
SCMCN1212H09	●	12	12	100	20	12	16	CC**09T3	M3.5*8	T-15
SCMCN1616H09	●	16	16	100	20	16	20			
SCMCN2020K09	●	20	20	125	22	20	25			
SCMCN2525M09	○	25	25	150	22	25	32			

●Stock ○Availabie upon Order

SDJCR/L

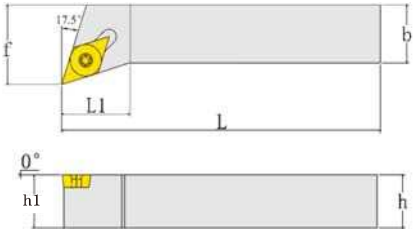




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDJCR/L1010H07	●	●	10	10	100	16	10	12	DC**0702	M2.5*6	T-8
SDJCR/L1212H07	●	●	12	12	100	16	12	16			
SDJCR/L1616H07	●	●	16	16	100	20	16	20	DC**11T3	M3.5*8	T-15
SDJCR/L1212H11	●	●	12	12	100	22	12	16			
SDJCR/L1616H11	●	●	16	16	100	22	16	20			
SDJCR/L2020K11	●	●	20	20	125	25	20	25	DC**11T3	M3.5*8	T-15
SDJCR/L2525M11	●	●	25	25	150	32	25	32			
SDJCR/L3232P11	●	●	32	32	170	32	32	40			

SDQCR/L



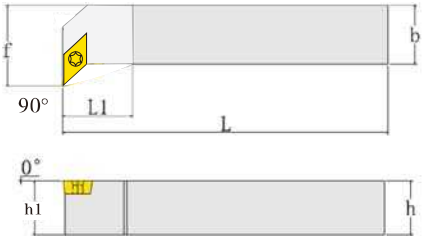


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDQCR/L1010H07	●	●	10	10	100	16	10	12	DC**0702	M2.5*6	T-8
SDQCR/L1212H07	●	●	12	12	100	16	12	16			
SDQCR/L1212H11	●	●	12	12	100	18	12	16	DC**11T3	M3.5*8	T-15
SDQCR/L1616H11	●	●	16	16	100	22	16	20			
SDQCR/L2020K11	●	●	20	20	125	22	20	25			
SDQCR/L2525M11	●	●	25	25	150	22	25	32			

●Stock ○Availabie upon Order

SDFCR/L

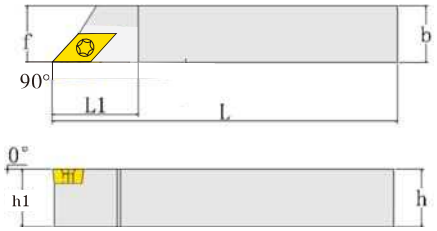




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDFCR/L1212H07	●	●	12	12	100	16	12	16	DC**0702	M2.5*6	T-8
SDFCR/L1616H11	●	●	16	16	100	18	16	20	DC**11T3	M3.5*8	T-15
SDFCR/L2020K11	●	●	20	20	125	22	20	25			
SDFCR/L2525M11	●	●	25	25	150	22	25	32			
SDFCR/L3232P11	●	●	32	32	170	32	32	40			

SDACR/L



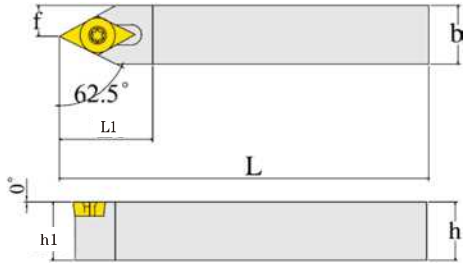


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SDACR/L0808H07	●	●	8	8	100	15	8	8	DC**0702	M2.5*6	T-8
SDACR/L1010H07	●	●	10	10	100	15	10	12			
SDACR/L1212H07	●	●	12	12	100	15	12	16	DC**11T3	M3.5*8	T-15
SDACR/L1616H07	●	●	16	16	100	20	16	20			
SDACR/L1212H11	●	●	12	12	100	22	12	16			
SDACR/L1616H11	●	●	16	16	100	22	16	20	DC**11T3	M3.5*8	T-15
SDACR/L2020K11	●	●	20	20	125	22	20	25			
SDACR/L2525M11	●	●	25	25	150	22	25	32			

●Stock ○Availabie upon Order

SDNCN

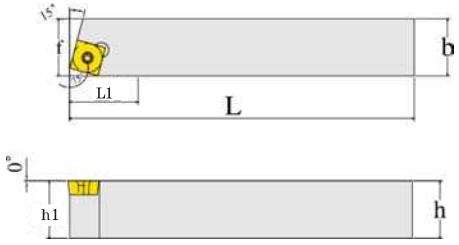




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		h	b	L	L1	h1	f			
SDNCN0808H07	●	8	8	100	16	8	8	DC**0702	M2.5*6	T-8
SDNCN1010H07	●	10	10	100	16	10	12			
SDNCN1212H07	●	12	12	100	18	12	16	DC**11T3	M3.5*8	T-15
SDNCN1616H07	●	16	16	100	22	16	20			
SDNCN1212H11	●	12	12	100	22	12	16			
SDNCN1616H11	●	16	16	100	27	16	20	DC**11T3	M3.5*8	T-15
SDNCN2020K11	●	20	20	125	27	20	25			
SDNCN2525M11	●	25	25	150	27	25	32			

SSBCR/L



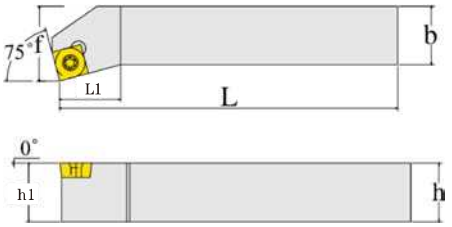


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SSBCR/L1212H09	●	●	12	12	100	16	12	16	SC**09T3	M3.5*8	T-15
SSBCR/L1616H09	●	●	16	16	100	20	16	20			
SSBCR/L2020H09	●	●	20	20	125	20	20	25			
SSBCR/L2020K12	●	●	20	20	125	20	20	25	SC**1204	M5*12	T-20
SSBCR/L2525M12	●	●	25	25	150	25	25	32			

●Stock ○Availabie upon Order

SSKCR/L

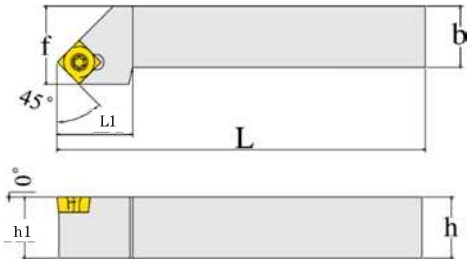




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SSKCR/L1212H09	●	●	12	12	100	16	12	16	SC**09T3	M3.5*8	T-15
SSKCR/L1616H09	●	●	16	16	100	18	16	20			
SSKCR/L2020H09	●	●	20	20	125	22	20	25			
SSKCR/L2020K12	●	●	20	20	125	22	20	25	SC**1204	M5*12	T-20
SSKCR/L2525M12	●	●	25	25	150	30	25	32			

SSSCR/L



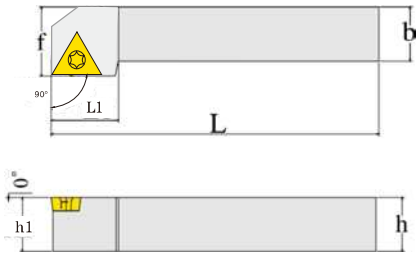


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SSSCR/L1212H09	●	●	12	12	100	16	12	16	SC**09T3	M3.5*8	T-15
SSSCR/L1616H09	●	●	16	16	100	18	16	20			
SSSCR/L2020H09	●	●	20	20	125	22	20	25			
SSSCR/L2020K12	●	●	20	20	125	22	20	25	SC**1204	M5*12	T-20
SSSCR/L2525M12	●	●	25	25	150	30	25	32			

●Stock ○Availabie upon Order

STGCR/L

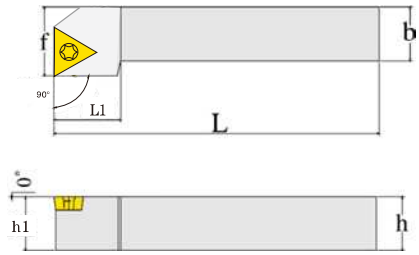




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
STGCR/L1212H11	●	●	12	12	100	18	12	16	TC**1102	M2.5*6	T-8
STGCR/L1616H11	●	●	16	16	100	20	16	20			
STGCR/L2020K16	●	●	20	20	125	30	20	25	TC**16T3	M3.5*8	T-15
STGCR/L2525M16	●	●	25	25	150	30	25	32			

STFCR/L



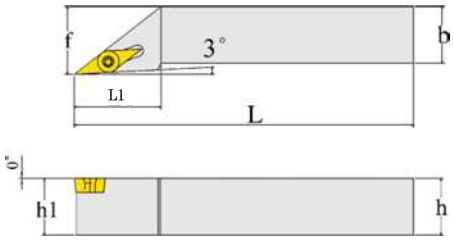


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
STFCR/L1212H11	●	●	12	12	100	18	12	16	TC**1102	M2.5*6	T-8
STFCR/L1616H11	●	●	16	16	100	20	16	20			
STFCR/L2020K16	●	●	20	20	125	30	20	25	TC**16T3	M3.5*8	T-15
STFCR/L2525M16	●	●	25	25	150	30	25	32			

●Stock ○Availabie upon Order

SVJCR/L

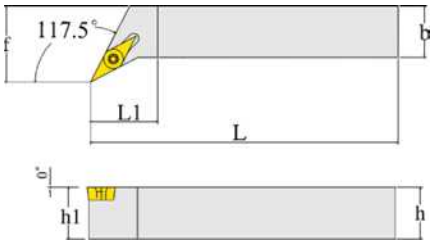




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVJCR/L1212H11	●	●	12	12	100	25	12	16	VC**1103	M2.5*6	T-8
SVJCR/L1616H11	●	●	16	16	100	28	16	20			
SVJCR/L2020K11	●	●	20	20	125	35	20	25			
SVJCR/L2525M11	●	●	25	25	150	32	25	32			
SVJCR/L1616H16	●	●	16	16	100	32	16	20	VC**1604	M3.5*8	T-15
SVJCR/L2020K16	●	●	20	20	125	35	20	25			
SVJCR/L2525M16	●	●	25	25	150	38	25	32			
SVJCR/L3232P16	●	●	32	32	170	45	32	40			

SVQCR/L



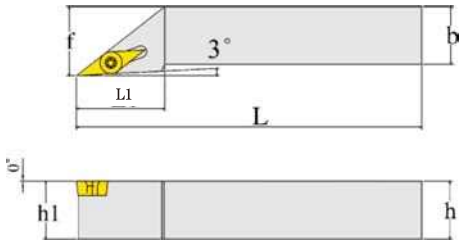


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVQCR/L1616H11	●	●	16	16	100	35	16	20	VC**1103	M2.5*6	T-8
SVQCR/L2020K11	●	●	20	20	125	35	20	25			
SVQCR/L1616H16	●	●	16	16	100	35	16	20	VC**1604	M3.5*8	T-15
SVQCR/L2020K16	●	●	20	20	125	35	20	25			
SVQCR/L2525M16	●	●	25	25	150	35	25	32			
SVQCR/L3232P16	●	●	32	32	170	35	32	40			

●Stock ○Availabie upon Order

SVJBR/L

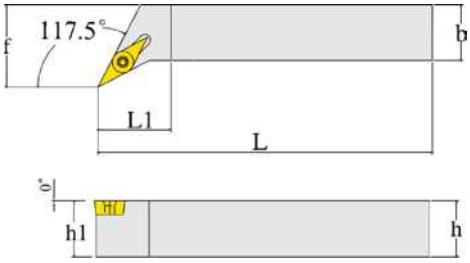




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVJBR/L1212H11	●	●	12	12	100	25	12	16	VB**1103	M2.5*6	T-8
SVJBR/L1616H11	●	●	16	16	100	28	16	20			
SVJBR/L2020K11	●	●	20	20	125	35	20	25			
SVJBR/L2525M11	●	●	25	25	150	32	25	32			
SVJBR/L1616H16	●	●	16	16	100	32	16	20	VB**1604	M3.5*8	T-15
SVJBR/L2020K16	●	●	20	20	125	35	20	25			
SVJBR/L2525M16	●	●	25	25	150	38	25	32			
SVJBR/L3232P16	●	●	32	32	170	45	32	40			

SVQBR/L



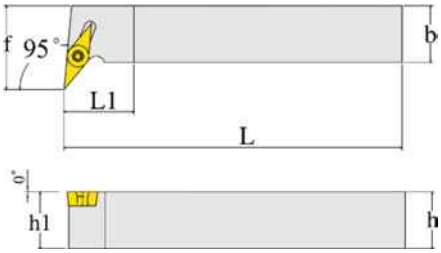


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVQBR/L1616H11	●	●	16	16	100	35	16	20	VB**1103	M2.5*6	T-8
SVQBR/L2020K11	●	●	20	20	125	35	20	25			
SVQBR/L1616H16	●	●	16	16	100	35	16	20	VB**1604	M3.5*8	T-15
SVQBR/L2020K16	●	●	20	20	125	35	20	25			
SVQBR/L2525M16	●	●	25	25	150	35	25	32			
SVQBR/L3232P16	●	●	32	32	170	35	32	40			

●Stock ○Availabie upon Order

SVUC(B)R/L

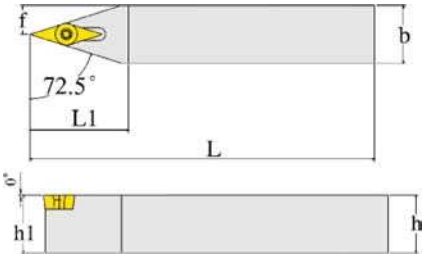




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SVUCR/L1616H11	●	●	16	16	100	16	16	20	VC**1103	M2.5*6	T-8
SVUCR/L2020K11	●	●	20	20	125	16	20	25			
SVUCR/L1616H16	○	○	16	16	100	16	16	20	VC**1604	M3.5*8	T-15
SVUCR/L2020K16	●	●	20	20	125	16	20	25			
SVUCR/L2525M16	●	●	25	25	150	16	25	32			
SVUBR/L1616H11	●	●	16	16	100	16	16	20	VB**1103	M2.5*6	T-8
SVUBR/L2020K11	●	●	20	20	125	16	20	25			
SVUBR/L1616H16	○	○	16	16	100	16	16	20	VB**1604	M3.5*8	T-15
SVUBR/L2020K16	●	●	20	20	125	16	20	25			
SVUBR/L2525M16	●	●	25	25	150	16	25	32			

SVVC(B)N





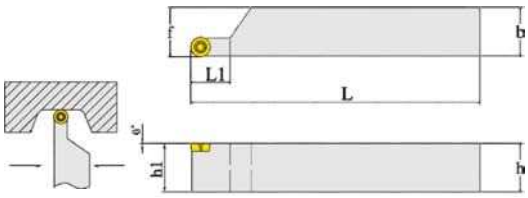
Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		h	b	L	L1	h1	f			
SVVCN1616H11	●	16	16	100	28	16	20	VC**1103	M2.5*6	T-8
SVVCN2020K11	●	20	20	125	35	20	25			
SVVCN1616H16	●	16	16	100	32	16	20	VC**1604	M3.5*8	T-15
SVVCN2020K16	●	20	20	125	35	20	25			
SVVCN2525M16	●	25	25	150	38	25	32			
SVVBN1616H11	●	16	16	100	28	16	20	VB**1103	M2.5*6	T-8
SVVBN2020K11	●	20	20	125	35	20	25			
SVVBN1616H16	●	16	16	100	32	16	20	VB**1604	M3.5*8	T-15
SVVBN2020K16	●	20	20	125	35	20	25			
SVVBN2525M16	●	25	25	150	38	25	32			

●Stock ○Availabie upon Order

SRACR/L CRACR/L







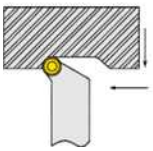
Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SRACR/L1616H06	●	●	16	16	100	15	16	20	RC**0602	M2.5*6	T-8
SRACR/L2020K06	●	●	20	20	125	20	20	25			
SRACR/L2525M06	●	●	25	25	150	25	25	32			
SRACR/L1616H08	●	●	16	16	100	15	16	20	RC**0803	M3.0*10	T-10
SRACR/L2020K08	●	●	20	20	125	20	20	25			
SRACR/L2525M08	●	●	25	25	150	20	25	32			
SRACR/L3232P08	●	●	32	32	170	25	32	40			
SRACR/L1616H10	●	●	16	16	100	15	16	20	RC**10T3	M3.5*10	T-15
SRACR/L2020K10	●	●	20	20	125	20	20	25			
SRACR/L2525M10	●	●	25	25	150	20	25	32			
SRACR/L3232P10	●	●	32	32	170	25	32	40			
SRACR/L2020K12	●	●	20	20	125	20	20	25	RC**1204	M3.5*10	T-15
SRACR/L2525M12	●	●	25	25	150	20	25	32			
SRACR/L3232P12	●	●	32	32	170	25	32	40			
SRACR/L4040P12	●	●	40	40	200	32	40	50			
SRACR/L2525M16	●	●	25	25	150	20	25	32	RC**1606	M5*12	T-20
SRACR/L3232P16	●	●	32	32	170	25	32	40			
SRACR/L4040R16	●	●	40	40	200	32	40	50			
SRACR/L3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20
SRACR/L4040R20	●	●	40	40	200	32	40	50			

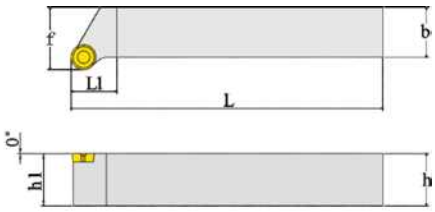
Ordering Code	Stock		Dimensions(mm)						Insert	Pressingplate	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f					
CRACR/L3232P12	●	●	32	32	170	25	32	40	RC**1204	M5*12	NLJ0522	M3.5*10	T-15 L4.0
CRACR/L4040R12	●	●	40	40	200	32	40	50					
CRACR/L3232P16	●	●	32	32	170	25	32	40	RC**1606	M5*12	T-20	M5*12	T-19 L4.0
CRACR/L4040R16	●	●	40	40	200	32	40	50					
CRACR/L3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20	M5*12	T-20 L4.0
CRACR/L4040R20	●	●	40	40	200	32	40	50					

●Stock ○Availabie upon Order

SRGCR/L







Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SRGCR/L1616H06	●	●	16	16	100	15	16	20	RC**0602	M2.5*6	T-8
SRGCR/L2020K06	●	●	20	20	125	20	20	25			
SRGCR/L2525M06	●	●	25	25	150	25	25	32			
SRGCR/L1616H08	●	●	16	16	100	15	16	20	RC**0803	M3.0*10	T-10
SRGCR/L2020K08	●	●	20	20	125	20	20	25			
SRGCR/L2525M08	●	●	25	25	150	20	25	32			
SRGCR/L3232P08	●	●	32	32	170	25	32	40			
SRGCR/L1616H10	●	●	16	16	100	15	16	20	RC**10T3	M3.5*10	T-15
SRGCR/L2020K10	●	●	20	20	125	20	20	25			
SRGCR/L2525M10	●	●	25	25	150	20	25	32			
SRGCR/L3232P10	●	●	32	32	170	25	32	40			
SRGCR/L2020K12	●	●	20	20	125	20	20	25	RC**1204	M3.5*10	T-15
SRGCR/L2525M12	●	●	25	25	150	20	25	32			
SRGCR/L3232P12	●	●	32	32	170	25	32	40			
SRGCR/L4040P12	●	●	40	40	200	32	40	50			
SRGCR/L2525M16	●	●	25	25	150	20	25	32	RC**1606	M5*12	T-20
SRGCR/L3232P16	●	●	32	32	170	25	32	40			
SRGCR/L4040R16	●	●	40	40	200	32	40	50			
SRGCR/L3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20
SRGCR/L4040R20	●	●	40	40	200	32	40	50			

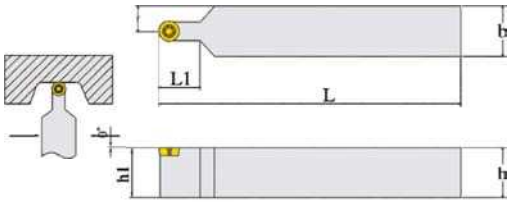
●Stock ○Availabie upon Order

SRDCN



CRDCN





Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	L	L1	h1	f			
SRDCN1616H06	●	●	16	16	100	15	16	20	RC**0602	M2.5*6	T-8
SRDCN2020K06	●	●	20	20	125	20	20	25			
SRDCN2525M06	●	●	25	25	150	25	25	32			
SRDCN1616H08	●	●	16	16	100	15	16	20	RC**0803	M3.0*10	T-10
SRDCN2020K08	●	●	20	20	125	20	20	25			
SRDCN2525M08	●	●	25	25	150	20	25	32			
SRDCN3232P08	●	●	32	32	170	25	32	40			
SRDCN1616H10	●	●	16	16	100	15	16	20	RC**10T3	M3.5*10	T-15
SRDCN2020K10	●	●	20	20	125	20	20	25			
SRDCN2525M10	●	●	25	25	150	20	25	32			
SRDCN3232P10	●	●	32	32	170	25	32	40			
SRDCN2020K12	●	●	20	20	125	20	20	25	RC**1204	M3.5*10	T-15
SRDCN2525M12	●	●	25	25	150	20	25	32			
SRDCN3232P12	●	●	32	32	170	25	32	40			
SRDCN4040P12	●	●	40	40	200	32	40	50			
SRDCN2525M16	●	●	25	25	150	20	25	32	RC**1606	M5*12	T-20
SRDCN3232P16	●	●	32	32	170	25	32	40			
SRDCN4040R16	●	●	40	40	200	32	40	50			
SRDCN3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20
SRDCN4040R20	●	●	40	40	200	32	40	50			

Ordering Code	Stock		Dimensions(mm)						Insert	Pressingplate	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f					
CRDCN3232P12	●	●	32	32	170	25	32	40	RC**1204	M5*12	NLJ0522	M3.5*10	T-15 L4.0
CRDCN4040R12	●	●	40	40	200	32	40	50					
CRDCN3232P16	●	●	32	32	170	25	32	40	RC**1606	M5*12	T-20	M5*12	T-19 L4.0
CRDCN4040R16	●	●	40	40	200	32	40	50					
CRDCN3232P20	●	●	32	32	170	25	32	40	RC**2006	M5*12	T-20	M5*12	T-20 L4.0
CRDCN4040R20	●	●	40	40	200	32	40	50					

●Stock ○Availabie upon Order

Internal turning tools











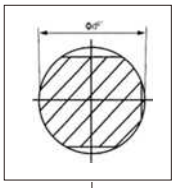




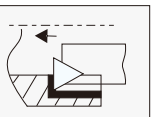
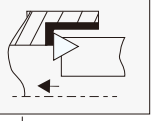


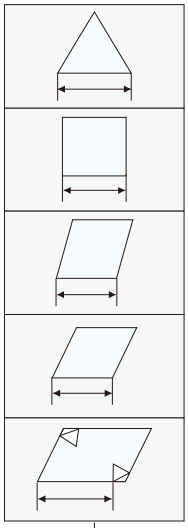
S–steel
A–steel(w)thru coolant
D–Devibrator
C–Carbide
E–Carbide(w)thru coolant
H–Interchangeable head
R–Rotating head

Boring bar or head type



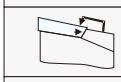
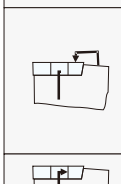
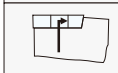
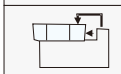
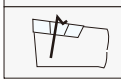
Insert Clearance	
N	0°
P	11°
C	7°
B	5°
E	15°
D	20°

R	
L	

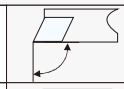
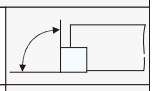
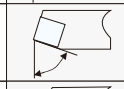
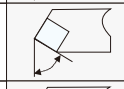
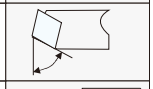
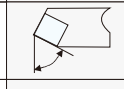
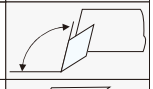
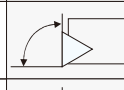
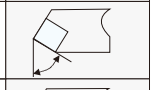
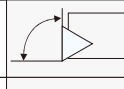
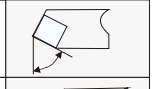
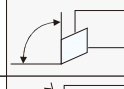
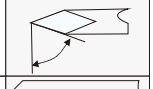
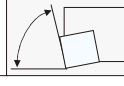
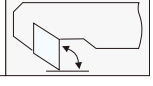


S	32	S	D	C	L	N	R	12	

Shank length l1(mm)	
K	125
M	150
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special

Method of Holding	
	D
	M
	P
	B
	S

Insert Shape	
C	80° Rhombic
D	55° Rhombic
R	Round
S	Square
T	Triangle
V	35° Rhombic
W	Trigon

Cutting Edge Angle					
A	90°		L	95°	
B	75°		N	63°	
D	45°		P	62.5°	
E	60°		Q	108°	
F	91°		S	45°	
G	90°		T	60°	
U	93°		V	72.5°	
K	75°		Z	93°	

S**MCLNR/L



P083

S**PCLNR/L



P083

S**DCLNR/L



P084

S**BCLNR/L



P084

S**MCKNR/L



P085

S**MCWNR/L



P085

S**MSKNR/L



P086

S**DDUNR/L



P086

S**PDUNR/L



P087

S**DDQNR/L



P087

S**DDZNR/L



P088

S**MTQNR/L



P088

S**MTJNR/L



P089

S**MTFNR/L



P089

S**PTUNR/L



P090

S**MTUNR/L



P090

S**DTUNR/L



P091

S**MTWNR/L



P091

S**MWLNR/L



P092

S**PWLNR/L



P092

S**DWLNR/L



P093

S**DVXNR/L



P093

S**DVQNR/L



P094

S**DVUNR/L



P094

S**DVWNR/L



P094

C**-SCLCR/L



P095

C**-SCLCR/L-A



P095

H**-SCLCR/L



P096

C****-SDQCR/L



P096

C**-SDUCR/L



P09\

H**-SDUCR/L



P097

H**-SDQCR/L



P098

C**-STFCR/L



P098

C****-STFCR/L-A



P099

H**-STFCR/L



P099

C**-STUBR/L



P100

C**-STUBR/L-A



P100

C**-STUPR/L



P101

C**-STUPR/L-A



P101

H**-STUPR/L



P102

C**-SWUBR/L



P102

C**-SWUBR/L-A



P103

H**-SWUBR/L



P103

SHB Cutter



P104

S**-SCLCR/L



P104

S**-SCLCR/L



P105

S**-SCKCR/L



P105

S**-SCZCR/L



P106

S**-SDQCR/L

P106

S**-SDUCR/L

P107

S**-SDZCR/L

P107

S**-SDWCR/L

P108

S**-SSSCR/L

P108

S**-SSKCR/L

P109

S**-STFCR/L

P109

S**-STUCR/L

P110

S**-STWCR/L

P110

S**-SVQB(C)R/L

P111

S**-SVUB(C)R/L

P111

S**-SVXB(C)R/L

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P112

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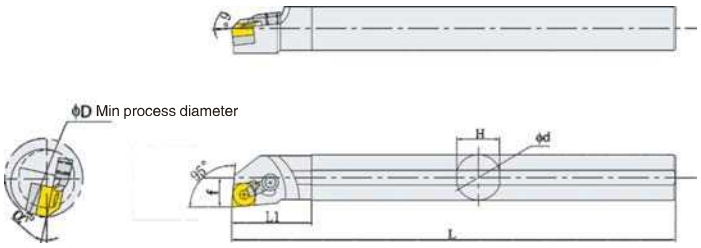
P113

S**-SWLCR/L

P113

S**MCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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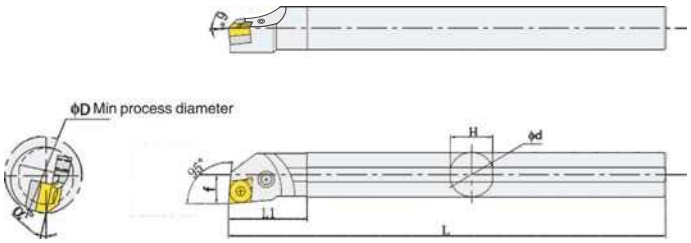
S20R-MCLNR/L12	●	●	25	20	200	45	18	13	15						
S25R-MCLNR/L12	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S-MCLNR/L12	●	●	32	25	250	45	23	16.5	12						
S32S-MCLNR/L12	●	●	40	32	250	50	29	22.5	17		CN-M1204	MXD0617			
S32T-MCLNR/L12	●	●	40	32	300	50	29	22.5	17						
S40T-MCLNR/L12	●	●	50	40	300	55	37	26	15						
S40U-MCLNR/L12	●	●	50	40	350	55	37	26	15						

S**PCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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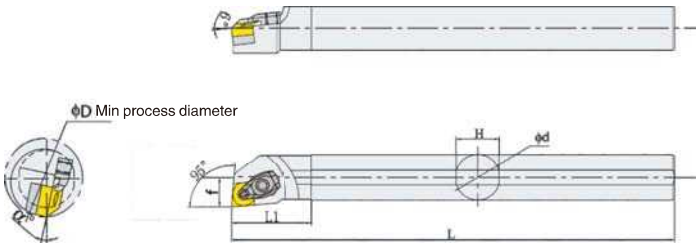
S25S-PCLNR/L12	●	●	32	25	250	40	20	17	12	CN**1204		GGX0514A		NLJ0816	
S32T-PCLNR/L12	●	●	40	32	300	50	32	22	17		CN-P1203	GGX0514	DPX0803	NLJ0820	
S40U-PCLNR/L12	●	●	50	40	350	55	40	27	15						

●Stock ○Availabie upon Order

S**DCLNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Spring	Wrench
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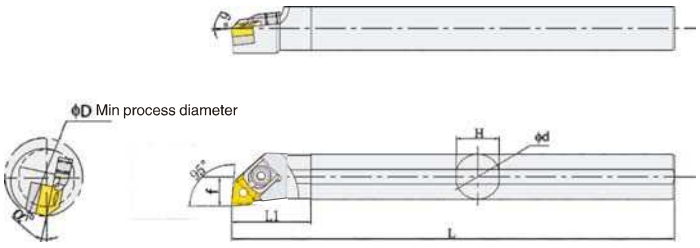
S25S-DCLNR/L12	●	●	32	25	250	40	20	17	12							
S32T-DCLNR/L12	●	●	40	32	300	50	32	22	17		CN-D1204	DXD0614				
S40U-DCLNR/L12	●	●	50	40	350	55	40	27	15							

S**BCLNR/L





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S32T-BCLNR/L12	●	●	40	32	300	50	32	22	17							
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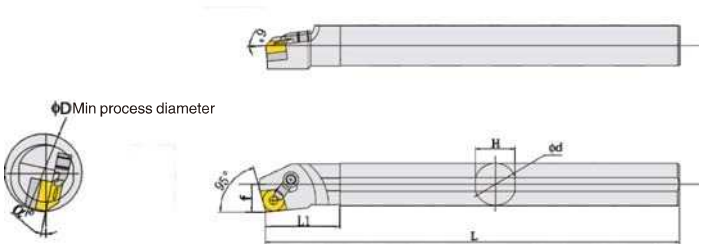
●Stock ○Availabie upon Order

S**MCKNR/L





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S25S-MCKNR/L12	●	●	32	25	250	45	23	16.5	12						
S32S-MCKNR/L12	●	●	40	32	250	50	29	22.5	17		CN-M1204	MXD0617			
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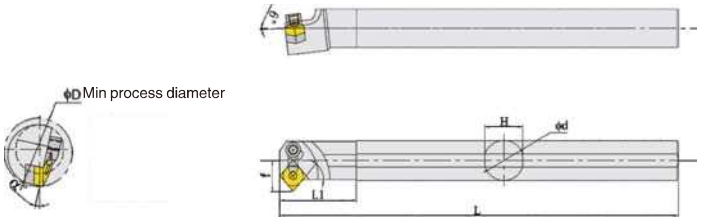
S**MCWNR/L





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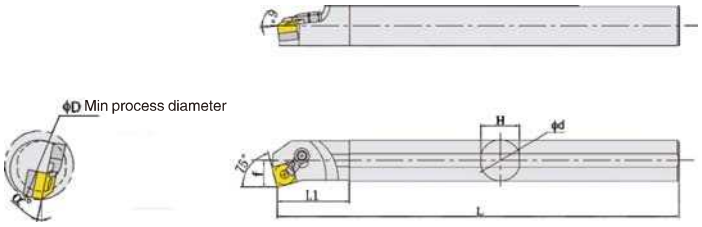
S25S-MCWNR/L12	●	●	32	25	250	45	23	16.5	12				MYB1814	ST0625	
S32T-MCWNR/L12	●	●	40	32	300	50	29	22.5	17		CN-M1204	MXD0617			

●Stock ○Availabie upon Order

S**MSKNR/L





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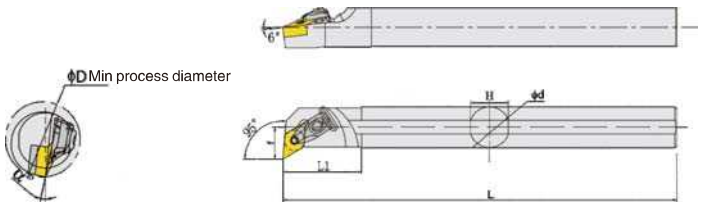
S**DDUNR/L





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S32T–DDUNR/L1504	●	●	40	32	300	50	29	22.5	17		DN–D1506	DXD0614				
S40U–DDUNR/L1504	●	●	50	40	350	55	37	26	15							
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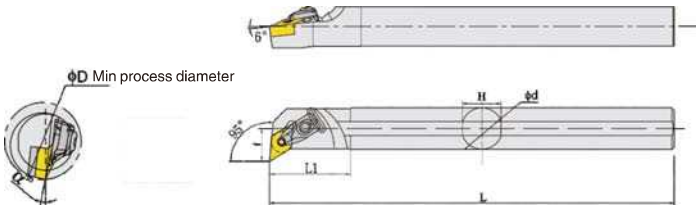
●Stock ○Availabie upon Order

S**PDUNR/L





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S25S–PDUNR/L1506	●	●	32	25	250	35	23	17	12	DN**1506		GGX0514A		NLJ0816	
S32T–PDUNR/L1506	●	●	40	32	300	40	30	22	17		DN–P1503	GGX0514D	DPX0606	NLJ0820	
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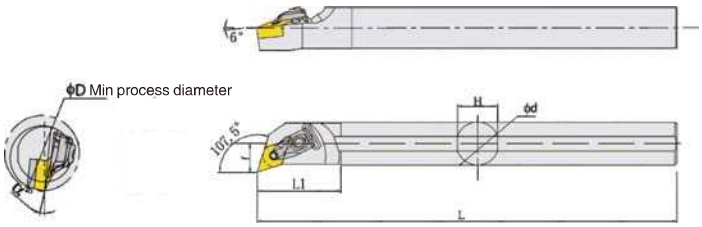
S**DDQNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
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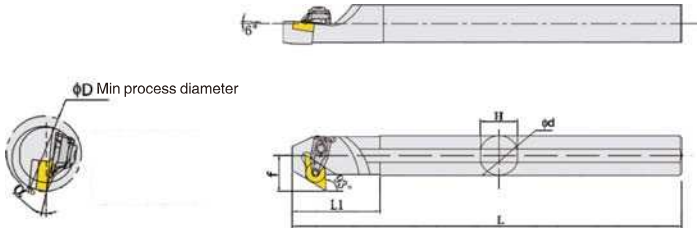
S32T–DDQNR/L1504	●	●	40	32	300	50	29	22.5	17		DN–D1506	DXD0614				
S40U–DDQNR/L1504	●	●	50	40	350	55	37	26	15							
S32T–DDQNR/L1506	●	●	40	32	300	50	29	22.5	17	DN**1506	DN–D1504					
S40U–DDQNR/L1506	●	●	50	40	350	55	37	26	15							

●Stock ○Availabie upon Order

S**DDZNR/L





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S40U–DDZNR/L1504	●	●	50	40	350	55	37	26	15							
S32T–DDZNR/L1506	●	●	40	32	300	50	29	22.5	17	DN**1506	DN–D1504					
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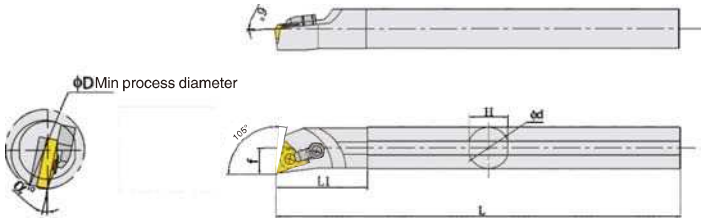
S**MTQNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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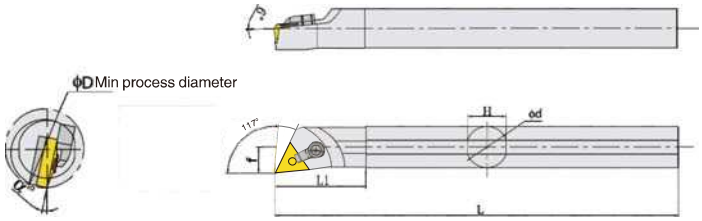
S25S–MTQNR/L16	●	●	32	25	250	45	23	16	12				MYB1814	ST0625	
S32T–MTQNR/L16	●	●	41	32	300	54	29	22.5	17		TN–M1603	MXD0513			

●Stock ○Availabie upon Order

S**MTJNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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S20R-MTJNR/L16	●	●	25	20	200	40	18	13	15						
S25R-MTJNR/L16	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S-MTJNR/L16	●	●	32	25	250	45	23	16.5	12						
S32S-MTJNR/L16	●	●	41	32	250	54	29	22.5	17		TN-M1603	MXD0513			
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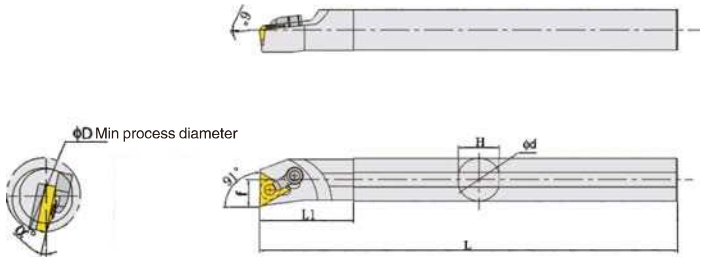
S**MTFNR/L





Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
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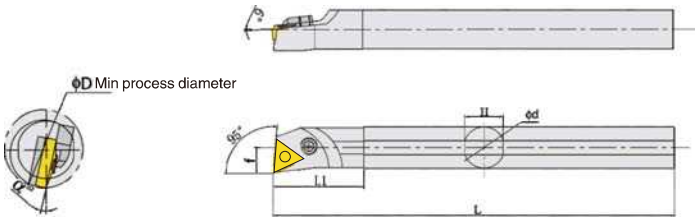
S16Q-MTFNR/L16	●	●	20	16	180	38	15	11	15	TN**1604	※	MXD0511	MYB1811	ST0620	L2.0 L3.0
S20Q-MTFNR/L16	●	●	25	20	180	45	18	13	15						
S20R-MTFNR/L16	●	●	25	20	200	45	18	13	15				MYB1814	ST0625	
S25R-MTFNR/L16	●	●	32	25	200	45	23	16.5	12						
S25S-MTFNR/L16	●	●	32	25	250	45	23	16.5	12						
S32S-MTFNR/L16	●	●	41	32	250	50	29	22.5	17		TN-M1603	MXD0513			
S32T-MTFNR/L16	●	●	41	32	300	50	29	22.5	17						

●Stock ○Availabie upon Order

S**PTUNR/L

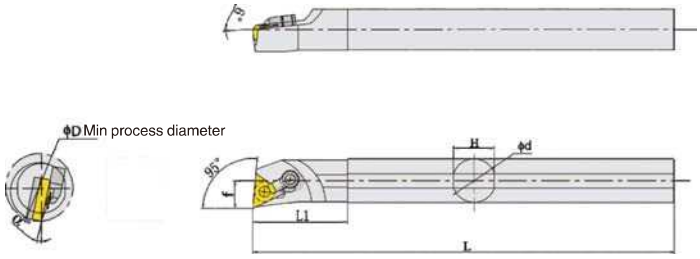




Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Shim pin	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S20R-PTUNR/L16	●	●	25	20	200	33	18	13	15	TN**1604	※	GGX0310A	※	NLJ0615	L2.5
S25S-PTUNR/L16	●	●	32	25	250	42	23	17	12						
S32T-PTUNR/L16	●	●	44	32	300	50	30	22	17		TN-P1603	GGX0310	DPX0505	NLJ0618	
S40T-PTUNR/L16	●	●	54	40	300	55	37	27	15						

S**MTUNR/L



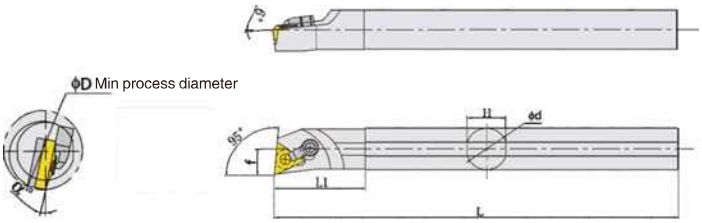


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S16Q-MTUNR/L16	○	○	20	16	180	38	15	11	15	TN**1604	※	MXD0511	MYB1811	ST0620	L2.0 L3.0
S20Q-MTUNR/L16	●	●	25	20	180	45	18	13	15						
S20R-MTUNR/L16	●	●	25	20	200	45	18	13	15				MYB1814	St0625	
S25R-MTUNR/L16	●	●	32	25	200	45	23	16.5	12						
S25S-MTUNR/L16	●	●	32	25	250	45	23	16.5	12						
S32S-MTUNR/L16	●	●	41	32	250	50	29	22.5	17		TN-M1603	MXD0513			
S32T-MTUNR/L16	●	●	41	32	300	50	29	22.5	17						

●Stock ○Availabie upon Order

S**DTUNR/L

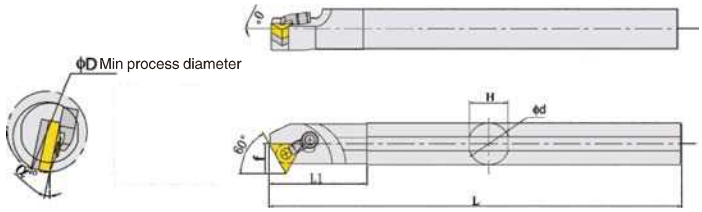




Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S20R-DTUNR/L16	●	●	25	20	200	45	18	13	15	TN**1604	※	※	DYB2313	DGD0520	DTH0814	L4.0
S25S-DTUNR/L16	●	●	32	25	250	45	23	16.5	12							
S32T-DTUNR/L16	●	●	42	32	300	50	29	22.5	17		TN-D1603	DXD0512				

S**MTWNR/L





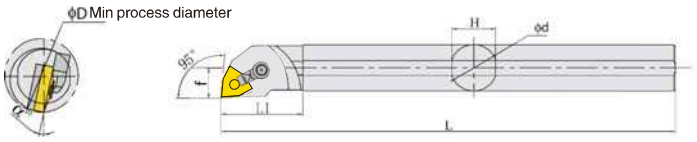
Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S20R-MTWNR/L16	●	●	25	20	200	45	18	14	15	TN**1604	※	MXD0511	MYB1811	ST0622	L2.0 L3.0
S25S-MTWNR/L16	●	●	32	25	250	45	23	16	12				MYB1814	ST0625	
S32T-MTWNR/L16	●	●	41	32	300	50	29	20	17		TN-M1603	MXD0513			

●Stock ○Availabie upon Order

S**MWLNR/L





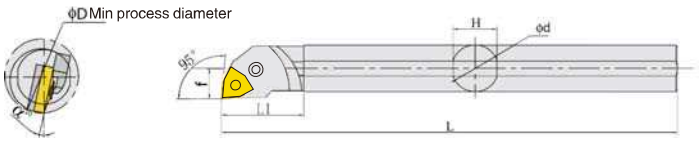


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Clamp	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S16Q-MWLNR/L06	●	●	22	16	180	38	15	11	15	WN**0604	※	MXD0511	MYB1811	ST0620	L2.0 L3.0
S20R-MWLNR/L06	●	●	25	20	200	45	18	13	15						
S25S-MWLNR/L06	●	●	32	25	250	45	23	16.5	12				MYB1814	ST0625	L2.0 L3.0
S20Q-MWLNR/L08	●	●	25	20	180	45	18	13	15	WN**0804		MXD0614	MYB1811	ST0620	
S20R-MWLNR/L08	●	●	25	20	200	45	18	13	15						
S25R-MWLNR/L08	●	●	32	25	200	45	23	16.5	12				MYB1814	ST0625	
S25S-MWLNR/L08	●	●	32	25	250	45	23	16.5	12						
S32S-MWLNR/L08	●	●	41	32	250	50	29	22.5	17		WN-M0804	MXD0617			
S32T-MWLNR/L08	●	●	41	32	300	50	29	22.5	17						
S40U-MWLNR/L08	●	●	50	40	350	55	37	26	15						

S**PWLNR/L





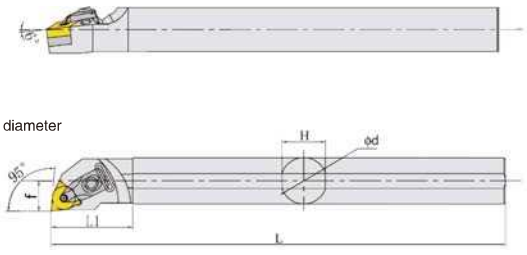


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Lever	Shim pin	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°						
S20R-PWLNR/L06	●	●	25	20	200	45	18	13	15	WN**0604	※	GGX0310	※	NLJ0615	L3.0
S25S-PWLNR/L08	●	●	32	25	250	45	23	16.5	12	WN**0804		GGX0514A		NLJ0816	
S32T-PWLNR/L08	●	●	44	32	300	50	29	22.5	17		WN-P0803	GGX0514	DPX0606	NLJ0820	
S40T-PWLNR/L08	●	●	54	40	300	55	37	26	15						

●Stock ○Availabie upon Order

S**DWLNR/L

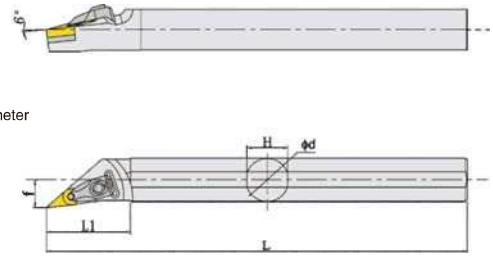




Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S20R-DWLNR/L08	●	●	25	20	200	45	18	13	15	WN**0804	※	※	DYB2214	DGD0520	DTN0814	L4.0
S25S-DWLNR/L08	●	●	32	25	250	45	23	16.5	12							
S32T-DWLNR/L08	●	●	42	32	300	50	29	22.5	17		WN-D0804	DXD0614				
S40U-DWLNR/L08	●	●	50	40	350	55	37	26	15							

S**DVXNR/L

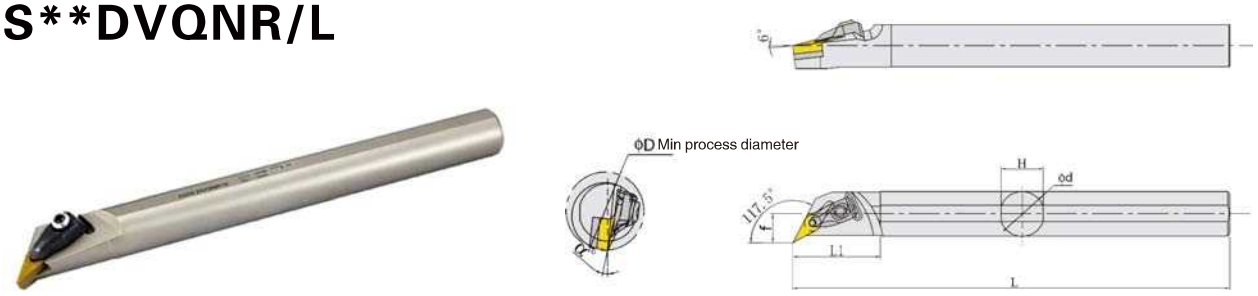




Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S20R-DVXNR/L16	●	●	27	20	200	45	18	14	15	VN**1604	※	※	DYB2914	DGD0520	DTN0814	L4.0
S25S-DVXNR/L16	●	●	32	25	250	45	23	17	12							
S32T-DVXNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				
S40U-DVXNR/L16	●	●	50	40	350	55	37	27	15							

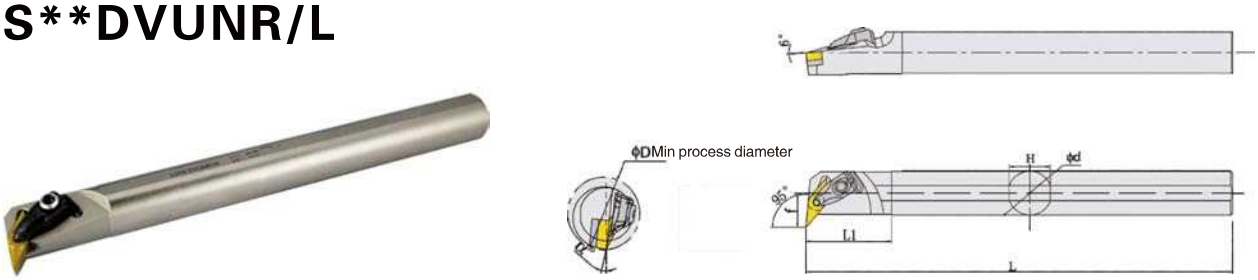
●Stock ○Availabie upon Order

S**DVQNR/L



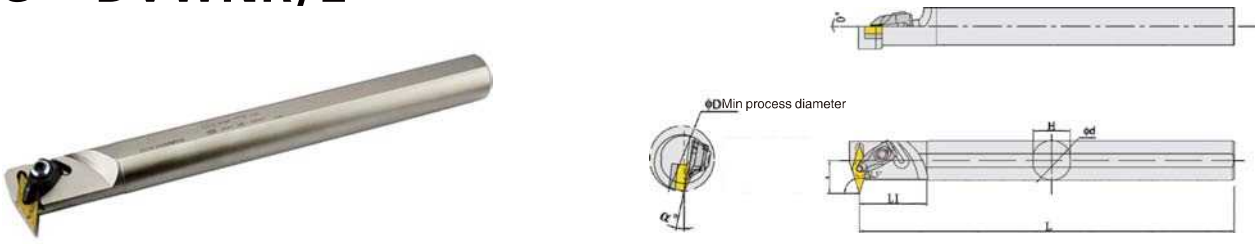
Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S25S-DVQNR/L16	●	●	32	25	250	45	23	17	12	VN**1604	※	※	DYB2914	DGD0520	DTH0814	L4.0
S32T-DVQNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				
S40U-DVQNR/L16	●	●	50	40	350	55	37	27	15							

S**DVUNR/L



Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S25S-DVUNR/L16	●	●	32	25	250	45	23	17	12	VN**1604	※	※	DYB2914	DGD0520	DTH0814	L4.0
S32T-DVUNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				
S40U-DVUNR/L16	●	●	50	40	350	55	37	27	15							

S**DVWNR/L

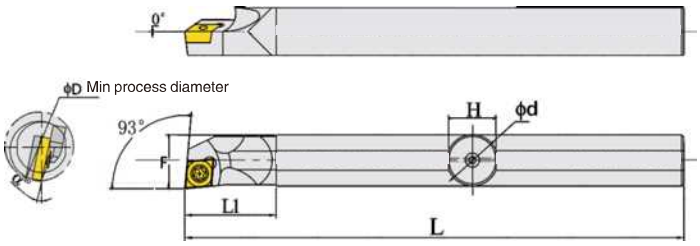


Ordering Code	Stock		Dimensions(mm)							Insert	Shim	Pin	Clamp	Screw	Wrench	Wrench
	R	L	D	d	L	L1	H	f	a°							
S25S-DVWNR/L16	●	●	32	25	250	45	23	17	12	VN**1604	※	※	DYB2914	DGD0520	DTH0814	L4.0
S32T-DVWNR/L16	●	●	42	32	300	50	29	23	17		VN-D1603	DXD0512				

●Stock ○Availabie upon Order

C**–SCLCR/L (Carbide Holder)

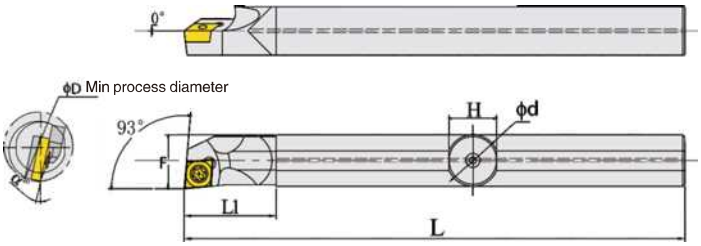




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C04G–SCLCR/L03	●	○	5	4	2.5	3.8	90	15	15°	CCGT0301	M1.8*3.5	T–6
C05H–SCLCR/L03	●	○	6	5	3	4.4	100	15	13°			
C06H–SCLCR/L04	●	○	7	6	3.5	5.4	100	15	13°	CCGT0401	M2.0*4	T–6
C07K–SCLCR/L04	●	○	8	7	4	6.4	125	20	15°			
C08K–SCLCR/L06	●	○	10	8	5	7	125	20	13	CC**0602	M2.5*6	T–8
C10K–SCLCR/L06	●	○	13	10	6.5	9	125	22	12			
C12M–SCLCR/L06	●	○	16	12	8	11	150	25	10			
C12Q–SCLCR/L06	●	○	16	12	8	11	180	25	12			
C16Q–SCLCR/L09	●	○	20	16	10	15	180	28	10	CC**09T3	M3.5*8	T–15
C20S–SCLCR/L09	●	○	25	20	12.5	18	250	33	8			

C**–SCLCR/L–A (Carbide Holder)



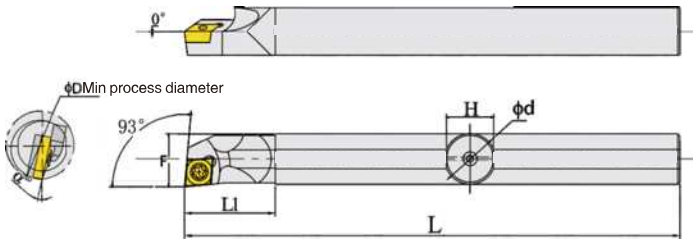


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C0604G–SCLCR/L03–A	●	○	5	4	2.5	3.8	90	15	15°	CCGT0301	M1.8*3.5	T–6
C0605H–SCLCR/L03–A	●	○	6	5	3	4.4	100	15	13°			
C06H–SCLCR/L04–A	●	○	7	6	3.5	5.4	100	15	13°	CCGT0401	M2.0*4	T–6
C07K–SCLCR/L04–A	●	○	8	7	4	6.4	125	20	15°			
C08K–SCLCR/L06–A	●	○	10	8	5	7	125	20	13	CC**0602	M2.5*6	T–8
C10K–SCLCR/L06–A	●	○	13	10	6.5	9	125	22	12			
C12M–SCLCR/L06–A	●	○	16	12	8	11	150	25	10			
C12Q–SCLCR/L06–A	●	○	16	12	8	11	180	25	12			
C16Q–SCLCR/L09–A	●	○	20	16	10	15	180	28	10	CC**09T3	M3.5*8	T–15
C20S–SCLCR/L09–A	●	○	25	20	12.5	18	250	33	8			

●Stock ○Availabie upon Order

H**–SCLCR/L (HSS Holder)

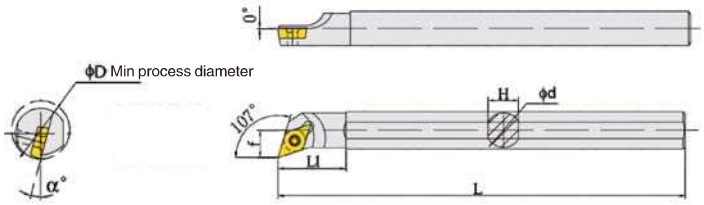




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
H04H–SCLCR/L03	●	○	5	4	2.5	3.8	100	15	15°	CCGT0301	M1.8*3.5	T–6
H05H–SCLCR/L03	●	○	6	5	3	4.4	100	15	13°			
H1004H–SCLCR/L03	●	○	5	10	2.5	3.8	100	15	15°	CCGT0301	M1.8*3.5	T–6
H1005H–SCLCR/L03	●	○	6	10	3	4.4	100	15	13°			
H06H–SCLCR/L04	●	○	7	6	3.5	5.4	100	15	13°	CCGT0401	M2.0*4	T–6
H07K–SCLCR/L04	●	○	8	7	4	6.4	125	20	15°			
H08K–SCLCR/L06	●	○	10	8	5	7	125	20	13	CC**0602	M2.5*6	T–8
H10K–SCLCR/L06	●	○	13	10	6.5	9	125	22	12			
H12K–SCLCR/L06	●	○	16	12	8	11	125	25	10			
H12M–SCLCR/L09	○	○	16	12	8	11	150	25	12	CC**09T3	M3.5*8	T–15

C****–SDQCR/L (Carbide Holder)



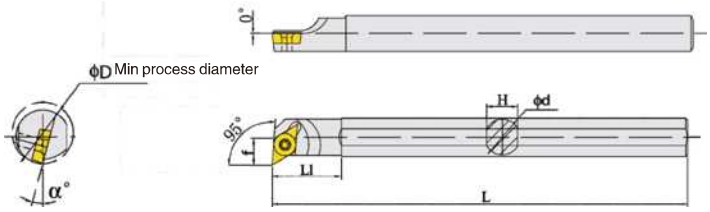


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C08K–SDQCR/L07	●	○	13	8	6	7	125	20	12	DC**0702	M2.5*6	T–8
C10K–SDQCR/L07	●	○	16	10	7	9	125	23	10			
C12M–SDQCR/L07	●	○	20	12	9	11	150	30	8			
C12Q–SDQCR/L07	●	○	20	12	9	11	150	30	8			
C16Q–SDQCR/L07	●	○	25	16	10.5	15	180	30	6			
C16Q–SDQCR/L11	●	○	25	16	11	15	180	30	6	DC**11T3	M3.5*8	T–15
C16R–SDQCR/L11	●	○	25	16	11	15	200	30	6			
C20S–SDQCR/L11	●	○	28	20	12.5	18	250	39	6			

●Stock ○Availabie upon Order

C**–SDUCR/L (Carbide Holder)

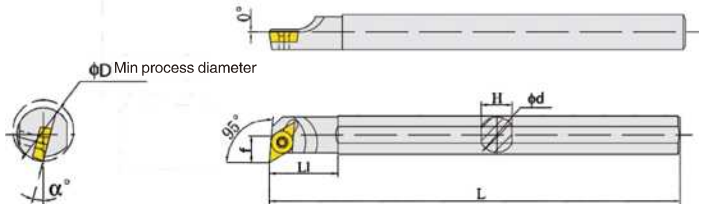




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
C08K–SDUCR/L07	●	○	10	8	7	13	125	25	12	DC**0702	M2.5*6	T–8
C10K–SDUCR/L07	●	○	13	10	8	12	125	25	10			
C12M–SDUCR/L07	●	○	16	12	9	10	150	28	8			
C12Q–SDUCR/L07	●	○	16	12	9	12	150	28	8			
C16Q–SDUCR/L07	●	○	20	16	11	10	180	30	6			
C16Q–SDUCR/L11	●	○	20	16	11.5	10	180	35	6	DC**11T3	M3.5*8	T–15
C16R–SDUCR/L11	●	○	20	16	11.5	10	200	35	6			
C20S–SDUCR/L11	●	○	25	20	13	8	250	40	6			

H**–SDUCR/L (HSS Holder)



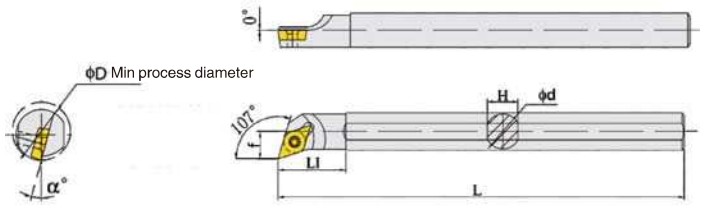


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
H08K–SDUCR/L07	○	○	10	8	7	13	125	25	12	DC**0702	M2.5*6	T–8
H10K–SDUCR/L07	○	○	13	10	8	12	125	25	10			
H12M–SDUCR/L07	○	○	16	12	9	10	150	28	8			
H16Q–SDUCR/L07	○	○	20	16	11	10	180	30	6			
H16Q–SDUCR/L11	○	○	20	16	11.5	10	180	35	6	DC**11T3	M3.5*8	T–15
H20R–SDUCR/L11	○	○	25	20	13	8	200	40	6			

●Stock ○Availabie upon Order

H**–SDQCR/L (HSS Holder)

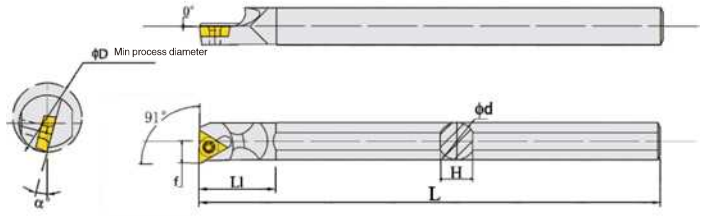




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	H	f	a°			
H08K–SDQCR/L07	○	○	10	8	7	13	125	25	12	DC**0702	M2.5*6	T–8
H10K–SDQCR/L07	○	○	13	10	8	12	125	25	10			
H12M–SDQCR/L07	○	○	16	12	9	10	150	28	8			
H16Q–SDQCR/L07	○	○	20	16	11	10	180	30	6			
H16Q–SDQCR/L11	○	○	20	16	11.5	10	180	35	6	DC**11T3	M3.5*8	T–15
H20R–SDQCR/L11	○	○	25	20	13	8	200	40	6			

C**–STFB(C)R/L (Carbide Holder)



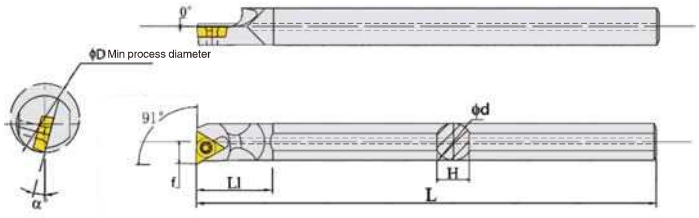


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	D	d	d1	f	L1	L	H	a°			
C06J–STFBR/L06	●	○	7	6	3.5		5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STFBR/L06	●	○	8	7	4		6.4	100	20	15°			
C08K–STFCR/L09	●	○	10	8	5		7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STFCR/L09	●	○	13	10	6.5		9	125	22	12			
C10K–STFCR/L11	●	○	13	10	6.5		9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STFCR/L11	●	○	16	12	8		11	150	25	10			
C12Q–STFCR/L11	●	○	16	12	8		11	180	25	12			
C16Q–STFCR/L11	●	○	20	16	10		15	180	28	10			
C16R–STFCR/L11	●	○	20	16	10		15	200	28	10			
C20S–STFCR/L16	●	○	25	20	12.5		18	250	33	8	TC**16T3	M3.5*8	T–15

●Stock ○Availabie upon Order

C****–STFB(C)R/L–A (Carbide Holder)

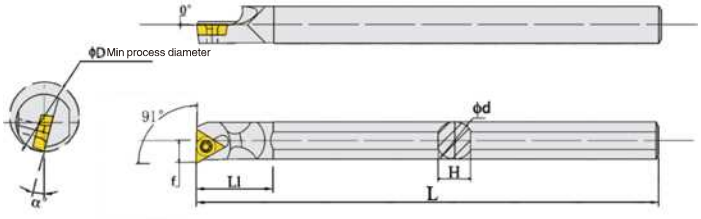




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C06J–STFBR/L06–A	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STFBR/L06–A	○	○	8	7	4	6.4	100	20	15°			
C08K–STFCR/L09–A	●	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STFCR/L09–A	●	○	13	10	6.5	9	125	22	12			
C10K–STFCR/L11–A	●	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STFCR/L11–A	●	○	16	12	8	11	150	25	10			
C12Q–STFCR/L11–A	●	○	16	12	8	11	180	25	12			
C16Q–STFCR/L11–A	●	○	20	16	10	15	180	28	10			
C16R–STFCR/L11–A	●	○	20	16	10	15	200	28	10			
C20S–STFCR/L16–A	●	○	25	20	12.5	18	250	33	8	TC**16T3	M3.5*8	T–15

H**–STUB(C)R/L (HSS Holder)



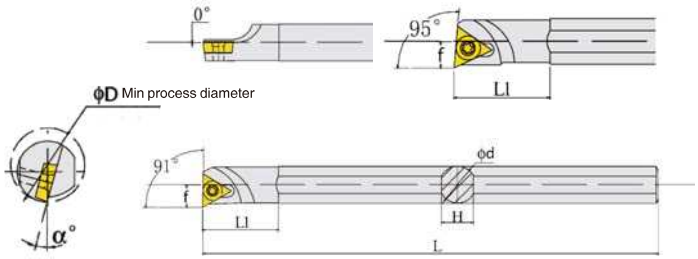


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
H06H–STUBR/L06	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
H07H–STUBR/L06	●	○	8	7	4	6.4	100	20	15°			
H1006K–STUBR06	●	○	7	10	3.5	5.4	100	20	13°	TC**0902	M2.0*4	T–6
H1007K–STUBR06	●	○	8	10	4	6.4	100	20	15°			
H08K–STUCR/L09	○	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
H10K–STUCR/L09	○	○	13	10	6.5	9	125	22	12			
H10K–STUCR/L11	○	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
H12M–STUCR/L11	○	○	16	12	8	11	150	25	10			
H16Q–STUCR/L11	○	○	20	16	10	15	180	28	10			
H20R–STUCR/L16	○	○	25	20	12.5	18	200	33	8	TC**16T3	M3.5*8	T–15

●Stock ○Availabie upon Order

C**–STUB(C)R/L (Carbide Holder)

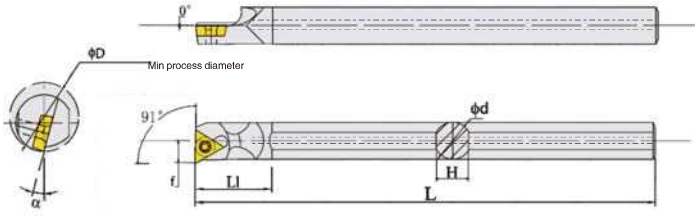




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C06J–STUBR/L06	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STUBR/L06	●	○	8	7	4	6.4	100	20	15°			
C08K–STUCR/L09	●	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STUCR/L09	●	○	13	10	6.5	9	125	22	12			
C10K–STUCR/L11	●	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STUCR/L11	●	○	16	12	8	11	150	25	10			
C12Q–STUCR/L11	○	○	16	12	8	11	180	25	12			
C16Q–STUCR/L11	●	○	20	16	10	15	180	28	10			
C16R–STUCR/L11	●	○	20	16	10	15	200	28	10			
C20S–STUCR/L16	●	○	25	20	13	18	250	33	8	TC**16T3	M3.5*8	T–15

C**–STUB(C)R/L–A (Carbide Holder)



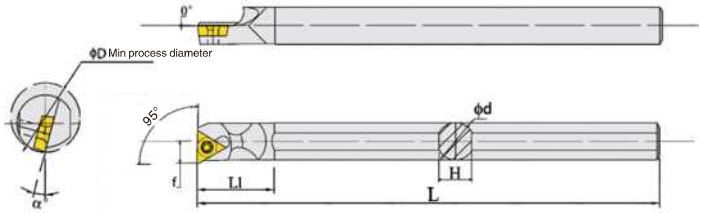


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C06J–STUBR/L06–A	●	○	7	6	3.5	5.4	100	15	13°	TB**0601	M1.8*3.5	T–6
C07J–STUBR/L06–A	○	○	8	7	4	6.4	100	20	15°			
C08K–STUCR/L09–A	●	○	10	8	5	7	125	20	13	TC**0902	M2.0*4	T–6
C10K–STUCR/L09–A	●	○	13	10	6.5	9	125	22	12			
C10K–STUCR/L11–A	●	○	13	10	6.5	9	125	22	12	TC**1102	M2.5*6	T–8
C12M–STUCR/L11–A	●	○	16	12	8	11	150	25	10			
C12Q–STUCR/L11–A	○	○	16	12	8	11	180	25	12			
C16Q–STUCR/L11–A	●	○	20	16	10	15	180	28	10			
C16R–STUCR/L11–A	●	○	20	16	10	15	200	28	10			
C20S–STUCR/L16–A	●	○	25	20	12.5	18	250	33	8	TC**16T3	M3.5*8	T–15

●Stock ○Availabie upon Order

C**–STUPR/L (Carbide Holder)



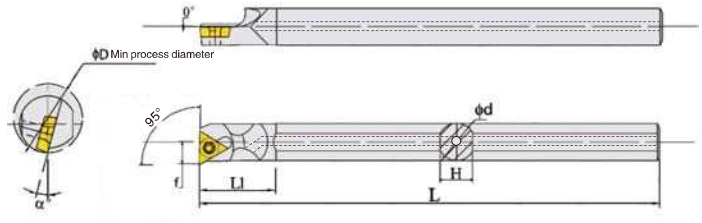


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C08K–STUPR/L09	●	○	10	8	5	7	125	20	13	TP**0903	M2.0*4	T–6
C10K–STUPR/L09	●	○	13	10	6.5	9	125	22	12			
C10K–STUPR/L11	●	○	13	10	6.5	9	125	22	12	TP**1103	M2.5*6	T–8
C12M–STUPR/L11	●	○	16	12	8	11	150	25	10			
C12Q–STUPR/L11	●	○	16	12	8	11	180	25	12			
C16Q–STUPR/L11	●	○	20	16	10	15	180	28	10			
C16R–STUPR/L11	●	○	20	16	10	15	200	28	10			
C20R–STUPR/L16	●	○	25	20	13	18	200	33	8	TP**1603	M3.5*8	T–15
C20S–STUPR/L16	●	○	25	20	13	18	250	33	8			

C**–STUPR/L–A (Carbide Holder)

—Coolant through center



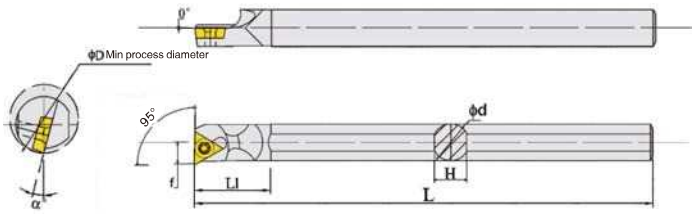


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
C08K–STUPR/L09–A	●	○	10	8	5	7	125	20	13	TP**0903	M2.0*4	T–6
C10K–STUPR/L09–A	●	○	13	10	6.5	9	125	22	12			
C10K–STUPR/L11–A	●	○	13	10	6.5	9	125	22	12	TP**1103	M2.5*6	T–8
C12M–STUPR/L11–A	●	○	16	12	8	11	150	25	10			
C12Q–STUPR/L11–A	●	○	16	12	8	11	180	25	12			
C16Q–STUPR/L11–A	●	○	20	16	10	15	180	28	10			
C16R–STUPR/L11–A	●	○	20	16	10	15	200	28	10			
C20R–STUPR/L16–A	●	○	25	20	13	18	200	33	8	TP**1603	M3.5*8	T–15
C20S–STUPR/L16–A	●	○	25	20	13	18	250	33	8			

●Stock ○Availabie upon Order

H**–STUPR/L (HSS Holder)

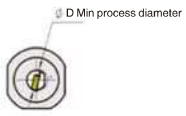


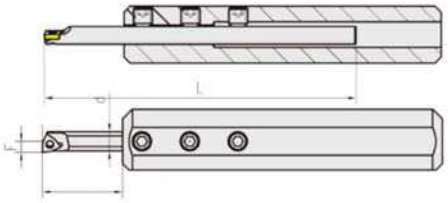


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	d1 f	L1	L	H	a°			
H08K–STUPR09	○	○	10	8	5	7	125	20	13	TP**0903	M2.0*4	T–6
H10K–STUPR09	○	○	13	10	6.5	9	125	22	12			
H10K–STUPR11	○	○	13	10	6.5	9	125	22	12	TP**1103	M2.5*6	T–8
H12M–STUPR11	○	○	16	12	8	11	150	25	10			
H12Q–STUPR11	○	○	16	12	8	11	180	25	12			
H16Q–STUPR11	○	○	20	16	10	15	180	28	10			
H16R–STUPR11	○	○	20	16	10	15	200	28	10			
H20R–STUPR16	○	○	25	20	13	18	200	33	8	TP**1603	M3.5*8	T–15
H20S–STUPR16	○	○	25	20	13	18	250	33	8			

C**–SWUBR/L (Carbide Holder)





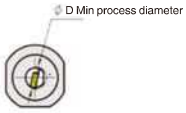


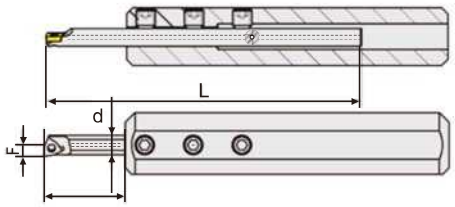
Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	F	H	L	L1	a°			
C05H–SWUBR06	●	○	6	5	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
C06J–SWUBR06	●	○	7	6	3.5	5.4	110	15	13°			
C07J–SWUBR06	●	○	8	7	4	6.4	110	15	13°			

●Stock ○Availabie upon Order

C**–SWUBR/L–A (Carbide Holder)



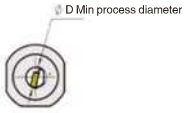


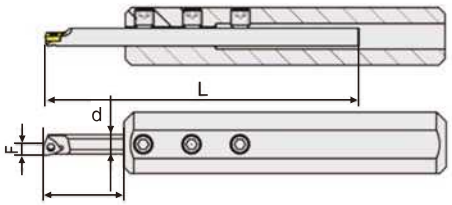


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	F	H	L	L1	a°			
C05H–SWUBR06–A	●	○	6	5	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
C06J–SWUBR06–A	●	○	7	6	3.5	5.4	110	15	13°			
C07J–SWUBR06–A	●	○	8	7	4	6.4	110	15	13°			

H**–SWUBR/L (HSS Holder)





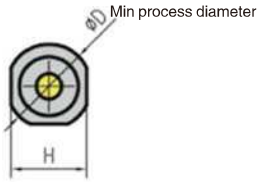


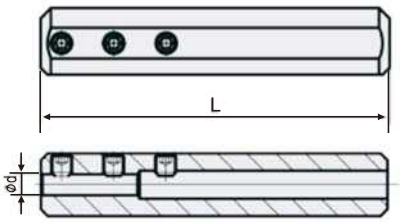
Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	F	H	L	L1	a°			
H05H–SWUBR06	●	○	6	5	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
H06H–SWUBR06	●	○	7	6	3.5	5.4	110	15	13°			
H07H–SWUBR06	●	○	8	7	4	6.4	110	15	13°			
H1005K–SWUBR06	●	○	6	10	3	4.4	100	15	13°	WB**0601	M2.0*4	T–6
H1006K–SWUBR06	●	○	7	10	3.5	5.4	110	15	13°			
H1007K–SWUBR06	●	○	8	10	4	6.4	110	15	13°			

●Stock ○Availabie upon Order

SHB Cutter





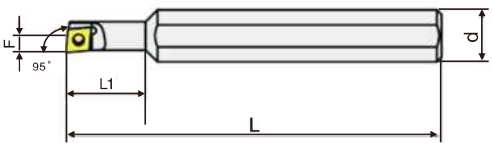


Ordering Code	Stock	Dimensions(mm)				Screw	Wrench
		D	d	L	H		
SHB 0416–100	●	16	4	100	15	ES40	L2.0
SHB 0516–100	●	16	5	100	15		
SHB 0616–100	●	16	6	100	15		
SHB 0716–100	●	16	7	100	15		
SHB 0816–100	●	16	8	100	15		
SHB 0420–100	●	20	4	100	18		
SHB 0520–100	●	20	5	100	18		
SHB 0620–100	●	20	6	100	18		
SHB 0820–100	●	20	8	100	18		
SH B1020–100	●	20	10	100	18	ES50	L3.0

S**–SCLCR/L





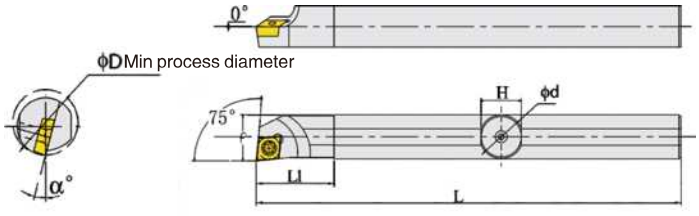


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	D	d	d1	f	L1	L	H	a°			
S0612K–SCLCR/L04	●	○	7	12	6	3.5	18	125	11	10	CC**0401	M2.0*4	T–6
S0812K–SCLCR/L06	●	○	10	12	8	5	24	125	11	10	CC**0602	M2.5*6	T–8
S0616M–SCLCR/L04	●	○	7	16	6	3.5	18	150	11	10	CC**0401	M2.0*4	T–6
S0816M–SCLCR/L06	●	○	10	16	8	5	24	150	15	10	CC**0602	M2.5*6	T–8
S1016M–SCLCR/L06	●	○	13	16	10	6	30	150	15	10			
S1216M–SCLCR/L06	●	○	16	16	12	7	36	150	15	10			
S1020M–SCLCR/L06	●	○	13	20	10	6	30	150	18	8			
S1220M–SCLCR/L06	●	○	16	20	12	7	36	150	18	8			
S1220M–SCLCR/L09	●	○	16	20	12	7.5	36	150	18	8	CC**09T3	M3.5*8	T–15

●Stock ○Availabie upon Order

S**–SCLCR/L

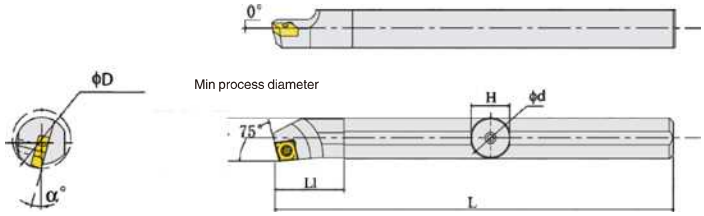




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SCLCR/L06	●	●	10	8	5	125	20	7	13	CC**0602	M2.5*6	T–8
S10K–SCLCR/L06	●	●	13	10	6	125	22	9	12			
S12M–SCLCR/L06	●	●	16	12	7	150	25	11	10			
S16Q–SCLCR/L09	●	●	20	16	9.5	160	30	15	10	CC**09T3	M3.5*8	T–15
S20R–SCLCR/L09	●	●	25	20	11.5	200	35	18	8			
S25R–SCLCR/L09	●	●	31	25	14	200	35	23	6			
S25S–SCLCR/L09	●	●	31	25	14	250	40	23	6			
S25S–SCLCR/L12	●	●	31	25	14.5	250	40	23	6	CC**1204	M5.0*12	T–20
S32S–SCLCR/L12	●	●	39	32	18	250	45	29	4			
S32T–SCLCR/L12	●	●	39	32	18	300	45	29	4			

S**–SCKCR/L



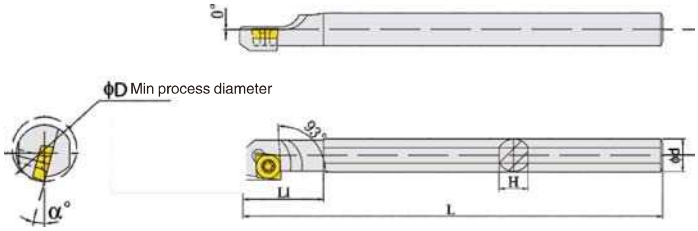


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SCKCR/L06	●	●	10	8	5.5	125	20	7	13	CC**0602	M2.5*6	T–8
S10K–SCKCR/L06	●	●	13	10	6	125	22	9	12			
S12M–SCKCR/L06	●	●	16	12	7	150	25	11	10			
S16Q–SCKCR/L09	●	●	20	16	9.5	180	30	15	10	CC**09T3	M3.5*8	T–15
S20Q–SCKCR/L09	●	●	25	20	11.5	180	35	18	8			
S20R–SCKCR/L09	●	●	31	25	11.5	200	35	18	6			
S25R–SCKCR/L09	●	●	31	25	14	200	35	23	6			
S25S–SCKCR/L09	●	●	31	25	14	250	40	23	6			

●Stock ○Availabie upon Order

S**–SCZCR/L

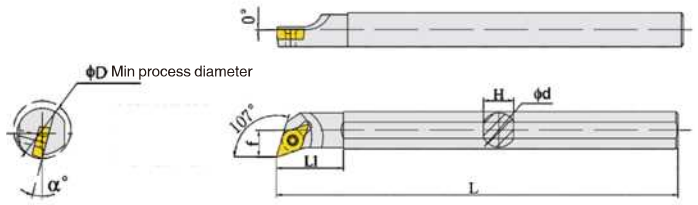




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SCZCR/L06	●	●	12.5	8	6.5	125	26	7	13	CC**0602	M2.5*6	T–8
S10K–SCZCR/L06	●	●	14	10	7.5	125	28	9	12			
S12M–SCZCR/L06	●	●	16	12	8.5	150	32	11	10			
S16Q–SCZCR/L09	●	●	20	16	10.5	180	28	15	10	CC**09T3	M3.5*8	T–15
S20R–SCZCR/L09	●	●	25	20	13.5	200	40	18	8			
S25S–SCZCR/L09	●	●	32	25	16	250	45	23	6			

S**–SDQCR/L



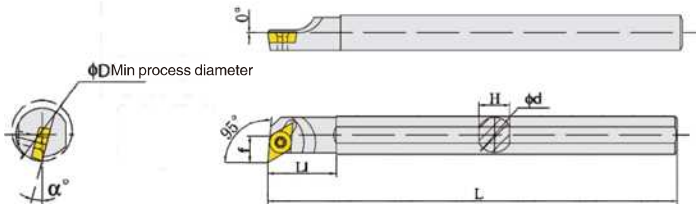


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SDQCR/L07	●	●	13	8	6	125	20	7	13	DC**0702	M2.5*6	T–8
S10K–SDQCR/L07	●	●	16	10	7	125	23	9	12			
S12M–SDQCR/L07	●	●	20	12	9	150	30	11	10			
S16Q–SDQCR/L11	●	●	25	16	11	180	30	15	10	DC**11T3	M3.5*8	T–15
S20Q–SDQCR/L11	●	●	28	20	13	180	39	18	8			
S20R–SDQCR/L11	●	●	38	20	13	200	39	18	8			
S25R–SDQCR/L11	●	●	33	25	16	200	40	23	6			
S25S–SDQCR/L11	●	●	33	25	16	250	40	23	6			
S32S–SDQCR/L11	●	●	41	32	20	250	43	29	4			
S32T–SDQCR/L11	●	●	41	32	20	300	43	29	4			

●Stock ○Availabie upon Order

S**–SDUCR/L

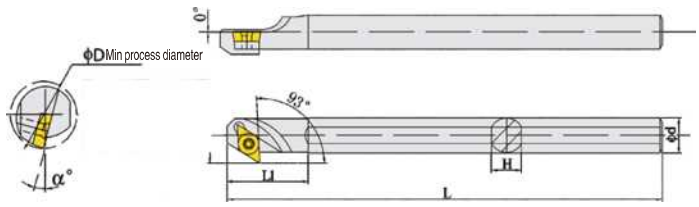




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S08K–SDUCR/L07	●	●	13	8	7	125	25	9	13	DC**0702	M2.5*6	T–8
S10K–SDUCR/L07	●	●	15	10	8	125	25	9	12			
S12M–SDUCR/L07	●	●	17	12	9	150	28	11	10			
S16Q–SDUCR/L11	●	●	23	16	11.5	180	30	15	10	DC**11T3	M3.5*8	T–15
S20Q–SDUCR/L11	●	●	25	20	13	180	35	18	8			
S20R–SDUCR/L11	●	●	25	20	13	200	35	18	8			
S25R–SDUCR/L11	●	●	32	25	16	200	40	23	6			
S25S–SDUCR/L11	●	●	32	25	16	250	40	23	6			
S32S–SDUCR/L11	●	●	39	32	20	250	45	29	4			
S32T–SDUCR/L11	●	●	39	32	20	300	45	29	4			

S**–SDZCR/L



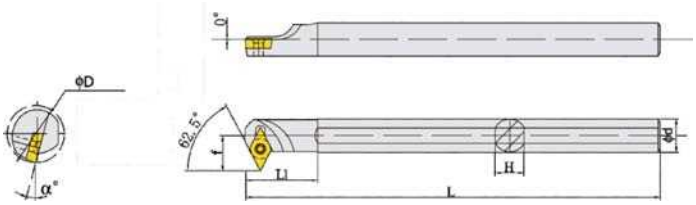


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S10K–SDZCR/L07	●	●	16	10	8	125	28	9	12	DC**0702	M2.5*6	T–8
S12M–SDZCR/L07	●	●	18	12	9	150	30	11	10			
S16Q–SDZCR/L07	●	●	22	16	11	180	30	15	10			
S16Q–SDZCR/L11	●	●	24	16	12	180	35	15	10	DC**11T3	M3.5*8	T–15
S20R–SDZCR/L11	●	●	28	20	13	200	40	18	8			
S25S–SDZCR/L11	●	●	34	25	16	250	45	23	6			
S32T–SDZCR/L11	●	●	38	32	20.5	300	50	29	4			

●Stock ○Availabie upon Order

S**–SDWCR/L

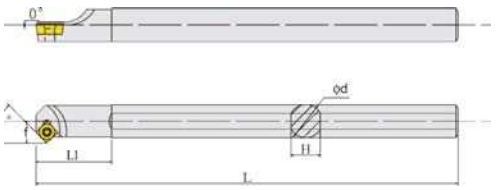




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S10K–SDWCR/L07	●	●	16	10	8	125	28	9	12	DC**0702	M2.5*6	T–8
S12M–SDWCR/L07	●	●	18	12	9	150	30	11	10			
S16Q–SDWCR/L07	●	●	22	16	11	180	30	15	10			
S16Q–SDWCR/L11	●	●	24	16	12	180	35	15	10	DC**11T3	M3.5*8	T–15
S20R–SDWCR/L11	●	●	28	20	13	200	40	18	8			
S25S–SDWCR/L11	●	●	34	25	16	250	45	23	6			
S32T–SDWCR/L11	●	●	38	32	20.5	300	50	29	4			

S**–SSSCR/L



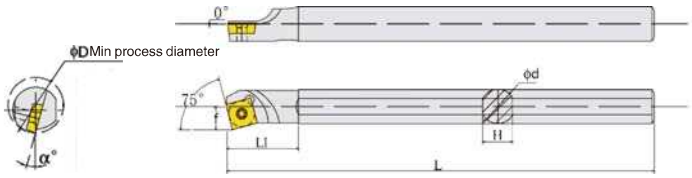


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S12M–SSSCR/L09	●	●	16	12	8.5	150	30	11	12	SC**09T3	M3.5*8	T–15
S16Q–SSSCR/L09	●	●	22	16	11.5	180	35	15	10			
S20R–SSSCR/L09	●	●	26	20	13.5	200	40	18	8			
S25S–SSSCR/L09	●	●	31	25	16	250	40	23	6			
S20R–SSSCR/L12	●	●	26	20	14	200	40	15	8	SC**1204	M5*12	T–20
S25S–SSSCR/L12	●	●	31	25	16.5	250	40	23	6			

●Stock ○Availabie upon Order

S**–SSKCR/L

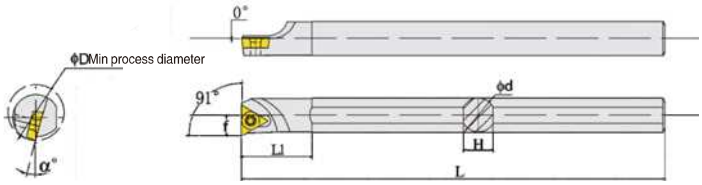




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S12M–SSKCR/L09	●	●	16	12	8.5	150	30	11	12	SC**09T3	M3.5*8	T–15
S16Q–SSKCR/L09	●	●	22	16	11.5	180	35	15	10			
S20R–SSKCR/L09	●	●	26	20	13.5	200	40	18	8			
S25S–SSKCR/L09	●	●	31	25	16	250	40	23	6			
S20R–SSKCR/L12	●	●	26	20	14	200	40	15	8	SC**1204	M5*12	T–20
S25S–SSKCR/L12	●	●	31	25	16.5	250	40	23	6			

S**–STFCR/L



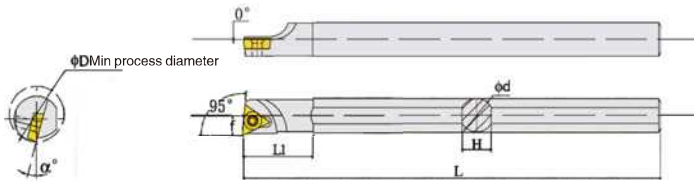


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S10K–STFCR/L09	●	●	13	10	5	125	24	9	13	TC**0902	M2.2*6	T–6
S12M–STFCR/L09	●	●	16	12	7	150	27	11	10			
S10K–STFCR/L11	●	●	13	10	5	125	24	9	13	TC**1102	M2.5*6	T–8
S12M–STFCR/L11	●	●	16	12	7	150	27	11	10			
S16Q–STFCR/L11	●	●	20	16	9	180	30	15	8			
S20R–STFCR/L11	●	●	25	20	11	200	35	18	6			
S20R–STFCR/L16	●	●	25	20	11.5	200	40	18	8	TC**16T3	M3.5*8	T–15
S25S–STFCR/L16	●	●	31	25	14	250	40	23	4			
S32T–STFCR/L16	●	●	39	32	17.5	300	45	29	4			

●Stock ○Availabie upon Order

S**–STUCR/L

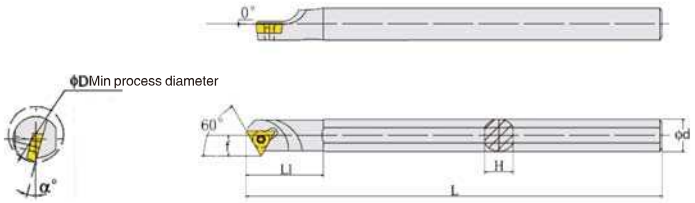




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S06H–STUCR/L06	●	●	8	6	3.5	100	15	5	15	TB**0601	M1.8*3	T–6
S08K–STUCR/L09	●	●	10.5	8	5	125	23	7	15	TC**0902	M2.2*6	T–6
S10K–STUCR/L09	●	●	13	10	6	125	24	9	13			
S12M–STUCR/L09	●	●	16	12	7	150	27	11	10			
S12M–STUCR/L11	●	●	16	12	7	150	27	11	10	TC**1102	M2.5*6	T–8
S16Q–STUCR/L11	●	●	20	16	9	180	30	15	8			
S20R–STUCR/L11	●	●	25	20	11	200	35	18	6			
S20R–STUCR/L16	●	●	25	20	11.5	200	40	18	8	TC**16T3	M3.5*8	T–15
S25S–STUCR/L16	●	●	31	25	14	250	40	23	4			
S32T–STUCR/L16	●	●	39	32	17.5	300	45	29	4			

S**–STWCR/L



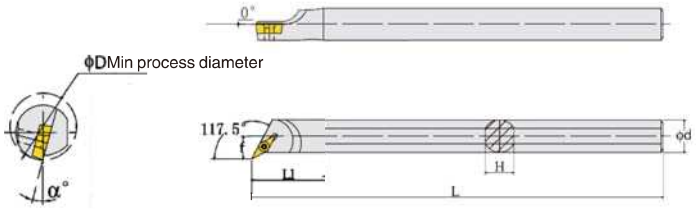


Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
		D	d	f	L	L1	H	a°			
S08K–STWCR/L09	●	10.5	8	5	125	23	7	15	TC**0902	M2.2*6	T–6
S10K–STWCR/L09	●	13	10	6	125	24	9	13			
S10K–STWCR/L11	●	13	10	5	125	24	9	13	TC**1102	M2.5*6	T–8
S12M–STWCR/L11	●	16	12	7	150	27	11	10			
S14N–STWCR/L11	●	18	14	7	160	30	13	10			
S16Q–STWCR/L11	●	20	16	9	180	30	15	8			
S20R–STWCR/L16	●	25	20	11.5	200	40	18	8	TC**16T3	M3.5*8	T–15
S25S–STWCR/L16	●	31	25	14	250	40	23	4			

●Stock ○Availabie upon Order

S**–SVQB(C)R/L

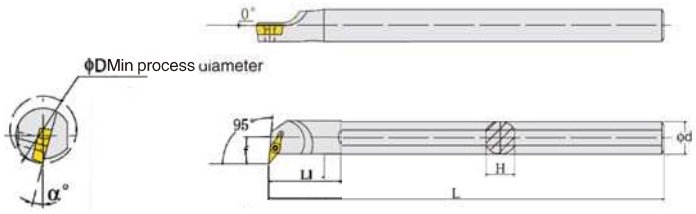




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVQB(C)R/L11	●	●	22	16	11.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVQB(C)R/L11	●	●	27	20	14	200	39	18	12			
S20R–SVQB(C)R/L16	●	●	27	20	14	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVQB(C)R/L16	●	●	32	25	16.5	250	50	23	8			
S32T–SVQB(C)R/L16	●	●	41	32	22.5	300	55	29	8			
S16Q–SVQCR/L11	●	●	22	16	11.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVQCR/L11	●	●	27	20	14	200	39	18	6			
S20R–SVQCR/L16	●	●	27	20	14	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVQCR/L16	●	●	32	25	16.5	250	50	23	6			
S32T–SVQCR/L16	●	●	41	32	22.5	300	55	29	8			

S**–SVUCR/L



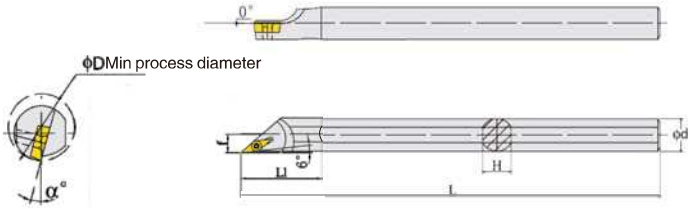


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVUBR/L11	●	●	22	16	11.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVUBR/L11	●	●	27	20	14	200	39	18	12			
S20R–SVUBR/L16	●	●	27	20	14	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVUBR/L16	●	●	32	25	16.5	250	50	23	8			
S32T–SVUBR/L16	●	●	41	32	22.5	300	55	29	8			
S16Q–SVUCR/L11	●	●	22	16	11.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVUCR/L11	●	●	27	20	14	200	39	18	6			
S20R–SVUCR/L16	●	●	27	20	14	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVUCR/L16	●	●	32	25	16.5	250	50	23	6			
S32T–SVUCR/L16	●	●	41	32	22.5	300	55	29	8			

●Stock ○Availabie upon Order

S**–SVXB(C)R/L

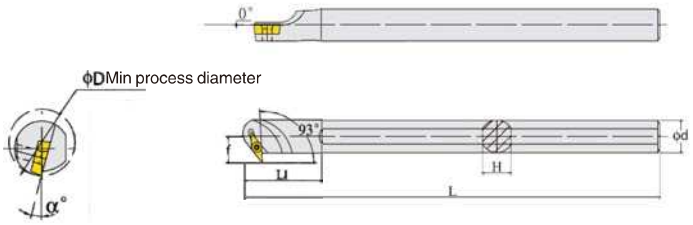




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVXBR/L11	●	●	20	16	9.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVXBR/L11	●	●	23	20	11.5	200	39	18	12			
S20R–SVXBR/L16	●	●	23	20	11.5	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVXBR/L16	●	●	30	25	14	250	50	23	8			
S32T–SVXBR/L16	●	●	35	32	17.5	300	55	29	8			
S16Q–SVXCR/L11	●	●	20	16	9.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVXCR/L11	●	●	23	20	11.5	200	39	18	6			
S20R–SVXCR/L16	●	●	23	20	11.5	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVXCR/L16	●	●	30	25	14	250	50	23	6			
S32T–SVXCR/L16	●	●	35	32	17.5	300	55	29	8			

S**–SVZB(C)R/L



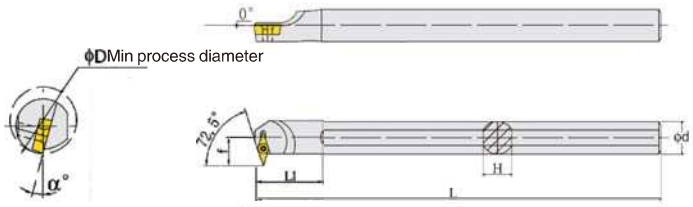


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S16Q–SVZBR/L11	●	●	22	16	11.5	180	35	15	12	VB**1103	M2.5*6	T–8
S20R–SVZBR/L11	●	●	27	20	14	200	39	18	12			
S20R–SVZBR/L16	●	●	27	20	14	200	50	18	12	VB**1604	M3.5*8	T–15
S25S–SVZBR/L16	●	●	32	25	16.5	250	50	23	8			
S32T–SVZBR/L16	●	●	41	32	22.5	300	55	29	8			
S16Q–SVZCR/L11	●	●	22	16	11.5	180	35	15	8	VC**1103	M2.5*6	T–8
S20R–SVZCR/L11	●	●	27	20	14	200	39	18	6			
S20R–SVZCR/L16	●	●	27	20	14	200	50	18	8	VC**1604	M3.5*8	T–15
S25S–SVZCR/L16	●	●	32	25	16.5	250	50	23	6			
S32T–SVZCR/L16	●	●	41	32	22.5	300	55	29	8			

●Stock ○Availabie upon Order

S**–SVWB(C)R/L

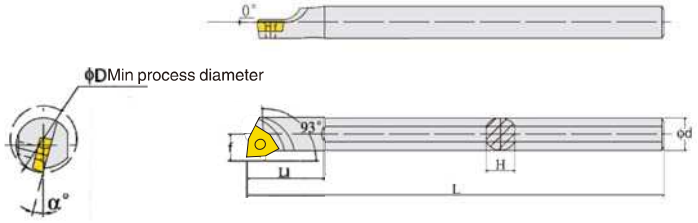




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	f	L	L1	H	a°			
S25S–SVWBR/L16	●	●	38	25	23	250	35	23	6	VB**1604	M3.5*8	T–15
S32T–SVWBR/L16	●	●	45	32	26	300	40	29	6			
S25S–SVWCR/L16	●	●	38	25	23	250	35	23	4	VC**1604	M3.5*8	T–15
S32T–SVWCR/L16	●	●	45	32	26	300	40	29	4			

S**–SWLCR/L





Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
		D	d	f	L	L1	H	a°			
S08K–SWLCR/L04	●	10.5	8	5.5	125	25	7	13	WC**0402	M2.5*6	T–15
S10K–SWLCR/L04	●	13	10	6.5	125	30	9	10			
S12M–SWLCR/L06	●	16	12	8	150	37	11	13	WC**06T2	M3.5*8	T–15
S16Q–SWLCR/L06	●	20	16	10	180	40	15	10			
S20R–SWLCR/L08	●	25	20	12	200	45	19	8	WC**0804	M5*12	T–20
S25S–SWLCR/L08	●	31	25	14.5	250	45	24	6			

●Stock ○Availabie upon Order

Grooving & parting tools



Cutting speed recommendations

Material	Carbon steel S50C\Q235		Alloy steel 25–35HRC 4Cr5MoSiVi/Cr12		Stainless steel SUS304/316/ OCr19Ni9		Cast iron HT250/QT450		Aluminium alloy	
Speed	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev
External Circular groove	80–150	0.05–0.30	30–100	0.05–0.30	70–120	0.05–0.30	80–150	0.05–0.30	120–300	0.05–0.30
Internal Circular groove	60–120	0.05–0.30	20–80	0.05–0.30	50–100	0.05–0.30	50–100	0.05–0.30	80–250	0.05–0.30
End face groove	80–150	0.05–0.30	30–100	0.05–0.30	70–120	0.05–0.30	60–120	0.05–0.30	80–250	0.05–0.30

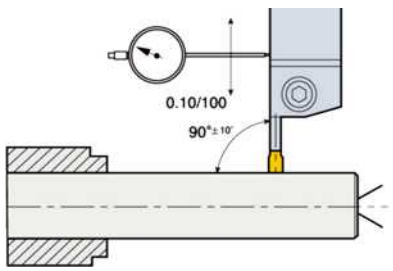
■Toolholder or blade Size

To minimize risk of vibration and deflection always choose:

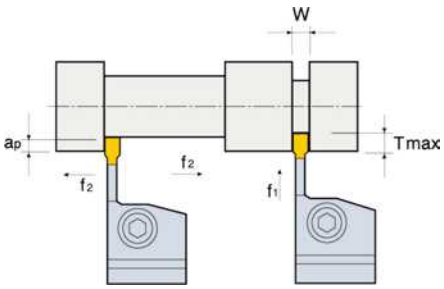
- Toolholder or blade with the smallest possible overhang
- Toolholder with maximum shank dimension

■90° Mounting

It is rery important that the insert is mounted at 90° to the center line of the workpiece in order to obtain a perpendicular surface and reduce the risk of vibration.



■Machining Definitions



Grooving

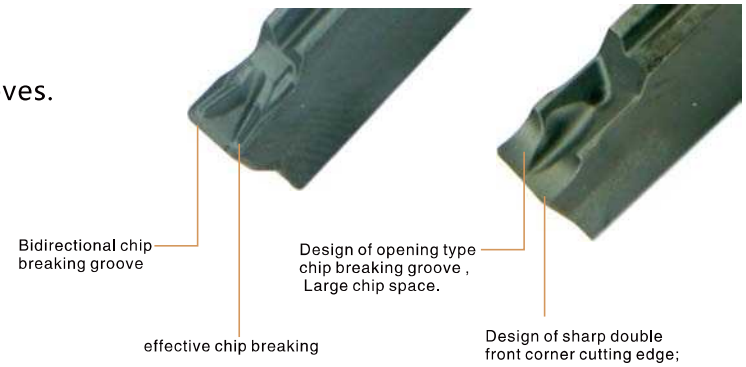
- Vc–Cutting Speed(m/min)
- T–Maximum Depth(mm)
- f_1–Feed in Radial Direction(mm/rev)

Turning

- Vc–Cutting Speed(m/min)
- a_{pmax}–Maximum Depth of Cut(mm)
- f_2–Feed in Lateral Direction(mm/rev)

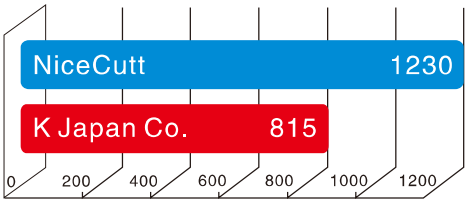
MGMN** Case Study

1.It has square head and double grooves.
The notch depth is less than 20mm
2.Suitable for P/M/K processing
3.Suitable for stainless steel , high temperature alloy steel , titaninum alloy steel which used in general industry and aerospace industry.





Workpiece material	316(HB200)Stainless steel
Machining parts	Slot cutters
Insert	MGMN300–T–NS4125



The cutting parameters
Vc=106m/min
f=0.11mm/r
ap=3mm
ϕd=22mm



Cutting life
+30%

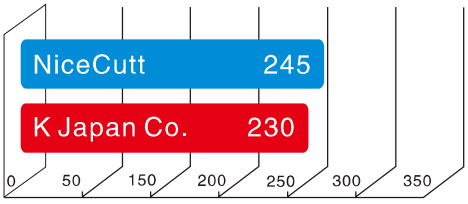
GBA43** Case Study

1.Fine cutting groove
2.E level accuracy
3.Suitable for P/M/K processing





Workpiece material	20CrMnTi(180–220HB)
Machining parts	Slot cutters
Insert	GBA43250–NS4125



The cutting parameters
Vc=114m/min
f=0.10mm/r
ap=2.5mm
ϕd=45mm



Cutting life
+5%

GER/L-A



P118

GER/L-AR



P118

GER/L-C



P118

GER/L-D



P118

GER/L-D



P118

GER/L-CR



P119

GER-D



P119

TKF-S



P119

NG2/NG3



P119~P120

NR2/NR3



P120

GBA32R/43R



P120

GBA32



P121

GBA43



P121

T11EN



P121

T16EN



P121~P122

FMM



P122

FGD



P122

MFMN300R



P122

SP-NM



P122

MGGN*L



P122

MGMN*J



P122

MGMN*T



P122

MRMN*M



P123

MRGN*M



P123

ZPE-MG

P123

TDJ

P123

TDC

P123

THC-CE

P123

TKFB*M

P123

SIGER/L

P124

SEGER/L**

P124

GNSR/L

P125

GNAR/L**

P125

KTKFR/L

P126

TKGFL

P126

SGWHR/L

P127

MGWHR/L

P127

SPB

P128

ZQR/L

P128

QE*S

P129

SMBB

P129

MGFHRR

P130

MGFHR/L

P130

MGFVR/L

P131

MGNVR/L

P131

FGDHX

P132

MGEHR/L

P133

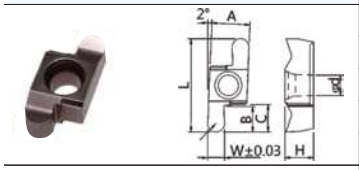
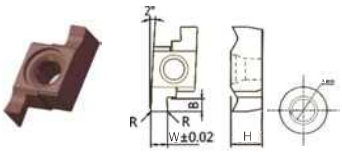
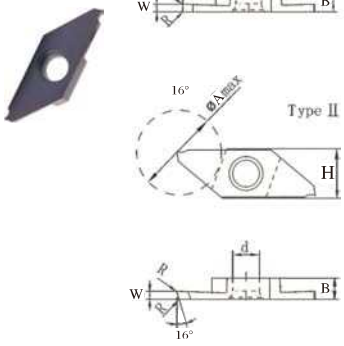
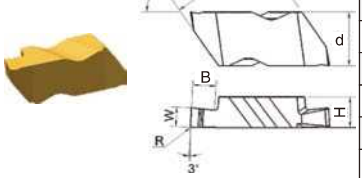
TTER/L

P134

| | | |

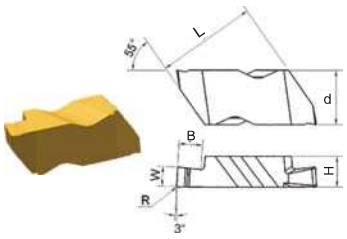
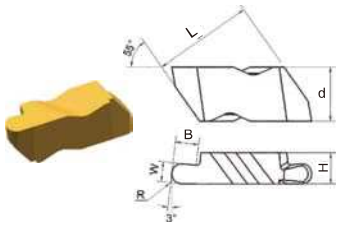
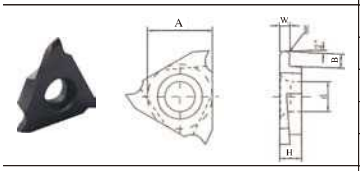
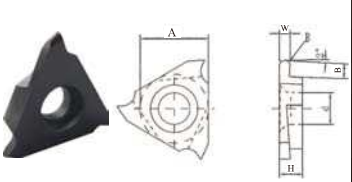
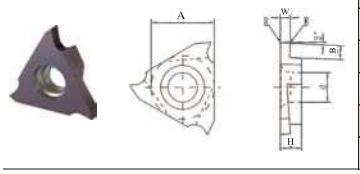
continuous
light Interruption
Interruption

		CVD		PVD				Uncoated
P	Steel					●	◐	
M	Stainless Steel				◐	○	◐	
K	Cast Iron					●	◐	
N	Non–ferrous Metal							●
S	Heat–resistant Alloy,TiAlloy					●	◐	

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	GER/L200–100CR	●	○	2.00	1.00	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L250–125CR	●	○	2.50	1.25	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L300–150CR	●	○	3.00	1.50	2.50	2.80	11.48	4.05	5.8						●	○
	GER/L200–100DR	●	○	2.00	1.00	3.20	4.40	16.44	5.05	6.8						●	○
	GER/L300–150DR	●	○	3.00	1.50	4.50	4.40	16.44	5.05	6.8						●	○
	GER150DM10–D	●		1.50	0.1	2.5	3.0		5.05	10						●	○
	GER200DM10–D	●		2.00	0.1	3	3.0		5.05	10						●	○
	GER250DM15–D	●		2.50	0.2	3.2	3.0		5.05	15						●	○
	GER300DM15–D	●		3.00	0.2	4.5	3.0		5.05	15						●	○
	GER400DM15–D	●		4.00	0.2	4.5	3.0		5.05	15						●	○
	TKF12R/L050–S	●	○	0.5	0.03	3	5	0°	8.7	5						●	○
	TKF12R/L070–S	●	○	0.7	0.03	3	5	0°	8.7	8						●	○
	TKF12R/L100–S	●	○	1	0.03	3	5	0°	8.7	12						●	○
	TKF12R/L150–S	●	○	1.5	0.03	3	5	0°	8.7	12						●	○
	TKF12R/L200–S	●	○	2	0.03	3	5	0°	8.7	12						●	○
	TKF12R/L050–S16R	●	○	0.5	0.05	3	5	16°	8.7	5						●	○
	TKF12R/L070–S16R	●	○	0.7	0.05	3	5	16°	8.7	8						●	○
	TKF12R/L100–S16R	●	○	1	0.05	3	5	16°	8.7	12						●	○
	TKF12R/L150–S16R	●	○	1.5	0.05	3	5	16°	8.7	12						●	○
	TKF12R/L200–S16R	●	○	2	0.05	3	5	16°	8.7	12						●	○
	TKF16R/L150–S	●	○	1.5	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L200–S	●	○	2	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L250–S	●	○	2.5	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L300–S	●	○	3	0.05	4	5	0°	9.5	16						●	○
	TKF16R/L150–S16R	●	○	1.5	0.05	4	5	16°	9.5	16						●	○
	TKF16R/L200–S16R	●	○	2	0.05	4	5	16°	9.5	16						●	○
	TKF16R/L250–S16R	●	○	2.5	0.05	4	5	16°	9.5	16						●	○
	TKF16R/L300–S16R	●	○	3	0.05	4	5	16°	9.5	16						●	○
	NG2031R/L	○	○	0.79	0.09	1.27	5.56	8.74	3.81								
	NG2M100R/L	●	●	1.00	0.09	1.27	5.56	8.74	3.81							●	
	NG2047LR/L	●	●	1.19	0.09	1.27	5.56	8.74	3.81					●		○	
	NG2M120R/L	○	○	1.20	0.09	1.27	5.56	8.74	3.81							○	
	NG2M150R/L	●	●	1.50	0.19	2.79	5.56	8.74	3.81							●	
	NG2062R/L	●	●	1.58	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M170R/L	○	○	1.70	0.19	2.79	5.56	8.74	3.81							●	
	NG2078R/L	●	●	1.98	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M200R/L	○	○	2.00	0.19	2.79	5.56	8.74	3.81							●	
	NG2M220R/L	●	●	2.20	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M250R/L	○	○	2.50	0.19	2.79	5.56	8.74	3.81					●		●	
	NG2M275R/L	○	○	2.75	0.19	2.79	5.56	8.74	3.81								
	NG2M300R/L	○	○	3.00	0.19	2.79	5.56	8.74	3.81							○	
	NG2125R/L	●	●	3.18	0.19	2.79	5.56	8.74	3.81					●		○	
	NG2M325R/L	○	○	3.25	0.19	2.79	5.56	8.74	3.81							○	

●Stock ○Availabie upon Order

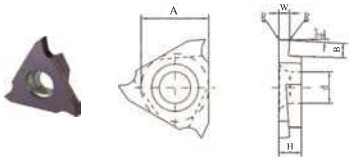
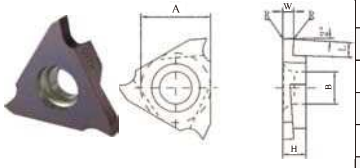
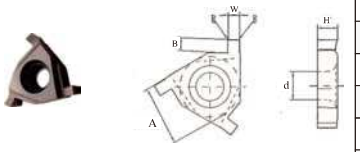
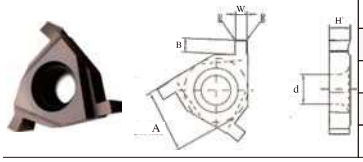
● continuous	P	Steel											●	◐				
◐ light Interruption	M	Stainless Steel										◐	●	◐				
⊕ Interruption	K	Cast Iron											●	◐				
	N	Non-ferrous Metal													●			
	S	Heat-resistant Alloy,TiAlloy											●	◐				

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	NG3031R/L	●	●	0.79	0.09	1.27	8.74	16.1	4.95					●		○	
	NG3M100R/L	●	●	1.00	0.19	1.91	8.74	16.1	4.95					●		○	
	NG3047R/L	●	●	1.19	0.19	1.91	8.74	16.1	4.95					●		○	
	NG3M120R/L	○	○	1.20	0.19	1.91	8.74	16.1	4.95							○	
	NG3M150R/L	●	●	1.50	0.19	2.39	8.74	16.1	4.95					●		●	
	NG3062R/L	●	●	1.58	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3070R/L	○	○	1.78	0.19	2.39	8.74	16.1	4.95							○	
	NG3078R/L	●	●	1.98	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3M200R/L	●	●	2.00	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3M220R/L	○	○	2.20	0.19	2.39	8.74	16.1	4.95							○	
	NG3094R/L	●	●	2.39	0.19	2.39	8.74	16.1	4.95					●		●	
	NG3M250R/L	●	●	2.50	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3M275R/L	○	○	2.75	0.19	2.39	8.74	16.1	4.95							○	
	NG3M300R/L	●	●	3.00	0.19	2.39	8.74	16.1	4.95					●		○	
	NG3125R/L	●	●	3.18	0.19	2.39	8.74	16.1	4.95					●		●	
	NG3M350R/L	●	●	3.50	0.19	2.39	8.74	16.1	4.95					●		○	
	NR2031R/L	○	○	1.58	0.79	1.27	5.56	8.74	3.81							○	
	NR2M100R/L	○	○	2.00	1.00	1.27	5.56	8.74	3.81							○	
	NR2047LR/L	○	○	2.38	1.19	1.27	5.56	8.74	3.81							○	
	NR2M150R/L	○	○	3.00	1.50	1.27	5.56	8.74	3.81						○	○	
	NR2062R/L	○	○	3.18	1.59	1.27	5.56	8.74	3.81							○	
	NR3031R/L	○	○	1.58	0.79	2.39	8.74	16.1	4.95							○	
	NR3M100R/L	●	●	2.00	1.00	2.39	8.74	16.1	4.95					●		○	
	NR3047R/L	○	○	2.38	1.19	2.39	8.74	16.1	4.95							○	
	NR3M150R/L	●	●	3.00	1.50	2.39	8.74	16.1	4.95					●		○	
	NR3062R/L	●	●	3.18	1.59	2.39	8.74	16.1	4.95					●		○	
	GBA32R050R/L	○	○	1.00	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32R075R/L	○	○	1.50	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32R100R/L	○	○	2.00	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32R125R/L	○	○	2.50	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32R150R/L	○	○	3.00	0.20	2.80	4.50		3.18	9.52						○	○
	GBA43R050R/L	○	○	1.00	0.50	2.30	5.40		4.76	12.70						○	○
	GBA43R075R/L	○	○	1.50	0.75	2.30	5.40		4.76	12.70						○	○
	GBA43R100R/L	○	○	2.00	1.00	2.80	5.40		4.76	12.70						○	○
	GBA43R125R/L	○	○	2.50	1.25	2.80	5.40		4.76	12.70						○	○
	GBA43R150R/L	○	○	3.00	1.50	2.80	5.40		4.76	12.70						○	○
	GBA43R200R/L	○	○	4.00	2.00	5.00	5.40		4.76	12.70						○	○
	GBA32050R/L	●	○	0.50	0.05	1.30	4.50		3.18	9.52						●	○
	GBA32075R/L	●	●	0.75	0.10	2.10	4.50		3.18	9.52						●	○
	GBA32080R/L	●	●	0.80	0.10	2.10	4.50		3.18	9.52						●	○
	GBA32090R/L	●	○	0.85	0.10	2.10	4.50		3.18	9.52						●	○
	GBA32100R/L	●	●	1.00	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32110R/L	○	○	1.10	0.10	2.30	4.50		3.18	9.52						○	○

●Stock ○Availabie upon Order

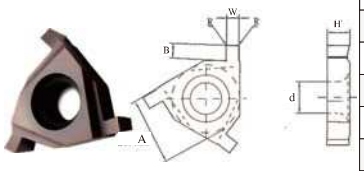
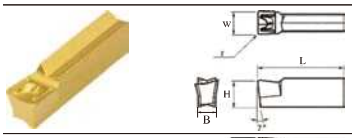
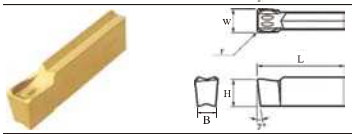
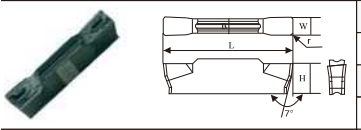
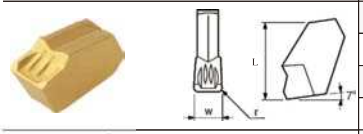
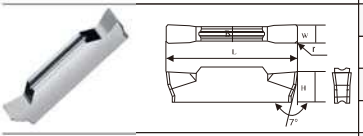
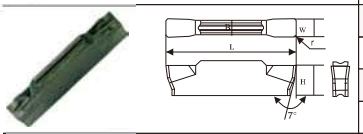
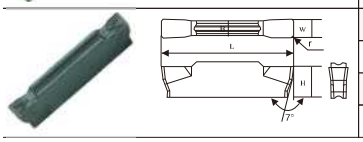
○ continuous
◔ light Interruption
⊕ Interruption

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non–ferrous Metal
S	Heat–resistant Alloy,TiAlloy

The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	GBA32120R/L	○	○	1.20	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32125R/L	●	●	1.25	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32130R/L	○	○	1.30	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32140R/L	○	○	1.40	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32145R/L	○	○	1.45	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32150R/L	●	●	1.50	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32160R/L	○	○	1.60	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32175R/L	●	○	1.75	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32180R/L	○	○	1.80	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32200R/L	●	●	2.00	0.10	2.80	4.50		3.18	9.52						●	○
	GBA32225R/L	○	○	2.25	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32250R/L	●	●	2.50	0.10	2.80	4.50		3.18	9.52						●	○
	GBA32275R/L	○	○	2.75	0.10	2.80	4.50		3.18	9.52						○	○
	GBA32300R/L	●	○	3.00	0.20	2.80	4.50		3.18	9.52						●	○
	GBA43125R/L	●	○	1.25	0.20	2.00	5.40		4.76	12.70						●	○
	GBA43140R/L	○	○	1.40	0.20	2.00	5.40		4.76	12.70						○	○
	GBA43145R/L	○	○	1.45	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43150R/L	●	○	1.50	0.20	3.50	5.40		4.76	12.70						●	○
	GBA43170R/L	○	○	1.70	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43175R/L	●	○	1.75	0.20	3.50	5.40		4.76	12.70						●	○
	GBA43185R/L	○	○	1.85	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43195R/L	○	○	1.95	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43200R/L	●	○	2.00	0.20	3.50	5.40		4.76	12.70						●	○
	GBA43225R/L	○	○	2.25	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43230R/L	○	○	2.30	0.20	3.50	5.40		4.76	12.70						○	○
	GBA43250R/L	●	○	2.50	0.30	4.00	5.40		4.76	12.70						●	○
	GBA43265R/L	○	○	2.65	0.30	4.00	5.40		4.76	12.70						○	○
	GBA43280R/L	○	○	2.80	0.30	4.00	5.40		4.76	12.70						○	○
	GBA43300R/L	●	○	3.00	0.30	4.00	5.40		4.76	12.70						●	○
	GBA43350R/L	○	○	3.50	0.30	5	5.40		4.76	12.70						○	○
	GBA43400R/L	○	○	4.00	0.40	5	5.40		4.76	12.70						○	○
	T11EN050R/L	○	○	0.50	0.06	1.00	3.00		3.10	6.35						○	○
	T11EN060R/L	○	○	0.60	0.06	1.00	3.00		3.10	6.35						○	○
	T11EN080R/L	○	●	0.80	0.06	1.20	3.00		3.10	6.35						●	○
	T11EN100R/L	○	●	1.00	0.10	1.50	3.00		3.10	6.35						●	○
	T11EN120R/L	○	○	1.20	0.10	1.50	3.00		3.10	6.35						○	○
	T11ENR140/L	○	○	1.40	0.10	1.50	3.00		3.10	6.35						○	○
	T11ENR150/L	○	●	1.50	0.10	1.50	3.00		3.10	6.35						●	○
	T16EN050R/L	○	○	0.50	0.06	1.50	4.00		3.50	9.52						○	○
	T16EN060R/L	○	●	0.60	0.06	1.50	4.00		3.50	9.52						●	○
	T16EN080R/L	○	●	0.80	0.06	1.50	4.00		3.50	9.52						●	○
	T16EN090R/L	○	○	0.90	0.06	1.50	4.00		3.50	9.52						○	○
	T16EN100R/L	○	●	1.00	0.06	1.50	4.00		3.50	9.52						●	○

●Stock ○Availabie upon Order

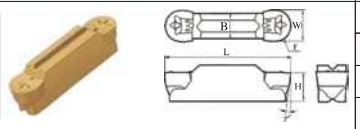
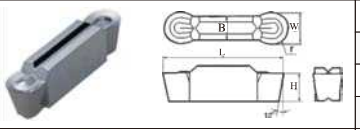
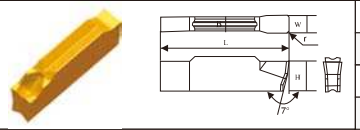
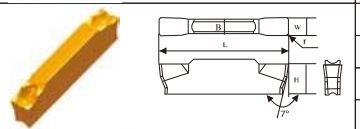
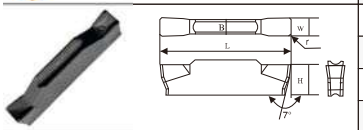
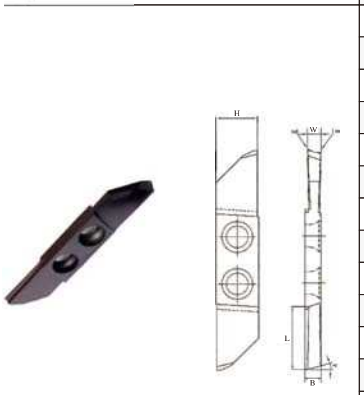
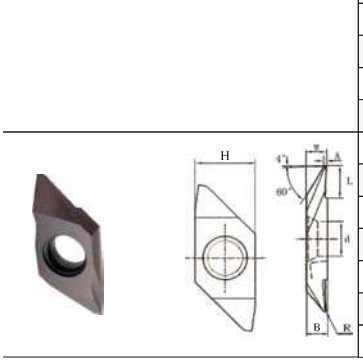
○ continuous	P	Steel																
◔ light Interruption	M	Stainless Steel																
⊕ Interruption	K	Cast Iron																
	N	Non–ferrous Metal																
	S	Heat–resistant Alloy,TiAlloy																

The basic shape of inserts	Ordering Code	Stock		Dimensions(mm)							CVD		PVD					Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125		NN9115
	T16EN110R/L	○	○	1.10	0.06	1.50	4.00		3.50	9.52						○		○
	T16EN120R/L	○	●	1.20	0.06	1.50	4.00		3.50	9.52						●		○
	T16EN125R/L	○	●	1.25	0.06	1.50	4.00		3.50	9.52						●		○
	T16EN130R/L	○	○	1.3	0.10	1.50	4.00		3.50	9.52						○		○
	T16EN140R/L	○	○	1.4	0.10	1.8	4.00		3.50	9.52						○		○
	T16EN150R/L	○	●	1.5	0.10	1.8	4.00		3.50	9.52						●		○
	T16EN160R/L	○	○	1.6	0.10	1.8	4.00		3.50	9.52						○		○
	T16EN170R/L	○	○	1.7	0.10	1.8	4.00		3.50	9.52						○		○
	T16EN175R/L	○	●	1.75	0.10	1.8	4.00		3.50	9.52						●		○
	T16EN180R/L	○	●	1.80	0.10	1.8	4.00		3.50	9.52						●		○
	T16EN200R/L	○	●	2.00	0.10	1.8	4.00		3.50	9.52						●		○
	T16EN215R/L	○	○	2.15	0.10	2.00	4.00		3.50	9.52						○		○
	T16EN225R/L	○	○	2.25	0.20	2.00	4.00		3.50	9.52						○		○
	T16EN230R/L	○	●	2.30	0.20	2.00	4.00		3.50	9.52						●		○
	T16EN250R/L	○	●	2.50	0.20	2.00	4.00		3.50	9.52						●		○
	FMM300R–03	●		3.00	0.30	2.00		15.00	3.91		○					●		
	FMM400R–03	●		4.00	0.40	3.00		15.00	3.96		○					●		
	FMM500R–04	●		5.00	0.40	4.00		15.00	4.42		○					●		
	FGD300R–03	●		3.00	0.30	2.00		15.00	4.00		○					●		
	FGD400R–03	●		4.00	0.40	3.00		15.00	4.50		○					●		
	FGD500R–04	●		5.00	0.40	4.00		15.00	5.00		○					●		
	MFMN300R	●	○	3.00	0.30	2.1		19.00	5.40		●				●			
	SP200–NM		●	2.2	0.2			9.3			●					●		
	SP300–NM		●	3.1	0.2			11.3			●					●		
	SP400–NM		●	4.1	0.25			11.3			●					●		
	SP500–NM		●	5.1	0.3			11.4			●					●		
	MGGN200L		●	2	0.2	1.5		16	3.5		●				●			●
	MGGN300L		●	3	0.4	2.35		21	4.8		●				●			●
	MGGN400L		●	4	0.4	3.3		21	4.8		●				●			●
	MGGN500L		●	5	0.8	4.12		25.9	5.8		●				●			●
	MGMN200J		●	2	0.2	1.6		16	3.5		○					●		
	MGMN300J		●	3	0.4	2.35		21	4.8		○					●		
	MGMN400J		●	4	0.4	3.3		21	4.8		○					●		
	MGMN500J		●	5	0.8	4.12		26	5.8		○					●		
	MGMN200T		●	2	0.2	1.6		16	3.5		○					●		
	MGMN300T		●	3	0.4	2.35		21	4.8		○					●		
	MGMN400T		●	4	0.4	3.3		21	4.8		○					●		
	MGMN500T		●	5	0.8	4.12		26	5.8		○					●		

●Stock ○Availabie upon Order

● continuous
◔ light Interruption
⊕ Interruption

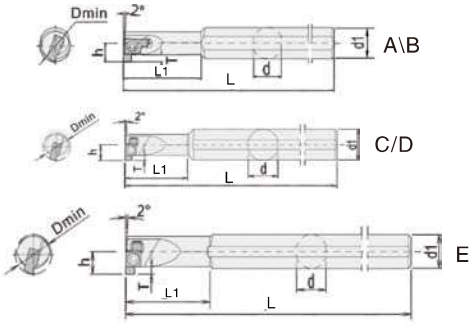
		CVD		PVD				Uncoated
P	Steel				●	◔		
M	Stainless Steel				●	◔		
K	Cast Iron				●	◔		
N	Non–ferrous Metal						●	
S	Heat–resistant Alloy,TiAlloy				●	◔		

The basic shape of inserts	OrderingCode	Stock	Dimensions(mm)							CVD		PVD				Uncoated
			W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	MRMN200M	●	2	1	1.6		16	3.5		●				●		
	MRMN300M	●	3	1.5	2.35		21	4.8		●				●		
	MRMN400M	●	4	2	3.3		21	4.8		●				●		
	MRMN500M	●	5	2.5	4.12		26	5.8		●				●		
	MRGN400M	●	2	1	1.6		16	3.5								●
	MRGN500M	●	3	1.5	2.35		21	4.8								●
	MRGN600M	●	4	2	3.3		21	4.8								●
	MRGN800M	●	5	2.5	4.12		26	5.8								●
	ZPES02502–MG	●	2.5	0.2			20	3.9		○					●	
	ZPFS0302–MG	●	3	0.2			20	4		○					●	
	ZPGS0402–MG	●	4	0.2			20	4		○					●	
	ZPHS0503–MG	●	5	0.3			25	4.9		○					●	
	TDJ2	●	2	0.2	1.7		20	3.9		○					●	
	TDJ3	●	3	0.2	2.4		20	4		○					●	
	TDJ4	●	4	0.3	3		20	4		○					●	
	TDJ5	●	5	0.3	4		25	4.9		○					●	
	TDC2	●	2	0.2	1.7		20	3.9		○					●	
	TDC3	●	3	0.2	2.4		20	4		○					●	
	TDC4	●	4	0.3	3		20	4		○					●	
	TDC5	●	5	0.3	4		25	4.9		○					●	
	THC42R100–CE	●	1	0.06	3.04		5	7.94	0°						○	○
	THC42R100–CE15R	●	1	0.06	3.04		5	7.94	15°						○	○
	THC42R150–CE	●	1.5	0.06	3.04		8.5	7.94	0°						○	○
	THC42R150–CE15R	●	1.5	0.06	3.04		8.5	7.94	15°						○	○
	THC42R200–CE	●	2	0.1	3.04		11.5	7.94	0°						○	○
	THC42R200–CE15R	●	2	0.1	3.04		11.5	7.94	15°						○	○
	THC42R250–CE	●	2.5	0.1	3.04		11.5	7.94	0°						○	○
	THC42R250–CE15R	●	2.5	0.1	3.04		11.5	7.94	15°						○	○
	THC42R300–CE	●	3	0.2	3.04		11.5	7.94	0°						○	○
	THC42R300–CE15R	●	3	0.2	3.04		11.5	7.94	15°						○	○
	THC42R200–CN	●	2	0.1	3.04		11.5	7.94	0°						○	○
	THC42R200–CU15R	●	2	0.1	3.04		11.5	7.94	15°						○	○
	THC42R250–CN	●	2.5	0.1	3.04		11.5	7.94	0°						○	○
	THC42R250–CU15R	●	2.5	0.1	3.04		11.5	7.94	15°						○	○
	THC42R300–CN	●	3	0.2	3.04		11.5	7.94	0°						○	○
	THC42R300–CU15R	●	3	0.2	3.04		11.5	7.94	15°						○	○
	TKFB12R15005M	●	1.5	0.05	3	5.0	2.6	8.7	0.25						○	○
	TKFB12R28005M	●	2.8	0.05	3	5.0	4.6	8.7	0.3						○	○
	TKFB12R28010M	●	2.8	0.1	3	5.0	4.6	8.7	0.3						○	○
	TKFB16R38005M	●	3.8	0.05	4	5.0	6.3	9.5	0.3						○	○
	TKFB16R38010M	●	3.8	0.1	4	5.0	6.3	9.5	0.3						○	○

●Stock ○Availabie upon Order

SIGER/L

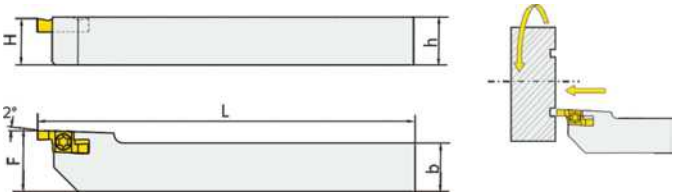




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	Dimin	d	d1	T	h	L	L1			
SIGER/L0808A	●	○	8	7.2	8	1.5	4.8	100	20	GER/L***A	M2.2*5	T-7
SIGER/L1010B	●	○	10	9	10	2.2	6.2	125	25	GER/L***B	M2.5*6	T-8
SIGER/L1210B	●	○	12	9	12	2.2	7	125	30			
SIGER/L1412C	●	○	14	11.4	14	2.5	8	150	33	GER/L***B	M2.5*6	T-8
SIGER/L1612C	●	○	16	11.4	16	2.5	8.5	150	20			
SIGER/L1616C	●	○	16	15	16	2.5	9	160	36			
SIGER/L2020D	●	○	20	19	20	4.5	12.1	180	40	GER/L***D	M3*8	T-10

SEGER/L**

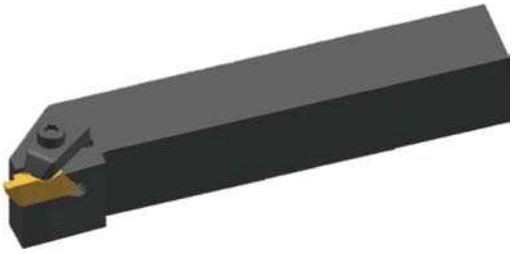


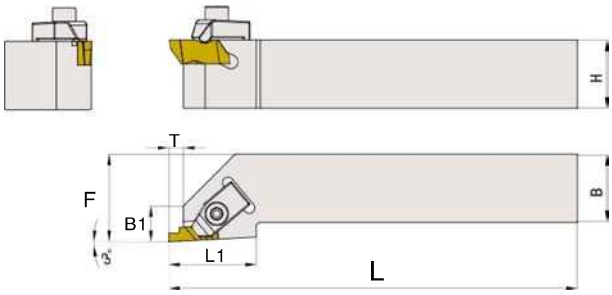


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	Dimin	H	b	F	L	h			
SEGER/L1010K-D	○	●	10	10	10	10	125	10	GER/L***DM	M3*8	T-10
SEGER/L1212K-D	○	●	10	12	12	12	125	12			
SEGER/L1616H-D	○	●	10	16	16	20	100	16			
SEGER/L2020K-D	○	●	10	20	20	25	125	20			
SEGER/L2525M-D	○	●	10	25	25	32	150	25			

●Stock ○Availabie upon Order

GNSR/L

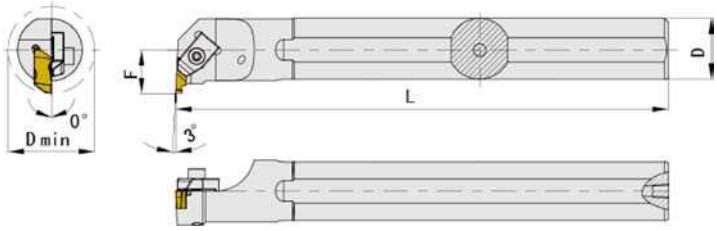




Ordering Code	Stock		Dimensions(mm)							Insert	Clamp	Screw	Wrench
	R	L	H	B	F	L	L1	B1	T				
GNSR/L1616H2	●	○	16	16	20	100	19	9	3.5	NG2***	YBNG2	NG2520	L4.0
GNSR/L2020K2	●	○	20	20	25	125	19	9	3.5				
GNSR/L2525M2	●	○	25	25	32	150	19	9	3.5				
GNSR/L2020K3	●	○	20	20	25	125	32	13	5.3	NG3***	YBNG3	NG3620	L5.0
GNSR/L2525K3	●	○	25	25	32	150	32	13	5.3				

GNAR/L**



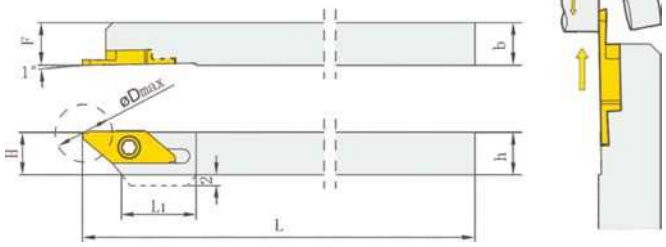


Ordering Code	Stock		Dimensions(mm)				Insert	Clamp	Screw	Wrench
	R	L	Dimin	D	F	L				
GNAR/L20Q2	●	○	26	20	13	180	NG2***	YBNG2	NG2520	L4.0
GNAR/L25R2	●	○	34	25	17	200				
GNAR/L25R3	●	○	34	25	17	200	NG3***	YBNG3	NG3620	L5.0

●Stock ○Availabie upon Order

KTKFR/L

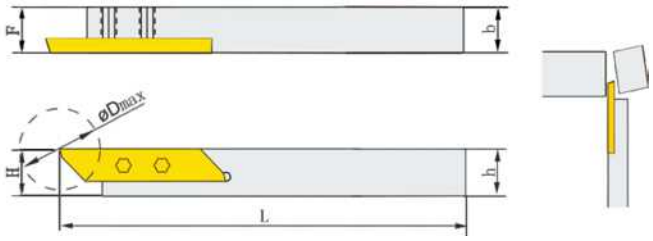




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	h	b	L	L1	f	H			
KTKFR/L1010K12	●	○	12	10	10	125	15	10	10	TKFT12***	SPM4*10	T-15
KTKFR/L1212M12	●	○	12	12	12	150	15	12	12			
KTKFR/L1616M12	●	○	12	16	16	150	15	16	16			
KTKFR/L1010K16	●	○	16	10	10	125	20	10	10	TKFT16***		
KTKFR/L1212M16	●	○	16	12	12	150	20	12	12			
KTKFR/L1616M16	●	○	16	16	16	150	20	16	16			

THCR

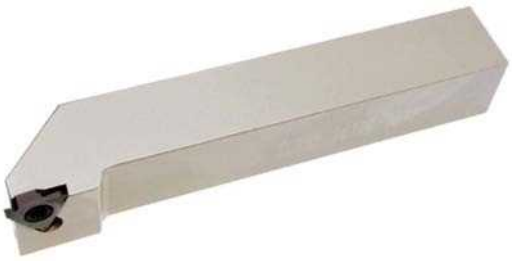


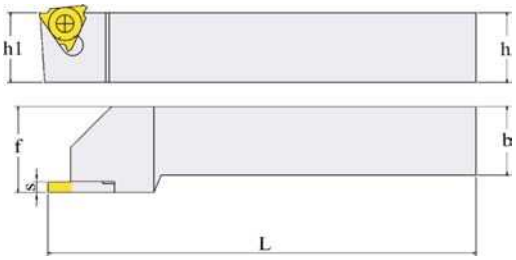


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	H	F	L	D			
THCR/L1010J42	○	○	10	10	10	12	85	21	THC42R/L	M4X8	T-15
THCR/L1212J42	○	○	12	12	12	16	100				
THCR/L1616J42	○	○	16	16	16	20	100				
THCR/L2020K42	○	○	20	20	20	25	125				
THCR/L2525M42	○	○	25	25	25	32	150				

●Stock ○Availabie upon Order

SGWHR/L

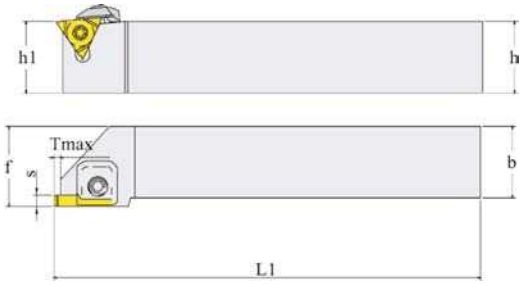




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	f	S	h1			
SGWHR/L1212H3200	●	●	12	12	100	16	0.5–1.8	12	GBA32***	M3.5*8	T–15
SGWHR/L1212H3215	●	●	12	12	100	16	1.8–2.3	12			
SGWHR/L1616H3200	●	●	16	16	100	20	0.5–1.8	16			
SGWHR/L1616H3215	●	●	16	16	100	20	1.8–2.3	16			
SGWHR/L2020K3200	●	●	20	20	125	25	0.5–1.8	20			
SGWHR/L2020K3215	●	●	20	20	125	25	1.8–2.3	20			
SGWHR/L2020K3223	●	●	20	20	125	25	2.3–3.3	20			
SGWHR/L2525M3200	●	●	25	25	150	32	0.5–1.8	25			
SGWHR/L2525M3215	●	●	25	25	150	32	1.8–2.3	25			
SGWHR/L2525M3223	●	●	25	25	150	32	2.3–3.3	25			

MGWHR/L



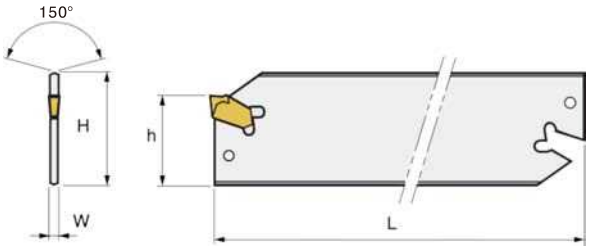


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw	Spring	Wrench
	R	L	h	b	L	f	S	h1					
MGWHR/L1616H4315A	●	●	16	16	100	20	1.25–1.5	16	GBA43***	NLJ0522	YB1318	DTH0814	L4.0
MGWHR/L1616H4315	●	●	16	16	100	20	1.5–2.3	16					
MGWHR/L1616H4325	●	●	16	16	100	20	2.3–3.3	16					
MGWHR/L2020K4315A	●	●	20	20	125	25	1.25–1.5	20					
MGWHR/L2020K4315	●	●	20	20	125	25	1.5–2.3	20					
MGWHR/L2020K4323	●	●	20	20	125	25	2.3–3.3	20					
MGWHR/L2525K4315A	●	●	25	25	150	32	1.25–1.5	25					
MGWHR/L2525K4315	●	●	25	25	150	32	1.5–2.3	25					
MGWHR/L2525K4323	●	●	25	25	150	32	2.3–3.3	25					
MGWHR/L2525K4333	●	●	25	25	150	32	3.3–4.7	25					

●Stock ○Availabie upon Order

SPB

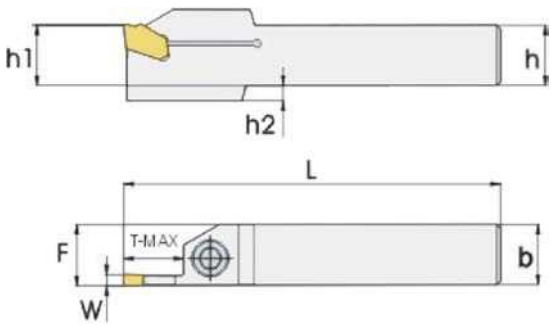




Ordering Code	Stock	Dimensions(mm)				Insert	Screw
	R	W	h	H	L		
SPB226-S	●	1.6	21	26	110	SP200	SW80-S
SPB326-S	●	2.4	21	26	110	SP300	
SPB426-S	●	3.2	21	26	110	SP400	
SPB526-S	●	4	21	26	110	SP500	
SPB232-S	●	1.6	25	32	150	SP200	
SPB332-S	●	2.4	25	32	150	SP300	
SPB432-S	●	3.2	25	32	150	SP400	
SPB532-S	●	4	25	32	150	SP500	

ZQR/L



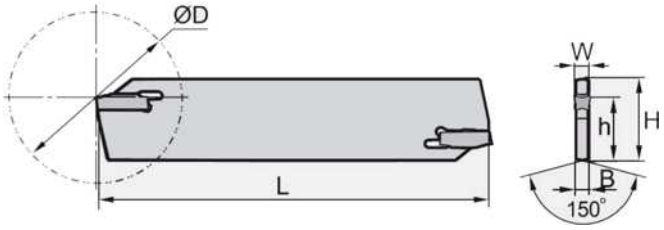


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	W	h	H	b	F	L			
ZQR/L1616H-02	●	●	1.6	16	16	16	16.3	100	SP200	NLJ0416	L3.0
ZQR/L2020K-02	●	●	1.6	20	20	20	20.3	125			
ZQR/L1616H-03	●	●	2.4	16	16	16	16.3	100	SP300	NLJ0520	L4.0
ZQR/L2020K-03	●	●	2.4	20	20	20	20.3	125			
ZQR/L2525M-03	●	●	2.4	25	25	25	25.3	150			
ZQR/L3232P-03	●	●	2.4	32	32	32	32.3	170			
ZQR/L1616H-04	●	●	3.2	16	16	16	16.3	100	SP400		
ZQR/L2020K-04	●	●	3.2	20	20	20	20.3	125			
ZQR/L2525M-04	●	●	3.2	25	25	25	25.3	150			
ZQR/L3232P-04	●	●	3.2	32	32	32	32.3	170			

●Stock ○Availabie upon Order

QE*S

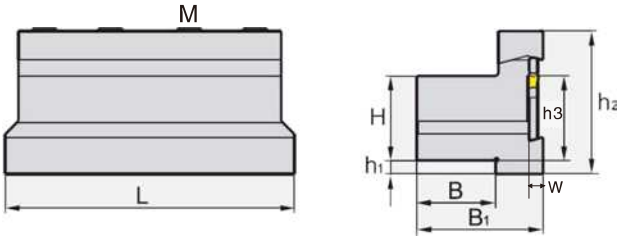




Ordering Code	Stock		Dimensions(mm)						Insert	Wrench
	R	L	L	H	h	B	W	ϕD		
QEES226N	●	●	110	26	19	2	2.5	60	ZPES02502-MG	L5.0
QEFS326N	●	●	110	26	19	2.4	3	60	ZPES0302-MG	
QEGS426N	●	●	110	26	19	3.2	4	70	ZPGS0402-MG	
QEHS526N	●	●	110	26	19	4	5	70	ZPHS0503-MG	
QEKS626N	●	●	110	26	19	5	6	70	ZPKS0604-MG	
QEES232N	●	●	150	32	24.6	2	2.5	100	ZPES0202-MG	
QEFS332N	●	●	150	32	24.6	2.4	3	100	ZPFS0302-MG	
QEGS432N	●	●	150	32	24.6	3.2	4	120	ZPGS0402-MG	
QEHS532N	●	●	150	32	24.6	4	5	120	ZPHS0503-MG	
QEKS632N	●	●	150	32	24.6	5	6	120	ZPKS0604-MG	

SMBB



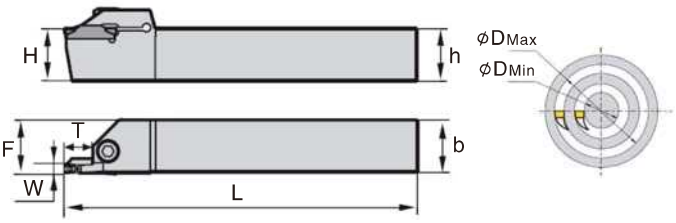


Ordering Code	Stock		Dimensions(mm)									Insert	Wrench
	R	L	H	B	h3	L	h2	h1	B1	W	M		
SMBB1626	●	●	16	12	26	86	43	13	30	5.3	3-M6	SPB□□□(S) QEES**N	L5.0
SMBB2026	●	●	20	19	26	86	43	9	38	5.3	3-M6		
SMBB2032	●	●	20	19	32	100	50	13	38	5.3	4-M6		
SMBB2526	●	●	25	23	26	86	43	4	42	5.3	3-M6		
SMBB2532	●	●	25	23	32	110	50	8	42	5.3	4-M6		
SMBB3232	●	●	32	30	32	110	54	5	48	5.3	4-M6		

●Stock ○Availabie upon Order

MGFHRR

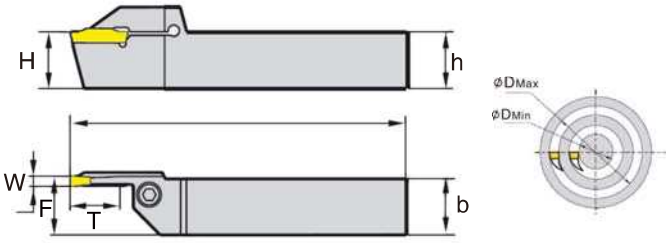




Ordering Code	Stock	Dimensions(mm)								Insert	Screw	Wrench
	R	h	b	L	S	D	H	T	W			
MGFHRR 325–24/35–T10	●	25	25	150	25.6	24–35	25	10	3.0	MFMN300R	NLJ0620	L5.0
MGFHRR 325–29/40–T10	●					29–40						
MGFHRR 325–34/50–T10	●					34–50						
MGFHRR 325–44/70–T10	●					44–70						
MGFHRR 325–64/99–T10	●					64–99						
MGFHRR 425–62/120–T15	●					62–120		15	4.0	MG*N400		
MGFHRR 425–112/200–T15	●					112–200						

MGFHR/L

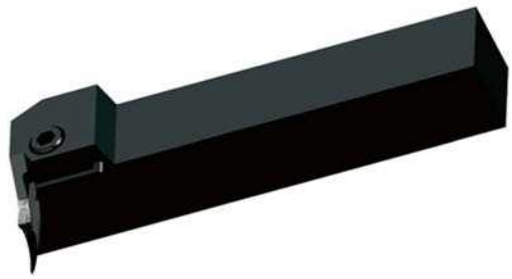


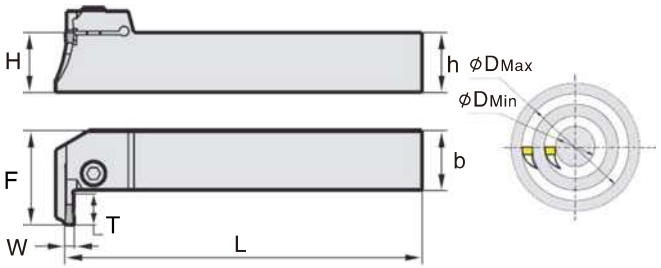


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	h	b	L	F	D	H	T	W			
MGFHR/L 325–24/35–T10	●	○	25	25	150	25.6	24–35	25	10	3.0	MFMN300R	NLJ0620	L5.0
MGFHR/L 325–29/40–T10	●	○					29–40						
MGFHR/L 325–34/50–T10	●	○					34–50						
MGFHR/L 325–44/70–T10	●	○					44–70						
MGFHR/L 325–64/99–T10	●	○					64–99						
MGFHR/L 320–44/62–T15	●	○	20	20	125	20.6	44–62	20	15	3.0	MG*N300		
MGFHR/L 320–62/120–T15	●	○					62–120						
MGFHR/L 320–112/200–T15	●	○					112–200						
MGFHR/L 325–44/62–T15	●	○	25	25	150	25.6	44–62	25					
MGFHR/L 325–62/120–T15	●	○					62–120						
MGFHR/L 325–112/200–T15	●	○					112–200						
MGFHR/L 420–44/62–T15	●	○	20	20	125	20.6	44–62	20		4.0	MG*N400		
MGFHR/L 420–62/120–T15	●	○					62–120						
MGFHR/L 420–112/200–T15	●	○					112–200						
MGFHR/L 425–44/62–T15	●	○	25	25	150	25.6	44–62	25					
MGFHR/L 425–62/120–T15	●	○					62–120						
MGFHR/L 425–112/200–T15	●	○					112–200						

●Stock ○Availabie upon Order

MGFVR/L

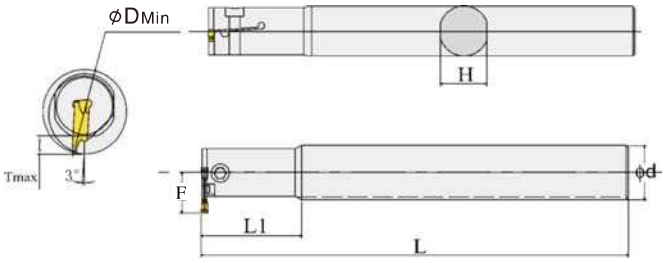




Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	h	b	L	F	D	H	T	W			
MGFVR/L 320-44/62-T15	●	○	20	20	125	20.6	44-64	20	15	3.0	MG*N300	NLJ0620	L5.0
MGFVR/L 320-62/120-T15	●	○					62-120						
MGFVR/L 320-112/200-T15	●	○					112-200						
MGFVR/L 325-44/62-T15	●	○	25	25	150	25.6		25					
MGFVR/L 325-62/120-T15	●	○					62-120						
MGFVR/L 325-112/200-T15	●	○					112-200						
MGFVR/L 420-44/62-T15	●	○	20	20	125	20.6		20		4.0	MG*N400		
MGFVR/L 420-62/120-T15	●	○					62-120						
MGFVR/L 420-112/200-T15	●	○					112-200						
MGFVR/L 425-44/62-T15	●	○	25	25	150	25.6		25					
MGFVR/L 425-62/120-T15	●	○					62-120						
MGFVR/L 425-112/200-T15	●	○					112-200						

MGNVR/L



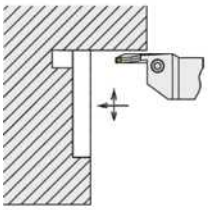


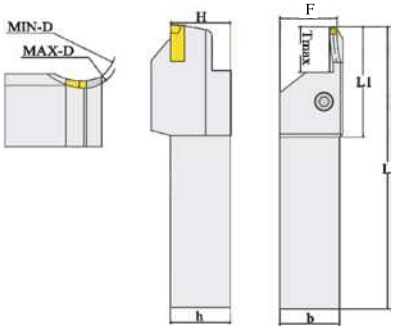
Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	T	H	F			
MGNVR/L 2016K-2	●	●	20	16	125	35	5	15	12.4	MG*N200	M5*15	T-20
MGNVR/L 2520M-2	●	●	25	20	150	45		18	14			
MGNVR/L 2925R-2	●	●	29	25	200	45		23	17.2		NLJ0516	L4.0
MGNVR/L 2520M-2.5	●	●	25	20	150	45	6	18	15.1	MG*N250		
MGNVR/L 2925R-2.5	●	●	29	25	200	45		23	18.2			
MGNVR/L 2520M-3	●	●	25	20	150	45		18	15.6	MG*N300	M5*15	T-20
MGNVR/L 3125R-3	●	●	31	25	200	45		23	18.9		NLJ0516	L4.0
MGEVR/L 3732S-3	●	●	37	32	250	65		29	21.5			
MGNVR/L 2520M-4	●	●	25	20	150	45		18	15.6	MG*N400	M5*15	T-20
MGNVR/L 3125R-4	●	●	31	25	200	45		23	18.9		NLJ0516	L4.0
MGEVR/L 3732S-4	●	●	27	32	250	65		29	21.5			
MGNVR/L 3125R-5	●	●	31	25	200	45	8	23	19.4	MG*N500		
MGEVR/L 3732S-5	●	●	37	32	250	65		29	21.5			

●Stock ○Availabie upon Order

FGDHX





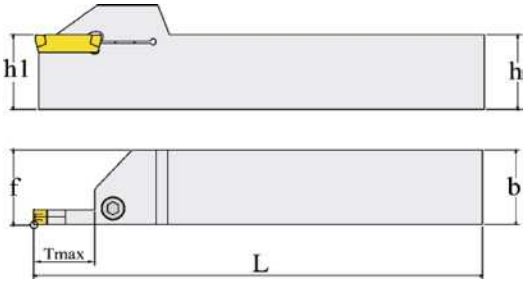


Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
	R	h	b	L	F	D	H	T			
FGDHX2020K25/30–3	●	20	20	125	21.8	25–30	20	12	FMM300	NLJ0520	L4.0
FGDHX2020K30/35–3	●					30–35					
FGDHX2020K35/48–3	●					35–48					
FGDHX2020K48/60–3	●					48–60		22	FGD300		
FGDHX2020K60/75–3	●					60–75					
FGDHX2020K75/100–3	●					75–100					
FGDHX2020K100/140–3	●					100–140					
FGDHX2525M25/30–3	●	25	25	150	27.8	25–30	25	12	FMM300	NLJ0520	L4.0
FGDHX2525M30/35–3	●					30–35					
FGDHX2525M35/48–3	●					35–48					
FGDHX2525M48/60–3	●					48–60		22	FGD300		
FGDHX2525M60/75–3	●					60–75					
FGDHX2525M75/100–3	●					75–100					
FGDHX2525M100/140–3	●					100–140					
FGDHX2020K25/30–4	●	20	20	125	21.8	25–30	20	12	FMM400	NLJ0520	L4.0
FGDHX2020K30/35–4	●					30–35					
FGDHX2020K35/48–4	●					35–48					
FGDHX2020K48/60–4	●					48–60		22	FGD400		
FGDHX2020K60/75–4	●					60–75					
FGDHX2020K75/100–4	●					75–100					
FGDHX2020K100/140–4	●					100–140					
FGDHX2525M25/30–4	●	25	25	150	27.8	25–30	25	12	FMM400	NLJ0520	L4.0
FGDHX2525M30/35–4	●					30–35					
FGDHX2525M35/48–4	●					35–48					
FGDHX2525M48/60–4	●					48–60		22	FGD400		
FGDHX2525M60/75–4	●					60–75					
FGDHX2525M75/100–4	●					75–100					
FGDHX2525M100/140–4	●					100–140					
FGDHX2020K25/30–5	●	20	20	125	21.8	25–30	20	12	FMM500	NLJ0520	L4.0
FGDHX2020K30/35–5	●					30–35					
FGDHX2020K35/48–5	●					35–48					
FGDHX2020K48/60–5	●					48–60		22	FGD500		
FGDHX2020K60/75–5	●					60–75					
FGDHX2020K75/100–5	●					75–100					
FGDHX2020K100/140–5	●					100–140					
FGDHX2525M25/30–5	●	25	25	150	27.8	25–30	25	12	FMM500	NLJ0520	L4.0
FGDHX2525M30/35–5	●					30–35					
FGDHX2525M35/48–5	●					35–48					
FGDHX2525M48/60–5	●					48–60		22	FGD500		
FGDHX2525M60/75–5	●					60–75					
FGDHX2525M75/100–5	●					75–100					
FGDHX2525M100/140–5	●					100–140					

●Stock ○Availabie upon Order

MGEHR/L



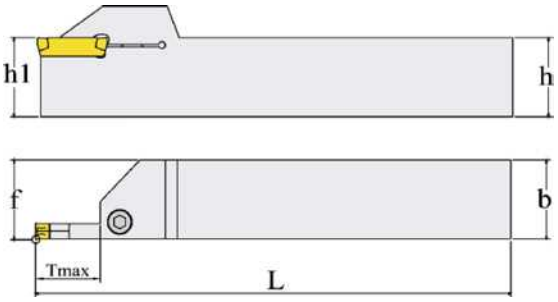


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	f	T	h1			
MGEHR/L1616H-2	●	●	16	16	100	16.25	14.5	16	MG*N200	NLJ0520	L4.0
MGEHR/L2020K-2	●	●	20	20	125	20.25	14.5	20			
MGEHR/L2020K-2-T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M-2	●	●	25	25	150	25.25	14.5	25			
MGEHR/L2525M-2-T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P-2	●	●	32	32	170	32.25	14.5	32		NLJ0620	L5.0
MGEHR/L1616H-2.5	●	●	16	16	100	16.25	16	16	MG*N250	NLJ0520	L4.0
MGEHR/L2020K-2.5	●	●	20	20	125	20.25	16	20			
MGEHR/L2020K-2.5-T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M-2.5	●	●	25	25	150	25.25	16	25			
MGEHR/L2525M-2.5-T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P-2.5	●	●	32	32	170	32.25	16	32		NLJ0620	L5.0
MGEHR/L1616H-3	●	●	16	16	100	16.25	18	16	MG*N300	NLJ0520	L4.0
MGEHR/L2020K-3	●	●	20	20	125	20.25	18	20			
MGEHR/L2020K-3-T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M-3	●	●	25	25	150	25.25	18	25			
MGEHR/L2525M-3-T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P-3	●	●	32	32	170	32.25	18	32		NLJ0620	L5.0
MGEHR/L3232P-3-T10	●	●	16	16	100	16.25	10	32			
MGEHR/L2020K-4	●	●	20	20	125	20.25	18	20	MG*N400	NLJ0520	L4.0
MGEHR/L2020K-4-T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M-4	●	●	25	25	150	25.25	18	25			
MGEHR/L2525M-4-T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P-4	●	●	32	32	170	32.25	18	32		NLJ0620	L5.0
MGEHR/L3232P-4-T10	●	●	16	16	100	16.25	10	32			
MGEHR/L2020K-5	●	●	20	20	125	20.25	23	20	MG*N500	NLJ0520	L4.0
MGEHR/L2020K-5-T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M-5	●	●	25	25	150	25.25	23	25			
MGEHR/L2525M-5-T10	●	●	25	25	150	25.25	10	25			
MGEHR/L3232P-5	●	●	32	32	170	32.25	23	32		NLJ0620	L5.0
MGEHR/L3232P-5-T10	●	●	16	16	100	16.25	10	32			

●Stock ○Availabie upon Order

TTER/L

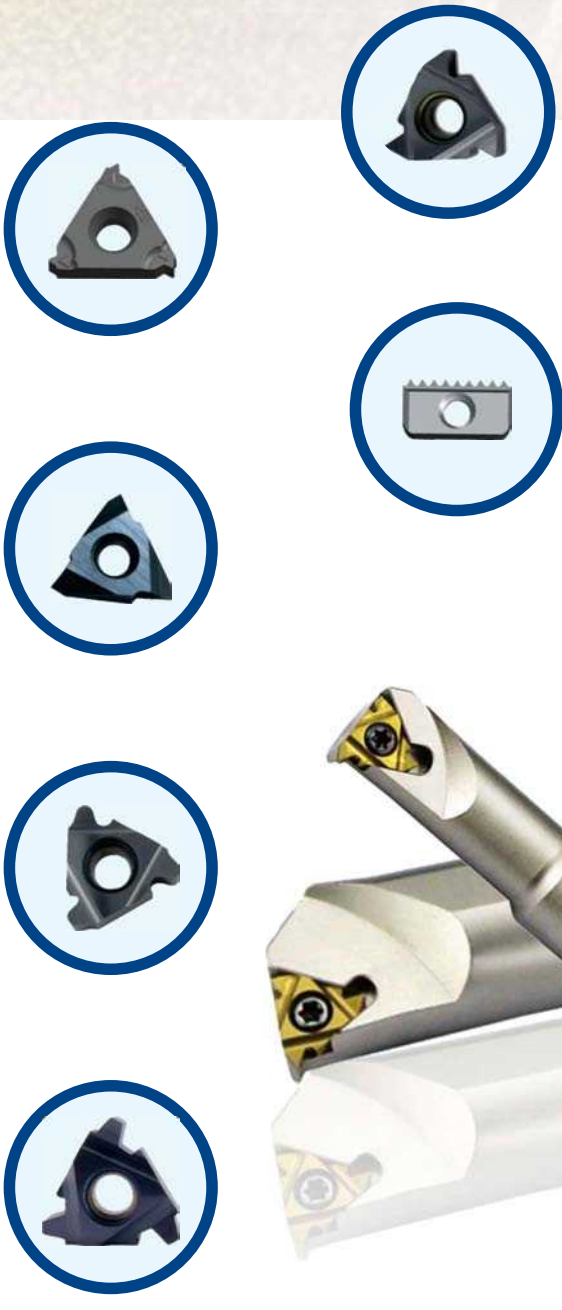




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	F	T	h1			
TTER/L1616H–2	●	●	16	16	100	16.1	12	16	TD*200	NLJ0520	L4.0
TTER/L1616H–2–T17	●	●	20	20	125	16.1	17	20			
TTER/L2020K–2	●	●	20	20	125	20.1	12	20			
TTER/L2020K–2–T17	●	●	25	25	150	20.1	17	25			
TTER/L2525M–2	●	●	25	25	150	25.1	12	25			
TTER/L2525M–2–T17	●	●	32	32	170	32.1	17	32			
TTER/L1616H–3	●	●	16	16	100	16.25	12	16	TD*300	NLJ0520	L4.0
TTER/L1616H–3–T20	●	●	20	20	125	20.25	20	20			
TTER/L2020K–3	●	●	20	20	125	20.25	12	20			
TTER/L2020K–3–T20	●	●	25	25	150	25.25	20	25			
TTER/L2525M–3	●	●	25	25	150	25.25	12	25			
TTER/L2525M–3–T20	●	●	32	32	170	32.25	20	32			
TTER/L1616H–4	●	●	16	16	100	16.5	15	16	TD*400	NLJ0520	L4.0
TTER/L1616H–4–T25	●	●	20	20	125	20.5	25	20			
TTER/L2020K–4	●	●	20	20	125	20.5	15	20			
TTER/L2020K–4–T25	●	●	25	25	150	25.5	25	25			
TTER/L2525M–4	●	●	25	25	150	25.5	15	25			
TTER/L2525M–4–T25	●	●	32	32	170	32.5	25	32			
TTER/L2020K–5	●	●	20	20	125	20.6	20	20	TD*500	NLJ0520	L4.0
TTER/L2020K–5–T25	●	●	25	25	150	25.6	25	25			
TTER/L2525M–5	●	●	25	25	150	25.6	20	25			
TTER/L2525M–5–T25	●	●	32	32	170	32.6	25	32			

●Stock ○Availabie upon Order

Thread Cutters

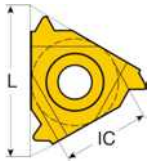




Threading Insert Identification

Insert Size

L (mm)	IC
06	3.968mm=5/32″
08	4.762mm=3/16″
11	6.350mm=1/4″
16	9.525mm=3/8″
22	12.700mm=1/2″
27	15.875mm=5/8″



Application

E – External
I – Internal
UE – U–Type, External
UI – U–Type, Internal
UEI – U–Type, External and Internal



U–Type



Regular Type

Hand of Tool

R – Right–hand
L – Left–hand
RL – Right–hand Left–hand

16 E R 1.50 ISO B NS4125

Pitch

Full Profile
(Value by number)
0.35 – 9.0 mm
72 – 2 TPI

Partial Profile
(Range by letter)

	mm	TPI
A	0.5 – 1.5	48 – 16
AG	0.5 – 3.0	48 – 8
G	1.75 – 3.0	14 – 8
N	3.5 – 5.0	7 – 5
U	5.5 – 9.0	4.5 – 2.75
Q	5.5 – 6.0	4.5 – 4

Thread Standard

60 – Partial Profile 60°
55 – Partial Profile 55°
ISO – ISO Metric
UN – American UN
W – Whitworth
BSPT – British BSPT
RND – Round DIN 405
TR – Trapeze DIN 103
ACME – ACME
STACME – Stub ACME
ABUT – American Buttress
UNJ – UNJ
NPT – NPT
API RD – API Round
BUT – API Buttress Casing
API – API

Type

B – Pressed chipbreaker
□ – No indication regular type

Grade

Coated
TT7010
TT8010
TT9030

Uncoated
P30

Threading Cutter Identification

Clamping System	Application	Tool Length	Insert Size	Hand of Tool	Shank Size	Optional Specifications
S	E	R	2020	K	16	□

Clamping System

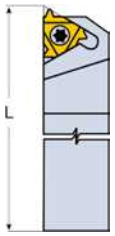
S – Screw Clamping

Application

E – External
I – Internal

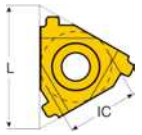
Tool Length

mm
D – 60
F – 80
H – 100
K – 125
L – 140
M – 150
P – 170
R – 200
S – 250
T – 300
U – 350
V – 400



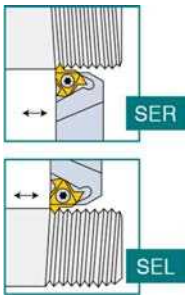
Insert Size

L (mm)	IC
06	3.968mm = 5/32″
08	4.762mm = 3/16″
08U	4.762mm = 3/16″
11	6.350mm = 1/4″
16	9.525mm = 3/8″
22	12.700mm = 1/2″
22U	12.700mm = 1/2″
27	15.875mm = 5/8″
27U	15.875mm = 5/8″



Hand of Tool

R – Right–hand
L – Left–hand



Shank Size

External Toolholders
Shank: h × b

2020: 20 × 20mm

Internal Toolholders
Shank: Diameter d

0025: Diameter 25mm

Optional Specifications

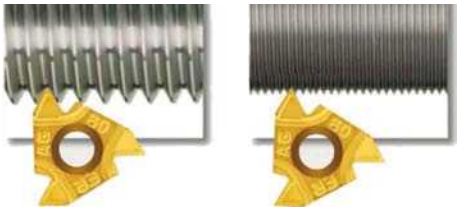
U – For U–type inserts
B – Bore for coolant
C – Carbide shank
SP – Special

USER GUIDE

Threading Inserts – Types and Profiles

Partial Profile

- Suitable for a wide range of pitches with a common angle (60° or 55°)
- Inserts with small root–corner radius suitable for the smallest pitch range.
- Additional operations to complete the outer/internal diameter is necessary.
- Not recommended for mass production.
- Eliminates the need for different inserts.



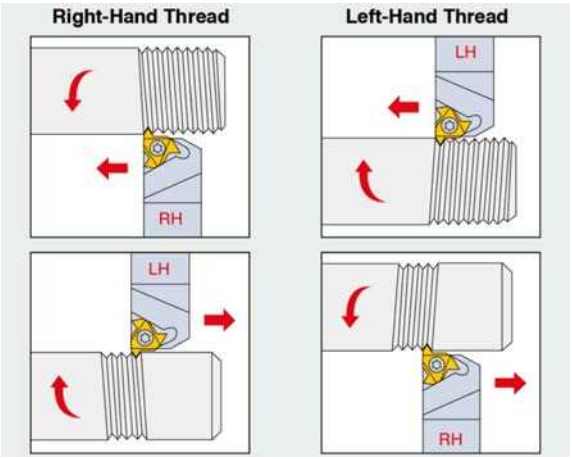
Full Profile

- Performs complete thread profile.
- Root corner radius is suitable only for the relevant pitch.
- Recommended for mass production.
- Suitable for one profile only.

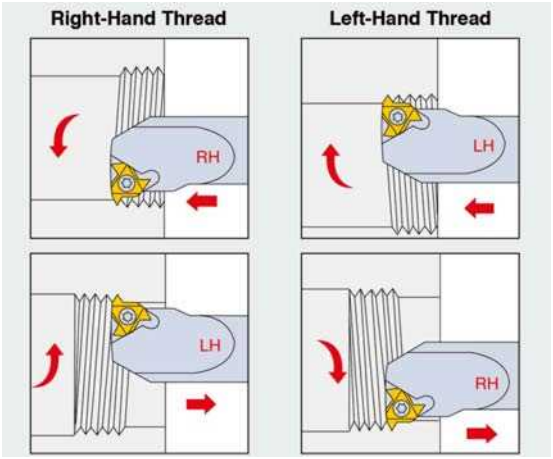


Thread Turning Methods

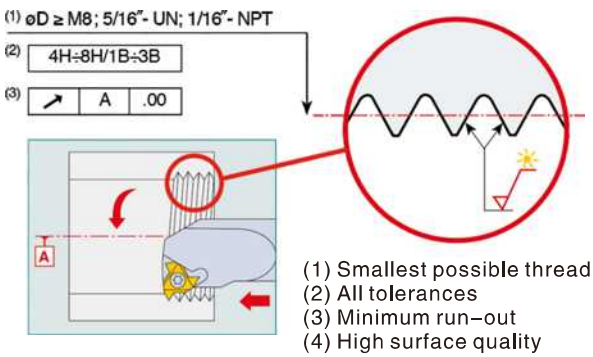
External Thread



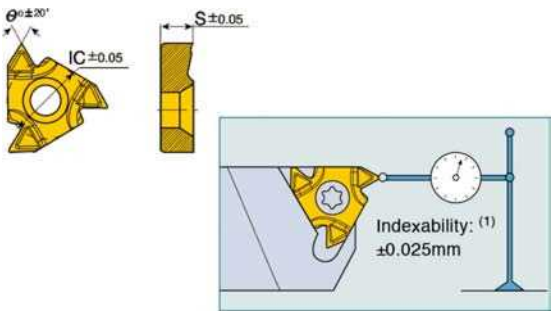
Internal Thread



Mini – Tool Features



(1) Smallest possible thread
(2) All tolerances
(3) Minimum run–out
(4) High surface quality



Insert indexability accuracy: ±0.015mm

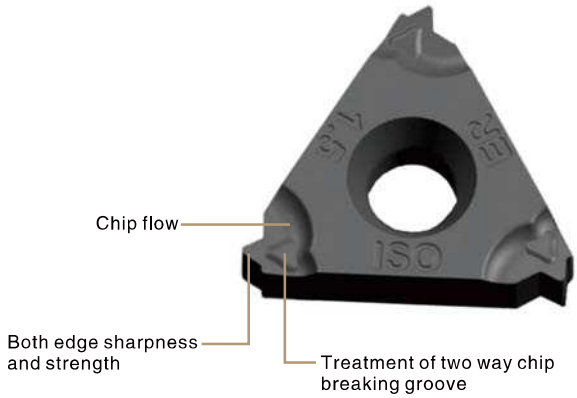
Threading Insert Features

1.New type of pressing groove, chip processing is good;

2.Special edge treatment, edge uniformity.

3.With NS4125 brand, suitable for steel (P), stainless steel (M), cast iron (K) and other materials.

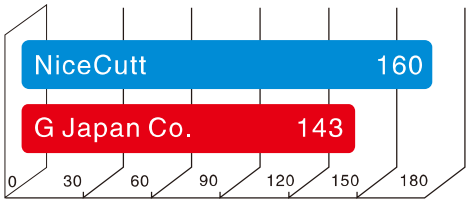
4.Covered pitch range 1.0–3.0mm.



Case Study 1



Workpiece material	304(HB200)Stainless steel
Machining parts	Machining external thread
Insert	16ER1.5ISO–B–NS4125





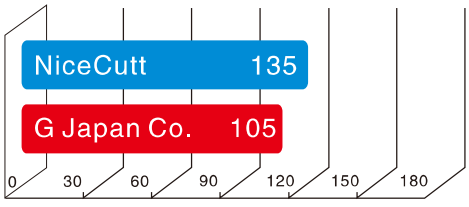
The cutting parameters
Vc=110m/min
Φd=35mm

Cutting life
+12%

Case Study 2



Workpiece material	304(HB200)Stainless steel
Machining parts	Machining internal thread
Insert	16IR1.5ISO–B–NS4125





The cutting parameters
Vc=90m/min
Φd=40mm

Cutting life
+30%

Partial Profile 60°



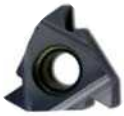
P142

Partial Profile 55°



P142

Partial Profile 60°



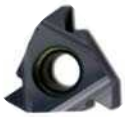
P143

Partial Profile 60°



P143

Partial Profile 55°



P143

Partial Profile 55°



P143

11**ISO



P144

11**ISO-B



P144

16/22**ISO



P144

16**ISO-B



P144

11**UN60°



P145

16/22**UN60°



P145

16**UN-B60°



P145

11**W55°



P146

16/22**W55°



P146

16**W-B55°



P146

11**NPTF60°



P147

16**NPTF60°



P147

11**NPT60°



P147

16**NPT60°



P147

16**NPT-B60°



P147

11**BSPT55°



P148

16**BSPT55°



P148

16**BSPT-B55°



P148

TR-30° Trapez DIN 103



P148

ACME-29° American



P149

STACME-29°



P149

RD30° DIN405



P150

SER/L



P151

CER/L



P151

B-SER/L



P152

MTWHR/L



P152

SNR/L



P153

SNR/L



P153

W-55°



P154

BSPT-55°



P154

ISO Metric full proile



P155

UN-60°



P156

NPT-60°



P157

NPTF



P157

Partial profile 60°



P158

Partial profile 60°



P159

ISO Mrtric Full Profile



P159

ISO Mrtric Full Profile



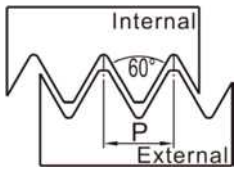
P160

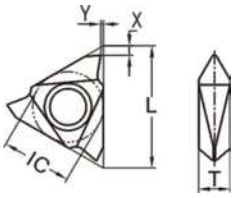
ISO Mrtric Full Profile



P160

Partial Profile 60° V-style Inserts

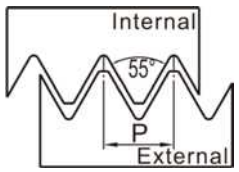


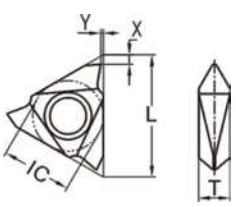


P	Steel	● ●
M	Stainless Steel	○
K	Cast Iron	●
N	Non-ferrous Metal	●
S	Heat-resistant Alloy	●

Shape	Ordering Code	Pitch		Dimension						CVD	PVD	Uncoated
	ER	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
	TT43R6001	1.0–1.75	24–14	1/2″	4.76	22	1.70	0.29	0.10	●	●	●
	TT43R6002	2.0–2.5	13–10						0.20	●	●	●
	TT43R6003	3.0–3.5	9–7						0.30	●	●	●
	TT43R6004	4.0–4.5	6–5						0.40	●	●	●

Partial Profile 55° V-style Inserts



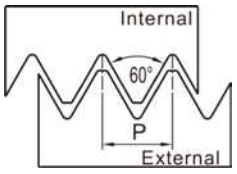


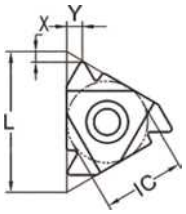
P	Steel	● ●
M	Stainless Steel	○
K	Cast Iron	●
N	Non-ferrous Metal	●
S	Heat-resistant Alloy	●

Shape	Ordering Code	Pitch		Dimension						CVD	PVD	Uncoated
	ER	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
	TT43R/L5501	1.0–1.75	24–14	1/2″	4.76	22	1.70	0.29	0.10	●	●	●
	TT43R/L5502	2.0–2.5	13–10						0.20	●	●	●
	TT43R/L5503	3.0–3.5	9–7						0.30	●	●	●
	TT43R/L5504	4.0–4.5	6–5						0.40	●	●	●

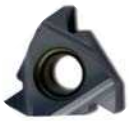
●Stock ○Availabie upon Order

Partial Profile 60° Threading Insert

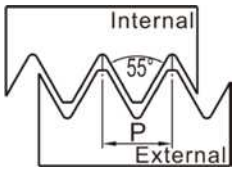


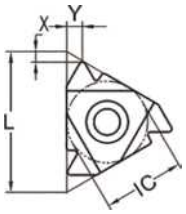


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

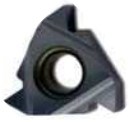
Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	IC	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR/A60	0.5–1.5	48–16	6.35	3.18	11	0.80	0.90	0.08	●	●	●
	16ER A60	16IR A60	0.5–1.5	48–16	9.525	3.97	16	0.80	0.90	0.08	●	●	●
	16ER AG60	16IR AG60	0.5–3.0	48–8				1.20	1.70	0.08	●	●	●
	16ER G60	16IR G60	1.75–3.0	14–8				1.20	1.70	0.28	●	●	●
	22ER N60	22IR N60	3.5–5.0	7–5	12.7	5.56	22	1.70	2.50	0.53	●	●	●
	16ER A60–B	16IR A60–B	0.5–1.5	48–16	9.525	3.97	16	0.80	0.90	0.08		●	
	16ER AG60–B	16IR AG60–B	0.5–3.0	48–8				1.20	1.70	0.08		●	
	16ER G60–B	16IR G60–B	1.75–3.0	14–8				1.20	1.70	0.18		●	

Partial Profile 55° Threading Insert



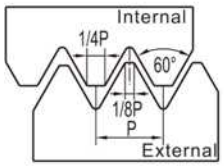


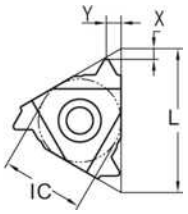
P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR/A55	0.5–1.5	48–16	6.35	3.18	11	0.80	0.90	0.08	●	●	●
	16ER A55	16IR A55	0.5–1.5	48–16	9.525	3.97	16	0.80	0.90	0.08	●	●	●
	16ER AG55	16IR AG55	0.5–3.0	48–8				1.20	1.70	0.08	●	●	●
	16ER G55	16IR G55	1.75–3.0	14–8				1.20	1.70	0.28	●	●	●
	22ER N55	22IR N55	3.5–5.0	7–5	12.7	5.56	22	1.70	2.50	0.53	●	●	●
	16ER A55–B	16IR A55–B	0.5–1.5	48–16	9.525	3.97	16	0.80	0.90	0.08		●	
	16ER AG55–B	16IR AG55–B	0.5–3.0	48–8				1.20	1.70	0.08		●	
	16ER G55–B	16IR G55–B	1.75–3.0	14–8				1.20	1.70	0.18		●	

●Stock ○Availabie upon Order

ISO Metric



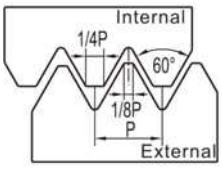


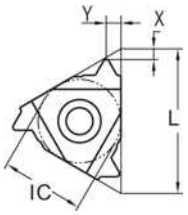
P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non-ferrous Metal			●
S	Heat-resistant Alloy		●	

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	IC	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR0.50 ISO	0.50		6.35	3.18	11	0.60	0.60	0.05	●	●	●
		11IR0.75 ISO	0.75					0.60	0.60	0.08	●	●	●
		11IR1.00 ISO	1.00					0.70	0.70	0.10	●	●	●
		11IR1.25 ISO	1.25					0.80	0.90	0.13	●	●	●
		11IR1.50 ISO	1.50					0.80	1.0	0.18	●	●	●
		11IR1.75 ISO	1.75					0.80	1.10	0.22	●	●	●
		11IR2.00 ISO	2.00					–	–	0.25	●	●	●
		11IR0.50 ISO-B	0.50		6.35	3.18	11	0.60	0.60	0.05		●	
		11IR0.75 ISO-B	0.75					0.60	0.60	0.08		●	
		11IR1.00 ISO-B	1.00					0.70	0.70	0.10		●	
		11IR1.25 ISO-B	1.25					0.80	0.90	0.13		●	
		11IR1.50 ISO-B	1.50					0.80	1.0	0.18		●	
		11IR1.75 ISO-B	1.75					0.80	1.10	0.22		●	
		11IR2.00 ISO-B	2.00					–	–	0.25		●	
	16ER0.50 ISO	16IR0.50 ISO	0.50		9.525	3.97	16	0.60	0.60	0.05	●	●	●
	16ER0.75 ISO	16IR0.75 ISO	0.75					0.60	0.60	0.08	●	●	●
	16ER1.00 ISO	16IR1.00 ISO	1.00					0.70	0.70	0.10	●	●	●
	16ER1.25 ISO	16IR1.25 ISO	1.25					0.80	0.90	0.13	●	●	●
	16ER1.50 ISO	16IR1.50 ISO	1.50					0.80	1.0	0.18	●	●	●
	16ER1.75 ISO	16IR1.75 ISO	1.75					0.90	1.20	0.22	●	●	●
	16ER2.00 ISO	16IR2.00 ISO	2.00					1.0	1.30	0.25	●	●	●
	16ER2.50 ISO	16IR2.50 ISO	2.50					1.10	1.50	0.30	●	●	●
	16ER3.00 ISO	16IR3.00 ISO	3.00					1.20	1.60	0.36	●	●	●
	22ER3.50 ISO	22IR/L3.50 ISO	3.50		12.7	5.56	22	1.60	2.30	0.38	●	●	●
	22ER4.00 ISO	22IR/L4.00 ISO	4.00					1.60	2.30	0.40	●	●	●
	22ER4.50 ISO	22IR/L4.50 ISO	4.50					1.70	2.40	0.40	●	●	●
	22ER5.00 ISO	22IR/L5.00 ISO	5.00					1.70	2.40	0.40	●	●	●
	16ER0.50 ISO-B	16IR0.50 ISO-B	0.50		9.525	3.97	16	0.60	0.60	0.05		○	
	16ER0.75 ISO-B	16IR0.75 ISO-B	0.75					0.60	0.60	0.08		○	
	16ER1.00 ISO-B	16IR1.00 ISO-B	1.00					0.70	0.70	0.10		●	
	16ER1.25 ISO-B	16IR1.25 ISO-B	1.25					0.80	0.90	0.13		●	
	16ER1.50 ISO-B	16IR1.50 ISO-B	1.50					0.80	1.0	0.18		●	
	16ER1.75 ISO-B	16IR1.75 ISO-B	1.75					0.90	1.20	0.22		●	
	16ER2.00 ISO-B	16IR2.00 ISO-B	2.00					1.0	1.30	0.25		●	
	16ER2.50 ISO-B	16IR2.50 ISO-B	2.50					1.10	1.50	0.30		●	
	16ER3.00 ISO-B	16IR3.00 ISO-B	3.00					1.20	1.60	0.36		●	

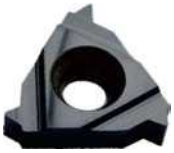
●Stock ○Availabie upon Order

60° American UN NC NF NEF NS



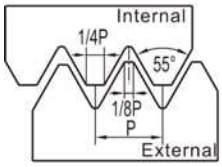


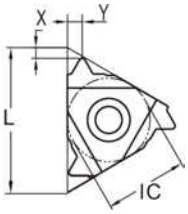
P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR32 UN		32	6.36	3.18	11	0.60	0.60	0.10	●	●	●
		11IR28 UN		28				0.60	0.70	0.10	●	●	●
		11IR24 UN		24				0.70	0.80	0.13	●	●	●
		11IR20 UN		20				0.80	0.90	0.15	●	●	●
		11IR18 UN		18				0.80	1.0	0.18	●	●	●
		11IR16 UN		16				0.90	1.10	0.20	●	●	●
	16ER32 UN	16IR32 UN		32	9.525	3.97	16	0.60	0.60	0.08	●	●	●
	16ER28 UN	16IR28 UN		28				0.60	0.70	0.08	●	●	●
	16ER24 UN	16IR24 UN		24				0.70	0.80	0.10	●	●	●
	16ER20 UN	16IR20 UN		20				0.80	0.90	0.10	●	●	●
	16ER18 UN	16IR18 UN		18				0.80	1.0	0.13	●	●	●
	16ER16 UN	16IR16 UN		16				0.9	1.1	0.15	●	●	●
	16ER14 UN	16IR14 UN		14				1.0	1.2	0.18	●	●	●
	16ER13 UN	16IR13 UN		13				1.1	1.3	0.20	●	●	●
	16ER12 UN	16IR12 UN		12				1.1	1.4	0.23	●	●	●
	16ER11.5 UN	16IR11.5 UN		11.5				1.1	1.4	0.25	●	●	●
	16ER11 UN	16IR11 UN		11				1.1	1.5	0.28	●	●	●
	16ER10 UN	16IR10 UN		10				1.1	1.5	0.30	●	●	●
	16ER9 UN	16IR 9 UN		9				1.2	1.7	0.33	●	●	●
	16ER8 UN	16IR8 UN		8				1.2	2.0	0.36	●	●	●
	22ER7 UN	22IR7 UN		7	12.7	5.56	22	1.60	2.30	0.38	●	●	●
	22ER6 UN	22IR6 UN		6				1.60	2.30	0.41	●	●	●
	22ER5 UN	22IR5 UN		5				1.70	2.50	0.43	●	●	●
	16ER32 UN–B	16IR32 UN–B		32	9.525	3.97	16	0.60	0.60	0.08		○	
	16ER28 UN–B	16IR28 UN–B		28				0.60	0.70	0.08		○	
	16ER24 UN–B	16IR24 UN–B		24				0.70	0.80	0.10		○	
	16ER20 UN–B	16IR20 UN–B		20				0.80	0.90	0.10		○	
	16ER18 UN–B	16IR18 UN–B		18				0.80	1.0	0.13		○	
	16ER16 UN–B	16IR16 UN–B		16				0.9	1.1	0.15		○	
	16ER14 UN–B	16IR14 UN–B		14				1.0	1.2	0.18		○	
	16ER13 UN–B	16IR13 UN–B		13				1.1	1.3	0.20		○	
	16ER12 UN–B	16IR12 UN–B		12				1.1	1.4	0.23		○	
	16ER11.5 UN–B	16IR11.5 UN–B		11.5				1.1	1.4	0.25		○	
	16ER11 UN–B	16IR11 UN–B		11				1.1	1.5	0.28		○	
	16ER10 UN–B	16IR10 UN–B		10				1.1	1.5	0.30		○	
	16ER9 UN–B	16IR 9 UN–B		9				1.2	1.7	0.33		○	
	16ER8 UN–B	16IR8 UN–B		8				1.2	2.0	0.36		○	

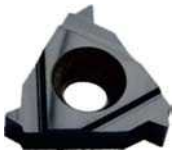
●Stock ○Availabie upon Order

55° Whitworth Full Profile



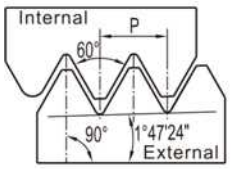


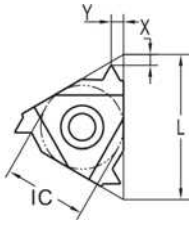
P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non-ferrous Metal			●
S	Heat-resistant Alloy		●	

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR28 W	28		6.35	3.18	11	0.60	0.70	0.08	●	●	●
		11IR26 W	26					0.70	0.80	0.08	●	●	●
		11IR24 W	24					0.70	0.80	0.08	●	●	●
		11IR20 W	20					0.80	0.90	0.10	●	●	●
		11IR19 W	19					0.80	1.00	0.15	●	●	●
		11IR18 W	18					0.90	1.00	0.20	●	●	●
		11IR16 W	16					0.90	1.10	0.23	●	●	●
		11IR14 W	14					1.00	1.20	0.25	●	●	●
	16ER28 W	16IR28 W	28		9.525	3.97	16	0.60	0.70	0.08	●	●	●
	16ER26 W	16IR26 W	26					0.70	0.80	0.08	●	●	●
	16ER24 W	16IR24 W	24					0.70	0.80	0.08			
	16ER20 W	16IR20 W	20					0.80	0.90	0.10	●	●	●
	16ER19 W	16IR19 W	19					0.80	1.00	0.15	●	●	●
	16ER18 W	16IR18 W	18					0.80	0.90	0.20	●	●	●
	16ER16 W	16IR16 W	16					0.90	1.10	0.23	●	●	●
	16ER14 W	16IR14 W	14					0.90	1.20	0.25	●	●	●
	16ER12 W	16IR12 W	12					1.10	1.40	0.28	●	●	●
	16ER11 W	16IR11 W	11					1.10	1.50	0.30	●	●	●
	16ER10 W	16IR10 W	10					1.10	1.50	0.33	●	●	●
	16ER9 W	16IR9 W	9					1.20	1.50	0.33	●	●	●
	16ER8 W	16IR8 W	8					1.20	1.70	0.36	●	●	●
	22ER7 W	22IR7 W	7		12.7	5.56	22	1.60	2.30	0.36	●	●	●
	22ER6 W	22IR6 W	6					1.60	2.30	0.38	●	●	●
	22ER5 W	22IR5 W	5					1.70	2.40	0.41	●	●	●
	16ER28 W-B	16IR28 W-B	28		9.525	3.97	16	0.60	0.70	0.08		○	
	16ER26 W-B	16IR26 W-B	26					0.70	0.80	0.08		○	
	16ER20 W-B	16IR20 W-B	20					0.80	0.90	0.10		○	
	16ER19 W-B	16IR19 W-B	19					0.80	1.00	0.15		●	
	16ER18 W-B	16IR18 W-B	18					0.80	0.90	0.20		○	
	16ER16 W-B	16IR16 W-B	16					0.90	1.10	0.23		○	
	16ER14 W-B	16IR14 W-B	14					0.90	1.20	0.25		●	
	16ER12 W-B	16IR12 W-B	12					1.10	1.40	0.28		○	
	16ER11 W-B	16IR11 W-B	11					1.10	1.50	0.30		●	
	16ER10 W-B	16IR10 W-B	10					1.10	1.50	0.33		○	
	16ER9 W-B	16IR9 W-B	9					1.20	1.50	0.33		○	
	16ER8 W-B	16IR8 W-B	8					1.20	1.70	0.36		○	

●Stock ○Availabie upon Order

60° NPTF

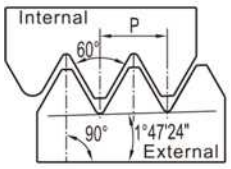


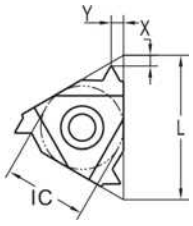


P	Steel	●	●											
M	Stainless Steel		●											
K	Cast Iron		●											
N	Non–ferrous Metal			●										
S	Heat–resistant Alloy		●											

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR27 NPTF	27		6.35	3.18	11	0.70	0.80	0.08	○	○	○
		11IR18 NPTF	18					0.80	1.00	0.10	○	○	○
		11IR14 NPTF	14					0.80	1.00	0.13	○	○	○
	16ER27 NPTF	16IR27 NPTF	27		9.525	3.97	16	0.70	0.80	0.08	○	○	○
	16ER18 NPTF	16IR18 NPTF	18					0.80	1.00	0.10	○	○	○
	16ER14 NPTF	16IR14 NPTF	14					0.90	1.20	0.13	○	○	○
	16ER11.5 NPTF	16IR11.5 NPTF	11.5					1.10	1.50	0.18	○	○	○
	16ER8 NPTF	16IR8 NPTF	8					1.30	1.80	0.23	○	○	○

60° NPT



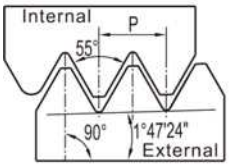


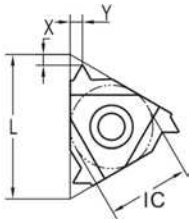
P	Steel	●	●											
M	Stainless Steel		●											
K	Cast Iron		●											
N	Non–ferrous Metal			●										
S	Heat–resistant Alloy		●											

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR27 NPT	27		6.35	3.18	11	0.70	0.80	0.08	○	●	○
		11IR18 NPT	18					0.80	1.00	0.10	○	●	○
		11IR14 NPT	14					0.80	1.00	0.15	○	●	○
	16ER27 NPT	16IR27 NPT	27		9.525	3.97	16	0.70	0.80	0.08	○	●	○
	16ER18 NPT	16IR18 NPT	18					0.80	1.00	0.10	○	●	○
	16ER14 NPT	16IR14 NPT	14					0.90	1.20	0.15	○	●	○
	16ER11.5 NPT	16IR11.5 NPT	11.5					1.10	1.50	0.20	○	●	○
	16ER8 NPT	16IR8 NPT	8					1.20	1.80	2.54	○	●	○
	16ER27 NPT–B	16IR27 NPT–B	27		9.525	3.97	16	0.70	0.80	0.80		○	
	16ER18 NPT–B	16IR18 NPT–B	18					0.80	1.00	0.15		○	
	16ER14 NPT–B	16IR14 NPT–B	14					0.90	1.20	0.20		●	
	16ER11.5 NPT–B	16IR11.5 NPT–B	11.5					1.10	1.50	0.25		●	

●Stock ○Availabie upon Order

55° BSPT

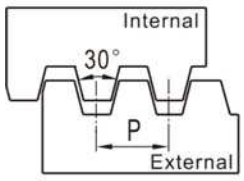


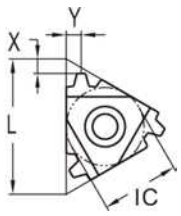


P	Steel	● ●
M	Stainless Steel	○
K	Cast Iron	●
N	Non–ferrous Metal	●
S	Heat–resistant Alloy	●

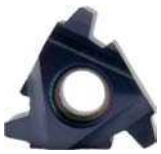
Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
		11IR28 BSPT	28		6.35	3.18	11	0.60	0.60	0.08	○	●	○
		11IR19 BSPT	19					0.80	0.90	0.10	○	●	○
		11IR14 BSPT	14					0.90	1.00	0.15	○	●	○
	16ER28 BSPT	16IR28 BSPT	28		9.525	3.97	16	0.60	0.60	0.08	○	●	○
	16ER19 BSPT	16IR19 BSPT	19					0.80	0.90	0.10	○	●	○
	16ER14 BSPT	16IR14 BSPT	14					1.00	1.20	0.15	○	●	○
	16ER11 BSPT	16IR11 BSPT	11					1.10	1.50	0.18	○	●	○
	16ER28 BSPT–B	16IR28 BSPT–B	28		9.525	3.97	16	0.60	0.60	0.08		●	
	16ER19 BSPT–B	16IR19 BSPT–B	19					0.80	0.90	0.10		●	
	16ER14 BSPT–B	16IR14 BSPT–B	14					1.00	1.20	0.15		●	
	16ER11 BSPT–B	16IR11 BSPT–B	11					1.10	1.50	0.18		●	

TR–30° Trapez DIN 103



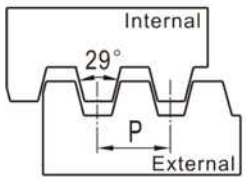


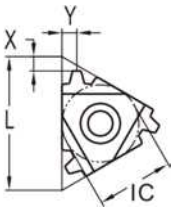
P	Steel	● ●
M	Stainless Steel	○
K	Cast Iron	●
N	Non–ferrous Metal	●
S	Heat–resistant Alloy	●

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
	16ER1.5TR	16IR1.5TR	1.5		9.525	3.97	16	1.04	1.94	0.08	○	●	○
	16ER2.0TR	16IR2.0TR	2.0					1.30	2.58	0.10	○	●	○
	16ER3.0TR	16IR3.0TR	3.0					1.50	3.87	0.15	○	●	○
	22ER4.0TR	22IR4.0TR	4.0		12.7	5.56	22	1.91	5.16	0.20	○	●	○
	22ER5.0TR	22IR5.0TR	5.0					2.49	5.81	0.23	○	●	○
	22ER6.0TR	22IR6.0TR	6.0					2.57	7.10	0.28	○	●	○
	22ER7.0TR	22IR7.0TR	7.0					2.41	7.74	0.30	○	●	○

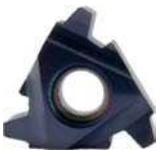
●Stock ○Availabie upon Order

ACME–29° American

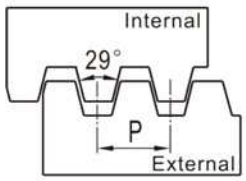


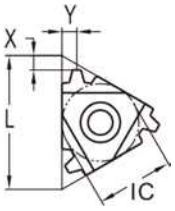


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

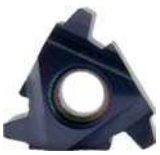
Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
	16ER16ACME	16IR16ACME	16.0		9.525	3.97	16	1.09	0.99	0.08	○	●	○
	16ER14ACME	16IR14ACME	14.0					1.09	0.99	0.10	○	●	○
	16ER12ACME	16IR12ACME	12.0					1.19	1.09	0.15	○	●	○
	16ER10ACME	16IR10ACME	10.0					1.40	1.30	0.20	○	●	○
	16ER8ACME	16IR8ACME	10.0					1.50	1.40	0.23	○	●	○
	22ER6ACME	22IR6ACME	8.0		12.7	5.56	22	2.11	1.80	0.28	○	●	○
	22ER5ACME	22IR5ACME	5.0					2.29	2.01	0.41	○	●	○
	22ER4ACME	22IR4ACME	4.0					2.84	2.34	0.53	○	●	○

STACME–29° American Stub ACME



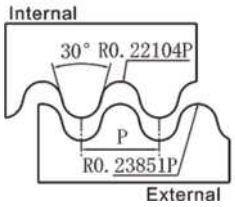


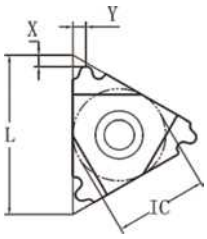
P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
	16ER16STACME	16IR16STACME	16.0		9.525	3.97	16	0.99	0.99	0.08	○	●	○
	16ER14STACME	16IR14STACME	14.0					0.99	0.99	0.10	○	●	○
	16ER12STACME	16IR12STACME	12.0					1.30	1.19	0.15	○	●	○
	16ER10STACME	16IR10STACME	10.0					1.30	1.19	0.20	○	●	○
	16ER8STACME	16IR8STACME	10.0					1.50	1.40	0.23	○	●	○
	22ER6STACME	22IR6STACME	8.0		12.7	5.56	22	1.50	1.40	0.28	○	●	○
	22ER5STACME	22IR5STACME	5.0					2.29	2.11	0.41	○	●	○
	22ER4STACME	22IR4STACME	4.0					2.51	2.21	0.53	○	●	○

●Stock ○Availabie upon Order

RD30° DIN405





P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non-ferrous Metal			●
S	Heat-resistant Alloy		●	

Shape	Ordering Code		Pitch		Dimension						CVD	PVD	Uncoated
	ER	IR	mm	TPI	D	S	L	X	Y	R	NP1115	NS4125	NN9115
	16ER10RD	16IR10RD	10.0		9.525	3.97	16	1.30	1.40	0.61	○	●	○
	16ER8RD	16IR8RD	8.0					1.50	1.60	0.76	○	●	○
	16ER6RD	16IR6RD	6.0					1.70	1.50	1.02	○	●	○
	22ER6RD	22IR6RD	6.0		12.7	5.56	22	1.70	1.50	1.02	○	●	○
	22ER4RD	22IR4RD	4.0					2.34	2.21	1.50	○	●	○
	22ER4RD	22IR4RD	4.0								○	●	○

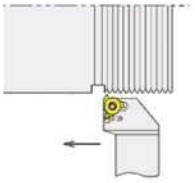
●Stock ○Availabie upon Order

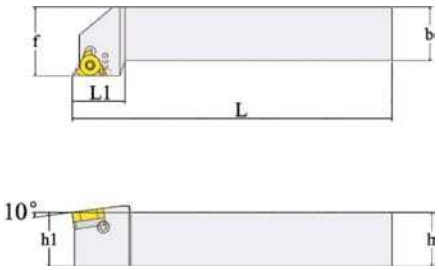
Processing parameter list of screw blade

Material	Carbon steel S50C,Q235		Alloy steel 25-35HRC 4Cr5MoSiV1,Cr12		Stainless steel SUS304,316,OCr19Ni9		Cast iron HT250,QT450		Aluminium al loy	
Speed	Vc=m/min	ap=mm	Vc=m/min	ap=mm	Vc=m/min	ap=mm	Vc=m/min	ap=mm	Vc=m/min	ap=mm
External thread	100-150	<0.3	100-150	<0.3	60-80	<0.2	80-120	<0.3	150-300	<0.3
Internal thread										

SER/L



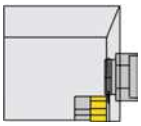


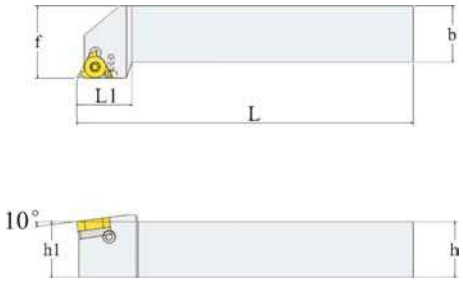


Ordering Code	Stock		Dimensions(mm)						Insert	Knife pad	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f					
SER/L 1212K16	●	●	12	12	100	20	12	16	16ER/L	DP16ER/L	NLJ0308	M3.5*12	T15
SER/L 1616H16	●	●	16	16	100	22	16	20					
SER/L 2020K16	●	●	20	20	125	25	20	25					
SER/L 2525M16	●	●	25	25	150	30	25	32					
SER/L 3232P16	●	●	32	32	170	35	32	40					

CER/L





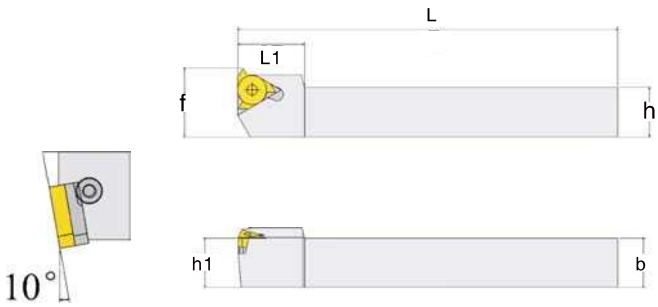


Ordering Code	Stock		Dimensions(mm)						Insert	Knife pad	Screw	Pressing plate	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f							
CER/L 2525M22	●	●	25	25	150	30	25	32	22ER/L	DP22ER/L	NLJ0410	MYB1814	ST0625	M3.5*12	T15
CER/L 3232P22	●	●	32	32	170	35	32	40							

●Stock ○Availabie upon Order

B–SER/L

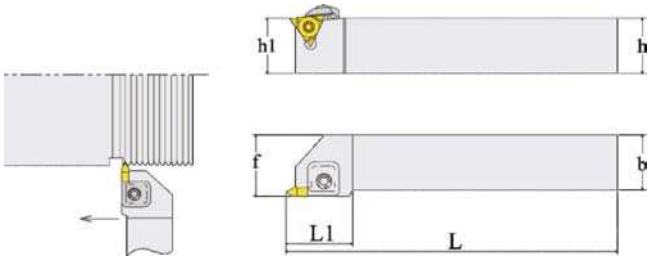




Ordering Code	Stock		Dimensions(mm)						Insert	Knife pad	Screw	Screw	Wrench
	R	L	h	b	L	L1	h1	f					
B–SER/L 1212K16	●	●	12	12	100	20	12	16	16ER/L	DP16ER/L	NLJ0308	M3.5*12	T15
B–SER/L 1616H16	●	●	16	16	100	22	16	20					
B–SER/L 2020K16	●	●	20	20	125	25	20	25					
B–SER/L 2525M16	●	●	25	25	150	30	25	32					

MTWHR/L



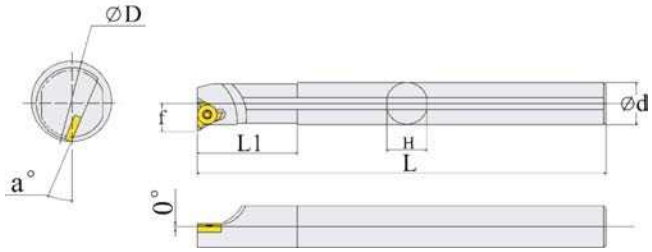


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw	Wrench	Pressing plate	Spring
	R	L	h	b	L	L1	h1	f						
MTWHR/L 1616H16	●	●	16	16	100	22	16	20	TT43	NLJ0520	L4.0 T15	M4*12	YB1318	DTH0814
MTWHR/L 2020K16	●	●	20	20	125	25	20	25						
MTWHR/L 2525M16	●	●	25	25	150	30	25	32						
MTWHR/L 3232P16	●	●	32	32	170	35	32	40						

●Stock ○Availabie upon Order

SNR/L

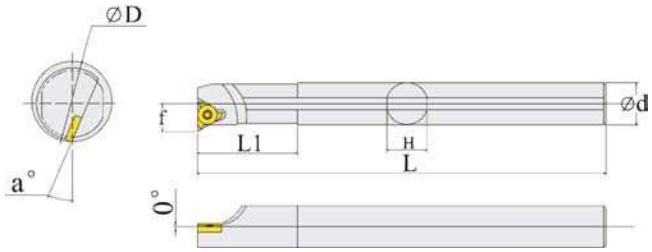




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Screw
	R	L	D	d	H	L	L1	f	a°			
SNR/L 0716M08	●	●	10	16	15	150	18	5.7	15	08IR	M2.2*6	T-6
SNR/L 0816M08	●	●	11	16	15	150	20	6.2	15			
SNR/L 0916M08	●	●	12	16	15	150	23	6.7	17			
SNR/L 1016M08	●	●	13	16	15	150	25	7.2	17			
SNR/L 1016M11	●	●	13	16	15	150	22	7.7	15	11IR/L	M2.5*6	T-8
SNR/L 1316M11	●	●	16	16	15	150	32	8.7	15			
SNR/L 1020M11	●	●	13	20	18	150	32	7.7	21			
SNR/L 1316M16	●	●	16	16	15	150	32	8.7	21	16IR/L	M3.5*10	T-15
SNR/L 1620M16	●	●	20	32	18	150	40	11.7	15			

SNR/L



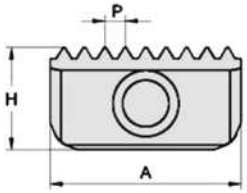


Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Screw
	R	L	D	d	H	L	L1	f	a°			
SNR/L 0010K11	●	●	13	10	9	125	22	7.2	15	11IR/L	M2.5*6	T-8
SNR/L 0012M11	●	●	15	12	11	150	22	7.8	15			
SNR/L 0013M11	●	●	16	13	12	150	32	8.5	17			
SNR/L 0013M16	●	●	16	13	12	150	32	10.2	17	16IR/L	M3.5*8	T-15
SNR/L 0016M16	●	●	19	16	15	150	40	11.7	15			
SNR/L 0016Q16	●	●	19	16	15	180	40	11.7	15			
SNR/L 0020Q16	●	●	24	20	18	180	40	13.7	21			
SNR/L 0025R16	●	●	29	25	23	200	45	16.2	21			
SNR/L 0032S16	●	●	36	32	29	250	50	19.7	15			

●Stock ○Availabie upon Order

W–55° Whitworth full proile



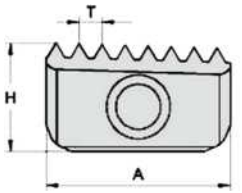


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Pitch	Dimension					CVD	PVD	Uncoated
TPI	12mm	14mm	21mm	30mm	40mm	NP1115	NS4125	NN9115
24		14–24W				○	●	○
20		14–20W	21–20W			○	●	○
19	*12I–19W	14–19W	21–19W			○	●	○
16		14–16W	21–16W	30–16W		○	●	○
14		14–14W	21–14W	30–14W		○	●	○
11			21–11W	30–11W	40–11W	○	●	○
8					40–8W	○	●	○
H	6.3	7.5	12	16	20			
T	2.9	3.1	4.7	5.5	6.3			

BSPT–55° British standard full proile



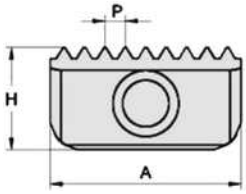


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Pitch	Dimension					CVD	PVD	Uncoated
TPI	12mm	14mm	21mm	30mm	40mm	NP1115	NS4125	NN9115
19	*12I–19BSPT	14–19BSPT				○	●	○
14		14–14BSPT	21–14BSPT			○	●	○
11			21–11BSPT	30–11BSPT	40–11BSPT	○	●	○
H	6.3	7.5	12	16	20			
T	2.9	3.1	4.7	5.5	6.3			

ISO Metric full proile





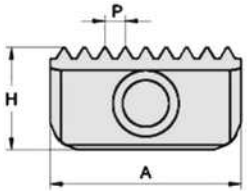


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non-ferrous Metal			●
S	Heat-resistant Alloy		●	

Pitch	Dimension					CVD	PVD	Uncoated
TPI	12mm	14mm	21mm	30mm	40mm	NP1115	NS4125	NN9115
0.5	*12I-0.5 ISO	14I-0.5 ISO				○	●	○
0.75	*12I-0.75 ISO	14E/I-0.75 ISO				○	●	○
1	*12I-1.0 ISO	14E/I-1.0 ISO	21E/I-1.0 ISO			○	●	○
1.25	*12I-1.25 ISO	14E/I-1.25 ISO				○	●	○
1.5	*12I-1.5 ISO	14E/I-1.5 ISO	21E/I-1.5 ISO	30E/I-1.5 ISO	40E/I-1.5 ISO	○	●	○
1.75		14E/I-1.75 ISO	21I-1.75 ISO			○	●	○
2		14E/I-2.0 ISO	21E/I-2.0 ISO	30E/I-2.0 ISO	40E/I-2.0 ISO	○	●	○
2.5		14E/I-2.5 ISO	21E/I-2.5 ISO			○	●	○
3			21E/I-3.0 ISO	30E/I-3.0 ISO	40E/I-3.0 ISO	○	●	○
3.5			21I-3.5 ISO	30E/I-3.5 ISO	40I-3.5 ISO	○	●	○
4				30E/I-4.0 ISO	40E/I-4.0 ISO	○	●	○
4.5				30I-4.5 ISO	40I-4.5 ISO	○	●	○
5					40E/I-5.0 ISO	○	●	○
5.5					40I-5.5 ISO	○	●	○
6					40E/I-6.0 ISO	○	●	○
H	6.3	7.5	12	16	20			
T	2.9	3.1	4.7	5.5	6.3			

UN–60° American UN full proile



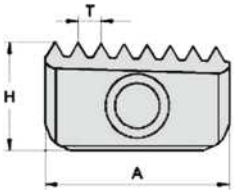


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Pitch	Dimension					CVD	PVD	Uncoated
TPI	12mm	14mm	21mm	30mm	40mm	NP1115	NS4125	NN9115
32	*12I–32 UN	14E/I–32 UN				○	●	○
28	*12I–28 UN	14E/I–28 UN				○	●	○
27		14I–27 UN				○	●	○
24	*12I–24 UN	14E/I–24 UN	21E/I–24 UN			○	●	○
20	*12I–20 UN	14E/I–20 UN	21E/I–20 UN	30E/I–20 UN		○	●	○
18	*12I–18 UN	14E/I–18 UN	21E/I–18 UN	30E/I–18 UN		○	●	○
16	*12I–16 UN	14E/I–16 UN	21E/I–16 UN	30E/I–16 UN	40E/I–16 UN	○	●	○
14		14E/I–14 UN	21E/I–14 UN	30E/I–14 UN	40E/I–14 UN	○	●	○
12		14E/I–12 UN	21E/I–12 UN	30E/I–12 UN	40E/I–12 UN	○	●	○
10			21E/I–10 UN	30E/I–10 UN	40E/I–10 UN	○	●	○
8			21I–8 UN	30E/I–8 UN	40E/I–8 UN	○	●	○
6				30E/I–6 UN	40E/I–6 UN	○	●	○
4.5					40I–4.5 UN	○	●	○
4					40I–4 UN	○	●	○
H	6.3	7.5	12	16	20			
T	2.9	3.1	4.7	5.5	6.3			

NPT–60° National pipe threading



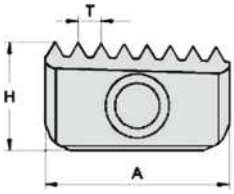


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Pitch	Dimension					CVD	PVD	Uncoated
TPI	12mm	14mm	21mm	30mm	40mm	NP1115	NS4125	NN9115
18	*12–18 NPT	14–18 NPT				○	●	○
14		14–14 NPT	21–14 NPT			○	●	○
11.5			21–11.5 NPT	30–11.5 NPT	40–11.5 NPT	○	●	○
8				30–8 NPT	40–8 NPT	○	●	○
H	6.3	7.5	12	16	20			
T	2.9	3.1	4.7	5.5	6.3			

NPTF–American dry seal taper pipe threading



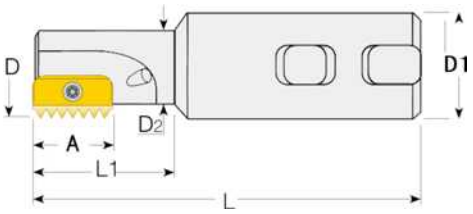


P	Steel	●	●	
M	Stainless Steel		●	
K	Cast Iron		●	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy		●	

Pitch	Dimension					CVD	PVD	Uncoated
TPI	12mm	14mm	21mm	30mm	40mm	NP1115	NS4125	NN9115
18	*12–18 NPTF	14–18 NPTF				○	●	○
14		14–14 NPTF	21–14 NPTF			○	●	○
11.5			21–11.5 NPTF	30–11.5 NPTF	40–11.5 NPTF	○	●	○
8				30–8 NPTF	40–8 NPTF	○	●	○
H	6.3	7.5	12	16	20			
T	2.9	3.1	4.7	5.5	6.3			

Partial profile 60°

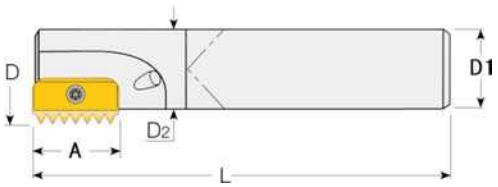




Part No.	Stock	Size						Screw	wrench
		A	D	D1	D2	L	L1		
SR0009H12	○	12	9.5	20	7.5	85	14	S12	K12
*SR0010H12	●	12	9.5	20	7.6	85	16	S12	K12
SR0012F14	●	14	12	20	8.9	75	20	S14	K14
SR0014H14	●	14	14.5	20	11.2	85	25	S14	K14
SR0017H14	●	14	17	20	13.4	85	30	S14	K14
**SR0018H21	●	21	18	20	14.4	85	30	S21	K21
SR0021H21	●	21	21	20	16.5	94	40	S21	K21
SR0029J30	●	30	29	25	22.4	110	50	S30	K30
SR0048M40	○	40	48	40	35	153	78	S40	K40

Partial profile 60°





Part No.	Stock	Size				Screw	wrench
		A	D	D1	L		
SR0010K12C	○	12	9.9	8	125	S12	K12
SR0013H14C	●	14	13.2	10	110	S14	K12
SR0013J14C	●	14	13.2	10	150	S14	K14
SR0015K14C	●	14	15.2	12	175	S14	K14
SR0021K21C	●	21	21	16	130	S21	K21
SR0021M21C	●	21	21	16	200	S21	K21
SR0027S30C	○	30	27	20	270	S30	K30

●Stock ○Availabie upon Order

ISO Mrtric Full Profile

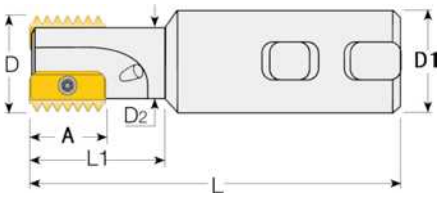




Part No.	Stock	Size				Screw	wrench
		A	D	D1	L		
SR0025K21	●	21	25	20	125	S21	K21
SR0031M30	●	30	31	25	150	S20	K20
SR0038M30	●	30	38	32	150	S30	K30
SR0048R40	●	40	48	40	210	S40	K40

ISO Mrtric Full Profile



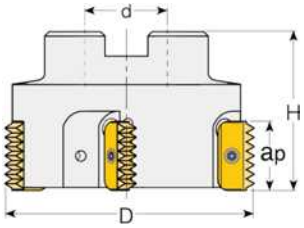


Part No.	Stock	Size						Z	Screw	wrench
		A	D	D1	D2	L	L1			
SR0020H14-2	○	14	20	20	16	93	41	2	S21	K21
SR0030J21-2	○	21	30	25	24	108	52	2	S20	K20
SR0040L30-2	○	30	40	32	30	130	70	2	S30	K30
SR0050M40-2	○	40	50	40	38	153	78	2	S40	K40

●Stock ○Availabie upon Order

ISO Mrtric Full Profile





Part No.	Stock	Size				Z	Screw	wrench
		A	D	D1	L			
SR0063C21-5	○	21	63	22	50	5	S21	K21
SR0063C30-4	○	30	63	22	50	4	S30	K30
SR0080D30-4	○	30	80	27	55	4	S30	K30
SR0100D30-4	○	30	100	32	60	4	S30	K30
SR0080D40-4	○	40	80	27	65	4	S40	K40
SR0100E40-4	○	40	100	32	70	4	S40	K40

Processing parameter list of thread milling cutter

Material	Carbon steel S50C,Q235		Alloy steel 25-35HRC 4Cr5MoSiV1,Cr12		Stainless steel SUS304,316,OCr19Ni9		Cast iron HT250,QT450		Aluminium al loy	
Speed	Vc=m/min	ap=mm	Vc=m/min	ap=mm	Vc=m/min	ap=mm	Vc=m/min	ap=mm	Vc=m/min	ap=mm
External thread	100-250	0.05-0.15	90-150	0.05-0.15	100-160	0.05-0.15	70-150	0.05-0.15	160-300	0.05-0.15
Internal thread										

●Stock ○Availabie upon Order

Milling tools



Recommended Cutting Data

Workpiece Materials		Materials Hardness	Grade	Recommended Cutting Speed Vc (m/min)	mm/tooth Light Cutting	mm/tooth Medium Cutting	mm/tooth Heavy Cutting
P	Low Carbon Steel	≤HB180	NS4115 NS4125 NP115T	180 (150–220)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Carbon Steel、Alloy Steel	HB180–350	NS4115 NS4125	160 (140–200)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Per–hardened Steel	HRC35–45	NS4115 NS4125	120 (100–160)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
M	Stainless Steel (Ferrite、Martensite)	≤HB270	NS4115 NS4125	140 (120–180)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Stainless Steel (Austenite、Diphasic)	≤HB270	NS4115 NS4125	120 (100–160)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
K	Grey Cast Iron	≤HB280	NS4115 NS4125	180 (150–220)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
	Nodular Cast Iron Vermicular Cast Iron	≤HB350	NS4115 NS4125	120 (100–180)	0.08 (0.05–0.15)	0.1 (0.08–0.15)	0.12 (0.08–0.2)
					0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)
					0.18 (0.1–0.25)	0.25 (0.1–0.35)	0.3 (0.1–0.45)
S	Heat–resistant Alloy and Titanium Alloy	HRC25–35	NS4115 NS4125	40 (30–60)	0.08 (0.05–0.15)	0.12 (0.08–0.18)	0.15 (0.1–0.25)
					0.1 (0.05–0.15)	0.12 (0.08–0.2)	0.15 (0.1–0.25)
					0.1 (0.05–0.15)	0.12 (0.08–0.2)	0.15 (0.1–0.25)
N	Aluminum Alloy	HB60–210	NN9115	500 (200–900)	0.15 (0.1–0.25)	0.2 (0.15–0.3)	0.25 (0.2–0.35)

★ Tool RPM (min^(–1)) = (1000 XCutting Speed) / (3.14 X Diameter of Cutter)
★ Workpiece Feed (mm/min) =Feed Per Tooth XNumber Of Tooth XTool RPM

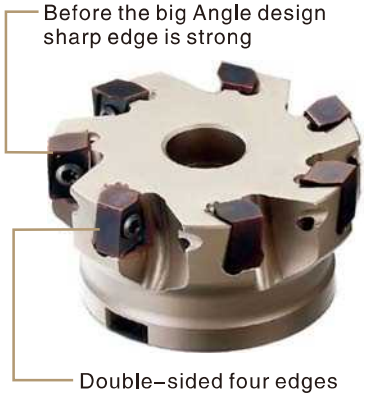
Millling cutter

Two–side spiral blade 90 degree shoulder facing end mill— — it is suitable for all kinds of plane,ladder, slotting machining,is in best efficiency and precision.



Main Characters

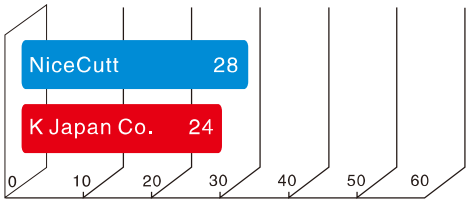
1. The inserts are in two–side and four–blade design, and they are thick and strong for deep milling process.
2. The design of swallow tail oblique trough, conbined with insert reparing blade, could satisfy milling process for high finishing surface requirement.
3. Cutters adopt to orthogonal screw clamp to ensure higher clamp rigidity and safety.
4. Cutters' thick teeth design, combined with the design of low cutting resistance is n high process efficiency.
5. The model 06 thickness design could ensure the most cutting depth up to more than 10mm.
6. The diameter of cutter is from 40mm to 250mm, and it could cover the whole plane.



Case Study 1



Material Science	304 Stainless steel
Processing method	Slotting machining
Insert	ANMX080408–PDR–NS4125
Cutter head	BAN08–1616T2–160



The cutting parameters
Vc=110m/min
fz=0.8mm/t
ap=1.2mm
ae=16mm

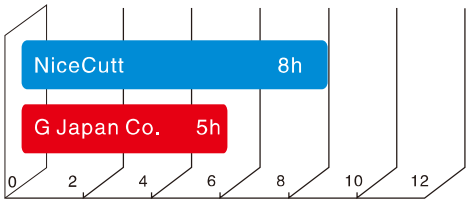


Cutting life
+17%

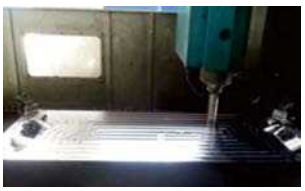
Case Study 2



Material Science	45# (HRC22)
Processing method	Face milling, dry cutting
Insert	ANMX160608–PDR–NS4125
Cutter head	BAN16D063T5–22



The cutting parameters
Vc=180m/min
f=1.34mm
ap=1.5mm
ae=40mm



Cutting life
+60%

Two face spiral blade 4S degree face milling cutter

It is suitable for all kinds of plane process, and it is used for many places.And we provide goods in high quality at good price.It can clamp two kind of inserts to the same retaining nest. The inserts are the two–side square ones with 8 cutting edges and the two–side octagonal ones with 16 cutting edges



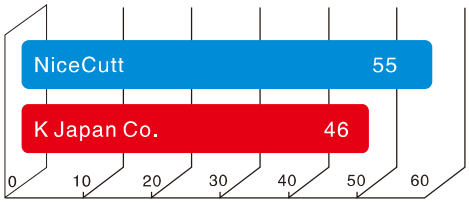
Main characters

- Orthogonal screw clamp could ensure better clamp rigidity and safety.
- Thick tooth design makes much higher efficiency.
- Square inserts could cut 5mm in depth at most, and the orthogonal ones 3mm.
- One cutter with two kinds of inserts is suitable for roughing, semi–finishing and finishing.
- It is very economical, with 8 cutting edges and 16 cutting edges.
- It has repairing light blade inserts, and could lead to high quality.
- The diameter of cutter is from 40mm to 315mm, and it could cover the whole plane.

Case Study 1



Material Science	HT300(HB230)
Processing method	Face milling, dry cutting
Insert	ONMU1205ANEN–NM–NS4125
Cutter head	SONFM45D080T06–27



The cutting parameters
Vc=200m/min
fz=0.15mm/t
ap=3.5mm
ae=50mm

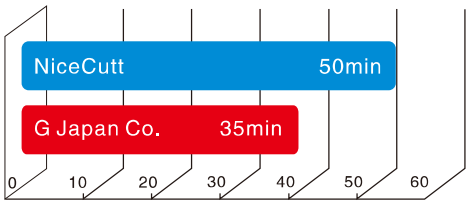


Cutting life
+20%

Case Study 2



Material Science	45# (HRC22)
Processing method	Face milling, dry cutting
Insert	SNMU1205ANEN–NM–NS4125
Cutter head	SONFM45D080T06–27



The cutting parameters
Vc=250m/min
fz=0.2mm/t
ap=2mm
ae=25mm



Cutting life
+40%

ODKT Insert

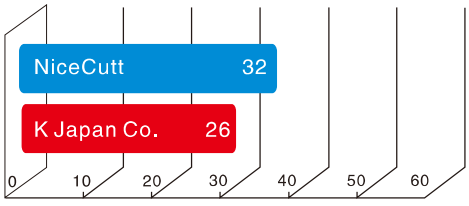
- The main angle is 43 DEG collocation type cutter body angle, ensuring quick cutting;
- The collocation excellent high universal brands: NS4115, NS4125; NN9115
- Is the most suitable for steel (P), stainless steel (M), iron (K), Aluminum Alloy (N) high economic face milling.



Case Study 1



Material Science	High temperature alloy steel (1.4839)
Processing method	Plane milling, finish machining
Insert	ODKT060508–NM–NS4125
Cutter head	FM45–D063T05–22–OD06



The quantity(pieces)/tip



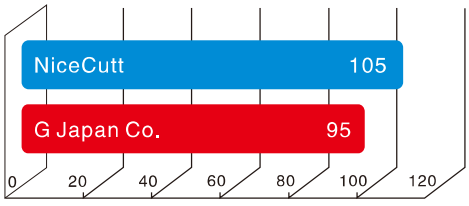
The cutting parameters
Vc=100m/min
fz=0.2mm/t
ap=1.5mm
D=63mm

Cutting life
+25%

Case Study 2



Material Science	45# (HRC22)
Processing method	Face milling, dry cutting
Insert	ONMU1205ANEN–NM–NS4125
Cutter head	SONFM45D080T06–27



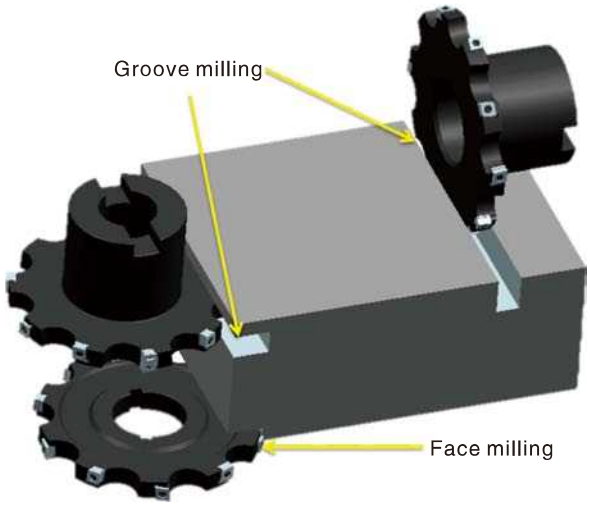
The quantity(pieces)/tip



The cutting parameters
Vc=130m/min
fz=0.2mm/t
ap=0.3mm
ae=80mm

Cutting life
+20%

TMR Milling Cutter



Positive cutting performance
High impact strength of cutting force direction

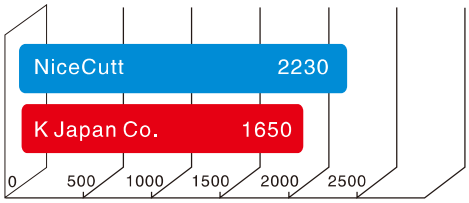


High economic type (4 times)

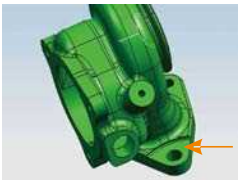
Case Study 1



Material Science	HT250 (HB180–230)
Processing method	Milling back
Insert	CNEU070508–NM–NS4125
Cutter head	TMR–080.H10.06T27–CN07



The quantity(pieces)/tip



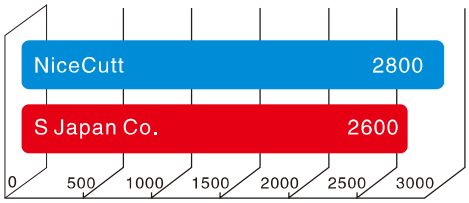
The cutting parameters
Vc=220m/min
fz=0.2mm/t
ap=3.5mm
D=80mm

Cutting life
+35%

Case Study 2



Material Science	HT250
Processing method	Milling back
Insert	CNEU070508–NM–NS4125
Cutter head	TMR–125.H10.10T32–CN07



The quantity(pieces)/tip



The cutting parameters
Vc=220m/min
fz=0.2mm/t
ap=15mm
ae=125mm

Cutting life
+6%

APMT**/APGT	ANMX	SEEN/SEEX	SPKN/SPER
			
P170	P170	P171	P171

SPEN	SEET**PL	SEET**PM	SEET**PK
			
P171	P172	P172	P172

SEET**PH	SEET**PG	SEET**PL	SEET**PW
			
P172	P172	P172	P172

SNEU**NL	SNEU**NM	SNEU**NW	SNMU
			
P173	P173	P173	P173

ONMU	ODKT**NL	ODKT**NM	ODKT**NH
			
P173	P174	P174	P174

TPKN	TPER	RPET/RDET**NL/NM	RPEW/RDEW
			
P174	P174	P175~P176	P175~P176

RCET**NE	RDET**MH	UDET	UDMT
			
P123	P123	P124	P123

CNEU	HNMX/SNEX	SNEX	QOHX
			
P177	P178	P178	P179

QPHT	MFT	T2139-P32**	BAP/RP
			
P179	P180	P181	P182

BFR	BAP	BRP	BRD
			
P183	P184~P185	P186~P187	P188~P189

DX45	BTC	TP	BSC
			
P190	P190	P191	P191

AJU	ATS	BUD	BAP
			
P192	P192	P193	P194

BRP/BRD



P194~P195

BAN



P196

BAN



P196

SONFM



P197

TFM55°



P197

SE12 45°



P198

BSE45°



P198

SE13 45°



P199

FM



P199

BM90°



P200

BM90°



P200

BT



P201

HMC



P201

HMC



P202

TMR



P202

SMR



P203

STF



P203

STF



P203

BBMS

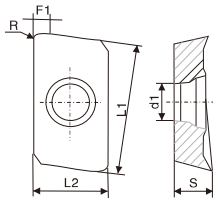


P204

APMT

Shoulder Milling Inserts

○ continuous ◔ light Interruption ⊕ Interruption



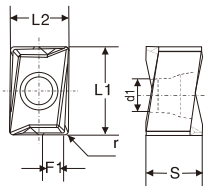
P	Steel	●	◔ ● ⊕ ●
M	Stainless Steel	●	◔ ●
K	Cast Iron	●	◔ ●
N	Non–ferrous Metal		●
S	Heat–resistant Alloy,TiAlloy	●	◔ ●
H	High Hardness Materials		

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L1	L2	S	F1	d1	R	NS4115	NS4125	NN9115	NP115T
	APMT1135PDER–NL	10.83	6.16	3.50	1.92	2.80	0.80	○	●		
	APMT1604PDER–NL	16.26	9.26	4.76	2.00	4.60	0.80	●	●		
	APMT1135PDER–NM	10.83	6.16	3.50	1.92	2.80	0.80	●	●		○
	APMT1604PDER–NM	16.26	9.26	4.76	2.00	4.60	0.80	●	●		○
	APMT1135PDER–NR	10.83	6.16	3.50	1.92	2.80	0.80	●	●		○
	APMT1604PDER–NR	16.26	9.26	4.76	2.20	4.40	0.80	●	●		○
	APGT1135PDFR–AL	10.83	6.16	3.50	1.92	2.80	0.80			●	
	APGT1604PDFR–AL	16.26	9.26	4.76	2.20	4.40	0.80			●	

ANMX

Shoulder Milling Inserts

○ continuous ◔ light Interruption ⊕ Interruption



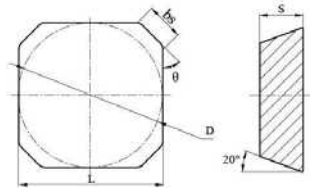
P	Steel	●	◔ ●
M	Stainless Steel	●	◔ ●
K	Cast Iron	●	◔ ●
N	Non–ferrous Metal		
S	Heat–resistant Alloy,TiAlloy	●	◔ ●
H	High Hardness Materials		

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L1	L2	S	F1	d1	R	NS4115	NS4125	NN9115	NP115T
	ANMX080404–PDR	8.60	6.60	5.20	2.50	3.50	0.40	○	○		
	ANMX080408–PDR	8.60	6.60	5.20	2.50	3.50	0.80	●	●		
	ANMX130508–PDR	13.70	10.00	8.90	3.40	4.40	0.80	●	●		
	ANMX130512–PDR	13.70	10.00	8.90	3.40	4.40	1.20	○	○		
	ANMX160608–PDR	16.70	11.20	10.40	4.70	5.40	0.80	●	●		
	ANMX160612–PDR	16.70	11.20	10.40	4.70	5.40	1.20	○	○		

●Stock ○Availabie upon Order

SEEN SPKN SPEN

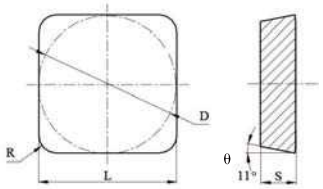
Face Milling Inserts



		● continuous	◔ light Interruption		⌗ Interruption
P	Steel	●	◔		●
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔	●	
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

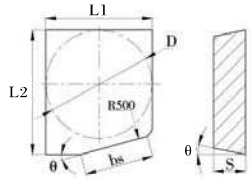
Shape	Ordering Code	Dimensions(mm)					Coated–PVD		Uncoated	Cermet
		L	D	S	θ	bs	NS4115	NS4125	NN9115	NP115T
	SEEN1203AFTN	12.70	12.70	3.18	45°	2.30	○	○	○	○
	SEEN1204AFTN	12.70	12.70	4.76	45°	2.40	○	○	○	○
	SEEN1504AFTN	15.88	15.88	4.76	45°	2.40	○	○	○	○

Face Milling Inserts



		Dimensions(mm)					Coated–PVD		Uncoated	Cermet
		L	D	S	θ	R	NS4115	NS4125	NN9115	NP115T
	SPKN1203EDR	12.70	12.70	3.18	15°	1.40	○	○	○	○
	SPKN1203EDL	12.70	12.70	3.18	15°	1.40	○	○	○	○
	SPKN1504EDR	15.88	15.88	4.76	15°	1.40	○	○	○	○
	SPKN1504EDL	15.88	15.88	4.76	15°	1.40	○	○	○	○

Face Milling Inserts



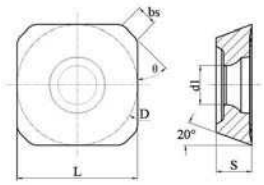
		Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L1	L2	D	S	θ	bs	NS4115	NS4125	NN9115	NP115T
	SPEN1504EDR–W	15.88	18.20	15.88	4.76	15°	10.20	○	○	○	○
	SPEN1504EDL–W	15.88	18.20	15.88	4.76	15°	10.20	○	○	○	○

●Stock ○Availabie upon Order

SEET

Face Milling Inserts

○ continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔	●
M	Stainless Steel	○	◔	
K	Cast Iron	●	◔	
N	Non–ferrous Metal			●
S	Heat–resistant Alloy,TiAlloy	●	◔	
H	High Hardness Materials			

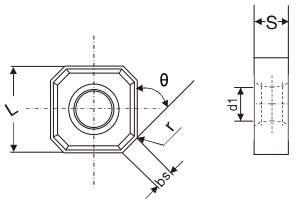
Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L	D	S	d1	θ	bs	NS4115	NS4125	NN9115	NP115T
	SEET1204AFEN–NL*	12.70	12.70	4.76	5.50	45°	2.50	●	○	○	○
	SEET1204AFEN–NL	12.70	12.70	4.76	5.50	45°	2.50			●	
	SEET13T3AGEN–NL	13.40	13.40	3.97	4.40	45°	1.70	●	●		○
	SEET13T3AGEN–NM	13.40	13.40	3.97	4.40	45°	1.20	●	●		
	SEET13T3AGSN–NK	13.40	13.40	3.97	4.40	45°	1.30	○	●		
	SEET13T3AGSN–NH	13.40	13.40	3.97	4.40	45°	1.30	○	●		
	SEET13T3AGSN–NG	13.40	13.40	3.97	4.40	45°	1.30	○	●		
	SEET13T3AGFN–AL	13.40	13.40	3.97	4.40	45°	2.20			●	
	SEET13T3AGEN–NW	7.69	13.40	3.97	4.40	45°	2.20	○	●		

●Stock ○Availabie upon Order

SNEU

Face Milling Inserts

● continuous ◔ light Interruption ✠ Interruption

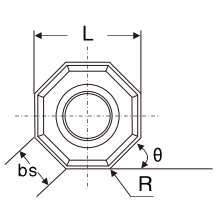


P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal			●	
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L	S	d1	θ	bs	R	NS4115	NS4125	NN9115	NP115T
	SNEU1205ANEN–NL	12.70	6.35	6.00	45°	2.20	0.80	○	●		
	SNEU1205ANEN–NM	12.70	6.35	6.00	45°	2.20	0.80	○	●		
	SNEU1205ANFN–NL	12.70	6.35	6.00	45°	2.20	0.80			●	
	SNEU1205ANEN–NW	12.70	6.35	6.00	45°	5.60	0.80	●	●		
	SNMU1205ANER–NM	12.90	5.50	6.00	45°	3.00	0.50	●	●		

ONMU

Face Milling Inserts

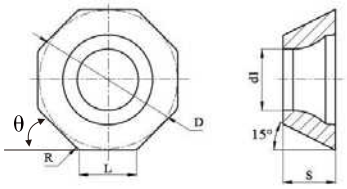


Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L	S	d1	θ	bs	R	NS4115	NS4125	NN9115	NP115T
	ONMU1205ANEN–NM	12.90	5.50	6.00	45°	5.00	0.50	●	●		

●Stock ○Availabie upon Order

ODKT TPKN

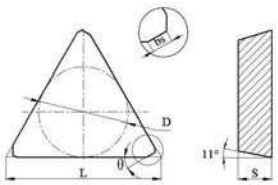
Face Milling Inserts



		● continuous	◔ light Interruption	⊕ Interruption	
P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔	●	
N	Non–ferrous Metal			●	
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)						Coated–PVD		Uncoated	Cermet
		L	D	S	d1	θ	R	NS4115	NS4125	NN9115	NP115T
	ODKT060508–NL	6.50	15.88	5.56	5.56	45°	0.80	○	●		
	ODKT060508–NM	6.50	15.88	5.56	5.56	45°	0.80	○	●		
	ODKT060508–NR	6.50	15.88	5.56	5.56	45°	0.80	○	●		
	ODKT060508–NL	6.50	15.88	5.56	5.56	45°	0.80			●	

Face Milling Inserts



Dimensions(mm)					Coated–PVD		Uncoated	Cermet
L	D	S	θ	bs	NS4115	NS4125	NN0115	NP115T
16.50	9.53	3.18	30°	1.30			●	
22.00	12.70	4.76	30°	1.40			●	
16.50	9.53	3.18	30°	1.30			●	

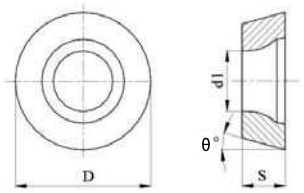




●Stock ○Availabie upon Order

RPET/RPEW/RCET

Profiling Milling Inserts



		● continuous	◔ light Interruption	⊕ Interruption	
P	Steel	●	◔		
M	Stainless Steel	●	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

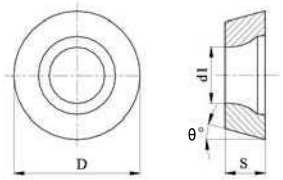
Shape	Ordering Code	Dimensions(mm)				Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	NS4115	NS4125	NN9115	NP115T
	RPET1003M0–NL	10.00	3.18	4.40	11°	○	●		
	RPET1204M0–NL	12.00	4.76	4.40	11°	○	●		
	RPET08T2M0–NM	8.00	2.78	2.94	11°	○	○		
	RPET1003M0T–NM	10.00	3.18	4.40	11°	○	●		
	RPMT1003M0T–NM	10.00	3.18	4.40	11°	●	●		
	RPET1204M0–NM	12.00	4.76	4.40	11°	●	●		
	RPMT1204M0–NM	12.00	4.76	4.40	11°	○	●		
	RPET1204M0T–NM	12.00	4.76	4.40	11°	○	●		
	RPET1606M0T–MM	16.00	6.35	5.50	11°	○	●		
	RPEW08T2M0	8.00	2.78	2.94	11°	○	○		
	RPEW1003M0	10.00	3.18	4.40	11°	○	●		
	RPEW10T3M0	10.00	3.18	4.40	11°	○	●		
	RPMW10T3M0	10.00	3.18	4.40	11°	●	●		
	RPEW1204M0T	12.00	4.76	4.40	11°	●	●		
	RPMW1204M0T	12.00	4.76	4.40	11°	●	●		
	RCET10T3M0–NE	10.00	3.97	4.40	7°	●	●		
	RCET1204M0–NE	12.00	4.76	4.00	7°	○	●		

●Stock ○Availabie upon Order

RDET/RDEW/RDMW

Profiling Milling Inserts

○ continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔		
M	Stainless Steel	○	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

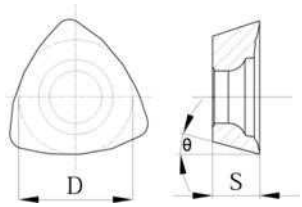
Shape	Ordering Code	Dimensions(mm)				Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	NS4115	NS4125	NN9115	NP115T
	RDET0803M0–NL	8.00	3.18	2.94	15°	○	○		
	RDET10T3M0–NL	10.00	3.97	4.40	15°	○	●		
	RDET1204M0–NL	12.00	4.76	4.40	15°	○	●		
	RDET1604M0–NL	16.00	4.76	5.50	15°	○	●		
	RDET0802M0–NM*	8.00	2.38	2.94	15°	●			
	RDET0803M0–NM	8.00	3.18	2.94	15°	○	○		
	RDET10T3M0–NM	10.00	3.97	4.40	15°	●	●		
	RDMT10T3M0–NM	10.00	3.97	4.40	15°	●	●		
	RDET1204M0–NM	12.00	4.76	4.40	15°	●	●		
	RDMT1204M0–NM	12.00	4.76	4.40	15°	●	●		
	RDET1604M0–NM	16.00	4.76	5.50	15°	○	●		
	RDET1204M0T–NH	12.00	4.76	4.40	15°	●			
	RDMW1605MOT–NH	16.00	5.56	5.50	15°				
	RDEW0501M0	5.00	1.51	2.20	15°	●	○		
	RDEW0702M0T	7.00	2.38	2.80	15°	○	○		
	RDEW0803M0T	8.00	3.18	2.94	15°	●	○		
	RDEW10T3M0T	10.00	3.97	4.40	15°	●	●		
	RDEW1204M0T	12.00	4.76	4.40	15°	●	●		
	RDEW1604M0T	16.00	4.76	5.50	15°	●	●		

●Stock ○Availabie upon Order

UDET/UDMT SDMT CNEU

Face Milling Inserts

● continuous ◔ light Interruption ⊕ Interruption

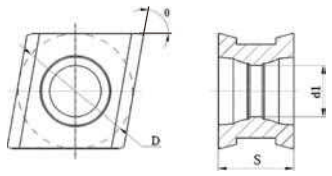


P	Steel	●	◔		
M	Stainless Steel	○	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)				Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	NS4115	NS4125	NN9115	NP115T
	UDET080308–NM	6.80	3.18	2.94	15°	●	●		
	UDET12T312–NM	9.60	3.97	4.40	15°	●	●		
	UDMT080308T–NH	6.80	3.18	2.94	15°	●	●		
	UDMT12T312T–NH	9.60	3.97	4.40	15°	●	●		

Face Milling Inserts

● continuous ◔ light Interruption ⊕ Interruption



P	Steel	●	◔		
M	Stainless Steel	○	◔		
K	Cast Iron	●	◔		
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy	●	◔		
H	High Hardness Materials				

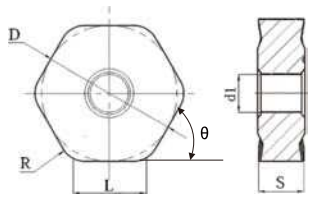
Shape	Ordering Code	Dimensions(mm)					Coated–PVD		Uncoated	Cermet
		D	S	d1	θ	R	NS4115	NS4125	NN9115	NP115T
	CNEU070508–NM	7.60	5.00	3.40	80°	0.80	○	●		

●Stock ○Availabie upon Order

HNMX SNEX

Face Milling Inserts

○ continuous ◔ light Interruption ⊕ Interruption

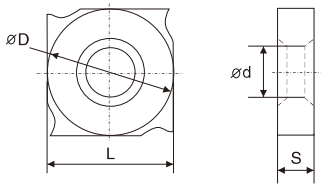


P	Steel	● ◔ ● ◔
M	Stainless Steel	○ ◔ ○ ◔
K	Cast Iron	● ◔ ● ◔
N	Non–ferrous Metal	
S	Heat–resistant Alloy,TiAlloy	● ◔ ● ◔
H	High Hardness Materials	

Shape	Ordering Code	Dimensions(mm)						Coated–CVD		Coated–PVD	
		L	D	S	d1	θ	R	NP1115	NP1225	NS4115	NS4125
	HNMX050410–NM	7.10	12.70	5.00	5.00	55°	1.00	○	○	○	●

SNEX

Shoulder Milling Inserts



P	Steel	● ◔ ● ◔
M	Stainless Steel	○ ◔ ○ ◔
K	Cast Iron	● ◔ ● ◔
N	Non–ferrous Metal	
S	Heat–resistant Alloy,TiAlloy	● ◔ ● ◔
H	High Hardness Materials	

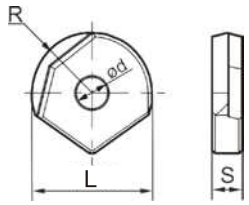
Shape	Ordering Code	Dimensions(mm)				Coated–CVD		Coated–PVD	
		D	L	S	d1	NP1115	NP1225	NS4115	NS4125
	SNEX1202–GM	12.70	12.70	2.30	5.00	○	●	○	●
	SNEX1203–GM	12.70	12.70	3.00	5.00	○	●	○	●
	SNEX12T3–GM	12.70	12.70	3.50	5.00	○	●	○	●
	SNEX1204–GM	12.70	12.70	4.00	5.00	○	●	○	●
	SNEX12T4–GM	12.70	12.70	4.50	5.00	○	●	○	●

●Stock ○Availabie upon Order

QOHX

Shoulder Milling Inserts

○ continuous ◔ light Interruption ⧓ Interruption



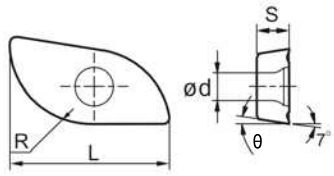
P	Steel				◔
M	Stainless Steel				◔
K	Cast Iron				◔
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy				◔
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)				Coated–CVD		Coated–PVD	
		L	S	d	R	NP1115	NP1125	NS4115	NS4125
	P3201–D10	10.00	3.00	4.00	5.00				●
	P3201–D12	12.00	3.00	4.00	6.00				●
	P3201–D16	16.00	4.00	5.00	8.00				●
	P3201–D20	20.00	5.00	5.00	10.00				●
	P3201–D25	25.00	6.00	6.00	12.50				●
	P3201–D32	32.00	7.00	8.00	16.00				●

QPHT

Face Milling Inserts

○ continuous ◔ light Interruption ⧓ Interruption



P	Steel				◔
M	Stainless Steel				◔
K	Cast Iron				◔
N	Non–ferrous Metal				
S	Heat–resistant Alloy,TiAlloy				◔
H	High Hardness Materials				

Shape	Ordering Code	Dimensions(mm)					Coated–CVD		Coated–PVD	
		L	R	S	d1	θ	NP1115	NP1125	NS4115	NS4125
	ZCEW100CE	20.00	10.00	3.97	4.00	11°				●
	ZCEW100SE	20.00	10.00	3.97	4.00	11°				●
	ZCEW125CE	25.00	12.50	4.76	4.70	11°				●
	ZCEW125SE	25.00	12.50	4.76	4.70	11°				●
	ZCEW150CE	30.00	15.00	6.35	5.80	11°				●
	ZCEW150SE	30.00	15.00	6.35	5.80	11°				●
	ZCEW160CE	32.00	16.00	6.35	5.80	11°				●
	ZCEW160SE	32.00	16.00	6.35	5.80	11°				●

●Stock ○Availabie upon Order

MFT Anti vibration milling tool bar series

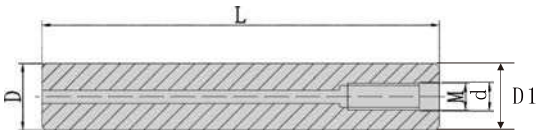










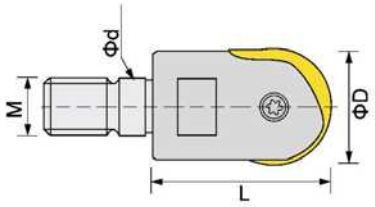


Ordering Code	Stock	Dimensions(mm)				
		D	D1	L	M	d
MFT10–10–100–M5	●	10	10	100	M5	5.5
MFT10–10–150–M5	●	10	10	150	M5	5.5
MFT12–12–100–M6	●	12	12	100	M6	6.5
MFT12–12–150–M6	●	12	12	150	M6	6.5
MFT12–12–200–M6	●	12	12	200	M6	6.5
MFT16–16–100–M8	●	16	16	100	M8	8.5
MFT16–16–150–M8	●	16	16	150	M8	8.5
MFT16–16–200–M8	●	16	16	200	M8	8.5
MFT20–20–150–M10	●	20	20	100	M10	10.5
MFT20–20–200–M10	●	20	20	150	M10	10.5
MFT20–20–250–M10	●	20	20	200	M10	10.5
MFT25–25–150–M12	●	25	25	150	M12	12.5
MFT25–25–200–M12	●	25	25	200	M12	12.5
MFT25–25–250–M12	●	25	25	250	M12	12.5
MFT25–25–300–M12	●	25	25	300	M12	12.5
MFT32–32–150–M16	●	32	32	150	M16	17
MFT32–32–200–M16	●	32	32	200	M16	17
MFT32–32–250–M16	●	32	32	250	M16	17
MFT32–32–300–M16	●	32	32	300	M16	17
MFT32–32–400–M16	●	32	32	400	M16	17

●Stock ○Availabie upon Order

BF Ball End,finish milling cutters(thread)

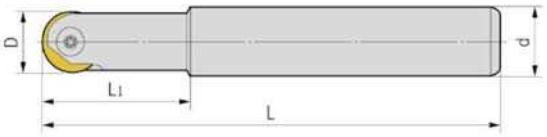




Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	M			
WGR10-M05	●	10	5.5	20	M5	P3202-D10	P32-M4	T-15
WGR12-M06	●	12	6.5	22	M6	P3202-D12	P32-M5	T-320
WGR16-M08	●	16	8.5	28	M8	P3202-D16		
WGR20-M10	●	20	10.5	30	M10	P3202-D20		
WGR25-M12	●	25	12.5	40	M12	P3202-D25	P32-M6	T-30
WGR32-M16	●	32	17.0	43	M16	P3202-D32	P32-M8	

BF Ball End,finish milling cutters



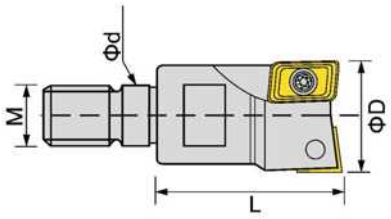


Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	L1			
T2139-5R-120-C10	●	10	10	130	30	P3202-D10	P32-M4	T-15
T2139-5R-150-C16	●	10	10	160	35			
T2139-6R-130-C12	●	12	12	130	30	P3202-D12	P32-M5	T20
T2139-6R-150-C12	●	12	12	160	30			
T2139-8R-130-C16	●	16	16	120	30	P3202-D16		
T2139-8R-150-C16	●	16	16	160	30			
T2139-8R-200-C16	●	16	16	200	45			
T2139-10R-150-C20	●	20	20	160	30	P3202-D20		
T2139-10R-200-C20	●	20	20	200	35			
T2139-12.5R-150-C25	●	25	25	160	35	P3202-D25	P32-M6	T30
T2139-12.5R-200-C25	●	25	25	200	40			
T2139-12.5R-250-C25	●	25	25	250	60			
T2139-16R-200-C32	●	32	32	200	55	P3202-D32	P32-M8	
T2139-16R-250-C32	●	32	32	250	70			
T2139-16R-300-C32	●	32	32	300	80			

●Stock ○Availabie upon Order

BAP Shoulder milling cutters

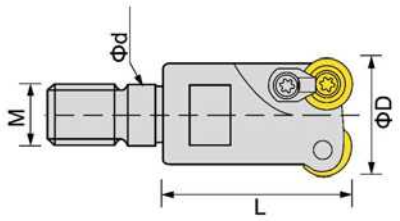




Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	M			
BAP3–16–2T–M08	●	16	8.5	25	M8	AP**1135	M2.5*6	T–8
BAP3–17–2T–M08	●	17	8.5	25	M8			
BAP3–20–2T–M10	●	20	10.5	30	M10			
BAP3–21–3T–M10	●	21	10.5	30	M10			
BAP3–25–3T–M12	●	15	12.5	35	M12			
BAP3–26–2T–M12	●	26	12.5	35	M12			
BAP4–25–2T–M12	●	25	12.5	35	M12	AP**1604	M4*10	T–15
BAP4–32–3T–M16	●	32	17	43	M16			
BAP4–35–3T–M16	●	35	17	43	M16			

RP Corner radius milling cutters



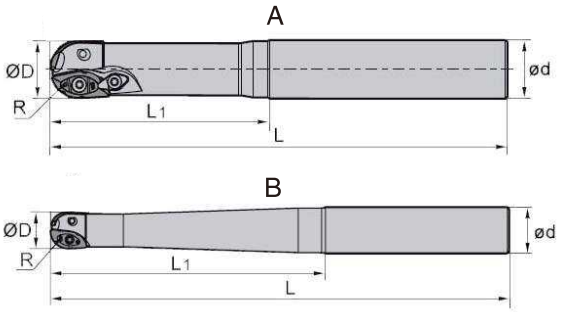


Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	d	L	M			
RD0802–20–2T–M10	●	20	10.5	32	M10	RD**0802	M2.5*6	T–8
RD0802–21–2T–M10	●	21	10.5	32	M10			
RP1003–25–2T–M12	●	25	12.5	35	M12	RP**1003	M3.5*8	T–15
RP1003–26–2T–M12	●	26	12.5	35	M12			
RP1003–30–3T–M12	●	30	12.5	35	M12			
RP1003–32–3T–M16	●	32	17	43	M16			
RP1003–35–3T–M16	●	35	17	43	M16			

●Stock ○Availabie upon Order

BFR Ball End,milling bar





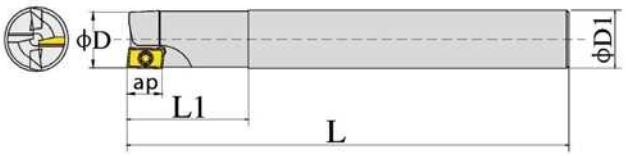
Ordering Code	Stock	Dimensions(mm)				Fig	Insert	Screw	Screw	Wrench
		D	d	L	L1					
BCF–10R–150–C20	●	20	20	150	70	A	ZCEW100CE ZCEW100SE	– – –	M2.5*6 M3*8	T–7 T–10
BCF–10R–200–C25	●	20	25	200	100	B				
BCF–10R–250–C25	●	20	25	250	150					
BCF–12.5R–150–C25	●	25	25	150	80	A	ZCEW125CE ZCEW125SE	– – –	M4*11	T–15
BCF–12.5R–200–C25	●	25	25	200	100					
BCF–12.5R–250–C25	●	25	25	250	110					
BCF–12.5R–300–C32	●	25	32	300	120	B	ZCEW150CE ZCEW150SE	– – –	M4*11 M5*13	T–15 T–20
BCF–15R–160–C32	●	30	32	160	70					
BCF–15R–200–C32	●	30	32	200	100					
BCF–15R–250–C32	●	30	32	250	120					
BCF–16R–160–C32	●	32	32	160	70	A	ZCEW160CE ZCEW160SE	– – –	M4*11 M5*13	T–15 T–20
BCF–16R–200–C32	●	32	32	200	100					
BCF–16R–250–C32	●	32	32	250	120					
BCF–16R–300–C32	●	32	32	300	150					

Ordering Code	Stock	Dimensions(mm)				Fig	Insert	Screw	Screw	Wrench
		D	d	L	L1					
BCFL–10R–150–C20	●	20	20	150	70	A	ZCEW100CE ZCEW100SE CPMT080204	– – –	M2.5*6 M3*8	T–7 T–10
BCFL–10R–200–C25	●	20	25	200	100	B				
BCFL–10R–250–C25	●	20	25	250	150					
BCFL–12.5R–150–C25	●	25	25	150	80	A	ZCEW125CE ZCEW125SE CPMT090308	– – –	M4*11	T–15
BCFL–12.5R–200–C25	●	25	25	200	100					
BCFL–12.5R–250–C25	●	25	25	250	110					
BCFL–12.5R–300–C32	●	25	32	300	120	B	ZCEW150CE ZCEW150SE CPMT090308	– – –	M4*11 M5*13	T–15 T–20
BCFL–15R–160–C32	●	30	32	160	70					
BCFL–15R–200–C32	●	30	32	200	100					
BCFL–15R–250–C32	●	30	32	250	120					
BCFL–16R–160–C32	●	32	32	160	70	A	ZCEW160CE ZCEW160SE CPMT090308	– – –	M4*11 M5*13	T–15 T–20
BCFL–16R–200–C32	●	32	32	200	100					
BCFL–16R–250–C32	●	32	32	250	120					
BCFL–16R–300–C32	●	32	32	300	150					

●Stock ○Availabie upon Order

BAP Straight shank milling cutter BAP series



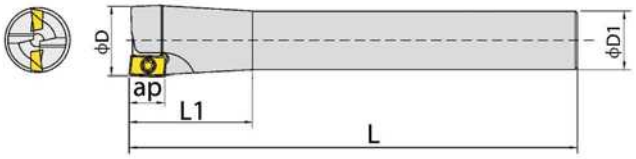


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	Z	ap			
BAP300R–10–1T–10–120	●	10	10	120	1	9	AP**1135	M2.5*6	T–8
BAP300R–12–1T–12–120	●	12	12	120					
BAP300R–16–2T–16–120	●	16	16	120	2				
BAP300R–16–2T–16–150	●	16	16	150					
BAP300R–16–2T–16–160	●	16	16	160					
BAP300R–16–2T–16–200	●	16	16	200					
BAP300R–20–2T–20–120	●	20	20	120					
BAP300R–20–2T–20–150	●	20	20	150					
BAP300R–20–2T–20–160	●	20	20	160					
BAP300R–20–2T–20–200	●	20	20	200					
BAP300R–25–3T–25–120	●	25	25	120	3				
BAP300R–25–3T–25–150	●	25	25	150					
BAP300R–25–3T–25–160	●	25	25	160					
BAP300R–25–3T–25–200	●	25	25	200					
BAP300R–32–3T–32–160	●	32	32	160					
BAP300R–32–3T–32–200	●	32	32	200					
BAP300R–32–3T–32–250	●	32	32	250					
BAP400R–25–2T–25–120	●	25	25	120	2	14	AP**1604	M4*10	T–15
BAP400R–25–2T–25–150	●	25	25	150					
BAP400R–25–2T–25–160	●	25	25	160					
BAP400R–25–2T–25–200	●	25	25	200					
BAP400R–25–2T–25–250	●	25	25	250					
BAP400R–32–2T–32–160	●	32	32	160					
BAP400R–32–2T–32–200	●	32	32	200					
BAP400R–32–2T–32–250	●	32	32	250					

●Stock ○Availabie upon Order

BAP Variable Head,mills BAP series



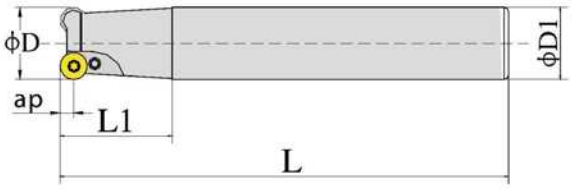


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	Z	ap			
BAP300R-17-2T-16-120	●	17	16	120	2	9	AP**1135	M2.5*6	T-8
BAP300R-17-2T-16-150	●	17	16	150					
BAP300R-17-2T-16-160	●	17	16	160					
BAP300R-17-2T-16-200	●	17	16	200					
BAP300R-21-2T-20-120	●	21	20	120					
BAP300R-21-2T-20-150	●	21	20	150					
BAP300R-21-2T-20-160	●	21	20	160					
BAP300R-21-2T-20-200	●	21	20	200					
BAP300R-26-3T-25-120	●	26	25	120	3				
BAP300R-26-3T-25-150	●	26	25	150					
BAP300R-26-3T-25-160	●	26	25	160					
BAP300R-26-3T-25-200	●	26	25	200					
BAP300R-26-3T-25-250	●	26	25	250					
BAP300R-32-3T-25-120	●	32	25	120					
BAP300R-32-3T-25-150	●	32	25	150					
BAP300R-32-3T-25-160	●	32	25	160					
BAP300R-32-3T-25-200	●	32	25	200					
BAP300R-32-3T-25-250	●	32	25	250					
BAP300R-35-3T-32-160	●	35	32	160					
BAP300R-35-3T-32-200	●	35	32	200					
BAP300R-35-3T-32-250	●	35	32	250					
BAP400R-26-2T-25-120	●	26	25	120	2	14	AP**1604	M4*10	T-15
BAP400R-26-2T-25-150	●	26	25	150					
BAP400R-26-2T-25-160	●	26	25	160					
BAP400R-26-2T-25-200	●	26	25	200					
BAP400R-26-2T-25-250	●	26	25	250					
BAP400R-32-2T-25-160	●	32	25	160					
BAP400R-32-2T-25-200	●	32	25	200					
BAP400R-32-2T-25-250	●	32	25	250					
BAP400R-35-3T-32-160	●	35	32	160	3				
BAP400R-35-3T-32-200	●	35	32	200					
BAP400R-35-3T-32-250	●	35	32	250					

●Stock ○Availabie upon Order

BRP Straight shank milling cutter BRP series



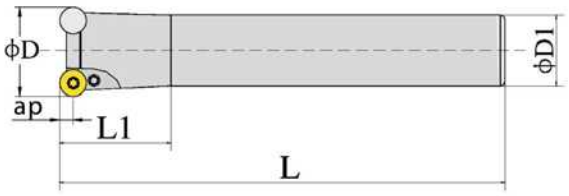


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRP4R-16-2T-16-120	●	16	16	120	2	4	RP**08T2	M3.0*6	T-10	R4YD
BRP4R-16-2T-16-150	●	16	16	150						
BRP4R-16-2T-16-160	●	16	16	160						
BRP4R-16-2T-16-200	●	16	16	200						
BRP4R-20-2T-20-120	●	20	20	120						
BRP4R-20-2T-20-150	●	20	20	150						
BRP4R-20-2T-20-160	●	20	20	160						
BRP4R-20-2T-20-200	●	20	20	200						
BRP4R-25-3T-25-120	●	25	25	120	3					
BRP4R-25-3T-25-150	●	25	25	150						
BRP4R-25-3T-25-160	●	25	25	160						
BRP4R-25-3T-25-200	●	25	25	200						
BRP5R-16-1T-16-120	●	16	16	120	1	5	RP**10T3	M3.5*8	T-15	R5YD
BRP5R-16-1T-16-160	●	16	16	160						
BRP5R-16-1T-16-200	●	16	16	200						
BRP5R-20-1T-20-120	●	20	20	120						
BRP5R-20-1T-20-160	●	20	20	160						
BRP5R-20-1T-20-200	●	20	20	200						
BRP5R-25-2T-25-120	●	25	25	120	2					
BRP5R-25-2T-25-160	●	25	25	160						
BRP5R-25-2T-25-200	●	25	25	200						
BRP5R-25-2T-25-250	●	25	25	250						
BRP5R-32-3T-32-160	●	32	32	160	3					
BRP5R-32-3T-32-200	●	32	32	200						
BRP5R-32-3T-32-250	●	32	32	250						
BRP6R-25-2T-25-160	●	25	25	160	2	6	RP**1204	M4.0*10	T-15	R6YD
BRP6R-25-2T-25-200	●	25	25	200						
BRP6R-25-2T-25-250	●	25	25	250						
BRP6R-32-3T-32-160	●	32	32	160	3					
BRP6R-32-3T-32-200	●	32	32	200						
BRP6R-32-3T-32-250	●	32	32	250						

●Stock ○Availabie upon Order

BRP Mills,variable head BRP series



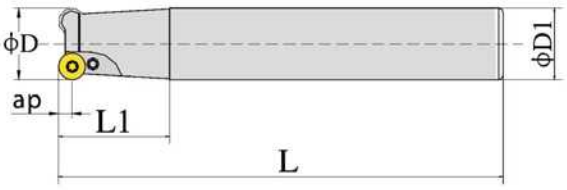


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRP4R-17-2T-16-120	●	17	16	120	2	4	RP**08T2	M3.0*6	T-10	R4YD
BRP4R-17-2T-16-160	●	17	16	160						
BRP4R-17-2T-16-200	●	17	16	200						
BRP4R-21-2T-20-120	●	21	20	120						
BRP4R-21-2T-20-160	●	21	20	160						
BRP4R-21-2T-20-200	●	21	20	200						
BRP4R-26-3T-25-120	●	26	25	120	3					
BRP4R-26-3T-25-160	●	26	25	160						
BRP4R-26-3T-25-200	●	26	25	200						
BRP5R-17-1T-16-120	●	17	16	120	1	5	RP**10T3	M3.5*8	T-15	R5YD
BRP5R-17-1T-16-160	●	17	16	160						
BRP5R-17-1T-16-200	●	17	16	200						
BRP5R-21-1T-20-120	●	21	20	120						
BRP5R-21-1T-20-160	●	21	20	160						
BRP5R-21-1T-20-200	●	21	20	200						
BRP5R-26-2T-25-120	●	26	25	120	2					
BRP5R-26-2T-25-160	●	26	25	160						
BRP5R-26-2T-25-200	●	26	25	200						
BRP5R-26-2T-25-250	●	26	25	250						
BRP5R-32-3T-25-160	●	32	25	160	3					
BRP5R-32-3T-25-200	●	32	25	200						
BRP5R-32-3T-25-250	●	32	25	250						
BRP5R-35-3T-32-160	●	35	32	160						
BRP5R-35-3T-32-200	●	35	32	200						
BRP5R-35-3T-32-250	●	35	32	250						
BRP6R-26-2T-25-160	●	26	25	160	2	6	RP**1204	M4.0*10	T-15	R6YD
BRP6R-26-2T-25-200	●	26	25	200						
BRP6R-26-2T-25-250	●	26	25	250						
BRP6R-32-3T-25-160	●	32	25	160	3					
BRP6R-32-3T-25-200	●	32	25	200						
BRP6R-32-3T-25-250	●	32	25	250						
BRP6R-35-3T-32-160	●	35	32	160						
BRP6R-35-3T-32-200	●	35	32	200						
BRP6R-35-3T-32-250	●	35	32	250						

●Stock ○Availabie upon Order

BRD Straight shank milling cutter BRD series



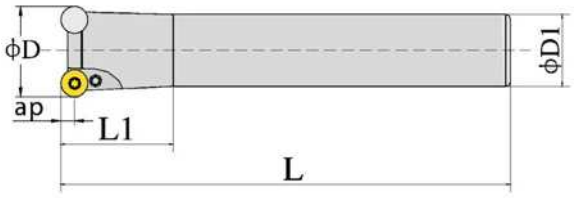


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRD4R-16-2T-16-120	●	16	16	120	2	4	RD**0802	M3.0*6	T-10	R4YD
BRD4R-16-2T-16-150	●	16	16	150						
BRD4R-16-2T-16-160	●	16	16	160						
BRD4R-16-2T-16-200	●	16	16	200						
BRD4R-20-2T-20-120	●	20	20	120						
BRD4R-20-2T-20-150	●	20	20	150						
BRD4R-20-2T-20-160	●	20	20	160						
BRD4R-20-2T-20-200	●	20	20	200						
BRD4R-25-3T-25-120	●	25	25	120	3					
BRD4R-25-3T-25-150	●	25	25	150						
BRD4R-25-3T-25-160	●	25	25	160						
BRD4R-25-3T-25-200	●	25	25	200						
BRD5R-16-1T-16-120	●	16	16	120	1	5	RD**10T3	M3.5*8	T-15	R5YD
BRD5R-16-1T-16-160	●	16	16	160						
BRD5R-16-1T-16-200	●	16	16	200						
BRD5R-20-1T-20-120	●	20	20	120						
BRD5R-20-1T-20-160	●	20	20	160						
BRD5R-20-1T-20-200	●	20	20	200						
BRD5R-25-2T-25-120	●	25	25	120	2					
BRD5R-25-2T-25-160	●	25	25	160						
BRD5R-25-2T-25-200	●	25	25	200						
BRD5R-25-2T-25-250	●	25	25	250						
BRD5R-32-3T-32-160	●	32	32	160	3					
BRD5R-32-3T-32-200	●	32	32	200						
BRD5R-32-3T-32-250	●	32	32	250						
BRD6R-25-2T-25-160	●	25	25	160	2	6	RD**1204	M4.0*10	T-15	R6YD
BRD6R-25-2T-25-200	●	25	25	200						
BRD6R-25-2T-25-250	●	25	25	250						
BRD6R-32-3T-32-160	●	32	32	160	3					
BRD6R-32-3T-32-200	●	32	32	200						
BRD6R-32-3T-32-250	●	32	32	250						

●Stock ○Availabie upon Order

BRD Mills,variable head BRD series





Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L	Z	ap				
BRD4R–17–2T–16–120	●	17	16	120	2	4	RD**0802	M3.0*6	T–10	R4YD
BRD4R–17–2T–16–160	●	17	16	160						
BRD4R–17–2T–16–200	●	17	16	200						
BRD4R–21–2T–20–120	●	21	20	120						
BRD4R–21–2T–20–160	●	21	20	160						
BRD4R–21–2T–20–200	●	21	20	200						
BRD4R–26–3T–25–120	●	26	25	120	3					
BRD4R–26–3T–25–160	●	26	25	160						
BRD4R–26–3T–25–200	●	26	25	200						
BRD5R–17–1T–16–120	●	17	16	120	1	5	RD**10T3	M3.5*8	T–15	R5YD
BRD5R–17–1T–16–160	●	17	16	160						
BRD5R–17–1T–16–200	●	17	16	200						
BRD5R–21–1T–20–120	●	21	20	120						
BRD5R–21–1T–20–160	●	21	20	160						
BRD5R–21–1T–20–200	●	21	20	200						
BRD5R–26–2T–25–120	●	26	25	120	2					
BRD5R–26–2T–25–160	●	26	25	160						
BRD5R–26–2T–25–200	●	26	25	200						
BRD5R–26–2T–25–250	●	26	25	250						
BRD5R–32–3T–25–160	●	32	25	160	3					
BRD5R–32–3T–25–200	●	32	25	200						
BRD5R–32–3T–25–250	●	32	25	250						
BRD5R–35–3T–32–160	●	35	32	160						
BRD5R–35–3T–32–200	●	35	32	200						
BRD5R–35–3T–32–250	●	35	32	250						
BRD6R–26–2T–25–160	●	26	25	160	2	6	RD**1204	M4.0*10	T–15	R6YD
BRD6R–26–2T–25–200	●	26	25	200						
BRD6R–26–2T–25–250	●	26	25	250						
BRD6R–32–3T–25–160	●	32	25	160	3					
BRD6R–32–3T–25–200	●	32	25	200						
BRD6R–32–3T–25–250	●	32	25	250						
BRD6R–35–3T–32–160	●	35	32	160						
BRD6R–35–3T–32–200	●	35	32	200						
BRD6R–35–3T–32–250	●	35	32	250						

●Stock ○Availabie upon Order

DX45 Pilot drill series

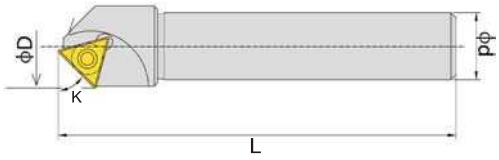




Ordering Code	Stock	Dimensions(mm)		Insert	Screw	Wrench
		D	L			
DX45–16–120	●	20	120	TCGT16T302	M4.0*10	T–15

B30TC Chamfer cutter BTC series



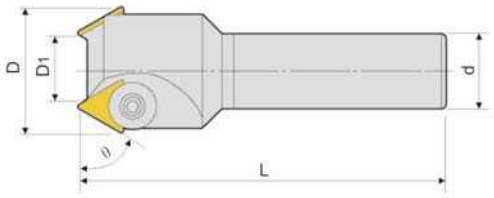


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	Z	K			
B30TC11 20 1T20–120	●	20	20	120	1	30°	TC**1102	M2.5*6	T–8
B30TC11 25 2T20–120	●	25	20	120	2	30°			
B45TC11 20 1T20–120	●	20	20	120	1	45°			
B45TC11 25 2T20–120	●	25	20	120	2	45°			
B60TC11 20 1T20–120	●	20	20	120	1	60°			
B60TC11 25 2T20–120	●	25	20	120	2	60°			
B30TC16 20 1T20–120	●	20	20	120	1	30°	TC**16T3	M2.5*7	T–9
B30TC16 32 2T25–120	●	32	25	120	2	30°			
B45TC16 20 1T20–120	●	20	20	120	1	45°			
B45TC16 32 2T25–120	●	32	25	120	2	45°			
B60TC16 20 1T20–120	●	20	20	120	1	60°			
B60TC16 32 2T25–120	●	32	25	120	2	60°			

●Stock ○Availabie upon Order

TP Chamfer cutter bar

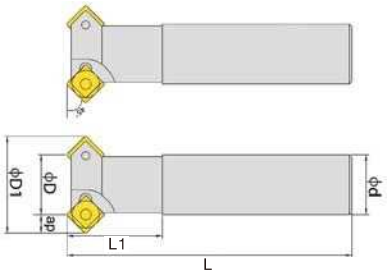




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	d	L	Z	K			
TP60–C25–40–120–2T	●	37.7	15.8	25	120	2	60°	TP**1603	M060H080	L4.0
TP45–C20–20–120–1T	●	20.4	4	20	120	1	45°			
TP45–C20–32–120–2T	●	30.2	12	20	120	2	45°			
TP45–C25–50–160–3T	●	49	24	25	160	3	45°	TP**2204	M080H120	L5.0
TP30–C25–40–120–2T	●	39	26	25	120	2	30°	TP**1603	M060H080	L4.0
TP30–C32–55–160–3T	●	54.5	36	32	160	3	30°	TP**2204	M080H120	L5.0

B45SC Chamfer cutter BSC series(Multi–purpose)



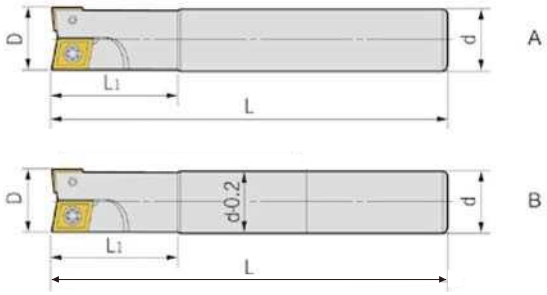


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	d	L	Z	K			
B45SC–09–1T20–120	●	9	22.6	20	120	1	45°	SC**09T3	M3.5*8	T–15
B45SC–19–2T20–120	●	19	32.1	20	120	2	45°			
B45SC–25–2T25–120	●	25	41.3	25	120	2	45°	SC**1204	M5*12	T–20

●Stock ○Availabie upon Order

AJU Center drilling mills

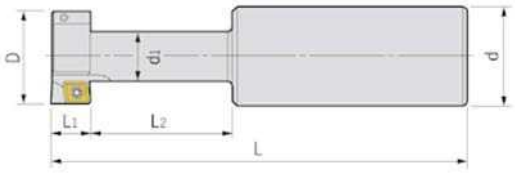




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
AJU-C16-16-120-2T	●	16	16	120	35	2	CCMT060204	M2.5*6	T-8
AJU-C16-16-150-2T	●	16	16	150	35		CPMT080204Z		
AJU-C16-16-200-2T	●	16	16	200	40				
AJU-C20-20-160-2T	●	20	20	160	50		CCMT060204	M2.5*6	T-8
AJU-C20-20-200-2T	●	20	20	200	60		CPMT090204Z	M3.5*8	T-15
AJU-C25-25-160-2T	●	25	25	160	60		CCMT090308	M4.0*8	T-15
AJU-C25-25-200-2T	●	25	25	200	70		CPMT120308Z		
AJU-C25-25-250-2T	●	25	25	250	80				
AJU-C32-32-200-2T	●	32	32	200	60		CPMT120408	M5.0*11	T-20
AJU-C32-32-250-2T	●	32	32	250	70		CPMT160408Z		

ATS T-Slot Milling cutter



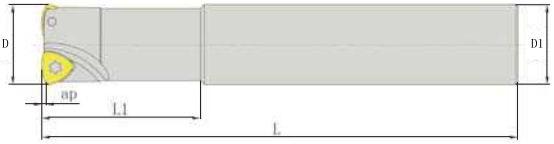


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	d	d1	L	L1	l2			
ATS25-C25-120-2T-06	●	25	25	12.5	120	11	21	CCMT060204	M2.5*6	T-8
ATS30-C25-120-4T-06	●	30	25	15	120	14	30	CCMT060204		
ATS32-C25-120-4T-08	●	32	25	16	120	14	30	CPMT080204		
ATS35-C32-120-4T-09	●	35	25	17.5	120	18	32	CCMT09T308	M4.0*8	T-15
ATS40-C32-120-4T-09	●	40	32	20	120	18	32	CCMT09T308		
ATS50-C32-120-4T-12	●	50	32	25	120	22	39	CCMT120408	M5.0*11	T-20

●Stock ○Availabie upon Order

BUD

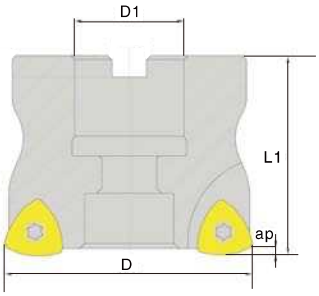




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	L	L1	ap	Z			
BUD08–20–2T20–120	○	20	20	120	40	1.0	2	UD**0803	M3*7	T–8
BUD08–20–2T20–160	○	20	20	160	50	1.0				
BUD08–20–2T20–200	○	20	20	200	60	1.0				
BUD08–25–2T25–120	○	25	25	120	40	1.0				
BUD08–25–2T25–160	○	25	25	160	50	1.0				
BUD08–25–2T25–200	○	25	25	200	60	1.0				
BUD12–25–2T25–160	○	25	25	160	50	1.5		UD**12T3	M4*10	T–15
BUD12–25–2T25–200	○	25	25	200	60	1.5				
BUD12–32–3T32–160	○	32	32	160	50	1.5	3			
BUD12–32–3T32–200	○	32	32	200	60	1.5				

BUD



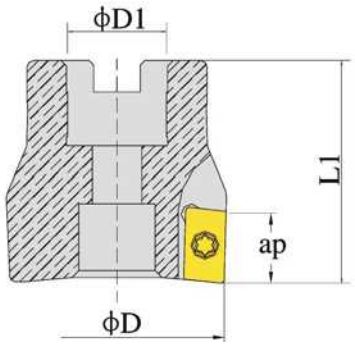


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
BUD12–050–4T–22	○	50	22	50	1.5	4	UD**12T3	M4*10	T–15
BUD12–063–4T–22	○	63	22	50		4			
BUD12–080–5T–27	○	80	27	50		5			
BUD12–100–6T–32	○	100	32	50		6			

●Stock ○Availabie upon Order

BAP Mills series

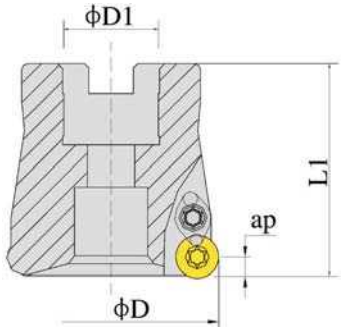




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
BAP400R 050 4T 22	●	50	22	50	16	4	AP**1604	M4*10	T-15
BAP400R 063 4T 22	●	63	22	50		4			
BAP400R 063 5T 22	●	63	22	50		5			
BAP400R 080 6T 27	●	80	27	50		6			
BAP400R 100 6T 32	●	100	32	50		6			
BAP400R 125 6T 40	●	125	40	63		6			
BAP400R 050 4T 25.4	○	50	25.4	50		4			
BAP400R 063 5T 25.4	○	63	25.4	50		5			
BAP400R 080 6T 25.4	○	80	25.4	50		6			
BAP400R 100 6T 31.75	○	100	31.75	50		6			

BRP Mills series



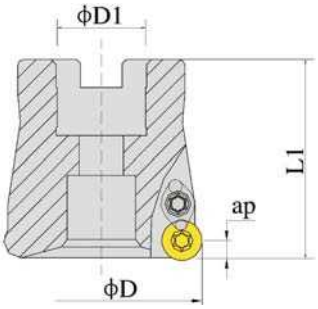


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L1	ap	Z				
BRP 5R 050 4T 22	●	50	22	50	5	4	RP**1003	M3.5*8	T-15	R5YD
BRP 5R 063 4T 22	●	63	22	50		4				
BRP 5R 063 5T 22	●	63	22	50		5				
BRP 5R 080 6T 27	●	80	27	50		6				
BRP 5R 100 6T 32	●	100	32	50		6				
BRP 6R 050 4T 22	●	50	22	50	6	4	RP**1204	M4.0*10	T-15	R6YD
BRP 6R 063 4T 22	●	63	22	50		4				
BRP 6R 080 6T 27	●	80	27	50		6				
BRP 6R 100 6T 32	●	100	32	50		6				

●Stock ○Availabie upon Order

BRD Mills series



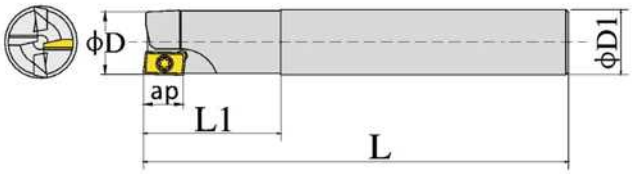


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench	Clamp
		D	D1	L1	ap	Z				
BRD 5R 050 4T 22	●	50	22	50	5	4	RD**10T3	M3.5*8	T-15	R5YD
BRD 5R 063 4T 22	●	63	22	50		4				
BRD 5R 063 5T 22	●	63	22	50		5				
BRD 5R 080 6T 27	●	80	27	50		6				
BRD 5R 100 6T 32	●	100	32	50		6				
BRD 5R 125 7T 40	●	125	40	63		7				
BRD 5R 050 4T 25.4	○	50	25.4	50		4				
BRD 5R 063 4T 25.4	○	63	25.4	50		4				
BRD 5R 080 6T 25.4	○	80	25.4	50		6				
BRD 5R 100 6T 31.75	○	100	31.75	50		6				
BRD 5R 125 7T 38.1	○	125	38.1	63		7				
BRD 6R 050 4T 22	●	50	22	50	6	4	RD**1204	M4.0*10	T-15	R6YD
BRD 6R 063 4T 22	●	63	22	50		4				
BRD 6R 063 5T 22	●	63	22	50		5				
BRD 6R 080 6T 27	●	80	27	50		6				
BRD 6R 100 6T 32	●	100	32	50		6				
BRD 6R 125 7T 40	●	125	40	63		7				
BRD 6R 050 4T 25.4	○	50	25.4	50		4				
BRD 6R 063 4T 25.4	○	63	25.4	50		4				
BRD 6R 080 6T 25.4	○	80	25.4	50		6				
BRD 6R 100 6T 31.75	○	100	31.75	50		6				
BRD 6R 125 7T 38.1	○	125	38.1	63		7				
BRD 8R 063 4T 22	●	63	22	50	8	4	RD**1604	M5.0*12	T-20	R6YD
BRD 8R 080 5T 27	●	80	27	50		5				
BRD 8R 100 6T 32	●	100	32	50		6				
BRD 8R 125 7T 40	●	125	40	63		7				
BRD 8R 160 8T 40	●	160	40	63		8				
BRD 10R 100 6T 40	○	100	31.75	50	10	6	RD**2006			R10YD
BRD 10R 125 7T 40	○	125	38.1	63		7				
BRD 10R 160 8T 60	○	160	50.8	63		8				

●Stock ○Availabie upon Order

BAN

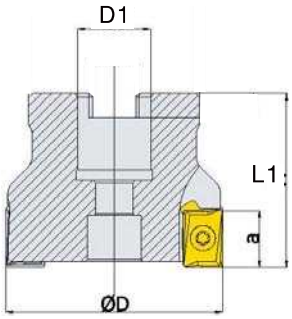




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	D1	L	L1	ap	Z			
BAN08-1616T2-125	●	16	16	125	26	8	2	AN**0804	AN09-M2.5	T-8
BAN08-1616T2-160	○	16	16	160			2			
BAN08-2020T3-125	●	20	20	125			3			
BAN08-2020T3-160	○	20	20	160			3			
BAN08-2525T4-125	●	25	25	125			4			
BAN08-2525T4-160	○	25	25	160			4			
BAN08-3232T5-160	○	32	32	160			5			
BAN13-2525T2-125	●	25	25	125		13	2	AN**1305	AN13-M4.0	T-15
BAN13-2525T2-160	○	25	25	160			2			
BAN13-3232T3-160	●	32	32	160			3			
BAN13-3232T3-200	○	32	32	200			3			
BAN13-4040T4-160	○	40	40	160			4			
BAN13-4040T4-200	○	40	40	200			4			

BAN



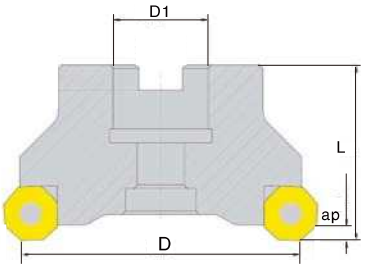


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
BAN16D050T4-22	●	50	22	50	16	4	AN**1606	AN16-M5.0	T-20
BAN16D063T5-22	●	63	22	50		5			
BAN16D080T6-27	●	80	27	50		6			
BAN16D100T7-32	●	100	32	50		7			
BAN16D125T8-40	●	125	40	63		8			
BAN16D160T10-40	○	160	40	63		10			
BAN16D200T12-60	○	200	60	63		12			
BAN16D250T14-60	○	250	60	63		14			

●Stock ○Availabie upon Order

SONFM

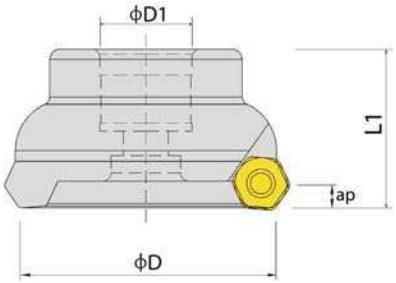




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	ap	Z			
SONFM45D050T04-22	●	50	22	50	3-6	4	SN**1205 0N**1205	SNON-M4.0	T-15
SONFM45D063T05-22	●	63	22	50		5			
SONFM45D080T06-27	●	80	27	50		6			
SONFM45D100T07-32	●	100	32	50		7			
SONFM45D125T08-40	●	125	40	63		8			
SONFM45D160T10-40	●	160	40	63		10			
SONFM45D200T12-60	●	200	60	63		12			
SONFM45D250T14-60	●	250	60	63		14			
SONFM45D315T18-60	●	315	60	63		18			

TFM55° Facing mills series



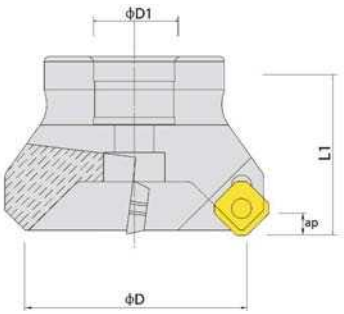


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
TFM55AHNS 050 4T 22	●	50	22	50	4	4	HN**0504	M4.5*12	T-20
TFM55AHNS 063 5T 22	●	63	22	50		5			
TFM55AHNS 080 6T 27	●	80	27	50		6			
TFM55AHNS 100 7T 32	●	100	32	50		7			
TFM55AHNS 125 8T 40	●	125	40	63		8			
TFM55AHNS 160 9T 40	●	160	40	63		9			

●Stock ○Availabie upon Order

SE45° Facing mills series

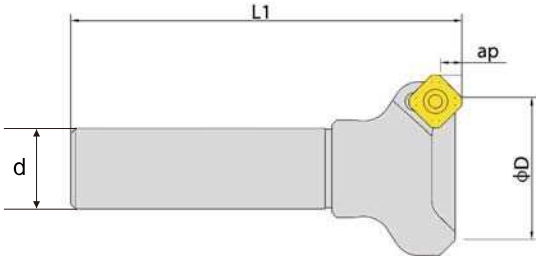




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
SE13 050 4T 22	●	50	22	50	5	4	SE**13T3	M3.5*8	T-15
SE13 063 5T 22	●	63	22	50		5			
SE13 080 5T 27	●	80	27	50		5			
SE13 100 6T 32	●	100	32	50		6			
SE13 125 7T 40	●	125	40	63		7			
SE13 160 8T 40	●	160	40	63		8			
SE13 200 10T 60	●	200	60	63		10			

BSE45° Straight shank facing mills series



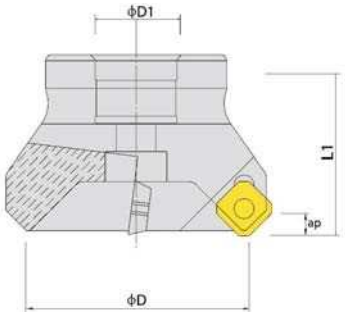


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L1	ap	Z			
BSE13 050 4T 120	●	50	32	120	6	4	SE**13T3	M3.5*8	T-15
BSE13 063 5T 120	●	63				5			
BSE13 080 5T 120	●	80				5			
BSE13 100 6T 120	●	100				6			

●Stock ○Availabie upon Order

SE45° Facing mills series

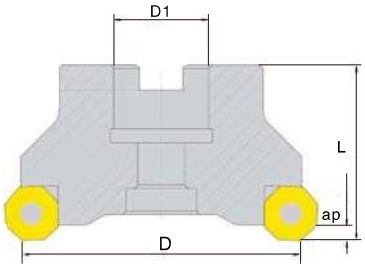




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L1	ap	Z			
SE12 050 4T 22	●	50	22	50	5	4	SE**1204	M5.0*12	T-20
SE12 063 5T 22	●	63	22	50		5			
SE12 080 5T 27	●	80	27	50		5			
SE12 100 6T 32	●	100	32	50		6			
SE12 125 7T 40	●	125	40	63		7			
SE12 160 8T 40	●	160	40	63		8			
SE12 200 10T 60	●	200	60	63		10			

FM



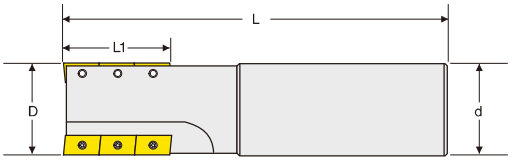


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	D1	L	ap	Z			
FM45-D050T04-22-OD06	●	50	22	50	4	4	OD**0605	M5*12	T-20
FM45-D063T05-22-OD06	●	63	22	50		5			
FM45-D080T06-27-OD06	●	80	27	50		6			
FM45-D100T07-32-OD06	●	100	32	50		7			
FM45-D125T08-40-OD06	●	125	40	63		8			
FM45-D160T10-40-OD06	●	160	40	63		10			
FM45-D200T12-60-OD06	●	200	60	63		12			

●Stock ○Availabie upon Order

BM90° Corn mills

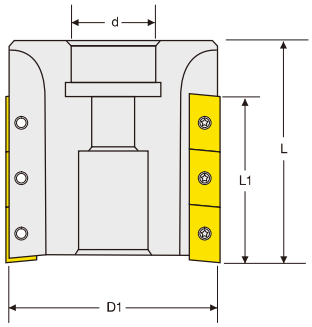




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
TAP11–20C20–28M–2T120	●	20	20	120	28	2	APMT1135	M2.5*6	T–18
TAP11–25C25–38M–2T130	●	25	25	130	38	2			
TAP11–25C25–48M–2T130	●	25	25	130	48	2			
TAP11–32C32–48M–3T140	●	32	32	140	48	3			
TAP16–32C32–70M–2T150	●	32	32	150	70	2	APMT1604	M4*10	T–15
TAP16–40C32–70M–2T150	●	40	32	150	70	2			
TAP16–40C32–70M–3T150	●	40	32	150	70	3			
TAP16–50C32–70M–3T150	●	50	32	150	70	3			

BM90° Corn mills



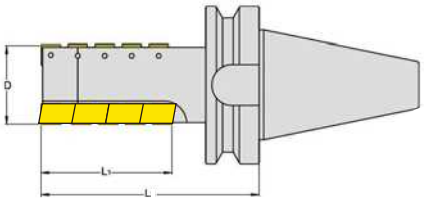


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
TAP16–D050–22–42M3T	●	50	22	120	42	3	APMT1604	M4*10	T–15
TAP16–D063–27–42M4T	●	63	27		42	4			
TAP16–D063–27–60M4T	●	63	27		60	4			
TAP16–D080–32–72M5T	●	80	32		72	5			

●Stock ○Availabie upon Order

BT Corn mills

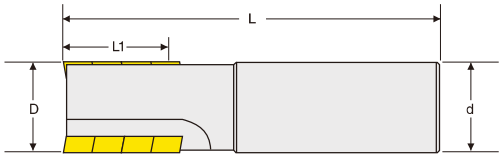




Ordering Code	Stock	Dimensions(mm)				Insert	Screw	Wrench
		D	L	L1	Z			
BT50–D50–70M4T–AP16	●	50		70	4	APMT1604	M4*10	T–15
BT50–D63–70M4T–AP16	●	63		70	4			
BT50–D63–85M4T–AP16	●	63		85	4			
BT50–D63–100M4T–AP16	●	63		100	5			
BT50–D80–99M5T–AP16	●	80		99	5			
BT50–D80–120M5T–AP16	●	80		120	5			
BT50–D100–118M6T–AP16	●	100		118	6			
BT50–D100–160M6T–AP16	●	100		160	6			
BT50–D100–280M6T–AP16	●	100		280	6			

HMC Corn mills



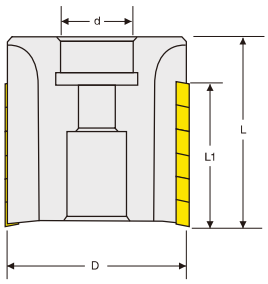


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
HMC90–025.029.2T25–CN07	●	25	25	106	29	2	CN**07	M3*12	T–9
HMC90–032.035.2T32–CN07	●	32	32	117	35	2			
HMC90–040.040.3T32–CN07	●	40	32	125	40	3			

●Stock ○Availabie upon Order

HMC Corn mills

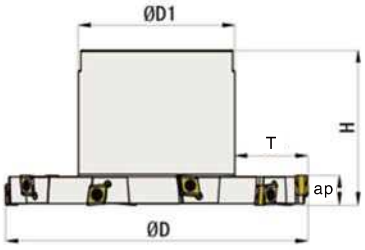


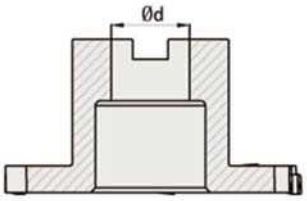


Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	L1	Z			
HMC90-050.052.4T22-CN07	●	50	22	70	52	4	CN**07	M3*12	T-9
HMC90-063.052.4T22-CN07	●	63	22		52	5			
HMC90-080.052.5T27-CN07	●	80	27		52	5			

TMR Side and face milling





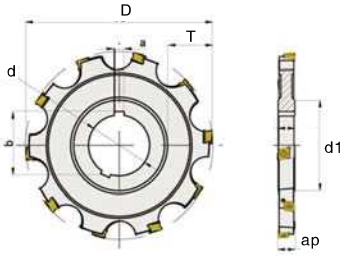


Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	d	L	ap	Z	T			
TMR-063.H10.05T22-CN07	●	63	22	50	10	5	10	CN**07	M3*12	T-9
TMR-080.H10.06T27-CN07	●	80	27	50	10	6	14			
TMR-100.H10.08T32-CN07	●	100	32	50	10	8	19			
TMR-125.H10.10T32-CN07	●	125	32	63	10	10	29			
TMR-160.H10.12T40-CN07	●	160	40	63	10	12	43			
TMR-063.H12.05T22-CN07	●	63	22	50	12	5	10			
TMR-080.H12.06T27-CN07	●	80	27	50	12	6	14			
TMR-100.H12.08T32-CN07	●	100	32	50	12	8	19			
TMR-125.H12.10T32-CN07	●	125	32	63	12	10	29			
TMR-160.H12.12T40-CN07	●	160	40	63	12	12	43			

●Stock ○Availabie upon Order

SMR Side and face mills

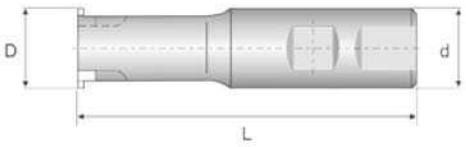




Ordering Code	Stock	Dimensions(mm)						Insert	Screw	Wrench
		D	d	d1	ap	Z	T			
SMR-063.H10.05T22-CN07	●	63	22	50	10	5	10	CN**07	M3*12	T-9
SMR-080.H10.06T27-CN07	●	80	27	50	10	6	14			
SMR-100.H10.08T32-CN07	●	100	32	50	10	8	19			
SMR-125.H10.10T32-CN07	●	125	32	63	10	10	29			
SMR-160.H10.12T40-CN07	●	160	40	63	10	12	43			
SMR-063.H12.05T22-CN07	●	63	22	50	12	5	10			
SMR-080.H12.06T27-CN07	●	80	27	50	12	6	14			
SMR-100.H12.08T32-CN07	●	100	32	50	12	8	19			
SMR-125.H12.10T32-CN07	●	125	32	63	12	10	29			
SMR-160.H12.12T40-CN07	●	160	40	63	12	12	43			

STF Slot mills

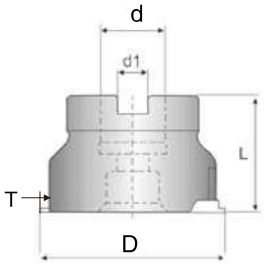




Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	L	T	Z			
STF-2520.1T.GBA32-100L	●	20	16	100	0.8-2.0	1	GBA32**	M3.5*8	T-15
STF-3225.2T.GBA32-120L	●	25	20	120		2			
STF-4032.3T.GBA32-150L	●	32	25	150		3			

STF Solt mills



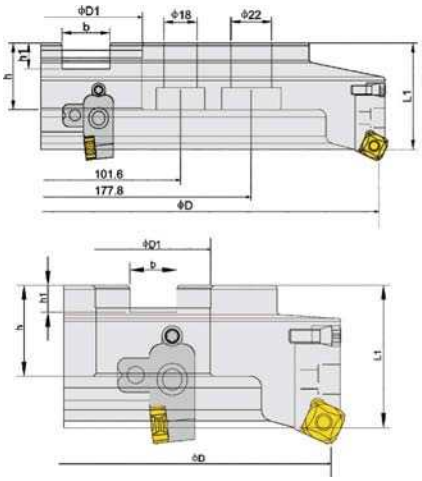


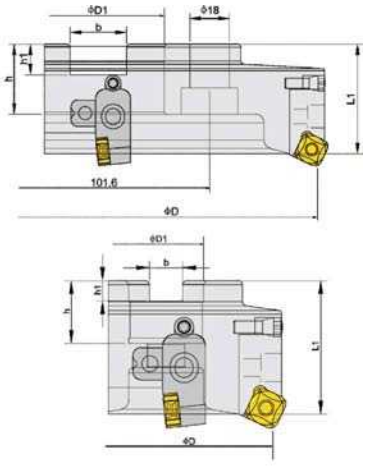
Ordering Code	Stock	Dimensions(mm)					Insert	Screw	Wrench
		D	d	H	T	Z			
STF-054.22.4T.GBA32	●	54	22	40	0.8-2.0	4	GBA32**	M3.5*8	T-15
STF-063.22.5T.GBA32	●	63	22	40		5			
STF-080.27.6T.GBA32	●	80	27	50		6			
STF-100.32.8T.GBA33	●	100	32	50		8			

●Stock ○Availabie upon Order

BBMS Mills

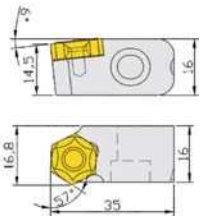




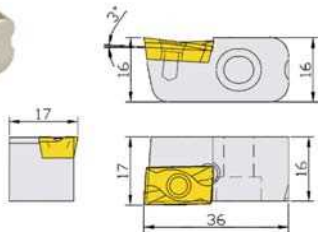


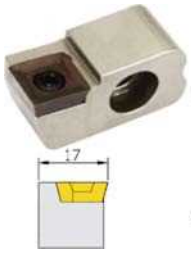


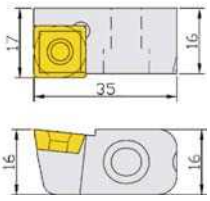












Ordering Code	Stock	Dimensions(mm)				Holder	Clamp	Insert	Screw	Wrench	Screw	Screw
		D	D1	L	Z							
BBMS.DP063.22.04T	●	63	22	50	4	DJ-SNMT	BYB1210	SNMT1205	M4*10	L1.5 L3.0 L5.0 T-15	TJLS0510	DGD0620 ST0625
BBMS.DP080.27.05T	●	80	27	50	5							
BBMS.DP100.32.06T	●	100	32	50	6							
BBMS.DP125.40.08T	●	125	40	50	8							
BBMS.DP160.40.10T	●	160	40	50	10							
BBMS.DP200.60.12T	●	200	60	50	12							
BBMS.DP250.60.14T	●	250	60	50	14							
BBMS.DP315.60.16T	●	315	60	58	16							

●Stock ○Availabie upon Order



Boring tools & drilling tools



CKB*-TWN



P207

CKB*-EWN



P208

BT*-CKB*-TWN



P209~P210

BT*-CKB*-EWN



P211~P212

RDH-D*-L



P213

CDH-D*-L



P213

BJ*BE*A



P214

CDH-D*-L



P214

WBJ**



P215

WBJ**



P2115

EC*/ST*/BE*



P216

NBH*



P217

SBJ**



P217

BT*-NBH*-P



P217

SC*-CKB*-L



P218

BT*-CKB*



P219

Extenstion



P220

Extenstion



P220

BT*-DW*



P221

SPMG2D/3D/4D



P223~P225

WCMX2D/3D/4D



P226~P228

SPMG**



P229

WCMX-S



P229

Eccentric Sleeve

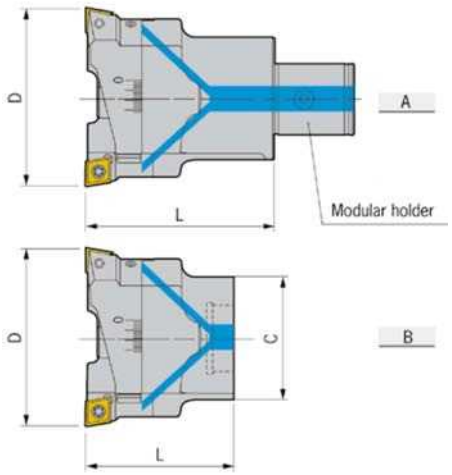


P230

Two-Blade Rough Boring Head

《Boring Range form Φ25-Φ204mm》





Ordering Code	Stock	D	C	L	Insert	Screw	Wrench	Cutter block	Clamp screw	Weight
CKB1-TWN2031-35	●	20-26	19	35	CC..0602..	M2.5X6.5	T7	TW20-26M	TW20TS	0.07
	●	25-31	19	35	CC..0602..	M2.5X6.5	T7	TW25-31M	TW20TS	0.12
CKB2-TWN3038-38	●	30-38	24	38	CC..0602..	M2.5X6.5	T7	TW30-38M	TW25TS	0.14
CBK3-TWN3747-43	●	37-47	31	43	CC..09T3..	M4X10	T15	TW37-47M	TW30TS	0.23
CBK4-TWN4659-50	●	46-59	39	50	CC..09T3..	M4X10	T15	TW46-47M	TW40TS	0.43
CBK5-TWN5875-60	●	58-75	50	60	CC..1204..	M5X13	T20	TW58-75M	TW50TS	0.82
CBK6-TWN7496-75	●	74-96	64	75	CC..1204..	M5X13	T20	TW74-96M	TW50TS	1.75
CKB6-TWN95122-75	●	95-122	64	75	CC..1204..	M5X13	T20	TW95-122M	TW50TS	2.35

Features:

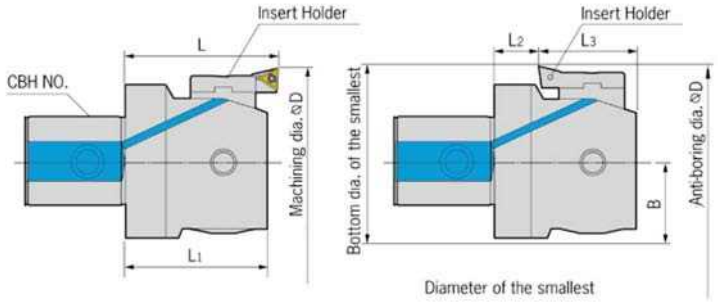
1.Thickened cartridge with higher rigidty;
2.Coolant mozzle easify cools the insert elongating its working life;
3.Comlteptd with chip pocket,improving chipflow ofdeep boring;
4.Clamp plate solidifies cartridges and head,upgrading cutting rigidity.
5.Patented step boring design,suitable for both level boring and step boring.

●Stock ○Availabie upon Order

EWN Micro-Finishing Boring Head

《Boring Range form Φ25-Φ204mm》





Ordering Code	Stock	dm	L	DC	Cutter block	Insert	Screw	Wrench	Weight
CKB1-EWN2031-32	●	19	32.5	20-26	ENH1-1	TP..0802	M2*5	T7	0.09
				25-31	ENH1-2				
CKB1-EWN2540-35	●	24	35.5	25-33	ENH1-1				0.13
				32-40	ENH1-2	TP..0902	M2.5*6	T8	
CKB2-EWN3045-35	●			30-38	ENH2-1	TP..0802	M2*5	T7	0.15
				37-45	ENH2-2	TP..0902	M2.5*6	T8	
CKB2-EWN3756-40	●	31	40	37-47	ENH3-1	TP..0802	M2*5	T7	0.25
				46-56	ENH3-2	TP..0902	M2.5*6	T8	
CKB4-EWN4671-47	●	39	47	46-59	ENH4-1	TP..1103	M3*8	T10	0.43
				58-71	ENH4-2				
CKB5-EWN5890-57	●	50	57	58-75	ENH5-1				1.25
				73-90	ENH5-2				
CKB16-EWN73130-71	●	64	71	75-96	ENH6-1				1.78
				98-130	ENH6-2				

1.There are pre-balanced design,availability and stability of the machining accuracy.
2.Standard corresponding to the anti-boring work processing,using a wide range of increasing added value.



PAT.P

Tape	Stock	Fig	Boring head	Tape	Fig	Boring head
ENH1-1	●	 TP08	EWN20-31	ENH4-1	 TC11 TP11	EWN46-71
ENH1-2	●			ENH4-2		
ENH2-1	●		EWN30-45	ENH5-1		EWN58-90
ENH2-2	●			ENH5-2		
ENH3-1	●		EWN37-56	ENH6-1		EWN73-130
ENH3-2	●			ENH6-2		

●Stock ○Availabie upon Order

TWN Rough Boring Head



Fig·1

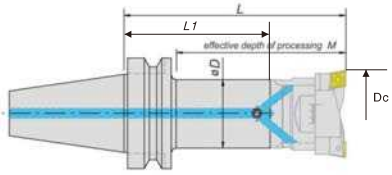
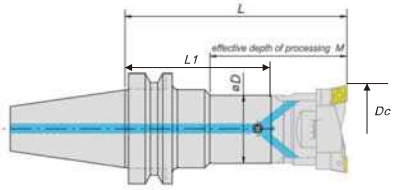


Fig.2

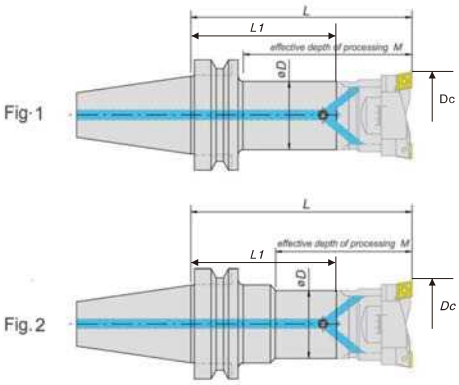


Ordering Code	Stock	Dc	YKL+TWN		PM	D	L	L1	Weight
BT30-CKB1TWN2026-81	●	20-26	BT30-CKB1-80	CKB1-TWN2026-35	81	19	115	80	0.48
BT30-CKB1TWN2531-81	●	25-31		CKB1-TWN2531-35	81	19	115	80	0.48
BT30-CKB2TWN3038-81	●	30-38	BT30-CKB2-80	CKB2-TWN3038-38	81	24	118	80	0.51
BT30-CKB3TWN3747-96	●	37-47	BT30-CKB3-80	CKB3-TWN3747-43	96	31	123	80	0.70
BT30-CKB4TWN4659-101	●	46-59	BT30-CKB4-80	CKB4-TWN4659-50	101	39	130	80	0.91
BT40-CKB1TWN2026-84	●	20-26	BT40-CKB1-85	CKB1-TWN2026-35	84	19	120	85	1.12
BT40-CKB1TWN2531-84	●	25-31		CKB1-TWN2531-35	84	19	120	85	1.15
BT40-CKB2TWN3038-87	●	30-38	BT40-CKB2-85	CKB2-TWN3038-38	87	24	123	85	1.21
BT40-CKB3TWN3747-111	●	37-47	BT40-CKB3-95	CKB3-TWN3747-43	111	31	138	95	1.32
BT40-CKB3TWN3747-123	●		BT40-CKB3-125		123	31	168	125	1.46
BT40-CKB4TWN4659-118	●	46-59	BT40-CKB4-95	CKB4-TWN4659-50	118	39	145	95	1.54
BT40-CKB4TWN4659-148	●		BT40-CKB4-125		148	39	170	125	1.86
BT40-CKB5TWN5875-128	●	58-75	BT40-CKB5-95	CKB5-TWN5875-60	128	50	155	95	1.81
BT40-CKB5TWN5875-158	●		BT40-CKB5-125		158	50	185	125	2.35
BT40-CKB6TWN7496-143	●	74-96	BT40-CKB6-95	CKB6-TWN7496-75	143	64	170	95	2.20
BT40-CKB6TWN7496-173	●		BT40-CKB6-125		173	64	200	125	3.05
BT40-CKB6TWN96122-143	●	96-122	BT40-CKB6-95	CKB6-TWN96122-75	143	64	170	95	2.20
BT40-CKB6TWN96122-173	●		BT40-CKB6-125		173	64	200	125	3.05

●Stock ○Availabie upon Order

TWN Rough Boring Head





Ordering Code	Stock	Dc	YKL+TWN		PM	D	L	L1	Weight
BT50-CKB1TWN2026-102	●	20-26	BT50-CKB1-110	DKB31-TWN2026-35	102	19	145	110	3.92
BT50-CKB1TWN2531-102	●	25-31		DKB31-TWN2531-35	102	19	145	110	9.96
BT50-CKB2TWN3038-105	●	30-38	BT50-CKB2-110	DKB32-TWN3038-38	105	24	148	110	4.06
BT50-CKB3TWN3747-118	●	37-47	BT50-CKB3-125	DKB33-TWN3747-43	118	31	168	125	4.28
BT50-CKB3TWN3747-133	●		BT50-CKB3-165		133	31	208	165	4.39
BT50-CKB4TWN4659-132	●	46-59	BT50-CKB4-125	DKB34-TWN4659-50	132	39	175	125	4.61
BT50-CKB4TWN4659-145	●		BT50-CKB4-165		145	39	215	165	4.81
BT50-CKB5TWN5875-147	●	58-75	BT50-CKB5-125	DKB35-TWN5875-60	147	50	175	125	4.73
BT50-CKB5TWN5875-187	●		BT50-CKB5-165		187	50	225	165	5.17
BT50-CKB6TWN7496-162	●	74-96	BT50-CKB6-125	Cx36-TWN7496-75	162	64	200	125	5.26
BT50-CKB6TWN7496-202	●		BT50-CKB6-165		202	64	240	165	6.02
BT50-CKB6TWN7496-242	●		BT50-CKB6-205		242	64	280	205	6.78
BT50-CKB6TWN95122-162	●	75-122	BT50-CKB6-125	Cx36-TWN95122-75	162	64	200	125	5.26
BT50-CKB6TWN95122-202	●		BT50-CKB6-165		202	64	240	165	6.02
BT50-CKB6TWN95122-242	●		BT50-CKB6-205		242	64	280	205	6.78

●Stock ○Availabie upon Order

EWN Micro-Finishing Boring Head



Fig·1

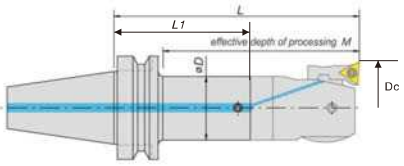
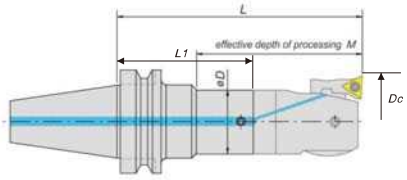


Fig.2

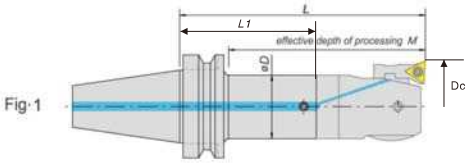


Ordering Code	Stock	Dc	CKB+EWN		M	D	L	L1	Weight
BT30-CKB1EWN2031-78	●	20-31	BT30-CKB1-80	CKB1-EWN2031-32.5	78	19	112.5	80	0.56
BT30-CKB1EWN2536-78	●	25-36		CKB1-EWN2536-32.5	78	19	112.5	80	0.56
BT30-CKB2EWN3045-81	●	30-45	BT30-CKB2-80	CKB2-EWN3045-35	81	24	115	80	0.60
BT30-CKB3EWN3756-98	●	37-56	BT30-CKB3-80	CKB3-EWN3756-40	98	31	120	80	0.76
BT30-CKB4EWN4671-105	●	46-71	BT30-CKB4-80	CKB4-EWN4671-47	105	39	127	80	1.05
BT40-CKB1EWN2031-82	●	20-31	BT40-CKB1-85	CKB1-EWN2031-32.5	82	19	117.5	85	1.19
BT40-CKB1EWN2536-82	●	25-36		CKB1-EWN2536-32.5	82	19	117.5	85	1.19
BT40-CKB2EWN3045-84	●	30-45	BT40-CKB2-85	CKB2-EWN3045-35	84	24	120	85	1.28
BT40-CKB3EWN3756-108	●	37-56	BT40-CKB3-95	CKB3-EWN3756-40	108	31	135	95	1.38
BT40-CKB3EWN3756-120	●		BT40-CKB3-125		120	31	155	125	1.51
BT40-CKB4EWN4671-115	●	46-71	BT40-CKB4-95	CKB4-EWN4671-47	115	39	142	95	1.62
BT40-CKB4EWN4671-145	●		BT40-CKB4-125		145	39	172	135	1.97
BT40-CKB5EWN5890-125	●	58-90	BT40-CKB5-95	CKB5-EWN5890-57	125	50	152	95	1.92
BT40-CKB5EWN5890-155	●		BT40-CKB5-125		155	50	182	135	2.48
BT40-CKB6EWN73130-147	●	73-130	BT40-CKB6-95	CKB6-EWN73130-71	147	64	166	95	2.32
BT40-CKB6EWN73130-177	●		BT40-CKB6-125		177	64	196	135	3.18

●Stock ○Availabie upon Order

EWN Micro-Finishing Boring Bar





Fig·1

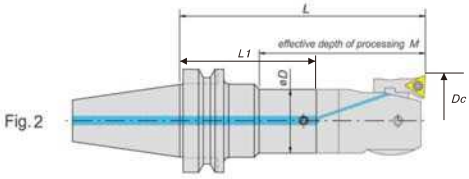


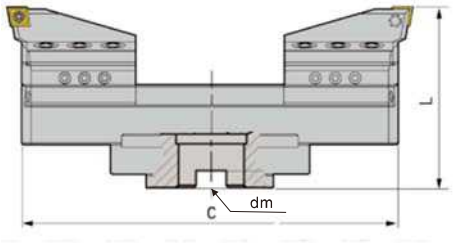
Fig.2

Ordering Code	Stock	Dc	CKB+EWN		PM	D	L	L1	Weight
BT50-CKB1EWN2031-100	●	20-31	BT50-CKB1-110	CKB1-EWN2031-32.5	100	19	142.5	110	4.05
BT50-CKB1EWN2536-100	●	25-36		CKB1-EWN2536-32.5	100	19	142.5	110	4.05
BT50-CKB2EWN3045-102	●	30-45	BT50-CKB2-110	CKB2-EWN3045-35.5	102	24	145.5	110	4.15
BT50-CKB3EWN3756-115	●	37-56	BT50-CKB3-125	CKB3-EWN3756-40	115	31	165	125	4.38
BT50-CKB3EWN3756-130	●		BT50-CKB3-165		130	31	205	165	4.50
BT50-CKB4EWN4671-129	●	46-71	BT50-CKB4-125	CKB4-EWN4671-47	129	39	172	125	4.75
BT50-CKB4EWN4671-144	●		BT50-CKB4-165		144	39	212	165	4.93
BT50-CKB5EWN5890-139	●	58-90	BT50-CKB5-125	CKB5-EWN5890-57	139	50	182	125	4.85
BT50-CKB5EWN5890-154	●		BT50-CKB5-165		154	50	222	165	5.27
BT50-CKB6EWN73130-158	●	73-130	BT50-CKB6-125	CKB6-EWN73130-71	158	64	196	125	5.35
BT50-CKB6EWN73130-198	●		BT50-CKB6-165		198	64	236	165	6.21
BT50-CKB6EWN73130-238	●		BT50-CKB6-205		238	64	276	205	6.91

●Stock ○Availabie upon Order

Indexable Two-blade Rough Boring Head

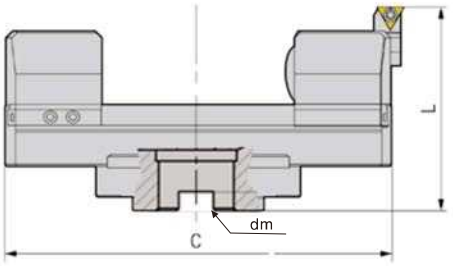




Ordering Code	Stock	dm	L	C	Insert	Cutter block	Extension Side	Clamp	Screw	Screw	Wrench	Weight
RDH-D122-152-80L	●	32	84	122-152	CC..1204	RDH-CC12	HB122-152	RDH-HK	NLJ-M8	M5*13	T20	3
RDH-D151-211-80L	●			151-211			HB151-211					5
RDH-D210-290-80L	●			210-290			HB210-290					5.9
RDH-D290-370-80L	●			290-370			HB290-370					6.8
RDH-D370-450-80L	●			370-450			HB370-450					7.8
RDH-D450-550-80L	●			450-550			HB450-550					8.8
RDH-D550-650-80L	○			550-650			HB550-650					9.9
RDH-D650-750-80L	○			650-750			HB650-750					10.9

Indexable Two-blade Rough Boring Head





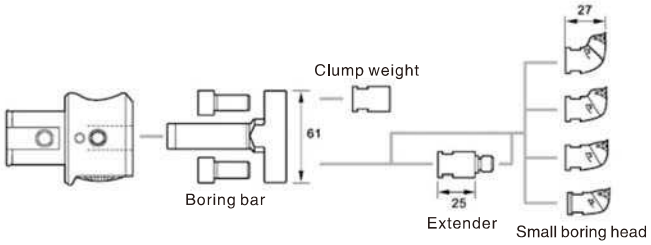
Ordering Code	Stock	dm	L	C	Insert	Boring	Clump weight	Extension Side	Screw	Screw	Wrench	Weight
CDH-D122-152-84L	●	32	84	122-152	TP..0902	CDH-TT	CDH-PHK	HB122-152	NLJ-M8	M5*13	T20	3
CDH-D151-211-84L	●			151-211	TP..1103			HB151-211				4.8
CDH-D210-290-84L	●			210-290				HB210-290				5.2
CDH-D290-370-84L	●			290-370				HB290-370				6.1
CDH-D370-450-84L	●			370-450				HB370-450				7
CDH-D450-550-84L	●			450-550				HB450-550				8
CDH-D550-650-84L	●			550-650				HB550-650				9
CDH-D650-750-84L	●			650-750				HB650-750				10

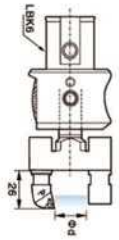
●Stock ○Availabie upon Order

Outside diameter boring series

☐S type Processing range:Φ0.5~Φ27





	Ordering Code	Stock	Processing diameter Φd	EW boring head	Boring bar	Clump weight	Extender	Small boring head	Blade
	BJ16BE36A	○	0.5–9	WBH2–50LBK6 (1.05Kg)	ST16–SL27–55 (0.20Kg)	BW–M10 (0.02Kg)	M1010–25 (0.02Kg)	BE36A	TP08
	BJ16BE28A	○	9–17					BE28A	
	BJ16BE22A	○	17–23					BE22A	
	BJ16BE18A	○	23–27					BE18A	

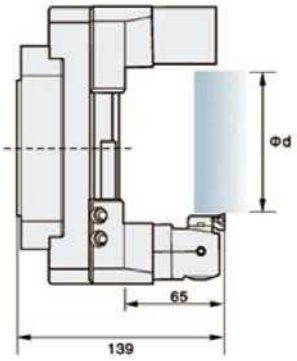
1.The maximum,minmum diameter of processing is the use of nose radius R0.2 insert value;
2.Without blade,please order;
3.The processing,the spindle–should be reversed;
4.Please note the eccentric changes when the interference range will also change.

Outside diameter boring series

☐L type Processing range:Φ21~Φ662





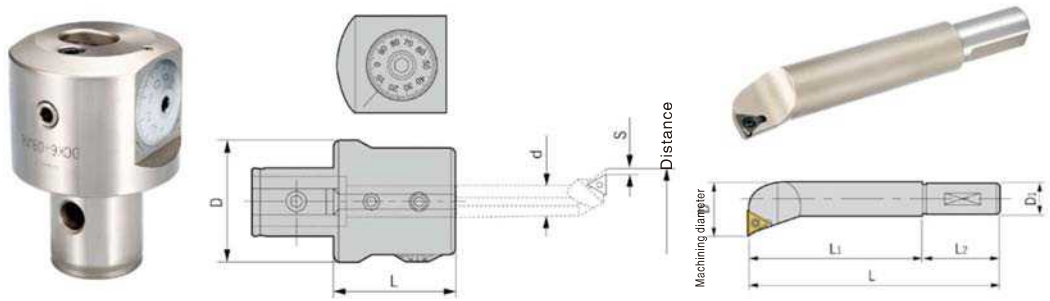


Ordering Code	Stock	dm	L	D	Insert	Boring	Clump weight	Clamp	Screw	Screw	Wrench	Weight
CDH–D8–55–78L	●	32	84	8–55	TP..1103	CKB4–EWN4671	CKB4–PHK	CDH–CKB4	NLJ–M8	M5*13	T20	3
CDH–D30–120–78L	●			30–120								4.8

1.The maximum,minmum diameter of processing is the use of tool nose radius R0.4 insert value;
2.WBH boring head with 1 blade holder(ENF4–1),but not with the blade,please order;
3.The processing,the spindle should be reversed;
4.The use of FL135.FL200 nose direction and drive health direction and plase,when using the FL135/90.FL200/90 tip direction and perpendicular to the direction of transmission key.

●Stock ○Availabie upon Order

WBJ16 Fine-tune Precision Boring Tools

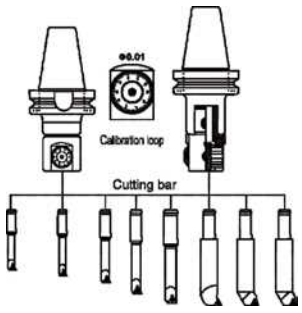


Ordering Code	Stock	Boring Range	D	d	L	Tuning precision	Stroke	Weight(Kg)
WBJ16	●	Φ6-Φ50	63	16	50	Φ0.01mm	6.0mm	1.2

Ordering Code	Stock	Boring Range	D1	L1	L	Applicable Insert	Clamp Screw	Spanner	Weight(Kg)
WBJ-1606-24	○	6-9	16	24	73	WBGT0601...L	M2x4	T6	0.014
WBJ-1608-32	●	8-11		32	80	TBGT0601...L	M2x5		0.077
WBJ-1610-40	●	10-13		40	87				0.082
WBJ-1612-53	●	12-17		53	98	TPGH0902...L	M2.5x6	T8	0.095
WBJ-1616-53	●	16-21		68	110				0.143
WBJ-1620-83	●	20-26		83	125				0.203
WBJ-1625-90	●	25-31		90	128	TPGH1103...L	M3.0x7	T8	0.275
WBJ-1630-90	●	30-42		90	128				0.275
WBJ-1640-90	●	40-50		90	128				0.286

WBJ16 Fine-tune Precision Boring Tools(8PCS)



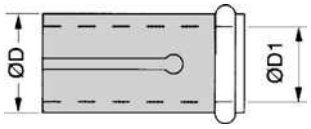


Ordering Code	Stock	Boring Range	Spinde Handle Model	Head NO.	Bar Keep Out	Weight(Kg)
BT40-WBJ16-8P	●	8-50	BT40-LBK6-55	16	WBJ-16..	9.1
BT50-WBJ16-8P	●	8-50	BT50-LBK6-65		WBJ-16..	11.7
NT40-WBJ16-8P	●	8-50	NT40-LBK6-55		WBJ-16..	8.5
NT50-WBJ16-8P	●	8-50	NT50-LBK6-55		WBJ-16..	10.3
SK40-WBJ16-8P	●	8-50	SK40-LBK6-55		WBJ-16..	6.9
SK50-WBJ16-8P	●	8-50	SK50-LBK6-65		WBJ-16..	10.5

●Stock ○Availabie upon Order

Collet for Tungsten Carbide Small Diameter Modular Boring Bar Series Type EC

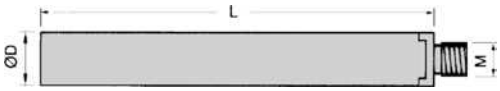




Ordering Code	Stock	D(mm)	d1(mm)	Applicable Carbide Tool Holder
EC1608	○	16	8	ST08.HC08
EC1610	○	16	10	ST10.HC10
EC1612	○	16	12	ST12.HC12
EC1614	○	16	14	St14

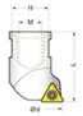
Tungsten Carbide Small Diameter Modular Boring Bar,ST Type





Ordering Code	Stock	L(mm)	D(mm)	M(mm)	Applicable Carbide Tool Holder	Applicable Bushing
ST08-W5-100L	●	100	8	M5	BE09A.BE10.5A	EC1608
ST10-W6-110L	●	110	10	M6	BE12A	EC1610
ST12-W6-120L	●	120	12		BE14A.BE16A	EC1612
ST14-W6-160L	●	160	14		BE16A	EC1614
ST16-W10-160L	●	160	16	M10	BE18A BE20A BE22A BE24A BE26A BE28A BE30A BE32A BE34A BE36A BE38A BE40A	–

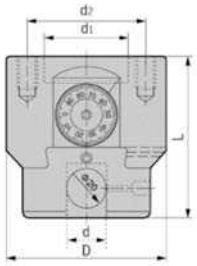
Boring Head,BE Type《Boring Range Φ9–Φ50mm》

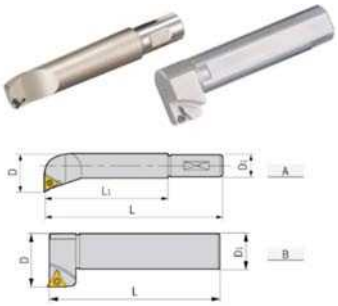
	Ordering Code	Stock	d(mm)	H(mm)	L(mm)	M(mm)	Insert	Clamp Screw	Wrench
 	BE09A	●	9	7	18	M5	TP..0802..	M2.2	T7
	BE10.5A	●	10.5						
	BE12A	●	12	8	23	M6			
	BE14A	●	14	10					
	BE16A	●	16						
	BE18A	●	18	14	27	M10			
	BE20A	●	20						
	BE22A	●	22						
	BE24A	●	24						
	BE26A	●	26						
	BE28A	●	28						
	BE30A	●	30						
	BE32A	●	32						
	BE34A	●	34						
	BE36A	●	36						
	BE38A	●	38						
	BE40A	●	40						

●Stock ○Availabie upon Order

NBH2084 Fine-tune Precision Boring Tools





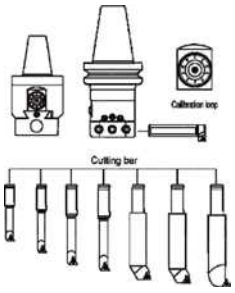


Ordering Code	Stock	D	d	d1	d2	L	Boring Range	Tuning precision	Stroke	Weight(Kg)
NBH2084	●	84	20	35	60	80	Φ8-Φ280	Φ0.01mm	28.0mm	3.0

Ordering Code	Stock	Boring Range	D1	L1	L	Applicable Inserts	Clamp Screw	Spanner	Weight(Kg)
SBJ-2008-32	●	8-11	20	32	80	TBGT0601..L	M2.0x5	T6	0.095
SBJ2010-40	●	10-13		40	87				0.095
SBJ2012-53	●	12-17		53	98	TPGH0902..L	M2.5x6	T8	0.12
SBJ2016-68	●	16-21		68	110				0.16
SBJ2020-83	●	20-130		83	123	TPGH1103..L	M3.0x7	T8	0.22
SBJ2025-96	●	25-135		96	137				0.34
SBJ2030-115	●	30-140		115	152				0.54
SBJ2020-L	●	120-280		84+BTL1	100				0.23

NBH2084 Fine-tune Precision Boring Tools(Set)



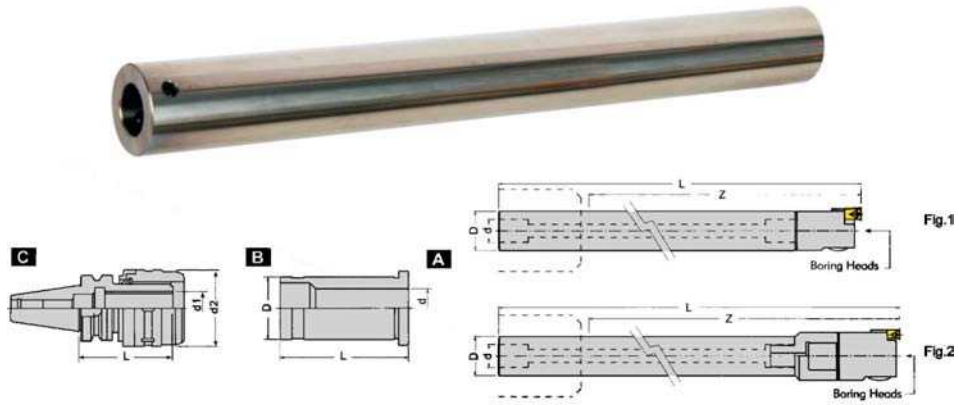


Ordering Code	Stock	Boring Range	Spinde Handle Model	Head NO.	Bar Keep Out	Weight(Kg)
BT40-NBH2084-8P	●	08-280	BT40-NBH-50	NBH2084	SBJ-20..	9.5
BT50-NBH2084-8P	●	08-280	BT50-NBH-55		SBJ-20..	12.0
NT40-NBH2084-8P	●	08-280	NT40-NBH-50		SBJ-20..	9.3
NT50-NBH2084-8P	●	08-280	NT50-NBH-55		SBJ-20..	10.8
SK40-NBH2084-8P	●	08-280	SK40-NBH-50		SBJ-20..	9.5
SK50-NBH2084-8P	●	08-280	SK50-NBH-55		SBJ-20..	12.0
R8-NBH-2084-8P	●	08-280	R8-NBH-50		SBJ-20..	10.0

●Stock ○Availabie upon Order

Super Hard Solid Tungsten Carbide Boring Bar

《Boring Range form Φ20–Φ75mm》



Ordering Code	Stock	Fig	Φdmm Internal Dia.	Dmm External Dia.	L(mm)	Z(mm)	Applicable Boring Heads	Weight (Kg)
SC19–CKB1–150L	●	1	11	19	225	150	CKB1	0.8
SC19–CKB1–200L	●				275	200	CKB1	1
SC24–CKB2–180L	●		14	24	260	180	CKB2	1.45
SC24–CKB2–240L	●				320	240	CKB2	1.8
SC32–CKB3–240L	●		18	32	320	240	CKB3	2.8
SC32–CKB3–310L	●				390	310	CKB3	3.2
SC32–CKB3–280L	●	2	18	32	365	280	CKB3	3.1
SC32–CKB4–280L	●		22	39	365	280	CKB4	3.1
SC32–CKB3–350L	●	2	18	32	435	350	CKB3	3.8
SC32–CKB4–350L	●		22	39	435	350	CKB4	3.8
SC40–CKB4–310L	●	1	22	40	390	310	CKB4	5
SC40–CKB4–400L	●				480	400	CKB4	6.5
SC40–CKB4–360L	●	2	22	40	445	360	CKB4	5.6
SC40–CKB5–360L	●		28	50	445	360	CKB5	5.6
SC40–CKB4–450L	●	2	22	40	535	450	CKB4	7.1
SC40–CKB5–450L	●		28	50	535	450	CKB5	7.1

1.Super hard tungsten carbide boring bar made from high toughness compound is tough and durable,highly materializing features of super hardness,high rigidity and extra vibration reslstance,most suitable or extra depth boring(10D);

2.Standard internal coolant hole is built in everv size of the bar,best for coofing and chip evacuation in deep hole boring;

3.Featuring straight shank structure,the bar can be adjusted to different working lengths;

4.On both ends of main body integrated are soldering holes.One hole will be superseded by the other upon breaking.This will reduce your cost greatly increase the value of boring car.

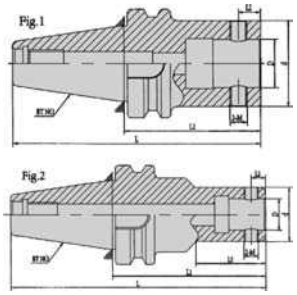
★Boring head is not included

★CKB3/4 and CKB4/5 are extensions with magnifying diameter

●Stock ○Availabie upon Order

LBK Boring Holder



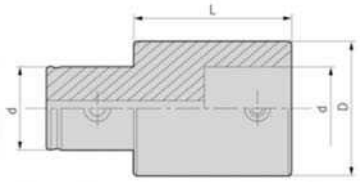


Ordering Code	Stock	Type	L	L2	D	d	D1	G	Weight
BT30-CKB1-80	●	Fig.1	80	46	19	11	31	M4x0.5	0.75
BT30-CKB2-80	●		80	46	24	14	31	M5x0.5	0.83
BT30-CKB3-80	●		80	58	31	18	31	M6x0.75	0.91
BT30-CKB4-80	●		80	58	39	22	39	M8x0.75	1.02
BT40-CKB1-85	●		85	49	19	11	31	M4x0.5	1.18
BT40-CKB1-115	●		115	79	19	11	31	M4x0.5	1.21
BT40-CKB2-85	●		85	49	24	14	31	M5x0.5	1.21
BT40-CKB2-115	●		115	79	24	14	31	M5x0.5	1.27
BT40-CKB3-95	●		95	68	31	18	31	M6x0.75	1.32
BT40-CKB3-125	●		125	80	31	18	37	M6x0.75	1.46
BT40-CKB3-155	●	Fig.2	155	85	31	18	37	M6x0.75	1.62
BT40-CKB4-95	●	Fig.1	95	68	39	22	39	M8x0.75	1.54
BT40-CKB4-125	●		125	98	39	22	39	M8x0.75	1.86
BT40-CKB4-155	●		155	128	39	22	46	M8x0.75	2.15
BT40-CKB4-185	●	Fig.2	185	120	39	22	46	M8x0.75	2.42
BT40-CKB5-95	●	Fig.1	95	68	49	28	49	M10x1	1.81
BT40-CKB5-125	●		125	98	49	28	49	M10x1	2.35
BT40-CKB5-155	●		155	128	49	28	49	M10x1	2.75
BT40-CKB5-185	●		185	155	49	28	49	M10x1	3.05
BT40-CKB6-95	●		95	68	63	36	63	M12x1	2.75
BT40-CKB6-125	●		125	98	63	36	63	M12x1	3.20
BT40-CKB6-155	●		155	128	63	36	63	M12x1	3.40
BT40-CKB6-185	●		185	158	63	36	63	M12x1	3.60
BT50-CKB1-110	●		110	67	19	11	27	M4x0.5	3.93
BT50-CKB1-145	●	Fig.2	145	75	19	11	27	M4x0.5	4.05
BT50-CKB2-110	●	Fig.1	110	67	24	14	31	M5x0.5	4.08
BT50-CKB2-145	●	Fig.2	145	75	24	14	35	M5x0.5	4.20
BT50-CKB3-125	●	Fig.1	125	75	31	18	36	M6x0.75	4.10
BT50-CKB3-165	●	Fig.2	165	90	31	18	36	M6x0.75	4.35
BT50-CKB4-125	●	Fig.1	125	82	39	22	45	M8x0.75	4.35
BT50-CKB4-165	●		165	95	39	22	45	M8x0.75	4.70
BT50-CKB4-205	●	Fig.2	205	110	39	22	45	M8x0.75	5.02
BT50-CKB5-125	●	Fig.1	125	82	49	28	49	M10x1	4.75
BT50-CKB5-165	●		165	95	49	28	58	M10x1	5.20
BT50-CKB5-205	●	Fig.2	205	110	49	28	58	M10x1	5.53
BT50-CKB5-245	●		245	150	49	28	58	M10x1	5.95
BT50-CKB6-125	●	Fig.1	125	87	63	36	73	M12x1	5.15
BT50-CKB6-165	●		165	127	63	36	73	M12x1	6.10
BT50-CKB6-205	●	Fig.2	205	165	63	36	73	M12x1	7.40
BT50-CKB6-245	●		245	150	63	36	73	M12x1	7.75
BT50-CKB6-285	●		285	185	63	36	73	M12x1	8.10

●Stock ○Availabie upon Order

Extenstion(Constant Diameter)

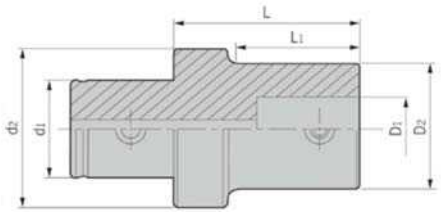




Ordering Code	Stock	d (mm)	D (mm)	L (mm)	Applicable Boring Heads	Weight (Kg)
CKB1-1-30L	●	11	19	30	CKB1	0.07
CKB2-2-30L	●	14	24	30	CKB2	0.1
CKB3-3-30L	●	18	31	30	CKB3	0.15
CKB4-4-45L	●	22	39	45	CKB4	0.4
CKB5-5-60L	●	28	50	60	CKB5	0.8
CKB6-6-60L	●	36	64	60	CKB6	1.4

Extenstion(Reducing)





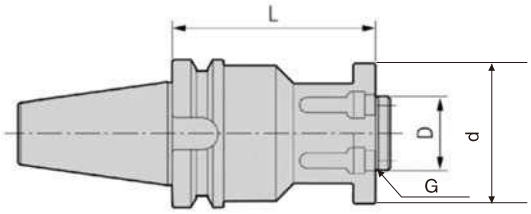
Ordering Code	Stock	d1 (mm)	d2 (mm)	D1 (mm)	D2 (mm)	L (mm)	L1 (mm)	Applicable Boring Heads	Weight (Kg)
CKB2-1-36L	●	14	24	14	24	36	30	CKB2/CKB1	0.1
CKB3-1-41L	●	18	31	14	24	41	30	CKB3/CKB1	0.15
CKB3-2-37L	●			11	19	37	25	CKB3/CKB2	0.15
CKB4-1-58L	●	22	39	14	24	58	40	CKB4/CKB1	0.3
CKB4-2-50L	●			18	31	50	36	CKB4/CKB2	0.3
CKB4-3-50L	●			22	39	50	37	CKB4/CKB3	0.35
CKB5-1-60L	●	28	50	11	19	60	40	CKB5/CKB1	0.45
CKB5-2-54L	●			14	24	54	35	CKB5/CKB2	0.45
CKB5-2-74L	●			14	24	74	55	CKB5/CKB2	0.5
CKB5-3-47L	●			18	31	47	29	CKB5/CKB3	0.5
CKB5-3-72L	●			18	31	72	54	CKB5/CKB3	0.6
CKB5-4-42L	●			22	39	42	25	CKB5/CKB4	0.5
CKB5-4-67L	●			22	39	67	50	CKB5/CKB4	0.7
CKB6-1-70L	●	36	64	11	19	70	40	CKB6/CKB1	0.9
CKB6-2-63L	●			14	24	63	45	CKB6/CKB2	0.7
CKB6-2-93L	●			14	24	93	75	CKB6/CKB2	0.8
CKB6-3-56L	●			18	31	56	39	CKB6/CKB3	0.75
CKB6-3-96L	●			18	31	96	79	CKB6/CKB3	0.95
CKB6-4-51L	●			22	39	51	35	CKB6/CKB4	0.85
CKB6-4-101L	●			22	39	101	85	CKB6/CKB4	1.3
CKB6-5-41L	●			36	64	41	25	CKB6/CKB5	0.85
CKB6-5-91L	●			36	64	91	75	CKB6/CKB5	1.45

●Stock ○Availabie upon Order

Large Size Boring Bar BT NO–DM–L1

◎BT NO taper shank executives At3 standard;
◎Tolerance for D inner bore;
◎Entire center cooling is good for throuth coolant and antivibration.



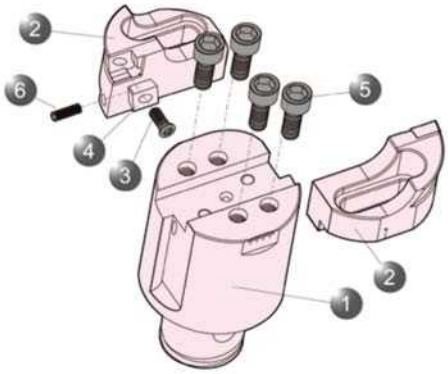


Ordering Code	Stock	L	D	d	G	Weight
BT40–DM32–60	●	60	100	32	4–M12	2.42
BT50–DM32–100	●	100	100	32	4–M12	6.3
BT50–DM32–150	●	150	100	32	4–M12	9.2
BT50–DM32–200	●	200	100	32	4–M12	11.1
BT50–DM32–250	●	250	100	32	4–M12	12.9
BT50–DM32–300	●	300	100	32	4–M12	14.8

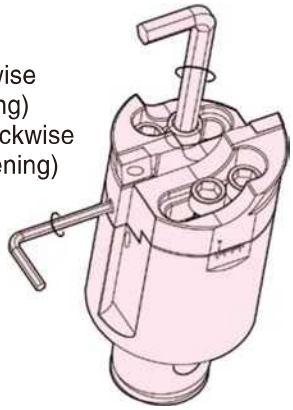
●Stock ○Availabie upon Order

TWN Twin–bit Rough Boring Head Operating Guide Line

1. Boring body
2. Insert holder
3. Insert screw
4. Insert
5. Locking screw
6. Adjusting screw



Step 1:Clockwise (Locking)
Step 3:Anticlockwise (Loosening)
Step 2
Step 4

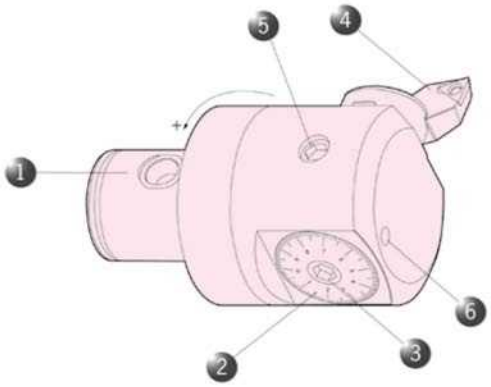


Sequence Of Use

Please operate the following step(1–6)according to the diagram figured:
Step1.Loosening the fixed screws on the blade bearing.
Step2.Rotating and adjusting the side screws to move the blade bearing to an scheduled processing dimension.
Step3.Locking the fixed screws on the blade bearing.
Step4.Using proper force to rotate and adjust the screws to avoid the screw loose during cutting.

EWN16 Fine-tune Precision Boring Operating manual

1. CBH adapter
2. Micro adjusting knob
3. CBH body
4. Insert holder
5. Locking screw
6. Oil hole

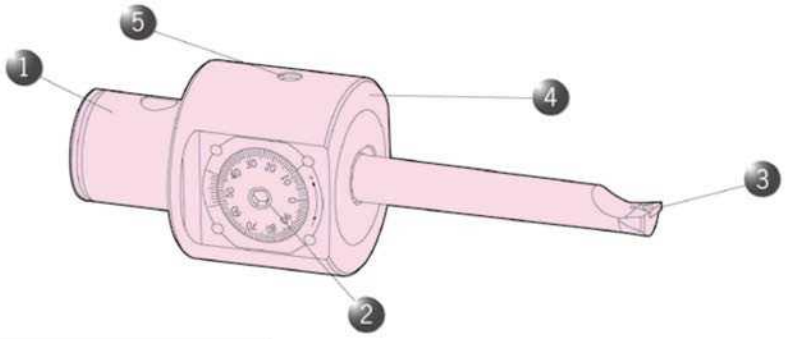


Sequence Of Use

Please operate the following step(1–5)according to the diagram figured:
Step1.Loosening the locking screws.
Step2.Rotating tune knob by clockwise to increase the processing diameter,the graduate is Φ0.01mm.
Step3.Rotating by anti–clockwise will decrease the processing diameter.
Step4.When adjusting the size of processing,please fine–tuning by the direction to ensure mirco adjustment precision.
Step5.When meet the demanded size,please use proper force to lock the fasten screws.

WBJ16 Fine-tune Precision Boring Operating manual

1. DBJ16 adapter
2. Micro adjusting knob
3. Insert
4. DBJ16 body
5. Locking screw

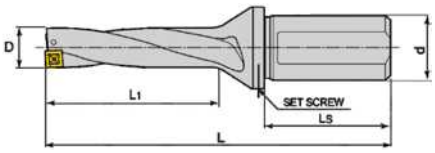


Sequence Of Use

Please operate the following step(1–6)according to the diagram figured:
Step1.Using special wrench to lock two M10 screws to fasten the cutting tools in the processing size range.
Step2.Loosening the fixed screws.
Step3.Rotating tune knob by clockwise to increase the processing diameter,the graduate is Φ0.01mm.
Step4.Rotating by anti–clockwise will decrease the processing diameter.
Step5.When adjusting the size of processing,please fine–tuning by the same dircetion to ensure mirco adjustment precision.
Step6.When meet the demanded size,please use the proper force to lock the spindle orientation to makespindle fix into the substance.

SPMG2D Fast Drilling(U Drill)



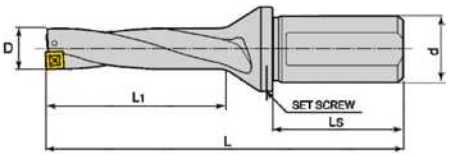


Ordering Code	Stock	D (mm)	L1 (mm)	L (mm)	d (mm)	LS (mm)	Insert	Screw	Wrench
C20-2D13-29SP05	●	13	29	88	20	50	SPMG050204	M2	T6
C20-2D13.5-30SP05	●	13.5	30	89					
C20-2D14-31SP05	●	14	31	90					
C20-2D14.5-32SP05	●	14.5	32	91					
C20-2D15-33SP05	●	15	33	92					
C20-2D15.5-34SP06	●	15.5	34	93			SPMG060204	M2.2	T6
C20-2D16-35SP06	●	16	35	94					
C20-2D16.5-36SP06	●	16.5	36	95					
C25-2D17-37SP06	●	17	37	108	25	56			
C25-3D17.5-38SP06	●	17.5	38	109					
C25-2D18-39SP06	●	18	39	110					
C25-2D18.5-40SP06	●	18.5	40	111					
C25-2D19-41SP06	●	19	41	112					
C25-2D19.5-42SP06	●	19.5	42	113					
C25-2D20-43SP06	●	20	43	114					
C25-2D20.5-44SP06	●	20.5	44	115					
C25-2D21-45SP06	●	21	45	116					
C25-2D21.5-46SP06	●	21.5	46	117					
C25-2D22-47SP07	●	22	47	118			SPMG07T38	M2.5	T8
C25-2D22.5-48SP07	●	22.5	48	119					
C25-2D23-49SP07	●	23	49	123					
C25-2D23.5-50SP07	●	23.5	50	124					
C25-2D24-51SP07	●	24	51	125					
C25-2D24.5-52SP07	●	24.5	52	126	32	60			
C25-2D25-53SP07	●	25	53	127					
C32-2D25.5-54SP07	●	25.5	54	134					
C32-2D26-55SP07	●	26	55	135					
C32-2D26.5-56SP07	●	26.5	56	136					
C32-2D27-57SP07	●	27	57	137					
C32-2D27.5-58SP07	●	27.5	58	138					
C32-2D28-59SP09	●	28	59	139			SPMG090408	M3.5	T15
C32-2D28.5-60SP09	●	28.5	60	140					
C32-2D29-62SP09	●	29	62	143					
C32-2D29.5-63SP09	●	29.5	63	144					
C32-2D30-64SP09	●	30	64	148					
C32-2D31-66SP09	●	31	66	150					
C32-2D32-68SP09	●	32	68	152					
C32-2D33-70SP09	●	33	70	154					
C32-2D34-72SP11	●	34	72	156			SPMG110408	M4M	T15
C32-2D35-74SP11	●	35	74	158					
C32-2D36-76SP11	●	36	76	160					
C32-2D37-79SP11	●	37	79	169					
C32-2D38-81SP11	●	38	91	171					
C40-2D39-83SP11	●	39	83	183	40	70			
C40-2D40-85SP11	●	40	85	185					
C40-2D41-87SP11	●	41	87	187					
C40-2D42-89SP14	●	42	89	189			SPMG140512	M5	T20
C40-2D43-91SP14	●	43	91	191					
C40-2D44-93SP14	●	44	93	193					
C40-2D45-95SP14	●	45	95	195					
C40-2D46-97SP14	●	46	97	197					
C40-2D47-99SP14	●	47	99	199					
C40-2D48-101SP14	●	48	101	201					
C40-2D49-103SP14	●	49	103	203					
C40-2D50-105SP14	●	50	105	205					

●Stock ○Availabie upon Order

SPMG3D Fast Drilling(U Drill)



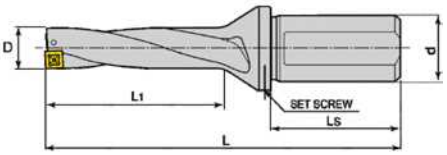


Ordering Code	Stock	D (mm)	L1 (mm)	L (mm)	d (mm)	LS (mm)	Insert	Screw	Wrench
C20-3D13-42SP05	●	13	42	101	20	50	SPMG050204	M2	T6
C20-3D13.5-44SP05	●	13.5	44	103					
C20-3D14-45SP05	●	14	45	104					
C20-3D14.5-47SP05	●	14.5	47	106					
C20-3D15-48SP05	●	15	48	107					
C20-3D15.5-50SP06	●	15.5	50	109			SPMG060204	M2.2	T6
C20-3D16-51SP06	●	16	51	110					
C20-3D16.5-53SP06	●	16.5	53	112					
C25-3D17-54SP06	●	17	54	125	25	56			
C25-3D17.5-56SP06	●	17.5	56	127					
C25-3D18-57SP06	●	18	57	128					
C25-3D18.5-59SP06	●	18.5	59	130					
C25-3D19-60SP06	●	19	60	131					
C25-3D19.5-62SP06	●	19.5	62	133					
C25-3D20-63SP06	●	20	63	134					
C25-3D20.5-65SP06	●	20.5	65	136					
C25-3D21-66SP06	●	21	66	137					
C25-3D21.5-68SP06	●	21.5	68	139					
C25-3D22-69SP07	●	22	69	140			SPMG07T38	M2.5	T8
C25-3D22.5-71SP07	●	22.5	71	142					
C25-3D23-72SP07	●	23	72	146					
C25-3D23.5-74SP07	●	23.5	74	148					
C25-3D24-75SP07	●	24	75	149					
C25-3D24.5-77SP07	●	24.5	77	151					
C25-3D25-78SP07	●	25	78	152					
C32-3D25.5-80SP07	●	25.5	80	160	32	60			
C32-3D26-81SP07	●	26	81	161					
C32-3D26.5-83SP07	●	26.5	83	163					
C32-3D27-84SP07	●	27	84	164					
C32-3D27.5-86SP07	●	27.5	86	166					
C32-3D28-87SP09	●	28	87	167			SPMG090408	M3.5	T15
C32-3D28.5-89SP09	●	28.5	89	169					
C32-3D29-91SP09	●	29	91	172					
C32-3D29.5-93SP09	●	29.5	93	174					
C32-3D30-94SP09	●	30	94	178					
C32-3D31-97SP09	●	31	97	181					
C32-3D32-100SP09	●	32	100	184					
C32-3D33-103SP09	●	33	103	187					
C32-3D34-106SP11	●	34	106	190			SPMG110408	M4	T15
C32-3D35-109SP11	●	35	109	193					
C32-3D36-112SP11	●	36	112	196					
C32-3D37-116SP11	●	37	116	206					
C32-3D38-119SP11	●	38	119	207					
C40-3D39-122SP11	●	39	122	222	40	70			
C40-3D40-125SP11	●	40	125	225					
C40-3D41-128SP11	●	41	128	228					
C40-3D42-131SP14	●	42	131	231			SPMG140512	M5	T20
C40-3D43-134SP14	●	43	134	234					
C40-3D44-137SP14	●	44	137	237					
C40-3D45-140SP14	●	45	140	240					
C40-3D46-143SP14	●	46	143	243					
C40-3D47-146SP14	●	47	146	246					
C40-3D48-149SP14	●	48	149	249					
C40-3D49-152SP14	●	49	152	252					
C40-3D50-155SP14	●	50	155	255					

●Stock ○Availabie upon Order

SPMG4D Fast Drilling(U Drill)



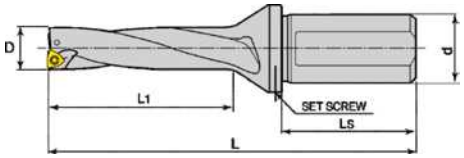


Ordering Code	Stock	D (mm)	L1 (mm)	L (mm)	d (mm)	LS (mm)	Insert	Screw	Wrench
C20-4D13-55SP05	●	13	55	114	20	50	SPMG050204	M2	T6
C20-4D13.5-57SP05	●	13.5	57	116					
C20-4D14-59SP05	●	14	59	118					
C20-4D14.5-61SP05	●	14.5	61	120					
C20-4D15-63SP05	●	15	63	122					
C20-4D15.5-65SP06	●	15.5	65	124			SPMG060204	M2.2	T6
C20-4D16-67SP06	●	16	67	126					
C20-4D16.5-69SP06	●	16.5	69	128					
C25-4D17-71SP06	●	17	71	142	25	56			
C25-4D17.5-73SP06	●	17.5	73	144					
C25-4D18-75SP06	●	18	75	146					
C25-4D18.5-77SP06	●	18.5	77	148					
C25-4D19-79SP06	●	19	79	150					
C25-4D19.5-81SP06	●	19.5	81	152					
C25-4D20-83SP06	●	20	83	154					
C25-4D20.5-85SP06	●	20.5	85	156					
C25-4D21-87SP06	●	21	87	158					
C25-4D21.5-89SP06	●	21.5	89	160					
C25-3D22-91SP07	●	22	91	162			SPMG07T38	M2.5	T8
C25-4D22.5-93SP07	●	22.5	93	164					
C25-4D23-95SP07	●	23	95	169					
C25-4D23.5-97SP07	●	23.5	97	171					
C25-4D24-99SP07	●	24	99	173					
C25-4D24.5-101SP07	●	24.5	101	175					
C25-4D25-103SP07	●	25	103	177					
C32-4D25.5-105SP07	●	25.5	105	185	32	60			
C32-4D26-107SP07	●	26	107	187					
C32-4D26.5-109SP07	●	26.5	109	189					
C32-4D27-111SP07	●	27	111	191					
C32-4D27.5-113SP07	●	27.5	113	193					
C32-4D28-115SP09	●	28	115	195			SPMG090408	M3.5	T15
C32-4D28.5-117SP09	●	28.5	117	197					
C32-4D29-120SP09	●	29	120	201					
C32-4D29.5-122SP09	●	29.5	122	203					
C32-4D30-124SP09	●	30	124	208					
C32-4D31-128SP09	●	31	128	212					
C32-4D32-132SP09	●	32	132	216					
C32-4D33-136SP09	●	33	136	220					
C32-4D34-140SP11	●	34	140	224			SPMG110408	M4M	T15
C32-4D35-144SP11	●	35	144	228					
C32-4D36-148SP11	●	36	148	232					
C32-4D37-153SP11	●	37	153	243					
C32-4D38-157SP11	●	38	157	247					
C40-4D39-161SP11	●	39	161	261	40	70			
C40-4D40-165SP11	●	40	165	265					
C40-4D41-169SP11	●	41	169	269					
C40-4D42-173SP14	●	42	173	273			SPMG140512	M5	T20
C40-4D43-177SP14	●	43	177	277					
C40-4D44-181SP14	●	44	181	281					
C40-4D45-185SP14	●	45	185	285					
C40-4D46-189SP14	●	46	189	289					
C40-4D47-193SP14	●	47	193	293					
C40-4D48-197SP14	●	48	197	297					
C40-4D49-201SP14	●	49	201	301					
C40-4D50-205SP14	●	50	205	305					

●Stock ○Availabie upon Order

WCMX2D Fast Drilling(U Drill)



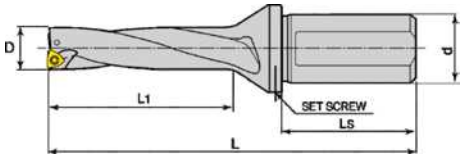


Ordering Code	Stock	D (mm)	L1 (mm)	L (mm)	DS (mm)	LS (mm)	Insert	Screw	Wrench
C25–2D15–33WC03	●	15	33	104					
C25–2D15.5–34WC03	●	15.5	34	105					
C25–2D16–35WC03	●	16	35	106					
C25–2D16.5–36WC03	●	16.5	36	107					
C25–2D17–37WC03	●	17	37	108					
C25–2D17.5–38WC03	●	17.5	38	109			WCMX030208	M2.5	T8
C25–2D18–39WC03	●	18	39	110					
C25–2D18.5–40WC03	●	18.5	40	111					
C25–2D19–41WC03	●	19	41	112					
C25–2D19.5–42WC03	●	19.5	42	113					
C25–2D20–43WC03	●	20	43	114	25	56			
C25–2D20.5–44WC03	●	20.5	44	115					
C25–2D21–45WC04	●	21	45	116					
C25–2D21.5–46WC04	●	21.5	46	117					
C25–2D22–47WC04	●	22	47	118					
C25–2D22.5–48WC04	●	22.5	48	119			WCMX040208	M2.5	T8
C25–2D23–49WC04	●	23	49	123					
C25–2D23.5–50WC04	●	23.5	50	124					
C25–2D24–51WC04	●	24	51	125					
C25–2D24.5–52WC04	●	24.5	52	126					
C25–2D25–53WC05	●	25	53	127					
C32–2D25.5–54WC05	●	25.5	54	134					
C32–2D26–55WC05	●	26	55	135					
C32–2D26.5–56WC05	●	26.5	56	136			WCMX050308	M3	T8
C32–2D27–57WC05	●	27	57	137					
C32–2D28–59WC05	●	28	59	139					
C32–2D29–62WC05	●	29	61	143					
C32–2D30–64WC05	●	30	64	148					
C32–2D31–66WC06	●	31	66	150	32	60			
C32–2D32–68WC06	●	32	68	152					
C32–2D33–70WC06	●	33	70	154					
C32–2D34–72WC06	●	34	72	156					
C32–2D35–74WC06	●	35	74	158					
C32–2D36–76WC06	●	36	76	160					
C32–2D37–79WC06	●	37	79	169					
C32–2D38–81WC06	●	38	81	171					
C40–2D39–83WC06	●	39	83	183			WCMX06T308	M3.5	T15
C40–2D40–85WC06	●	40	85	185					
C40–2D41–87WC06	●	41	87	187					
C40–2D42–89WC06	●	42	89	189					
C40–2D43–91WC06	●	43	91	191					
C40–2D44–93WC06	●	44	93	193					
C40–2D45–95WC06	●	45	95	195					
C40–2D46–97WC06	●	46	97	197					
C40–2D47–99WC06	●	47	99	199					
C40–2D48–101WC08	●	48	101	201					
C40–2D49–103WC06	●	49	103	203	40	70			
C40–2D50–105WC08	●	50	105	205					
C40–2D51–107WC08	●	51	107	207					
C40–2D52–109WC08	●	52	109	209					
C40–2D53–111WC08	●	53	111	211					
C40–2D54–113WC08	●	54	113	213			WCMX080412	M4	T15
C40–2D55–115WC08	●	55	115	215					
C40–2D56–120WC08	●	56	120	222					
C40–2D57–122WC08	●	57	122	224					
C40–2D58–124WC08	●	58	124	226					
C40–2D59–126WC08	●	59	126	228					
C40–2D60–128WC08	●	60	128	230					

●Stock ○Availabie upon Order

WCMX3D Fast Drilling(U Drill)



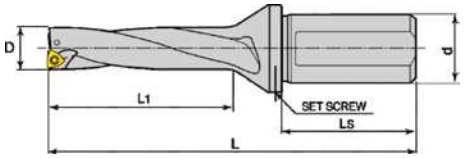


Ordering Code	Stock	D (mm)	L1 (mm)	L (mm)	DS (mm)	LS (mm)	Insert	Screw	Wrench
C25-3D15-48WC03	●	15	48	119					
C25-3D15.5-50WC03	●	15.5	50	121					
C25-3D16-51WC03	●	16	51	122					
C25-3D16.5-53WC03	●	16.5	53	124					
C25-3D17-54WC03	●	17	54	125					
C25-3D17.5-56WC03	●	17.5	56	127			WCMX030208	M2.5	T8
C25-3D18-57WC03	●	18	57	128					
C25-3D18.5-59WC03	●	18.5	59	130					
C25-3D19-60WC03	●	19	60	131					
C25-3D19.5-62WC03	●	19.5	62	133					
C25-3D20-63WC03	●	20	63	134	25	56			
C25-3D20.5-65WC03	●	20.5	65	136					
C25-3D21-66WC04	●	21	66	137					
C25-3D21.5-68WC04	●	21.5	68	139					
C25-3D22-69WC04	●	22	69	140					
C25-3D22.5-71WC04	●	22.5	71	142			WCMX040208	M2.5	T8
C25-3D23-72WC04	●	23	72	146					
C25-3D23.5-74WC04	●	23.5	74	148					
C25-3D24-75WC04	●	24	75	149					
C25-3D24.5-77WC04	●	24.5	77	151					
C25-3D25-78WC05	●	25	78	152					
C32-3D25.5-80WC05	●	25.5	80	160					
C32-3D26-81WC05	●	26	81	161					
C32-3D26.5-83WC05	●	26.5	83	163			WCMX050308	M3	T8
C32-3D27-84WC05	●	27	84	164					
C32-3D28-87WC05	●	28	87	167					
C32-3D29-91WC05	●	29	91	172					
C32-3D30-94WC05	●	30	94	178					
C32-3D31-97WC06	●	31	97	181	32	60			
C32-3D32-100WC06	●	32	100	184					
C32-3D33-103WC06	●	33	103	187					
C32-3D34-106WC06	●	34	106	190					
C32-3D35-109WC06	●	35	109	193					
C32-3D36-112WC06	●	36	112	196					
C32-3D37-116WC06	●	37	116	206					
C32-3D38-119WC06	●	38	119	209					
C40-3D39-122WC06	●	39	122	222			WCMX06T308	M3.5	T15
C40-3D40-125WC06	●	40	125	225					
C40-3D41-128WC06	●	41	128	228					
C40-3D42-131WC06	●	42	131	231					
C40-3D43-134WC06	●	43	134	234					
C40-3D44-137WC06	●	44	137	237					
C40-3D45-140WC06	●	45	140	240					
C40-3D46-143WC06	●	46	143	243					
C40-3D47-146WC06	●	47	146	246					
C40-3D48-149WC08	●	48	149	249					
C40-3D49-152WC06	●	49	152	252					
C40-3D50-155WC08	●	50	155	255	40	70			
C40-3D51-158WC08	●	51	158	258					
C40-3D52-161WC08	●	52	161	261					
C40-3D53-164WC08	●	53	164	264					
C40-3D54-167WC08	●	54	167	267			WCMX080412	M4	T15
C40-3D55-170WC08	●	55	170	270					
C40-3D56-176WC08	●	56	176	278					
C40-3D57-179WC08	●	57	179	281					
C40-3D58-182WC08	●	58	182	284					
C40-3D59-185WC08	●	59	185	287					
C40-3D60-188WC08	●	60	188	290					

●Stock ○Availabie upon Order

WCMX4D Fast Drilling(U Drill)





Ordering Code	Stock	D (mm)	L1 (mm)	L (mm)	DS (mm)	LS (mm)	Insert	Screw	Wrench
C25–4D15–63WC03	●	15	63	134					
C25–4D15.5–65WC03	●	15.5	65	136					
C25–4D16–67WC03	●	16	67	138					
C25–4D16.5–69WC03	●	16.5	69	140					
C25–4D17–71WC03	●	17	71	142					
C25–4D17.5–73WC03	●	17.5	73	144			WCMX030208	M2.5	T8
C25–4D18–75WC03	●	18	75	146					
C25–4D18.5–77WC03	●	18.5	77	148					
C25–4D19–79WC03	●	19	79	150					
C25–4D19.5–81WC03	●	19.5	81	152					
C25–4D20–83WC03	●	20	83	156	25	56			
C25–4D20.5–85WC03	●	20.5	85	158					
C25–4D21–87WC04	●	21	87	160					
C25–4D21.5–89WC04	●	21.5	89	162					
C25–4D22–91WC04	●	22	91	164					
C25–4D22.5–93WC04	●	22.5	93	179			WCMX040208	M2.5	T8
C25–4D23–95WC04	●	23	95	171					
C25–4D23.5–97WC04	●	23.5	97	173					
C25–4D24–99WC04	●	24	99	175					
C25–4D24.5–101WC04	●	24.5	101	177					
C25–4D25–103WC05	●	25	103	185					
C32–4D25.5–105WC05	●	25.5	105	187					
C32–4D26–107WC05	●	26	107	189					
C32–4D26.5–109WC05	●	26.5	109	191			WCMX050308	M3	T8
C32–4D27–111WC05	●	27	111	193					
C32–4D28–115WC05	●	28	115	195					
C32–4D29–120WC05	●	29	120	201					
C32–4D30–124WC05	●	30	124	208					
C32–4D31–128WC06	●	31	128	212	32	60			
C32–4D32–132WC06	●	32	132	216					
C32–4D33–136WC06	●	33	136	220					
C32–4D34–140WC06	●	34	140	224					
C32–4D35–144WC06	●	35	144	228					
C32–4D36–148WC06	●	36	148	232					
C32–4D37–153WC06	●	37	153	243					
C32–4D38–157WC06	●	38	157	247					
C40–4D39–161WC06	●	39	161	261			WCMX06T308	M3.5	T15
C40–4D40–165WC06	●	40	165	265					
C40–4D41–169WC06	●	41	169	269					
C40–4D42–173WC06	●	42	173	273					
C40–4D43–177WC06	●	43	177	277					
C40–4D44–181WC06	●	44	181	281					
C40–4D45–185WC06	●	45	185	285					
C40–4D46–189WC06	●	46	189	289					
C40–4D47–193WC06	●	47	193	293					
C40–4D48–197WC08	●	48	197	297					
C40–4D49–201WC06	●	49	201	301	40	70			
C40–4D50–205WC08	●	50	205	305					
C40–4D51–209WC08	●	51	209	309					
C40–4D52–213WC08	●	52	213	313					
C40–4D53–217WC08	●	53	217	317					
C40–4D54–221WC08	●	54	221	321			WCMX080412	M4	T15
C40–4D55–225WC08	●	55	225	325					
C40–4D56–232WC08	●	56	232	334					
C40–4D57–236WC08	●	57	236	338					
C40–4D58–240WC08	●	58	240	342					
C40–4D59–244WC08	●	59	244	346					
C40–4D60–248WC08	●	60	248	350					

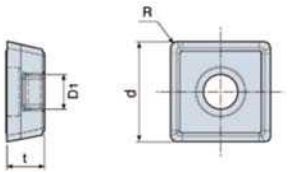
●Stock ○Availabie upon Order

SPMG–DG Drilling Inserts



M P

The material
●P1115
○P1225



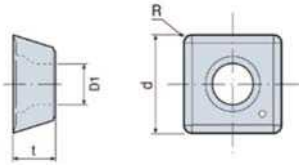
Ordering Code	NS4125	d(mm)	t(mm)	R(mm)	D1(mm)
SPMG 050204 NM	●	5.00	2.38	0.4	2.25
SPMG 060204 NM	●	6.00	2.38	0.4	2.61
SPMG 07T308 NM	●	7.94	3.97	0.8	2.85
SPMG 090408 NM	●	9.80	4.30	0.8	4.05
SPMG 110408 NM	●	11.50	4.80	0.8	4.45
SPMG 120408 NM	●	12.70	4.76	0.8	4.37
SPMG 140512 NM	●	14.30	5.20	1.2	5.75

SPGG–DA Drilling Inserts



N

The material
●N9115
○N9225



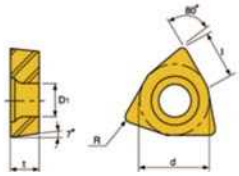
Ordering Code	NN9125	d(mm)	t(mm)	R(mm)	D1(mm)
SPMG 050204 NL	○	5.00	2.38	0.4	2.25
SPMG 060204 NL	○	6.00	2.38	0.4	2.61
SPMG 07T308 NL	○	7.94	3.97	0.8	2.85
SPMG 090408 NL	○	9.80	4.30	0.8	4.05
SPMG 110408 NL	○	11.50	4.80	0.8	4.45
SPMG 140512 NL	○	14.30	5.20	1.2	5.75

WCMX–WCGX–S Drilling Inserts



M P

The material
●P1115
○P1225

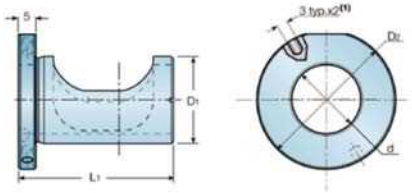


Ordering Code	NM1115	d(mm)	t(mm)	R(mm)	D1(mm)	l(mm)
WCMX 030204–NM	●	5.56	2.38	0.4	2.55	3.8
WCMX 040204–NM	●	6.35	2.38	0.4	2.8	4.3
WCMX 050308–NM	●	7.94	3.18	0.8	3.4	5.4
WCMX 06T308–NM	●	9.52	3.97	0.8	4.4	6.5
WCMX 080408–NM	●	12.70	4.76	0.8	5.5	8.7

●Stock ○Availabie upon Order

Eccentric Sleeve

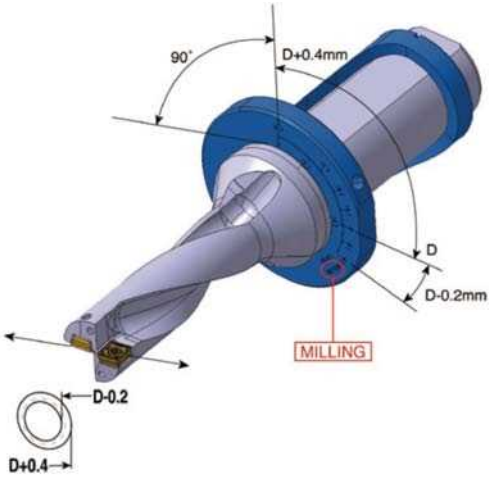




Ordering Code	Stock	d(mm)	D1(mm)	R(mm)	D2(mm)
PXTD 20x25	●	20	25	50	88
PXTD 25x32	●	25	32	50	94
PXTD 32x40	●	32	45	60	152
PXTD 40x50	●	40	50	60	157

Milling Application

When milling machine processing,such as the diameter of the need to change the normal processing diameter, adjustable axial location of eccentric sleeve.



If want to enlarge the aperture,clockwise rotating sleeve;

If want to reduce the aperture,the socket counterclockwise,specific as follows;

Bit diameter:30mm

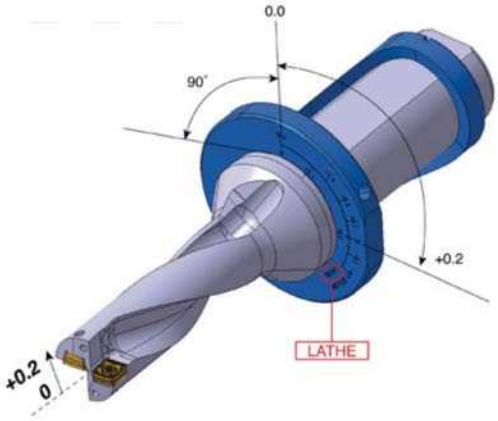


Lathe Application

Axial and eccentric sleeve can drill spindle axial overlap in the range of 0.2mm (the eccentric sleeve counterclockwise to increase the aperture adjustment)



When used in lathe processing,eccentric sleeve bit adjustable axial with spindle axial position



Lathe application technical information

Bit installation and test

First hole drilling processing–first 3mm–6mm depth when the blade,detecting core diameter range should be 0.2mm to 0.7mm

If you do not produce core diameter:

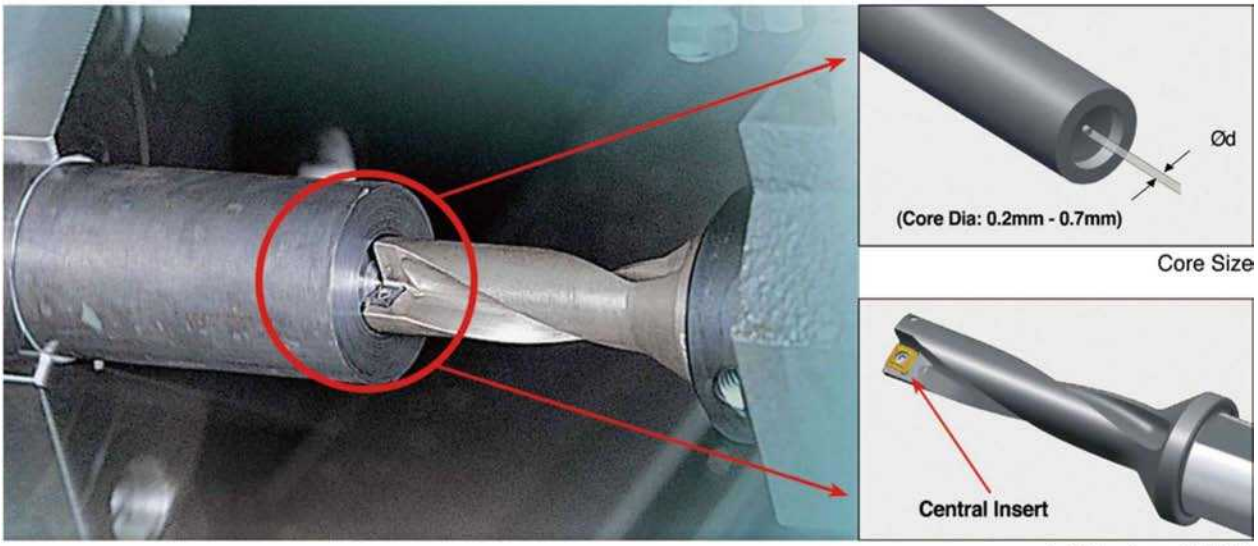
–blade and vibration drilling processing will produce crack

–please rotating drill shank of 180 degrees and then to test

If you core diameter size beyond the recommended data:

–please adjust offset the core diameter control in the recommended range

–otherwise the drilling process will cause overload and vibration

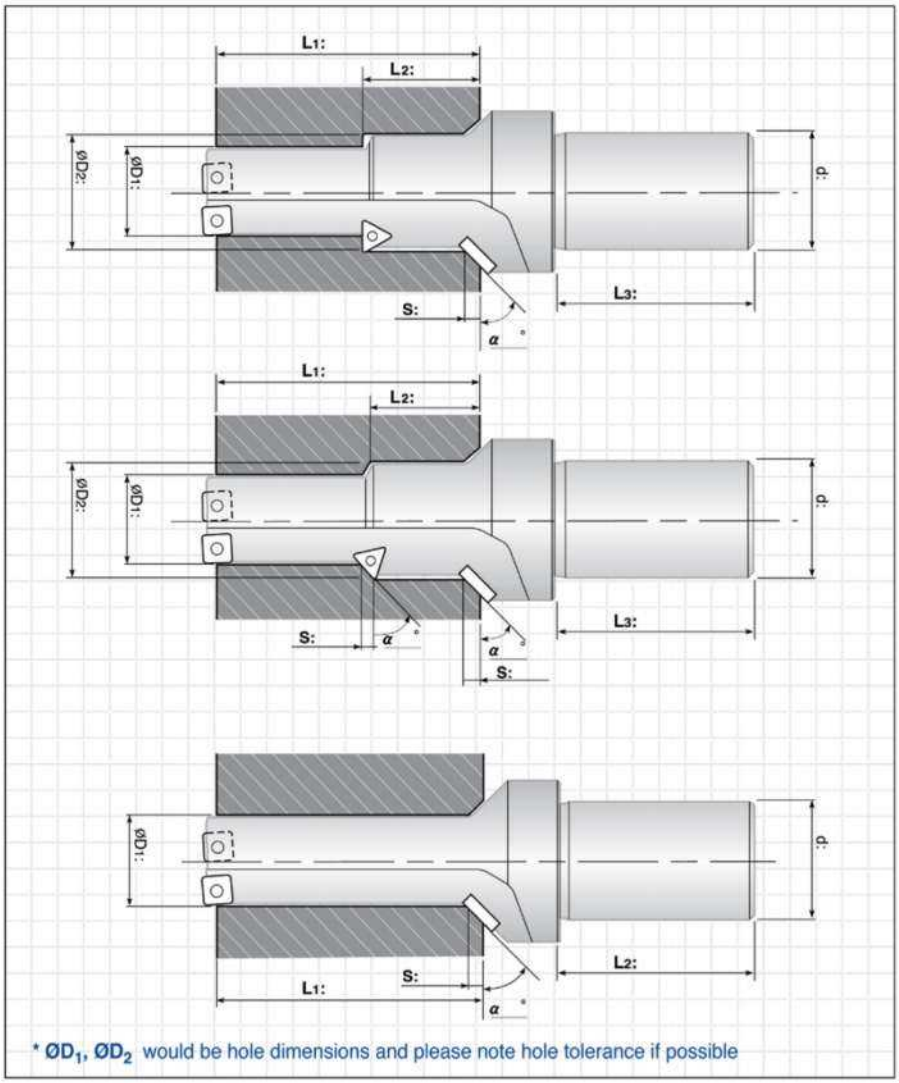


Initial set up of T-Drill

Cutting parameter for fast drill

Material	Carbon steel S50C,Q235		Alloy steel 25–35HRC 4Cr5MoSiV1,Cr12		Stainless steel SUS304,316,OCr19Ni9		Cast iron HT250,QT450		Aluminium alloy	
Speed / Dc	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev
12.5–15	160–250	0.05–0.12	120–180	0.06–0.12	150–200	0.05–0.10	150–250	0.06–0.12	250–350	0.06–0.12
16–21		0.06–0.15		0.08–0.15		0.06–0.12		0.08–0.15		0.08–0.15
22–28		0.06–0.18		0.10–0.20		0.08–0.15		0.10–0.20		0.10–0.20
29–33		0.07–0.20		0.12–0.25		0.09–0.16		0.12–0.25		0.12–0.20
34–41		0.08–0.25		0.12–0.25		0.10–0.18		0.15–0.25		0.12–0.25
42–50		0.08–0.25		0.12–0.25		0.10–0.20		0.18–0.30		0.12–0.25
51–60		0.06–0.15		0.08–0.15		0.06–0.12		0.10–0.20		0.12–0.25

Non standard size



Shank type

Cylindrical shank (ISO 9766)

Weldon shank

Whistle notch shank

Coolant supply

- Internal
- External

Machine Type

- Horizontal
- Vertical

Hole Type

- Blind hole
- Through hole

Workpieces

- Part:
- Material:
- Hardness:

Quantity

- pcs

Comment

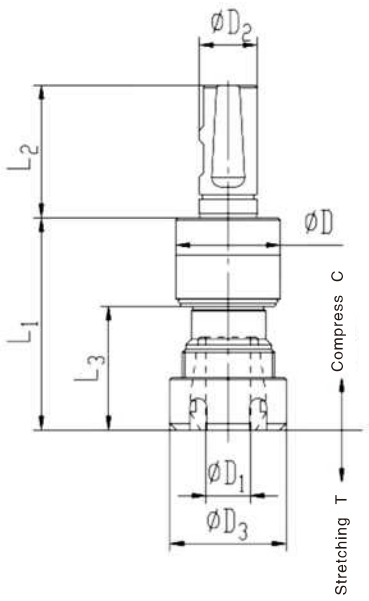
- Customer : _____ Contact : _____
- Address: _____
- Telephone: _____ Fax: _____
- E-mail: _____



Tool Holder Series







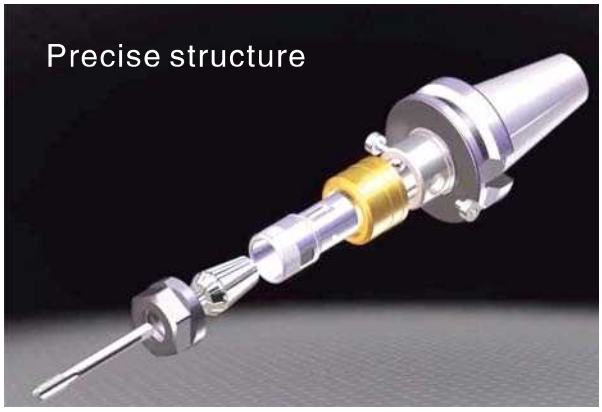
· ERNuts S type for the internal cooling type, A type for the cold type。

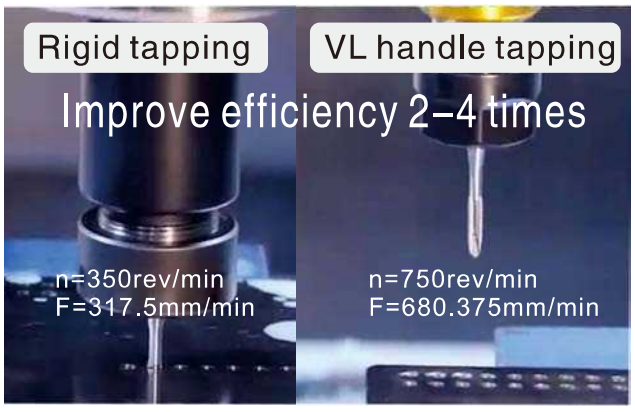
Unit：mm

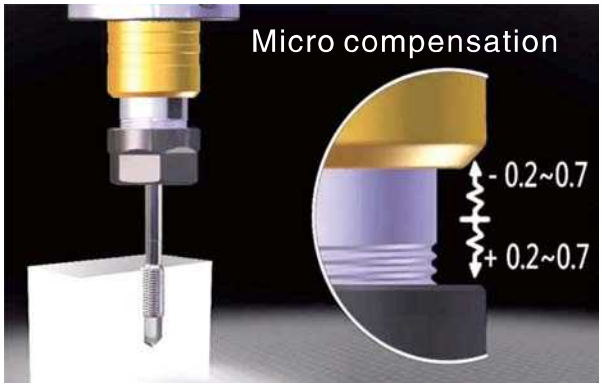
Model	Stock	ERJacket	ϕD	ϕD1	ϕD2	ϕD3	L1	L2	L3	C	T	Applicable taps
VLERS20–C25	●	ER20	34	4.5–10	25	34	68	57	45	0.5	0.5	M4–M12 (Nr.8–7/16)
VLERS32–C25	●	ER32	45	4.5–16	25	50	90	57	51	0.5	0.5	

●Stock ○Availabie upon Order

Characteristic





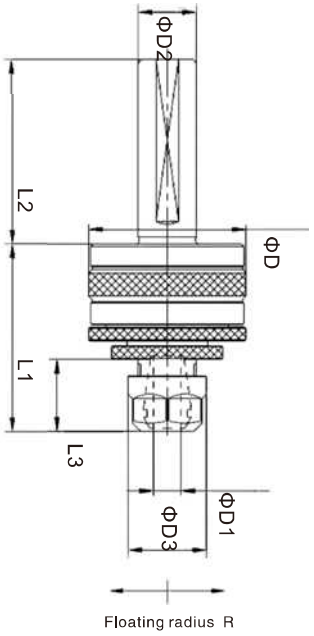




The problem we met usually as below,

1. The size of the hole is bigger ， the accuracy of the hole dimension doesn't meet the requirements.
2. The middle section of the hole is oversized and two ends section are smaller. Cylindricity doesn't meet the requirements
3. The roughness of the hole surface finish can not meet the requirements
4. The reamer is not durable.
5. The straightness of the hole is bad.
6. The quality of the hole machined is not stable when mass production





Unit：mm

Model	Stock	ERJacket	ϕD1	ϕD2	ϕD	ϕD3	L1	L2	L3	R (MAX)
SV-FTER20-D25	●	ER20	3-13	25	68	34	80	80	30	0.5

●Stock ○Availabie upon Order

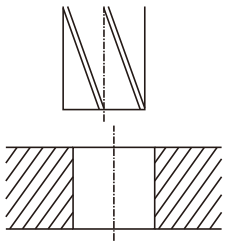
Characteristic

Using "floating reamer holder" , it's special can make the reamer find the center line of the main spindle, by auto floating the reamer in axial and redial direction. by this way the deviation between the center line of the reamer and the center line of the hole to be reamed can be auto compensated.

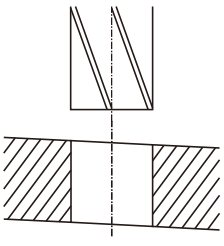
A、By using this floating holder, the reamer in the reaming process can complete the reaming task flexibly, smoothly and evenly, the reamed hole roundness and cylindrical degree can reach to 0.002mm, the roughness can reach to Ra0.2μm.

B、The spindle and center of the reamer in the floating range that can keep coincident with the center of the workpieces all the time. All flutes of the reamer cut evenly and no shock. It can make the life of the reamer longer more than 5 times.

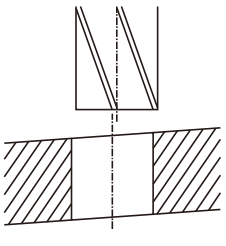
The possible deviation of the reaming process



1、The center line of the pre-processing hole deviated from the center line of the reamer.



2、There is angle between pre-processing hole center and reamer



3、The deviation in picture1 and picture2 are existing at the same time.

Milling Chuck

P238

Apu Drill Chuck Holder

P238

Collet Chuck

P239

SK Collet Chuck

P240

SK Collet Chuck

P241

FMA Face Mill Holder

P242

FMB Mill Holder

P243

SLN Side Lock End Mill Holder

P244

NC

P245

NC

P245

Shrink Chuck

P246

BT Hydrulic Chuck

P247

MX Collet Chuck

P247

TPM

P248

TER

P248

Taper Chuck

P249

SK□-L1

P250

FMB□-L1

P251

SLN□-L1

P252

ER Collet Chuck DIN69893

P253

End Mill Holder Weldon DIN69893

P253

FMB Face Mill Holder

P254

Micro compensation tapping tool holder

P255

Floating knife series

P255

ER Collet Chuck Holder

P256

ER Collet

P257

Sealed Collet with Slitting

P257

ER Straight Collet

P258

SC Sealed Collet

P258

SKS Collet

P259

MX Collet

P259

BT Pull Studs

P260

JT Pull Studs

P260

ER Clamping Nuts

P261

Clamping Nuts

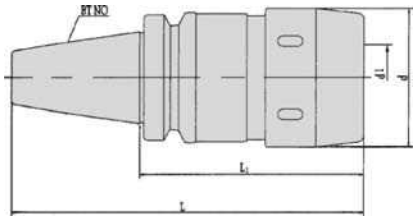
P261

Wrenches

P262

Milling Chuck

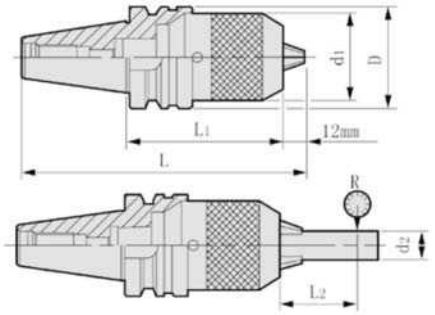




Ordering Code		Stock	d1	d	L1	Draw Bar
BT30	GMC16-80	○	16	45	80	M12
	GMC20-75	●	20	50	80	
	GMC25-90	●	25	55	80	
BT40	GMC16-90	○	16	45	90	M16
	GMC20-80	●	20	50	90	
	GMC25-90	●	25	55	90	
	GMC32-105	●	32	72.5	105	
BT50	GMC32-110	●	32	72.5	110	M24
	GMC32-165	●	32	72.5	150	
	GMC32-200	●	32	72.5	200	
	GMC32-250	●	32	72.5	250	
	GMC32-300	●	32	72.5	300	
	GMC42-110	●	42	82	110	
	GMC42-150	●	42	82	150	
	GMC42-200	●	42	82	200	
	GMC42-250	●	42	82	250	
	GMC42-300	●	42	82	300	

Apu Drill Chuck Holder



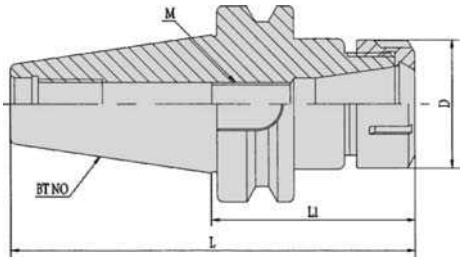


Ordering Code	Stock	L	L1	d
BT30-APU08-80	●	128.4	80	37
BT30-APU13-110	●	148.4	100	49
BT30-APU16-110	●	163.4	115	54
BT40-APU08-85	●	150.4	85	37
BT40-APU13-105	●	170.4	105	49
BT40-APU16-110	●	185.4	120	54
BT50-APU08-90	●	196.8	95	37
BT50-APU13-120	●	221.8	120	49
BT50-APU16-130	○	231.8	130	54
BT50-APU16-165	○	266.8	165	54
BT50-APU16-190	●	291.8	190	54

●Stock ○Availabie upon Order

Collet Chuck





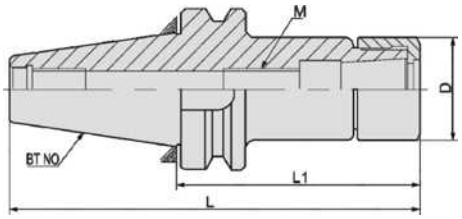
Ordering Code	Stock	Capacity	L	L1	D	Collet	NUT	Wrench
BT30-ER11-60	●	0.5-7	108.4	60	19	ER11	CAN-ER11	W-ER11A
-100			148.4	100	19			
BT30-ER16-60	●	1-10	108.4	60	28	ER16	CAN-ER16	W-ER16A
-100			148.4	100	28			
BT30-ER20-60	●	2-13	108.4	60	34	ER20	CAN-ER20	W-ER20A
-100			148.4	100	34			
BT30-ER25-60	●	2-16	108.4	60	42	ER25	CAUM-ER25	W-ER25UM
-100			148.4	100	42			
BT30-ER32-60	●	3-20	108.4	60	50	ER32	CAUM-ER32	W-ER32UM
-100			148.4	100	50			
BT40-ER11-70	●	0.5-7	135.4	70	19	ER11	CAN-ER11	W-ER11A
-100			165.4	100	19			
BT40-ER16-70	●	1-10	135.4	70	28	ER16	CAN-ER16	W-ER16A
-100			165.4	100	28			
-150			215.4	150	28			
BT40-ER20-70	●	2-13	135.4	70	34	ER20	CAN-ER20	W-ER20A
-100			165.4	100	34			
-150			215.4	150	34			
BT40-ER25-70	●	2-16	135.4	70	42	ER25	CAUM-ER25	W-ER25UM
-100			165.4	100	42			
-150			215.4	150	42			
BT40-ER32-70	●	3-20	135.4	70	50	ER32	CAUM-ER32	W-ER32UM
-100			165.4	100	50			
-150			215.4	150	50			
BT40-ER40-80	●	3-26	135.4	70	63	ER40	CAUM-ER40	W-ER40UM
-100			165.4	100	63			
-150			215.4	150	63			
BT50-ER16-70	●	1-10	171.8	70	28	ER16	CAN-ER16	W-ER16A
-100			201.8	100	28			
-150			251.8	150	28			
BT50-ER20-70	●	2-13	171.8	70	34	ER20	CAN-ER20	W-ER20A
-100			201.8	100	34			
-150			251.8	150	34			
BT50-ER25-70	●	2-16	171.8	70	42	ER25	CAUM-ER25	W-ER25UM
-100			201.8	100	42			
-150			251.8	150	42			
BT50-ER32-70	●	3-20	171.8	70	50	ER32	CAUM-ER32	W-ER32UM
-100			201.8	100	50			
-150			251.8	150	50			
BT50-ER40-80	●	3-26	181.8	80	63	ER40	CAUM-ER40	W-ER40UM
-100			201.8	100	63			
-150			251.8	150	63			
-200			301.8	200	63			

●Stock ○Availabie upon Order

SK Collet Chuck BT □–SK□–L1

◎BT taper shank is in conformity with AT3 standard
◎Concentricity of the inner and outer cone 0.005mm
◎Default balancing design





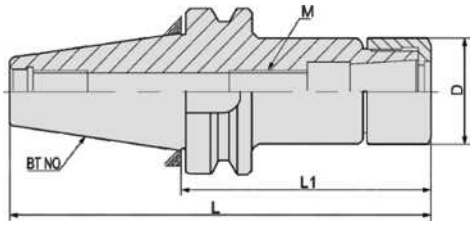
Ordering Code	Stock	Capacity	L	L1	D	Collet	Nut	Wrench
BT30–SK06–60	●	2–6	108.4	60	20	SK06	SK06	OW/SK06 or OB/SK06
–80	●		128.4	80				
BT30–SK10–70	●	2–10	118.4	70	27	SK10	SK10	OW/SK10 or OB/SK10
–95	●		143.4	95				
BT30–SK16–60	●	3–16	108.4	60	40	SK16	SK16	A/38–42 or OB/SK16
–80	●		128.4	80				
–100	●		148.4	100				
BT30–SK25–80	●	6–25.4	128.4	80	54	SK25	SK25	A/45–52 or OB/SK25
BT40–SK06–65	●	2–6	130.4	65	20	SK06	SK06	OW/SK06 or OB/SK06
–85	●		150.4	85				
BT40–SK10–55	●	2–10	120.4	55	27	SK10	SK10	OW/SK10 or OB/SK10
–80	●		145.4	80				
–100	●		165.4	100				
–150	●		215.4	150				
BT40–SK16–55	●	3–16	120.4	55	40	SK16	SK16	A/38–42 or OB/SK16
–80	●		145.4	80				
–100	●		165.4	100				
–150	●		215.4	150				
BT40–SK25–70	●	6–25.4	135.4	70	54	SK25	SK25	A/45–52 or OB/SK25
–95	●		160.4	95				
–110	●		175.4	110				
BT50–SK06–70	●	2–6	171.8	70	20	SK06	SK06	OW/SK06 or OB/SK06
–100	●		201.8	100				
BT50–SK10–100	●	2–10	201.8	100	27	SK10	SK10	OW/SK10 or OB/SK10
–130	●		231.8	130				
–150	●		251.8	150				
BT50–SK16–100	●	3–16	201.8	100	40	SK16	SK16	A/38–42 or OB/SK16
–130	●		231.8	130				
–150	●		251.8	150				
BT50–SK25–100	●	6–25.4	201.8	100	54	Sk25	Sk25	A/45–52 or OB/SK25
–130	●		231.8	130				
–150	●		251.8	150				

●Stock ○Availabie upon Order

SK Collet Chuck BT □-GSK□-L1

◎BT taper shank is in conformity with AT3 standard
◎Concentricity of the inner and outer cone 0.005mm
◎Default balancing design



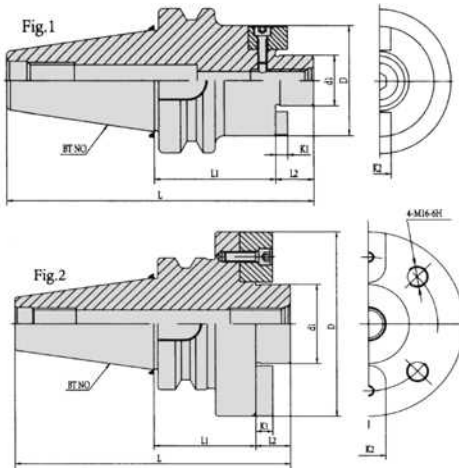


Ordering Code	Stock	Capacity	L	L1	D	Collet	Nut	Wrench
BT30-GSK06-60	●	2-6	108.4	60	20	SK06	GSK06	OB/SK06
-80	●		128.4	80				
BT30-GSK10-70	●	2-10	118.4	70	27	SK10	GSK10	OB/SK10
-95	●		143.4	95				
BT30-GSK16-60	●	3-16	108.4	60	40	SK16	GSK16	OB/SK16
-80	●		128.4	80				
-100	●		148.4	100				
-SK25-80	●	6-25.4	128.4	80	54	SK25	GSK25	OB/SK25
BT40-GSK06-65	●	2-6	130.4	65	20	SK06	GSK06	OB/SK06
-85	●		150.4	85				
BT40-GSK10-55	●	2-10	120.4	55	27	SK10	GSK10	OB/SK10
-80	●		145.4	80				
-100	●		165.4	100				
-150	●		215.4	150				
BT40-GSK16-55	●	3-16	120.4	55	40	SK16	GSK16	OB/SK16
-80	●		145.4	80				
-100	●		165.4	100				
-150	●		215.4	150				
BT40-GSK25-70	●	6-25.4	135.4	70	54	SK25	GSK25	OB/SK25
-95	●		160.4	95				
-110	●		175.4	110				
BT50-GSK06-70	●	2-6	171.8	70	20	SK06	GSK06	OB/SK06
-100	●		201.8	100				
BT50-GSK10-100	●	2-10	201.8	100	27	SK10	GSK10	OB/SK10
-130	●		231.8	130				
-150	●		251.8	150				
BT50-GSK16-100	●	3-16	201.8	100	40	SK16	GSK16	OB/SK16
-130	●		231.8	130				
-150	●		251.8	150				
BT50-GSK25-100	●	6-25.4	201.8	100	54	SK25	GSK25	OB/SK25
-130	●		231.8	130				
-150	●		251.8	150				

●Stock ○Availabie upon Order

FMA Face Mill Holder



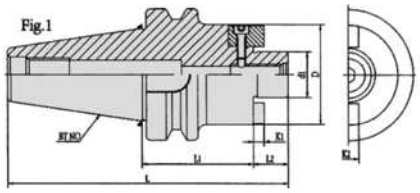


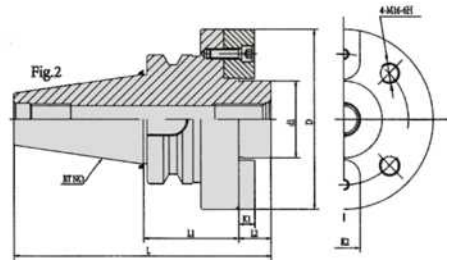
Ordering Code	Stock	Type	d1	D	L	L1	L2	K1	K2
BT30–FMA25.4–45	●	Fig.1	25.40	50	113.4	45	20	4.52	9.52
–60					128.4	60			
BT30–FMA31.75–45	●	Fig.1	31.75	60	115.4	45	22	6.70	12.70
BT40–FMA25.4–45	●	Fig.1	25.40	50	130.4	45	20	4.52	9.52
–60					145.4	60			
–90					175.4	90			
–105					190.4	105			
BT40–FMA31.75–45	●	Fig.1	31.75	60	132.4	45	22	6.70	12.70
–75					162.4	75			
–90					177.4	90			
BT40–FMA38.1–60	●	Fig.1	38.10	75	150.4	60	25	8.87	15.87
BT40–FMA50.8–60	●	Fig.1	50.80	98	161.4	60	36	9.75	19.05
BT50–FMA25.4–45	●	Fig.1	25.40	50	166.8	45	20	4.52	9.52
–90					211.8	90			
–150					271.8	150			
BT50–FMA31.75–45	●	Fig.1	31.75	60	168.8	45	22	6.70	12.70
–75					198.8	75			
–105					228.8	105			
BT50–FMA38.10–45	●	Fig.1	38.10	80	171.8	45	25	8.87	15.87
–75					201.8	75			
BT50–FMA50.80–45	●	Fig.1	50.80	98	182.8	45	36	9.75	19.05
–75					212.8	75			
BT50–FMA47.62–75	●	Fig.1	47.62	128.75	208.8	75	32	12.50	25.40

●Stock ○Availabie upon Order

FMB Mill Holder





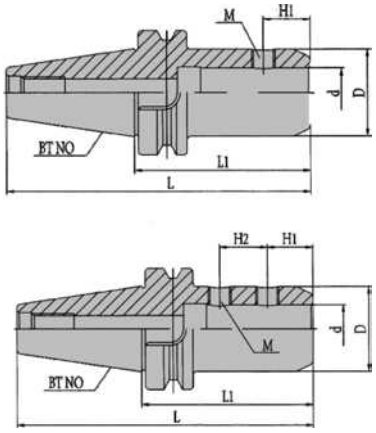


Ordering Code	Stock	Type	d1	d2	D	L	L1	L2	K1	K2	T
BT30-FMB22-45	●	Fig.1	22	26	45	109.9	45	16.5	4.8	10	M10x30
-60						124.9	60				
BT30-FMB27-45	●	Fig.1	27	33	54	111.9	45	18.5	5.8	12	M12x30
-60						126.9	60				
BT30-FMB32-60	●	Fig.1	32	41	58	130.4	60	22	6.8	14	M16x35
BT40-FMB22-45	●	Fig.1	22	26	48	126.9	45	16.5	4.8	10	M10x30
-60						141.9	60				
-100						181.9	100				
-150						231.9	150				
BT40-FMB27-45	●	Fig.1	27	33	60	128.9	45	18.5	5.8	12	M12x30
-60						143.9	60				
-100						183.9	100				
-150						233.9	150				
-200						283.9	200				
BT40-FMB32-60	●	Fig.1	32	41	62	147.9	60	22	6.8	14	M16x35
-100						187.4	100				
-150						237.4	150				
-200						287.4	200				
BT40-FMB40-60	●	Fig.1	40	48	80	150.4	60	25	8	16	M16x35
-100						190.4	100				
-150						240.4	150				
-200						290.4	200				
BT50-FMB22-60	●	Fig.1	22	26	48	178.3	60	16.5	4.8	10	M10x30
-100						218.3	100				
-150						268.3	150				
-200						318.3	200				
BT50-FMB27-60	●	Fig.1	27	33	60	180.3	60	18.5	5.8	12	M12x30
-100						220.3	100				
-150						270.3	150				
-200						320.3	200				
BT50-FMB32-60	●	Fig.1	32	41	73	183.8	60	22	6.8	14	M16x35
-100						223.8	100				
-150						273.8	150				
-200						323.8	200				
BT50-FMB40-60	●	Fig.1	40	48	80	186.8	60	25	8	16	M16x35
-100						226.8	100				
-150						276.8	150				
-200						326.8	200				
BT50-FMB60-75	●	Fig.1	60	-	140	201.8	75	25	12.5	25.4	
-100						226.8	100				

●Stock ○Availabie upon Order

SLN Side Lock End Mill Holder



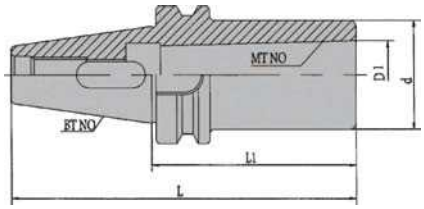


Ordering Code	Stock	Type	L	L1	H1	H2	M	D	d
BT30-SLN6-60	●	Fig.1	108.4	60	18		M6	25	6
BT30-SLN8-60	●	Fig.1					M8	28	8
BT30-SLN10-60	●	Fig.1			20		M10	35	10
BT30-SLN12-60	●	Fig.1			22.5		M12	42	12
BT30-SLN16-75	●	Fig.1	123.4	75	24		M14	48	16
BT30-SLN20-63	●	Fig.1	111.4	63	25		M16	52	20
BT30-SLN20-75	●	Fig.1	123.4	75					
BT30-SLN25-80	●	Fig.2	128.4	80	24	25	M18	65	25
BT30-SLN25-90	●	Fig.2	138.4	90					
BT30-SLN25-100	●	Fig.2	148.4	100					
BT40-SLN6-50	●	Fig.1	115.4	50	18		M6	25	6
BT40-SLN8-50	●	Fig.1					M8	28	8
BT40-SLN10-63	●	Fig.1	128.4	63	20		M10	35	10
BT40-SLN12-63	●	Fig.1			22.5		M12	42	12
BT40-SLN16-63	●	Fig.1			24		M14	48	16
BT40-SLN20-63	●	Fig.1			25		M16	52	20
BT40-SLN25-90	●	Fig.2	155.4	90	24	25	M18	65	25
BT40-SLN25-100	●	Fig.2	165.4	100					
BT40-SLN32-100	●	Fig.2				28	M20	72	32
BT40-SLN40-105	●	Fig.2	170.4	105	30	32		80	40
BT40-SLN42-105	●	Fig.2						82	42
BT50-SLN6-63	●	Fig.1	164.8	63	18		M6	25	6
BT50-SLN8-63	●	Fig.1					M8	28	8
BT50-SLN10-63	●	Fig.1			20		M10	35	10
BT50-SLN12-80	●	Fig.1	181.8	80	22.5		M12	42	12
BT50-SLN16-80	●	Fig.1			24		M14	48	16
BT50-SLN20-80	●	Fig.1			25		M16	52	20
BT50-SLN25-100	●	Fig.2	201.8	100	24	25	M18	65	25
BT50-SLN32-105	●	Fig.2	206.8	105		28	M20	72	32
BT50-SLN40-115	●	Fig.2	216.8	115	30	32		80	40
BT50-SLN42-100	●	Fig.2	221.8	120				82	42

●Stock ○Availabie upon Order

NC Morse Taper Holder(A Type)





Ordering Code	Stock	L	L1	D1	D
BT40-MTA1-45	●	110.4	45	12.065	25
-120	●	185.4	120		
BT40-MTA2-16	●	125.4	60	17.78	32
-120	●	185.4	120		
BT40-MTA3-75	●	140.4	75	23.825	40
-135	●	200.4	135		
BT40-MTA4-95	●	160.4	95	31.267	48
-165	●	230.4	165		
BT50-MTA1-45	●	146.8	45	12.065	25
-120	●	221.8	120		
BT50-MTA2-60	●	161.8	60	17.78	32
-135	●	236.8	135		
BT50-MTA3-75	●	176.8	75	23.825	40
-150	●	251.8	150		
BT50-MTA4-90	●	191.8	90	31.267	48
-180	●	281.8	180		
BT50-MTA5-105	●	211.8	110	44.399	63
-210	●	311.8	210		

NC Morse Taper Holder(B Type)



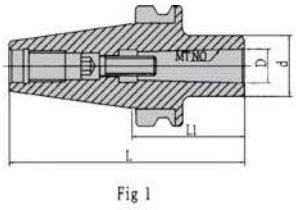


Fig 1

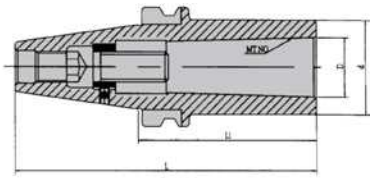


Fig 2

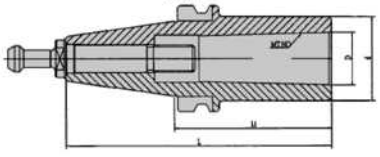


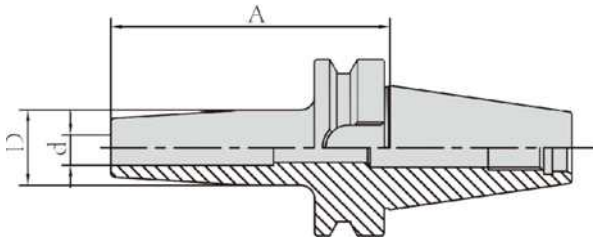
Fig 3

Ordering Code	Stock	Type	L	L1	D	d
BT40-MTB1-45	●	Fig.1	110.4	45	12.065	25
BT40-MTB2-50	●	Fig.1	115.4	50	17.78	32
BT40-MTB3-75	●	Fig.1,3	140.4	75	23.825	40
BT40-MTB4-90	●	Fig.3	155.4	90	31.267	48
BT40-MTB4-95	●	Fig.2	160.4	95	31.267	48
BT50-MTB1-45	●	Fig.1	146.8	45	12.065	25
BT50-MTB2-45	●	Fig.1	146.8	45	17.78	32
BT50-MTB3-60	●	Fig.1	161.8	60	23.825	40
BT50-MTB4-90	●	Fig.1	191.8	90	31.267	48
BT50-MTB5-120	●	Fig.2	221.8	120	44.399	63

●Stock ○Availabie upon Order

Shrink Chuck



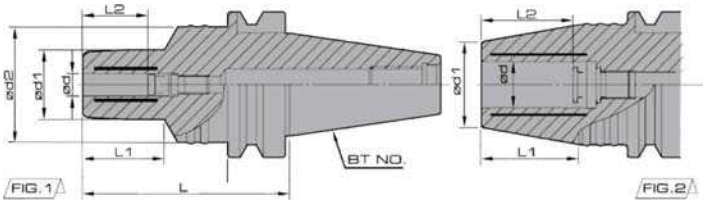


Ordering Code	Stock	d	A	D	D1	l1	l2
BT30–SRC6–90	○	6	90	24	32	41	10
BT30–SRC8–90	○	8	90	24	32	47	10
BT30–SRC10–90	○	10	90	27	34	47	10
BT30–SRC12–90	○	12	90	27	34	50	10
BT30–SRC14–90	○	14	90	33	42	50	10
BT30–SRC16–90	○	16	90	33	42	52	10
BT40–SRC6–90	●	6	90	21	27	36	10
BT40–SRC8–90	●	8	90	21	27	36	10
BT40–SRC10–90	●	10	90	24	32	41	10
BT40–SRC12–90	●	12	90	24	32	47	10
BT40–SRC14–90	●	14	90	27	34	47	10
BT40–SRC16–90	●	16	90	27	34	50	10
BT40–SRC18–90	●	18	90	33	42	50	10
BT40–SRC20–90	○	20	90	33	42	52	10
BT40–SRC25–100	○	25	100	44	53	58	10
BT40–SRC32–100	○	32	100	44	53	58	10
BT50–SRC4–100	○	4	100	14	22	20	5
BT50–SRC5–100	○	5	100	16	22	20	5
BT50–SRC6–100	○	6	100	21	27	36	10
BT50–SRC8–100	○	8	100	21	27	36	10
BT50–SRC10–100	○	10	100	24	32	41	10
BT50–SRC12–100	○	12	100	24	32	47	10
BT50–SRC14–100	○	14	100	27	34	47	10
BT50–SRC16–100	○	16	100	27	34	50	10
BT50–SRC18–110	○	18	110	33	42	50	10
BT50–SRC20–110	○	20	110	33	42	52	10
BT50–SRC25–120	○	25	120	44	53	58	10
BT50–SRC32–120	○	32	120	44	53	62	10

●Stock ○Availabie upon Order

BT Hydrulic Chuck

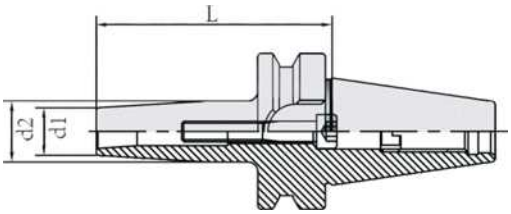




Ordering Code	Stock	Size(mm)					
		dm	D1	D2	L1	L	
BT30–HC06–80	○	06	28	50	35	80	–
BT30–HC08–80	○	08	30	50	35	80	–
BT30–HC10–80	○	10	32	50	35	80	–
BT30–HC12–90	●	12	35	50	43	90	HC12
BT30–HC16–95	●	16	38	50	51	95	–
BT30–HC20–95	●	20	42	50	52	95	HC20
BT40–HC06–85	○	06	28	50	35	85	–
BT40–HC08–85	○	08	30	50	35	85	–
BT40–HC10–85	○	10	32	50	35	85	–
BT40–HC12–90	●	12	35	50	43	90	HC12
BT40–HC16–95	●	16	38	50	51	95	–
BT40–HC20–95	●	20	42	50	52	95	HC20
BT40–HC25–115	●	25	57	70	63	115	–
BT50–HC12–100	●	12	35	50	43	100	HC12
BT50–HC16–105	●	16	38	50	51	105	–
BT50–HC20–105	●	20	42	50	52	105	HC20
BT50–HC25–120	●	25	57	70	63	120	–
BT50–HC32–120	●	32	64	70	65	120	HC32

MX Collet Chuck



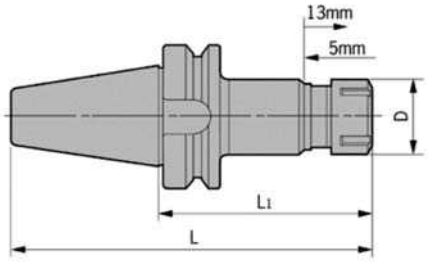


Ordering Code	Stock	Clamping Range	L	L1	D	
BT30–MX8–90	○	2–8	90	36	20	MX8
BT30–MX12–105	○	4–12	105	35	30	MX12
BT40–MX8–85	○	2–8	85	36	20	MX8
BT40–MX8–120	○	2–8	120	43	20	MX8
BT40–MX12–90	○	4–12	90	35	30	MX12
BT50–MX8–105	○	2–8	105	40	20	MX8
BT50–MX8–135	○	2–8	135	43	20	MX8
BT50–MX8–165	○	2–8	165	43	20	MX8
BT50–MX12–105	○	4–12	105	35	30	MX12

●Stock ○Availabie upon Order

TER Tension And Compression Taper Holder BT □-TER □-L1

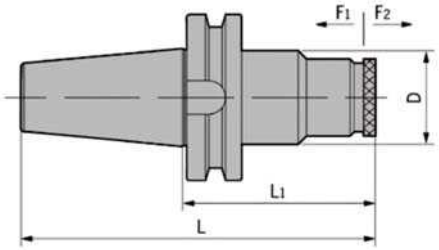




Ordering Code	Stock	L	L1	D	Range	Suitable Collet
BT30-TER16-75	●	123.4	75	28	M3-M10	ER16
BT30-TER20-90	●	138.4	90	34	M3-M10	ER20
BT40-TER16-120	●	185.4	120	28	M3-M10	ER16
BT40-TER20-100	●	165.4	100	34	M3-M17	ER20
BT40-TER32-120	●	185.4	120	50	M3-M20	ER32
BT50-TER16-120	●	221.8	120	28	M3-M10	ER16
BT50-TER20-100	●	201.8	100	24	M3-M17	ER20
BT50-TER32-120	●	221.8	120	50	M3-M20	ER32

TPM Quick Change Tension And Compression Taper Holder BT □-TPM □





Ordering Code	Stock	L	L1	d	Range	Expansion Capaci	
						F1	F2
BT30-TPM316	●	162	111.6	50	M3-16	6	12
BT40-TPM316	●	168	101	50	M3-16	6	12
BT40-TPM830	○	208	141	66	M8-M30	12.5	12.5
BT50-TPM316	●	222.8	118	50	M3-16	6	12
BT50-TPM830	●	235	130.2	66	M8-M30	12.5	12.5

●Stock ○Availabie upon Order

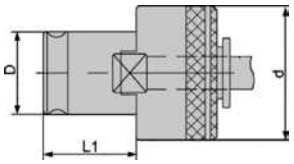
Taper Chuck BT □–L1 □–C

Technical specifications



Model	Stock	d	D	L1	Range
TPM316	●	32	19	21.5	M3–M16
TPM830	●	51.5	31	36	M8–M22

Taper chuck specifications table



TPC316

JIS	Φd	□	ISO	Φd	□	DIN371	Φd	□	DIN376	Φd	□
TPC316 M03 W1/8	4	3.2	TPC316 M03	3.15	2.5	TPC316 M03	3.5	2.7	TPC316 M03	2.2	–
TPC316 M04	5	4	TPC316 M04	4	3.15	TPC316 M04	4.5	3.4	TPC316 M04	2.8	2.1
TPC316 M05 W3/16	5.5	4.5	TPC316 M05	5	4	TPC316 M05	6	4.9	TPC316 M05	3.5	2.7
TPC316 M06 W1/4	6	4.5	TPC316 M06	6.3	5	TPC316 M06	6	4.9	TPC316 M06	4.5	3.4
TPC316 M08	6.2	5	TPC316 M08	8	6.3	TPC316 M08	8	6.2	TPC316 M08	6	4.9
TPC316 M10 W3/8	7	5.5	TPC316 M10	10	8	TPC316 M10	10	8	TPC316 M10	7	5.5
TPC316 M12	8.5	6.5	TPC316 M12	9	7.1				TPC316 M12	9	7
TPC316 M14	10.5	8	TPC316 M14	11.2	9				TPC316 M14	11	9
TPC316 M16	12.5	10	TPC316 M16	12.5	10				TPC316 M16	12	9
TPC316 W5/16	6.1	5									
TPC316 W7/16 PT1/8	8	6									
TPC316 W1/2	9	7									
TPC316 W5/8	12	9									
TPC316 PT1/4	11	9									

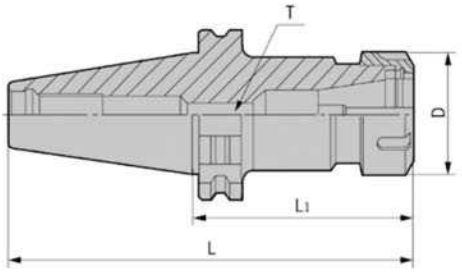
TPC830

JIS	Φd	□	ISO	Φd	□	DIN371	Φd	□	DIN376	Φd	□
TPC830 M08	6.2	5	TPC830 M08	8		TPC830 M08	8	6.2	TPC830 M08	6	4.9
TPC830 M10 W3/8	7	5.5	TPC830 M10	10		TPC830 M10	10	8	TPC830 M10	7	5.5
TPC830 M12	8.5	6	TPC830 M12	9					TPC830 M12	9	7
TPC830 M14	10.5	8	TPC830 M14	11.2					TPC830 M14	11	9
TPC830 M16	12.5	10	TPC830 M16	12.5					TPC830 M16	12	9
TPC830 M18 W3/4 PT3/8	14	11	TPC830 M18	14					TPC830 M18	14	11
TPC830 M20	15	12	TPC830 M20	14					TPC830 M20	16	12
TPC830 M22 W7/8	17	13	TPC830 M22	16					TPC830 M22	18	14.5
TPC830 M24	19	15	TPC830 M24	18					TPC830 M24	18	14.5
TPC830 M27 W1 PT5/8	20	15	TPC830 M27	20					TPC830 M27	20	16
TPC830 M30 PT3/4	23	17	TPC830 M30	20					TPC830 M30	22	18
TPC830 W5/16	6.1	5	TPC830 PT1/2	16							
TPC830 W7/16 PT1/8	8	6									
TPC830 M1/2	9	7									
TPC830 W5/8	12	9									
TPC830 PT1/4	11	9									
TPC830 PT1/2	18	14									

●Stock ○Availabie upon Order

Stock Collet Chuck BT □–SK□–L1



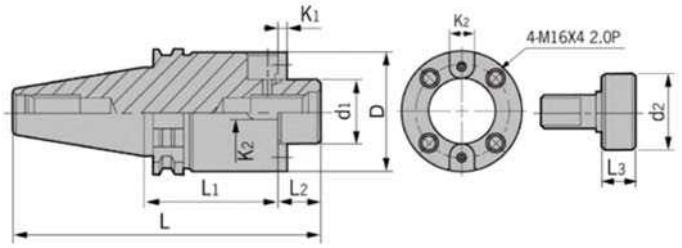


Ordering Code	Stock	Capacity	L	L1	D	Collet	Nut	Wrench
SK40–ER11–70	●	0.5–7	138.4	70	19	ER11	ER11–A	OW/ER11
–100	●		168.4	100	19			
SK40–ER16–70	●	1–10	138.4	70	28	ER16	ER16–A	OW/ER16
–100	●		168.4	100	28			
–150	●		218.4	150	28			
SK40–ER20–70	●	2–13	138.4	70	34	ER20	ER20–A	OW/ER20
–100	●		168.4	100	34			
–150	●		218.4	150	34			
SK40–ER25–70	●	2–16	138.4	70	42	ER25	ER25–UM	UW/ER25
–100	●		168.4	100	42			
–150	●		218.4	150	42			
SK40–ER32–70	●	3–20	138.4	70	50	ER32	ER32–UM	UW/ER32
–100	●		168.4	100	50			
–150	●		218.4	150	50			
SK40–ER40–80	●	3–26	148.4	80	63	ER40	ER40–UM	UW/ER40
–100	●		168.4	100	63			
–150	●		218.4	150	63			
SK50–ER16–70	●	1–10	171.8	70	28	ER16	ER16–A	OW/ER16
–100	●		201.8	100	28			
–150	●		251.8	150	28			
SK50–ER20–70	●	2–13	171.8	70	34	ER20	ER20–A	OW/ER20
–100	●		201.8	100	34			
–150	●		251.8	150	34			
SK50–ER25–70	●	2–16	171.8	70	42	ER25	ER25–UM	UW/ER25
–100	●		201.8	100	42			
–150	●		251.8	150	42			
SK50–ER32–70	●	3–20	171.8	70	50	ER32	ER32–UM	UW/ER32
–100	●		201.8	100	50			
–150	●		251.8	150	50			
SK50–ER40–80	●	3–26	171.8	80	63	ER40	ER40–UM	UW/ER40
–100	●		201.8	100	63			
–150	●		251.8	150	63			
–200	●		301.8	200	63			

●Stock ○Availabie upon Order

SK Shank Face Mill Holder SK □–FMB□–L1





Ordering Code	Stock	d1	d2	D	L	L1	L2	K1	K2	T
SK40–FMB22–45	●	22	26	48	129.9	45	16.5	4.8	10	M10X30
–60	●				144.9	60				
–100	●				184.9	100				
–150	●				234.9	150				
SK40–FMB27–45	●	27	33	60	131.9	45	18.5	5.8	12	M12X30
–60	●				146.9	60				
–100	●				186.9	100				
–150	●				236.9	150				
–200	●				286.9	200				
SK40–FMB32–60	●	32	41	62	150.4	60	22	6.8	14	M16X35
–100	●				190.4	100				
–150	●				240.4	150				
–200	●				290.4	200				
SK40–FMB40–60	●	40	48	80	153.4	60	25	8	16	M16X35
–100	●				193.4	100				
–150	●				243.4	150				
–200	●				293.4	200				
SK50–FMB22–60	●	22	26	48	178.25	60	16.5	4.8	10	M10X30
–100	●				218.25	100				
–150	●				268.25	150				
–200	●				318.25	200				
SK50–FMB27–60	●	27	33	60	180.25	60	18.5	5.8	12	M12X30
–100	●				220.25	100				
–150	●				270.25	150				
–200	●				320.25	200				
SK50–FMB32–60	●	32	41	73	183.75	60	22	6.8	14	M16X35
–100	●				223.75	100				
–150	●				273.75	150				
–200	●				333.75	200				
SK50–FMB40–60	●	40	48	80	186.75	60	25	8	16	M16X35
–100	●				226.75	100				
–150	●				276.75	150				
–200	●				326.75	200				

Note:1.When order center cooling or flangecooling,please specify.

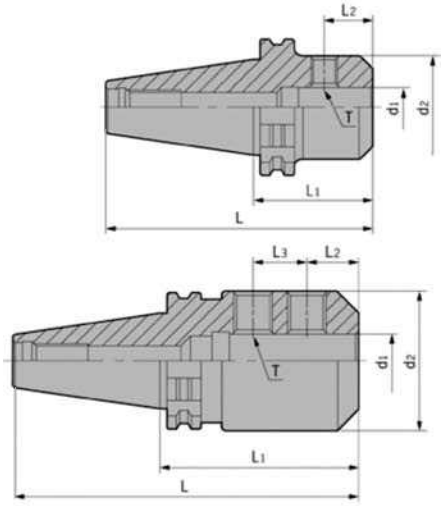
●Stock ○Availabie upon Order

SK Shank SLN Side Lock End Mill Holder
SK □–SLN□–L1

◎SK taper shank is in conformity with At3 standard
◎Tolerance H5 for inner bore d
◎Default balancing design

DIN68971/DIN1835





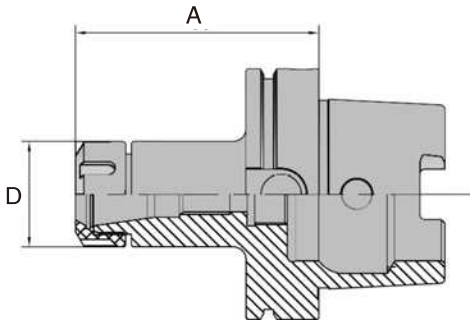
Ordering Code	Stock	Type	L	L1	H1	H2	M	D	d
SK30–SLN6–50	●	Fig.1	97.8	50	18	–	M6	25	6
SK30–SLN8–50	●	Fig.1					M8	28	8
SK30–SLN10–50	●	Fig.1			20		M10	35	10
SK30–SLN12–50	●	Fig.1			22.5		M12	42	12
SK30–SLN16–63	●	Fig.1	110.8	63		–	M14	48	16
SK30–SLN20–63	●	Fig.1					M16	52	20
SK40–SLN6–50	●	Fig.1	118.4	50	18	–	M6	25	6
SK40–SLN8–50	●	Fig.1					M8	28	8
SK40–SLN10–50	●	Fig.1			20		M10	35	10
SK40–SLN12–50	●	Fig.1			22.5		M12	42	12
SK40–SLN16–63	●	Fig.1	131.4	63	24	–	M14	48	16
SK40–SLN20–63	●	Fig.1			25		M16	52	20
SK40–SLN25–100	●	Fig.2	168.4	100	24	25	M18	65	25
SK40–SLN32–100	●	Fig.2			24	28	M20	72	32
SK50–SLN6–63	●	Fig.1	164.75	63	18	–	M6	25	6
SK50–SLN8–63	●	Fig.1					M8	28	8
SK50–SLN10–63	●	Fig.1			20		M10	35	10
SK50–SLN12–63	●	Fig.1			22.5		M12	42	12
SK50–SLN16–63	●	Fig.1			24		M14	48	16
SK50–SLN20–63	●	Fig.1			25		M16	52	20
SK50–SLN25–80	●	Fig.2	181.75	80	24	25	M18	65	25
SK50–SLN32–100	●	Fig.2	201.75	100		28	M20	72	32
SK50–SLN40–100	●	Fig.2			30	32	M20	90	40
SK50–SLN42–100	●	Fig.2			30	32	M20	100	42

Note:1.We can provide dynamic balabce G6.3/12000rpm,Price would be advanced.

●Stock ○Availabie upon Order

ER Collet Chuck DIN69893

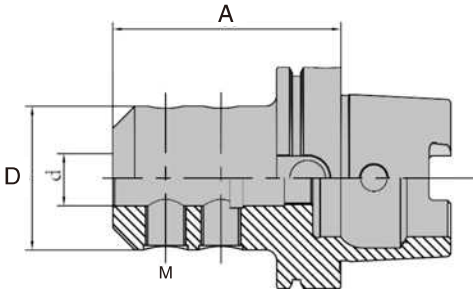




Ordering Code	Stock	Capacity	A	D	
HSK63A-ER16-100	●	1-10	100	32	ER16
HSK63A-ER20-100	●	1-12	100	38	ER20
HSK63A-ER25-100	●	2-16	100	42	ER25
HSK63A-ER32-100	●	2-20	100	50	ER32
HSK63A-ER16-160	●	1-10	160	32	ER16
HSK63A-ER20-160	●	1-12	160	38	ER20
HSK63A-ER25-160	●	2-16	160	42	ER25
HSK63A-ER32-160	●	2-20	160	50	ER32
HSK100A-ER32-100	●	2-20	100	50	ER32

End Mill Holder Weldon DIN69893



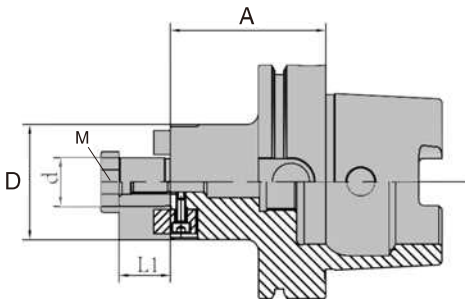


Ordering Code	Stock	d	A	D	M
HSK63A-SLA16-80	●	16	80	48	M14
HSK63A-SLA20-80	●	20	80	52	M16
HSK63A-SLA25-110	●	25	110	65	M18
HSK63A-SLA32-110	●	32	110	72	M20
HSK63A-SLA40-125	●	40	125	80	M20
HSK100A-SLA16-100	●	16	100	48	M14
HSK100A-SLA20-100	●	20	100	52	M16
HSK100A-SLA25-100	●	25	100	65	M18
HSK100A-SLA32-100	●	32	100	72	M20
HSK100A-SLA40-105	●	40	105	80	M20

●Stock ○Availabie upon Order

FMB Face Mill Holder



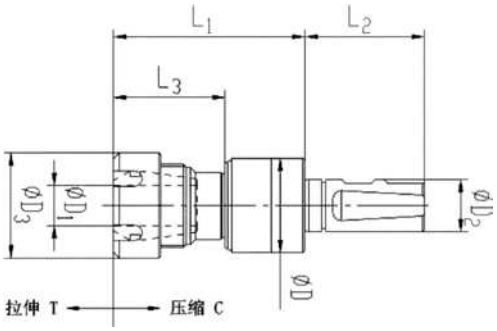


Ordering Code	Stock	d	A	L1	D	M
HSK50-FMB16-50	●	16	50	17	38	M8X30
HSK50-FMB22-60	●	22	60	19	48	M10X30
HSK50-FMB27-60	●	27	60	21	58	M12X30
HSK50-FMB32-60	●	32	60	24	78	M16X35
HSK63-FMB16-50	●	16	50	17	38	M8X30
HSK63-FMB22-50	●	22	50	19	48	M10X30
HSK63-FMB27-60	●	27	60	21	58	M12X30
HSK63-FMB32-60	●	32	60	24	78	M16X35
HSK63-FMB40-60	●	40	60	27	88	M16X35
HSK63-FMB16-100	●	16	100	17	38	M8X30
HSK63-FMB22-100	●	22	100	19	48	M10X30
HSK63-FMB27-100	●	27	100	21	58	M12X30
HSK63-FMB32-100	●	32	100	24	78	M16X35
HSK63-FMB40-100	●	40	100	27	88	M16X35
HSK80-FMB22-50	●	22	50	19	48	M10X30
HSK80-FMB27-50	●	27	50	21	58	M12X30
HSK80-FMB32-60	●	32	60	24	78	M16X35
HSK80-FMB40-60	●	40	60	27	88	M16X35
HSK100-FMB22-50	●	22	50	19	48	M10X30
HSK100-FMB27-50	●	27	50	21	58	M12X30
HSK100-FMB32-50	●	32	60	24	78	M16X35
HSK100-FMB40-60	●	40	60	27	88	M16X35
HSK100-FMB60-70	●	60	70	40	130	M16X35

●Stock ○Availabie upon Order

Micro compensation tapping tool holder series





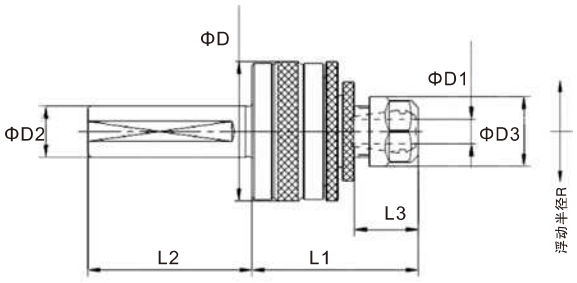
・ERNuts S type for the internal cooling type, A type for the cold type。

Unit：mm

Ordering Code	Stock	ERJacket	ϕD	ϕD1	ϕD2	ϕD3	L1	L2	L3	C	T	Applicable taps
VLERS20-C25	●	ER20	34	4.5-10	25	34	68	57	45	0.5	0.5	M4-M12 (Nr.8-7/16)
VLERS32-C25	●	ER32	45	4.5-16	25	50	90	57	51	0.5	0.5	

Floating knife series





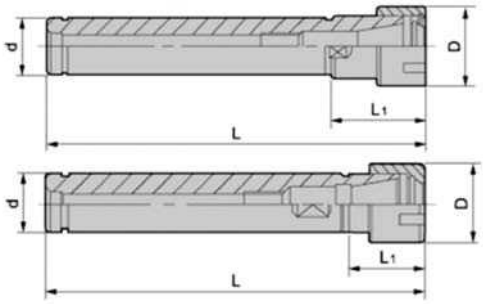
Unit：mm

Ordering Code	Stock	ERJacket	ϕD1	ϕD2	ϕD	ϕD3	L1	L2	L3	R (MAX)
SV-FTER20-D25	●	ER20	3-13	25	68	34	80	80	30	0.5

●Stock ○Availabie upon Order

ER Collet Chuck Holder



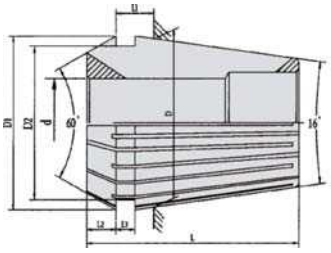


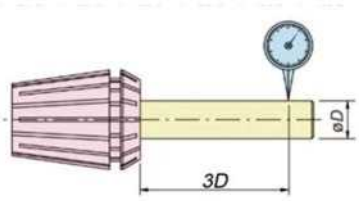
Ordering Code	Stock	D	d	L1	L	Nut	Wrench	Collet
C8–ER8M–55	●	12	8	24	79	CNM–ER08	ER08	ER08
C10–ER8M–180	●	12	10	17	197			
C12–ER8M–120	●	12	12	17	137			
C12–ER8M–180	●			17	197			
C12–ER11M–80	●	16	12	26.5	106.5	CNM–ER11	ER11M	ER11
C16–ER11M–100	●	0	16	18.5	118.5			
C16–ER11M–140	●	0	16	18.5	158.5			
C16–ER16M–80	●	23	16	37	117	CNM–ER16	ER16M	ER16
C20–ER16M–100	●	23	20	25	125			
C20–ER16M–160	●	23	20	25	185			
C20–ER20M–100	●	28	20	40	140	CNM–ER20	ER20M	ER20
C20–ER20M–150	●	28	20	40	190			
C20–ER20M–180	●	28	20	40	220			
C25–ER20M–140	●	28	25	28	168			
C20–ER25M–100	●	35	20	40	140	CNM–ER25	ER25M	ER25
C20–ER16–100	●	28	20	30	130	CAN–ER16	ER16A	ER16
C20–ER16–150	●	28	20	30	180			
C20–ER20–100	●	34	20	36	136	CAN–ER20	ER20A	ER20
C20–ER20–150	●	34	20	36	186			
C20–ER20–170	●	34	20	36	206			
C20–ER25–100	●	42	20	46	146	CAN–ER25	ER25UM	ER25
C20–ER25–150	●	42	20	46	196			
C25–ER16–100	●	28	25	30	130	CAN–ER16	ER16A	ER16
C25–ER16–150	●	28	25	30	180			
C25–ER20–150	●	34	25	36	186	CAN–ER20	ER20A	ER20
C25–ER25–100	●	42	25	46	146	CAN–ER25	ER25UM	ER25
C25–ER25–150	●	42	25	46	196			
C25–ER32–80	●	50	25	54	134	CAUM–ER32	ER32UM	ER32
C32–ER25–60	●	42	32	46	106	CAUM–ER25	ER25UM	ER25
C32–ER32–100	●	50	32	54	154	CAUM–ER32	ER32UM	ER32
C32–ER40–100	●	63	32	55	155	CAUM–ER40	ER40UM	ER40
C40–ER32–100	●	50	40	54	154	CAUM–ER32	ER32UM	ER32
C40–ER40–100	●	63	40	55	155	CAUM–ER40	ER40UM	ER40

●Stock ○Availabie upon Order

ER Collet



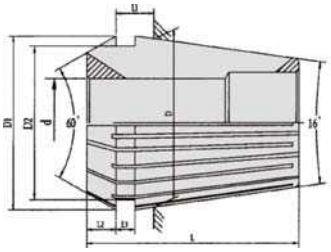


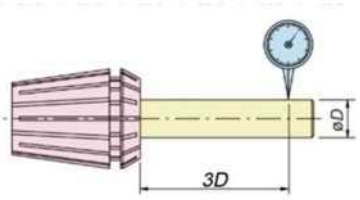


Ordering Code	Stock	DH7	D	D1	D2	L	L1	L2	L3	Elastic shrinkage
ER8	●	1.0–5.0	8	8.45	6.5	13.5	2.98	1.5	1.2	0.5
ER11	●	1.0–7.0	11	11.5	9.5	18	3.8	2.5	2	0.5
ER16	●	1.0–2.5	16	17	13.8	27.5	27.5	4	2.7	0.5
		2.5–10.0	16	17	13.8	27.5	27.5	4	2.7	1
ER20	●	1.0–2.5	20	21	17.4	31.5	31.5	4.8	2.8	0.5
		2.5–13.0	20	21	17.4	31.5	31.5	4.8	2.8	1
ER25	●	1.0–2.5	25	26	22	34	34	5	3.1	0.5
		2.5–16.0	25	26	22	34	34	5	3.1	1
ER32	●	2.0–2.5	32	33	29.2	40	40	5.5	3.6	0.5
		2.5–20.0	32	33	29.2	40	40	5.5	3.6	1
ER40	●	3.0–26.0	40	41	36.2	46	46	7	4.1	1
ER50	●	6.0–10.0	50	52	46	60	60	8.5	5.5	1
		10.0–34.0	50	52	46	60	60	8.5	5.5	2

Sealed Collet with Slitting







Ordering Code	Stock	DH7	D	D1	D2	L	L1	L2	L3	Elastic shrinkage
SER16	●	3.0–10.0	16	17	13.8	27.5	27.5	4	2.7	1
SER20	●	3.0–13.0	20	21	17.4	31.5	31.5	4.8	2.8	1
SER25	●	3.0–16.0	25	26	22	34	34	5	3.1	1
SER32	●	3.0–20.0	32	33	29.2	40	40	5.5	3.6	1
SER40	●	3.0–26.0	40	41	36.2	46	46	7	4.1	1

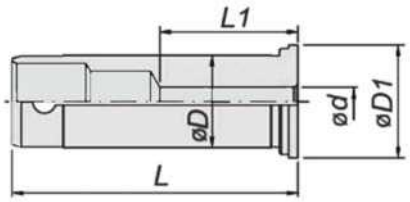
Clamping dianetrer	At the 4*D times the diameter of the clamping tool accuracy class			
J02308	ER	ER–A	ER–AA	ER–AA
J02311	0.02	0.01	0.006	0.003

According to the model number when ordering requirements plus accuracy class;
example:ER32–**AA

●Stock ○Availabie upon Order

ER Straight Collet





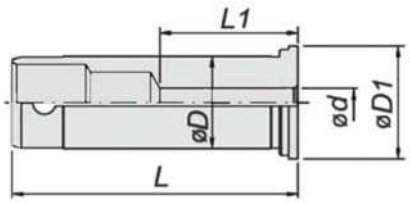
Ordering Code	Stock	Size(mm)	
		D	d
C20-06	●	20	6
C20-08	●		8
C20-10	●		10
C20-12	●		12
C20-16	●		16
	●		
	●		
	●		

Model	Stock	Size(mm)	
		D	d
C32-06	●	32	6
C32-08	●		8
C32-10	●		10
C32-12	●		12
C32-16	●		16
C32-20	●		20
C32-25	●		25
	●		

Ordering Code	Stock	Size(mm)	
		D	d
C42-06	●	42	6
C42-08	●		8
C42-10	●		10
C42-12	●		12
C42-16	●		16
C42-20	●		20
C42-25	●		25
C42-32	●		32

SC Sealed Collet





Ordering Code	Stock	Size(mm)	
		D	d
SC20-06	●	20	6
SC20-08	●		8
SC20-10	●		10
SC20-12	●		12
SC20-16	●		16
	●		
	●		
	●		

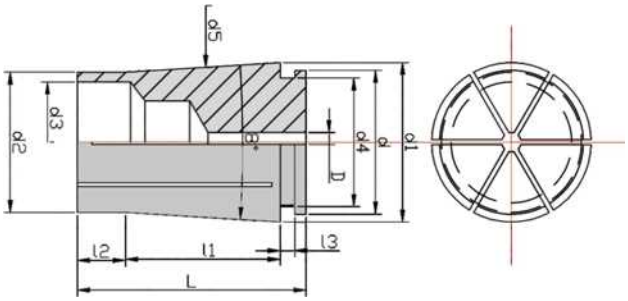
Model	Stock	Size(mm)	
		D	d
SC32-06	●	32	6
SC32-08	●		8
SC32-10	●		10
SC32-12	●		12
SC32-16	●		16
SC32-20	●		20
SC32-25	●		25
	●		

Ordering Code	Stock	Size(mm)	
		D	d
SC42-06	●	42	6
SC42-08	●		8
SC42-10	●		10
SC42-12	●		12
SC42-16	●		16
SC42-20	●		20
SC42-25	●		25
SC42-32	●		32

●Stock ○Availabie upon Order

SKS Collet



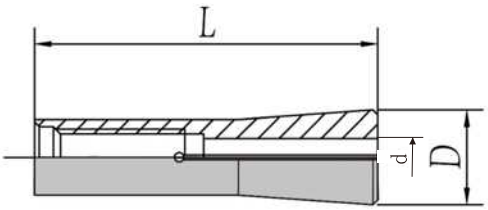


Ordering Code	Stock	L	l1	l2	l3	d	d1	d2	d3	d4	d5
SK06	●	25.7	17.5	4	2.4	9.26	10.5	7.5	6	7.8	9.964
SK10	●	32	22	5	2.5	13.7	15.6	12	10	12	15.013
SK16	●	46	32	8	2.8	21	24.6	18.8	16	19	23.939
SK25	●	58	43	8.5	3.6	31	35.6	28.9	25.5	28.2	35.029

Ordering Code	D
SK06	2,2.5,3,3.5,4,4.5,5,5.5,6
SK10	2,2.5,3,3.5,4,4.5,5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10
SK16	3,3.5,4,4.5,5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10,10.5,11,11.5,12,12.5,13,13.5,14,14.5,15,15.5,16
SK25	6,8,10,12,14,16,16.5,17,17.5,18,18.5,19,19.5,20, 20.5,21,21.5,22,22.5,23,23.5,24,24.5,25

MX Collet



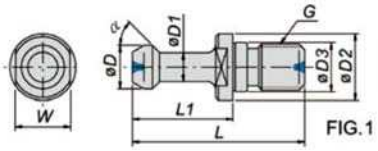


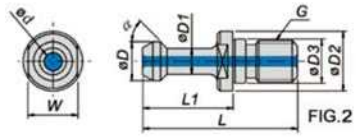
Ordering Code	Stock	d	Standard	P Class	D	L
MX6–2,3,4,5,6,3.175	●	2–6	0.005	0.003	9.6	36
MX8–3,4,5,6,8	●	3–8	0.005	0.003	15	45
MX10–3,4,5,6,8,10	●	3–10	0.005	0.003	16	52
MX12–3,4,5,8,10,12	●	3–12	0.005	0.003	22	57

●Stock ○Availabie upon Order

BT Pull Studs



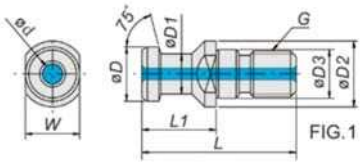


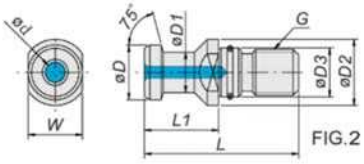


Ordering Code	Figure	Stock	D	D1	D2	D3	L	L1	a	G	W
BT30–45°	Fig.1	●	11	7	16.5	12.5	43	23	45°	M12	13
BT30–60°		●							60°		
BT40–45°		●	15	10	23	17	60	35	45°	M16	19
BT40–60°		●							60°		
BT40–90°		●							90°		
BT50–45°		●	23	17	38	25	85	45	45°	M24	30
BT50–60°		●									
BT50–90°		●									
BT40–45° –S	Fig.2	●	15	10	23	17	60	35	45°	M16	19
BT40–60° –S		●							60°		
BT40–90° –S		●							90°		
BT50–45° –S		●	23	17	38	25	85	45	45°	M24	30
BT50–60° –S		●									
BT50–90° –S		●									

JT Pull Studs







Ordering Code	Figure	Stock	D	D1	D2	D3	d	L	L1	W	G
SK40–A	Fig.1	●	19	14	23	17	7	54	26	19	M16
SK50–A		●	28	21	36	25	11.5	74	34	30	M24
SK40–B	Fig.2	●	19	14	23	17	7	54	26	19	M16
SK50–B		●	28	21	36	25	11.5	74	34	30	M24

●Stock ○Availabie upon Order

ER Clamping Nuts(DIN6499)

ER–M M Type Clamping Nuts

Part N0.	M	Fig.	ØD	L	Max.Tightening Torque Nm
CNM–ER08	M10*0.75P	1	12	10.8	10
CNM–ER11	M13*0.75P		16	12	30
CNM–ER16	M19*1.00P		22	18	70
CNM–ER20	M24*1.00P		28	19	100

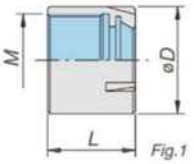


Fig.1



ER–SH High Speed Balanced Clamping Nuts

Part N0.	M	Fig.	ØD	L	H	Max.Tightening Torque Nm
CAN–ER11	M14*0.75P	2	19	11.3	17	30
CAN–ER16	M22*1.50P		28	17.5	25	70
CAN–ER20	M25*1.50P		34	19	30	100
CAUM–ER16	M22*1.50P	3	32	17	–	70
CAUM–ER20	M25*1.50P		35	19		100
CAUM–ER25	M32*1.50P		42	20		130
CAUM–ER32	M40*1.50P		50	23		170
CAUM–ER40	M50*1.50P		63	25		220

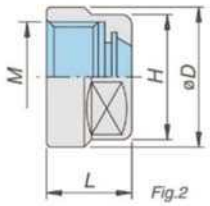


Fig.2



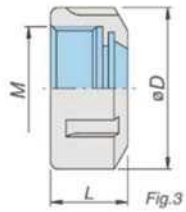


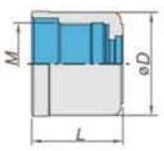
Fig.3



Clamping Nuts

NR Nuts

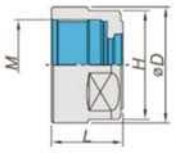
Part N0.	M	ØD	L	Max.Tightening Torque Nm
GSK 06	M15.5*1.00P	20.0	21.5	30
GSK 10	M21.5*1.00P	27.1	24	40
GSK 16	M32.0*1.50P	40.0	31	60
GSK 25	M45.0*1.50P	55.0	37.5	100





NR–WD Nuts

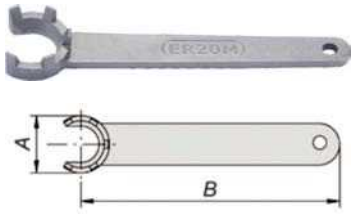
Part N0.	M	ØD	H	L	Max.Tightening Torque Nm
SK 10M	M21.5*1.00P	27.5	25.4	17	40
SK 16M	M32.0*1.50P	40.0	–	24	60



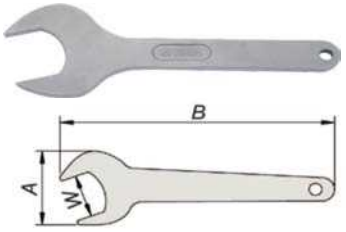


Wrenches

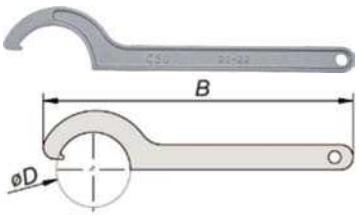
Part NO.	A	B	Nuts
W-ER 8M	12.8	75	CNM-ER08
W-ER 11M	16.8	90	CNM-ER11
W-ER 16M	22.8	110	CNM-ER16
W-ER 20M	29	120	CNM-ER20



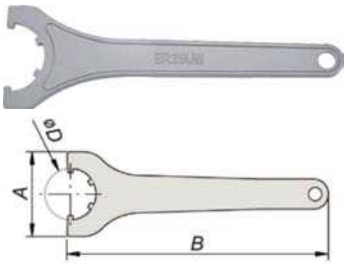
Part NO.	A	B	W	Nuts
W-ER 11A	32	95	17	CAN-ER11
W-ER 16A	44	145	25	CAN-ER16
W-ER 20A	52	170	30	CAN-ER20



Part NO.	ØD	B	Nuts
W-FK 04	Φ30-Φ33	135	ER16GM
W-FK 05	Φ34-Φ36	160	ER20GM
W-FK 06	Φ40-Φ42	170	NR16/ER25SH/NR16WD
W-FK 07	Φ44-Φ49	195	ER25GM
W-FK 08	Φ52-Φ55	210	C20/ER32SH
W-FK 09	Φ58-Φ62	230	CTH25/ER40SH/C25
W-FK 10	Φ68-Φ75	245	CTH32/C32
W-FK 11	Φ80-Φ93	270	ARH42

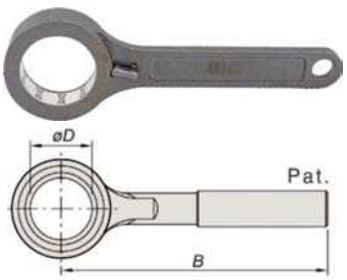


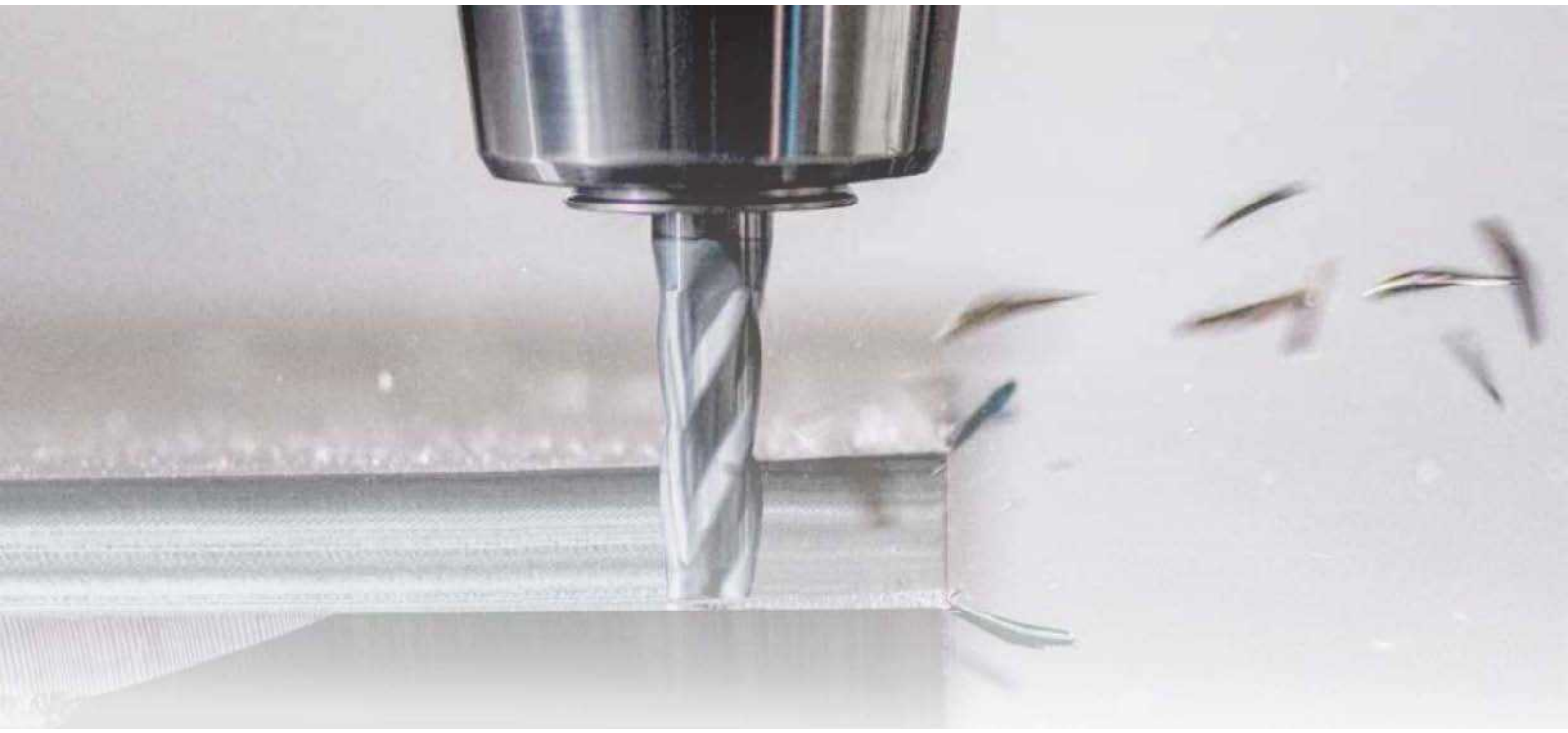
Part NO.	ØD	A	B	Nuts
W-ER 25UM	42	65	210	CAUM-ER25
W-ER 32UM	50	75	250	CAUM-ER32
W-ER 40UM	63	90	290	CAUM-ER40
W-ER 50UM	80	110	355	CAUM-ER50



High Speed Tooling Wrenches

Part NO.	ØD	B	Nuts
W-SK06	19.7	118	SK06
W-SK10	27.7		SK10
W-SK16	40	155	SK16
W-SK20	48	212	SK20
W-SK25	55		SK25





Solid carbide end mills



Solid Carbide End Mills Identification System

P Steel、Cast Iron	P20F	P20F Endmills for General Purpose ●Suitable for steels&cast iron(≤48HRC). ●High performance alcr series coating, high temperature resistance and high wear resistance. ●Variable helix angle and differential flute pitch,reduces vibration. ●Applicable to high efficiency machining of large cutting depth(ap) ●Adapt to several kinds of cooling conditions, for exanple oil mist,water,oil,air cooling.
M S Stainless Steel Titanium Alloys	M20F	M20F Endmills for General Machining of Stainless steel ●Suitable for general Machining of Stainless steel(≤280HB). ●Special edge design, effectively solve the crumbs. ●water cooling,,oil cooling IS the best cooling method.
N Aluminium Alloy	N25UF	N25UF Endmills for General Machining of Aluminum alloy ●Suitable for aluminum alloy(Si≤12%) and copper alloy(≤200HB)general processing. ●Special edge design, reduces vibration,effectively solve the crumbs. ●water cooling,,is the best cooling method.
N Graphite	NGK05A	NGK05A Endmills for Speed Machining of Graphite ●Special substrate with the perfect combination of diamond coating, superior wear resistance. ●Usitable for semi–finishing and finishing of graphite,apply for air cooling.
H High Hardened Material	H25UF	H25UF Endmills for Hardened steels(48–60HRC) ●High Hardeness,high toughness matrix materials, special angle design,special for hardened steels processing. ●For hardened steels(48–60HRC)finishing. ●Recommended to use air or oil mist cooling.

Code	Characteristic
1	Square End\Ballnose: a. Neck Length b. Flute Length 6–06 10–10
2	Cornor Radius: r0.2–02 r1–10
3	Miniature: a. Neck Length : 1–01 10–10 b. Flute Lengt (*10) : 0.8–08 1.6–16
4	Square End with Chamfer: C0.03–03 C0.13–13

①	②	③	④	⑤	⑥
P20F	S	B	4–	060	09

End Profile	
S	Square
B	Ballnose
R	Cornor Radius
C	Square End with Chamfer

Length of Flute	
N	Reduce Neck
H	Long Shank
L	Long Flute
S	Short Flute
B	Double Helix
R	Rough Maching
	Blank: Standard

No. of Flutes
2
3
4

Diameter	
0.6mm	006
6mm	060
10mm	100

Guidelines to Icons

	Mark	Description
Shank	SHANK h6	ISO Standard Shank
Coating	AlCrN	AlCrN Coating
	AlCrSiN	AlCrSiN Coating
	AlTiN nano	Nano Coating AlTiN
	AlTiN/ TiSiN	Nano Coating AlTiN/TiSiN
	U-DIA	Ultra Fine Grain Diamond Coating

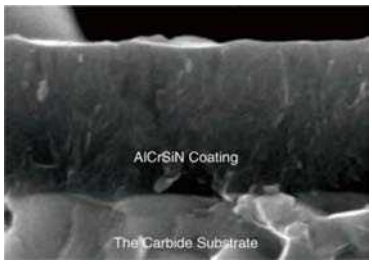
	Mark	Description
Endteeth Type	Square	Square End
	Corner-R	Corner Radius
	Ballnose	Ballnose
Cutting Condition		For Side Milling
		For Slotting
		For Profile Milling

	Mark	Description
Helix	30° Helix	30 ° Helix
	35° Helix	35 ° Helix
	35°/38° Helix	Variable Helix
	45° Helix	45 ° Helix
No. of Flutes	2	2 Flute Endmills
	3	3 Flute Endmills
	4	4 Flute Endmills
	6	6 Flute Endmills

Universal High Performance Coating AlCrSiN

Characteristics and Function

- Productivity increase due to significantly higher cutting speed and feed for applications in a wide range of materials. Significantly enhanced productivity.
- Particular design of structure brings good balance between toughness, thermo–shock stability and residual stress.

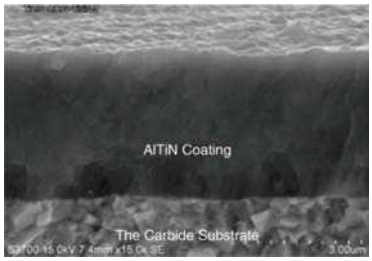


SEM Photograph of Coating

Nano Coating AlTiN

Characteristics and Function

- High aluminum content provides excellent hot hardness and oxidation resistance.
- Special method optimizes the structure of coating, significantly improvedstability, reducing the number of surface droplet.

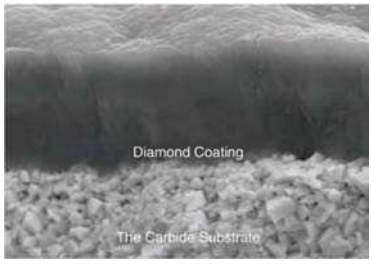


SEM Photograph of Coating

Ultra Fine Grain Diamond Coating

Characteristics and Function

- High purity diamond coating, with hardness up to 80GPa.
- Ultra smooth and shiny surface, low coefficient friction.
- Suitable for finish machining nonferrous materials,such as graphite,aluminium,carbon fiber,ceramic,etc.



Cross–section Image

Application Summary Of Solid Carbide Endmills

	ISO Material Group	General Machining	Roughing	High Efficiency Machining	High Speed Machining	Micro Machining
P	Carbon Steel,Alloy Steel (<35HRC)	P20F	P20F	P20F		P20F
	Alloy Steel (35–48HRC)					
	PH,Ferritic,Martensitic Steel(<35HRC)					
M	Stainless Steel	M20F	M20F			
K	Grey Cast Iron Nodular Cast Iron (<32HRC)	P20F	P20F			P20F
	High–alloy Cast Iron (35–45HRC)					
N	Wrought Aluminium Alloys/Cast Aluminium Alloys(Si≤12%)	N25UF			N25UF	
	Cast Aluminium Alloys (Si>12%)					
	Copper Alloys (<200HB)					
	Graphite Composite Material			NGK05A		
S	Heat–resistant Alloys (<450HB)	M20F		M20F		
	Titanium Alloys (<400HB)					
H	Hardened Steel (45–55HRC)	H25UF			H25UF	H25UF
	Hardened Steel (55–60HRC)					

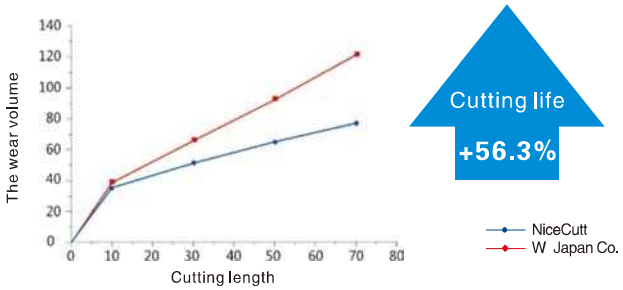
Case Study

Case 1:comparison of SKD61 cutting performance

Processing of common steel materials,W Japan Co. P20F series chip adhesion phenomenon,the edge state is still good.

Tool name	4 blade rounded head
Tool series	P20F
Specifications	D10*25*R0.5
Processing of materials	SKD61(40HRC)
Cutting speed	130m/min(4140RPM)
Feed speed	0.065mm/z(1076mm/min)
Cutting mode	Side milling
Cutting depth	a_p=10mm,a_e=1.2mm
Cooling mode	Air cooled
The use of equipment	Vertical machining center

The performance of NiceCutt tool is 56.3% higher than that of W Japan Co.



NiceCutt cutting 70m circumferential edge tool flank wear for 0.078mm, W Japan Co. has reached 0.122mm

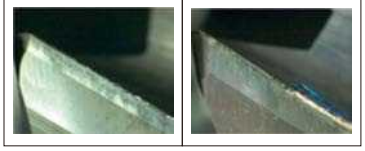
NiceCutt	W Japan Co.
Milling of 10m	
A circular blade wear 0.036mm	A circular blade wear 0.039mm



NiceCutt	W Japan Co.
Milling of 50m	
A circular blade wear 0.065mm	A circular blade wear 0.093mm



NiceCutt	W Japan Co.
Milling of 70m	
A circular blade wear 0.078mm	A circular blade wear 0.122mm

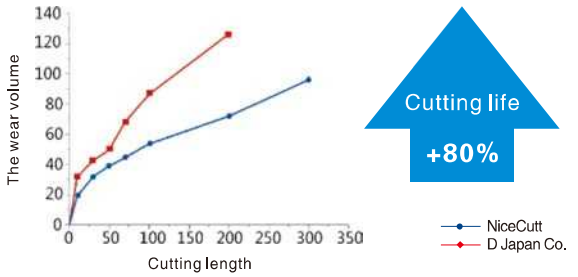


Case2:high hardened steel cutting performance test

High hardened steel material processing,achieve good wear resistance

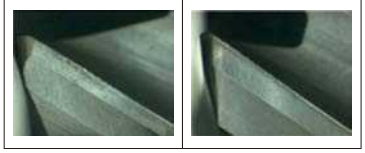
Tool name	4 blade rounded head
Tool series	H25UF
Specifications	D8*20*R0.5
Processing of materials	SKD61(50HRC)
Cutting speed	120m/min(4777RPM)
Feed speed	0.04mm/z(764mm/min)
Cutting mode	Side milling
Cutting depth	a_p=5.6mm,a_e=0.64mm
Cooling mode	Air cooled
The use of equipment	Vertical machining center

The performance of NiceCutt tool is 80% higher than that of D Japan Co.

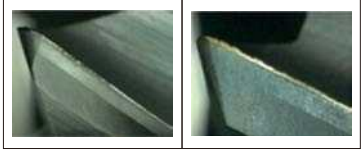


NiceCutt cutting 300m ,the circle edge and flank wear 0.096mm, D company cutting 200m,circumferential edge wear has reached 0.126mm

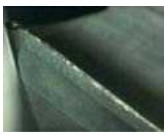
NiceCutt	D Japan Co.
Milling of 10m	
A circular blade wear 0.019mm	A circular blade wear 0.032mm



NiceCutt	D Japan Co.
Milling of 200m	
A circular blade wear 0.073mm	A circular blade wear 0.126mm



NiceCutt	D Japan Co.
Milling of 300m	
A circular blade wear 0.096mm	
	Cannot use



P20F-S2/SH2

P M K



2 Flute
Standard Length

P270

P20F-S4/SH4

P M K



4 Flute
Standard Length

P271

P20F-SL4

P M K



4 Flute
Long Flute Length

P272

P20F-SR4

P M K



4 Flute
Rough Maching

P272

P20F-R2/RH2

P M K



2 Flute
Corner Radius

P273

P20F-R4/RH4

P M K



4 Flute
Corner Radius

P274

P20F-B2/BH2

P M K



2 Flute
Ballnose

P275

P20F-B4/BH4

P M K



4 Flute
Ballnose

P276

P20F-SB4

P M K



4 flute
double helix

P277

P20F-RB4

P M K



4 flute
corner radius,double helix

P277

H25UF-S4

H



4 flute
squre end

P278

H25UF-S6

H



6 flute
squre end

P278

H25UF-R4

H



4 Flute
Corner Radius

P279

H25UF-R6

H



6 Flute
Corner Radius

P279

H25UF-B2

H



2 Flute
Ballnose

P280

H25UF-B4

H



4 Flute
Ballnose

P280

H25UF-SN2

H



2 flute
micro diameter
long necked,square end

P281

P20F-SN2

P M K



2 flute
micro diameter
long necked,square end

P281

H25UF-BN2

H



2 flute
micro diameter
long necked,ball nose

P282

P20F-BN2

P M K



2 flute
micro diameter
long necked,ball nose

P282

M20F-S2

M



2 Flute
Standard Length

P283

M20F-S4

M



4 Flute
Standard Length

P284

M20F-R2

M



2 Flute
Corner Radius

P285

M20F-R4

M



4 Flute
Corner Radius

P286

M20F-B2

M



2 Flute
Ballnose

P287

M20F-B4

M



4 Flute
Ballnose

P287

N25UF-S2/SH2

N



2 Flute
Standard Length

P288

N25UF-S3/SH3

N



3 Flute
Standard Length

P289

N25UF-SL2

N

2 Flute
Long Flute Length

P290

N25UF-SL3

N



3 Flute
Long Flute Length

P290

N25UF-R2

N



2 Flute
Corner Radius

P291

N25UF-RH2

N

2 Flute
Corner Radius

P292

N25UF-R3

N



3 Flute
Corner Radius

P293

N25UF-RH3

N



3 Flute
Corner Radius

P294

N25UF-B2

N



2 Flute
Ballnose

P295

NGK05A-S2

N Graphite



2 Flute
Standard Length

P296

NGK05A-S3

N Graphite



3 Flute
Standard Length

P296

NGK05A-S4

N Graphite



4 Flute
Standard Length

P297

NGK05A-R2

N Graphite



2 Flute
Corner Radius

P297

NGK05A-R4

N Graphite



4 Flute
Corner Radius

P298

NGK05A-B2

N Graphite



2 Flute
Ballnose

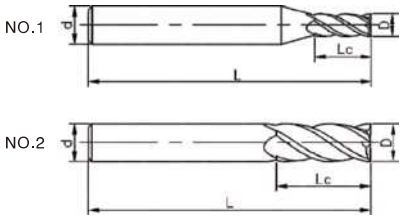
P298

P20F 2 Flute,Standard Length





HRC32–48



Standard shank

Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F–S2–02006	●	2	6	50	4	1
P20F–S2–03009	●	3	9		4	
P20F–S2–63009	●	3	9		6	
P20F–S2–04011	●	4	11		4	2
P20F–S2–64011	●	4	11		6	1
P20F–S2–05013	●	5	13		6	
P20F–S2–06016	●	6	16		6	2
P20F–S2–08020	●	8	20	60	8	
P20F–S2–10025	●	10	25	75	10	
P20F–S2–12030	●	12	30		12	
P20F–S2–16036	●	16	36	100	16	
P20F–S2–20045	●	20	45		20	

Long shank

Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F–SH2–02006	●	2	6	75	4	1
P20F–SH2–03009	●	3	9		4	
P20F–SH2–63009	●	3	9		6	
P20F–SH2–04011	●	4	11		4	2
P20F–SH2–64011	●	4	11		6	1
P20F–SH2–05013	●	5	13		6	
P20F–SH2–06016	●	6	16		6	2
P20F–SH2–08020	●	8	20	75	8	
P20F–SH2–10025	●	10	25	100	10	
P20F–SH2–12030	●	12	30		12	
P20F–SH2–16036	●	16	36	150	16	
P20F–SH2–20045	●	20	45		20	

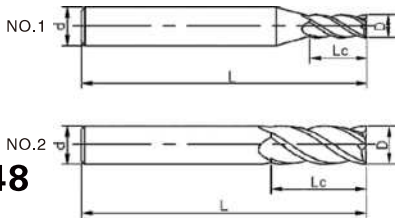
●Stock ○Availabie upon Order

P20F 4 Flute,Square End





HRC32–48



Standard shank

Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F-S4-03009	●	3	9	50	4	1
P20F-S4-04011	●	4	11			2
P20F-S4-05013	●	5	13		6	1
P20F-S4-06016	●	6	16			2
P20F-S4-08020	●	8	20	60	8	
P20F-S4-10025	●	10	25	75	10	
P20F-S4-12030	●	12	30		12	
P20F-S4-16036	●	16	36	100	16	
P20F-S4-20045	●	20	45		20	

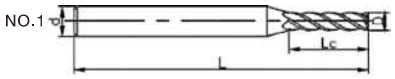
Long shank

Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F-SH4-03009	●	3	9	75	4	1
P20F-SH4-04011	●	4	11			2
P20F-SH4-05013	●	5	13		6	1
P20F-SH4-06016	●	6	16			2
P20F-SH4-08020	●	8	20	75	8	
P20F-SH4-10025	●	10	25	100	10	
P20F-SH4-12030	●	12	30		12	
P20F-SH4-16036	●	16	36	150	16	
P20F-SH4-20045	●	20	45		20	

●Stock ○Availabie upon Order

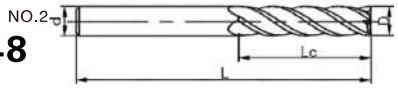
P20F 4 Flute,Long Flute Length,Square End







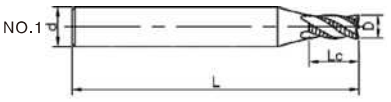
HRC32–48



Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F–SL4–02010	●	2	10	50	4	1
P20F–SL4–03015	●	3	15	60		
P20F–SL4–04020	●	4	20			2
P20F–SL4–63015	●	3	15		6	1
P20F–SL4–64020	●	4	20	75		
P20F–SL4–05025	●	5	25			
P20F–SL4–06030	●	6	30			2
P20F–SL4–08035	●	8	35	100	8	
P20F–SL4–10045	●	10	45		10	
P20F–SL4–12045	●	12	45		12	
P20F–SL4–14045	●	14	45		16	1
P20F–SL4–16060	●	16	60	150		2
P20F–SL4–18070	●	18	70		18	
P20F–SL4–20070	●	20	70		20	

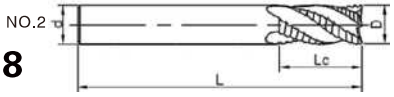
P20F 4 Flute Square End,for Rough Maching







HRC32–48

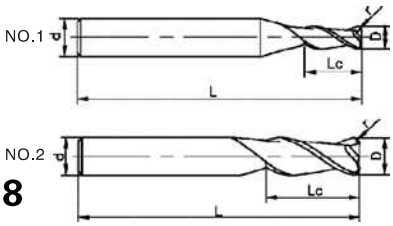


Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F–SR4–06015	●	6	15	50	6	2
P20F–SR4–08020	●	8	20	60	8	
P20F–SR4–10025	●	10	25	75	10	
P20F–SR4–12030	●	12	30		12	
P20F–SR4–16036	●	16	36	100	16	
P20F–SR4–20045	●	20	45		20	

●Stock ○Availabie upon Order

P20F 2 Flute,Corner Radius







HRC32–48

Standard shank

Ordering Code	Stock	D	Lc	r	L	d	Figure No.
P20F–R2–03005	●	3	9	0.5	50	4	1
P20F–R2–04005	●	4	11	0.5			2
P20F–R2–04010	●			1			
P20F–R2–06005	●	6	16	0.5		6	
P20F–R2–06010	●			1			
P20F–R2–06015	●			1.5			
P20F–R2–08005	●	8	20	0.5	60	8	
P20F–R2–08010	●			1			
P20F–R2–08015	●			1.5			
P20F–R2–10005	●	10	25	0.5	75	10	
P20F–R2–10010	●			1			
P20F–R2–10015	●			1.5			
P20F–R2–10020	●			2			
P20F–R2–12005	●	12	30	0.5		12	
P20F–R2–12010	●			1			
P20F–R2–12015	●			1.5			
P20F–R2–12020	●			2			
P20F–R2–12030	●			3			
P20F–R2–16005	●	16	36	0.5	100	16	
P20F–R2–16010	●			1			
P20F–R2–16020	●			2			
P20F–R2–16030	●			3			

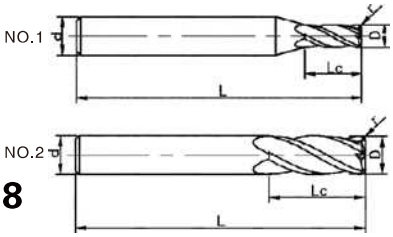
Long shank

Ordering Code	Stock	D	Lc	r	L	d	Figure No.
P20F–RH2–06005	●	6	16	0.5	75	6	2
P20F–RH2–06010	●			1			
P20F–RH2–06015	●			1.5			
P20F–RH2–08005	●	8	20	0.5	100	8	
P20F–RH2–08010	●			1			
P20F–RH2–08015	●			1.5			
P20F–RH2–10005	●	10	25	0.5	100	10	
P20F–RH2–10010	●			1			
P20F–RH2–10015	●			1.5			
P20F–RH2–10020	●			2			
P20F–RH2–12005	●	12	30	0.5		12	
P20F–RH2–12010	●			1			
P20F–RH2–12015	●			1.5			
P20F–RH2–12020	●			2			
P20F–RH2–16005	●	16	36	0.5	150	16	
P20F–RH2–16010	●			1			
P20F–RH2–16020	●			2			
P20F–RH2–16030	●			3			

●Stock ○Availabie upon Order

P20F 4 Flute,Corner Radius





HRC32–48

Standard shank

Ordering Code	Stock	D	Lc	r	L	d	Figure No.
P20F–R4–04005	●	4	11	0.5	50	4	2
P20F–R4–04010	●			1			
P20F–R4–06005	●	6	16	0.5		6	
P20F–R4–06010	●			1			
P20F–R4–06015	●			1.5			
P20F–R4–08005	●	8	20	0.5	60	8	
P20F–R4–08010	●			1			
P20F–R4–08015	●			1.5			
P20F–R4–08020	●			2			
P20F–R4–10005	●	10	25	0.5	75	10	
P20F–R4–10010	●			1			
P20F–R4–10015	●			1.5			
P20F–R4–10020	●			2			
P20F–R4–12005	●	12	30	0.5		12	
P20F–R4–12010	●			1			
P20F–R4–12015	●			1.5			
P20F–R4–12020	●			2			
P20F–R4–12030	●			3			
P20F–R4–16005	●	16	36	0.5	100	16	
P20F–R4–16010	●			1			
P20F–R4–16020	●			2			
P20F–R4–16030	●			3			

Long shank

Ordering Code	Stock	D	Lc	r	L	d	Figure No.
P20F–RH4–06005	●	6	16	0.5	75	6	2
P20F–RH4–06010	●			1			
P20F–RH4–08005	●	8	20	0.5	100	8	
P20F–RH4–08010	●			1			
P20F–RH4–08015	●			1.5			
P20F–RH4–08020	●			2			
P20F–RH4–10005	●	10	25	0.5	100	10	
P20F–RH4–10010	●			1			
P20F–RH4–10015	●			1.5			
P20F–RH4–10020	●			2			
P20F–RH4–12005	●	12	30	0.5		12	
P20F–RH4–12010	●			1			
P20F–RH4–12015	●			1.5			
P20F–RH4–12020	●			2			
P20F–RH4–12030	●			3			
P20F–RH4–16005	●	16	36	0.5	150	16	
P20F–RH4–16010	●			1			
P20F–RH4–16020	●			2			
P20F–RH4–16030	●			3			

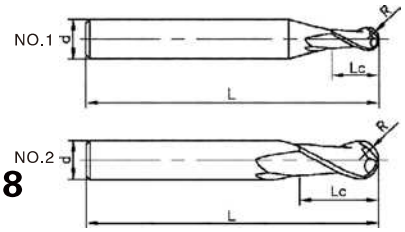
●Stock ○Availabie upon Order

P20F 2 Flute Ballnose





HRC32–48



Standard shank

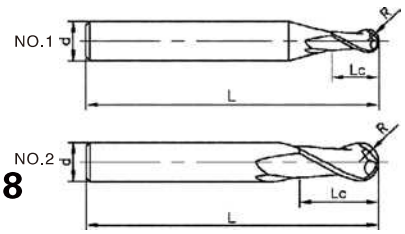
Ordering Code	Stock	D	R	Lc	L	d	Figure No.
P20F–B2–04008	●	4	2	8	50	4	2
P20F–B2–06012	●	6	3	12		6	
P20F–B2–08014	●	8	4	14	60	8	
P20F–B2–10018	●	10	5	18	75	10	
P20F–B2–12022	●	12	6	22		12	

P20F 2 Flute Ballnose





HRC32–48



Long shank

Ordering Code	Stock	D	R	Lc	L	d	Figure No.
P20F–BH2–02004	●	2	1	4	75	4	1
P20F–BH2–03006	●	3	1.5	6			
P20F–BH2–04008	●	4	2	8			2
P20F–BH2–63006	●	3	1.5	6		6	1
P20F–BH2–64008	●	4	2	8			
P20F–BH2–05010	●	5	2.5	10			
P20F–BH2–06012	●	6	3	12			2
P20F–BH2–08014	●	8	4	14	100	8	
P20F–BH2–10018	●	10	5	18		10	
P20F–BH2–12022	●	12	6	22		12	

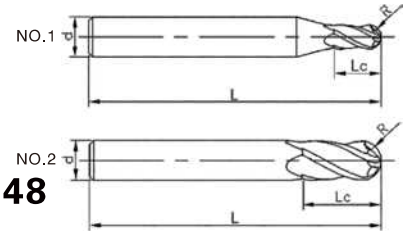
●Stock ○Availabie upon Order

P20F 4 Flute Ballnose





HRC32–48



Standard shank

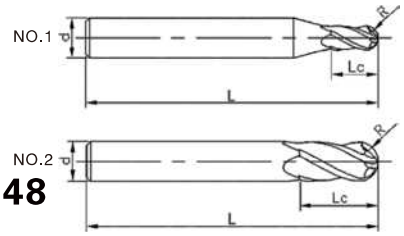
Ordering Code	Stock	D	R	Lc	L	d	Figure No.
P20F–B4–04008	○	4	2	8	50	4	2
P20F–B4–06012	○	6	3	12		6	
P20F–B4–08014	○	8	4	14	60	8	
P20F–B4–10018	○	10	5	18	75	10	
P20F–B4–12022	○	12	6	22		12	

P20F 4 Flute Ballnose





HRC32–48



Long shank

Ordering Code	Stock	D	R	Lc	L	d	Figure No.
P20F–BH4–04008	○	4	2	8	75	4	2
P20F–BH4–06012	○	6	3	12		6	
P20F–BH4–08014	○	8	4	14	75	8	
P20F–BH4–10018	○	10	5	18	100	10	
P20F–BH4–12022	○	12	6	22		12	

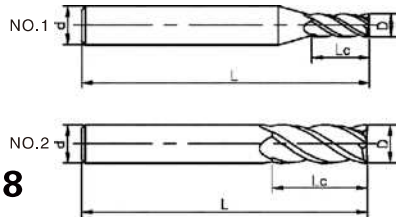
●Stock ○Availabie upon Order

P20F 4 flute,squre end,double helix





HRC32–48



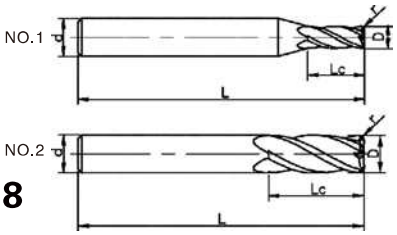
Ordering Code	Stock	D	Lc	L	d	Figure No.
P20F–SB4–03009	●	3	9	50	4	1
P20F–SB4–04011	●	4	11			2
P20F–SB4–05013	●	5	13		6	1
P20F–SB4–06016	●	6	16			2
P20F–SB4–08020	●	8	20	60	8	
P20F–SB4–10025	●	10	25	75	10	
P20F–SB4–12030	●	12	30		12	
P20F–SB4–16036	●	16	36	100	16	
P20F–SB4–20045	●	20	45		20	

P20F 4 flute,corner radius,double helix





HRC32–48



Ordering Code	Stock	D	Lc	r	L	d	Figure No.
P20F–RB4–04005	●	4	11	0.5	50	4	2
P20F–RB4–06005	●	6	16	0.5		6	
P20F–RB4–06010	●			1.0			
P20F–RB4–06015	●			1.5			
P20F–RB4–08005	●	8	20	0.5	60	8	
P20F–RB4–08010	●			1.0			
P20F–RB4–08015	●			1.5			
P20F–RB4–08020	●			2.0			
P20F–RB4–10005	●	10	25	0.5	75	10	
P20F–RB4–10010	●			1.0			
P20F–RB4–10015	●			1.5			
P20F–RB4–10020	●			2.0			
P20F–RB4–12005	●	12	30	0.5		12	
P20F–RB4–12010	●			1.0			
P20F–RB4–12015	●			1.5			
P20F–RB4–12020	●			2.0			
P20F–RB4–12030	●			3.0			
P20F–RB4–16020	●	16	36	2.0	100	16	

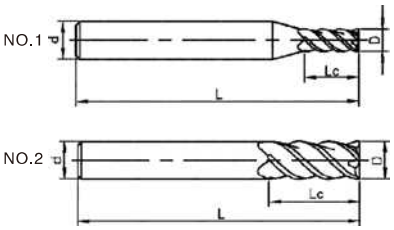
●Stock ○Availabie upon Order

H25UF 4 flute,squre end





HRC45–60



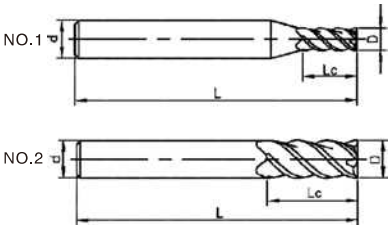
Ordering Code	Stock	D	Lc	L	d	Figure No.
H25UF–S4–03009	●	3	9	50	4	1
H25UF–S4–04010	●	4	10			2
H25UF–S4–06015	●	6	15		6	
H25UF–S4–08020	●	8	20	60	8	
H25UF–S4–10025	●	10	25	75	10	
H25UF–S4–12030	●	12	30		12	
H25UF–S4–16036	●	16	36	100	16	
H25UF–S4–20045	●	20	45		20	

H25UF 6 flute,squre end





HRC45–60



Ordering Code	Stock	D	Lc	L	d	Figure No.
H25UF–S6–06015	●	6	15	50	6	2
H25UF–S6–08020	●	8	20	60	8	
H25UF–S6–10025	●	10	25	75	10	
H25UF–S6–12030	●	12	30		12	
H25UF–S6–16036	●	16	36	100	16	
H25UF–S6–20045	●	20	45		20	

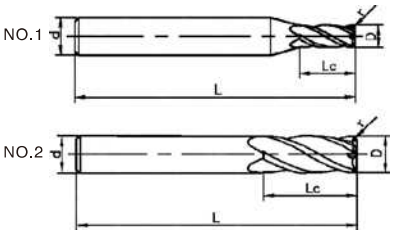
●Stock ○Availabie upon Order

H25UF 4 flute,corner radius





HRC45-60



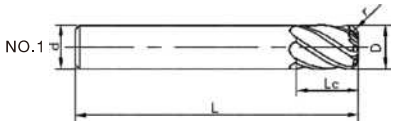
Ordering Code	Stock	D	Lc	r	L	d	Figure No.
H25UF-R4-04005	●	3	9	0.5	50	4	1
H25UF-R4-06005	●	4	10	0.5			2
H25UF-R4-06010	●			1			
H25UF-R4-06015	●	6	15	0.5		6	
H25UF-R4-08005	●			1			
H25UF-R4-08010	●	8	20	0.5	60	8	
H25UF-R4-08015	●			1			
H25UF-R4-08020	●	10	25	0.5	75	10	
H25UF-R4-10005	●			1			
H25UF-R4-10010	●			1.5			
H25UF-R4-10015	●			2			
H25UF-R4-10020	●	12	30	0.5		12	
H25UF-R4-12005	●			1			
H25UF-R4-12010	●			1.5			
H25UF-R4-12015	●			2			

H25UF 6 flute,corner radius





HRC45-60



Ordering Code	Stock	D	Lc	r	L	d	Figure No.
H25UF-R6-12005	●	12	30	0.5	75	12	1
H25UF-R6-16010	●	16	36	1	100	16	
H25UF-R6-20010	●	20	45			20	

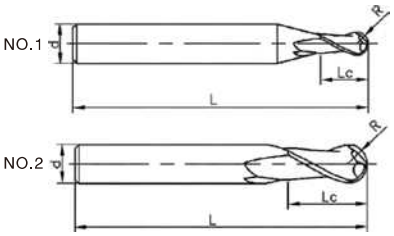
●Stock ○Availabie upon Order

H25UF 2 flute ballnose





HRC45–60



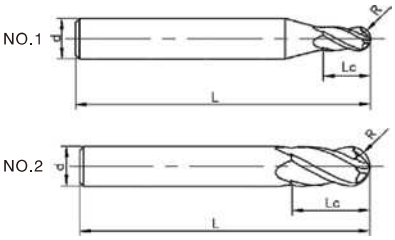
Ordering Code	Stock	D	R	Lc	L	d	Figure No.
H25UF–B2–02004	●	2	1	4	50	4	1
H25UF–B2–03006	●	3	1.5	6			2
H25UF–B2–04008	●	4	2	8			
H25UF–B2–06012	●	6	3	12		6	
H25UF–B2–08014	●	8	4	14	60	8	
H25UF–B2–10018	●	10	5	18	75	10	
H25UF–B2–12022	●	12	6	22		12	
H25UF–B2–16026	●	16	8	26	100	16	

H25UF 4 flute ballnose





HRC45–60

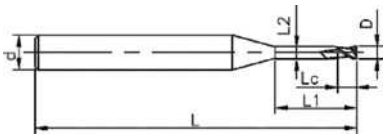


Ordering Code	Stock	D	R	Lc	L	d	Figure No.
H25UF–B4–04008	●	4	2	8	50	4	2
H25UF–B4–06012	●	6	3	12		6	
H25UF–B4–08014	●	8	4	14	60	8	
H25UF–B4–10018	●	10	5	18	75	10	
H25UF–B4–12022	●	12	6	22		12	
H25UF–B4–16026	●	16	8	26	100	16	

●Stock ○Availabie upon Order

H25UF 2 flute,micro diameter,long necked,square end





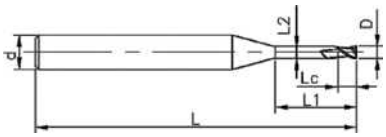


HRC45–60

Ordering Code	Stock	D	Lc	d2	L1	L	d
H25UF–SN2–00401	●	0.4	0.6	0.36	1	50	4
H25UF–SN2–00402	●				2		
H25UF–SN2–00404	●				4		
H25UF–SN2–00602	●	0.6	0.8	0.56	2		
H25UF–SN2–00604	●				4		
H25UF–SN2–00606	●				6		
H25UF–SN2–00802	●	0.8	1.2	0.75	2		
H25UF–SN2–00804	●				4		
H25UF–SN2–00806	●				6		
H25UF–SN2–01006	●	1	1.5	0.95	6		
H25UF–SN2–01008	●				8		
H25UF–SN2–01010	●				10		
H25UF–SN2–01508	●	1.5	2	1.44	8		
H25UF–SN2–01510	●				10		
H25UF–SN2–01512	●				12		
H25UF–SN2–02008	●	2	3	1.92	8		
H25UF–SN2–02010	●				10		
H25UF–SN2–02012	●				12		

P20F 2 flute,micro diameter,long necked,square end







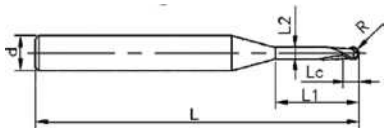
HRC35–48

Ordering Code	Stock	D	Lc	d2	L1	L	d
P20F–SN2–00802	●	0.8	1.2	0.75	2	50	4
P20F–SN2–00804	●				4		
P20F–SN2–00806	●				6		
P20F–SN2–01006	●	1	1.5	0.95	6		
P20F–SN2–01008	●				8		
P20F–SN2–01010	●				10		
P20F–SN2–01508	●	1.5	2	1.44	8		
P20F–SN2–01510	●				10		
P20F–SN2–01512	●				12		
P20F–SN2–02008	●	2	3	1.92	8		
P20F–SN2–02010	●				10		
P20F–SN2–02012	●				12		

●Stock ○Availabie upon Order

H25UF 2 flute,micro diameter,long necked,ball nose





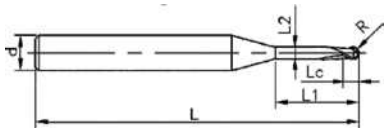


HRC45–60

Ordering Code	Stock	D	r	Lc	d2	L1	L
H25UF-BN2-00401	●	0.4	0.2	0.3	0.35	1	50
H25UF-BN2-00402	●					2	
H25UF-BN2-00403	●					3	
H25UF-BN2-00601	●	0.6	0.3	0.4	0.55	1	
H25UF-BN2-00602	●					2	
H25UF-BN2-00603	●					3	
H25UF-BN2-00802	●	0.8	0.4	0.6	0.75	2	
H25UF-BN2-00804	●					4	
H25UF-BN2-00806	●					6	
H25UF-BN2-01006	●	1	0.5	0.8	0.95	6	
H25UF-BN2-01008	●					8	
H25UF-BN2-01010	●					10	
H25UF-BN2-01206	●	1.2	0.6	1	1.15	6	
H25UF-BN2-01208	●					8	
H25UF-BN2-01210	●					10	
H25UF-BN2-01508	●	1.5	0.75	1.4	1.44	8	
H25UF-BN2-01510	●					10	
H25UF-BN2-01512	●					12	
H25UF-BN2-02008	●	2	1	1.6	1.92	8	
H25UF-BN2-02010	●					10	
H25UF-BN2-02012	●					12	

P20F 2 flute,micro diameter,long necked,ball nose







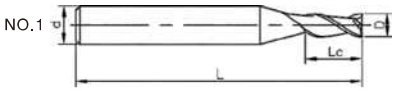
HRC35–48

Ordering Code	Stock	D	r	Lc	d2	L1	L
P20F-BN2-00802	●	0.8	0.4	0.6	0.75	2	50
P20F-BN2-00804	●					4	
P20F-BN2-00806	●					6	
P20F-BN2-01006	●	1	0.5	0.8	0.95	6	
P20F-BN2-01008	●					8	
P20F-BN2-01010	●					10	
P20F-BN2-01206	●	1.2	0.6	1	1.15	6	
P20F-BN2-01208	●					8	
P20F-BN2-01210	●					10	
P20F-BN2-01508	●	1.5	0.75	1.4	1.44	8	
P20F-BN2-01510	●					10	
P20F-BN2-01512	●					12	
P20F-BN2-02008	●	2	1	1.6	1.92	8	
P20F-BN2-02010	●					10	
P20F-BN2-02012	●					12	

●Stock ○Availabie upon Order

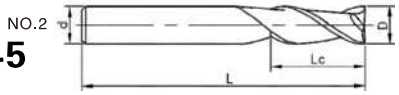
M20F 2 flute standard length,square end







HRC25–45

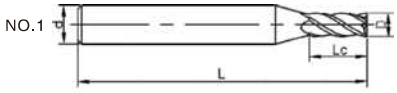


Ordering Code	Stock	D	Lc	L	d	Figure No.
M20F-S2-00501	●	0.5	1	50	4	1
M20F-S2-00802	●	0.8	2			
M20F-S2-01003	●	1	3			
M20F-S2-01504	●	1.5	4			
M20F-S2-02006	●	2	6			
M20F-S2-02508	●	2.5	8			
M20F-S2-63008	●	3	8		6	
M20F-S2-03009	●	3	9		4	
M20F-S2-03510	●	3.5	10			
M20F-S2-04011	●	4	11			2
M20F-S2-64011	●	4	11		6	1
M20F-S2-05013	●	5	13			
M20F-S2-06016	●	6	16			2
M20F-S2-08020	●	8	20	60	8	
M20F-S2-10025	●	10	25	75	10	
M20F-S2-12030	●	12	30		12	
M20F-S2-16036	●	16	36	100	16	
M20F-S2-20045	●	20	45		20	

●Stock ○Availabie upon Order

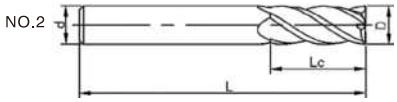
M20F 4 flute standard length,square end







HRC25–45



Ordering Code	Stock	D	Lc	L	d	Figure No.
M20F–S4–01003	●	1	3	50	4	1
M20F–S4–01504	●	1.5	4			
M20F–S4–02006	●	2	6			
M20F–S4–02508	●	2.5	8			
M20F–S4–63008	●	3	8		6	
M20F–S4–03009	●	3	9		4	
M20F–S4–04011	●	4	11			2
M20F–S4–64011	●	4	11		6	1
M20F–S4–05013	●	5	13			
M20F–S4–06016	●	6	16			2
M20F–S4–08020	●	8	20	60	8	
M20F–S4–10025	●	10	25	75	10	
M20F–S4–12030	●	12	30		12	
M20F–S4–16036	●	16	36	100	16	
M20F–S4–20045	●	20	45		20	

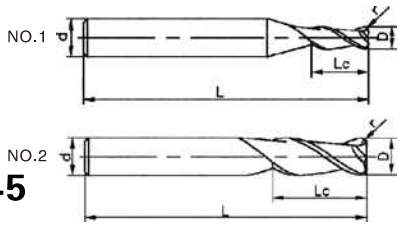
●Stock ○Availabie upon Order

M20F 2 flute,corner radius





HRC25–45



Ordering Code	Stock	D	Lc	r	L	d	Figure No.
M20F–R2–03003	●	3	9	0.3	50	4	1
M20F–R2–03005	●			0.5			
M20F–R2–04002	●	4	11	0.2			2
M20F–R2–64002	●					6	1
M20F–R2–04003	●			0.3		4	2
M20F–R2–64003	●					6	
M20F–R2–64005	●			0.5			1
M20F–R2–05002	●	5	13	0.2			
M20F–R2–05003	●			0.3			
M20F–R2–05005	●			0.5			
M20F–R2–06002	●	6	16	0.2			2
M20F–R2–06003	●			0.3			
M20F–R2–06005	●			0.5			
M20F–R2–08005	●	8	20		60	8	
M20F–R2–08010	●			1			
M20F–R2–10005	●	10	25	0.5	75	10	
M20F–R2–10010	●			1			
M20F–R2–10015	●			1.5			
M20F–R2–12005	●	12	30	0.5		12	
M20F–R2–12010	●			1			
M20F–R2–12015	●			1.5			
M20F–R2–16005	●	16	36	0.5	100	16	
M20F–R2–16010	●			1			
M20F–R2–16020	●			2			
M20F–R2–16030	●			3			

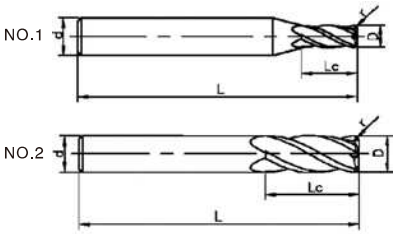
●Stock ○Availabie upon Order

M20F 4 flute,corner radius





HRC25–45



Ordering Code	Stock	D	Lc	r	L	d	Figure No.
M20F-R4-02002	●	2	6	0.2	50	4	1
M20F-R4-03003	●	3	9	0.3			
M20F-R4-64002	●	4	11	0.2		6	
M20F-R4-64003	●			0.3			
M20F-R4-04003	●					4	2
M20F-R4-05005	●	5	13	0.5		6	1
M20F-R4-06005	●	6	16				2
M20F-R4-08002	●	8	20	0.2	60	8	
M20F-R4-68005	●			0.5			
M20F-R4-10005	●	10	25		75	10	
M20F-R4-10010	●			1			
M20F-R4-12010	●	12	30			12	
M20F-R4-16010	●	16	36		100	16	
M20F-R4-20010	●	20	45			20	

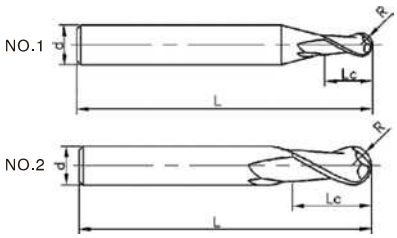
●Stock ○Availabie upon Order

M20F 2 flute,ball nose





HRC25–45



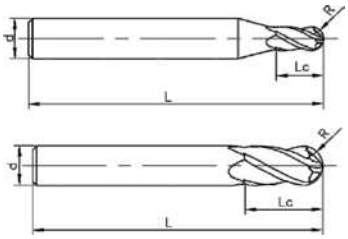
Ordering Code	Stock	D	R	Lc	L	d	Figure No.
M20F–B2–01002	●	1	0.5	2	50	4	1
M20F–B2–01503	●	1.5	0.75	3			
M20F–B2–02004	●	2	1	4			
M20F–B2–03006	●	3	1.5	6		6	
M20F–B2–63006	●						
M20F–B2–04008	●	4	2	8		4	2
M20F–B2–64008	●					6	1
M20F–B2–05010	●	5	2.5	10			
M20F–B2–06012	●	6	3	12			2
M20F–B2–08014	●	8	4	14	60	8	
M20F–B2–10018	●	10	5	18	75	10	
M20F–B2–12022	●	12	6	22		12	
M20F–B2–16026	●	16	8	26	100	16	
M20F–B2–20038	●	20	10	38		20	

M20F 4 flute,ball nose





HRC25–45



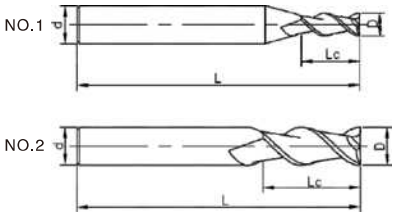
Ordering Code	Stock	D	R	Lc	L	d	Figure No.
M20F–B4–01002	●	1	0.5	2	50	4	1
M20F–B4–01503	●	1.5	0.75	3			
M20F–B4–02004	●	2	1	4			
M20F–B4–03006	●	3	1.5	6		6	
M20F–B4–63006	●	3	1.5				
M20F–B4–04008	●	4	2	8		4	2
M20F–B4–64008	●	4	2			6	1
M20F–B4–05010	●	5	2.5	10			
M20F–B4–06012	●	6	3	12			2
M20F–B4–08014	●	8	4	14	60	8	
M20F–B4–10018	●	10	5	18	75	10	
M20F–B4–12022	●	12	6	22		12	
M20F–B4–16026	●	16	8	26	100	16	
M20F–B4–20038	●	20	10	38		20	

●Stock ○Availabie upon Order

N25UF 2 flute,corner radius







Standard shank

Ordering Code	Stock	D	Lc	L	d	Figure No.
N25UF-S2-01003	●	1	3	50	4	1
N25UF-S2-02006	●	2	6			
N25UF-S2-03009	●	3	9			
N25UF-S2-63009	●				6	
N25UF-S2-04011	●	4	11		4	2
N25UF-S2-64011	●				6	1
N25UF-S2-05013	●	5	13			
N25UF-S2-06016	●	6	16			2
N25UF-S2-07020	●	7	20	60	8	1
N25UF-S2-08020	●	8	20			2
N25UF-S2-09023	●	9	23	75	10	1
N25UF-S2-10025	●	10	25			2
N25UF-S2-12030	●	12	30		12	
N25UF-S2-16036	●	16	36	100	16	
N25UF-S2-20045	●	20	45		20	

Long shank

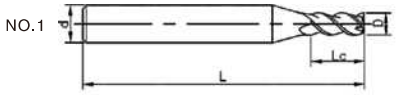
Ordering Code	Stock	D	Lc	L	d	Figure No.
N25UF-SH2-02006	●	2	6	75	4	1
N25UF-SH2-03009	●	3	9			
N25UF-SH2-04010	●	4	10			2
N25UF-SH2-06015	●	6	15		6	
N25UF-SH2-08020	●	8	20	100	8	
N25UF-SH2-10025	●	10	25		10	
N25UF-SH2-12030	●	12	30		12	
N25UF-SH2-16036	●	16	36	150	16	
N25UF-SH2-20045	●	20	45		20	

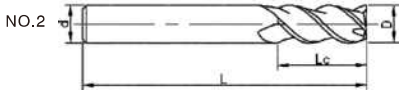
●Stock ○Availabie upon Order

N25UF 3 flute,square end









Standard shank

Ordering Code	Stock	D	Lc	L	d	Figure No.
N25UF-S3-02006	●	2	6	50	4	1
N25UF-S3-03009	●	3	9			
N25UF-S3-04011	●	4	11			2
N25UF-S3-05013	●	5	13		6	1
N25UF-S3-06016	●	6	16			2
N25UF-S3-07020	●	7	20	60	8	1
N25UF-S3-08020	●	8	20			2
N25UF-S3-09023	●	9	23	75	10	1
N25UF-S3-10025	●	10	25			2
N25UF-S3-12030	●	12	30		12	
N25UF-S3-16036	●	16	36	100	16	
N25UF-S3-18038	●	18	38		18	
N25UF-S3-20045	●	20	45		20	

Long shank

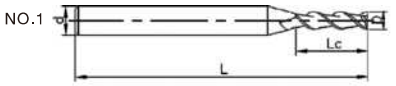
Ordering Code	Stock	D	Lc	L	d	Figure No.
N25UF-SH3-02020	●	2	20	75	4	1
N25UF-SH3-03025	●	3	25			
N25UF-SH3-04030	●	4	30			2
N25UF-SH3-05030	●	5	30		6	1
N25UF-SH3-06035	●	6	35			2
N25UF-SH3-08040	●	8	40	100	8	
N25UF-SH3-10045	●	10	45		10	
N25UF-SH3-12050	●	12	50		12	
N25UF-SH3-16060	●	16	60	150	16	
N25UF-SH3-20070	●	20	70		20	

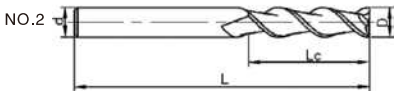
●Stock ○Availabie upon Order

N25UF 2 flute,long flute length,square end







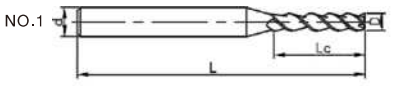


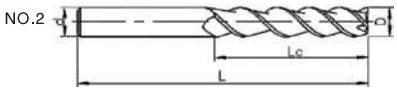
Ordering Code	Stock	D	Lc	L	d	Figure No.
N25UF-SL2-02020	○	2	20	75	4	1
N25UF-SL2-03025	○	3	25			
N25UF-SL2-04030	○	4	30			2
N25UF-SL2-05030	○	5	30		6	1
N25UF-SL2-06035	○	6	35			2
N25UF-SL2-08040	○	8	40	100	8	
N25UF-SL2-10045	○	10	45		10	
N25UF-SL2-12050	○	12	50		12	
N25UF-SL2-16060	○	16	60	150	16	
N25UF-SL2-20070	○	20	70		20	

N25UF 3 flute,long flute length,square end









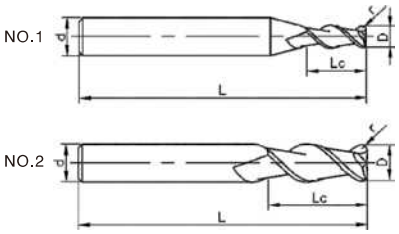
Ordering Code	Stock	D	Lc	L	d	Figure No.
N25UF-SL3-02020	●	2	20	75	4	1
N25UF-SL3-03025	●	3	25			
N25UF-SL3-04030	●	4	30			2
N25UF-SL3-05030	●	5	30		6	1
N25UF-SL3-06035	●	6	35			2
N25UF-SL3-08040	●	8	40	100	8	
N25UF-SL3-10045	●	10	45		10	
N25UF-SL3-12050	●	12	50		12	
N25UF-SL3-16060	●	16	60	150	16	
N25UF-SL3-20070	●	20	70		20	

●Stock ○Availabie upon Order

N25UF 2 flute,corner radius





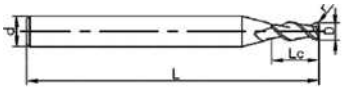


Ordering Code	Stock	D	Lc	r	L	d	Figure No.
N25UF-R2-01001	●	1	3	0.1	50	4	1
N25UF-R2-02002	●	2	6	0.2			
N25UF-R2-03002	●	3	9				
N25UF-R2-03003	●			0.3			
N25UF-R2-63003	●					6	
N25UF-R2-03005	●			0.5		4	
N25UF-R2-63005	●					6	
N25UF-R2-04002	●	4	11	0.2		4	2
N25UF-R2-04003	●			0.3			
N25UF-R2-64003	●					6	1
N25UF-R2-04005	●			0.5		4	2
N25UF-R2-64005	●					6	1
N25UF-R2-04010	●			1		4	2
N25UF-R2-05002	●	5	13	0.2		6	1
N25UF-R2-05003	●			0.2			
N25UF-R2-05005	●			0.5			
N25UF-R2-05010	●			1			
N25UF-R2-05015	●			1.5			
N25UF-R2-06005	●	6	16	0.5			2
N25UF-R2-06010	●			1			
N25UF-R2-06015	●			1.5			
N25UF-R2-06020	●			2			
N25UF-R2-08005	●			0.5			
N25UF-R2-08010	●	8	20	1	60	8	
N25UF-R2-08015	●			1.5			
N25UF-R2-08020	●			2			
N25UF-R2-10005	●			0.5			
N25UF-R2-10010	●	10	25	1	75	10	
N25UF-R2-10015	●			1.5			
N25UF-R2-10020	●			2			
N25UF-R2-10025	●			2.5			
N25UF-R2-12005	●	12	30	0.5		12	
N25UF-R2-12010	●			1			
N25UF-R2-12015	●			1.5			
N25UF-R2-12020	●			2			
N25UF-R2-12025	●			2.5			
N25UF-R2-16005	●	16	36	0.5	100	16	
N25UF-R2-16010	●			1			
N25UF-R2-16015	●			1.5			
N25UF-R2-16020	●			2			
N25UF-R2-16025	●			2.5			
N25UF-R2-20005	●	20	45	0.5		20	
N25UF-R2-20010	●			1			
N25UF-R2-20015	●			1.5			
N25UF-R2-20020	●			2			
N25UF-R2-20030	●			3			

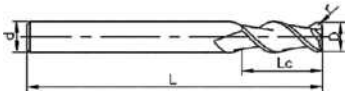
●Stock ○Availabie upon Order

N25UF 2 flute corner radius,with long shank length









Ordering Code	Stock	D	Lc	r	L	d	Figure No.
N25UF-RH2-06005	●	6	15	0.5	75	6	2
N25UF-RH2-06010	●			1			
N25UF-RH2-06015	●			1.5			
N25UF-RH2-06020	●			2			
N25UF-RH2-08005	●	8	20	0.5	100	8	
N25UF-RH2-08010	●			1			
N25UF-RH2-08015	●			1.5			
N25UF-RH2-08020	●			2			
N25UF-RH2-10005	●	10	25	0.5		10	
N25UF-RH2-10010	●			1			
N25UF-RH2-10015	●			1.5			
N25UF-RH2-10020	●			2			
N25UF-RH2-10025	●			2.5			
N25UF-RH2-12005	●	12	30	0.5		12	
N25UF-RH2-12010	●			1			
N25UF-RH2-12015	●			1.5			
N25UF-RH2-12020	●			2			
N25UF-RH2-12025	●			2.5			
N25UF-RH2-16005	●	16	36	0.5	150	16	
N25UF-RH2-16010	●			1			
N25UF-RH2-16015	●			1.5			
N25UF-RH2-16020	●			2			
N25UF-RH2-16025	●			2.5			
N25UF-RH2-20005	●	20	45	0.5		20	
N25UF-RH2-20010	●			1			
N25UF-RH2-20015	●			1.5			
N25UF-RH2-20020	●			2			
N25UF-RH2-20030	●			3			

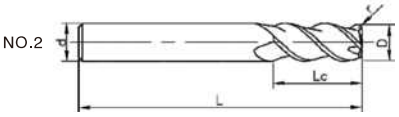
●Stock ○Availabie upon Order

N25UF 3 flute,corner radius







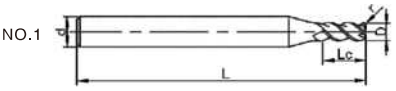


Ordering Code	Stock	D	Lc	r	L	d	Figure No.
N25UF-R3-01001	●	1	3	0.1	50	4	1
N25UF-R3-02002	●	2	6	0.2			
N25UF-R3-03002	●	3	9				
N25UF-R3-03003	●			0.3			
N25UF-R3-03005	●			0.5			
N25UF-R3-04002	●	4	11	0.2			2
N25UF-R3-04003	●			0.3			
N25UF-R3-04005	●			0.5			
N25UF-R3-04010	●			1			
N25UF-R3-05002	●	5	13	0.2		6	1
N25UF-R3-05003	●			0.3			
N25UF-R3-05005	●			0.5			
N25UF-R3-05010	●			1			
N25UF-R3-05015	●			1.5			2
N25UF-R3-06005	●	6	16	0.5			
N25UF-R3-06010	●			1			
N25UF-R3-06015	●			1.5			
N25UF-R3-06020	●			2			
N25UF-R3-08005	●	8	20	0.5	60	8	
N25UF-R3-08010	●			1			
N25UF-R3-08015	●			1.5			
N25UF-R3-08020	●			2			
N25UF-R3-10005	●	10	25	0.5	75	10	
N25UF-R3-10010	●			1			
N25UF-R3-10015	●			1.5			
N25UF-R3-10020	●			2			
N25UF-R3-10025	●			2.5			
N25UF-R3-12005	●	12	30	0.5		12	
N25UF-R3-12010	●			1			
N25UF-R3-12015	●			1.5			
N25UF-R3-12020	●			2			
N25UF-R3-12025	●			2.5			
N25UF-R3-16005	●	16	36	0.5	100	16	
N25UF-R3-16010	●			1			
N25UF-R3-16015	●			1.5			
N25UF-R3-16020	●			2			
N25UF-R3-16025	●			2.5			
N25UF-R3-20005	●	20	45	0.5		20	
N25UF-R3-20010	●			1			
N25UF-R3-20015	●			1.5			
N25UF-R3-20020	●			2			
N25UF-R3-20030	●			3			

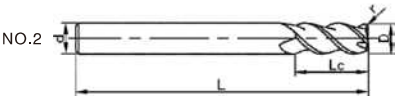
●Stock ○Availabie upon Order

N25UF 3 flute corner radius,with long shank length









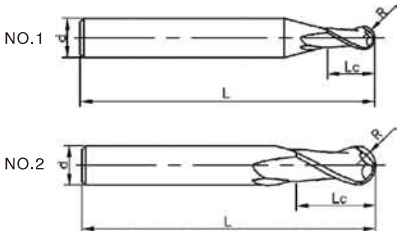
Ordering Code	Stock	D	Lc	r	L	d	Figure No.
N25UF-RH3-06005	●	6	15	0.5	75	6	2
N25UF-RH3-06010	●			1			
N25UF-RH3-06015	●			1.5			
N25UF-RH3-06020	●			2			
N25UF-RH3-08005	●	8	20	0.5	100	8	
N25UF-RH3-08010	●			1			
N25UF-RH3-08015	●			1.5			
N25UF-RH3-08020	●			2			
N25UF-RH3-10005	●	10	25	0.5		10	
N25UF-RH3-10010	●			1			
N25UF-RH3-10015	●			1.5			
N25UF-RH3-10020	●			2			
N25UF-RH3-10025	●			2.5			
N25UF-RH3-12005	●	12	30	0.5		12	
N25UF-RH3-12010	●			1			
N25UF-RH3-12015	●			1.5			
N25UF-RH3-12020	●			2			
N25UF-RH3-12025	●			2.5			
N25UF-RH3-16005	●	16	36	0.5	150	16	
N25UF-RH3-16010	●			1			
N25UF-RH3-16015	●			1.5			
N25UF-RH3-16020	●			2			
N25UF-RH3-16025	●			2.5			
N25UF-RH3-20005	●	20	45	0.5		20	
N25UF-RH3-20010	●			1			
N25UF-RH3-20015	●			1.5			
N25UF-RH3-20020	●			2			
N25UF-RH3-20030	●			3			

●Stock ○Availabie upon Order

N25UF 2 flute,ballnose







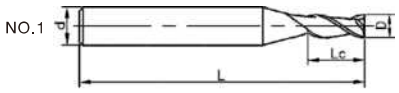
Ordering Code	Stock	D	R	Lc	L	d	Figure No.
N25UF-B2-01002	●	1	0.5	2	50	4	1
N25UF-B2-02004	●	2	1	4			
N25UF-B2-03006	●	3	1.5	6			
N25UF-B2-63006	●					6	
N25UF-B2-04008	●	4	2	8		4	2
N25UF-B2-64008	●					8	1
N25UF-B2-05010	●	5	2.5	10			
N25UF-B2-06012	●	6	3	12			2
N25UF-B2-07014	●	7	3.5	14	60	10	1
N25UF-B2-08014	●	8	4				2
N25UF-B2-09016	●	9	4.5	16	75	12	2
N25UF-B2-10018	●	10	5	18			
N25UF-B2-12022	●	12	6	22		16	
N25UF-B2-16026	●	16	8	26	100		

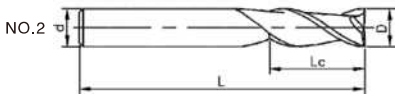
●Stock ○Availabie upon Order

NGK05A 2 flute,standard length,square end







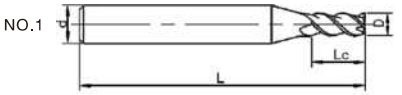


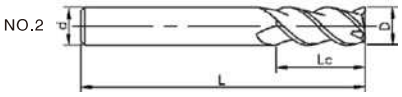
Ordering Code	Stock	D	Lc	L	d	Figure No.
NGK05A-S2-02006	○	2	6	50	4	1
NGK05A-S2-03009	○	3	9			
NGK05A-S2-04010	○	4	10			2
NGK05A-S2-05013	○	5	13		6	1
NGK05A-S2-06015	○	6	15			2
NGK05A-S2-08020	○	8	20	60	8	
NGK05A-S2-10025	○	10	25	75	10	
NGK05A-S2-12030	○	12	30		12	

NGK05A 3 flute,long flute length,square end









Ordering Code	Stock	D	Lc	L	d	Figure No.
NGK05A-S3-02006	○	2	6	50	4	1
NGK05A-S3-03009	○	3	9			
NGK05A-S3-04010	○	4	10			2
NGK05A-S3-05013	○	5	13		6	1
NGK05A-S3-06015	○	6	15			2
NGK05A-S3-08020	○	8	20	60	8	
NGK05A-S3-10025	○	10	25	75	10	
NGK05A-S3-12030	○	12	30		12	

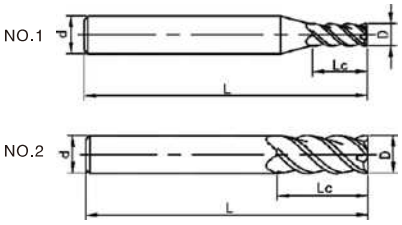
For high productivity edge-finishing and finishing in graphite.Diamond coating for longer tool life

●Stock ○Availabie upon Order

NGK05A 4 flute,standard length,square end





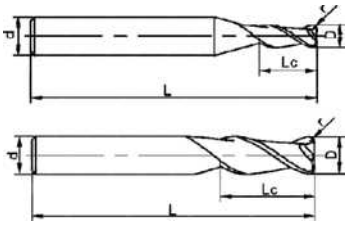


Ordering Code	Stock	D	Lc	L	d	Figure No.
NGK05A-S4-02006	○	2	6	50	4	1
NGK05A-S4-03009	○	3	9			
NGK05A-S4-04010	○	4	10			2
NGK05A-S4-05013	○	5	13		6	1
NGK05A-S4-06015	○	6	15			2
NGK05A-S4-08020	○	8	20	60	8	
NGK05A-S4-10025	○	10	25	75	10	
NGK05A-S4-12030	○	12	30		12	

NGK05A 2 flute,corner radius







Ordering Code	Stock	D	Lc	r	L	d	Figure No.
NGK05A-R2-06003	○	6	16	0.3	50	6	2
NGK05A-R2-06005	○			0.5			
NGK05A-R2-08005	○	8	20		60	8	
NGK05A-R2-08010	○			1			
NGK05A-R2-10005	○	10	25	0.5	75	10	
NGK05A-R2-10010	○			1			
NGK05A-R2-10015	○			1.5			
NGK05A-R2-12005	○	12	30	0.5		12	
NGK05A-R2-12010	○			1			
NGK05A-R2-12015	○			1.5			
NGK05A-R2-16005	○	16	36	0.5	100	16	
NGK05A-R2-16010	○			1			
NGK05A-R2-16020	○			2			

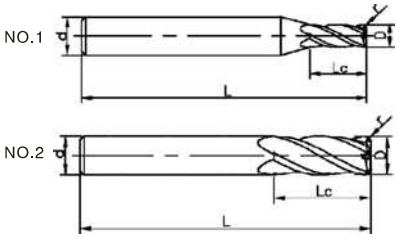
For high productivity edge-finishing and finishing in graphite.Diamond coating for longer tool life

●Stock ○Availabie upon Order

NGK05A 4 flute,corner radius





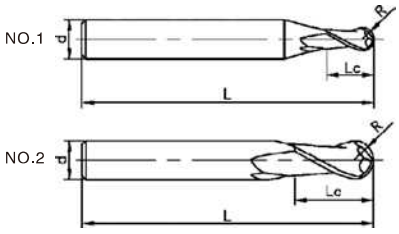


Ordering Code	Stock	D	Lc	r	L	d	Figure No.
NGK05A-R4-06005	○	6	16	0.5	50	6	2
NGK05A-R4-08002	○	8	20	0.2	60	8	
NGK05A-R4-08005	○			0.5			
NGK05A-R4-10005	○	10	25		75	10	
NGK05A-R4-10010	○			1			
NGK05A-R4-12010	○	12	30			12	
NGK05A-R4-16010	○	16	36		100	16	
NGK05A-R4-20010	○	20	45			20	

NGK05A 2 flute,Ballnose







Ordering Code	Stock	D	R	Lc	L	d	Figure No.
NGK05A-B2-02004	○	2	1	4	50	4	1
NGK05A-B2-03006	○	3	1.5	6			
NGK05A-B2-04008	○	4	2	8			2
NGK05A-B2-05010	○	5	2.5	10	60	6	1
NGK05A-B2-06012	○	6	3	12			2
NGK05A-B2-08014	○	8	4	14	75	8	
NGK05A-B2-10018	○	10	5	18	100	10	
NGK05A-B2-12022	○	12	6	22		12	

For high productivity edge-finishing and finishing in graphite.Diamond coating for longer tool life

●Stock ○Availabie upon Order

P20F recommended cutting parameters

For Steels,Cast Iron—Side Miling

Workpicec Material				Cutting Speed(m/min)			Tool Diameter(mm)								
		a_p	a_e	Min	Optimum	Max	mm	3	4	6	8	10	12	16	20
P	P1	1.5×D	0.15×D	150	180	210	Fz	0.028	0.036	0.048	0.065	0.08	0.09	0.12	0.15
	P2	1.5×D	0.15×D	150	180	210	Fz	0.028	0.036	0.048	0.065	0.08	0.09	0.12	0.15
	P3	1.5×D	0.15×D	130	150	170	Fz	0.025	0.032	0.042	0.063	0.073	0.084	0.095	0.12
	P4	1×D	0.15×D	130	150	170	Fz	0.025	0.032	0.042	0.063	0.073	0.084	0.095	0.12
M	M1	1.5×D	0.15×D	120	150	180	Fz	0.028	0.036	0.048	0.066	0.085	0.09	0.12	0.13
	M2	1.5×D	0.15×D	110	130	160	Fz	0.025	0.032	0.043	0.063	0.074	0.085	0.095	0.11
	M3	1×D	0.12×D	100	120	140	Fz	0.021	0.027	0.038	0.054	0.06	0.065	0.07	0.08
K	K1	1.5×D	0.15×D	150	180	210	Fz	0.03	0.037	0.053	0.064	0.075	0.085	0.1	0.12
	K2	1.5×D	0.15×D	130	160	190	Fz	0.025	0.032	0.048	0.059	0.069	0.08	0.095	0.11

For Steels,Cast Iron—Slotting

Workpicec Material			Cutting Speed(m/min)			Tool Diameter(mm)								
		a_p	Min	Optimum	Max	mm	3	4	6	8	10	12	16	20
P	P1	0.8×D	60	80	95	Fz	0.025	0.042	0.052	0.062	0.072	0.082	0.125	0.16
	P2	0.8×D	60	80	95	Fz	0.025	0.042	0.052	0.062	0.072	0.082	0.125	0.16
	P3	0.5×D	55	75	90	Fz	0.022	0.037	0.047	0.052	0.062	0.072	0.105	0.13
	P4	0.5×D	55	70	85	Fz	0.022	0.037	0.047	0.052	0.062	0.072	0.105	0.13
M	M1	0.3×D	40	55	65	Fz	0.015	0.022	0.038	0.049	0.06	0.07	0.083	0.095
	M2	0.3×D	40	55	65	Fz	0.012	0.018	0.035	0.046	0.056	0.066	0.078	0.09
	M3	0.3×D	35	50	60	Fz	0.01	0.017	0.032	0.042	0.053	0.064	0.075	0.085
K	K1	0.5×D	50	60	70	Fz	0.022	0.037	0.047	0.052	0.063	0.074	0.105	0.13
	K2	0.5×D	45	55	65	Fz	0.018	0.028	0.043	0.05	0.06	0.07	0.085	0.096

For Steels,Cast Iron—Profiling

Workpicec Material				Cutting Speed(m/min)			Tool Diameter(mm)									
		a_p	a_e	Min	Optimum	Max	mm	4	5	6	7	8	9	10	11	12
P	P1	0.2×D	0.3×D	120	160	200	Fz	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12
	P2	0.2×D	0.3×D	120	160	200	Fz	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12
	P3	0.2×D	0.3×D	110	140	170	Fz	0.035	0.045	0.055	0.063	0.072	0.08	0.09	0.1	0.11
	P4	0.2×D	0.3×D	110	140	170	Fz	0.035	0.045	0.055	0.063	0.072	0.08	0.09	0.1	0.11
M	M1	0.2×D	0.2×D	80	110	130	Fz	0.035	0.045	0.055	0.063	0.072	0.08	0.09	0.1	0.11
	M2	0.2×D	0.2×D	80	110	130	Fz	0.035	0.045	0.055	0.063	0.072	0.08	0.09	0.1	0.11
	M3	0.1×D	0.1×D	70	85	100	Fz	0.032	0.042	0.052	0.058	0.065	0.072	0.08	0.087	0.095
K	K1	0.2×D	0.2×D	110	140	170	Fz	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12
	K2	0.2×D	0.2×D	110	140	170	Fz	0.035	0.045	0.055	0.063	0.072	0.08	0.09	0.1	0.11

This serie tools are most suitable for steels and cast iron,and also versatile for other materials listed above.

M20F recommended cutting parameters

Stainless Steels—Side Milling

Workpicec Material				Cutting Speed(m/min)			Tool Diameter(mm)									
		a_p	a_e	Min	Optimum	Max	mm	1	2	4	6	8	10	12	16	20
M	M1	1 × D	0.1 × D	100	120	150	Fz	0.011	0.018	0.03	0.042	0.059	0.071	0.08	0.105	0.113
	M2	1 × D	0.1 × D	90	110	130	Fz	0.008	0.013	0.028	0.038	0.057	0.066	0.076	0.085	0.095
	M3	1 × D	0.1 × D	80	100	110	Fz	0.006	0.01	0.022	0.032	0.046	0.052	0.057	0.062	0.072
S	S1	1 × D	0.05 × D	25	35	45	Fz	0.007	0.01	0.015	0.022	0.03	0.034	0.04	0.05	0.06
	S2	1 × D	0.05 × D	25	35	45	Fz	0.007	0.01	0.015	0.022	0.03	0.034	0.04	0.05	0.06
	S3	1 × D	0.05 × D	25	35	45	Fz	0.007	0.01	0.015	0.022	0.03	0.034	0.04	0.05	0.06
	S4	1 × D	0.08 × D	50	60	80	Fz	0.01	0.015	0.023	0.032	0.045	0.052	0.058	0.07	0.08

Stainless Steels—Side Slotting

Workpicec Material			Cutting Speed(m/min)			Tool Diameter(mm)									
		a_p	Min	Optimum	Max	mm	1	2	4	6	8	10	12	16	20
M	M1	0.3 × D	40	50	60	Fz	0.009	0.012	0.02	0.036	0.047	0.058	0.068	0.08	0.09
	M2	0.3 × D	40	50	60	Fz	0.007	0.01	0.017	0.033	0.044	0.054	0.064	0.075	0.085
	M3	0.3 × D	35	45	55	Fz	0.006	0.009	0.015	0.03	0.04	0.05	0.06	0.07	0.08
S	S1	0.25 × D	20	30	40	Fz	0.005	0.01	0.015	0.022	0.025	0.03	0.035	0.045	0.055
	S2	0.25 × D	20	30	40	Fz	0.005	0.01	0.015	0.022	0.025	0.03	0.035	0.045	0.055
	S3	0.25 × D	20	30	40	Fz	0.005	0.01	0.015	0.022	0.025	0.03	0.035	0.045	0.055
	S4	0.3 × D	30	50	70	Fz	0.008	0.013	0.018	0.025	0.03	0.035	0.04	0.05	0.06

Stainless Steels—Side Profiling

Workpicec Material				Cutting Speed(m/min)			Tool Diameter(mm)									
		a_p	a_e	Min	Optimum	Max	mm	1	2	4	6	8	10	12	16	20
M	M1	0.2 × D	0.2 × D	80	110	130	Fz	0.007	0.015	0.032	0.052	0.07	0.085	0.105	0.13	0.16
	M2	0.2 × D	0.2 × D	80	110	130	Fz	0.007	0.015	0.032	0.052	0.07	0.085	0.105	0.13	0.16
	M3	0.1 × D	0.1 × D	70	85	100	Fz	0.006	0.013	0.03	0.05	0.06	0.076	0.09	0.12	0.15
S	S1	0.15 × D	0.15 × D	30	40	50	Fz	0.006	0.013	0.03	0.05	0.068	0.082	0.1	0.12	0.15
	S2	0.15 × D	0.15 × D	30	40	50	Fz	0.006	0.013	0.03	0.05	0.068	0.082	0.1	0.12	0.15
	S3	0.15 × D	0.15 × D	30	40	50	Fz	0.006	0.013	0.03	0.05	0.068	0.082	0.1	0.12	0.15
	S4	0.3 × D	0.2 × D	60	70	80	Fz	0.01	0.02	0.04	0.06	0.08	0.1	0.12	0.16	0.2

This serie tools are most suitable for stainless steels,and also versatile for other materials listed above.

H25UF recommended cutting parameters

Hardened Steels(Miniature,deep grooving)—Side Miling

Workpicec Material				Cutting Speed(m/min)	Tool Diameter(mm)						
		a_p	a_e		mm	0.4	0.6	0.8	1	1.5	2
P M K H	H1	1 × D	0.1 × D	Max.Speed Of Machine	Fz	0.009	0.012	0.015	0.021	0.023	0.028
	H2	0.7 × D	0.08 × D	Max.Speed Of Machine	Fz	0.011	0.014	0.017	0.023	0.028	0.033
	H3	0.5 × D	0.05 × D	Max.Speed Of Machine	Fz	0.012	0.015	0.019	0.025	0.03	0.035

Hardened Steels(Miniature,deep grooving)—Slotting

Workpicec Material			Cutting Speed(m/min)	Tool Diameter(mm)						
		a_p		mm	0.4	0.6	0.8	1	1.5	2
P M K H	H1	0.2 × D	Max.Speed Of Machine	Fz	0.006	0.009	0.012	0.018	0.02	0.025
	H2	0.1 × D	Max.Speed Of Machine	Fz	0.008	0.011	0.014	0.02	0.025	0.03
	H3	0.05 × D	Max.Speed Of Machine	Fz	0.009	0.012	0.016	0.022	0.027	0.032

Hardened Steels(Miniature,deep grooving)—Profiling

Workpicec Material				Cutting Speed(m/min)	Tool Diameter(mm)							
		a_p	a_e		mm	0.4	0.6	0.8	1	1.2	1.5	2
P M K H	H1	0.04 × D	0.03 × D	Max.Speed Of Machine	Fz	0.015	0.018	0.022	0.024	0.026	0.03	0.04
	H2	0.03 × D	0.03 × D	Max.Speed Of Machine	Fz	0.018	0.021	0.024	0.026	0.03	0.035	0.045
	H3	0.02 × D	0.02 × D	Max.Speed Of Machine	Fz	0.021	0.024	0.026	0.028	0.034	0.04	0.05

This serie tools are most suitable for steels and cast iron,and also versatile for other materials listed above.

1、Maximum T.I.R.in when tool is chucked is 0.01mm(0.01mm maximum recommended).
2、Make sure work piece and machine are stable and use a precision holder.
3、Please adjust the speed,feed and cutting depth according to actual cutting conditons.
4、The milling conditions are for an Endmills where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer,please adjust the speed,feed and cutting depth.

N25UF/NGK recommended cutting parameters

Aluminium Alloy–Side Milling

Workpicec Material				Cutting Speed(m/min)			Tool Diameter(mm)									
		a_p	a_e	Min	Optimum	Max	mm	1	2	4	6	8	10	12	16	20
N	N1	1.5×D	0.2×D	300	500	700	Fz	0.02	0.03	0.055	0.065	0.075	0.1	0.14	0.2	0.25
	N2	1.5×D	0.2×D	300	500	700	Fz	0.02	0.03	0.055	0.065	0.075	0.1	0.14	0.2	0.25
	N3	1.5×D	0.15×D	200	350	550	Fz	0.015	0.025	0.045	0.055	0.065	0.08	0.12	0.16	0.2
	N4	1.5×D	0.2×D	280	450	650	Fz	0.018	0.028	0.05	0.06	0.07	0.09	0.13	0.18	0.22
		a_p	a_e	Min	Optimum	Max	mm	1	2	4	6	8	10	12		
Graphite	N3	1×D	0.15×D	150	200	300	Fz	0.02	0.03	0.05	0.06	0.07	0.085	0.13		
	N5	1.5×D	0.5×D	150	250	400	Fz	0.03	0.05	0.07	0.09	0.11	0.15	0.18		

Aluminium Alloy—Slotting

Workpicec Material			Cutting Speed(m/min)			Tool Diameter(mm)									
		a_p	Min	Optimum	Max	mm	1	2	4	6	8	10	12	16	20
N	N1	0.8×D	180	250	300	Fz	0.015	0.025	0.045	0.058	0.07	0.08	0.095	0.16	0.19
	N2	0.8×D	180	250	300	Fz	0.015	0.025	0.045	0.058	0.07	0.08	0.095	0.16	0.19
	N3	0.5×D	150	200	250	Fz	0.01	0.018	0.035	0.045	0.055	0.065	0.078	0.13	0.16
	N4	0.8×D	160	220	280	Fz	0.012	0.02	0.04	0.05	0.06	0.07	0.084	0.14	0.17
		a_p	Min	Optimum	Max	mm	1	2	4	6	8	10	12		
Graphite	N3	0.5×D	120	180	250	Fz	0.012	0.02	0.04	0.05	0.06	0.07	0.09		
	N5	0.5×D	120	200	300	Fz	0.018	0.03	0.045	0.065	0.085	0.11	0.15		

Aluminium Alloy–Profiling

Workpicec Material				Cutting Speed(m/min)			Tool Diameter(mm)								
		a_p	a_e	Min	Optimum	Max	mm	1	2	4	6	8	10	12	16
N	N1	0.3×D	0.3×D	320	450	600	Fz	0.025	0.05	0.08	0.12	0.16	0.2	0.24	0.32
	N2	0.3×D	0.3×D	320	450	600	Fz	0.025	0.05	0.08	0.12	0.16	0.2	0.24	0.32
	N3	0.3×D	0.3×D	250	320	400	Fz	0.02	0.04	0.06	0.1	0.14	0.18	0.22	0.25
	N4	0.3×D	0.3×D	300	400	500	Fz	0.022	0.045	0.07	0.11	0.15	0.19	0.23	0.28
		a_p	a_e	Min	Optimum	Max	mm	0.5	1	2	4	6	8	10	12
Graphite	N3	0.3×D	0.3×D	150	200	300	Fz	0.008	0.018	0.032	0.045	0.06	0.08	0.11	0.13
	N5	0.4×D	0.5×D	150	250	400	Fz	0.01	0.02	0.035	0.05	0.07	0.09	0.12	0.15

This serie tools are most suitable for stainless steels,and also versatile for other materials listed above.

Solid carbide drills & taps





Solid Carbide End Mills Identification System

P M K Steel、Cast Iron Stainless Steel Aluminium Alloy	PD20	PD20 Twist Drills for General Purpose ●Suitable for drilling steel,stainless steel,cast iron, non–ferrous material. ●Stub chisel, excellent self–center capability. ●Radial point,smaller cutting resistance. ●Unique edge preparation,higher feed rate,higher efficiency.
M S Stainless Steel Titanium Alloys	MD20	KD20 Twist Drills for Cast Iron ●Suitable for drilling cast iron of automobile industry and other industrier. ●Wave formed cutting lips provides lowered machining torque. ●Four margin,improves hole wall quality and accuracy. ●Increased Drilla point strength through optimized chisel edge.
K Aluminium Alloy	KD20	MD20 Twist Drills for Stainless Steel ●Suitable for drilling stainless steel. ●Excellent edge strength, excellent self–centering capability. ●Straight lips,precise edge preparation is adapted,reinforce the strenhth of edge. ●Small edge home,largeblack taper, reduce friction and torque impaction.
N Graphite	ND25UF	ND25UF Twist Drills for alloys ●Suitable for drilling cast iron,silicon–aluminium alloys. ●Surface Roughness Ra1–2 ●Increased Drilla point strength through optimized chisel edge.
H High Hardened Material	HD15UF	HD15UF Twist Drills for Hardened Steel ●Suitable for drilling hardened steel. ●Large core thickness, small helix angle, high rigidity and strength. ●X–shaped Drills tip, excellent self–center capability. ●Radius Drills point,excellent hole wall quality.

①	②	③	④	⑤
PD20	A	3	N	0600

Shank Type	
A	DIN6535HA
E	DIN6535HE
B	DIN6535HB
Y	Continuous Parallel Shank

Drilling Depth	
3	Drilling Depth≤3D
5	Drilling Depth≤5D
90	90° Point Angle
120	120° Point Angle
145	145° Point Angle

Coolant Type	
C	Inner Cooling
N	External Cooling

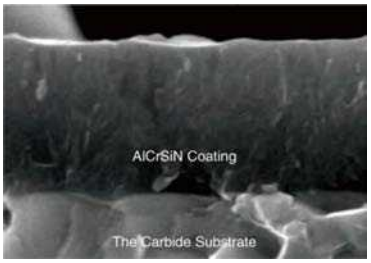
Drills Diameter	
0325	Dia:Φ3.25
0600	Dia:Φ6.00
1200	Dia:Φ12.00

Guidelines to Icons

	Mark	Description
Shank	SHANK h6	ISO Standard Shank
Coating	AlCrN	AlCrN Coating
	AlCrSiN	AlCrSiN Coating
	AlTiN nano	Nano Coating AlTiN
	AlTiN/ TiSiN	Nano Coating AlTiN/TiSiN
	U-DIA	Ultra Fine Grain Diamond Coating

	Mark	Description
Drilling Depth	3D	The Maximum Depth of Drilling is 3D
	5D	The Maximum Depth of Drilling is 5D
Drills Type		Twist Drills
		Twist Drills with Inner Cooling
		Straight Flute Drills
		Straight Flute Drills with Inner Cooling

	Mark	Description
Workpiece Material	P	Steels
	M	Stainless Steels
	K	Cast Iron
	N	Non–ferrous Materials
	S	Heat–resistant Super Alloys, Titanium Alloys
	H	High Hardened Materials

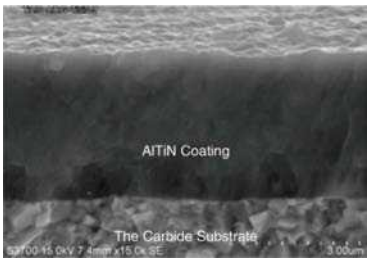


SEM Photograph of Coating

Universal High Performance Coating AlCrSiN

Characteristics and Function

- Productivity increase due to significantly higher cutting speed and feed for applications in a wide range of materials. Significantly enhanced productivity.
- Particular design of structure brings good balance between toughness, thermo–shock stability and residual stress.

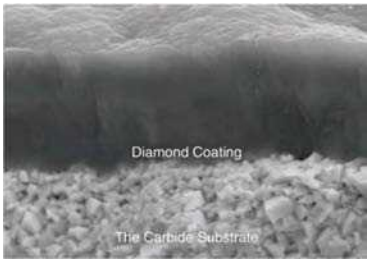


SEM Photograph of Coating

Nano Coating AlTiN

Characteristics and Function

- High aluminum content provides excellent hot hardness and oxidation resistance.
- Special method optimizes the structure of coating, significantly improvedstability, reducing the number of surface droplet.



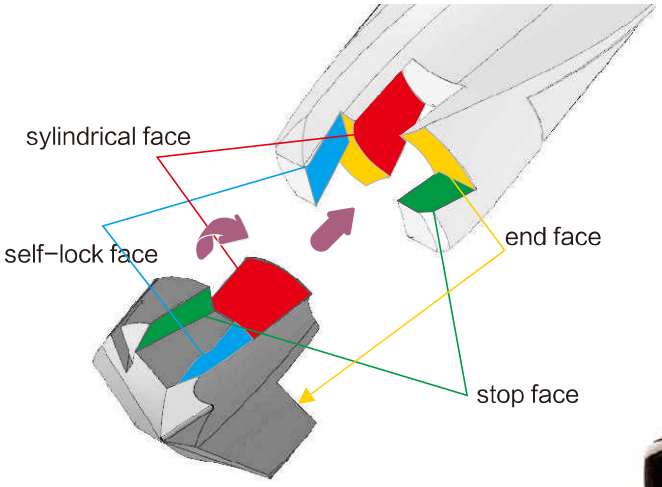
Cross–section Image

Ultra Fine Grain Diamond Coating

Characteristics and Function

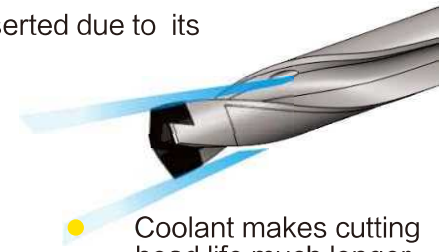
- High purity diamond coating, with hardness up to 80GPa.
- Ultra smooth and shiny surface, low coefficient friction.
- Suitable for finish machining nonferrous materials,such as graphite,aluminium,carbon fiber,ceramic,etc.

Self–Locked clamping system





- Centering by cylindrical faces
- The cutting head can be self–locked with toolholder while inserted due to its seat elastic deformation
- Axial drill fore is transferred to toolholder by end faces
- Drill torque is transferred to toolholder by stop faces



Coolant makes cutting head life much longer

How to attach cutting heads



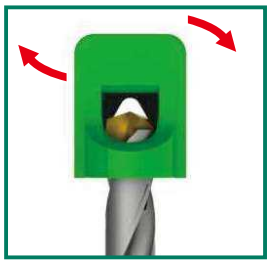
1

Remove dust using air blast



2

Turn lightly in a clockwise direction (Use gloves to protect your hand from any danger)



3

Turn the wrench in a clockwise direction slowly, then turn strongly while passing self-locked face untill cutting head won't move

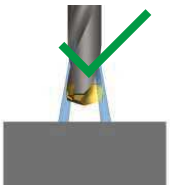


4

Complete

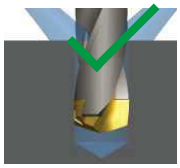
Cooling method

1



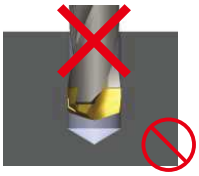
Suggest to select machine tools with inner cooling system

2

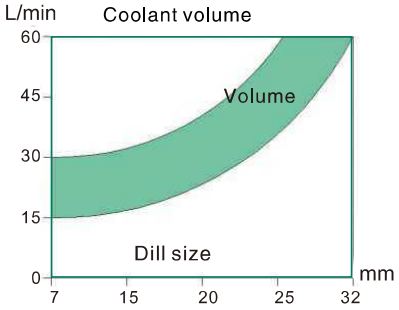


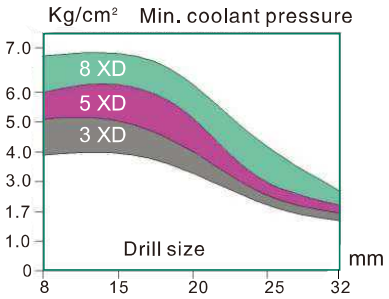
With outer cooling system, suggest to drill the hole size less than 3D diameter.

3

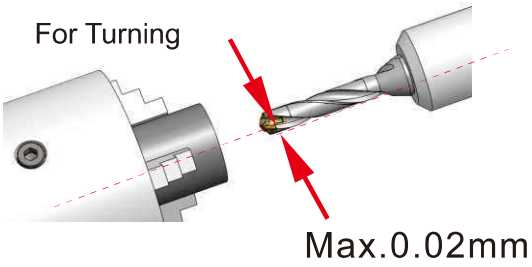


Do not dry cut

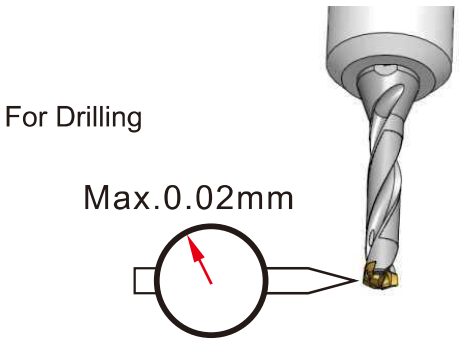




Usage precautions core deviation

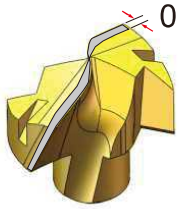


Set deviation amount under0.02mm between the workpiece and the drill



Do not use any arbor with a deformed attachment surface.
Center of arbor deviation must be within 0.02mm

Indication of cutting head wear



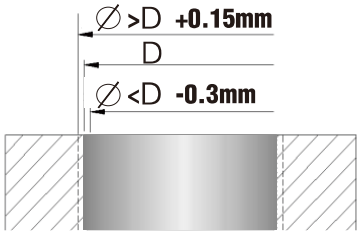
a) Wear Limit



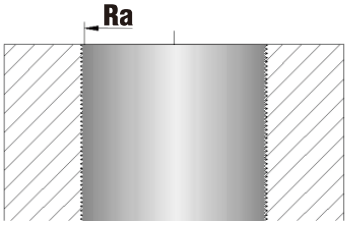
b) Power Restriction

(1) New cutting head

(2) Increase 25% for wore-out cutting head



c) Diameter Change

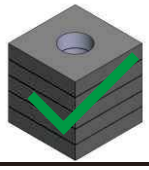


d) Surface Finish Deterioration



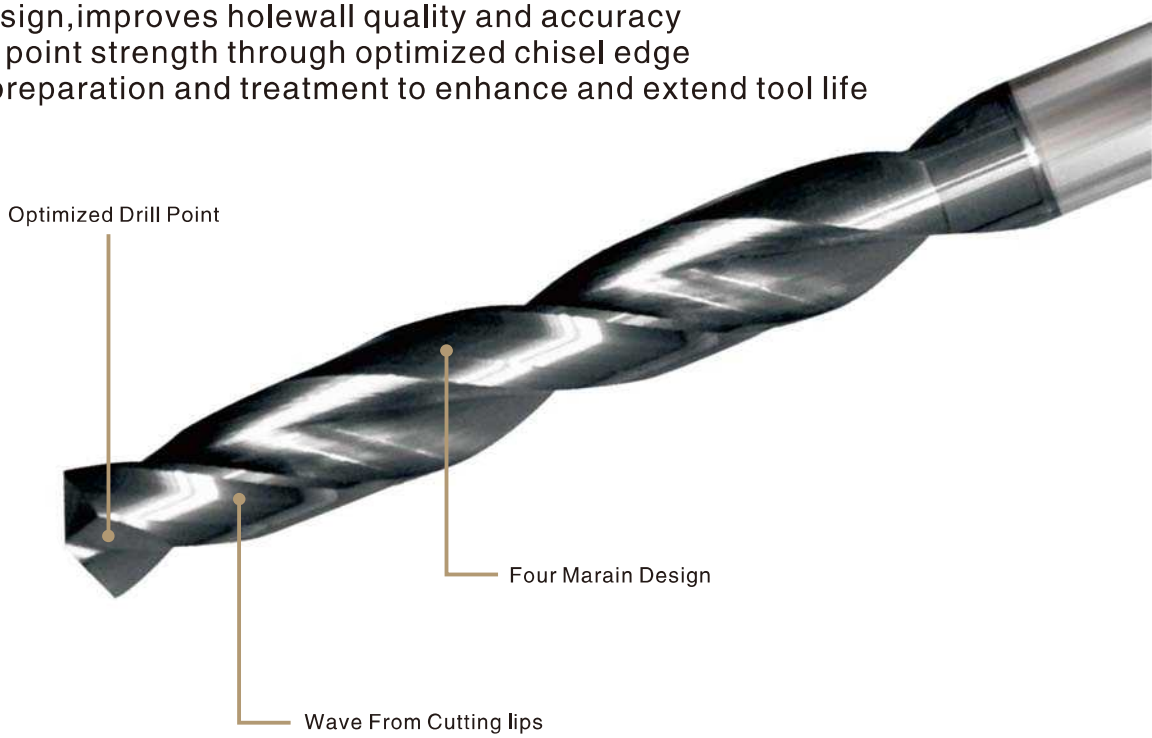
e) Vibration Noise Drastically Increases

Application

Application Recommendation	Workpiece Shape	Application Not Recommendation	Workpiece Shape
Flat Face Recommended		Hole Expansion Not Recommended	
Stacked Plates Recommended(absolutely don't move between plates)		Slanted Surface Not Recommended	
Concave Surface Recommended(reduce a half of feed tate as narmal)		Half Cylindrical Not Recommended	
Pipe Material Recommended		Cored Hole Not Recommended	

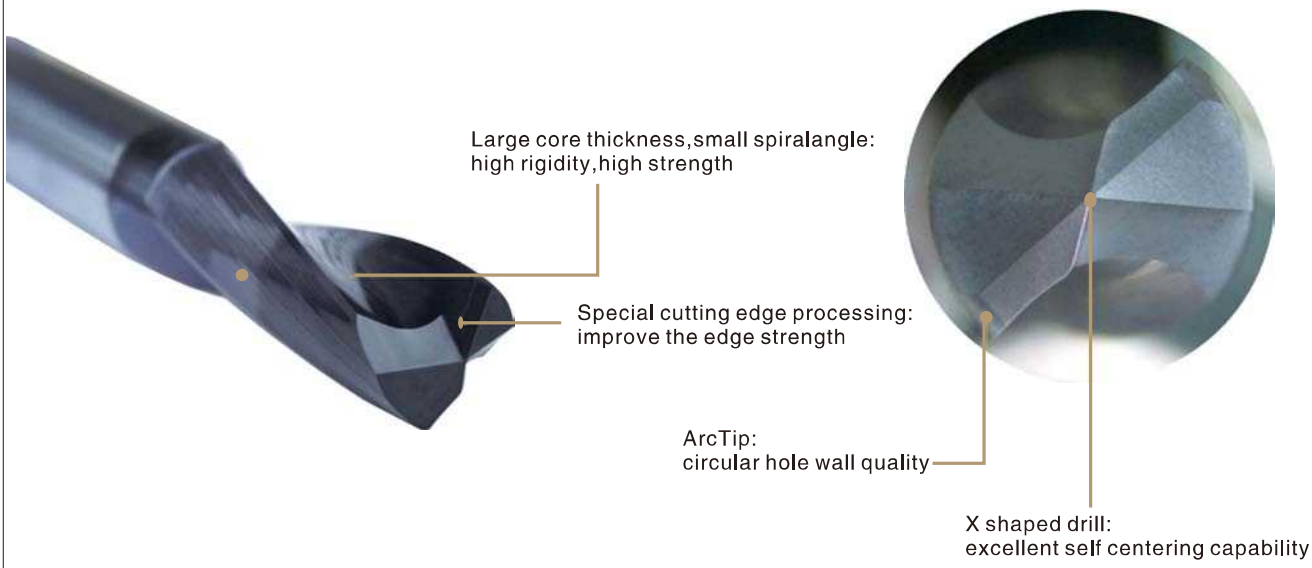
Outstanding Characteristics of KD20

- Dimension a standard:Based on DIN6535HA
- Material：GU series of micro grain carbide from NiceCutt
- Coating：HELICA
- Wave formed cutting lips provides lowered machining torque
- four margin design,improves holewall quality and accuracy
- Increased drill point strength through optimized chisel edge
- Special edge preparation and treatment to enhance and extend tool life



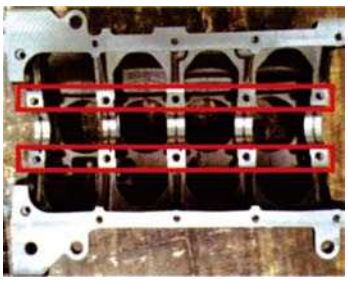
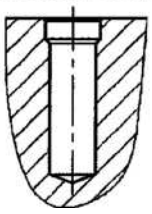
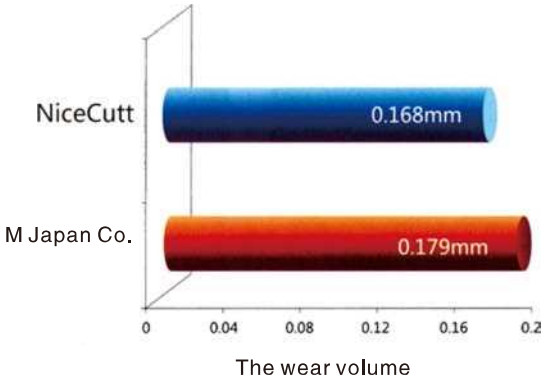
HD15UF Series Drill Characteristics

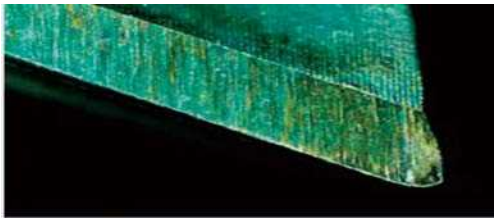
- Size standards：The design is based on DIN6539 standard
- Material：NiceCutt special GU series,submicron cemented carbide
- Coated layer：AlTiN



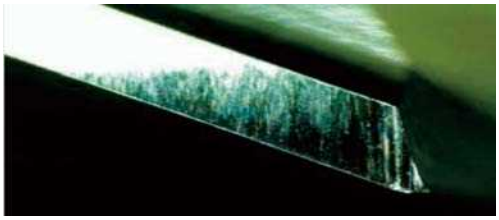
Case Study

Machining case of tap drill hole of cylinder block bearing in automobile engine

Even wear well distrbution,no chatter, provide outstanding drilling performance.		 Machining Shape 
Description	Step Twist Drill	
Type	D928	
Size	D8.75	 The wear volume
Workpiece	FCH1C (HB180–240)	
Cutting Speed	140m/min (5093rpm)	
Feed Rate	0.295mm/r (1502mm/min)	
Cutting Method	Drilling	
Cutting Depth	a_p =30mm	
Cooling Method	30Bar Intermal coolant	
Machine	HELLER horizontal machine center	Tool Life Production schedule requires drill change after finishing 500pcs(5000pcs holes),flank wear of D928 is smaller than M Japan Co.; Still able to drill 200pcs more after regrind and without recaoating. drills fulfill customers , requirement of localizing cutting tools



Nice Cutt 5000holes Cutting edge



S TiAIN coated carbide drill Cutting edge after 3700 holes machining

PM/PR head



P312~P313

Drill



P314~P315

PD20–A3N



P316

PD20–A3C



P317

PD20–A5N



P318

PD20–A5C



P319

KD20–A3N



P320

KD20–A3C



P320

KD20–A5N



P321

KD20–A5C



P321

MD20–A3N



P322

MD20–A3C



P323

MD20–A5C



P324

ND25UF–Y3N



P325

HD15UF–Y3N



P326

PD20–A90



P326

PD20–A120



P327

PD20–A145



P327

KZD20–A3N



P328

KZD20–A5C



P328

LJD20/SJD20



P329~P330

Forming tap



P337~P338

Cutting tap



P339

Plug gauge



P340

PM head



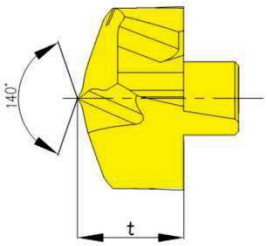
Recommend PM
Especially for less than 5D

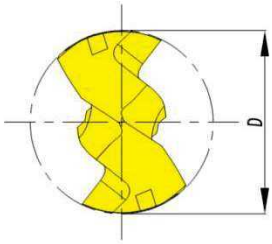
PR head



Recommend PR
Especially for more than 5D

P		M	K	N
Low–carbon steels	Steel	Stainless Steel	Cast Iron	Aluminium Alloy





Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD–080–PM/PR	8.0	5.4	●	●	MSQD080–12
MSQD–081–PM/PR	8.1	5.4	○	○	
MSQD–082–PM/PR	8.2	5.4	○	○	
MSQD–083–PM/PR	8.3	5.4	○	○	
MSQD–084–PM/PR	8.4	5.4	○	○	
MSQD–085–PM/PR	8.5	5.4	●	●	
MSQD–086–PM/PR	8.6	5.4	○	○	
MSQD–087–PM/PR	8.7	5.4	○	○	
MSQD–088–PM/PR	8.8	5.4	○	○	
MSQD–089–PM/PR	8.9	5.4	○	○	
MSQD–090–PM/PR	9.0	5.8	●	●	MSQD090–12
MSQD–091–PM/PR	9.1	5.8	○	○	
MSQD–092–PM/PR	9.2	5.8	○	○	
MSQD–093–PM/PR	9.3	5.8	○	○	
MSQD–094–PM/PR	9.4	5.8	○	○	
MSQD–095–PM/PR	9.5	5.8	●	●	
MSQD–096–PM/PR	9.6	5.8	○	○	
MSQD–097–PM/PR	9.7	5.8	○	○	
MSQD–098–PM/PR	9.8	5.8	○	○	
MSQD–099–PM/PR	9.9	5.8	○	○	
MSQD–100–PM/PR	10.0	6.2	●	●	MSQD100–12
MSQD–101–PM/PR	10.1	6.2	○	○	
MSQD–102–PM/PR	10.2	6.2	○	○	
MSQD–103–PM/PR	10.3	6.2	○	○	
MSQD–104–PM/PR	10.4	6.2	○	○	
MSQD–105–PM/PR	10.5	6.2	●	●	
MSQD–106–PM/PR	10.6	6.2	○	○	
MSQD–107–PM/PR	10.7	6.2	○	○	
MSQD–108–PM/PR	10.8	6.2	○	○	
MSQD–109–PM/PR	10.9	6.2	○	○	
MSQD–110–PM/PR	11.0	6.6	●	●	MSQD110–12
MSQD–111–PM/PR	11.1	6.6	○	○	
MSQD–112–PM/PR	11.2	6.6	○	○	
MSQD–113–PM/PR	11.3	6.6	○	○	
MSQD–114–PM/PR	11.4	6.6	○	○	
MSQD–115–PM/PR	11.5	6.6	●	●	
MSQD–116–PM/PR	11.6	6.6	○	○	
MSQD–117–PM/PR	11.7	6.6	○	○	
MSQD–118–PM/PR	11.8	6.6	○	○	
MSQD–119–PM/PR	11.9	6.6	○	○	

Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD–120–PM/PR	12.0	7.0	●	●	MSQD120–12
MSQD–121–PM/PR	12.1	7.0	○	○	
MSQD–122–PM/PR	12.2	7.0	○	○	
MSQD–123–PM/PR	12.3	7.0	○	○	
MSQD–124–PM/PR	12.4	7.0	○	○	
MSQD–125–PM/PR	12.5	7.0	●	●	
MSQD–126–PM/PR	12.6	7.0	○	○	
MSQD–127–PM/PR	12.7	7.0	○	○	
MSQD–128–PM/PR	12.8	7.0	○	○	
MSQD–129–PM/PR	12.9	7.0	○	○	
MSQD–130–PM/PR	13.0	7.6	●	●	MSQD130–12
MSQD–131–PM/PR	13.1	7.6	○	○	
MSQD–132–PM/PR	13.2	7.6	○	○	
MSQD–133–PM/PR	13.3	7.6	○	○	
MSQD–134–PM/PR	13.4	7.6	○	○	
MSQD–135–PM/PR	13.5	7.6	●	●	
MSQD–136–PM/PR	13.6	7.6	○	○	
MSQD–137–PM/PR	13.7	7.6	○	○	
MSQD–138–PM/PR	13.8	7.6	○	○	
MSQD–139–PM/PR	13.9	7.6	○	○	
MSQD–140–PM/PR	14.0	8.1	●	●	
MSQD–141–PM/PR	14.1	8.1	○	○	
MSQD–142–PM/PR	14.2	8.1	○	○	
MSQD–143–PM/PR	14.3	8.1	○	○	
MSQD–144–PM/PR	14.4	8.1	○	○	
MSQD–145–PM/PR	14.5	8.1	●	●	
MSQD–146–PM/PR	14.6	8.1	○	○	
MSQD–147–PM/PR	14.7	8.1	○	○	
MSQD–148–PM/PR	14.8	8.1	○	○	
MSQD–149–PM/PR	14.9	8.1	○	○	
MSQD–150–PM/PR	15.0	8.7	●	●	
MSQD–151–PM/PR	15.1	8.7	○	○	
MSQD–152–PM/PR	15.2	8.7	○	○	
MSQD–153–PM/PR	15.3	8.7	○	○	
MSQD–154–PM/PR	15.4	8.7	○	○	
MSQD–155–PM/PR	15.5	8.7	●	●	
MSQD–156–PM/PR	15.6	8.7	○	○	
MSQD–157–PM/PR	15.7	8.7	○	○	
MSQD–158–PM/PR	15.8	8.7	○	○	
MSQD–159–PM/PR	15.9	8.7	○	○	

●Stock ○Availabie upon Order

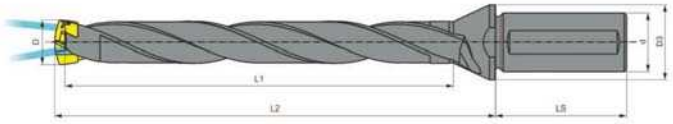
Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD-160-PM/PR	16.0	9.3	●	●	MSQD160-12
MSQD-161-PM/PR	16.1	9.3	○	○	
MSQD-162-PM/PR	16.2	9.3	○	○	
MSQD-163-PM/PR	16.3	9.3	○	○	
MSQD-164-PM/PR	16.4	9.3	○	○	
MSQD-165-PM/PR	16.5	9.3	●	●	
MSQD-166-PM/PR	16.6	9.3	○	○	
MSQD-167-PM/PR	16.7	9.3	○	○	
MSQD-168-PM/PR	16.8	9.3	○	○	
MSQD-169-PM/PR	16.9	9.3	○	○	
MSQD-170-PM/PR	17.0	9.9	●	●	MSQD170-12
MSQD-171-PM/PR	17.1	9.9	○	○	
MSQD-172-PM/PR	17.2	9.9	○	○	
MSQD-173-PM/PR	17.3	9.9	○	○	
MSQD-174-PM/PR	17.4	9.9	○	○	
MSQD-175-PM/PR	17.5	9.9	●	●	
MSQD-176-PM/PR	17.6	9.9	○	○	
MSQD-177-PM/PR	17.7	9.9	○	○	
MSQD-178-PM/PR	17.8	9.9	○	○	
MSQD-179-PM/PR	17.9	9.9	○	○	
MSQD-180-PM/PR	18.0	10.5	●	●	MSQD180-12
MSQD-181-PM/PR	18.1	10.5	○	○	
MSQD-182-PM/PR	18.2	10.5	○	○	
MSQD-183-PM/PR	18.3	10.5	○	○	
MSQD-184-PM/PR	18.4	10.5	○	○	
MSQD-185-PM/PR	18.5	10.5	●	●	
MSQD-186-PM/PR	18.6	10.5	○	○	
MSQD-187-PM/PR	18.7	10.5	○	○	
MSQD-188-PM/PR	18.8	10.5	○	○	
MSQD-189-PM/PR	18.9	10.5	○	○	
MSQD-190-PM/PR	19.0	11.0	●	●	MSQD190-12
MSQD-191-PM/PR	19.1	11.0	○	○	
MSQD-192-PM/PR	19.2	11.0	○	○	
MSQD-193-PM/PR	19.3	11.0	○	○	
MSQD-194-PM/PR	19.4	11.0	○	○	
MSQD-195-PM/PR	19.5	11.0	●	●	
MSQD-196-PM/PR	19.6	11.0	○	○	
MSQD-197-PM/PR	19.7	11.0	○	○	
MSQD-198-PM/PR	19.8	11.0	○	○	
MSQD-199-PM/PR	19.9	11.0	○	○	
MSQD-200-PM/PR	20.0	11.6	●	●	MSQD190-12
MSQD-201-PM/PR	20.1	11.6	○	○	
MSQD-202-PM/PR	20.2	11.6	○	○	
MSQD-203-PM/PR	20.3	11.6	○	○	
MSQD-204-PM/PR	20.4	11.6	○	○	
MSQD-205-PM/PR	20.5	11.6	●	●	
MSQD-206-PM/PR	20.6	11.6	○	○	
MSQD-207-PM/PR	20.7	11.6	○	○	
MSQD-208-PM/PR	20.8	11.6	○	○	
MSQD-209-PM/PR	20.9	11.6	○	○	

Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD-210-PM/PR	21.0	12.1	●	●	MSQD120-12
MSQD-211-PM/PR	21.1	12.1	○	○	
MSQD-212-PM/PR	21.2	12.1	○	○	
MSQD-213-PM/PR	21.3	12.1	○	○	
MSQD-214-PM/PR	21.4	12.1	○	○	
MSQD-215-PM/PR	21.5	12.1	●	●	
MSQD-216-PM/PR	21.6	12.1	○	○	
MSQD-217-PM/PR	21.7	12.1	○	○	
MSQD-218-PM/PR	21.8	12.1	○	○	
MSQD-219-PM/PR	21.9	12.1	○	○	
MSQD-220-PM/PR	22.0	12.7	●	●	MSQD130-12
MSQD-221-PM/PR	22.1	12.7	○	○	
MSQD-222-PM/PR	22.2	12.7	○	○	
MSQD-223-PM/PR	22.3	12.7	○	○	
MSQD-224-PM/PR	22.4	12.7	○	○	
MSQD-225-PM/PR	22.5	12.7	●	●	
MSQD-226-PM/PR	22.6	12.7	○	○	
MSQD-227-PM/PR	22.7	12.7	○	○	
MSQD-228-PM/PR	22.8	12.7	○	○	
MSQD-229-PM/PR	22.9	12.7	○	○	
MSQD-230-PM/PR	23.0	13.3	●	●	
MSQD-231-PM/PR	23.1	13.3	○	○	
MSQD-232-PM/PR	23.2	13.3	○	○	
MSQD-233-PM/PR	23.3	13.3	○	○	
MSQD-234-PM/PR	23.4	13.3	○	○	
MSQD-235-PM/PR	23.5	13.3	●	●	
MSQD-236-PM/PR	23.6	13.3	○	○	
MSQD-237-PM/PR	23.7	13.3	○	○	
MSQD-238-PM/PR	23.8	13.3	○	○	
MSQD-239-PM/PR	23.9	13.3	○	○	
MSQD-240-PM/PR	24.0	13.9	●	●	
MSQD-241-PM/PR	24.1	13.9	○	○	
MSQD-242-PM/PR	24.2	13.9	○	○	
MSQD-243-PM/PR	24.3	13.9	○	○	
MSQD-244-PM/PR	24.4	13.9	○	○	
MSQD-245-PM/PR	24.5	13.9	●	●	
MSQD-246-PM/PR	24.6	13.9	○	○	
MSQD-247-PM/PR	24.7	13.9	○	○	
MSQD-248-PM/PR	24.8	13.9	○	○	
MSQD-249-PM/PR	24.9	13.9	○	○	
MSQD-250-PM/PR	25.0	14.5	●	●	
MSQD-251-PM/PR	25.1	14.5	○	○	
MSQD-252-PM/PR	25.2	14.5	○	○	
MSQD-253-PM/PR	25.3	14.5	○	○	
MSQD-254-PM/PR	25.4	14.5	○	○	
MSQD-255-PM/PR	25.5	14.5	●	●	
MSQD-256-PM/PR	25.6	14.5	○	○	
MSQD-257-PM/PR	25.7	14.5	○	○	
MSQD-258-PM/PR	25.8	14.5	○	○	
MSQD-259-PM/PR	25.9	14.5	○	○	
MSQD-260-PM	26.0	14.5	●	●	

●Stock ○Availabie upon Order

Drills (coolant through center)





5D

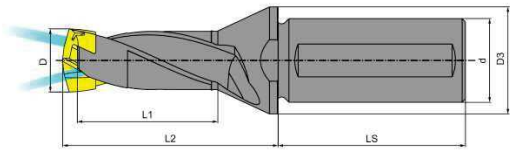
code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD-080/089-12-5D	8.0~8.9	12	16	50	45	7.8	8-11.9
MSQD-090/099-12-5D	9.0~9.9	12	16	55	45	8.8	
MSQD-100/109-16-5D	10.0~10.9	16	20	60	48	9.8	
MSQD-110/119-16-5D	11.0~11.9	16	20	66	48	10.8	
MSQD-120/129-16-5D	12.0~12.9	16	20	71	48	11.8	12-16.9
MSQD-130/139-16-5D	13.0~13.9	16	20	77	48	12.8	
MSQD-140/149-16-5D	14.0~14.9	16	20	82	48	13.8	
MSQD-150/159-20-5D	15.0~15.9	20	25	88	50	14.8	
MSQD-160/169-20-5D	16.0~16.9	20	25	93	50	15.8	
MSQD-170/179-20-5D	17.0~17.9	20	25	99	50	16.8	17-20.9
MSQD-180/189-25-5D	18.0~18.9	25	32	104	56	17.8	
MSQD-190/199-25-5D	19.0~19.9	25	32	110	56	18.8	
MSQD-200/209-25-5D	20.0~20.9	25	32	115	56	19.8	
MSQD-210/219-25-5D	21.0~21.9	25	32	121	56	20.8	21-26
MSQD-220/229-25-5D	22.0~22.9	25	32	126	56	21.8	
MSQD-230/239-32-5D	23.0~23.9	32	42	132	60	22.8	
MSQD-240/249-32-5D	24.0~24.9	32	42	137	60	23.8	
MSQD-250/259-32-5D	25.0~25.9	32	42	143	60	24.8	

8D

code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD-080/089-12-8D	8.0~8.9	12	16	76	45	7.8	8-11.9
MSQD-090/099-12-8D	9.0~9.9	12	16	85	45	8.8	
MSQD-100/109-16-8D	10.0~10.9	16	20	93	48	9.8	
MSQD-110/119-16-8D	11.0~11.9	16	20	102	48	10.8	
MSQD-120/129-16-8D	12.0~12.9	16	20	110	48	11.8	12-16.9
MSQD-130/139-16-8D	13.0~13.9	16	20	119	48	12.8	
MSQD-140/149-16-8D	14.0~14.9	16	20	127	48	13.8	
MSQD-150/159-20-8D	15.0~15.9	20	25	136	50	14.8	
MSQD-160/169-20-8D	16.0~16.9	20	25	144	50	15.8	
MSQD-170/179-20-8D	17.0~17.9	20	25	153	50	16.8	17-20.9
MSQD-180/189-25-8D	18.0~18.9	25	32	161	56	17.8	
MSQD-190/199-25-8D	19.0~19.9	25	32	170	56	18.8	
MSQD-200/209-25-8D	20.0~20.9	25	32	178	56	19.8	
MSQD-210/219-25-8D	21.0~21.9	25	32	187	56	20.8	21-26
MSQD-220/229-25-8D	22.0~22.9	25	32	195	56	21.8	
MSQD-230/239-32-8D	23.0~23.9	32	42	204	60	22.8	
MSQD-240/249-32-8D	24.0~24.9	32	42	212	60	23.8	
MSQD-250/259-32-8D	25.0~25.9	32	42	221	60	24.8	

Drills (coolant through center)





1.5D

code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD-080/089-12-1.5D	8.0~8.9	12	16	16	45	7.8	8-11.9
MSQD-090/099-12-1.5D	9.0~9.9	12	16	18	45	8.8	
MSQD-100/109-16-1.5D	10.0~10.9	16	20	20	48	9.8	
MSQD-110/119-16-1.5D	11.0~11.9	16	20	22	48	10.8	
MSQD-120/129-16-1.5D	12.0~12.9	16	20	24	48	11.8	12-16.9
MSQD-130/139-16-1.5D	13.0~13.9	16	20	25	48	12.8	
MSQD-140/149-16-1.5D	14.0~14.9	16	20	27	48	13.8	
MSQD-150/159-20-1.5D	15.0~15.9	20	25	29	50	14.8	
MSQD-160/169-20-1.5D	16.0~16.9	20	25	30	50	15.8	
MSQD-170/179-20-1.5D	17.0~17.9	20	25	32	50	16.8	17-20.9
MSQD-180/189-25-1.5D	18.0~18.9	25	32	34	56	17.8	
MSQD-190/199-25-1.5D	19.0~19.9	25	32	36	56	18.8	
MSQD-200/209-25-1.5D	20.0~20.9	25	32	38	56	19.8	
MSQD-210/219-25-1.5D	21.0~21.9	25	32	40	56	20.8	21-26
MSQD-220/229-25-1.5D	22.0~22.9	25	32	42	56	21.8	
MSQD-230/239-32-1.5D	23.0~23.9	32	42	43	60	22.8	
MSQD-240/249-32-1.5D	24.0~24.9	32	42	45	60	23.8	
MSQD-250/259-32-1.5D	25.0~25.9	32	42	47	60	24.8	

3D

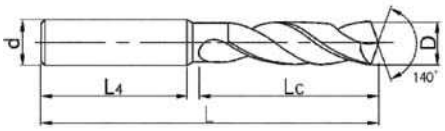
code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD-080/089-12-3D	8.0~8.9	12	16	32	45	7.8	8-11.9
MSQD-090/099-12-3D	9.0~9.9	12	16	35	45	8.8	
MSQD-100/109-16-3D	10.0~10.9	16	20	39	48	9.8	
MSQD-110/119-16-3D	11.0~11.9	16	20	42	48	10.8	
MSQD-120/129-16-3D	12.0~12.9	16	20	45	48	11.8	12-16.9
MSQD-130/139-16-3D	13.0~13.9	16	20	49	48	12.8	
MSQD-140/149-16-3D	14.0~14.9	16	20	53	48	13.8	
MSQD-150/159-20-3D	15.0~15.9	20	25	56	50	14.8	
MSQD-160/169-20-3D	16.0~16.9	20	25	60	50	15.8	
MSQD-170/179-20-3D	17.0~17.9	20	25	63	50	16.8	17-20.9
MSQD-180/189-25-3D	18.0~18.9	25	32	66	56	17.8	
MSQD-190/199-25-3D	19.0~19.9	25	32	70	56	18.8	
MSQD-200/209-25-3D	20.0~20.9	25	32	73	56	19.8	
MSQD-210/219-25-3D	21.0~21.9	25	32	77	56	20.8	21-26
MSQD-220/229-25-3D	22.0~22.9	25	32	80	56	21.8	
MSQD-230/239-32-3D	23.0~23.9	32	42	84	60	22.8	
MSQD-240/249-32-3D	24.0~24.9	32	42	88	60	23.8	
MSQD-250/259-32-3D	25.0~25.9	32	42	91	60	24.8	

PD20 Straight shank twist drill

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	3D
Coating	TIAIN

P		M	K
Low-carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3N–0300	●	3.00		6	62	20	36
PD20–A3N–0325	●	3.25		6	62	20	36
PD20–A3N–0330	●	3.30	M4	6	62	20	36
PD20–A3N–0340	●	3.40		6	62	20	36
PD20–A3N–0350	●	3.50		6	62	20	36
PD20–A3N–0370	●	3.70		6	62	20	36
PD20–A3N–0400	●	4.00		6	66	24	36
PD20–A3N–0420	●	4.20	M5	6	66	24	36
PD20–A3N–0430	●	4.30		6	66	24	36
PD20–A3N–0450	●	4.50		6	66	24	36
PD20–A3N–0465	●	4.65		6	66	24	36
PD20–A3N–0480	●	4.80		6	66	28	36
PD20–A3N–0500	●	5.00	M6	6	66	28	36
PD20–A3N–0510	●	5.10		6	66	28	36
PD20–A3N–0520	●	5.20		6	68	28	36
PD20–A3N–0550	●	5.50		6	68	28	36
PD20–A3N–0555	●	5.55		6	68	28	38
PD20–A3N–0580	●	5.80		6	68	28	38
PD20–A3N–0600	●	6.00		6	68	28	38
PD20–A3N–0610	●	6.10		8	79	34	38
PD20–A3N–0620	●	6.20		8	79	34	38
PD20–A3N–0630	●	6.30		8	79	34	38
PD20–A3N–0650	●	6.50		8	79	34	38
PD20–A3N–0660	●	6.60		8	79	34	38
PD20–A3N–0680	●	6.80	M8	8	79	34	38
PD20–A3N–0690	●	6.90		8	79	34	38
PD20–A3N–0700	●	7.00	M8x1	8	79	34	38
PD20–A3N–0710	●	7.10		8	79	41	38
PD20–A3N–0740	●	7.40		8	79	41	38
PD20–A3N–0750	●	7.50		8	79	41	38
PD20–A3N–0780	●	7.80		8	79	41	38
PD20–A3N–0800	●	8.00		8	79	41	38
PD20–A3N–0810	●	8.10		10	89	47	40
PD20–A3N–0840	●	8.40		10	89	47	40
PD20–A3N–0850	●	8.50	M10	10	89	47	40
PD20–A3N–0860	●	8.60		10	89	47	40
PD20–A3N–0870	●	8.70		10	89	47	40
PD20–A3N–0880	●	8.80		10	89	47	40
PD20–A3N–0900	●	9.00	M10x1	10	89	47	40
PD20–A3N–0930	●	9.30		10	89	47	40
PD20–A3N–0950	●	9.50		10	89	47	40
PD20–A3N–0960	●	9.60		10	89	47	40
PD20–A3N–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3N–1000	●	10.00		10	89	47	40
PD20–A3N–1025	●	10.25	M12	12	102	55	45
PD20–A3N–1040	●	10.40		12	102	55	45
PD20–A3N–1050	●	10.50	M12x1.5	12	102	55	45
PD20–A3N–1060	●	10.60		12	102	55	45
PD20–A3N–1080	●	10.80		12	102	55	45
PD20–A3N–1100	●	11.00		12	102	55	45
PD20–A3N–1120	●	11.20		12	102	55	45
PD20–A3N–1150	●	11.50		12	102	55	45
PD20–A3N–1180	●	11.80		12	102	55	45
PD20–A3N–1200	●	12.00	M14	12	102	55	45
PD20–A3N–1225	●	12.25		14	107	60	45
PD20–A3N–1250	●	12.50	M14x1.5	14	107	60	45
PD20–A3N–1270	●	12.70		14	107	60	45
PD20–A3N–1275	●	12.75		14	107	60	45
PD20–A3N–1280	●	12.80		14	107	60	45
PD20–A3N–1300	●	13.00		14	107	60	45
PD20–A3N–1310	●	13.10		14	107	60	45
PD20–A3N–1350	●	13.50		14	107	60	45
PD20–A3N–1380	●	13.80		14	107	60	45
PD20–A3N–1400	●	14.00	M16	14	107	60	45
PD20–A3N–1425	●	14.25		16	115	65	48
PD20–A3N–1450	●	14.50	M16x1.5	16	115	65	48
PD20–A3N–1475	●	14.75		16	115	65	48
PD20–A3N–1480	●	14.80		16	115	65	48
PD20–A3N–1500	●	15.00		16	115	65	48
PD20–A3N–1510	●	15.10		16	115	65	48
PD20–A3N–1550	●	15.50		16	115	65	48
PD20–A3N–1580	●	15.80		16	115	65	48
PD20–A3N–1600	●	16.00		16	115	65	48
PD20–A3N–1650	●	16.50		18	123	73	48
PD20–A3N–1675	●	16.75		18	123	73	48
PD20–A3N–1680	●	16.80		18	123	73	48
PD20–A3N–1700	●	17.00		18	123	73	48
PD20–A3N–1750	●	17.50		18	123	73	48
PD20–A3N–1780	●	17.80		18	123	73	48
PD20–A3N–1800	●	18.00		18	123	73	48
PD20–A3N–1850	●	18.50		20	131	79	50
PD20–A3N–1880	●	18.80		20	131	79	50
PD20–A3N–1900	●	19.00		20	131	79	50
PD20–A3N–1950	●	19.50		20	131	79	50
PD20–A3N–1980	●	19.80		20	131	79	50
PD20–A3N–2000	●	20.00		20	131	79	50

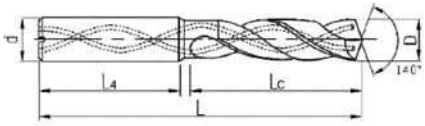
●Stock ○Availabie upon Order

PD20 Straight shank twist drill

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	3D
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3C–0500	●	5.00	M6	6	66	28	36
PD20–A3C–0510	●	5.10		6	66	28	36
PD20–A3C–0520	●	5.20		6	66	28	36
PD20–A3C–0550	●	5.50		6	66	28	36
PD20–A3C–0555	●	5.55		6	66	28	36
PD20–A3C–0580	●	5.80		6	66	28	36
PD20–A3C–0600	●	6.00		6	66	28	36
PD20–A3C–0610	●	6.10		8	79	34	36
PD20–A3C–0620	●	6.20		8	79	34	36
PD20–A3C–0630	●	6.30		8	79	34	36
PD20–A3C–0650	●	6.50		8	79	34	36
PD20–A3C–0660	●	6.60		8	79	34	36
PD20–A3C–0680	●	6.80	M8	8	79	34	36
PD20–A3C–0690	●	6.90		8	79	34	36
PD20–A3C–0700	●	7.00	M8x1	8	79	34	36
PD20–A3C–0740	●	7.40		8	79	41	38
PD20–A3C–0750	●	7.50		8	79	41	38
PD20–A3C–0780	●	7.80		8	79	41	38
PD20–A3C–0800	●	8.00		8	79	41	38
PD20–A3C–0810	●	8.10		10	89	47	40
PD20–A3C–0840	●	8.40		10	89	47	40
PD20–A3C–0850	●	8.50	M10	10	89	47	40
PD20–A3C–0860	●	8.60		10	89	47	40
PD20–A3C–0870	●	8.70		10	89	47	40
PD20–A3C–0880	●	8.80		10	89	47	40
PD20–A3C–0900	●	9.00	M10x1	10	89	47	40
PD20–A3C–0930	●	9.30		10	89	47	40
PD20–A3C–0950	●	9.50		10	89	47	40
PD20–A3C–0960	●	9.60		10	89	47	40
PD20–A3C–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3C–1000	●	10.00	M12	10	89	47	40
PD20–A3C–1025	●	10.25		12	102	55	45
PD20–A3C–1040	●	10.40	M12x1.5	12	102	55	45
PD20–A3C–1050	●	10.50		12	102	55	45
PD20–A3C–1060	●	10.60		12	102	55	45
PD20–A3C–1080	●	10.80		12	102	55	45
PD20–A3C–1100	●	11.00		12	102	55	45
PD20–A3C–1120	●	11.20		12	102	55	45
PD20–A3C–1150	●	11.50		12	102	55	45
PD20–A3C–1180	●	11.80	M14	12	102	55	45
PD20–A3C–1200	●	12.00		12	102	55	45
PD20–A3C–1225	●	12.25	M14x1.5	14	107	60	45
PD20–A3C–1250	●	12.50		14	107	60	45
PD20–A3C–1270	●	12.70		14	107	60	45
PD20–A3C–1275	●	12.75		14	107	60	45
PD20–A3C–1280	●	12.80		14	107	60	45
PD20–A3C–1300	●	13.00		14	107	60	45
PD20–A3C–1310	●	13.10		14	107	60	45
PD20–A3C–1350	●	13.50		14	107	60	45
PD20–A3C–1380	●	13.80	M16	14	107	60	45
PD20–A3C–1400	●	14.00		14	107	60	45
PD20–A3C–1425	●	14.25	M18x1.5	16	115	65	48
PD20–A3C–1450	●	14.50		16	115	65	48
PD20–A3C–1475	●	14.75		16	115	65	48
PD20–A3C–1480	●	14.80		16	115	65	48
PD20–A3C–1500	●	15.00		16	115	65	48
PD20–A3C–1510	●	15.10		16	115	65	48
PD20–A3C–1550	●	15.50		16	115	65	48
PD20–A3C–1580	●	15.80		16	115	65	48
PD20–A3C–1600	●	16.00		16	115	65	48

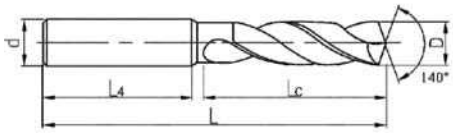
●Stock ○Availabie upon Order

PD20 Straight shank twist drill

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	5D
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5N–0300	●	3.00		6	68	28	36
PD20–A5N–0325	●	3.25		6	68	28	36
PD20–A5N–0330	●	3.30	M4	6	68	28	36
PD20–A5N–0340	●	3.40		6	68	28	36
PD20–A5N–0350	●	3.50		6	68	28	36
PD20–A5N–0370	●	3.70		6	68	28	36
PD20–A5N–0400	●	4.00		6	74	36	36
PD20–A5N–0420	●	4.20	M5	6	74	36	36
PD20–A5N–0430	●	4.30		6	74	36	36
PD20–A5N–0450	●	4.50		6	74	36	36
PD20–A5N–0465	●	4.65		6	74	36	36
PD20–A5N–0480	●	4.80		6	82	44	36
PD20–A5N–0500	●	5.00	M6	6	82	44	36
PD20–A5N–0510	●	5.10		6	82	44	36
PD20–A5N–0520	●	5.20		6	82	44	36
PD20–A5N–0550	●	5.50		6	82	44	36
PD20–A5N–0555	●	5.55		6	82	44	36
PD20–A5N–0580	●	5.80		6	82	44	36
PD20–A5N–0600	●	6.00		6	82	44	36
PD20–A5N–0610	●	6.10		8	91	53	36
PD20–A5N–0620	●	6.20		8	91	53	36
PD20–A5N–0630	●	6.30		8	91	53	36
PD20–A5N–0650	●	6.50		8	91	53	36
PD20–A5N–0660	●	6.60		8	91	53	36
PD20–A5N–0680	●	6.80	M6	8	91	53	36
PD20–A5N–0690	●	6.90		8	91	53	36
PD20–A5N–0700	●	7.00	M8x1	8	91	53	36
PD20–A5N–0710	●	7.10		8	91	53	36
PD20–A5N–0740	●	7.40		8	91	53	36
PD20–A5N–0750	●	7.50		8	91	53	36
PD20–A5N–0780	●	7.80		8	91	53	36
PD20–A5N–0800	●	8.00		8	91	53	36
PD20–A5N–0810	●	8.10		10	103	61	40
PD20–A5N–0840	●	8.40		10	103	61	40
PD20–A5N–0850	●	8.50	M10	10	103	61	40
PD20–A5N–0860	●	8.60		10	103	61	40
PD20–A5N–0870	●	8.70		10	103	61	40
PD20–A5N–0880	●	8.80		10	103	61	40
PD20–A5N–0900	●	9.00	M10x1	10	103	61	40
PD20–A5N–0930	●	9.30		10	103	61	40
PD20–A5N–0950	●	9.50		10	103	61	40
PD20–A5N–0960	●	9.60		10	103	61	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5N–0980	●	9.80		10	103	61	40
PD20–A5N–1000	●	10.00		10	103	61	40
PD20–A5N–1025	●	10.25	M12	12	118	71	45
PD20–A5N–1040	●	10.40		12	118	71	45
PD20–A5N–1050	●	10.50	M12x1.5	12	118	71	45
PD20–A5N–1060	●	10.60		12	118	71	45
PD20–A5N–1080	●	10.80		12	118	71	45
PD20–A5N–1100	●	11.00		12	118	71	45
PD20–A5N–1120	●	11.20		12	118	71	45
PD20–A5N–1150	●	11.50		12	118	71	45
PD20–A5N–1180	●	11.80		12	118	71	45
PD20–A5N–1200	●	12.00	M14	12	118	71	45
PD20–A5N–1225	●	12.25		14	124	77	45
PD20–A5N–1250	●	12.50	M14x1.5	14	124	77	45
PD20–A5N–1270	●	12.70		14	124	77	45
PD20–A5N–1275	●	12.75		14	124	77	45
PD20–A5N–1280	●	12.80		14	124	77	45
PD20–A5N–1300	●	13.00		14	124	77	45
PD20–A5N–1350	●	13.50		14	124	77	45
PD20–A5N–1380	●	13.80		14	124	77	45
PD20–A5N–1400	●	14.00	M16	14	124	77	45
PD20–A5N–1425	●	14.25		14	133	83	48
PD20–A5N–1450	●	14.50	M16x1.5	16	133	83	48
PD20–A5N–1475	●	14.75		16	133	83	48
PD20–A5N–1480	●	14.80		16	133	83	48
PD20–A5N–1500	●	15.00		16	133	83	48
PD20–A5N–1510	●	15.10		16	133	83	48
PD20–A5N–1550	●	15.50		16	133	83	48
PD20–A5N–1580	●	15.80		16	133	83	48
PD20–A5N–1600	●	16.00		16	133	83	48
PD20–A5N–1650	●	16.50		16	143	93	48
PD20–A5N–1675	●	16.75		18	143	93	48
PD20–A5N–1680	●	16.80		18	143	93	48
PD20–A5N–1700	●	17.00		18	143	93	48
PD20–A5N–1750	●	17.50		18	143	93	48
PD20–A5N–1780	●	17.80		18	143	93	48
PD20–A5N–1800	●	18.00		18	143	93	48
PD20–A5N–1850	●	18.50		18	153	101	50
PD20–A5N–1900	●	19.00		20	153	101	50
PD20–A5N–1950	●	19.50		20	153	101	50
PD20–A5N–1980	●	19.80		20	153	101	50
PD20–A5N–2000	●	20.00		20	153	101	50

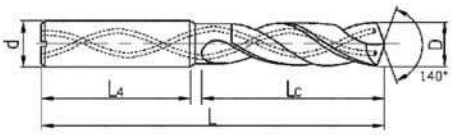
●Stock ○Availabie upon Order

PD20 Straight shank twist drill

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	5D
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5C–0500	●	5.00	M6	6	82	44	36
PD20–A5C–0510	●	5.10		6	82	44	36
PD20–A5C–0520	●	5.20		6	82	44	36
PD20–A5C–0550	●	5.50		6	82	44	36
PD20–A5C–0555	●	5.55		6	82	44	36
PD20–A5C–0580	●	5.80		6	82	44	36
PD20–A5C–0600	●	3.00		6	82	44	36
PD20–A5C–0610	●	6.10		8	91	53	38
PD20–A5C–0620	●	6.20		8	91	53	38
PD20–A5C–0630	●	6.30		8	91	53	38
PD20–A5C–0650	●	6.50		8	91	53	38
PD20–A5C–0660	●	6.60		8	91	53	38
PD20–A5C–0680	●	6.80	M8	8	91	53	38
PD20–A5C–0690	●	6.90		8	91	53	38
PD20–A5C–0700	●	7.00	M8x1	8	91	53	38
PD20–A5C–0710	●	7.10		8	91	53	38
PD20–A5C–0740	●	7.40		8	91	53	38
PD20–A5C–0750	●	7.50		8	91	53	38
PD20–A5C–0780	●	7.80		8	91	53	38
PD20–A5C–0800	●	8.00		8	91	53	38
PD20–A5C–0810	●	8.10		10	103	61	40
PD20–A5C–0840	●	8.40		10	103	61	40
PD20–A5C–0850	●	8.50	M10	10	103	61	40
PD20–A5C–0860	●	8.60		10	103	61	40
PD20–A5C–0870	●	8.70		10	103	61	40
PD20–A5C–0880	●	8.80		10	103	61	40
PD20–A5C–0900	●	9.00	M10x1	10	103	61	40
PD20–A5C–0930	●	9.30		10	103	61	40
PD20–A5C–0950	●	9.50		10	103	61	40
PD20–A5C–0960	●	9.60		10	103	61	40
PD20–A5C–0980	●	9.80		10	103	61	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5C–1000	●	10.00		10	103	61	40
PD20–A5C–1025	●	10.25	M12	12	118	71	45
PD20–A5C–1045	●	10.45		12	118	71	45
PD20–A5C–1050	●	10.50	M12x1.5	12	118	71	45
PD20–A5C–1060	●	10.60		12	118	71	45
PD20–A5C–1080	●	10.80		12	118	71	45
PD20–A5C–1100	●	11.00		12	118	71	45
PD20–A5C–1120	●	11.20		12	118	71	45
PD20–A5C–1150	●	11.50		12	118	71	45
PD20–A5C–1180	●	11.80		12	118	71	45
PD20–A5C–1200	●	12.00	M14	12	118	71	45
PD20–A5C–1220	●	12.20		14	124	77	45
PD20–A5C–1225	●	12.25		14	124	77	45
PD20–A5C–1250	●	12.50	M14x1.5	14	124	77	45
PD20–A5C–1270	●	12.70		14	124	77	45
PD20–A5C–1275	●	12.75		14	124	77	45
PD20–A5C–1280	●	12.80		14	124	77	45
PD20–A5C–1300	●	13.00		14	124	77	45
PD20–A5C–1310	●	13.10		14	124	77	45
PD20–A5C–1350	●	13.50		14	124	77	45
PD20–A5C–1380	●	13.80		14	124	77	45
PD20–A5C–1400	●	14.00	M16	14	124	77	45
PD20–A5C–1425	●	14.25		16	133	83	48
PD20–A5C–1450	●	14.50	M16x1.5	16	133	83	48
PD20–A5C–1475	●	14.75		16	133	83	48
PD20–A5C–1480	●	14.80		16	133	83	48
PD20–A5C–1500	●	15.00		16	133	83	48
PD20–A5C–1510	●	15.10		16	133	83	48
PD20–A5C–1550	●	15.50		16	133	83	48
PD20–A5C–1580	●	15.80		16	133	83	48
PD20–A5C–1600	●	16.00		16	133	83	48

●Stock ○Availabie upon Order

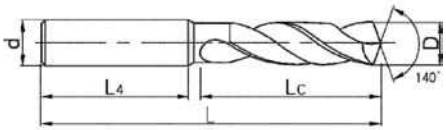
KD20 Straight shank twist drill

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	3D
Coating	TIAIN

K

Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3N–0300	●	3.00		6	62	20	36
KD20–A3N–0330	●	3.30		6	62	20	36
KD20–A3N–0400	●	4.00	M4	6	66	20	36
KD20–A3N–0420	●	4.20	M5	6	66	24	36
KD20–A3N–0500	●	5.00	M6	6	66	28	36
KD20–A3N–0600	●	6.00		6	68	28	36
KD20–A3N–0680	●	6.80	M8	8	79	34	38
KD20–A3N–0700	●	7.00	M8x1	8	79	34	38
KD20–A3N–0800	●	8.00		8	79	34	38
KD20–A3N–0850	●	8.50	M10	10	89	47	40
KD20–A3N–0900	●	9.00	M10x1	10	89	47	40
KD20–A3N–1000	●	10.00		10	89	47	40
KD20–A3N–1025	●	10.25	M12	12	102	55	45

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3N–1050	●	10.50		12	102	55	45
KD20–A3N–1100	●	11.00	M12	12	102	55	45
KD20–A3N–1200	●	12.00		12	102	55	45
KD20–A3N–1250	●	12.50	M12x1.5	14	107	60	45
KD20–A3N–1300	●	13.00	M14	14	107	60	45
KD20–A3N–1400	●	14.00	M14x1.5	14	107	60	45
KD20–A3N–1450	●	14.50		16	115	65	48
KD20–A3N–1500	●	15.00	M16	16	115	65	48
KD20–A3N–1600	●	16.00	M16x1.5	16	115	65	48
KD20–A3N–1700	●	17.00		18	123	73	48
KD20–A3N–1800	●	18.00		18	123	73	48
KD20–A3N–1900	●	19.00		20	131	79	50
KD20–A3N–2000	●	20.00		20	131	79	50

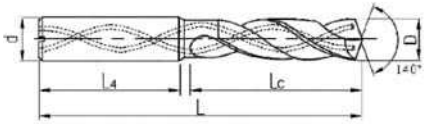
KD20 Straight shank twist drill

Drill Diameter	5–16mm
Coolant Type	Inside
Maximum Depth	3D
Coating	HELICA

K

Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3C–0500	●	5.00	M6	6	66	28	36
KD20–A3C–0600	●	6.00		6	66	28	36
KD20–A3C–0680	●	6.80	M8	8	79	34	38
KD20–A3C–0700	●	7.00	M8x1	8	79	34	38
KD20–A3C–0800	●	8.00		8	79	41	38
KD20–A3C–0850	●	8.50	M10	10	89	47	40
KD20–A3C–0900	●	9.00	M10x1	10	89	47	40
KD20–A3C–1000	●	10.00		10	89	47	40
KD20–A3C–1025	●	10.25	M12	12	102	55	45

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3C–1050	●	10.50	M12x1.5	12	102	55	45
KD20–A3C–1100	●	11.00		12	102	55	45
KD20–A3C–1200	●	12.00	M14	12	102	55	45
KD20–A3C–1250	●	12.50	M14x1.5	14	107	60	45
KD20–A3C–1300	●	13.00		14	107	60	45
KD20–A3C–1400	●	14.00	M16	14	107	60	45
KD20–A3C–1450	●	14.50	M18x1.5	16	115	65	48
KD20–A3C–1500	●	15.00		16	115	65	48
KD20–A3C–1600	●	16.00		16	115	65	48

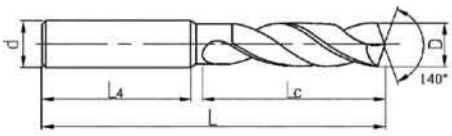
●Stock ○Availabie upon Order

KD20 Straight shank twist drill

Drill Diameter	5–16mm
Coolant Type	Outside
Maximum Depth	5D
Coating	HELICA

K
Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5N–0500	●	5.00	M6	6	82	44	36
KD20–A5N–0600	●	6.00		6	82	44	36
KD20–A5N–0680	●	6.80	M8	8	91	53	38
KD20–A5N–0700	●	7.00	M8x1	8	91	53	38
KD20–A5N–0800	●	8.00		8	91	53	38
KD20–A5N–0850	●	8.50	M10	10	103	61	40
KD20–A5N–0900	●	9.00	M10x1	10	103	61	40
KD20–A5N–1000	●	10.00		10	103	61	40
KD20–A5N–1025	●	10.25	M12	12	118	71	45

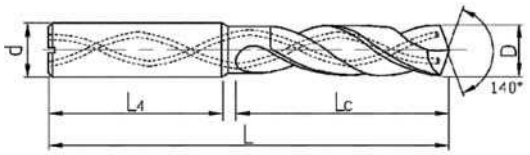
Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5N–1050	●	10.50	M12x1.5	12	118	71	45
KD20–A5N–1100	●	11.00		12	118	71	45
KD20–A5N–1200	●	12.00	M14	12	118	71	45
KD20–A5N–1250	●	12.50	M14x1.5	14	124	77	45
KD20–A5N–1300	●	13.00		14	124	77	45
KD20–A5N–1400	●	14.00	M16	14	124	77	45
KD20–A5N–1450	●	14.50	M18x1.5	16	133	83	48
KD20–A5N–1500	●	15.00		16	133	83	48
KD20–A5N–1600	●	16.00		16	133	83	48

KD20 Straight shank twist drill

Drill Diameter	5–16mm
Coolant Type	Inside
Maximum Depth	5D
Coating	HELICA

K
Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5C–0500	●	5.00	M6	6	82	44	36
KD20–A5C–0600	●	6.00		6	82	44	36
KD20–A5C–0680	●	6.80	M8	8	91	53	38
KD20–A5C–0700	●	7.00	M8x1	8	91	53	38
KD20–A5C–0800	●	8.00		8	91	53	38
KD20–A5C–0850	●	8.50	M10	10	103	61	40
KD20–A5C–0900	●	9.00	M10x1	10	103	61	40
KD20–A5C–1000	●	10.00		10	103	61	40
KD20–A5C–1025	●	10.25	M12	12	118	71	45

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5C–1050	●	10.50	M12x1.5	12	118	71	45
KD20–A5C–1100	●	11.00		12	118	71	45
KD20–A5C–1200	●	12.00	M14	12	118	71	45
KD20–A5C–1250	●	12.50	M14x1.5	14	124	77	45
KD20–A5C–1300	●	13.00		14	124	77	45
KD20–A5C–1400	●	14.00	M16	14	124	77	45
KD20–A5C–1450	●	14.50	M18x1.5	16	133	83	48
KD20–A5C–1500	●	15.00		16	133	83	48
KD20–A5C–1600	●	16.00		16	133	83	48

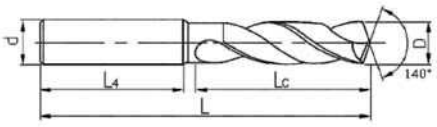
●Stock ○Availabie upon Order

MD20 Straight shank twist drill for stainless steels

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	3D
Coating	AlcrN/TisiN

M	S	
Stainless Steel	Titanium Alloys	Heal Resistant super Alloy







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20-A3N-0300	●	3.00		6	62	20	36
MD20-A3N-0325	●	3.25		6	62	20	36
MD20-A3N-0330	●	3.30	M4	6	62	20	36
MD20-A3N-0340	●	3.40		6	62	20	36
MD20-A3N-0350	●	3.50		6	62	20	36
MD20-A3N-0370	●	3.70		6	62	20	36
MD20-A3N-0400	●	4.00		6	66	24	36
MD20-A3N-0420	●	4.20	M5	6	66	24	36
MD20-A3N-0430	●	4.30		6	66	24	36
MD20-A3N-0450	●	4.50		6	66	24	36
MD20-A3N-0465	●	4.65		6	66	24	36
MD20-A3N-0480	●	4.80		6	66	28	36
MD20-A3N-0500	●	5.00	M6	6	66	28	36
MD20-A3N-0510	●	5.10		6	66	28	36
MD20-A3N-0520	●	5.20		6	68	28	36
MD20-A3N-0550	●	5.50		6	68	28	36
MD20-A3N-0555	●	5.55		6	68	28	38
MD20-A3N-0580	●	5.80		6	68	28	38
MD20-A3N-0600	●	6.00		6	68	28	38
MD20-A3N-0610	●	6.10		8	79	34	38
MD20-A3N-0620	●	6.20		8	79	34	38
MD20-A3N-0630	●	6.30		8	79	34	38
MD20-A3N-0650	●	6.50		8	79	34	38
MD20-A3N-0660	●	6.60		8	79	34	38
MD20-A3N-0680	●	6.80	M8	8	79	34	38
MD20-A3N-0690	●	6.90		8	79	34	38
MD20-A3N-0700	●	7.00	M8x1	8	79	34	38
MD20-A3N-0710	●	7.10		8	79	41	38
MD20-A3N-0740	●	7.40		8	79	41	38
MD20-A3N-0750	●	7.50		8	79	41	38
MD20-A3N-0780	●	7.80		8	79	41	38
MD20-A3N-0800	●	8.00		8	79	41	38
MD20-A3N-0810	●	8.10		10	89	47	40
MD20-A3N-0840	●	8.40		10	89	47	40
MD20-A3N-0850	●	8.50	M10	10	89	47	40
MD20-A3N-0860	●	8.60		10	89	47	40
MD20-A3N-0870	●	8.70		10	89	47	40
MD20-A3N-0880	●	8.80		10	89	47	40
MD20-A3N-0900	●	9.00	M10x1	10	89	47	40
MD20-A3N-0930	●	9.30		10	89	47	40
MD20-A3N-0950	●	9.50		10	89	47	40
MD20-A3N-0960	●	9.60		10	89	47	40
MD20-A3N-0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20-A3N-1000	●	10.00	M12x1.5	10	89	47	40
MD20-A3N-1025	●	10.25		12	102	55	45
MD20-A3N-1040	●	10.40		12	102	55	45
MD20-A3N-1050	●	10.50		12	102	55	45
MD20-A3N-1060	●	10.60		12	102	55	45
MD20-A3N-1080	●	10.80		12	102	55	45
MD20-A3N-1100	●	11.00		12	102	55	45
MD20-A3N-1120	●	11.20	M14	12	102	55	45
MD20-A3N-1150	●	11.50		12	102	55	45
MD20-A3N-1180	●	11.80	M14x1.5	12	102	55	45
MD20-A3N-1200	●	12.00		12	102	55	45
MD20-A3N-1225	●	12.25		14	107	60	45
MD20-A3N-1250	●	12.50		14	107	60	45
MD20-A3N-1270	●	12.70		14	107	60	45
MD20-A3N-1275	●	12.75		14	107	60	45
MD20-A3N-1280	●	12.80		14	107	60	45
MD20-A3N-1300	●	13.00		14	107	60	45
MD20-A3N-1310	●	13.10	M16	14	107	60	45
MD20-A3N-1350	●	13.50		14	107	60	45
MD20-A3N-1380	●	13.80	M16x1.5	14	107	60	45
MD20-A3N-1400	●	14.00		14	107	60	45
MD20-A3N-1425	●	14.25		16	115	65	48
MD20-A3N-1450	●	14.50		16	115	65	48
MD20-A3N-1475	●	14.75		16	115	65	48
MD20-A3N-1480	●	14.80		16	115	65	48
MD20-A3N-1500	●	15.00		16	115	65	48
MD20-A3N-1510	●	15.10		16	115	65	48
MD20-A3N-1550	●	15.50		16	115	65	48
MD20-A3N-1580	●	15.80		16	115	65	48
MD20-A3N-1600	●	16.00		16	115	65	48
MD20-A3N-1650	●	16.50		18	123	73	48
MD20-A3N-1675	●	16.75		18	123	73	48
MD20-A3N-1680	●	16.80		18	123	73	48
MD20-A3N-1700	●	17.00		18	123	73	48
MD20-A3N-1750	●	17.50		18	123	73	48
MD20-A3N-1780	●	17.80		18	123	73	48
MD20-A3N-1800	●	18.00		18	123	73	48
MD20-A3N-1850	●	18.50		20	131	79	50
MD20-A3N-1880	●	18.80		20	131	79	50
MD20-A3N-1900	●	19.00		20	131	79	50
MD20-A3N-1950	●	19.50		20	131	79	50
MD20-A3N-1980	●	19.80		20	131	79	50
MD20-A3N-2000	●	20.00		20	131	79	50

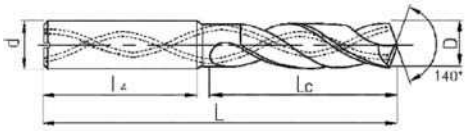
●Stock ○Availabie upon Order

MD20 Straight shank twist drill for stainless steels

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	3D
Coating	AlcrN/TisiN

M	S	
Stainless Steel	Titanium Alloys	Heal Resistant super Alloy







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A3C–0500	●	5.00	M6	6	66	28	36
MD20–A3C–0510	●	5.10		6	66	28	36
MD20–A3C–0520	●	5.20		6	66	28	36
MD20–A3C–0550	●	5.50		6	66	28	36
MD20–A3C–0555	●	5.55		6	66	28	36
MD20–A3C–0580	●	5.80		6	66	28	36
MD20–A3C–0600	●	6.00		6	66	28	36
MD20–A3C–0610	●	6.10		8	79	34	38
MD20–A3C–0620	●	6.20		8	79	34	38
MD20–A3C–0630	●	6.30		8	79	34	38
MD20–A3C–0650	●	6.50		8	79	34	38
MD20–A3C–0660	●	6.60		8	79	34	38
MD20–A3C–0680	●	6.80	M8	8	79	34	38
MD20–A3C–0690	●	6.90		8	79	34	38
MD20–A3C–0700	●	7.00	M8x1	8	79	34	38
MD20–A3C–0710	●	7.10		8	79	41	38
MD20–A3C–0740	●	7.40		8	79	41	38
MD20–A3C–0750	●	7.50		8	79	41	38
MD20–A3C–0780	●	7.80		8	79	41	38
MD20–A3C–0800	●	8.00		8	79	41	38
MD20–A3C–0810	●	8.10		10	89	47	40
MD20–A3C–0840	●	8.40		10	89	47	40
MD20–A3C–0850	●	8.50	M10	10	89	47	40
MD20–A3C–0860	●	8.60		10	89	47	40
MD20–A3C–0870	●	8.70		10	89	47	40
MD20–A3C–0880	●	8.80		10	89	47	40
MD20–A3C–0900	●	9.00	M10x1	10	89	47	40
MD20–A3C–0930	●	9.30		10	89	47	40
MD20–A3C–0950	●	9.50		10	89	47	40
MD20–A3C–0960	●	9.60		10	89	47	40
MD20–A3C–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A3C–1000	●	10.00		10	89	47	40
MD20–A3C–1025	●	10.25	M12	12	102	55	45
MD20–A3C–1040	●	10.40		12	102	55	45
MD20–A3C–1050	●	10.50	M12x1.5	12	102	55	45
MD20–A3C–1060	●	10.60		12	102	55	45
MD20–A3C–1080	●	10.80		12	102	55	45
MD20–A3C–1100	●	11.00		12	102	55	45
MD20–A3C–1120	●	11.20		12	102	55	45
MD20–A3C–1150	●	11.50		12	102	55	45
MD20–A3C–1180	●	11.80		12	102	55	45
MD20–A3C–1200	●	12.00	M14	12	102	55	45
MD20–A3C–1225	●	12.25		14	107	60	45
MD20–A3C–1250	●	12.50		14	107	60	45
MD20–A3C–1270	●	12.70	M14x1.5	14	107	60	45
MD20–A3C–1275	●	12.75		14	107	60	45
MD20–A3C–1280	●	12.80		14	107	60	45
MD20–A3C–1300	●	13.00		14	107	60	45
MD20–A3C–1310	●	13.10		14	107	60	45
MD20–A3C–1350	●	13.50		14	107	60	45
MD20–A3C–1380	●	13.80		14	107	60	45
MD20–A3C–1400	●	14.00	M16	14	107	60	45
MD20–A3C–1425	●	14.25		16	115	65	48
MD20–A3C–1450	●	14.50	M16x1.5	16	115	65	48
MD20–A3C–1475	●	14.75		16	115	65	48
MD20–A3C–1480	●	14.80		16	115	65	48
MD20–A3C–1500	●	15.00		16	115	65	48
MD20–A3C–1510	●	15.10		16	115	65	48
MD20–A3C–1550	●	15.50		16	115	65	48
MD20–A3C–1580	●	15.80		16	115	65	48
MD20–A3C–1600	●	16.00		16	115	65	48

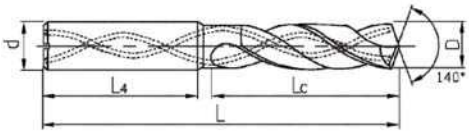
●Stock ○Availabie upon Order

MD20 Straight shank twist drill for stainless steels

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	5D
Coating	AlcrN/TisiN

M	S	
Stainless Steel	Titanium Alloys	Heal Resistant super Alloy







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A5C–0500	●	5.00	M6	6	82	44	36
MD20–A5C–0510	●	5.10		6	82	44	36
MD20–A5C–0520	●	5.20		6	82	44	36
MD20–A5C–0550	●	5.50		6	82	44	36
MD20–A5C–0555	●	5.55		6	82	44	36
MD20–A5C–0580	●	5.80		6	82	44	36
MD20–A5C–0600	●	6.00		6	82	44	36
MD20–A5C–0610	●	6.10		8	91	53	38
MD20–A5C–0620	●	6.20		8	91	53	38
MD20–A5C–0630	●	6.30		8	91	53	38
MD20–A5C–0650	●	6.50		8	91	53	38
MD20–A5C–0660	●	6.60		8	91	53	38
MD20–A5C–0680	●	6.80	M8	8	91	53	38
MD20–A5C–0690	●	6.90		8	91	53	38
MD20–A5C–0700	●	7.00	M8x1	8	91	53	38
MD20–A5C–0710	●	7.10		8	91	53	38
MD20–A5C–0740	●	7.40		8	91	53	38
MD20–A5C–0750	●	7.50		8	91	53	38
MD20–A5C–0780	●	7.80		8	91	53	38
MD20–A5C–0800	●	8.00		8	91	53	38
MD20–A5C–0810	●	8.10		10	103	61	40
MD20–A5C–0840	●	8.40		10	103	61	40
MD20–A5C–0850	●	8.50	M10	10	103	61	40
MD20–A5C–0860	●	8.60		10	103	61	40
MD20–A5C–0870	●	8.70		10	103	61	40
MD20–A5C–0880	●	8.80		10	103	61	40
MD20–A5C–0900	●	9.00	M10x1	10	103	61	40
MD20–A5C–0930	●	9.30		10	103	61	40
MD20–A5C–0950	●	9.50		10	103	61	40
MD20–A5C–0960	●	9.60		10	103	61	40
MD20–A5C–0980	●	9.80		10	103	61	40

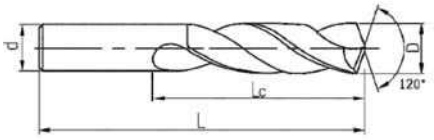
Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A5C–1000	●	10.00		10	103	61	40
MD20–A5C–1025	●	10.25	M12	12	118	71	45
MD20–A5C–1040	●	10.40		12	118	71	45
MD20–A5C–1050	●	10.50	M12x1.5	12	118	71	45
MD20–A5C–1060	●	10.60		12	118	71	45
MD20–A5C–1080	●	10.80		12	118	71	45
MD20–A5C–1100	●	11.00		12	118	71	45
MD20–A5C–1120	●	11.20		12	118	71	45
MD20–A5C–1150	●	11.50		12	118	71	45
MD20–A5C–1180	●	11.80		12	118	71	45
MD20–A5C–1200	●	12.00	M14	12	118	71	45
MD20–A5C–1220	●	12.25		14	124	77	45
MD20–A5C–1225	●	12.50		14	124	77	45
MD20–A5C–1250	●	12.70	M14x1.5	14	124	77	45
MD20–A5C–1270	●	12.75		14	124	77	45
MD20–A5C–1275	●	12.80		14	124	77	45
MD20–A5C–1280	●	13.00		14	124	77	45
MD20–A5C–1300	●	13.10		14	124	77	45
MD20–A5C–1350	●	13.50		14	124	77	45
MD20–A5C–1380	●	13.80		14	124	77	45
MD20–A5C–1400	●	14.00	M16	14	124	77	45
MD20–A5C–1425	●	14.25		16	133	83	48
MD20–A5C–1450	●	14.50	M16x1.5	16	133	83	48
MD20–A5C–1475	●	14.75		16	133	83	48
MD20–A5C–1480	●	14.80		16	133	83	48
MD20–A5C–1500	●	15.00		16	133	83	48
MD20–A5C–1510	●	15.10		16	133	83	48
MD20–A5C–1550	●	15.50		16	133	83	48
MD20–A5C–1580	●	15.80		16	133	83	48
MD20–A5C–1600	●	16.00		16	133	83	48

●Stock ○Availabie upon Order

ND25UF Straight shank twist drill

Drill Diameter	2–16mm
Coolant Type	Outside
Maximum Depth	3D





N
Aluminium Alloy



Ordering Code	Stock	D(h6)	d(h6)	L	Lc
ND25UF-Y3N-0200	●	2.00	2.0	38	12
ND25UF-Y3N-0250	●	2.50	2.5	43	14
ND25UF-Y3N-0280	●	2.80	2.8	46	16
ND25UF-Y3N-0300	●	3.00	3.0	46	16
ND25UF-Y3N-0310	●	3.10	3.1	49	18
ND25UF-Y3N-0320	●	3.20	3.2	49	18
ND25UF-Y3N-0330	●	3.30	3.3	49	20
ND25UF-Y3N-0340	●	3.40	3.4	52	20
ND25UF-Y3N-0350	●	3.50	3.5	52	20
ND25UF-Y3N-0360	●	3.60	3.6	52	20
ND25UF-Y3N-0370	●	3.70	3.7	52	20
ND25UF-Y3N-0380	●	3.80	3.8	55	22
ND25UF-Y3N-0390	●	3.90	3.9	55	22
ND25UF-Y3N-0400	●	4.00	4.0	55	22
ND25UF-Y3N-0410	●	4.10	4.1	55	22
ND25UF-Y3N-0420	●	4.20	4.2	55	22
ND25UF-Y3N-0430	●	4.30	4.3	58	24
ND25UF-Y3N-0440	●	4.40	4.4	58	24
ND25UF-Y3N-0450	●	4.50	4.5	58	24
ND25UF-Y3N-0460	●	4.60	4.6	58	24
ND25UF-Y3N-0470	●	4.70	4.7	58	24
ND25UF-Y3N-0480	●	4.80	4.8	62	26
ND25UF-Y3N-0490	●	4.90	4.9	62	26
ND25UF-Y3N-0500	●	5.00	5.0	62	26
ND25UF-Y3N-0510	●	5.10	5.1	62	26
ND25UF-Y3N-0520	●	5.20	5.2	62	26
ND25UF-Y3N-0530	●	5.30	5.3	62	26
ND25UF-Y3N-0540	●	5.40	5.4	66	28
ND25UF-Y3N-0550	●	5.50	5.5	66	28
ND25UF-Y3N-0560	●	5.60	5.6	66	28
ND25UF-Y3N-0570	●	5.70	5.7	66	28
ND25UF-Y3N-0580	●	5.80	5.8	66	28
ND25UF-Y3N-0590	●	5.90	5.9	66	28
ND25UF-Y3N-0600	●	6.00	6.0	66	28
ND25UF-Y3N-0610	●	6.10	6.1	70	31
ND25UF-Y3N-0620	●	6.20	6.2	70	31
ND25UF-Y3N-0630	●	6.30	6.3	70	31
ND25UF-Y3N-0640	●	6.40	6.4	70	31
ND25UF-Y3N-0650	●	6.50	6.5	70	31
ND25UF-Y3N-0660	●	6.60	6.6	70	31
ND25UF-Y3N-0670	●	6.70	6.7	70	31
ND25UF-Y3N-0680	●	6.80	6.8	74	34
ND25UF-Y3N-0690	●	6.90	6.9	74	34
ND25UF-Y3N-0700	●	7.00	7.0	74	34
ND25UF-Y3N-0710	●	7.10	7.1	74	34
ND25UF-Y3N-0720	●	7.20	7.2	74	34
ND25UF-Y3N-0730	●	7.30	7.3	74	34
ND25UF-Y3N-0740	●	7.40	7.4	74	34

Ordering Code	Stock	D(h6)	d(h6)	L	Lc
ND25UF-Y3N-0750	●	7.50	7.5	74	34
ND25UF-Y3N-0760	●	7.60	7.6	79	37
ND25UF-Y3N-0770	●	7.70	7.7	79	37
ND25UF-Y3N-0780	●	7.80	7.8	79	37
ND25UF-Y3N-0790	●	7.90	7.9	79	37
ND25UF-Y3N-0800	●	8.00	8.0	79	37
ND25UF-Y3N-0810	●	8.10	8.1	79	37
ND25UF-Y3N-0820	●	8.20	8.2	79	37
ND25UF-Y3N-0830	●	8.30	8.3	79	37
ND25UF-Y3N-0840	●	8.40	8.4	79	37
ND25UF-Y3N-0850	●	8.50	8.5	79	37
ND25UF-Y3N-0860	●	8.60	8.6	84	40
ND25UF-Y3N-0870	●	8.70	8.7	84	40
ND25UF-Y3N-0880	●	8.80	8.8	84	40
ND25UF-Y3N-0890	●	8.90	8.9	84	40
ND25UF-Y3N-0900	●	9.00	9.0	84	40
ND25UF-Y3N-0910	●	9.10	9.1	84	40
ND25UF-Y3N-0920	●	9.20	9.2	84	40
ND25UF-Y3N-0930	●	9.30	9.3	84	40
ND25UF-Y3N-0940	●	9.40	9.4	84	40
ND25UF-Y3N-0950	●	9.50	9.5	84	40
ND25UF-Y3N-0960	●	9.60	9.6	89	43
ND25UF-Y3N-0970	●	9.70	9.7	89	43
ND25UF-Y3N-0980	●	9.80	9.8	89	43
ND25UF-Y3N-0990	●	9.90	9.9	89	43
ND25UF-Y3N-1000	●	10.00	10.0	89	43
ND25UF-Y3N-1010	●	10.10	10.1	89	43
ND25UF-Y3N-1020	●	10.20	10.2	89	43
ND25UF-Y3N-1030	●	10.30	10.3	89	43
ND25UF-Y3N-1040	●	10.40	10.4	89	43
ND25UF-Y3N-1050	●	10.50	10.5	89	43
ND25UF-Y3N-1060	●	10.60	10.6	89	43
ND25UF-Y3N-1070	●	10.70	10.7	95	47
ND25UF-Y3N-1080	●	10.80	10.8	95	47
ND25UF-Y3N-1100	●	11.00	11.0	95	47
ND25UF-Y3N-1150	●	11.50	11.5	95	47
ND25UF-Y3N-1200	●	12.00	12.0	102	51
ND25UF-Y3N-1250	●	12.50	12.5	102	51
ND25UF-Y3N-1280	●	12.80	12.8	102	51
ND25UF-Y3N-1300	●	13.00	13.0	102	51
ND25UF-Y3N-1310	●	13.10	13.1	102	51
ND25UF-Y3N-1350	●	13.50	13.5	107	54
ND25UF-Y3N-1400	●	14.00	14.0	107	54
ND25UF-Y3N-1430	●	14.30	14.3	111	56
ND25UF-Y3N-1450	●	14.50	14.5	111	56
ND25UF-Y3N-1500	●	15.00	15.0	111	56
ND25UF-Y3N-1600	●	16.00	16.0	115	56

●Stock ○Availabie upon Order

HD15UF Straight shank twist drill

Drill Diameter	4–16mm
Coolant Type	Outside
Maximum Depth	3D
Coating	TIAIN
The hole tolerance	IT8–9
The surface roughness	Ra 1–2
To adapt to the situation	Hardened steel(<55–60HRC)

K	H
Cast Iron	Hardened steel

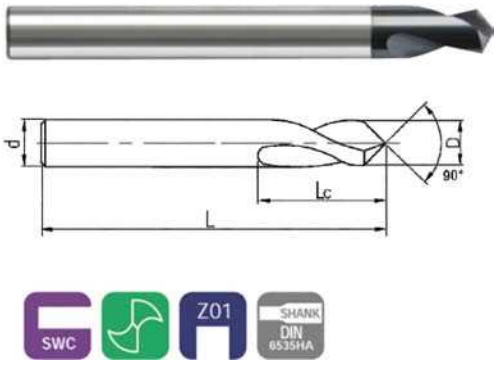


Ordering Code	Stock	D(h6)	d(h6)	L	Lc
HD15UF–Y3N–0400	●	4.00	4	55	22
HD15UF–Y3N–0500	●	5.00	5	62	26
HD15UF–Y3N–0600	●	6.00	6	66	28
HD15UF–Y3N–0700	●	7.00	7	74	34
HD15UF–Y3N–0800	●	8.00	8	79	37
HD15UF–Y3N–0900	●	9.00	9	84	40
HD15UF–Y3N–1000	●	10.00	10	89	43
HD15UF–Y3N–1100	●	11.00	11	95	47
HD15UF–Y3N–1200	●	12.00	12	102	51
HD15UF–Y3N–1300	●	13.00	13	102	51
HD15UF–Y3N–1400	●	14.00	14	107	54
HD15UF–Y3N–1500	●	15.00	15	111	56
HD15UF–Y3N–1600	●	16.00	16	115	58

PD20–A90 Straight Shank 90° NC center drill

Drill Diameter	5–20mm
Coolant Type	Outside
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron



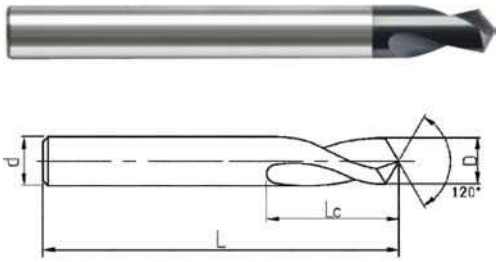
Ordering Code	Stock	D(h6)	d(h6)	L	Lc
PD20–A90–0500	●	5.00	5.0	62	10
PD20–A90–0600	●	6.00	6.0	66	15
PD20–A90–0800	●	8.00	8.0	79	17
PD20–A90–1000	●	10.00	10.0	89	20
PD20–A90–1200	●	12.00	12.0	102	25
PD20–A90–1400	●	14.00	14.0	107	30
PD20–A90–1600	●	16.00	16.0	115	35
PD20–A90–2000	●	20.00	10.0	131	40

●Stock ○Availabie upon Order

PD20–A120 Straight shank 120° NC center drill

Drill Diameter	5–20mm
Coolant Type	Outside
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron



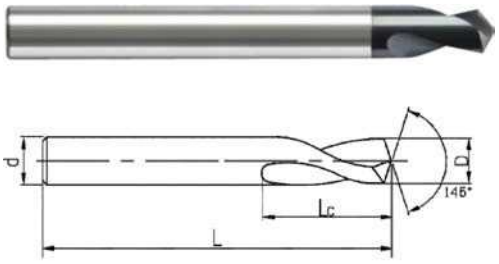


Ordering Code	Stock	D(h6)	d(h6)	L	Lc
PD20–A120–0500	●	5.00	5.0	62	10
PD20–A120–0600	●	6.00	6.0	66	15
PD20–A120–0800	●	8.00	8.0	79	17
PD20–A120–1000	●	10.00	10.0	89	20
PD20–A120–1200	●	12.00	12.0	102	25
PD20–A120–1400	●	14.00	14.0	107	30
PD20–A120–1600	●	16.00	16.0	115	35
PD20–A120–2000	●	20.00	20.0	131	40

PD20–A145 Straight Shank 145° NC center drill

Drill Diameter	5–20mm
Coolant Type	Outside
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron





Ordering Code	Stock	D(h6)	d(h6)	L	Lc
PD20–A145–0500	●	5.00	5.0	62	10
PD20–A145–0600	●	6.00	6.0	66	15
PD20–A145–0800	●	8.00	8.0	79	17
PD20–A145–1000	●	10.00	10.0	89	20
PD20–A145–1200	●	12.00	12.0	102	25
PD20–A145–1400	●	14.00	14.0	107	30
PD20–A145–1600	●	16.00	16.0	115	35
PD20–A145–2000	●	20.00	20.0	131	40

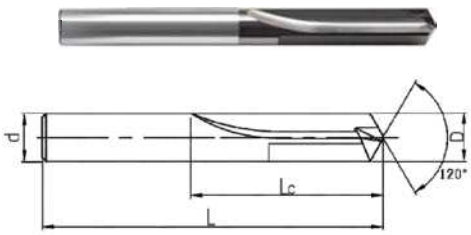
●Stock ○Availabie upon Order

KZD20 Straight flute drill

Drill Diameter	4–20mm
Coolant Type	Outside
Maximum Depth	3D

K

Cast Iron





Ordering Code	Stock	D(h6)	d(h6)	L	Lc
KZD20–A3N–0400	●	4.00	4.00	55	22
KZD20–A3N–0420	●	4.20	4.20	55	22
KZD20–A3N–0500	●	5.00	5.00	62	26
KZD20–A3N–0600	●	6.00	6.00	66	28
KZD20–A3N–0680	●	6.80	6.80	74	34
KZD20–A3N–0700	●	7.00	7.00	74	34
KZD20–A3N–0800	●	8.00	8.00	79	37
KZD20–A3N–0850	●	8.50	8.50	79	37
KZD20–A3N–0900	●	9.00	9.00	84	40
KZD20–A3N–1000	●	10.00	10.00	89	43
KZD20–A3N–1025	●	10.25	10.25	89	43
KZD20–A3N–1100	●	11.00	11.00	95	47

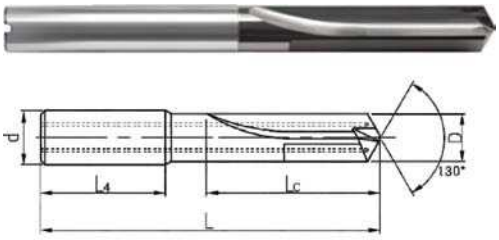
Ordering Code	Stock	D(h6)	d(h6)	L	Lc
KZD20–A3N–1200	●	12.00	12.00	102	51
KZD20–A3N–1300	●	13.00	13.00	102	51
KZD20–A3N–1400	●	14.00	14.00	107	54
KZD20–A3N–1500	●	15.00	15.00	111	56
KZD20–A3N–1550	●	15.50	15.50	115	58
KZD20–A3N–1600	●	16.00	16.00	115	58
KZD20–A3N–1700	●	17.00	17.00	119	60
KZD20–A3N–1750	●	17.50	17.50	123	62
KZD20–A3N–1800	●	18.00	18.00	123	62
KZD20–A3N–1950	●	19.50	19.50	131	66
KZD20–A3N–2000	●	20.00	20.00	131	66

KZD20 Straight Flute Drill

Drill Diameter	4–20mm
Coolant Type	Inside
Maximum Depth	5D

K

Cast Iron



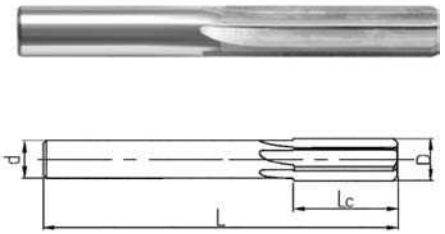


Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
KZD20–A5C–0500	●	5.00	6.0	82	44	36
KZD20–A5C–0600	●	6.00	6.0	82	44	36
KZD20–A5C–0680	●	6.80	8.0	91	53	36
KZD20–A5C–0700	●	7.00	8.0	91	53	36
KZD20–A5C–0800	●	8.00	8.0	91	53	36
KZD20–A5C–0850	●	8.50	10.0	103	61	40
KZD20–A5C–0900	●	9.00	10.0	103	61	40
KZD20–A5C–1000	●	10.00	10.0	103	61	40

Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
KZD20–A5C–1025	●	10.25	12.0	118	71	45
KZD20–A5C–1100	●	11.00	12.0	118	71	45
KZD20–A5C–1200	●	12.00	12.0	118	71	45
KZD20–A5C–1300	●	13.00	14.0	124	77	45
KZD20–A5C–1400	●	14.00	14.0	124	77	45
KZD20–A5C–1500	●	15.00	16.0	133	83	48
KZD20–A5C–1550	●	15.50	16.0	133	83	48
KZD20–A5C–1600	●	16.00	16.0	133	83	48

LJD20 Soild cabide straight flute reamer

Precision class	H7 H8
Type of shank	Straight shank
Flute type	Straight flute
Application	Suitable for silicon-aluminium alloys and cats iron



SWC H7 SHANK

Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
LJD20-H7-B-0400	●	4.00	3.55	56	20	4.0
LJD20-H7-B-0500	●	5.00	4.00	63	22	6.0
LJD20-H7-B-0600	●	6.00	5.00	63	22	6.0
LJD20-H7-B-0700	●	7.00	6.30	71	25	6.0
LJD20-H7-B-0800	●	8.00	6.30	71	25	6.0
LJD20-H7-B-0900	●	9.00	8.00	71	25	6.0
LJD20-H7-B-1000	●	10.00	8.00	71	25	6.0
LJD20-H7-B-1100	●	11.00	10.00	80	28	6.0
LJD20-H7-B-1200	●	12.00	10.00	80	28	6.0
LJD20-H7-B-1300	●	13.00	10.00	80	28	6.0
LJD20-H7-B-1400	●	14.00	12.50	90	32	6.0
LJD20-H7-B-1500	●	15.00	12.50	90	32	6.0
LJD20-H7-B-1600	●	16.00	12.50	90	32	6.0
LJD20-H7-B-1700	●	17.00	12.50	90	32	6.0
LJD20-H7-B-1800	●	18.00	16.00	100	36	6.0
LJD20-H7-B-1900	●	19.00	16.00	100	36	6.0
LJD20-H7-B-2000	●	20.00	16.00	100	36	6.0

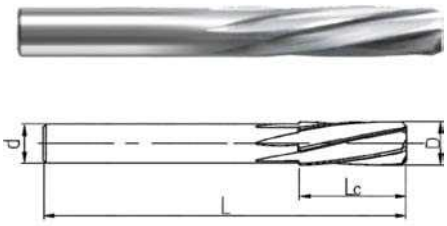
SWC H8 SHANK

Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
LJD20-H8-B-0400	●	4.00	3.55	56	20	4.0
LJD20-H8-B-0500	●	5.00	4.00	63	22	6.0
LJD20-H8-B-0600	●	6.00	5.00	63	22	6.0
LJD20-H8-B-0700	●	7.00	6.30	71	25	6.0
LJD20-H8-B-0800	●	8.00	6.30	71	25	6.0
LJD20-H8-B-0900	●	9.00	8.00	71	25	6.0
LJD20-H8-B-1000	●	10.00	8.00	71	25	6.0
LJD20-H8-B-1100	●	11.00	10.00	80	28	6.0
LJD20-H8-B-1200	●	12.00	10.00	80	28	6.0
LJD20-H8-B-1300	●	13.00	10.00	80	28	6.0
LJD20-H8-B-1400	●	14.00	12.50	90	32	6.0
LJD20-H8-B-1500	●	15.00	12.50	90	32	6.0
LJD20-H8-B-1600	●	16.00	12.50	90	32	6.0
LJD20-H8-B-1700	●	17.00	12.50	100	32	6.0
LJD20-H8-B-1800	●	18.00	16.00	100	36	6.0
LJD20-H8-B-1900	●	19.00	16.00	100	36	6.0
LJD20-H8-B-2000	●	20.00	16.00	100	36	6.0

●Stock ○Availabie upon Order

SJD20 Soild cabide straight flute reamer

Precision class	H7
Type of shank	Straight shank
Flute type	Left hand flute
Application	Suitable for silicon-aluminium alloys and cats iron





Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
SJD20-H7-B-0400	●	4.00	3.55	56	20	4.0
SJD20-H7-B-0500	●	5.00	4.00	63	22	6.0
SJD20-H7-B-0600	●	6.00	5.00	63	22	6.0
SJD20-H7-B-0700	●	7.00	6.30	71	25	6.0
SJD20-H7-B-0800	●	8.00	6.30	71	25	6.0
SJD20-H7-B-0900	●	9.00	8.00	71	25	6.0
SJD20-H7-B-1000	●	10.00	8.00	71	25	6.0
SJD20-H7-B-1100	●	11.00	10.00	80	28	6.0
SJD20-H7-B-1200	●	12.00	10.00	80	28	6.0
SJD20-H7-B-1300	●	13.00	10.00	80	28	6.0
SJD20-H7-B-1400	●	14.00	12.50	90	32	6.0
SJD20-H7-B-1500	●	15.00	12.50	90	32	6.0
SJD20-H7-B-1600	●	16.00	12.50	90	32	6.0
SJD20-H7-B-1700	●	17.00	12.50	90	32	6.0
SJD20-H7-B-1800	●	18.00	16.00	100	36	6.0
SJD20-H7-B-1900	●	19.00	16.00	100	36	6.0
SJD20-H7-B-2000	●	20.00	16.00	100	36	6.0



Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
SJD20-H8-B-0400	●	4.00	3.55	56	20	4.0
SJD20-H8-B-0500	●	5.00	4.00	63	22	6.0
SJD20-H8-B-0600	●	6.00	5.00	63	22	6.0
SJD20-H8-B-0700	●	7.00	6.30	71	25	6.0
SJD20-H8-B-0800	●	8.00	6.30	71	25	6.0
SJD20-H8-B-0900	●	9.00	8.00	71	25	6.0
SJD20-H8-B-1000	●	10.00	8.00	71	25	6.0
SJD20-H8-B-1100	●	11.00	10.00	80	28	6.0
SJD20-H8-B-1200	●	12.00	10.00	80	28	6.0
SJD20-H8-B-1300	●	13.00	10.00	80	28	6.0
SJD20-H8-B-1400	●	14.00	12.50	90	32	6.0
SJD20-H8-B-1500	●	15.00	12.50	90	32	6.0
SJD20-H8-B-1600	●	16.00	12.50	90	32	6.0
SJD20-H8-B-1700	●	17.00	12.50	100	32	6.0
SJD20-H8-B-1800	●	18.00	16.00	100	36	6.0
SJD20-H8-B-1900	●	19.00	16.00	100	36	6.0
SJD20-H8-B-2000	●	20.00	16.00	100	36	6.0

●Stock ○Availabie upon Order

PD20/A90/A120/A145 Cutting data recomendation

code number	ISO	Vc(m/min)		fn(mm/rev)							
		coolant type outside	coolant type inside	Φ5	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ20
01–10	P	120	160	0.15	0.2	0.26	0.30	0.32	0.35	0.40	0.45
10–20	P	105	125	0.15	0.2	0.26	0.30	0.32	0.35	0.40	0.45
30–40	P	100	120	0.13	0.2	0.20	0.23	0.26	0.28	0.32	0.38
01–10	K	90	110	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
10–20	K	80	100	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
20–30	K	70	90	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
30–40	K	60	80	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
10–20	N	150	200	0.12	0.2	0.20	0.23	0.26	0.28	0.32	0.38
20–30	N	120	180	0.12	0.2	0.20	0.23	0.26	0.28	0.32	0.38

PD20/MD20/KD20/ND25UF Cutting data recomendation

code number	ISO	Vc(m/min)		fn(mm/rev)								
		coolant type outside	coolant type inside	Φ3	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ18	Φ20
01–10	P	135–110–80	160–135–45	0.09–0.13–0.16	0.11–0.15–0.19	0.14–0.19–0.23	0.19–0.25–0.31	0.23–0.30–0.38	0.24–0.30–0.38	0.28–0.38–0.45	0.30–0.42–0.50	0.33–0.42–0.50	0.34–0.43–0.51
10–20	P	140–120–70	170–145–55	0.09–0.13–0.16	0.11–0.15–0.19	0014–0.19–0.23	0.19–0.25–0.31	0.23–0.30–0.38	0.24–0.30–0.38	0.28–0.38–0.45	0.30–0.42–0.50	0.33–0.42–0.50	0.34–0.43–0.51
20–30	P	130–100–70	160–130–60	0.09–0.12–0.14	0.10–0.14–0.17	0.13–0.17–0.22	0.17–0.23–0.29	0.21–0.28–0.35	0.22–0.30–0.37	0.26–0.35–0.41	0.28–0.37–0.44	0.31–0.38–0.46	0.31–0.39–0.47
30–40	P	85–100–70	100–85–50	0.08–0.10–0.13	0.09–0.12–0.15	0.11–0.15–0.19	0.15–0.20–0.25	0.18–0.24–0.30	0.20–0.26–0.33	0.23–0.30–0.36	0.24–0.32–0.38	0.27–0.33–0.40	0.27–0.34–0.41
10–20	M	80–60–40	100–80–50	0.05–0.09–0.11	0.06–0.11–0.13	0.07–0.14–0.16	0.10–0.17–0.20	0.12–0.21–0.24	0.13–0.23–0.26	0.15–0.26–0.29	0.16–0.28–0.31	0.17–0.30–0.33	0.18–0.30–0.33
20–30	M	60–50–30	80–70–40	0.04–0.07–0.08	0.05–0.09–0.11	0.06–0.11–0.13	0.08–0.14–0.17	0.10–0.16–0.19	0.11–0.18–0.21	0.12–0.21–0.24	0.13–0.23–0.26	0.15–0.24–0.27	0.15–0.25–0.28
30–40	M	50–40–20	70–60–30	0.03–0.05–0.06	0.04–0.06–0.07	0.05–0.08–0.10	0.07–0.11–0.13	0.08–0.13–0.16	0.09–0.15–0.17	0.10–0.17–0.19	0.11–0.18–0.20	0.12–0.19–0.21	0.12–0.20–0.22
10–20	K	140–110–80	170–140–60	0.13–0.17–0.21	0.15–0.20–0.26	0.19–0.26–0.32	0.26–0.34–0.43	0.31–0.41–0.51	0.33–0.44–0.55	0.38–0.51–0.61	0.41–0.54–0.65	0.45–0.57–0.68	0.40–0.58–0.69
20–30	K	120–100–60	150–120–60	0.11–0.15–0.18	0.14–0.18–0.22	0.17–0.23–0.27	0.23–0.30–0.36	0.27–0.36–0.43	0.29–0.39–0.47	0.34–0.45–0.54	0.36–0.48–0.58	0.40–0.50–0.60	0.41–0.51–0.61
30–40	K	110–90–60	110–90–60	0.06–0.09–0.11	0.08–0.10–0.13	0.10–0.13–0.16	0.13–0.17–0.21	0.15–0.20–0.26	0.17–0.21–0.26	0.19–0.26–0.31	0.20–0.27–0.33	0.23–0.28–0.34	0.23–0.29–0.35
10–20	N	240–160–110	320–260–60	0.13–0.16–0.20	0.15–0.19–0.24	0.22–0.28–0.35	0.25–0.32–0.40	0.31–0.38–0.48	0.33–0.42–0.52	0.38–0.48–0.58	0.41–0.51–0.61	0.43–0.53–0.64	0.44–0.54–0.65
10–20	S	58–55–50	68–65–60	0.08–0.10–0.12	0.09–0.11–0.14	0.11–0.13–0.16	0.12–0.15–0.18	0.13–0.18–0.22	0.17–0.21–0.26	0.21–0.25–0.29	0.22–0.26–0.30	0.25–0.30–0.35	0.26–0.32–0.37
20–30	S	40–35–35	55–50–45	0.06–0.08–0.10	0.07–0.09–0.11	0.08–0.10–0.12	0.11–0.13–0.16	0.13–0.17–0.20	0.16–0.19–0.23	0.19–0.15–0.18	0.20–0.25–0.30	0.20–0.25–0.30	0.21–0.26–0.32
30–40	S	30–25–27	40–35–30	0.04–0.05–0.07	0.05–0.06–0.08	0.05–0.06–0.08	0.06–0.08–0.11	0.08–0.11–0.14	0.08–0.13–0.16	0.11–0.15–0.18	0.12–0.16–0.20	0.12–0.16–0.20	0.13–0.17–0.21
10–20	H	80–60–50	100–80–60	0.06–0.08–0.10	0.07–0.10–0.12	0.09–0.12–0.15	0.12–0.16–0.20	0.14–0.19–0.24	0.16–0.21–0.26	0.18–0.24–0.29	0.19–0.26–0.31	0.21–0.27–0.32	0.22–0.27–0.33

LJD20/SJD20–H7/H8 Cutting data recomendation

code number	ISO	Vc(m/min)		fn(mm/rev)								
		coolant type outside	coolant type inside	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ18	Φ20
01–10	K	45	45	0.16	0.19	0.26	0.30	0.33	0.35	0.40	0.43	0.45
10–20	K	35	35	0.16	0.19	0.26	0.30	0.33	0.35	0.40	0.43	0.45
20–30	K	28	28	0.13	0.15	0.20	0.24	0.26	0.28	0.32	0.36	0.40
30–40	K	26	26	0.05	0.08	0.10	0.12	0.13	0.14	0.15	0.18	0.20
01–10	N	40	40	0.20	0.24	0.32	0.40	0.43	0.45	0.51	0.58	0.64
10–20	N	35	35	0.20	0.24	0.32	0.40	0.43	0.45	0.51	0.58	0.64

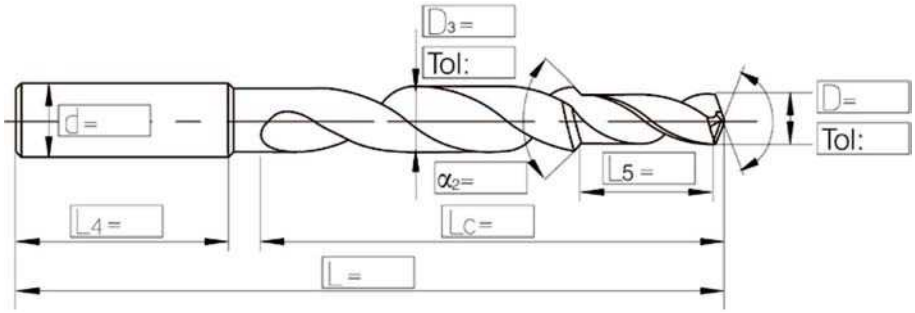
HD15UF Cutting data recomendation

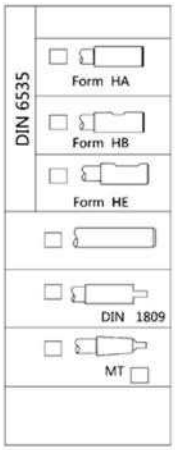
ISO	Nicecutt	Hardness	Vc(m/min)	fn(mm/rev)						
			coolant type outside	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16
H	H1	44–48HRC	20–40	0.06	0.08	0.10	0.12	0.14	0.15	0.16
H	H2	48–55HRC	15–30	0.05	0.06	0.08	0.10	0.12	0.13	0.14
H	H3	55–60HRC	10–20	0.04	0.04	0.04	0.06	0.06	0.08	0.08

● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

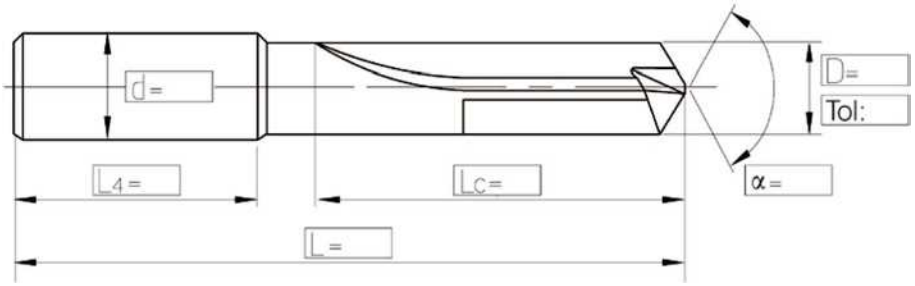


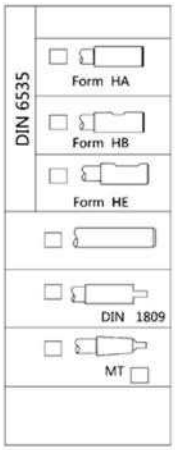


● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

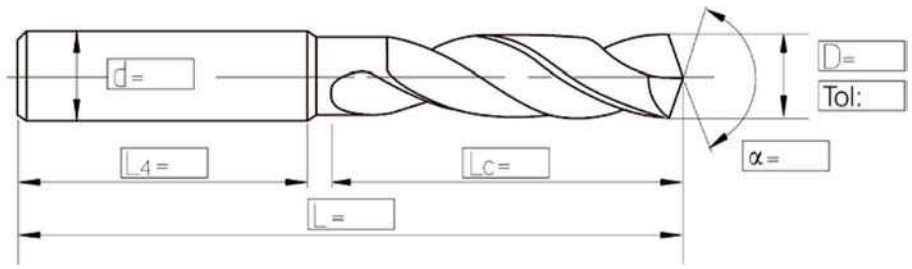


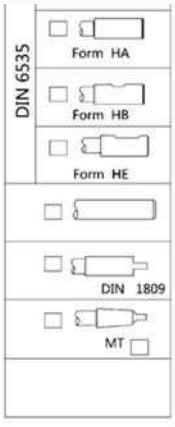


● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	



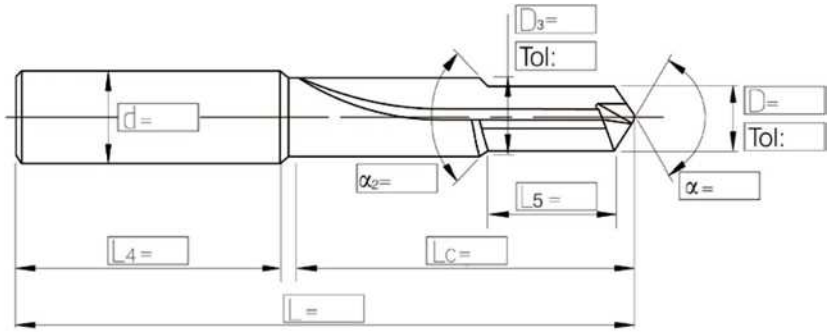


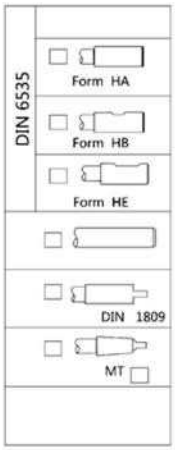
●Stock ○Availabie upon Order

● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

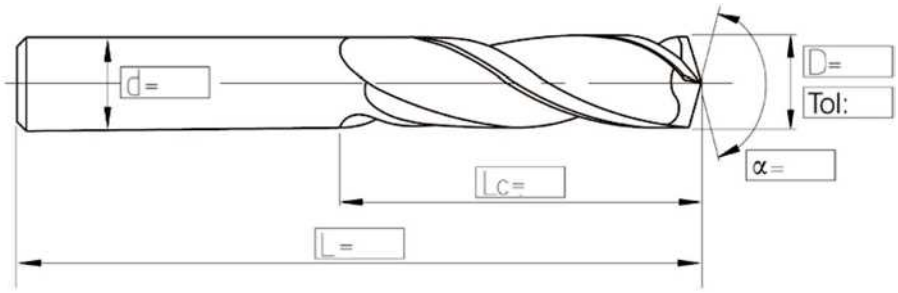


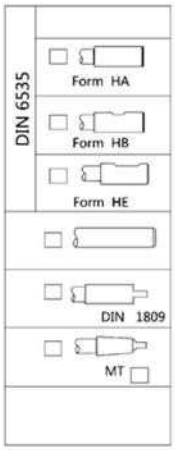


● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

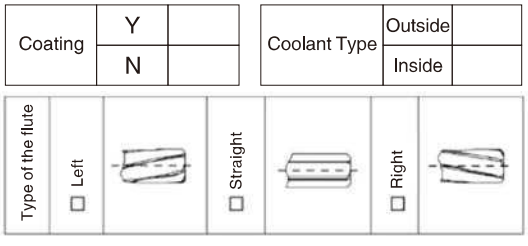


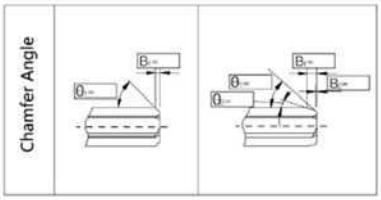


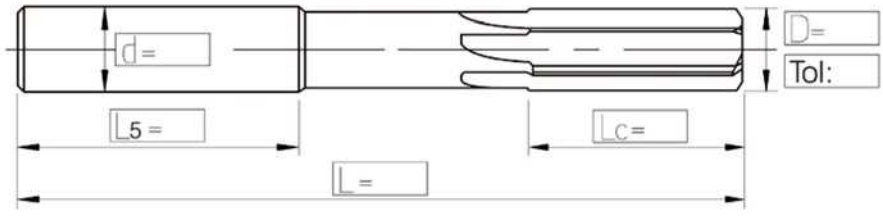
● General Information

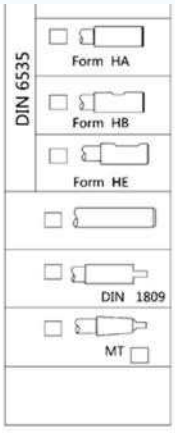
Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	





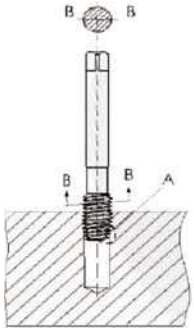


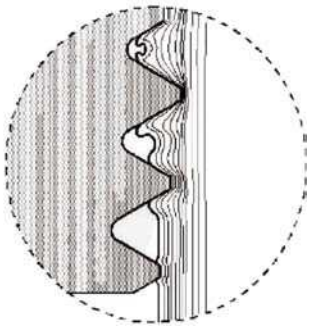


●Stock ○Availabie upon Order

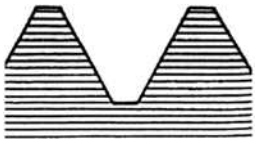
Spiral point,spiral flute taps' Shape and features



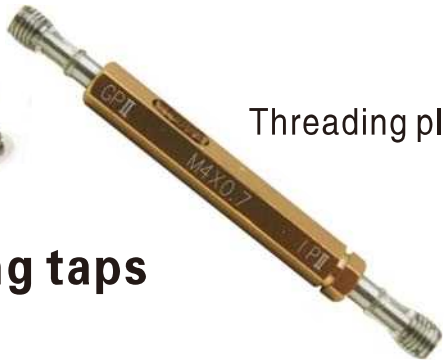












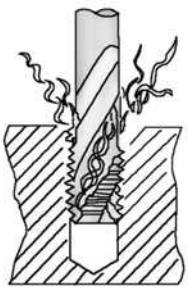
Threading plug

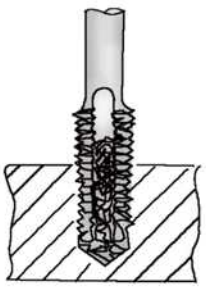
Shape and features of forming taps

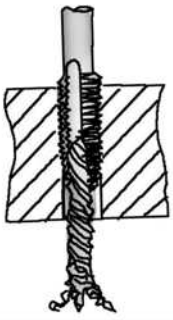












Surface treatment of taps and application



Tapping is limited for processing inside a hole. Since cooling and lubricaion with cutting fluids arie not easy，and both cutting heat and frictional heat are generated，wear and galling are likely to occur. In addition，processing steel materials may result in affinity with tap materials，So that galling is easy to occur. Various kinds of surface treatment are available to address these problems.

Types	Color	Effects	Hardness	Application
Natural	Natural color		HV 900	Suitable for machining pure aluminum, pure zinc,aluminum alloy,etc
TIN	Gold	Improved wear resistance and galling–proofness	HV 2300	Suitable for machining low and medium carbon steel, sus etc
TICN	Blue gray	Improved wear resistance and galling–proofness	HV 3000	Suitable for machining sus,aluninum alloy(low aluminum),magneium alloy, zinc alloy etc
ALSIN–A	Black	Improved wear resistance and galling–proofness	HV 2000	Suitable for machining sus,titanium alloy, low and medium carbon steel,etc

Recommended tapping speeds

Work Material		Forming Tap v=(m/min)	Pointed Tap v=(m/min)	Fluted Tap v=(m/min)	Straight Fluted Tap v=(m/min)
Low Carbon Steel	~C0.2%	8~13	15~25	8~13	8~13
Medium Carbon Steel	C0.25%~0.40%	7~10	10~15	7~12	7~12
High Carbon Steel	C0.45%	5~8	8~13	6~9	6~9
Aloy Steel	SCM	5~8	10~15	7~12	7~12
Stainless Steel	SUS	5~10	8~13	5~8	4~7
Copper	CU	7~12	7~12	6~11	6~9
Brass · Brass Casting	Bs · BsC	7~12	15~25	10~20	10~15
Bronze · Bronze Casting	PB · PBC	7~12	10~15	7~12	7~12
Wrought Aluminum Alloy	AL	10~20	15~25	10~20	10~20
Aluminum Alloy Casting	AC · ADC	10~15	15~20	10~15	10~15
Zinc Casting	ZDC	7~12	10~15	7~12	7~12

●Stock ○Availabie upon Order

The difference between forming taps and cutting taps

Forming taps

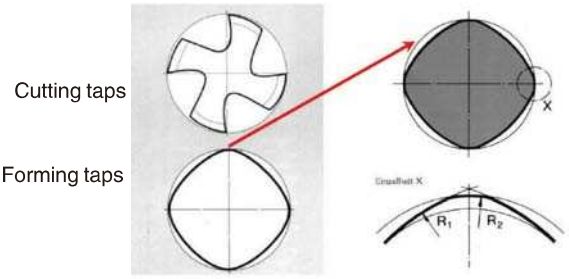
- no cutting,so no chip removal problem
- improved the thread surface quality
- increased the cutting speed(2 times)
- increased the taps' life

Forming taps limited on workpiece material

- Brittle materials(I.e.Grey cast iron)are not suitable
- workpiece's elongation at least to 10%

Remark: the bottom hole usual bigger than thread bottom hole

Feature comparison



Thread comparison

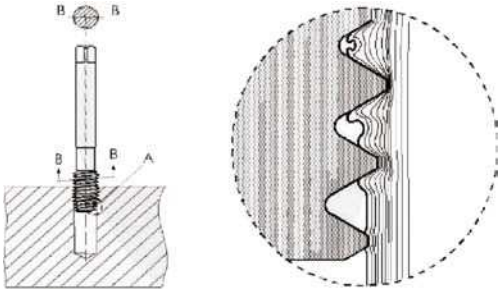
Extrusion molding



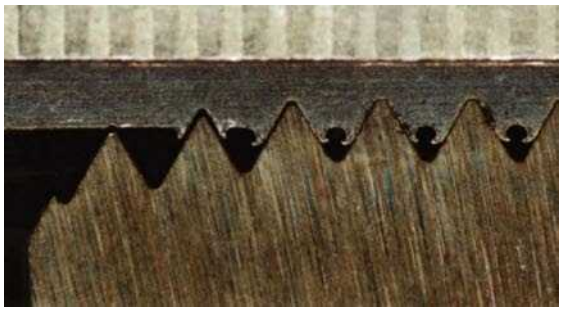
Cutting molding



Extrusion forming diagram



Extrusion forming cast diagram



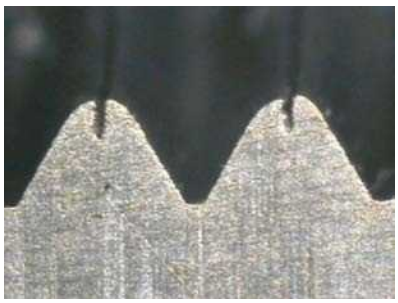
Normal extrusion thread(reasonable bottom hole)



When the bottom hole is so big(molding not finish)

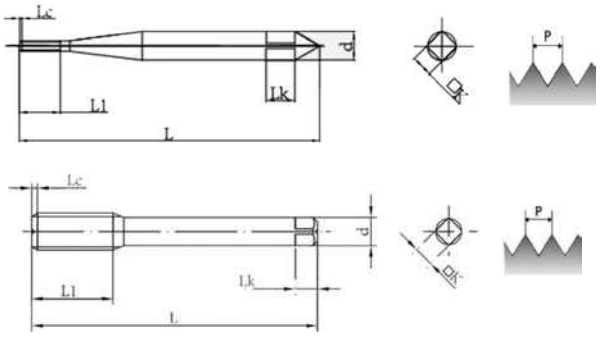


When the bottom hole is too small



Forming Taps





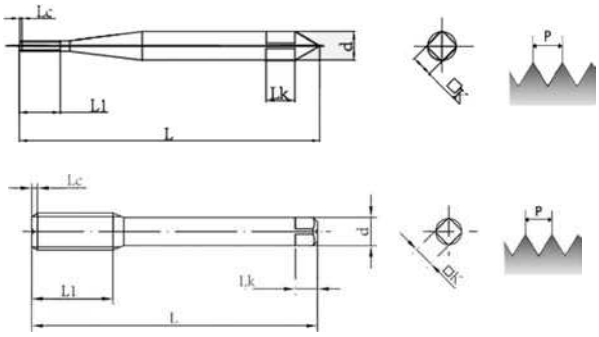
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	Natural color	Tin	Alsin-A	Ticn
M1.0*0.25 RH4	32.5	3.5	3	2.5*3	●	○	○	○
M1.0*0.25 RH4	32.5	4.5	3	2.5*3	●	○	○	○
M1.2*0.25 RH4	32.5	3.5	3	2.5*3	●	○	○	○
M1.2*0.25 RH4	32.5	4.5	3	2.5*3	●	○	○	○
M1.4*0.30 RH4	37	6.5	3	2.5*3	●	○	○	○
M1.6*0.35 RH4	37	8	3	2.5*3	●	○	○	○
M1.7*0.35 RH4	37	8	3	2.5*3	●	○	○	○
M1.8*0.35 RH4	37	8	3	2.5*3	●	○	○	○
M2.0*0.40 RH5	45	10	3	2.5*3	●	○	○	○
M2.3*0.40 RH5	45	10	3	2.5*3	●	○	○	○
M2.5*0.45 RH5	45	13	3	2.5*3	●	○	○	○
M2.6*0.45 RH5	45	13	3	2.5*3	●	○	○	○
M3.0*0.50 RH7	50	16	4	3.2*6	●	○	○	○
M3.5*0.60 RH7	50	16	4	3.2*6	●	○	○	○
M4.0*0.70 RH7	57	18	5	4*7	●	○	○	○
M5.0*0.80 RH7	66	20	5.5	4.5*7	●	○	○	○
M6.0*1.00 RH7	62	24	6	4.5*7	●	○	○	○
M7.0*1.00 RH7	70	13	6.2	5*8	●	○	○	○
M8.0*1.00 RH7	70	13	6.2	5*8	●	○	○	○
M8.0*1.25 RH7	70	13	6.2	5*8	●	○	○	○
M10.0*1.00 RH7	75	13	7	5.5*8	●	○	○	○
M10.0*1.25 RH7	75	13	7	5.5*8	●	○	○	○
M10.0*1.50 RH7	75	15	7	5.5*8	●	○	○	○
M12.0*1.00 RH7	82	13	8.5	6.5*9	●	○	○	○
M12.0*1.25 RH8	82	13	8.5	6.5*9	●	○	○	○
M12.0*1.50 RH8	82	17	8.5	6.5*9	●	○	○	○
M12.0*1.75 RH8	82	17	8.5	6.5*9	●	○	○	○
M14.0*1.00 RH7	88	13	10.5	8*11	●	○	○	○
M14.0*1.25 RH7	88	13	10.5	8*11	●	○	○	○
M14.0*1.50 RH8	88	20	10.5	8*11	●	○	○	○
M14.0*2.00 RH8	88	20	10.5	10*13	●	○	○	○
M16.0*1.00 RH8	95	13	12.5	10*13	●	○	○	○
M16.0*1.25 RH8	95	13	12.5	10*13	●	○	○	○
M16.0*1.50 RH8	95	20	12.5	10*13	●	○	○	○
M16.0*2.00 RH9	95	20	12.5	10*13	●	○	○	○

●Stock ○Availabie upon Order

Forming Taps





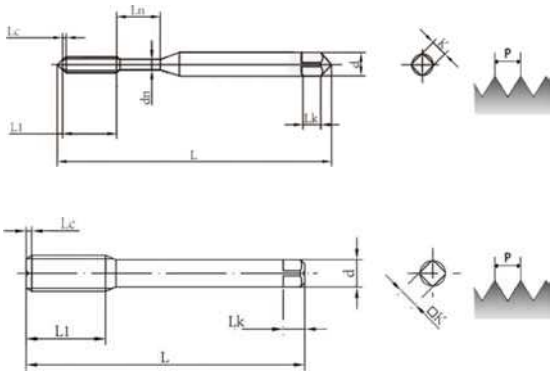
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	Natural color	Tin	Alsin-A	Ticn
NO.0-80UNF RH4	37	6.5	3	2.5*3	●	○	○	○
NO.1-64UNC RH4	37	9	3	2.5*3	●	○	○	○
NO.1-72UNF RH4	37	9	3	2.5*3	●	○	○	○
NO.2-56UNC RH4	45	12	3	2.5*3	●	○	○	○
NO.3-48UNC RH4	45	15	3	2.5*3	●	○	○	○
NO.4-40UNC RH4	45	15	3	2.5*3	●	○	○	○
NO.5-40UNF RH5	50	15	4	3.2*6	●	○	○	○
NO.6-32UNC RH6	50	16	4	3.2*6	●	○	○	○
NO.8-32UNC RH7	57	18	5	4*7	●	○	○	○
NO.10-24UNC RH7	66	20	5.5	4.5*7	●	○	○	○
NO.10-32UNF RH7	66	20	5.5	4.5*7	●	○	○	○
NO.12-24UNC RH7	66	20	5.5	4.5*7	●	○	○	○
NO.12-28UNF RH7	66	20	5.5	4.5*7	●	○	○	○
1/4-20UNC RH7	62	24	6	4.5*7	●	○	○	○
1/4-28UNF RH7	62	24	6	4.5*7	●	○	○	○
5/16-18UNC RH7	70	15	6.1	5*8	●	○	○	○
5/16-24UNF RH7	70	11	6.1	5*8	●	○	○	○
3/8-16UNC RH7	75	16	7	5.5*8	●	○	○	○
3/8-24UNF RH7	75	11	7	5.5*8	●	○	○	○
7/16-20UNF RH7	80	13	8	5*8	●	○	○	○
1/2-13UNC RH8	85	21	9	7*10	●	○	○	○
1/2-20UNF RH8	85	13	9	7*10	●	○	○	○
9/16-18UNF RH7	90	15	10.5	8*11	●	○	○	○
5/8-11UNC RH9	95	23	12	9*12	●	○	○	○
W1/40 RH6	50	15	4	3.2*6	●	○	○	○
W5/32-32 RH7	66	18	5	4*7	●	○	○	○
W3/16-24 RH7	66	18	5.5	4.5*7	●	○	○	○
W1/4-20 RH7	62	24	6	4.5*7	●	○	○	○
W5/16-18 RH7	70	15	6.1	5*8	●	○	○	○
W3/8-16 RH7	75	16	7	5.5*8	●	○	○	○
W1/2-12 RH8	85	21	9	7*10	●	○	○	○
W5/8-11 RH9	95	23	12	9*12	●	○	○	○

●Stock ○Availabie upon Order

Cutting Taps





Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	LK	dn	In	Natural color	Tin	Alsin-A	Ticn
M1.0*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
M1.2*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
M1.4*0.30 P1	37	9.5	3	2.5	3			●	○	○	○
M1.6*0.35 P1	37	10	3	2.5	3			●	○	○	○
M2.0*0.40 P1	45	9	3	2.5	3	1.4	6	●	○	○	○
M2.5*0.45 P2	45	9	3	2.5	3	1.9	6	●	○	○	○
M3.0*0.50 P2	50	12	4	3.2	6	2.3	7	●	○	○	○
M3.5*0.60 P2	50	13	4	3.2	6	2.6	7	●	○	○	○
M4.0*0.70 P2	57	14	5	4	7	3	7	●	○	○	○
M5.0*0.80 P2	66	16	5.5	4.5	7	4	9	●	○	○	○
M6.0*1.00 P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
M8.0*1.25 P3	70	22	6.2	5	8			●	○	○	○
M8.0*1.00 P3	70	22	6.2	5	8			●	○	○	○
M10.0*1.50 P3	75	24	7	5.5	8			●	○	○	○
M10.0*1.25 P3	75	24	7	5.5	8			●	○	○	○
M10.0*1.00 P3	75	24	7	5.5	8			●	○	○	○
M12.0*1.75 P3	82	29	8.5	6.5	9			●	○	○	○
M12.0*1.50 P3	82	29	8.5	6.5	9			●	○	○	○
M12.0*1.25 P3	82	29	8.5	6.5	9			●	○	○	○
M12.0*1.00 P3	82	29	8.5	6.5	9			●	○	○	○
M14.0*2.00 P4	88	20	10.5	8	11			●	○	○	○
M14.0*1.50 P4	88	20	10.5	8	11			●	○	○	○
M14.0*1.25 P4	88	20	10.5	8	11			●	○	○	○
M14.0*1.00 P4	88	20	10.5	8	11			●	○	○	○
M16.0*2.00 P4	95	20	12.5	10	13			●	○	○	○
M16.0*1.50 P4	95	20	12.5	10	13			●	○	○	○
M16.0*1.25 P4	95	20	12.5	10	13			●	○	○	○
M16.0*1.00 P4	95	19.5	12.5	10	13			●	○	○	○
NO.4-40UNC P2	45	10	3	2.5	3	2	6	●	○	○	○
NO.5-40UNC P2	50	12	4	3.2	6	2.3	7	●	○	○	○
NO.6-32UNC P2	50	13	4	3.2	6	2.4	7	●	○	○	○
NO.8-32UNC P2	57	13.5	5	4	7	3	8	●	○	○	○
NO.10-24UNC P2	66	16.5	5.5	4.5	7	3.4	9.5	●	○	○	○
NO.12-24UNC P2	66	16.5	5.5	4.5	7	4	9.5	●	○	○	○
1/4-20UNC P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
5/16-18UNC P3	70	23	6.1	5	8			●	○	○	○
3/8-16UNC P3	75	24	7	5.5	8			●	○	○	○
7/16-14UNC P3	80	29	8	6	9			●	○	○	○
1/2-13UNC P3	85	30	9	7	10			●	○	○	○
9/16-12UNC P4	90	30	10.5	8	11			●	○	○	○
5/8-11UNC P4	95	23	12	9	12			●	○	○	○

●Stock ○Availabie upon Order

Plug gauge’s specification





Material: HSSE Unit: mm

Ordering Code	Precision	Ordering Code	Precision
M1.0*0.25	5H	M7.0*1.00	6H
M1.2*0.25	5H	M8.0*1.25	6H
M1.4*0.30	6H	M8.0*1.00	6H
M1.6*0.35	6H	M10.0*1.50	6H
M1.7*0.35	6H	M10.0*1.25	6H
M1.8*0.35	6H	M10.0*1.00	6H
M2.0*0.40	6H	M12.0*1.75	6H
M2.3*0.40	6H	M12.0*1.50	6H
M2.5*0.45	6H	M12.0*1.25	6H
M2.6*0.45	6H	M12.0*1.00	6H
M3.0*0.50	6H	M14.0*2.00	6H
M3.5*0.60	6H	M14.0*1.50	6H
M4.0*0.70	6H	M16.0*2.00	6H
M5.0*0.80	6H	M16.0*1.50	6H
M6.0*1.00	6H		

Material: HSSE Unit: mm

Ordering Code	Precision	Ordering Code	Precision
M0.1–40 UNC	2B	1/2–13 UNC	2B
M0.5–40 UNC	2B	1/2–20 UNF	2B
M0.6–32 UNC	2B	9/16–12 UNC	2B
M0.8–32 UNC	2B	5/8–11 UNC	2B
M0.10–24 UNC	2B	5/8–18 UNF	2B
M0.10–32 UNF	2B	5/8–24 UNF	2B
M0.12–24 UNC	2B	W1/8–40	2B
M0.12–28 UNF	2B	W5/32–32	2B
1/4–20 UNC	2B	W3/16–24	2B
1/4–28 UNF	2B	W1/4–20	2B
5/16–18 UNC	2B	W5/16–18	2B
5/16–24 UNF	2B	W3/8–16	2B
3/8–16 UNC	2B	W1/2–12	2B
2/8–24 UNF	2B	W5/8–11	2B
7/16–14 UNC	2B		
7/16–20 UNF	2B		

plug gauge use HSS material,the size ⩾3mm' shardness in HRC53–60° , > 3mm in HRC58–60° ,
GO–NO GO FIXED GAUGES's precision can be 5H,6H,also can be 6G,7H.size⩽M1.4 can be 5H,
go gauge use GP to mark T=GO=GR,not–go–end USD IP to mark Z=NO=NR

NRT hole diameter calculating mode

1.dN=D–P*0.45 2.dN=D–0.2P–0.00403 · P · f1+0.0127 · n Eg: M3*0.5 Rh6 JIS class 2 drill hole Thread overlap ratio 90% dN=3–0.2*0.5–0.00403 · 0.5 · 90+0.0127 · 6=2.79	dN=Hole diameter D=Diameter P=Pitch f1=Thread overlap ratio n=RH

●Stock ○Availabie upon Order

Recommended drill hole size for forming taps

Material: HSSE Unit: mm

Ordering Code	For JIS class 1B drill hole dia		For JIS class 2B drill hole dia	
	RH	MIN~MAX	RH	MIN~MAX
	Precision	Thread Overlap Ratio:%	Precision	Thread Overlap Ratio:%
M1.0*0.25	2	0.87~0.89(100~85)	4	0.90~0.82(100~80)
M1.2*0.25	2	1.07~1.09(100~85)	4	1.10~1.12(100~80)
M1.4*0.30	2	1.244~1.263(100~85)	4	1.270~1.294(100~80)
M1.6*0.35	2	1.40~1.44(100~80)	4	1.44~1.48(100~75)
M1.7*0.35	2	1.51~1.54(100~80)	4	1.54~1.58(100~75)
M2.0*0.40	2	1.78~1.82(100~80)	4	1.81~1.85(100~75)
M2.3*0.40	2	2.08~2.12(100~80)	4	2.11~2.15(100~75)
M2.5*0.45	2	2.25~2.29(100~80)	4	2.28~2.33(100~75)
M2.6*0.45	2	2.35~2.39(100~80)	4	2.38~2.43(100~75)
M3.0*0.50	3	2.74~2.78(100~80)	5	2.76~2.81(100~75)
M3.5*0.60	3	3.18~3.21(100~85)	5	3.20~3.26(100~75)
M4.0*0.70	4	3.63~3.67(100~85)	6	3.65~3.70(100~85)
M5.0*0.80	4	4.57~4.62(100~85)	6	4.59~4.66(100~80)
M6.0*1.00	4	5.45~5.51(100~85)	7	5.48~5.57(100~80)
M7.0*1.00	4	6.45~6.51(100~85)	7	6.48~6.57(100~80)
M8.0*1.25	5	7.31~7.38(100~85)	7	7.34~7.41(100~85)
M10.0*1.50	5	9.19~9.22(100~90)	7	9.18~9.28(100~85)
M12.0*1.75	5	11.01~11.08(100~90)	8	11.05~11.15(100~85)
M14.0*2.00	6	12.83~12.95(100~90)	10	12.92~13.04(100~85)
M16*2.00	6	14.87~14.95(100~90)	10	14.92~15.04(100~85)

Material: HSSE Unit: mm

Ordering Code	For JIS class 1B drill hole dia		For JIS class 2B drill hole dia	
	RH	MIN~MAX	RH	MIN~MAX
	Precision	Thread Overlap Ratio:%	Precision	Thread Overlap Ratio:%
NO.2~56UNC	4	1.96~2.02(100~65)	3	1.95~2.01(100~65)
2~64	3	1.98~2.04(100~65)	2	1.97~2.03(100~65)
3~48	4	2.25~2.60(100~65)	3	2.23~2.31(100~65)
4~40	5	2.52~2.60(100~70)	3	2.50~2.58(100~70)
4~48	4	2.57~2.64(100~70)	3	2.56~2.63(100~70)
6~32	5	3.09~3.17(100~75)	3	3.06~3.14(100~75)
6~40	5	3.19~3.26(100~70)	3	3.16~3.22(100~75)
8~32	6	3.75~3.83(100~75)	4	3.74~3.82(100~75)
10~24	6	4.26~4.35(100~80)	4	4.24~4.32(100~80)
10~32	5	4.41~4.48(100~80)	4	4.40~4.46(100~80)
12~28	5	5.00~5.08(100~80)	4	4.99~5.06(100~80)
1/4~20	6	5.66~5.76(100~80)	4	5.64~5.74(100~80)
1/4~28	5	5.86~5.93(100~80)	4	5.85~5.92(100~80)
5/16~18	7	7.18~7.29(100~80)	5	7.15~7.24(100~80)
5/16~24	6	7.38~7.46(100~80)	5	7.36~7.43(100~85)
3/8~16	7	8.66~8.78(100~80)	5	8.63~8.73(100~85)
3/8~24	6	8.96~9.05(100~80)	5	8.95~9.02(100~85)
7/16~20	7	10.44~10.54(100~80)	5	10.41~10.49(100~85)
1/2~13	8	11.62~11.78(100~80)	6	11.60~11.68(100~90)
1/2~20	7	12.02~12.12(100~80)	5	12.00~12.05(100~90)
5/8~11	11	14.62~14.76(100~85)	8	14.58~14.67(100~90)
5/8~18	9	15.14~15.25(100~80)	7	15.11~15.17(100~90)

●Stock ○Availabie upon Order

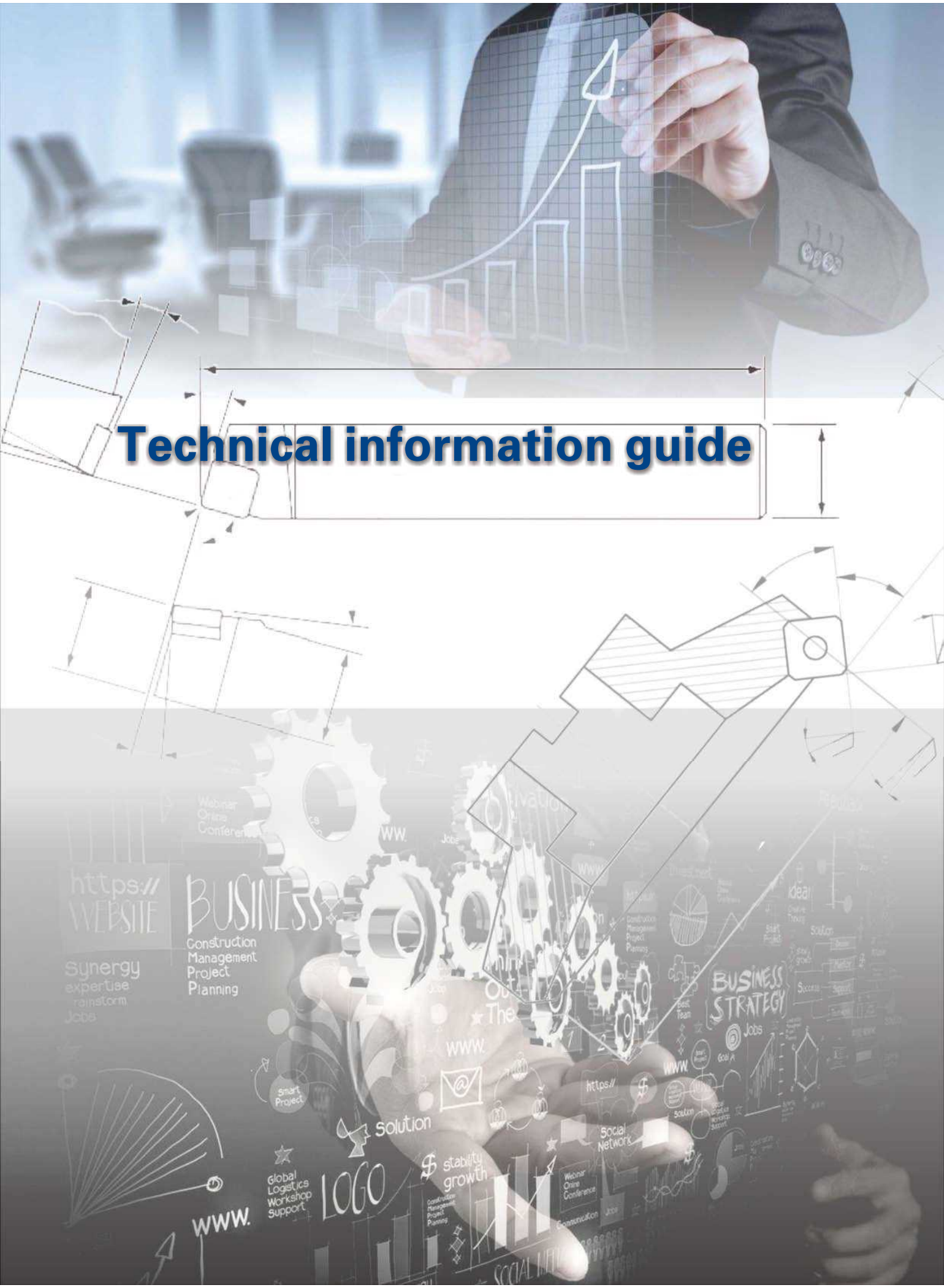
Recommended drill hole size for cutting taps

Specification(M)		Standard Hole Dia	For JIS Class2 Drill Hole Dia	
			Max	Min
M1.0	0.25	0.75	0.785	0.729
M1.1	0.25	0.85	0.885	0.829
M1.2	0.25	0.95	0.985	0.929
M1.4	0.30	1.10	1.142	1.075
M1.6	0.35	1.25	1.321	1.221
M1.7	0.35	1.35	1.421	1.321
M1.8	0.35	1.45	1.521	1.421
M2.0	0.40	1.60	1.679	1.567
M2.2	0.45	1.75	1.838	1.713
M2.3	0.40	1.90	1.979	1.867
M2.5	0.45	2.10	2.138	2.013
M2.6	0.45	2.20	2.238	2.113
M3.0	0.50	2.50	2.599	2.459
M3.5	0.60	2.90	3.010	2.850
M4.0	0.70	3.30	3.422	3.242
M4.5	0.75	3.80	3.878	3.688
M5.0	0.80	4.20	4.334	4.134
M6.0	1.00	5.00	5.153	4.917
M7.0	1.00	6.00	6.153	5.917
M8.0	1.25	6.80	6.912	6.647
M8.0	1.00	7.00	7.153	6.917
M9.0	1.25	7.80	7.912	7.647
M10	1.50	8.50	8.676	8.376
M10	1.25	8.80	8.912	8.647
M10	1.00	9.00	9.153	8.917
M11	1.50	9.50	9.676	9.376
M12	1.75	10.30	10.441	10.106
M12	1.50	10.50	10.676	10.376
M12	1.25	10.80	10.912	10.647
M12	1.00	11.00	11.153	10.917
M14	2.00	12.00	12.210	11.835
M14	1.50	12.50	12.676	12.376
M14	1.00	13.00	13.153	12.917
M16	2.00	14.00	14.210	13.835
M16	1.50	14.50	14.676	14.376
M16	1.00	15.00	15.153	14.917

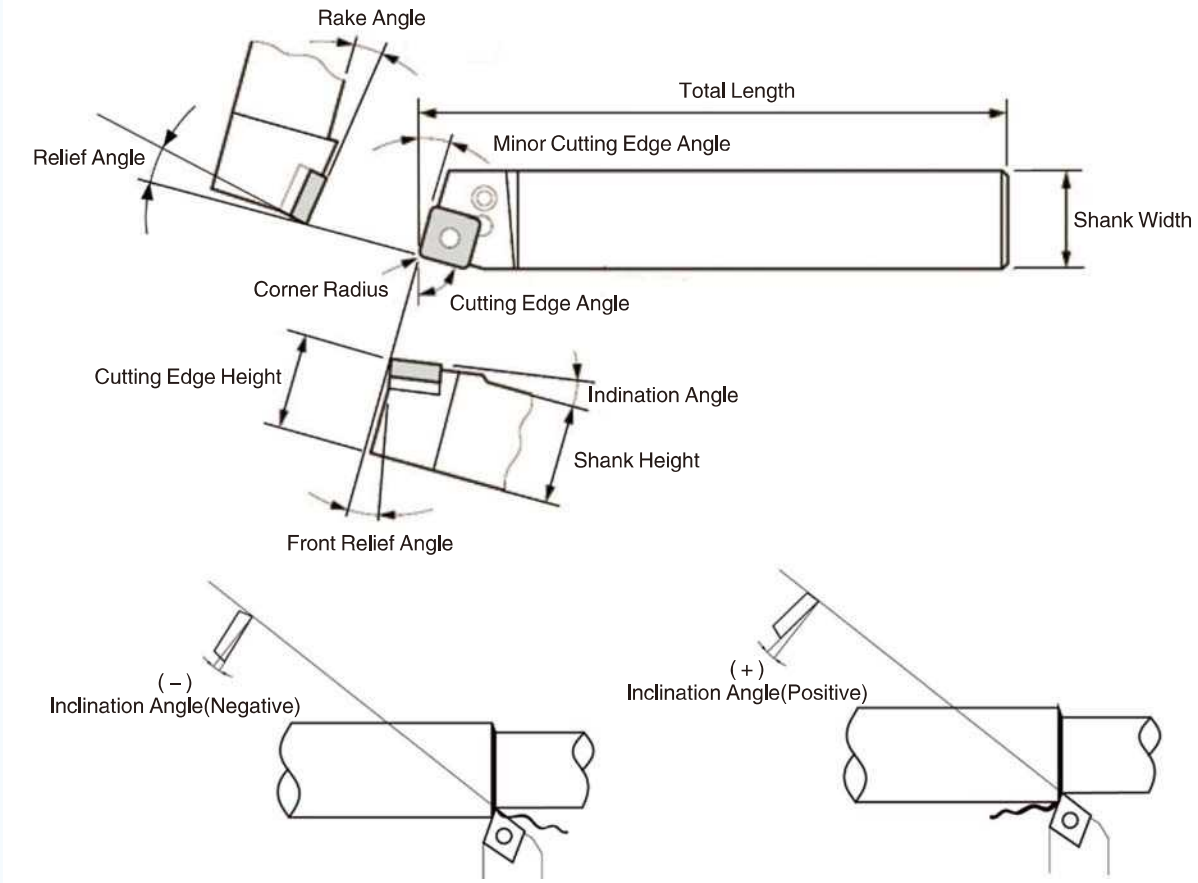
Specification(M) (UNC)		Standard Hole Dia	For JIS Class2 Drill Hole Dia	
			Max	Min
NO.1	–64	1.55	1.582	1.425
NO.2	–56	1.80	1.871	1.695
NO.3	–48	2.10	2.146	1.941
NO.4	–40	2.30	2.385	2.157
NO.5	–40	2.60	2.697	2.487
NO.6	–32	2.80	2.895	2.642
NO.8	–32	3.40	3.530	3.302
NO.10	–24	3.90	3.962	3.683
NO.12	–24	4.50	4.597	4.344
1/4	–20	5.10	5.257	4.979
5/16	–18	6.60	6.731	6.401
3/8	–16	8.00	8.153	7.798
7/16	–14	9.40	9.550	9.144
1/2	–13	10.90	11.023	10.592
9/16	–12	12.20	12.466	11.989
5/8	–11	13.60	13.868	13.386

Specification(M) (UNC)		Standard Hole Dia	For JIS Class2 Drill Hole Dia	
			Max	Min
NO.0	–80	1.25	1.305	1.182
NO.1	–72	1.55	1.612	1.474
NO.2	–64	1.85	1.912	1.756
NO.3	–56	2.10	2.197	2.025
NO.4	–48	2.40	2.458	2.271
NO.5	–44	2.70	2.740	2.551
NO.6	–40	2.90	3.022	2.820
NO.8	–36	3.50	3.606	3.404
NO.10	–32	4.10	4.165	3.963
NO.12	–28	4.60	4.724	4.496
1/4	–28	5.50	5.588	5.360
5/16	–24	6.90	7.035	6.782
3/8	–24	8.50	8.636	8.382
7/16	–20	9.90	10.033	9.729
1/2	–20	11.50	11.607	11.329
9/16	–18	12.90	13.081	12.751
5/8	–18	14.50	14.681	14.351

Technical information guide



Terms and Angles of Turning Toolholder



Function of Tool Angle

Tool Angle	Function	Effect
Rake Angle	●Affects cutting force, cutting heat, chip evacuation and tool life.	●When it is positive(+)angle,sharper cutting performance is obtained,less cutting resistance but less edge strength. ●Positive(+)angle is recommended for easy to machine workpieces or thin workpieces. ●Smaller rake angle or negative(–) angle is recommended when a stronger edge is required like scale cutting or interrupted cutting.

Tool Angle	Function	Effect
Inclination Angle	●The corner will bear a strong impact when heavy cutting. ●It needs a suitable cutting edge inclination angle to prevent fracture.	●When it is negative---Chip flows to the workpiece and vice versa. ●When it is positive---Cutting edge strength improves,but the back cutting force also increases and it is inclined to produce vibration. ●Recommended values:Turning 3° ~5° Milling 10° ~15° .
Relief Angle	●Prevents the tool's contact to the workpiece surface,except the cutting edge.	●When it is small,the cutting edge strength improves,but the wear at relief face increases,and tool life may decreases.
Cutting Edge Angle	●Affects chip control and the direction of cutting force.	●When it is large,chip thickness becomes thick and chip control improves.
Minor Cutting Edge Angle	●Prevents friction between cutting edge and work surface.	●When it is small,the cutting edge strength will improve,but the tip is heated. ●When it is small,back cutting force increases and it is inclined to produce cutting vibration. ●It should be smaller for rough finishing, while it can be larger for rough finishing . Recommended values:5° ~15° .
Corner Radius	●Affects tool nose strength and roughness of the finished surface.	●Recommended values:2~3 times of feed rate.

Basic Formulas of Turning

►Power Requirement

$$P_c = \frac{K_s \times V_c \times a_p \times f}{6120 \times \eta}$$

$$P_{Hp} = \frac{K_s \times V_c \times a_p \times f}{4500 \times \eta}$$

- P_c: Power Requirement(KW)
- P_{Hp}: Power Requirement (Horse Power)(HP)
- V_c: Cutting Speed(m/min)
- f: Feed Rate(mm/rev)
- a_p: Depth of Cut(mm)
- K_s: Specific Cutting Resistance(kgf/mm^2)
- η: Mechanical Efficiency(0.7~0.8)

$f = \frac{l}{n}$	l (mm/min) Length of cut per minute

approximate value of K_s

Aluminum:800MPa General Steel:2,500~3,000MPa Cast Iron:1500MPa

Low Carbon Steel	190	High Alloy Steel	245
Medium Carbon Steel	210	Cast Iron	93
High Carbon Steel	240	Malleable Cast Iron	120
Low Alloy Steel	190	Bronze,Brass	70

►Cutting Speed

$$V_c = \frac{\pi \times D_m \times n}{1000}$$

- V_c: Cutting Speed(m/min)
- n: Spindle Revolution(min^{-1})
- D_m: Woekpiece Diameter(mm)

►Surface Roughness

$$R_z = h = \frac{f^2}{8 \times R(\gamma\varepsilon)} \times 1000$$

- R_z=h:Theoretical Surface Roughness(μm)
- f:Feed Rate(mm/rev)
- R($\gamma\varepsilon$):Corner Radius of Insert(mm)

Actual Surface Roughness	Steel:Theorrtical Surface Roughness (R_z)x1.5~3 Cast iron:Theoretical Surface Roughness (R_z)x3~5

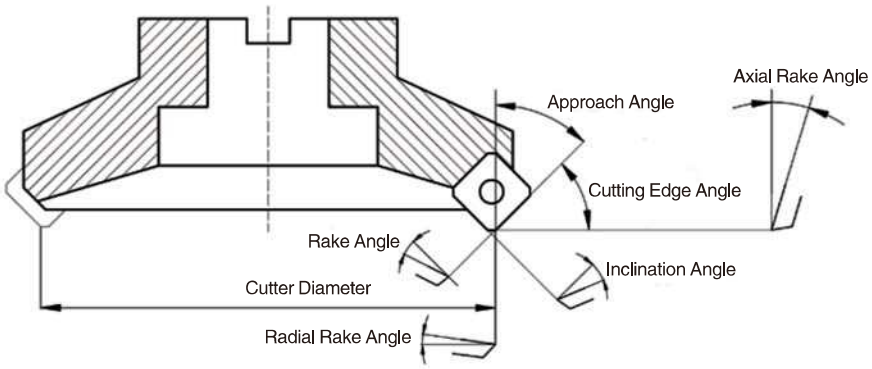
Trouble Shooting(Turning)

Trouble	Troubl Item	Measures	Insert Grade: Change to Harder Grade	Insert Grade: Change to Tougher Grade	Insert Grade: More Thermal Shock Resistant Grade	Insert Grade: Change to More Welding Resistant Grade	Cutting Conditions: Vc Cutting Speed (Higher(Larger) ↑ Lower(Smaller) ↓)	Cutting Conditions: fz Feed Rate (Higher(Larger) ↑ Lower(Smaller) ↓)	Cutting Conditions: ap Depth of Cut (Higher(Larger) ↑ Lower(Smaller) ↓)	Cutting Conditions: ToolPath Review	Cutting Conditions: Coolant: Wet	Cutting Conditions: Coolant: Dry	Tool Geometry: Chipbreaker Review	Tool Geometry: Rake Angle (Increase ↑ Decrease ↓)	Tool Geometry: Comer-R(γε) (Increase ↑ Decrease ↓)	Tool Geometry: Approach Angle (Increase ↑ Decrease ↓)	Tool Geometry: Edge Strength/Honing (Increase ↑ Decrease ↓)	Tool Geometry: Change to Higher Tolerance(MG)	Tool Geometry: Toolholder Rigidity	Setting/Machine: Workpiece/Tool Installation	Setting/Machine: Overhang Length	Setting/Machine: Power, Rigidity
Unstable Dimension	Unstable Workpiece Dimension	Unsuitable Insert Tolerance																●				
		Tool or Workpiece Evacuation											●	●↑	●↓	●↓			●	●	●	●
	Frequent Offset during Cutting	Flank Wear Increase	●												●↑							
		Unsuitable Cutting Conditions					●↓	●↑														
		Built-up Edge				●	●↑															
Surface Roughness	Poor Surface Roughness	Poor Cutting by Tool Wear	●			●	●↓				●		●	●↑	●↑		●↓	●				
		Chipping		●				●↓	●↓				●		●↑		●↑			●	●	●
		Welding,Built-up Edge				●	●↑				●		●	●↑			●↓	●				
		Unsuitable Cutting Conditions					●↑	●↓	●↓		●											
		Unsuitable Tool Grade/Geometry											●		●↑		●↓	●				
		Vibration,Chattering		●			●↓	●↓ 1	●↓				●	●↑	●↓	●↓	●↓		●	●	●	●
Heat	Deterioration of Accuracy or Tool Life by Cutting Heat	Unsuitable Cutting Conditions					●↓	●↓	●↓		●											
		Unsuitable Tool Grade/Geometry	●										●	●↑			●↓					
Burr,Chipping,Scuffing	Steel,Aluminium→Burr	Unsuitable Cutting Conditions					●↓	●↑		●	●											
		Unsuitable Tool Grade/Geometry	●										●	●↑	●↓	●↓	●↓					
	Cast Iron→Workpiece Chip Off	Unsuitable Cutting Conditions						●↓	●↓	●												
		Unsuitable Tool Grade/Geometry	●										●	●↑	●↑	●↑	●↓		●	●	●	●
	Mild steel→Scuffing	Unsuitable Cutting Conditions					●↑	●↓2			●											
		Unsuitable Tool Grade/Geometry	●			●							●	●↑			●↓					
Edge Damage	Wear Increase at Relief Face,Rake Face	Flank Wear	●				●↓				●		●	●↑	●↑		●↓					
		Rake Face Wear	●				●↓	●↓	●↓		●		●	●↑		●↑						
	Notching	Notching				●	●↓				●											
	Chipping	Vibration,Chattering		●				●↓	●↓				●			●↑	●↑		●	●	●	●
	Crack	Unsuitable Tool Grade/ Cutting Conditions		●	●			●↓	●↓				●		●↑	●↑	●↑		●	●	●	●
	Thermal Crack	Unsuitable Tool Grade/ Cutting Conditions			●		●↓	●↓	●↓			●	●	●↑			●↓					
	Edge Nose Deformation	Edge Nose Deformation during Interrupted Cutting	●				●↓	●↓	●↓				●	●↓	●↑	●↑	●↑					
	Built-up Edge	Unsuitable Tool Grade/ Cutting Conditions				●	●↑	●↑			●		●	●↑			●↓	●				
Chip Control	Long,Tangling Chips	Unsuitable Cutting Conditions					●↓	●↑	●↑	●		●										
		Unsuitable Tool Geometry											●		●↓	●↓						
	Chips Scattering	Unsuitable Cutting Conditions						●↓	●↓			●										
		Unsuitable Tool Geometry											●		●↑	●↑						

(1)To prevent chattering,the higher f may be suitable.

(2)To prevent scuffing,the higher f may be suitable.

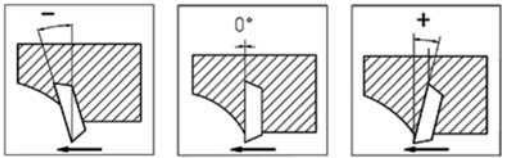
Terms and Angles of Turning Toolholder



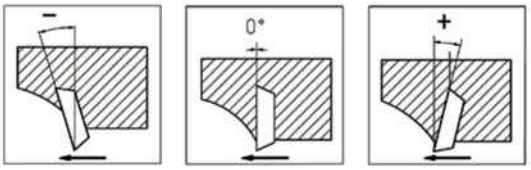
Function of Tool Angle

Tool Angle	Function	Effect
Axial Rake Angle	●Controls chip flow direction and cutting force.	●When it is positive---Good cutting performance and less chip welding.
Radial Rake Angle	●Controls chip flow direction and cutting force.	●When it is negative---Good chip evacuation.
Rake Angle	●Determines the real sharp degree of tool edge.	●When it is positive---Good cutting performance and less chip welding,but lower edge strength. ●When it is negative---Higher edge strength but easier to weld.
Approach Angle	●Controls chip thickness and chip flow direction.	●When it is large---Thinner chip thickness and lower cutting load.
Inclination Angle	●Controls chip flow direction .	●When it is positive---Good chip evacuation,less cutting resistance and lower edge stability of the part.

Positive/Negative Rake Angle



Positive/Negative Rake Angle



Characteristics Different Angle Combination

Combination of Rake Angles		Positive Axial Rake Angle (+) Positive Radial Rake Angle (+) Double Positive	Negative Axial Rake Angle (−) Negative Radial Rake Angle (−) Double Negative	Positive Axial Rake Angle (+) Negative Radial Rake Angle (−) Positive + Negative
Axial Rake Angle		Positive (+)	Negative (−)	Positive (+)
Radial Raxe Angle		Positive (+)	Negative (−)	Negative (−)
Tool Style		Positive Angle (Single Side Used)	Negative Angle (Double Sides Used)	Positive Angle (Single Side Used)
Workpiece Material	**Steel**	●	—	●
	Cast Iron	—	●	●
	Light Alloy	●	—	—
	Difficult–to–machine Material	●	—	●

Basic Formulas of Milling

►Power Requirement

$$P_c = \frac{K_s \times Q}{6120 \times \eta}$$

$$= \frac{Ks \times ae \times Vf \times ap}{6120000 \times \eta}$$

$$= \frac{Ks \times ae \times fz \times Z \times n \times ap}{6120000 \times \eta}$$

$$P_{Hp} = \frac{6120}{4500} P_c$$

- P_c: Power Requirement(KW)
- P_{Hp}: Power Requirement (Horse Power)(HP)
- a_e: Width of Cut(mm)
- V_f: Table Feed(mm/min)
- f_z: Feed per Tooth(mm/t)
- Z: Number of Inserts(pcs)
- n: Spindle Revolution(min^{-1})
- a_p: Depth of Cut(mm)
- K_s: Specific Cutting Resistance(kgf/mm^2)
- η: Mechanical Efficiency(0.7~0.8)
- Q: Chip Removal Volume(cm^3/min)

approximate value of K_s

Aluminum:800MPa
General Steel:2,500~3,000MPa
Cast Iron:1500MPa

Low Carbon Steel	190	High Alloy Steel	245
Medium Carbon Steel	210	Cast Iron	93
High Carbon Steel	240	Malleable Cast Iron	120
Low Alloy Steel	190	Bronze,Brass	70

►Chip Removal Volume

$$P_c = \frac{a_e \times V_f \times a_p}{1000}$$

$$= \frac{ae \times fz \times Z \times n \times ap}{1000}$$

- Q: Chip Removal Volume(cm^3/min)
- a_e: Width of Cut(mm)
- V_f: Table Feed(mm/min)
- f_z: Feed per Tooth(mm/t)
- Z: Number of Inserts(pcs)
- n: Spindle Revolution(min^{-1})
- a_p: Depth of Cut(mm)

►Table Feed & Feed Per Tooth

$$f_z = \frac{V_f}{Z \times n}$$

- f_z: Feed per Tooth(mm/t)
- V_f: Table Feed(mm/min)
- Z: Number of Inserts(pcs)
- n: Spindle Revolution(min^{-1})

►Cutting Speed

$$V_c = \frac{\pi \times D_m \times n}{1000}$$

- V_c: Cutting Speed(m/min)
- n: Spindle Revolution(min^{-1})
- D_s: Cutter Diameter(mm)

Trouble Shooting(Milling)

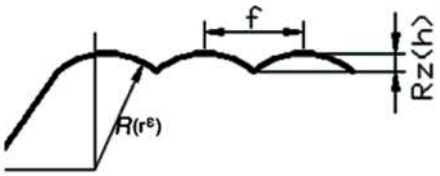
Trouble	Troubl Item	Measures	Insert Grade				Cutting Conditions							Tool Geometry									Setting/ Machine		
			Change to Harder Grade	Change to Tougher Grade	More Thermal Shock Resistant Grade	Change to More Welding Resistant Grade	Vc Cutting Speed	fz Feed Rate	ap Depth of Cut	Cutter Dia. Cutting Width Review	ToolPath Review	Coolant		Insert with Chipbreaker	Relief Angle	Corner Angle	Edge Strength/Honing	Insert Number	Insert Pocket	Wiper Edge(Relief Angle)Review	Insert Runout Check	Cutter Rigidity	Workpiece/Tool Installation	Overhang Length	Power,Rigidity
							Higher(Larger) ↑ Lower(Smaller) ↓					Wet	Dry		Increase ↑ Decrease ↓										
Edge Damage	Flank Wear Increase	Unsuitable Cutting Conditions					●↓						●												
		Unsuitable Tool Geometry	●													●↑		●↓			●				
	Rake Face Wear Increase	Unsuitable Cutting Conditions					●↓	●↓	●↓				●												
		Unsuitable Tool Geometry	●													●↑	●↑	●↓							
	Chipping, Cracking	Unsuitable Cutting Conditions						●↓	●↓	●		●													
		Unsuitable Tool Geometry		●												●↓	●	●↑			●	●	●	●	●
	Edge Breakage by Thermal Shock	Unsuitable Cutting Conditions					●↓	●↓	●↓					●											
		Unsuitable Tool Geometry			●											●↑		●↓							
	Built–up Edge	Unsuitable Cutting Conditions					●↑	●↑					●												
		Unsuitable Tool Geometry				●										●↑		●↓							
Machining Accuracy	Poor Surface Finish	Unsuitable Cutting Conditions					●↑	●↓	●↓				●												
		Unsuitable Tool Geometry	●			●												●↓	●↓		●	●		●	●
	Burr	Unsuitable Cutting Conditions					●↓	●↓	●↓	●		●													
		Unsuitable Tool Geometry														●↑	●↓	●↓			●				
	Workpiece Chip Off	Unsuitable Cutting Conditions																							
		Unsuitable Tool Geometry														●↑	●↑	●↓	●↑		●				
	Poor Planeness/ Parellelness	Tool or Workpiece Evacuation						●↓	●↓				●1		●	●↑	●↓	●↓	●↓		●	●	●	●	●
Others	Heavy Chattering, Vibration	Unsuitable Cutting Conditions, Installation					●↓	●↓2	●↓3	●		●4			●	●↑	●↓	●↓	●↓				●	●	●
	Damaging Chips	Unsuitable Cutting Conditions					●↑	●↓5		●			●6	●											
		Unsuitable Tool Geometry													●	●↑			●↓	●					

(1) If the surface is warped by cutting heat.
(2) To prevent chattering,the higher fz may be suitable.
(3) To prevent chattering,the larger ap may be suitable.
(4) Down–cut method is recommended for Helical Endmilling.
(5) Higher fz may be suitable.
(6) Compressed air is recommended.

Surface Roughness

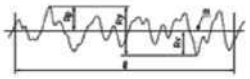
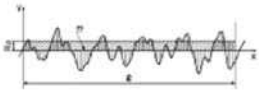
The oretical(Geometrical)Surface Rougness

$$-Rz(h)=\frac{f^2}{8\times R(\gamma\varepsilon)}\times 1000$$

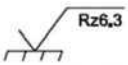
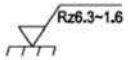


- Rz(h): Theoretical Surface Roughness(μ m)
- f :Feed Rate(mm/rev)
- R(γ ε):Corner Radius of Insert(mm)

How to Obtain Surface Roughness Values

Type	Symbol	How to Obtain	Explanation
Max.Height Roughness	Rz	Ry is a mean value in micron meter obtained from the distance of the highest peaks and the lowest valleys within the range of sampled reference lengths(l)in the direction of the center line of the roughness curve. $Rz=Rp+Rv$	
Ten Points Mean Roughness	R_{ZJIS}	Rz is a mean value in micron meter obtained form the distances of 5 highest peaks(Yp)and the 5 lowest valleys(Yv)measured from the center line of the roughness curve within the range of sampled reference length(l). $R_{ZJIS}=\frac{(Yp1+Yp2+Yp3+Yp4+Yp5)+(Yv1+Yv2+Yv3+Yv4+Yv5)}{5}$	 Yp1,Yp2,Yp3,Yp4,Yp5: Distance from the mean line to highest 5 peaks in the range of sampled reference length(l) v1,Yv2,Yv3,Yv4,Yv5: Distance from the mean line to lowest 5 valleys in the range of sampled reference length(l)
Arithmetical Mean Roughness	Ra	Ra is obtained from the following formula inmicron meter,the roughness curve is expressed by y=f(x), the X–axis is in the direction of the center line and the Y–axis is the vertical magnification of the roughness curve in the range of sampled reference lengths(l). $Ra=\frac{1}{\delta}\int_0^{\delta}[f(x)]dx$	

Indication in JIS Standard

Example of Ra Indication	Example of Rz Indication
①When indicating the upper limit only (when upper limit is 6.3 μ mRa)  ②When indicating both lower and upper limit (when upper limit is 6.3 μ mRa,lower limit is 1.6 μ mRa) 	①When indicating upper limit only indicate surface roughness following the parameter symbol.  ②When indicating both lower and upper limit indicate surface roughness as(upper limit–lower limit) following the parameter symbol. 

Hardness Conversion Table

Vickers Hardness (HV)	Brinell Hardness (HB)		Rockwell Hardness			Shore Hardness (HS)	Tensile Strength Mpa*
	Standard Ball	Tungsten Carbide Ball	A Scale Load: 60kgf Diamond Point(HRA)	B Scale Load:100kgf 1.6mm Dia.Ball (HRB)	C Scale Load: 150kgf Diamond Point(HRC)		
940	–	–	85.6	–	68.0	97	–
920	–	–	85.3	–	67.5	96	–
900	–	–	85.0	–	67.0	95	–
880	–	(767)	84.7	–	66.4	93	–
860	–	(757)	84.4	–	65.9	92	–
840	–	(745)	84.1	–	62.3	91	–
820	–	(733)	83.8	–	64.7	90	–
800	–	(722)	83.4	–	64.0	88	–
780	–	(710)	83.0	–	63.3	87	–
760	–	(698)	82.6	–	62.5	86	–
740	–	(684)	82.2	–	61.8	84	–
720	–	(670)	81.8	–	61.0	83	–
700	–	(656)	81.3	–	60.1	81	–
690	–	(647)	81.1	–	59.7	–	–
680	–	(638)	80.8	–	59.2	80	–
670	–	630	80.6	–	58.8	–	–
660	–	620	80.3	–	58.3	79	–
650	–	611	80.0	–	57.8	–	–
640	–	601	79.8	–	57.3	77	–
630	–	591	79.5	–	56.8	–	–
620	–	582	79.2	–	56.3	75	–
610	–	573	78.9	–	55.7	–	–
600	–	564	78.6	–	55.2	74	–
590	–	554	78.4	–	54.7	–	2055
580	–	545	78.0	–	54.1	72	2020
570	–	535	77.8	–	53.6	–	1985
560	–	525	77.4	–	53.0	71	1950
550	505	517	77.0	–	52.3	–	1905
540	496	507	76.7	–	51.7	69	1860
530	488	497	76.4	–	51.1	–	1825
520	480	488	76.1	–	50.5	67	1795
510	473	479	75.7	–	49.8	–	1750
500	465	471	75.3	–	49.1	66	1705
490	456	460	74.9	–	48.4	–	1660
480	448	452	74.5	–	47.7	64	1620
470	441	442	74.1	–	46.9	–	1570
460	433	433	73.6	–	46.1	62	1530
450	425	425	73.3	–	45.3	–	1495
440	415	415	72.8	–	44.5	59	1460
430	405	405	72.3	–	43.6	–	1410
420	397	397	71.8	–	42.7	57	1370
410	388	388	71.4	–	41.8	–	1330
400	379	379	70.8	–	40.8	55	1290
390	369	369	70.3	–	39.8	–	1240
380	360	360	69.8	110.0	38.8	52	1205
370	350	350	69.2	–	37.7	–	1170
360	341	341	68.7	109.0	36.6	50	1130
350	331	331	68.1	–	35.5	–	1095
340	322	322	67.6	108.0	34.4	47	1070
330	313	313	67.0	–	33.3	–	1035

Hardness Conversion Table

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320	303	303	66.4	(107.0)	32.2	45	1005
310	294	294	65.8	–	31	–	980
300	284	284	65.2	–105.5	29.8	42	950
295	280	280	64.8	–	29.2	–	935
290	275	275	64.5	–104.5	28.5	41	915
285	270	270	64.2	–	27.8	–	905
280	265	265	63.8	–103.5	27.1	40	890
275	261	261	63.5	–	26.4	–	875
270	256	256	63.1	102	25.6	38	855
265	252	252	62.7	–	24.8	–	840
260	247	247	62.4	(101.0)	24.0	37	825
255	243	243	62.0	–	23.1	–	805
250	238	238	61.6	99.5	22.2	36	795
245	233	233	61.2	–	21.3	–	780
240	228	228	60.7	98.1	20.3	34	765
230	219	219	–	96.7	(18.0)	33	730
220	209	209	–	95.0	(15.7)	32	695
210	200	200	–	93.4	(13.4)	30	670
200	190	190	–	91.5	(11.0)	29	635
190	181	181	–	89.5	(8.5)	28	605
180	171	171	–	87.1	(6.0)	26	580
170	162	162	–	85.0	(3.0)	25	545
160	152	152	–	81.7	(0.0)	24	515
150	143	143	–	78.7	–	22	490
140	133	133	–	75.0	–	21	455
130	124	124	–	71.2	–	20	425
120	114	114	–	66.7	–	–	390
110	105	105	–	62.3	–	–	–
100	95	95	–	56.2	–	–	–
95	90	90	–	52.0	–	–	–
90	86	86	–	48.0	–	–	–
85	81	81	–	41.0	–	–	–

Extracted from JIS Handbook "Iron & Steel"(SAE J 417)

Note(1)1MPa=1N/mm^2

(2)Value in ( ) is not in practical use,but reference only