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

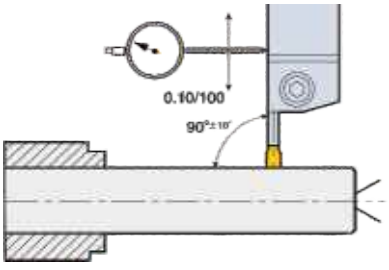
■Toolholder or blade Size

To minimize risk of vibration and deflection always choose:

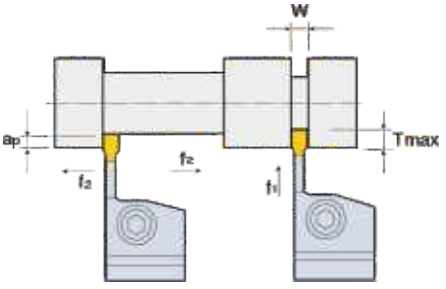
- Toolholder or blade with the smallest possible overhang
- Toolholder with maximum shank dimension

■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

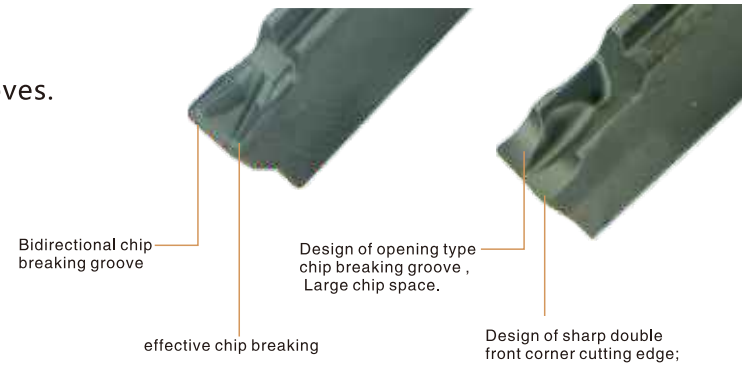
- Vc–Cutting Speed(m/min)
- T–Maximum Depth(mm)
- f_1–Feed in Radial Direction(mm/rev)

Turning

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

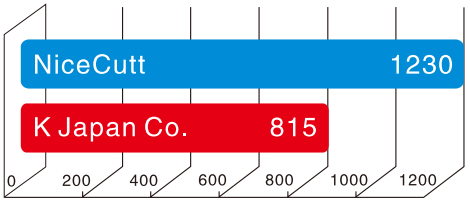
MGMN** Case Study

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 quantity(pieces)/tip

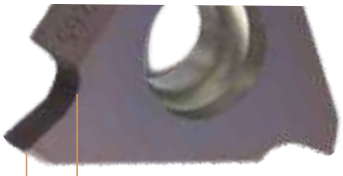


The cutting parameters
Vc=106m/min
f=0.11mm/r
ap=3mm
Φd=22mm

Cutting life
+30%

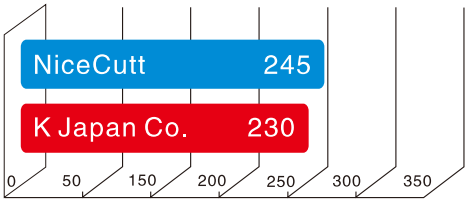
GBA43** Case Study

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 quantity(pieces)/tip



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

Cutting life
+5%

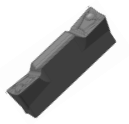
GER/L-A  D006	GER/L-AR  D006	GER/L-C  D006	GER/L-D  D006
GER/L-D  D006	GER/L-CR  D007	GER-D  D007	TKF-S  D007
GBA32R/43R  D007	GBA32  D007-D008	GBA43  D008	T11EN  D008
T16EN  D009	FMM  D009	FGD  D009	MFMN300R  D009
SP-NM  D009	MGGN*L  D009	MGMN*J  D009	MGMN*T  D009
MRMN*M  D010	MRGN*M  D010	ZPE-MG  D010	TDJ  D010

TDC



D010

HFPR



D010

THC–CE



D010

TKFB*M



D010

MG



D011

SIGER/L



D012

SEGER/L**



D012

GNSR/L



D013

SRDBA



D013

KTKFR/L



D014

THCR



D014

SGWHR/L



D015

MGWHR/L



D015

SPB



D016

ZQR/L



D016

QE*S



D017

SMBB



D017

MGFHRR



D018

MGFHR/L



D018

MGFVR/L



D019

MGNVR/L



D019

FGDHX



D020

MGEHR/L



D021

TTER/L



D022

BKTR/L IS



D023

MG



D023

STFCR/L



D024

SRAPR/L



D024

WDMR



D025

WDMR



D026

WDMR



D027

WDMR



D028

WDMR



D029

WDMR

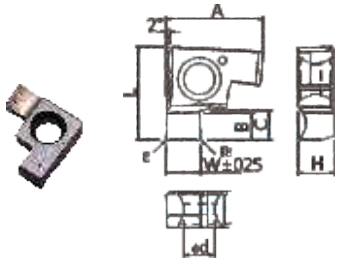
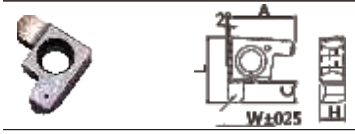
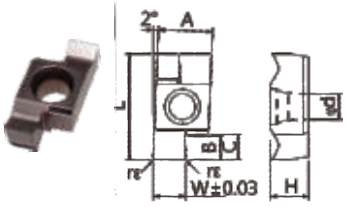
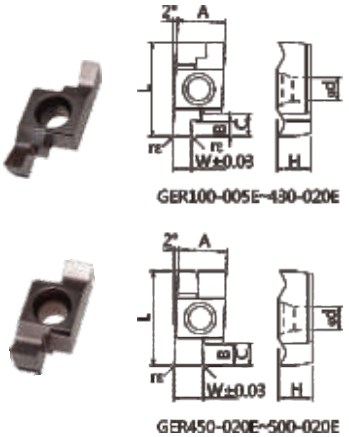


D030

Picture:R

- continuous
- lightInterruption
- Interruption

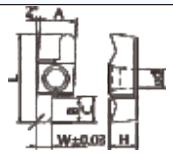
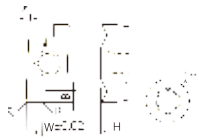
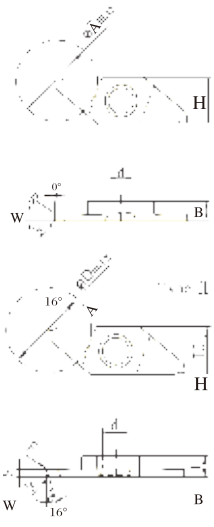
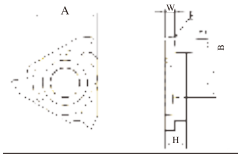
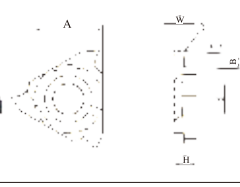
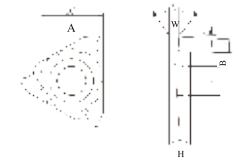
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non–ferrous Metal
S	Heat–resistant Alloy,TiAlloy

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 GER450-020E~500-020E	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						●	○
	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
Picture:R

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						●	○
 	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						○	○

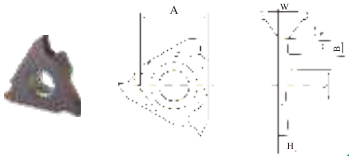
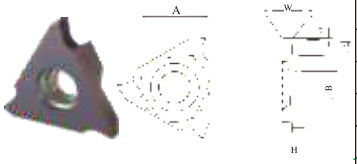
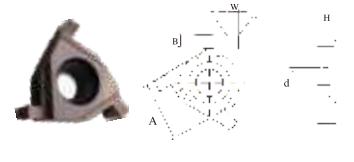
●Stock ○Availabie upon Order

continuous

light Interruption

Picture:R Interruption

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

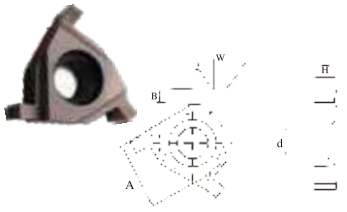
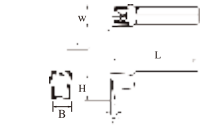
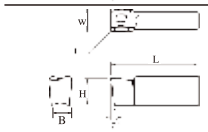
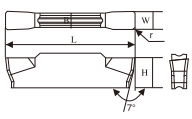
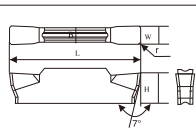
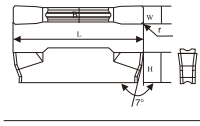
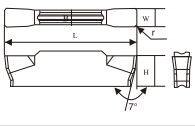
The basic shape of inserts	OrderingCode	Stock		Dimensions(mm)							CVD		PVD				Uncoated
		R	L	W	R	B	d	L	H	A	NP1115	NP1225	NM1125	NM3125	NS4115	NS4125	NN9115
	GBA32120R/L	○	○	1.20	0.10	2.30	4.50		3.18	9.52						○	○
	GBA32125R/L	●	●	1.25	0.10	2.30	4.50		3.18	9.52						●	○
	GBA32130R/L	○	○	1.30	0.10	2.30	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
light Interruption
Interruption

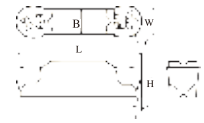
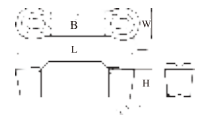
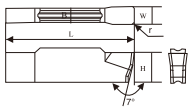
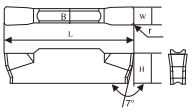
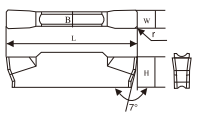
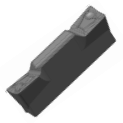
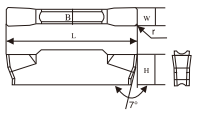
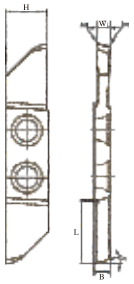
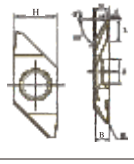
Picture:R

P	Steel													●	◔			
M	Stainless Steel													○	◔			
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		○					●		
 	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		○					●		

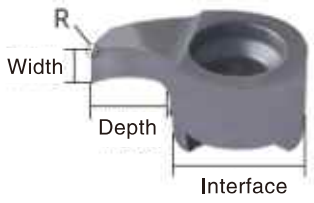
●Stock ○Availabie upon Order

○ 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		○					●	
 	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		○					●	
 	HFPR3003/GRIP3003	●	3	0.3	2.4		19	4							●	
	HFPR4004/GRIP4004	●	4	0.4	3		19	4							●	
	HFPR5005/GRIP5005	●	5	0.5	4		19	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

MG



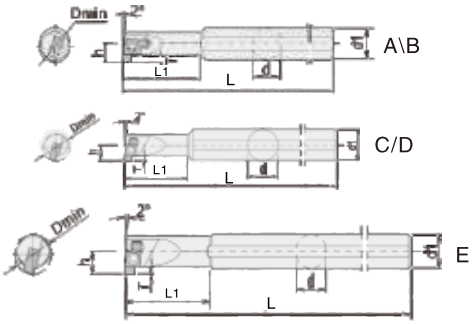
Model	Interface	Width	Depth
MB-05GR150-2.8D09	5	1.50	2.80
MB-05GR200-2.8D09	5	2.00	2.80
MB-05GR150-2.8D09	5	1.50	2.80
MB-05GR200-2.8D09	5	2.00	2.80
MB-05GR100-2.8D09	5	1.00	2.80
MB-05GR100-2.8D09	5	1.00	2.80
MB-05GR100-2.3D08	5	1.00	2.30
MB-05GR150-2.3D08	5	1.50	2.30
MB-05GR150-2.3D08	5	1.50	2.30
MB-05GR200-2.3D08	5	2.00	2.30
MB-07GR300-3.0D11	7	3.00	3.00
MB-07GR150-3.5D12	7	1.50	3.50
MB-07GR200-3.5D12	7	2.00	3.50
MB-07GR250-3.5D12	7	2.50	3.50
MB-07GR300-3.5D12	7	3.00	3.50
MB-07GR150-3.5D12	7	1.50	3.50
MB-07GR200-3.5D12	7	2.00	3.50
MB-07GR250-3.5D12	7	2.50	3.50
MB-07GR300-3.5D12	7	3.00	3.50
MB-07GR100-3.5D12	7	1.00	3.50
MB-07GR100-3.5D12	7	1.00	3.50
MB-07GR200-3.0D11	7	2.00	3.00
MB-07GR100-3.0D11	7	1.00	3.00
MB-09GR100-4.0D15	9	1.00	4.00
MB-09GR250-4.0D14	9	2.50	4.00

Model	Interface	Width	Depth
MB-09GR250-4.0D15	9	2.50	4.00
MB-09GR150-6.5D17	9	1.50	6.50
MB-09GR200-6.5D17	9	2.00	6.50
MB-09GR250-6.5D17	9	2.50	6.50
MB-09GR300-6.5D17	9	3.00	6.50
MB-09GR150-6.5D17	9	1.50	6.50
MB-09GR200-6.5D17	9	2.00	6.50
MB-09GR250-6.5D17	9	2.50	6.50
MB-09GR300-6.5D17	9	3.00	6.50
MB-09GR180-6.5D17	9	1.80	6.50
MB-09GR170-6.5D17	9	1.70	6.50
MB-09GR100-5.5D16	9	1.00	5.50
MB-09GR100-5.5D16	9	1.00	5.50
MB-09GR150-4.0D14	9	1.50	4.00
MB-09GR200-4.0D14	9	2.00	4.00
MB-09GR150-5.5D16	9	1.50	5.50
MB-09GR150-5.5D16	9	1.50	5.50
MB-09GR200-5.5D16	9	2.00	5.50
MB-09GR200-5.5D16	9	2.00	5.50
MB-09GR300-5.5D16	9	3.00	5.50
MB-09GR300-5.5D16	9	3.00	5.50
MB-09GR250-5.5D16	9	2.50	5.50
MB-09GR250-5.5D16	9	2.50	5.50
MB-09GR300-4.0D14	9	3.00	4.00
MB-09GR200-4.5D15	9	2.00	4.50

●Stock ○Availabie upon Order

SIGER/L

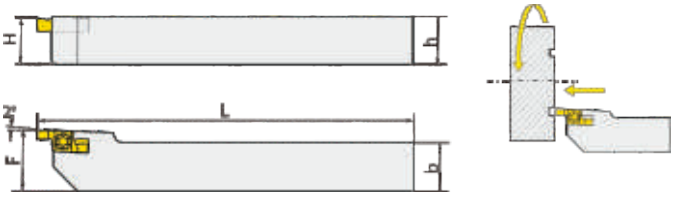




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	Dimin	d	d1	T	h	L	L1			
SIGER/L0808A	●	○	8	7.2	8	1.5	4.8	100	20	GER/L***A	M2.2*5	T-7
SIGER/L1010B	●	○	10	9	10	2.2	6.2	125	25	GER/L***B	M2.5*6	T-8
SIGER/L1210B	●	○	12	9	10	2.2	7	125	30			
SIGER/L1412C	●	○	14	11.4	12	2.5	8	150	33	GER/L***C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

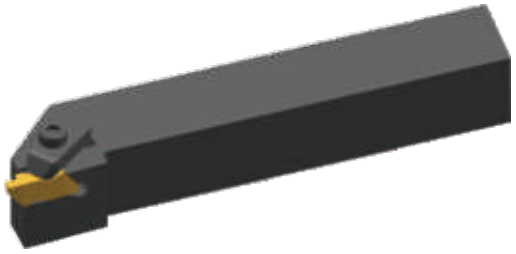


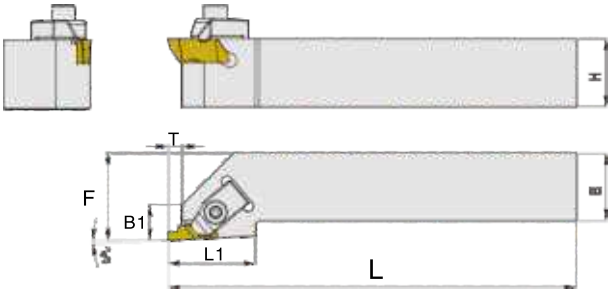


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	Dimin	H	b	F	L	h			
SEGER/L1010K-D	○	●	10	10	10	10	125	10	GER/L***DM	M3*8	T-10
SEGER/L1212K-D	○	●	10	12	12	12	125	12			
SEGER/L1616H-D	○	●	10	16	16	20	100	16			
SEGER/L2020K-D	○	●	10	20	20	25	125	20			
SEGER/L2525M-D	○	●	10	25	25	32	150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

SRDBA



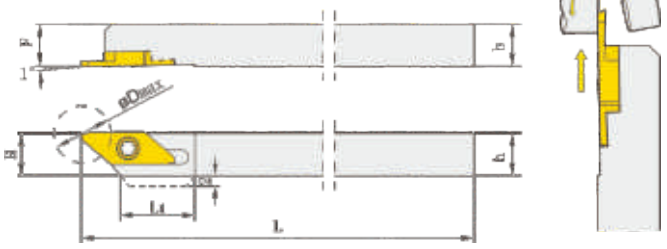


Ordering Code	Stock	Dimensions/mm					Blade	Screw	Wrench
		Dmin	T	D	H	L			
S16K-SRDBA3219	●	19	2.5	16	15	125	GBA32**	MT4*10	FT-15
S20M-SRDBA3223	●	23	2.5	20	19	150			
S25Q-SRDBA3227	●	27	2.5	25	23	180			
S25R-SRDBA4329	●	29	4.5	25	23	200	GBA43**	MT5*12	FT-20
S32S-SRDBA4335	●	25	4.5	32	30	250			

●Stock ○Availabie upon Order

KTKFR/L

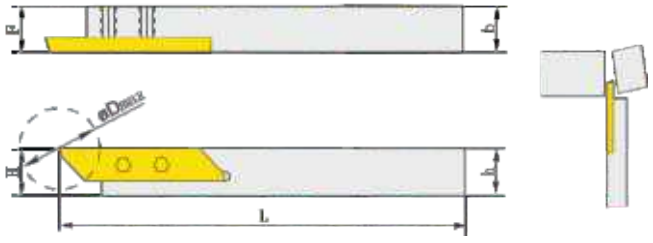




Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	h	b	L	L1	f	H			
KTKFR/L1010K12	●	○	12	10	10	125	15	10	10	TKFT12***	SPM4*10	T-15
KTKFR/L1212M12	●	○	12	12	12	150	15	12	12			
KTKFR/L1616M12	●	○	12	16	16	150	15	16	16			
KTKFR/L1010K16	●	○	16	10	10	125	20	10	10	TKFT16***		
KTKFR/L1212M16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

THCR



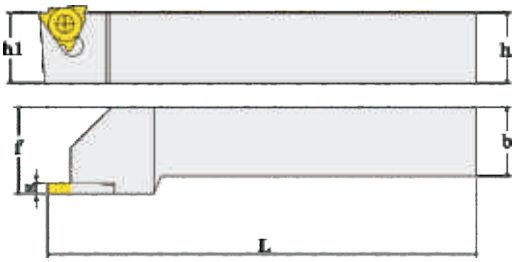


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	h	b	H	F	L	D			
THCR/L1010J42	○	○	10	10	10	12	85	21	THC42R/L	M4*10	T-15
THCR/L1212J42	○	○	12	12	12	16	100				
THCR/L1616J42	○	○	16	16	16	20	100				
THCR/L2020K42	○	○	20	20	20	25	125				
THCR/L2525M42	○	○	25	25	25	32	150				

●Stock ○Availabie upon Order

SGWHR/L

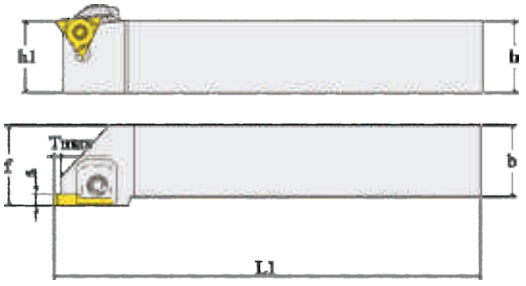




Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	f	S	h1			
SGWHR/L1212H3200	●	●	12	12	100	16	0.5–1.8	12	GBA32***	M3.5*8	T–15
SGWHR/L1212H3215	●	●	12	12	100	16	1.8–2.3	12			
SGWHR/L1616H3200	●	●	16	16	100	20	0.5–1.8	16			
SGWHR/L1616H3215	●	●	16	16	100	20	1.8–2.3	16			
SGWHR/L2020K3200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



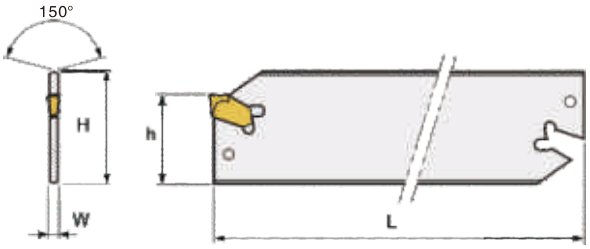


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw	Spring	Wrench
	R	L	h	b	L	f	S	h1					
MGWHR/L1616H4315A	●	●	16	16	100	20	1.25–1.5	16	GBA43***	NLJ0522	YB1318	DTH0814	L4.0
MGWHR/L1616H4315	●	●	16	16	100	20	1.5–2.3	16					
MGWHR/L1616H4325	●	●	16	16	100	20	2.3–3.3	16					
MGWHR/L2020K4315A	●	●	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

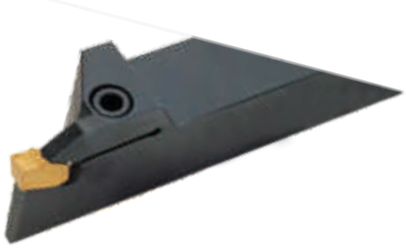
SPB

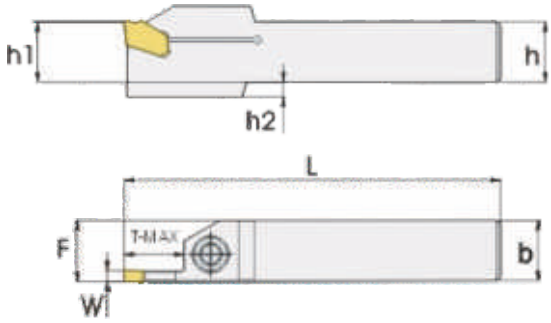




Ordering Code	Stock	Dimensions(mm)				Insert	Wrench
	R	W	h	H	L		
SPB226-S	●	1.6	21	26	110	SP200	SW80-S
SPB326-S	●	2.4	21	26	110	SP300	
SPB426-S	●	3.2	21	26	110	SP400	
SPB526-S	●	4	21	26	110	SP500	
SPB232-S	●	1.6	25	32	150	SP200	
SPB332-S	●	2.4	25	32	150	SP300	
SPB432-S	●	3.2	25	32	150	SP400	
SPB532-S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

ZQR/L



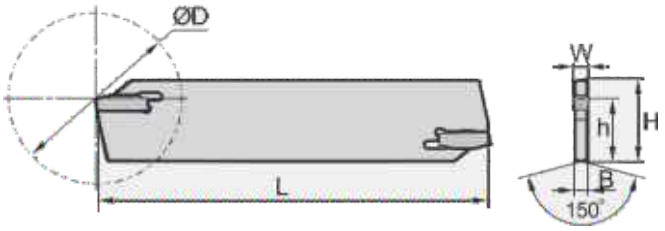


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Wrench
	R	L	W	h	H	b	F	L			
ZQR/L1616H-02	●	●	1.6	16	16	16	16.3	100	SP200	NLJ0416	L3.0
ZQR/L2020K-02	●	●	1.6	20	20	20	20.3	125			
ZQR/L1616H-03	●	●	2.4	16	16	16	16.3	100	SP300	NLJ0520	L4.0
ZQR/L2020K-03	●	●	2.4	20	20	20	20.3	125			
ZQR/L2525M-03	●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

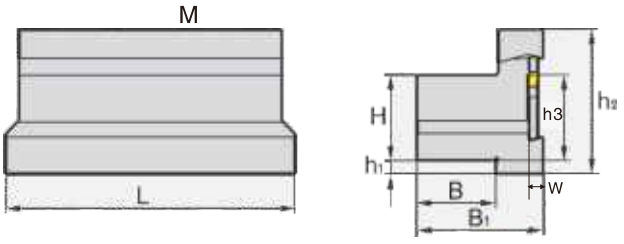




Ordering Code	Stock		Dimensions(mm)						Insert	Wrench
	R	L	L	H	h	B	W	ϕD		
QEES226N	●	●	110	26	19	2	2.5	60	ZPES02502-MG	L5.0
QEFS326N	●	●	110	26	19	2.4	3	60	ZPES0302-MG	
QEGS426N	●	●	110	26	19	3.2	4	70	ZPGS0402-MG	
QEHS526N	●	●	110	26	19	4	5	70	ZPHS0503-MG	
QEKS626N	●	●	110	26	19	5	6	70	ZPKS0604-MG	
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



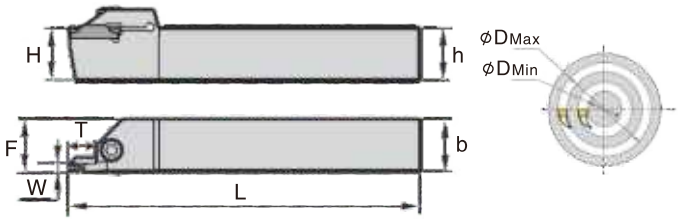


Ordering Code	Stock		Dimensions(mm)									Insert	Wrench
	R	L	H	B	h3	L	h2	h1	B1	W	M		
SMBB1626	●	●	16	12	26	86	43	13	30	5.3	3-M6	SPB□□□(S) QEES**N	L5.0
SMBB2026	●	●	20	19	26	86	43	9	38	5.3	3-M6		
SMBB2032	●	●	20	19	32	100	50	13	38	5.3	4-M6		
SMBB2526	●	●	25	23	26	86	43	4	42	5.3	3-M6		
SMBB2532	●	●	25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

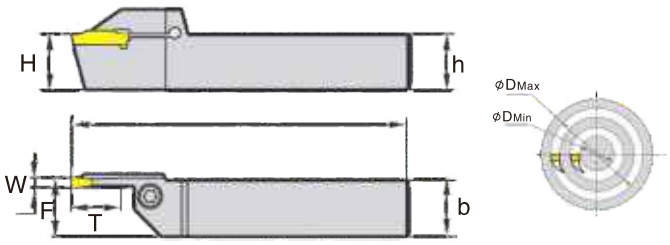




Ordering Code	Stock	Dimensions(mm)								Insert	Screw	Wrench
	R	h	b	L	S	D	H	T	W			
MGFHRR 325–24/35–T10	●	25	25	150	25.6	24–35	25	10	3.0	MFMN300R	NLJ0620	L5.0
MGFHRR 325–29/40–T10	●					29–40						
MGFHRR 325–34/50–T10	●					34–50						
MGFHRR 325–44/70–T10	●					44–70						
MGFHRR 325–64/99–T10	●	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

MGFHR/L



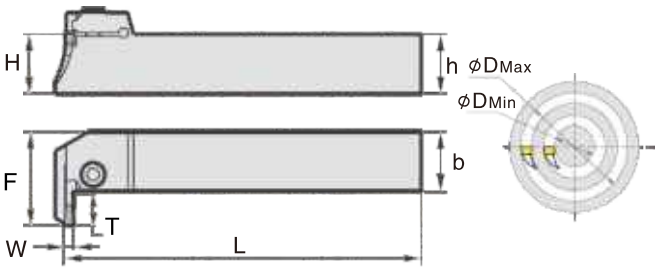


Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	h	b	L	F	D	H	T	W			
MGFHR/L 325–24/35–T10	●	○	25	25	150	25.6	24–35	25	10	3.0	MFMN300R	NLJ0620	L5.0
MGFHR/L 325–29/40–T10	●	○					29–40						
MGFHR/L 325–34/50–T10	●	○					34–50						
MGFHR/L 325–44/70–T10	●	○					44–70						
MGFHR/L 325–64/99–T10	●	○					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

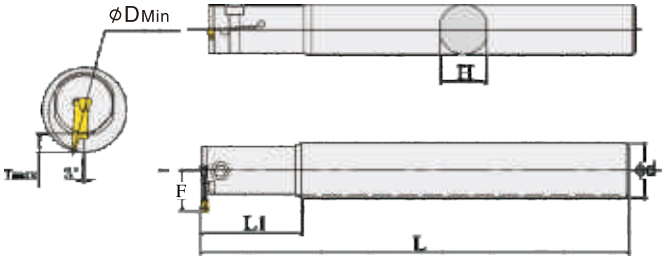




Ordering Code	Stock		Dimensions(mm)								Insert	Screw	Wrench
	R	L	h	b	L	F	D	H	T	W			
MGFVR/L 320–44/62–T15	●	○	20	20	125	20.6	44–64	20	15	3.0	MG*N300	NLJ0620	L5.0
MGFVR/L 320–62/120–T15	●	○					62–120						
MGFVR/L 320–112/200–T15	●	○					112–200						
MGFVR/L 325–44/62–T15	●	○	25	25	150	25.6		25	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



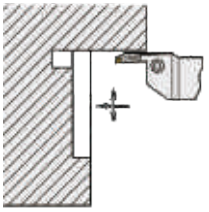


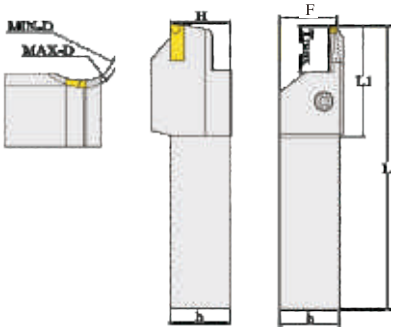
Ordering Code	Stock		Dimensions(mm)							Insert	Screw	Wrench
	R	L	D	d	L	L1	T	H	F			
MGNVR/L 2016K–2	●	●	20	16	125	35	5	15	12.4	MG*N200	M5*15	T–20
MGNVR/L 2520M–2	●	●	25	20	150	45		18	14			
MGNVR/L 2925R–2	●	●	29	25	200	45		23	17.2		NLJ0516	L4.0
MGNVR/L 2520M–2.5	●	●	25	20	150	45	6	18	15.1	MG*N250		
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





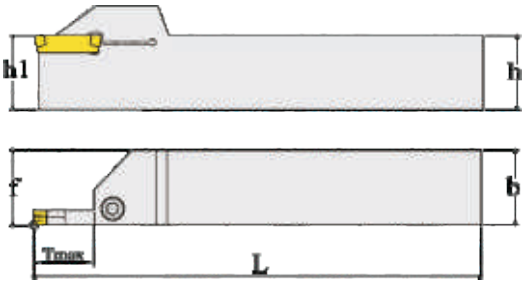


Ordering Code	Stock	Dimensions(mm)							Insert	Screw	Wrench
	R	h	b	L	F	D	H	T			
FGDHX2020K25/30–3	●	20	20	125	21.8	25–30	20	12	FMM300	NLJ0520	L4.0
FGDHX2020K30/35–3	●					30–35					
FGDHX2020K35/48–3	●					35–48					
FGDHX2020K48/60–3	●					48–60		22	FGD300		
FGDHX2020K60/75–3	●					60–75					
FGDHX2020K75/100–3	●					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



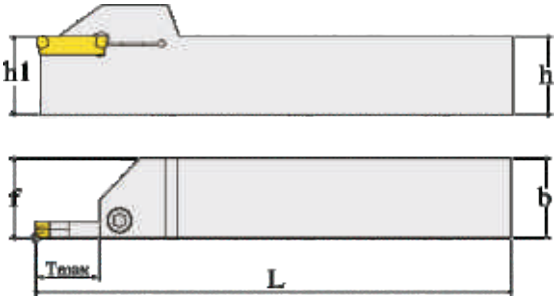


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	f	T	h1			
MGEHR/L1616H–2	●	●	16	16	100	16.25	14.5	16	MG*N200	NLJ0520	L4.0
MGEHR/L2020K–2	●	●	20	20	125	20.25	14.5	20			
MGEHR/L2020K–2–T10	●	●	20	20	125	20.25	10	20			
MGEHR/L2525M–2	●	●	25	25	150	25.25	14.5	25			
MGEHR/L2525M–2–T10	●	●	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



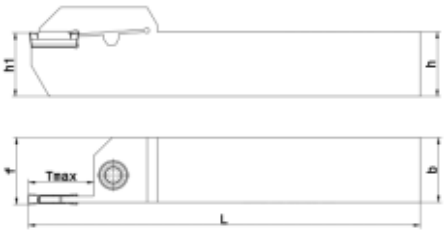


Ordering Code	Stock		Dimensions(mm)						Insert	Screw	Screw
	R	L	h	b	L	F	T	h1			
TTER/L1616H-2	●	●	16	16	100	16.1	12	16	TD*200	NLJ0520	L4.0
TTER/L1616H-2-T17	●	●	16	16	125	16.1	17	16			
TTER/L2020K-2	●	●	20	20	125	20.1	12	20			
TTER/L2020K-2-T17	●	●	20	20	150	20.1	17	20			
TTER/L2525M-2	●	●	25	25	150	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

BKTR/L IS

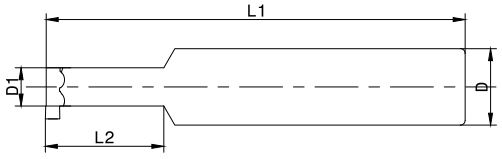




Ordering Code	Stock		Dimensions/mm						Blade	Screw	Wrench
	R	L	h	b	L	h1	f	Tmax			
BKTR/L IS 12X12 2C	●	●	12	12	100	12	12.2	15	DGN 2002C	NLJ0416	L3.0
BKTR/L IS 16X16 2C	●	●	16	16	100	16	16.2	16		NLJ0520	L4.0
BKTR/L IS 20X20 2C	●	●	20	20	125	20	20.2	17.5			
BKTR/L IS 25X25 2C	●	●	25	25	150	25	25.2	17.5			
BKTR/L IS 12X12 3C	●	●	12	12	100	12	12.3	15	DGN 3102C	NLJ0416	L3.0
BKTR/L IS 16X16 3C	●	●	16	16	100	16	16.3	16		NLJ0520	L4.0
BKTR/L IS 20X20 3C	●	●	20	20	125	20	20.3	20			
BKTR/L IS 25X25 3C	●	●	25	25	150	25	25.3	20			
BKTR/L IS 12X12 4C	●	●	12	12	100	12	12.4	15	DGN 4003C	NLJ0416	L3.0
BKTR/L IS 16X16 4C	●	●	16	16	100	16	16.4	16		NLJ0520	L4.0
BKTR/L IS 20X20 4C	●	●	20	20	125	20	20.4	25			
BKTR/L IS 25X25 4C	●	●	25	25	150	25	25.4	25			

MG



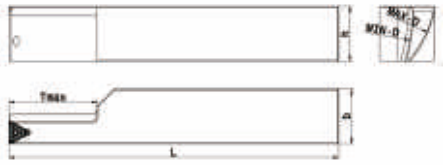


Ordering Code	Stock	Dimensions/mm					Blade	Screw	Wrench
		Dmin	D	D1	L2	L1			
MG-H12-16-05R-MB05	●	9	12	5	16	100	MB-05	MT2.2*6	FT-6
MG-H12-20-07R-MB07	●	12	12	7	20	110	MB-07	MT3*8	FT-8
MG-H16-20-07R-MB07	●	12	16	7	20	110			
MG-H16-30-09R-MB09	●	17	16	9	30	120	MB-09	MT4*10	FT-15

●Stock ○Availabie upon Order

STFCR/L

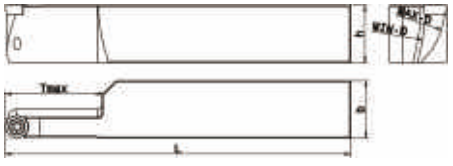




Ordering Code	Stock		Dimensions/mm						Blade	Screw	Wrench
	R	L	h	b	L	Tmax	最小	最大			
STFCR/L2020K30/200–20TC09	●	●	20	20	125	20	30	200	TC**0902	MT2.2*6	FT–6
STFCR/L2020K30/200–40TC09	●	●	20	20	125	40	30	200			
STFCR/L2020K50/200–40TC09	●	●	20	20	125	40	50	200			
STFCR/L2525M30/200–20TC09	●	●	25	25	150	20	30	200			
STFCR/L2525M50/200–40TC09	●	●	25	25	150	40	50	200			
STFCR/L2020K30/200–20TC11	●	●	20	20	125	20	30	200	TC**1102	MT2.5*6	FT–8
STFCR/L2020K50/200–40TC11	●	●	20	20	125	40	50	200			
STFCR/L2525M30/200–20TC11	●	●	25	25	150	20	30	200			
STFCR/L2525M50/200–40TC11	●	●	25	25	150	40	50	200			

SRAPR/L



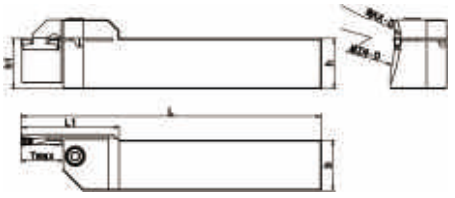


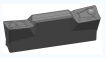
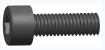
Ordering Code	Stock		Dimensions/mm						Blade	Screw	Wrench
	R	L	h	b	L	Tmax	最小	最大			
SRAPR/L2020K30/200–20RP10T3	●	●	20	20	125	20	30	200	RP**10T3	MT3.5*8	FT–15
SRAPR/L2020K50/200–40RP10T3	●	●	20	20	125	40	50	200			
SRAPR/L2525M30/200–20RP10T3	●	●	25	25	150	20	30	200			
SRAPR/L2525M50/200–40RP10T3	●	●	25	25	150	40	50	200			
SRAPR/L2020K30/200–20RP1204	●	●	20	20	125	20	30	200	RP**1204	MT4*10	FT–15
SRAPR/L2020K50/200–40RP1204	●	●	20	20	125	40	50	200			
SRAPR/L2525M30/200–20RP1204	●	●	25	25	150	20	30	200			
SRAPR/L2525M50/200–40RP10T4	●	●	25	25	150	40	50	200			

●Stock ○Availabie upon Order

WDMR



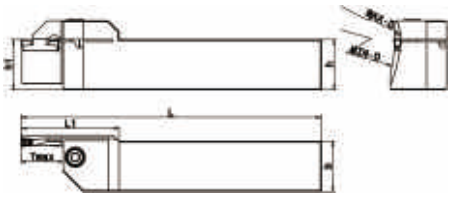


Ordering Code	Dimensions/mm										Blade	Screw	Wrench
	h	b	L	L1	l1	f	h1	Tmax	最小	最大			
WDMR2020K20/30-3T12	14	20	125	88	37			12	20	30			
WDMR2020K20/38-3T8	20	20	125	88	37			8	20	38			
WDMR2020K20/38-3T12	20	20	125	88	37			12	20	38			
WDMR2020K25/30-3T8	20	20	125	88	37			8	25	30			
WDMR2020K25/30-3T12	20	20	125	88	37			12	25	30			
WDMR2020K30/38-3T8	20	20	125	88	37			8	30	38			
WDMR2020K30/38-3T12	20	20	125	88	37			12	30	38			
WDMR2020K38/48-3T8	20	20	125	88	37			8	38	48			
WDMR2020K38/48-3T12	20	20	125	88	37			12	38	48			
WDMR2020K38/48-3T17	20	20	125	88	37			17	38	48			
WDMR2020K48/60-3T12	20	20	125	88	37			12	48	60			
WDMR2020K48/60-3T17	20	20	125	88	37			17	48	60			
WDMR2020K48/60-3T22	20	20	125	85	40			22	48	60			
WDMR2020K60/75-3T12	20	20	125	88	37			12	60	75			
WDMR2020K60/75-3T17	20	20	125	88	37			17	60	75			
WDMR2020K60/75-3T22	20	20	125	85	40	21.8	20	22	60	75	HFPR3003 GRIP3003	NLJ0520	L4.0
WDMR2020K60/75-3T27	20	20	125	80	45			27	60	75			
WDMR2020K75/100-3T12	20	20	125	88	37			12	75	100			
WDMR2020K75/100-3T17	20	20	125	88	37			17	75	100			
WDMR2020K75/100-3T22	20	20	125	85	40			22	75	100			
WDMR2020K75/100-3T27	20	20	125	80	45			27	75	100			
WDMR2020K100/140-3T12	20	20	125	88	37			12	100	140			
WDMR2020K100/140-3T17	20	20	125	88	37			17	100	140			
WDMR2020K100/140-3T22	20	20	125	85	40			22	100	140			
WDMR2020K100/140-3T27	20	20	125	80	45			27	100	140			
WDMR2020K140/240-3T12	20	20	125	88	37			12	140	240			
WDMR2020K140/240-3T17	20	20	125	88	37			17	140	240			
WDMR2020K140/240-3T22	20	20	125	85	40			22	140	240			
WDMR2020K140/240-3T27	20	20	125	80	45			27	140	240			
WDMR2020K200/800-3T12	20	20	125	88	37			18	90	120			
WDMR2020K200/800-3T17	20	20	125	88	37			8	120	250			
WDMR2020K200/800-3T22	20	20	125	85	40			12	120	250			
WDMR2020K200/800-3T27	20	20	125	80	45			18	120	250			

●Stock ○Availabie upon Order

WDMR





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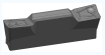
	h	b	L	L1	l1	f	h1	Tmax	最小	最大			
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WDMR2020K38/48-4T8	20	20	125	88	37			8	38	48			
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WDMR2020K38/48-4T17	20	20	125	88	37			17	38	48			
WDMR2020K48/60-4T12	20	20	125	88	37			12	48	60			
WDMR2020K48/60-4T17	20	20	125	88	37			17	48	60			
WDMR2020K48/60-4T22	20	20	125	85	40			22	48	60			
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WDMR2020K60/75-4T17	20	20	125	88	37			17	60	75			
WDMR2020K60/75-4T22	20	20	125	85	40			22	60	75			
WDMR2020K60/75-4T27	20	20	125	80	45	21.8	20	27	60	75	HFPR4004 GRIP4004	NLJ0520	L4.0
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WDMR2020K75/100-4T22	20	20	125	85	40			22	75	100			
WDMR2020K75/100-4T27	20	20	125	80	45			27	75	100			
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WDMR2020K100/140-4T17	20	20	125	88	37			17	100	140			
WDMR2020K100/140-4T22	20	20	125	85	40			22	100	140			
WDMR2020K100/140-4T27	20	20	125	80	45			27	100	140			
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WDMR2020K200/800-4T12	20	20	125	88	37			12	200	800			
WDMR2020K200/800-4T17	20	20	125	88	37			17	200	800			
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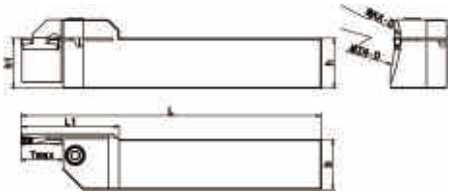
WDMR





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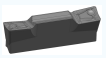
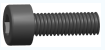
	h	b	L	L1	l1	f	h1	Tmax	最小	最大			
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WDMR2020K48/60-5T17	20	20	125	88	37			17	48	60			
WDMR2020K48/60-5T22	20	20	125	85	40			22	48	60			
WDMR2020K60/75-5T12	20	20	125	88	37			12	60	75			
WDMR2020K60/75-5T17	20	20	125	88	37			17	60	75			
WDMR2020K60/75-5T22	20	20	125	85	40			22	60	75			
WDMR2020K60/75-5T27	20	20	125	80	45	21.8	20	27	60	75	HFPR5004 GRIP5004	NLJ0520	L4.0
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WDMR2020K75/100-5T27	20	20	125	80	45			27	75	100			
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WDMR2020K100/140-5T22	20	20	125	85	40			22	100	140			
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WDMR2020K140/250-5T22	20	20	125	85	40			22	140	250			
WDMR2020K140/250-5T27	20	20	125	80	45			27	140	250			
WDMR2020K200/800-5T12	20	20	125	88	37			12	200	800			
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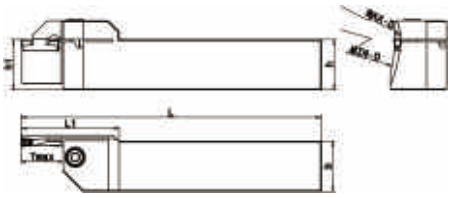
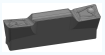
WDMR





Ordering Code	Dimensions/mm										Blade	Screw	Wrench
	h	b	L	L1	l1	f	h1	Tmax	最小	最大			
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WDMR2525M30/38-3T8	20	20	125	88	37			8	30	38			
WDMR2525M30/38-3T12	20	20	125	88	37			12	30	38			
WDMR2525M38/48-3T8	20	20	125	88	37			8	38	48			
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WDMR2525M38/48-3T17	20	20	125	88	37			17	38	48			
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WDMR2525M48/60-3T17	20	20	125	88	37			17	48	60			
WDMR2525M48/60-3T22	20	20	125	85	40			22	48	60			
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WDMR2525M140/240-3T17	20	20	125	88	37			17	140	240			
WDMR2525M140/240-3T22	20	20	125	85	40			22	140	240			
WDMR2525M140/240-3T27	20	20	125	80	45			27	140	240			
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WDMR2525M200/800-3T17	20	20	125	88	37			8	120	250			
WDMR2525M200/800-3T22	20	20	125	85	40			12	120	250			
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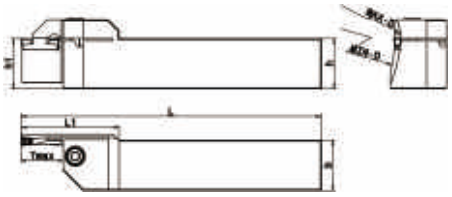
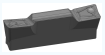
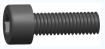
●Stock ○Availabie upon Order

WDMR





Ordering Code	Dimensions/mm										Blade	Screw	Wrench
	h	b	L	L1	l1	f	h1	Tmax	最小	最大			
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WDMR2525M38/48-4T17	20	20	125	88	37			17	38	48			
WDMR2525M48/60-4T12	20	20	125	88	37			12	48	60			
WDMR2525M48/60-4T17	20	20	125	88	37			17	48	60			
WDMR2525M48/60-4T22	20	20	125	85	40			22	48	60			
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WDMR2525M140/240-4T22	20	20	125	85	40			22	140	240			
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WDMR2525M200/800-4T17	20	20	125	88	37			17	200	800			
WDMR2525M200/800-4T22	20	20	125	85	40			22	200	800			
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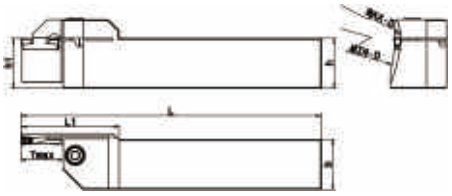
●Stock ○Availabie upon Order

WDMR





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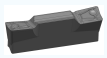
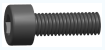
	h	b	L	L1	l1	f	h1	Tmax	最小	最大			
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WDMR2525M48/60-5T17	20	20	125	88	37			17	48	60			
WDMR2525M48/60-5T22	20	20	125	85	40			22	48	60			
WDMR2525M60/75-5T12	20	20	125	88	37			12	60	75			
WDMR2525M60/75-5T17	20	20	125	88	37			17	60	75			
WDMR2525M60/75-5T22	20	20	125	85	40			22	60	75			
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WDMR2525M200/800-5T22	20	20	125	85	40			22	200	800			
WDMR2525M200/800-5T27	20	20	125	80	45			27	200	800			

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