THE NEW VALUE FRONTIER
京瓷 创造新价值

KYOCERA

切槽加工、切断加工 KGD型/KGDF型
Grooving/Cut-Off

新断屑槽
New chipbreaker

切槽革命!!
New Grooving Solution

新构造
New structure toolholder

新材质
New grades

新型切槽、切断工具 端面切槽工具
New grooving and cut-off tool　Face grooving tool

KGD型/KGDF型

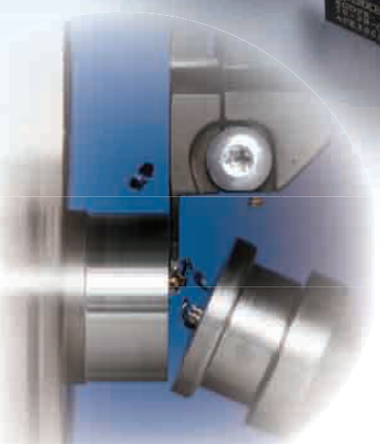
1 彻底解决切槽加工
Master of Grooving

- 良好的切屑处理 Smooth chip control
- 高精度刀尖式样 High precision edge preparation
- 采用实现长寿命、高效加工的MEGACOAT
  MEGACOAT for long tool life and high efficiency machining

2 丰富多样的刀杆系列
Various Toolholder lineup

- 丰富的产品系列中的一体型刀杆 Integral type toolholder with wide lineup
- 自动车床用刀杆(□10、□12、□16）产品系列增加
  Toolholders for automatic lathe (square shank 10, 12 and 16 mm) are newly aded in lineup
- 对应多品种、少量生产用组合型(直柄型(0°)、直角型(90°))
  Separate type toolholder for high-mix low-volume production
  (0° separate type, 90° separate type)
- 端面切槽新上市 Face grooving is available

端面切槽新上市
Face grooving is available



ADVANCING PRODUCTIVITY
致力于生产效率提高的京瓷

1 彻底解决切槽加工 Master of Grooving

●良好的切屑处理 Smooth chip control

➡ **对应各种工件材质的新断屑槽产品系列**

Covers a variety of workpiece materials. New chipbreakers are now available

●高精度刀尖规格 High precision edge preparation

➡ **高精度模具技术 刃宽公差实现±0.03mm(槽宽2，3，4mm)**

High precision molding technology tolerance ±0.03mm (Edge width 2,3,4mm type)

●采用深受好评的MEGACOAT Highly-reputed MEGACOAT technology

➡ **出色的抗氧化性以及耐磨损性，实现长寿命及高效率。**

Long tool life and high efficiency machining by high oxidation resistance and wear resistance.

●丰富多样的刀杆系列 Various Toolholder lineup

➡ **丰富的刀杆产品系列中一体型与适合多品种少量生产的分割型产品系列化。**

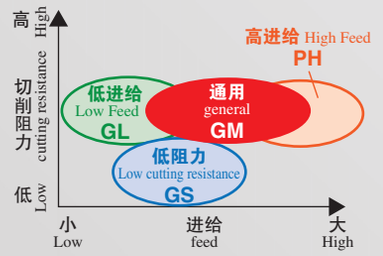
Integral type toolholder with wide lineup and Separate type toolholder for high-mix low-volume production are available.

外径槽、切断用断屑槽产品系列

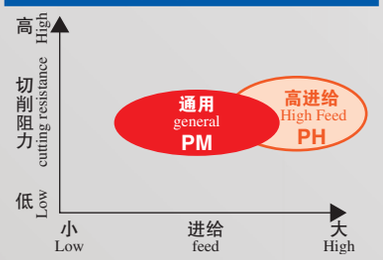
Inserts lineup for External grooving, Turning and Cut-Off.

・适用领域 Application Maps

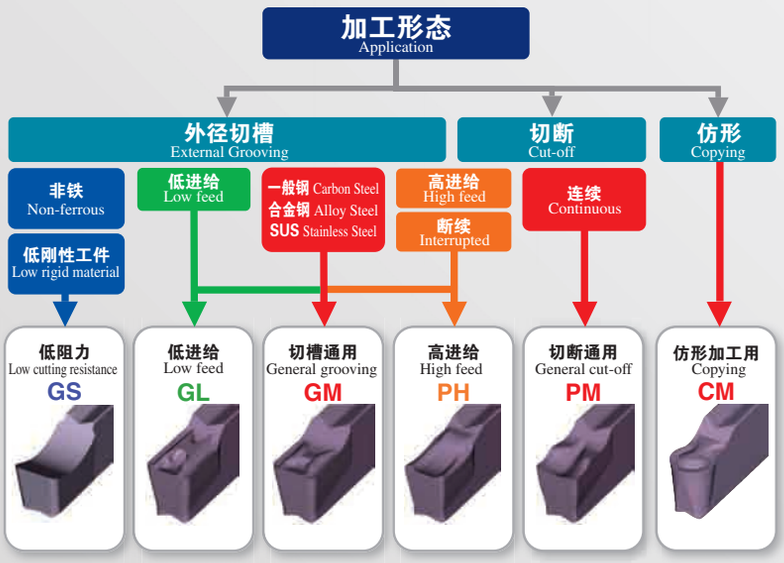
切槽、横进给 External Grooving & Turning



切断 Cut-Off



・断屑槽选择基准(外径、切断) Chipbreaker Selection (External / Cut-off)



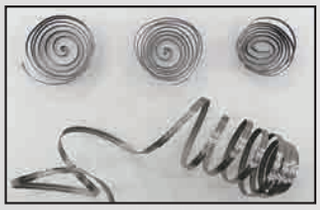
生产效率做出贡献 良好的切屑处理

Good chip control to contribute productivity improvement

●切屑处理比较 (SCM415 Vc=150m/min, f=0.15mm/rev) Comparison of chip control

GM断屑槽 GM Chipbreaker

其他公司产品A Comp.A



其他公司产品B Comp.B

与其他公司产品相比，切屑处理良好 Better chip control than competitors

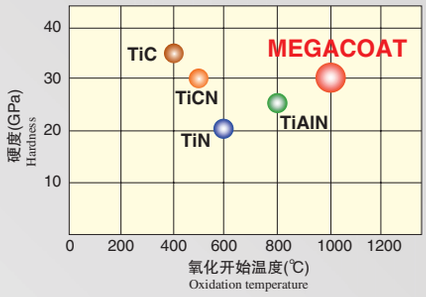
⬇

减少切屑咬屑等故障 Less chip biting trouble

长寿命涂层 MEGACOAT

Long tool life coating "MEGACOAT"

●MEGACOAT的出色特性 Features of MEGACOAT



PR1225

切断、切槽、横进给加工的第一推荐材质

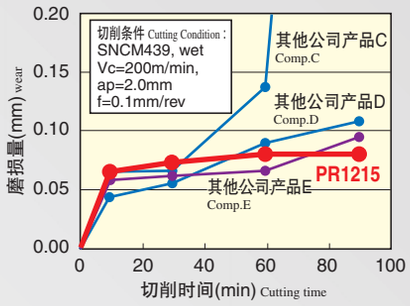
1st. Recommendation for cut-off , grooving and turning

PR1215

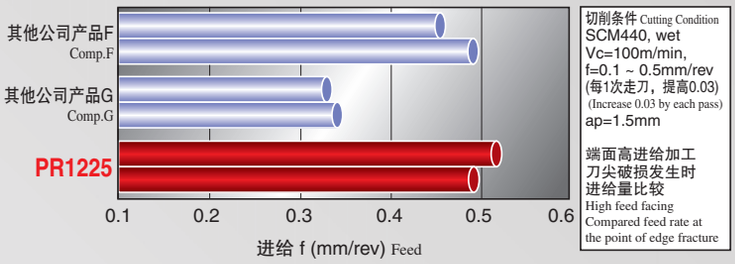
耐磨损性良好、用于稳定条件下的切槽、切断加工推荐用于铸铁加工

With superior wear resistance, recommended for grooving and cut-off under the stable conditions.
1st. Recommendation for machining of cast iron.

●耐磨损性比较 Comparison of wear resistance



●抗崩损性比较 Comparison of fracture resistance



耐磨损性、抗崩损性均良好

Good wear resistance and fracture resistance

实现切槽加工、切断加工的稳定、长寿命化

Stable cutting and long tool life at grooving and cut-off

丰富多样的产品系列

Various lineup

刀杆分为一体型与组合型(本体+刀板)2种

Available two types of toolholder, Integral type and Separate type.

一体型 integral type
(丰富的槽宽、槽深 Various groove width and depth)

组合型 separate type
(可对应多品种少量生产 Suitable for high-mix low-volume production)

端面切槽刀杆、刀片

Toolholder and Inserts for Face grooving.

端面切槽用刀杆仅为组合型
(通过更换刀板，可对应加工各种直径)
Only separate type is available for Face grooving
(Applicable for various groove diameter by replaceing blades)

●刀片锁紧方式的特点 Features of insert clamping system

独特开发的新紧固构造“W型防滑槽”
(防止横向错位结构)保证稳定的加工面品质

The new "W grip" is applied for more rigid clamping and stable machining.

1)避免因刀片错位导致加工面异常及刀片破损
Prevent the insert from side-slip causing unstable machining and insert brakage.

2)提高刀片的重复安装精度
Upgrade the accuracy of indexability.

高刚性、高可靠性、高刀片锁紧力

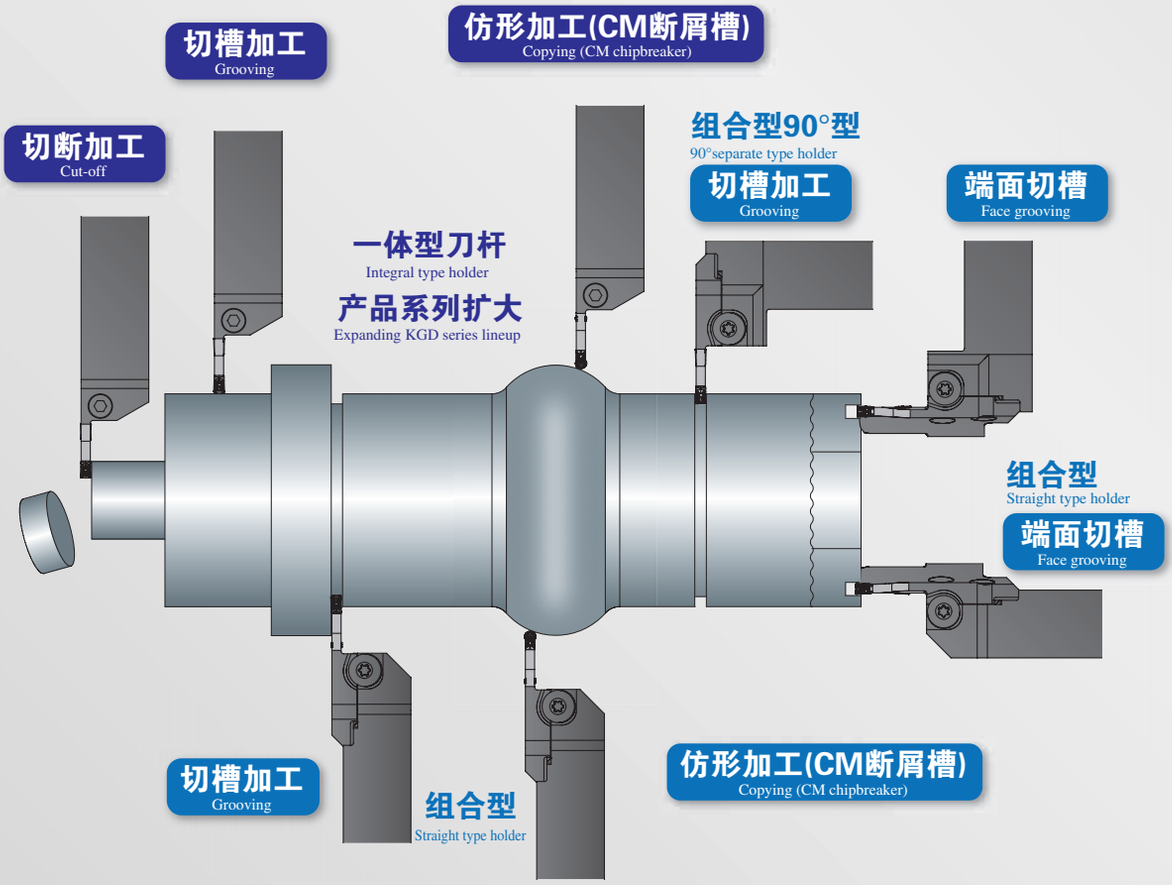
High rigidity, reliability and clamping strength.

GDFM型、GDFMS型刀片，不能安装于KGD型外径槽加工刀杆上。
Insert for GDFM/GDFMS is not compatible with KGD holder.

W型防滑槽
W grip

2 丰富多样的刀杆系列 Various Toolholder lineup

●KGD型/KGDF型系列完成 KGD / KGDF type grooving tool series



- **一体型刀杆：丰富的产品阵线(多种槽宽、槽深)**
  Integral type toolholder with wide lineup (for various groove width and depth)
- **组合型刀杆：通过更换刀板可以对应多种槽宽、槽深、外径、端面槽、切断等丰富多彩的加工形态**
  Separate type toolholder : Applicable for various types of grooving and cut-off, such as external and face cutting by replacing blade parts.

●一体型/组合型，刀杆使用区分

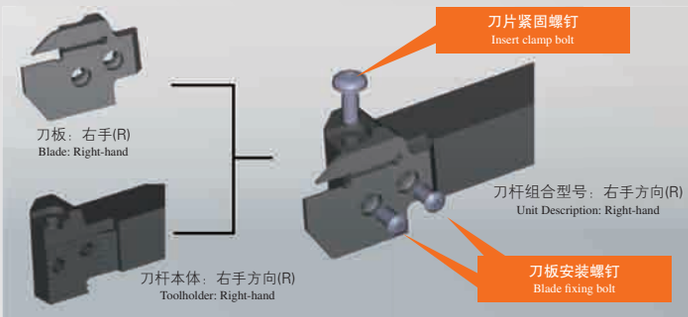
Integral type / Separate type Selection Reference

一体型 integral type	组合型 separate type
・丰富的刀杆产品系列 Various toolholder lineup 细致对应各种槽深(浅槽、标准槽、深槽) Available for various groove depth (shallow /medium / deep) 确保最适合伸出量 Optimum overhang length **・对应低刚性设备、工件的加工** Available for low-rigid machine and workpiece **・操作空间狭小的设备(自动机床、小零件加工用车床等)** For small machine with limited work space (Automatic lathe, small lathe, etc.)	**・可对应多品种少量生产** Suitable for high-mix low-volume production 最适于槽宽变化多的加工 Suitable for grooving with various width 可通过更换刀板对应多种槽宽 Applicable for various groove width by replacing blades **・可对应经常损坏刀杆的难加工** Suitable for difficult-to-cut material 严格的切削条件 Tough cutting conditions 降低刀杆成本(仅更换刀板即可使用) Toolholder cost reduction (replaceable blade) **・端面切槽也可通过更换刀板来对应** Face grooving is possible by changing blade ※请注意刀杆的方向 Make sure right hand / left hand

刀杆本体+刀板组合(外径、横进给、切断用)

Combination of Toololder & Blade (for grooving, turning, cut-off)

①直柄型(0°) 0° separate type



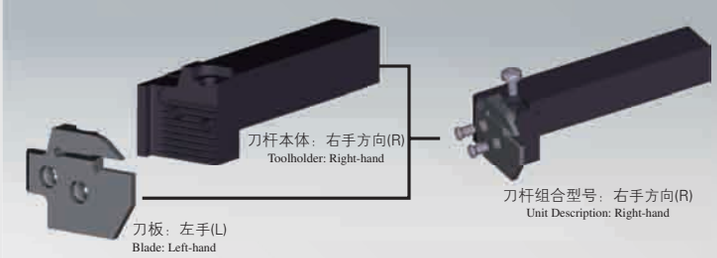
刀杆本体(KGD$^{R}/_{L}$ ●●–C) Toolholder

+

刀板(KGD$^{R}/_{L}$–●T●●–C) Blade

⇒右手(R)刀杆本体上适用全型号的右手方向(R)刀板
左手方向(L)刀杆本体，适用全型号的左手方向(L)刀板
Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder

②直角型(90°) 90° separate type



刀杆本体(KGDS$^{R}/_{L}$ ●●–C) Toolholder

+

刀板(KGD$^{L}/_{R}$–●T●●–C) Blade

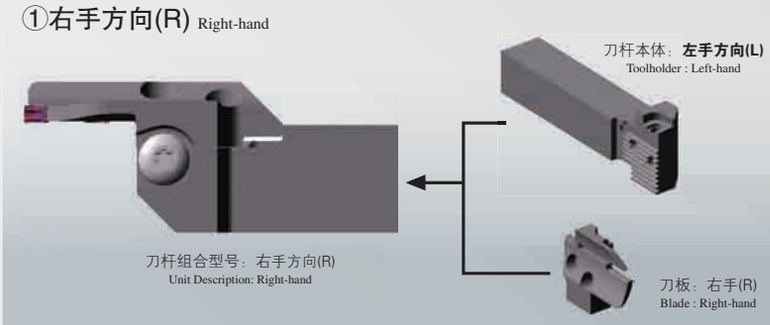
⇒右手(R)刀杆本体上适用全型号的左手方向(L)刀板
左手方向(L)刀杆本体，适用全型号的右手方向(R)刀板
Left-hand Blade for Right-hand Toolholder, Right-hand Blade for Left-hand Toolholder

刀杆本体+刀板组合(端面槽用)

Combination of Toololder & Blade (for Face Grooving)

■直柄型(0°) 0° separate type

①右手方向(R) Right-hand



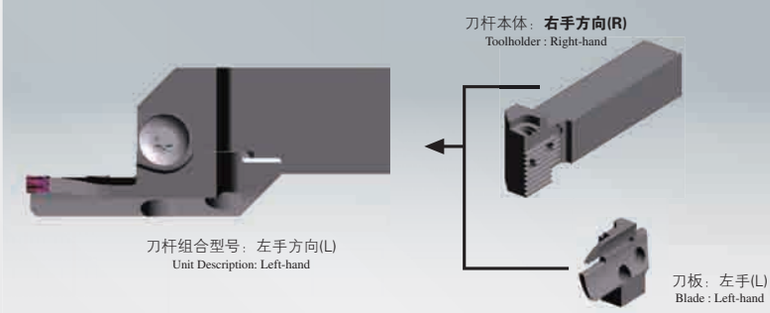
刀杆本体(KGDL●●–C) Toolholder

+

刀板(KGDFR–●●–●●–C) Blade

⇒左手方向(L)刀杆本体，适用全型号的右手方向(R)端面槽用刀板。
Right-hand Blade (face grooving) for Left-hand Toolholder

②左手方向(L) Left-hand



刀杆本体(KGDR●●–C) Toolholder

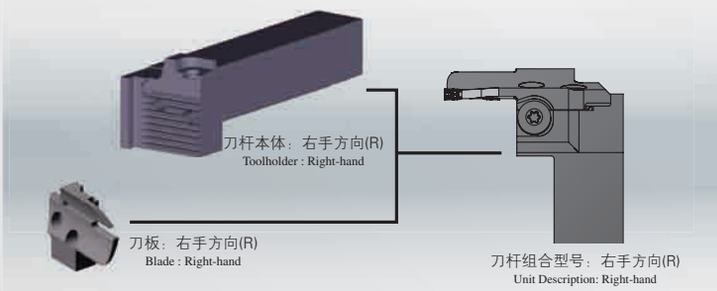
+

刀板(KGDFL–●●–●●–C) Blade

⇒右手(R)刀杆本体上适用全型号的左手(L)端面槽用刀板。
Left-hand Blade (face grooving) for Right-hand Toolholder

※刀杆本体+组合刀板的方向与刀杆本体方向相反。
Please make sure that the Unit Description hand is opposite to the toolholder hand.

■直角型(90°) 90° separate type



刀杆本体(KGDS$^{R}/_{L}$●●–C) Toolholder

+

刀板(KGDF$^{R}/_{L}$–●●–●●–C) Blade

⇒右手(R)刀杆本体上适用全型号的右手(R)端面槽用刀板
左手方向(L)刀杆本体，适用全型号的左手方向(L)端面槽用刀板适用。
Right-hand Blade (face grooving) for Right-hand Toolholder, Left-hand Blade (face grooving) for Left-hand Toolholder

●适合刀片(切槽、横进给)

Applicable Inserts (Grooving & Turning)

使用分类的标准 Classification of usage					
	P	碳素钢、合金钢 Carbon steel, Alloy steel	●	◐	◔
	M	不锈钢 Stainless Steel		◐	◔
	K	铸铁 Cast iron			◐
	N	有色金属 Non-ferrous Material			◐
	S	钛合金 Titanium alloy			◐
	H	高硬度材(40HRC以下) Hard materials (under 40HRC)			
		高硬度材(40HRC以上) Hard materials (over 40HRC)			

◐：连续~断续/第1推荐(◐ Continuous - Interruption / 1st Choice)
◔：连续~断续/第2推荐(◔ Continuous - Interruption / 2nd Choice)
●：连续/第1推荐(● Continuous / 1st Choice)

形状 Shape 带方向刀片显示为右手(R)刀 Right-hand Insert shown	型号 Description		尺寸(mm) Dimension W	公差 tolerance	rε	M	L	H	角度(°) Angle θ	金属陶瓷 Cermet TN90	MEGACOAT PR1225	PR1215	硬质合金 Carbide GW15
切槽、横进给 Grooving & Turning 通用 2刀尖规格 General Purpose 2-edge	GDM	2420N-020GM	2.4	±0.03	0.2	1.95	20	4.3	–	●	●	●	
		3020N-020GM	3.0		0.2	2.3				●	●	●	
		3020N-040GM			0.4					●	●	●	
		4020N-020GM	4.0		0.2	3.3				●	●	●	
		4020N-040GM			0.4					●	●	●	
		4020N-080GM			0.8					●	●	●	
		5020N-040GM	5.0	±0.04	0.4	4.2				●	●	●	
		5020N-080GM			0.8					●	●	●	
		6020N-040GM	6.0		0.4	5.2				●	●	●	
		6020N-080GM			0.8					●	●	●	
		8030N-080GM	8.0	±0.05	0.8	6	30	5.5			●	●	
通用 1刀尖规格 General Purpose 1-edge	GDMS	2220N-020GM	2.2	±0.03	0.2	1.75	20	4.3	–	●	●	●	
		3020N-040GM	3.0		0.4	2.3				●	●	●	
		4020N-040GM	4.0		0.4	3.3				●	●	●	
		5020N-080GM	5.0	±0.04	0.8	4.2				●	●	●	
		6020N-080GM	6.0		0.8	5.2				●	●	●	
小进给 2刀尖规格 Low feed 2-edge	GDM	2420N-020GL	2.4	±0.03	0.2	1.95	20	4.3	–	●	●	●	
		3020N-020GL	3.0		0.2	2.3				●	●	●	
		3020N-040GL			0.4					●	●	●	
		4020N-020GL	4.0		0.2	3.3				●	●	●	
		4020N-040GL			0.4					●	●	●	
		5020N-040GL	5.0	±0.04	0.4	4.2				●	●	●	
		6020N-040GL	6.0		0.4	5.2				●	●	●	
切槽 Grooving 低阻力 2刀尖规格 Low cutting force 2-edge	GDG	2520N-020GS	2.5	±0.02	0.2	2.0	20	4.3	–	●	●	●	●
		3020N-020GS	3.0			2.3				●	●	●	●
		3520N-020GS	3.5			2.8				●	●	●	●
		4020N-040GS	4.0		0.4	3.3				●	●	●	●
		5020N-040GS	5.0			4.2				●	●	●	●
		6020N-040GS	6.0			5.2				●	●	●	●
		8030N-040GS	8.0			6.0	30	5.5		●	●	●	●
圆弧槽、仿形 Full-R / Copying 2刀尖规格 2-edge	GDM	3020N-150R-CM	3.0	±0.03	1.5	2.3	20	4.3	–	●	●	●	
		4020N-200R-CM	4.0		2.0	3.3				●	●	●	
		5020N-250R-CM	5.0	±0.04	2.5	4.2	*21			●	●	●	
		6020N-300R-CM	6.0		3.0	5.2				●	●	●	
切槽、切断 Grooving & Cut-Off 大进给 2刀尖规格 High feed 2-edge	GDM	2020N-020PH	2.0	±0.03	0.2	1.5	20	4.3	–		●	●	
		3020N-030PH	3.0		0.3	2.3					●	●	
		4020N-030PH	4.0		0.3	3.3					●	●	
高进给 1刀尖规格 High feed 1-edge	GDMS	2020N-020PH	2.0	±0.03	0.2	1.5	20		–		●	●	
		3020N-030PH	3.0		0.3	2.3					●	●	
		4020N-030PH	4.0		0.3	3.3					●	●	

* 由于GDM50/60–CM(圆弧R)由于与刀杆安装部和被削材发生干涉，其他型号刀片与全长(L)不同。
GDM50/60-CM (Full-R) overall length (L) is different, because it is designed to prevent interruption of the workpiece with the toolholder contact face.

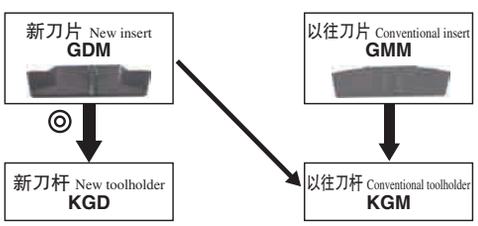
●：标准库存 Standard Stock

※KGD型(新型)、KGM(以往型)刀杆、刀片组合的注意点

Combination of KGD / KGM toolholder and Insert

切槽加工用刀杆的刀片安装角 Insert setting angle of KGD / KGM toolholder

KGD型…0° New KGD type (0°)	以往刀具KGM型…5° Conventional KGM type (5°)



不推荐以往刀片安装于新刀杆。
Not recommended for installing conventional insert on new toolholder.

●适合刀片
(切断 PM断屑槽)

Applicable Inserts (Cut-Off PM chipbreaker)

使用分类的标准 Classification of usage				
P	碳素钢、合金钢 Carbon steel, Alloy steel		●	◔
M	不锈钢 Stainless Steel		●	◔
K	铸铁 Cast iron			●
N	有色金属 Non-ferrous Material			
S	钛合金 Titanium alloy			
H	高硬度材(40HRC以下) Hard materials (under 40HRC)			
	高硬度材(40HRC以上) Hard materials (over 40HRC)			

●: 连续~断续/第1推荐(● Continuous - Interruption / 1st Choice)
◔: 连续~断续/第2推荐(◔ Continuous - Interruption / 2nd Choice)

形状 Shape 带方向刀片显示为右手(R)刀 Right-hand Insert shown		型号 Description		尺寸(mm) Dimension W	公差 tolerance	rε	M	L	H	角度(°) Angle θ	金属陶瓷 Cermet TN90	MEGACOAT PR1225	PR1215
切断 Cut-Off	2刀尖规格 2-edge	GDM	2020N-020PM	2.0	±0.03	0.2	1.5	20	4.3	–		●	●
			2520N-020PM	2.5		0.2	1.95					●	●
			3020N-025PM	3.0		0.25	2.3					●	●
			4020N-030PM	4.0		0.3	3.3					●	●
	2刀尖规格 2-edge	GDM	2020R-020PM-6D	2.0	±0.03	0.2	1.5	20		6°		●	●
			2520R-020PM-6D	2.5		0.2	1.95					●	●
			3020R-025PM-6D	3.0		0.25	2.3					●	●
	1刀尖规格 1-edge	GDMS	2020N-020PM	2.0	±0.03	0.2	1.5	20		–		●	●
			3020N-025PM	3.0		0.25	2.3					●	●
			4020N-030PM	4.0		0.3	3.3					●	●
	1刀尖规格 1-edge	GDMS	2020R-020PM-6D	2.0	±0.03	0.2	1.5	20		6°		●	●
			3020R-025PM-6D	3.0		0.25	2.3					●	●
			4020R-030PM-6D	4.0		0.3	3.3					●	●

注)1. PM断屑槽(切断用)进行槽加工时，槽底部不平。(参考右图)
1. When grooving with PM chipbreaker (for cut-off), bottom cutting shape is not flat. (see Right Fig.)

PM断屑槽加工的槽底形状
Bottom cutting shape of PM chipbreaker

●: 标准库存 Standard Stock

●适合刀片 NEW
(CBN、金刚石)

Applicable Inserts (CBN & PCD)

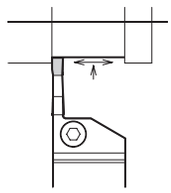
使用分类的标准 Classification of usage				
P	碳素钢、合金钢 Carbon steel, Alloy steel			
M	不锈钢 Stainless Steel			
K	铸铁 Cast iron			
N	有色金属 Non-ferrous Material			●
S	钛合金 Titanium alloy			●
H	高硬度材(40HRC以下) Hard materials (under 40HRC)			
	高硬度材(40HRC以上) Hard materials (over 40HRC)	●		
	铁系烧结金属		●	

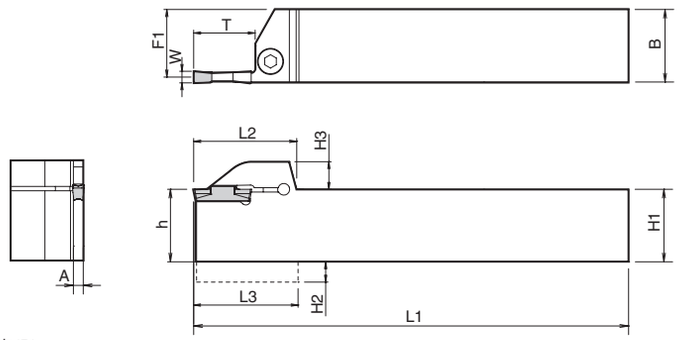
●: 连续~断续/第1推荐(● Continuous - Interruption / 1st Choice)
◔: 连续~断续/第2推荐(◔ Continuous - Interruption / 2nd Choice)
●: 连续/第1推荐(● Continuous / 1st Choice)
○: 连续/第2推荐 (○ Continuous / 2nd Choice)

形状 Shape		型号 Description		尺寸(mm) Dimension W	公差 tolerance	rε	M	L	H	S	角度(°) Angle θ	MEGA CBN KBN05M	CBN KBN570	金刚石 PCD KPD001
切槽加工 Grooving	1刀尖规格 1-edge	GDGS	2020N-020NB	2.0	±0.02	0.2	1.8	20	4.3	2.9	-	●	●	●
			3020N-020NB	3.0		0.2	2.3							●
			3020N-040NB			0.4						●	●	
			4020N-020NB	4.0		0.2	3.3							●
			4020N-040NB			0.4						●	●	
			5020N-020NB	5.0		0.2	4.2							●
			5020N-040NB			0.4						●	●	
			6020N-020NB	6.0		0.2	5.2							●
			6020N-040NB			0.4						●	●	

●: 标准库存 Standard Stock

■KGD型(一体型) KGD type (integral type)





・本图显示为右手方向(R) Right-hand shown

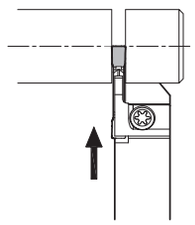
●刀杆尺寸 Toolholder dimensions

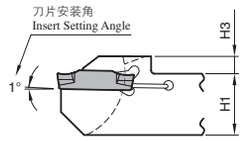
槽宽 Width (mm)	可加工深度 Max. Grooving Depth (mm)	型号 Description		库存 Stock R	库存 Stock L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	L3	F1	A	T	刃宽 W(mm) Width MIN	MAX	零部件 Spare parts 紧固螺钉 Clamp Bolt	扳手 Wrench
2	6	KGD R/L	1616H-2T06	●	●	16	4.0	9.5	16	100	27.7	28.0	15.2	1.7	6	2.0	3.0	HH5X16	LW-4
			2020K-2T06	●	●	20	–		20	125	28.0	–	19.2						
			2525M-2T06	●	●	25			25	150	28.0		24.2					HH5X25	
	10	KGD R/L	1616H-2T10	●	●	16	4.0		16	100	30.2	30.5	15.2		10			HH5X16	
			2020K-2T10	●	●	20	–		20	125	30.5	–	19.2						
			2525M-2T10	●	●	25			25	150	30.5		24.2					HH5X25	
	17	KGD R/L	1616H-2T17	●	●	16	4.0		16	100	31.2	31.5	15.2		17			HH5X16	
			2012K-2T17	●	●	20	–		12	125	32.5	–	11.2						
			2020K-2T17	●	●				20	125			19.2						
			2525M-2T17	●	●	25			25	150			24.2					HH5X25	
2.4	17	KGD R/L	2012K-2.4T17	●	●	20	–		12	125	32.5	–	11.0	2.0	17	2.4	3.0	HH5X16	LW-4
			2020K-2.4T17	●	●				20	125			19.0						
3	6	KGD R/L	1616H-3T06	●	●	16	4.0		16	100	27.7	28.0	14.8	2.4	6	3.0	4.0	HH5X16	LW-4
			2020K-3T06	●	●	20	–		20	125	28.0	–	18.8						
			2525M-3T06	●	●	25			25	150	28.0		23.8					HH5X25	
	10	KGD R/L	1616H-3T10	●	●	16	4.0		16	100	30.2	30.5	14.8		10			HH5X16	
			2020K-3T10	●	●	20	–		20	125	30.5	–	18.8						
			2525M-3T10	●	●	25			25	150			23.8					HH5X25	
	20	KGD R/L	1616H-3T20	●	●	16	4.0		16	100	34.2	34.5	14.8		20			HH5X16	
			2012K-3T20	●	●	20	–		12	125	34.5	–	10.8						
			2020K-3T20	●	●				20	125			18.8						
			2525M-3T20	●	●	25			25	150	35.5		23.8					HH5X25	
4	10	KGD R/L	2020K-4T10	●	●	20	–		20	125	30.5	–	18.3	3.4	10	4.0	5.0	HH5X16	LW-4
			2525M-4T10	●	●	25			25	150			23.3					HH5X25	
	20	KGD R/L	2020K-4T20	●	●	20			20	125	34.5		18.3		20			HH5X16	
			2525M-4T20	●	●	25			25	150	35.5		23.3					HH5X25	
	25	KGD R/L	2525M-4T25	●	●	25			25	150	40.5		23.3		25				
5	10	KGD R/L	2020K-5T10	●	●	20	–		20	125	30.5	–	17.8	4.4	10	5.0	6.0	HH5X16	LW-4
			2525M-5T10	●	●	25			25	150			22.8					HH5X25	
	17	KGD R/L	2020K-5T17	●	●	20			20	125	37.5		17.8		17				
			2525M-5T17	●	●	25			25	150			22.8						
	25	KGD R/L	2525M-5T25	●	●	25			25	150	40.5		22.8		25				
6	15	KGD R/L	2525M-6T15	●	●	25	–		25	150	32.5	–	22.4	5.3	15	6.0	6.0	HH5X25	LW-4
	30	KGD R/L	2525M-6T30	●	●	25			25	150	45.5		22.4		30				
8	25	KGD R/L	2525M-8T25	●	●	25	7.0		25	150	43.3	44.2	22.0	6.0	25	8.0	8.0	HH6X25	LW-5
			3232P-8T25	●	●	32	–		32	170		–	29.0						

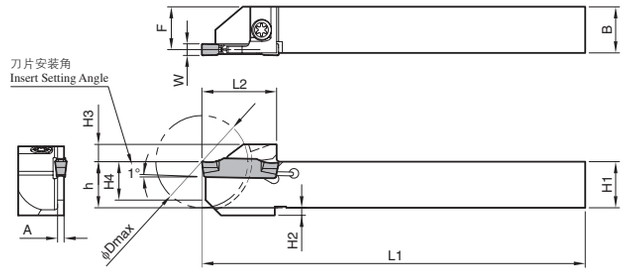
注) T尺寸：显示可加工深度。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)
T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)

●：标准库存 Standard Stock

■KGD型(一体型、自动车床用) KGD type (integral type / For Automatic Lathe)







・本图显示为右手方向(R) Right-hand shown

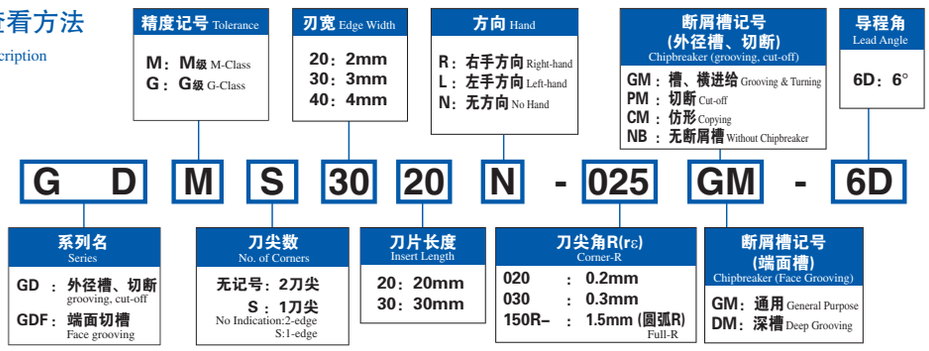
●刀杆尺寸 Toolholder dimensions

型号 Description		库存 Stock R	库存 Stock L	加工径 Cutting Dia. ϕDmax	尺寸(mm) Dimension H1=h	H2	H3	H4	B	L1	L2	F	A	刃宽 W(mm) Width MIN.	MAX.	零部件 Spare parts 紧固螺钉 Clamp Screw	扳手 Wrench
KGD R/L	1010JX-2	●	●	20	10	2	4.5	8	10	120	18	9.15	1.7	2.0	3.0	SB-40120TR	LTW-15S
	1212JX-2	●	●	24	12	2		10	12		19.5	11.15					
	1616JX-2	●	●	32	16	–		10	16		24.5	15.15					
KGD R/L	1010JX-2.4	●	●	20	10	2		8	10	120	18	9	2.0	2.4	3.0	SB-40120TR	LTW-15S
	1212JX-2.4	●	●	24	12	2		10	12		19.5	11					
	1616JX-2.4	●	●	32	16	–		10	16		24.5	15					
KGD R/L	1212JX-3	●	●	24	12	2		10	12	120	19.5	10.8	2.4	3.0	3.0	SB-40120TR	LTW-15S
	1616JX-3	●	●	32	16	–		10	16		24.5	14.8			4.0		
KGD R/L	1212F-2	●	●	24	12	2		10	12	85	19.5	11.15	1.7	2.0	3.0	SB-40120TR	LTW-15S
	1212F-2.4	●	●	24	12	2		10	12		19.5	11	2.0	2.4	3.0		

・KGDR/L1212JX–3可以安装4.0mm宽的刀片，但由于刚性不足，不做推荐。
4mm width Insert can be installed in KGDR/L1212JX-3, but is not recommended due to the toolholder's rigidity.

●：标准库存 Standard Stock

●刀片型号的查看方法
Indication of Insert Description



■ 刀片安装顺序 Setting the insert (Common procedure for integrated and separate types)

1. 用气枪吹去刀片安装部的切屑等。(参考图1)。
1. Make air blow or other measures to completely eliminate chips from the insert mounting part (Fig.1).

2. 将刀片插入刀杆中，轻按刀片后端的锁紧面。(参考图1、图2)。
2. Set the insert to the toolholder and push until it contacts with the toolholder's surface for fixing the insert's back end (See Fig.1 and Fig.2).

3. 轻轻按压刀片，用适当的扭矩紧固刀片的紧固螺钉。(推荐紧固扭矩：6.5 N・m(8mm为8 N・m))。
3. Keeping the insert fit to the toolholder's surface, tighten the insert clamp bolt at an appropriate torque. (Recommended tightening torque : 6.5 N・m (8N・m for 8mm width))

4. 请在确认刀片与刀杆的刀片后端锁紧面无空隙，无倾斜安装等后使用。
4. Before using the unit, make sure that no gap is between the insert and the toolholder's surface, and that the insert is mounted without tilting (See Fig.2 and Fig.3).

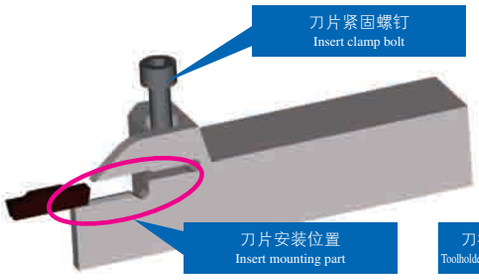


图1 Fig.1

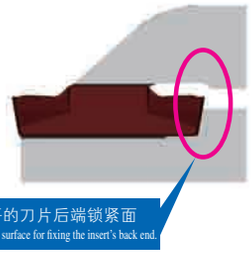


图2 Fig.2

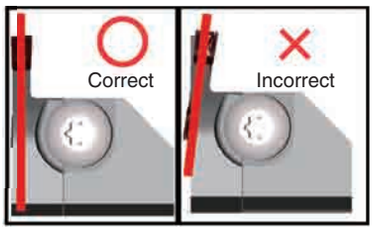
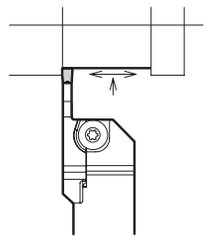
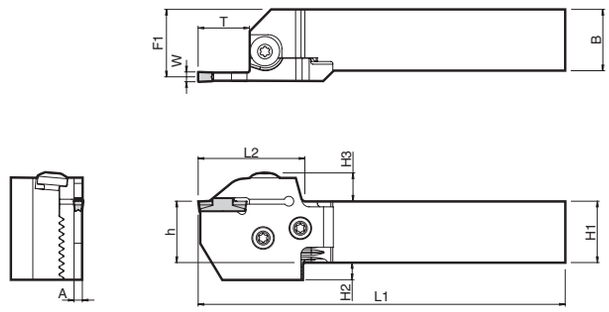


图3 Fig.3

■KGD–S型(直柄型：0°, 组合型) KGD-S type (0° separate type)





・本图显示为右手方向(R) Right-hand shown

●刀杆尺寸(刀板 + 刀杆本体) Toolholder dimensions (blade and toolholder)

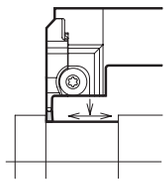
本体角度 Shank Angle	槽宽 Width (mm)	可加工深度 Max. Grooving Depth (mm)	刀杆尺寸 Shank size (mm)	刀板型号 Blade Description ➔P11	本体型号 Toolholder Description ➔P11	组合型号 Unit Description (标准库存型号) Std. Stock Description	库存 Stock R	库存 Stock L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	L3	F1	A	T	刃宽W(mm) Width MIN	MAX
0°	2	17	□20	KGD^{R}/$_{L}$-2T17-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-2T17S	●	●	20	12	11.6	20	122	40	–	23.4	1.7	17	2.0	3.0
			□25		KGD^{R}/$_{L}$2525-C	2525X-2T17S	●	●	25	7		25	147			28.4				
			□32		KGD^{R}/$_{L}$3232-C	–	–	–	32	–		32	167			35.4				
	3	10	□20	KGD^{R}/$_{L}$-3T10-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-3T10S	●	●	20	12		20	115	33		23.0	2.4	10	3.0	4.0
			□25		KGD^{R}/$_{L}$2525-C	2525X-3T10S	●	●	25	7		25	140			28.0				
			□32		KGD^{R}/$_{L}$3232-C	3232X-3T10S	●	●	32	–		32	160			35.0				
		20	□20	KGD^{R}/$_{L}$-3T20-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-3T20S	●	●	20	12		20	125	43		23.0		20		
			□25		KGD^{R}/$_{L}$2525-C	2525X-3T20S	●	●	25	7		25	150			28.0				
			□32		KGD^{R}/$_{L}$3232-C	3232X-3T20S	●	●	32	–		32	170			35.0				
	4	10	□20	KGD^{R}/$_{L}$-4T10-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-4T10S	●	●	20	12		20	115	33		22.5	3.4	10	4.0	5.0
			□25		KGD^{R}/$_{L}$2525-C	2525X-4T10S	●	●	25	7		25	140			27.5				
			□32		KGD^{R}/$_{L}$3232-C	3232X-4T10S	●	●	32	–		32	160			34.5				
		20	□20	KGD^{R}/$_{L}$-4T20-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-4T20S	●	●	20	12		20	125	43		22.5		20		
			□25		KGD^{R}/$_{L}$2525-C	2525X-4T20S	●	●	25	7		25	150			27.5				
			□32		KGD^{R}/$_{L}$3232-C	3232X-4T20S	●	●	32	–		32	170			34.5				
		25	□20	KGD^{R}/$_{L}$-4T25-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-4T25S	●	●	20	12		20	130	48		22.5		25		
			□25		KGD^{R}/$_{L}$2525-C	2525X-4T25S	●	●	25	7		25	155			27.5				
			□32		KGD^{R}/$_{L}$3232-C	3232X-4T25S	●	●	32	–		32	175			34.5				
	5	10	□20	KGD^{R}/$_{L}$-5T10-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-5T10S	●	●	20	12		20	115	33		22.0	4.4	10	5.0	6.0
			□25		KGD^{R}/$_{L}$2525-C	2525X-5T10S	●	●	25	7		25	140			27.0				
			□32		KGD^{R}/$_{L}$3232-C	3232X-5T10S	●	●	32	–		32	160			34.0				
		25	□20	KGD^{R}/$_{L}$-5T25-C	KGD^{R}/$_{L}$2020-C	KGD^{R}/$_{L}$ 2020X-5T25S	●	●	20	12		20	130	48		22.0		25		
			□25		KGD^{R}/$_{L}$2525-C	2525X-5T25S	●	●	25	7		25	155			27.0				
			□32		KGD^{R}/$_{L}$3232-C	3232X-5T25S	●	●	32	–		32	175			34.0				

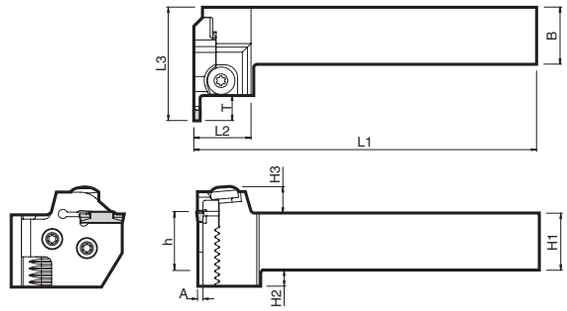
●：标准库存 Standard Stock

注)1. 正面使用刀杆时，刀杆下颚和工具中心可能会干涉。
2. 刀杆上分别刻印刀杆本体、刀板型号的印字(组合型号不印字)。
KGD–S型：右手方向(R)刀杆本体上适用右手方向(R)刀板，左手方向(L)刀杆本体上适用左手方向(L)刀板。
刀杆本体上，可全面安装方向合适的刀板。
3. T尺寸：显示可加工深度。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)

Note) 1. In case of normal mounting position, toolholder body may interfere with tool presetter
2. Toolholder description and blade description are printed on toolholder body. (Unit description is not indicated.)
KGD-S : R-hand Blade for R-hand Toolholder, L-hand Blade for L-hand Toolholder.
The toolholder is applicable for all blade with suitable hand.
3. T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)

■KGDS–S型(直角型：90°, 组合型) KGDS-S type (90° separate type)





・本图显示为右手方向(R) Right-hand shown

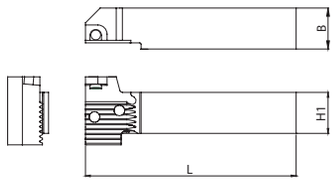
●刀杆尺寸(刀板＋刀杆本体) Toolholder dimensions (blade and toolholder)

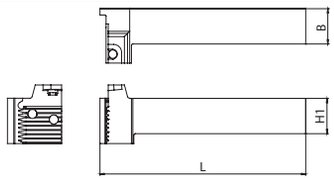
本体角度 Shank Angle	槽宽 Width (mm)	可加工深度 Max. Grooving Depth (mm)	刀杆尺寸 Shank size (mm)	刀板型号 Blade Description ➡ P11	本体型号 Toolholder Description ➡ P11	组合型号 Unit Description (标准库存型号) Std. Stock Description	库存 Stock R	库存 Stock L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	L3	F1	A	T	刃宽W(mm) Width MIN	MAX
90°	2	17	□20	KGD$^{L}/_{R}$-2T17-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12	11.6	20	125	27.7	56.7	–	1.7	17	2.0	3.0
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							
	3	10	□20	KGD$^{L}/_{R}$-3T10-C	KGDS$^{R}/_{L}$2020-C	KGDS$^{R}/_{L}$ 2020X-3T10S	●	●	20	12		20	125		49.7		2.4	10	3.0	4.0
			□25		KGDS$^{R}/_{L}$2525-C	2525X-3T10S	●	●	25	7		25	150							
		20	□20	KGD$^{L}/_{R}$-3T20-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12		20	125		59.7			20		
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							
	4	10	□20	KGD$^{L}/_{R}$-4T10-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12		20	125		49.7		3.4	10	4.0	5.0
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							
		20	□20	KGD$^{L}/_{R}$-4T20-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12		20	125		59.7			20		
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							
		25	□20	KGD$^{L}/_{R}$-4T25-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12		20	125		64.7			25		
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							
	5	10	□20	KGD$^{L}/_{R}$-5T10-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12		20	125		49.7		4.4	10	5.0	6.0
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							
		25	□20	KGD$^{L}/_{R}$-5T25-C	KGDS$^{R}/_{L}$2020-C	–	–	–	20	12		20	125		64.7			25		
			□25		KGDS$^{R}/_{L}$2525-C	–	–	–	25	7		25	150							

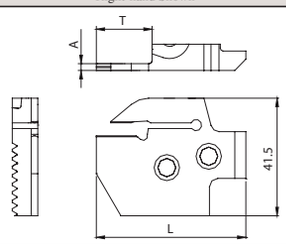
●：标准库存 Standard Stock

注)1. 正面使用刀杆时，刀杆下颚和工具中心可能会干涉。
2. 刀杆上分别刻印刀杆本体、刀板型号的印字(组合型号不印字)。
KGDS–S型：右手方向(R)刀杆本体上适用左手方向(L)刀板，左手方向(L)刀杆本体上适用右手方向(R)刀板。
刀杆本体上，可全面安装方向合适的刀板。
3. T尺寸：显示可加工深度。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)

Note) 1. In case of normal mounting position, toolholder body may interfere with tool presetter
2. Toolholder description and blade description are printed on toolholder body. (Unit description is not indicated.)
KGDS-S : L-hand Blade for R-hand Toolholder, R-hand Blade for L-hand Toolholder.
The toolholder is applicable for all blade with suitable hand.
3. T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)

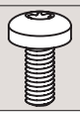
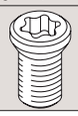
直柄型(0°)本体形状 0° separate type shape 本图显示为右手方向(R) Right-hand Shown	本体型号 Description of Toolholder		库存 Stock		尺寸(mm) Dimension		
			R	L	L	B	H1
	KGD$^{R}/_{L}$	2020-C	●	●	104	20	20
		2525-C	●	●	129	25	25
		3232-C	●	●	149	32	32

直角型(90°)本体形状 90° separate type shape 本图显示为右手方向(R) Right-hand Shown	本体型号 Description of Toolholder		库存 Stock		尺寸(mm) Dimension		
			R	L	L	B	H1
	KGDS$^{R}/_{L}$	2020-C	●	●	122	20	20
		2525-C	●	●	147	25	25

刀板形状 Blade shape 本图显示为右手方向(R) Right-hand Shown	刀板型号 Description of Blade		库存 Stock		尺寸(mm) Dimension		
			R	L	L	T	A
	KGD$^{R}/_{L}$	-2T17-C	●	●	51.2	17.2	1.7
		-3T10-C	●	●	44.2	10.2	2.4
		-3T20-C	●	●	53.2	20.2	
		-4T10-C	●	●	44.2	10.2	3.4
		-4T20-C	●	●	54.2	20.2	
		-4T25-C	●	●	59.2	25.2	
		-5T10-C	●	●	44.2	10.2	4.4
		-5T25-C	●	●	59.2	25.2	

●：标准库存 Standard Stock

●零部件 Spare parts

零部件 Spare parts		
紧固螺钉(刀片锁紧) Clamp bolt (For Insert Clamp)	安装螺钉(刀板用) Fixing bolt(For Blade)	扳手 Wrench
		
BH6X10TR	SB–60120TR	LTW–25

■ 刀板安装顺序(组合型刀杆) Setting the blade (Separate-type toolholder)

1. 请用气枪把锯齿定位部的切屑等残留物吹去。(参考图4)。
1. Make air blow or other measures to completely eliminate chips and dusts from the serration part (See Fig.4).

2. 刀板与螺钉的垫圈部以及刀板端面紧密结合。(参考图5)。
2. Fit closely the serration joints of the blade and toolholder (See Fig.5).

3. 用合适的扭矩紧固螺钉。(推荐紧固扭矩： 8 N・m)无顺序。
3. Tighten the blade fixing bolts at an appropriate torque (Recommended tightening torque : 8 N·m). You can tighten them in any order (See Fig.5).

4. 刀片的安装请在装配刀板后进行。
4. Set the insert after setting the blade.

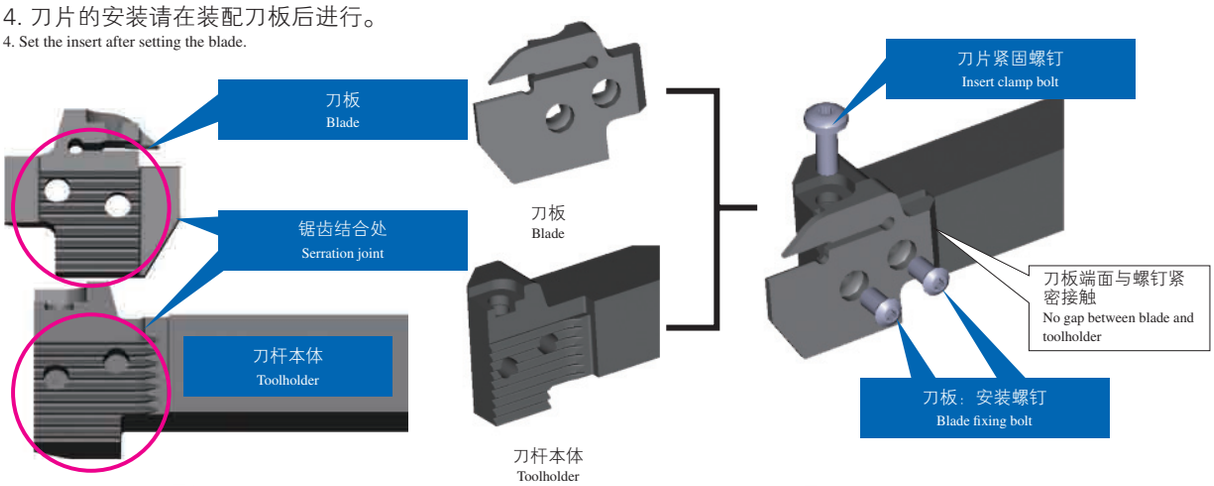


图4 Fig.4　　图5 Fig.5

■推荐切削条件(外径切槽、切断) Recommended Cutting Conditions (Grooving, Cut-Off)

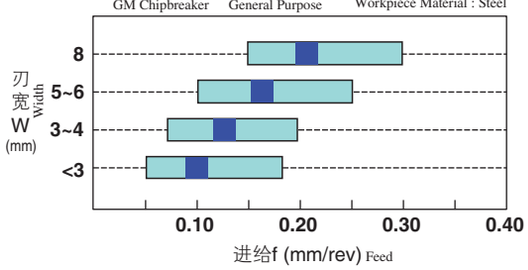
被削材 Workpiece Material	断屑槽名 Chipbreaker	推荐刀片材质(切削速度Vc :m/min) Recommended Insert Grade (Cutting Speed m/min)							备注 Remarks
		金属陶瓷 Cermet	MEGACOAT		硬质合金 Carbide	MEGACOAT CBN	CBN	金刚石 PCD	
		TN90	PR1225	PR1215	GW15	KBN05M	KBN570	KPD001	
碳素钢 Carbon Steel (SxxC等)	GM GL CM PH GS PM	☆ 100 ~ 220	★ 80 ~ 200	☆ 100 ~ 200	-	-	-	-	湿式 Wet
合金钢 Alloy Steel (SCM等)		☆ 80 ~ 200	★ 70 ~ 180	☆ 80 ~ 180	-	-	-	-	
不锈钢 Stainless Steel (SUS304等)		☆ 70 ~ 180	★ 60 ~ 150	☆ 60 ~ 150	-	-	-	-	
铸铁 Cast Iron (FC、FCD等)		-	-	★ 100 ~ 200	-	-	-	-	
氧化铝 Aluminum	GS NB	-	-	-	☆ 200 ~ 500	-	-	★ 150 ~ 2000	
黄铜 Brass		-	-	-	☆ 100 ~ 200	-	-	★ 200 ~ 800	
高硬度材 Hard Material	NB	-	-	-	-	★ 80 ~ 150	-	-	
铁系烧结金属 Sintered Steel		-	-	-	-	-	★ 100 ~ 250	-	

★：第1推荐 1st. Recommendation　☆：第2推荐 2nd. Recommendation

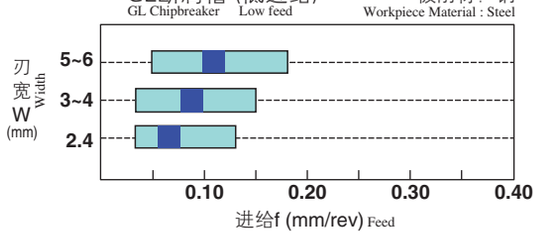
●推荐切削条件(进给、切深) Recommended Cutting Conditions (f, ap)

■槽加工 Grooving

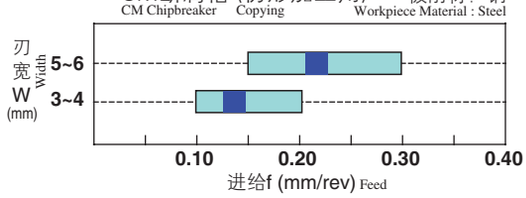
• GM断屑槽 (通用) GM Chipbreaker General Purpose　被削材：钢 Workpiece Material : Steel



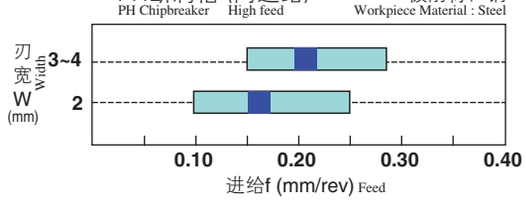
• GL断屑槽 (低进给) GL Chipbreaker Low feed　被削材：钢 Workpiece Material : Steel



• CM断屑槽 (仿形加工用) CM Chipbreaker Copying　被削材：钢 Workpiece Material : Steel

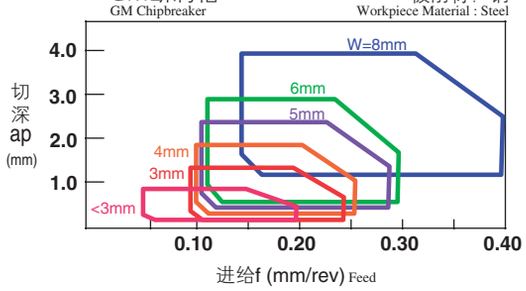


• PH断屑槽 (高进给) PH Chipbreaker High feed　被削材：钢 Workpiece Material : Steel

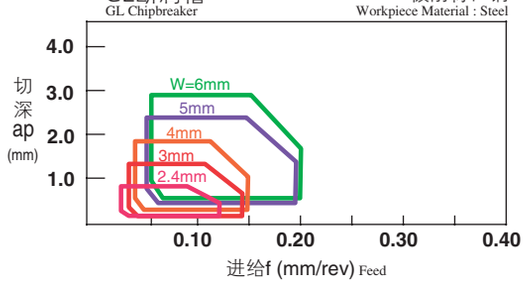


■横进给 turning

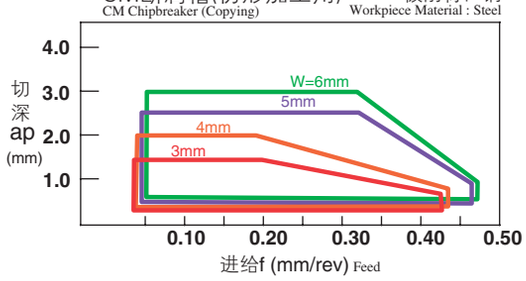
• GM断屑槽 GM Chipbreaker　被削材：钢 Workpiece Material : Steel



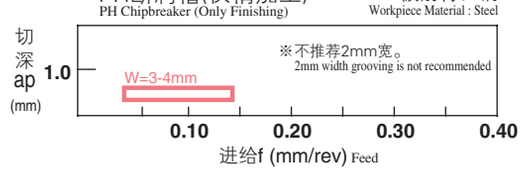
• GL断屑槽 GL Chipbreaker　被削材：钢 Workpiece Material : Steel



• CM断屑槽(仿形加工用) CM Chipbreaker (Copying)　被削材：钢 Workpiece Material : Steel



• PH断屑槽(仅精加工) PH Chipbreaker (Only Finishing)　被削材：钢 Workpiece Material : Steel

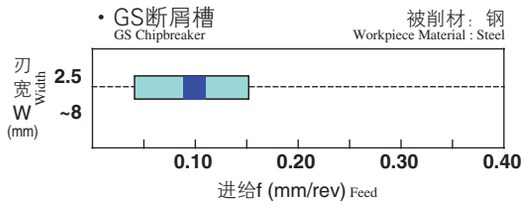


1)以上显示为刀杆T尺寸为17mm以下时。
Above conditions are in case toolholder's T dimension is under 17mm.

2)刀片宽8mm的刀杆以外，刀杆T尺寸超过17mm时，横进给请设定为90%以下来使用。
In case T dimension is more than 17mm for all toolholders except 8mm insert width type, use up to 90% of recommended cutting conditions at traversing.

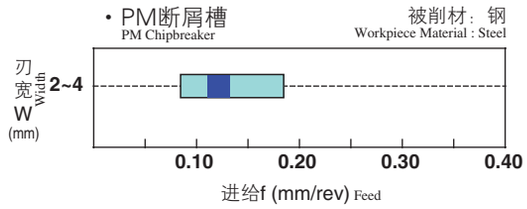
●推荐切削条件(进给) Recommended Cutting Conditions (Feed)

■槽加工 Grooving

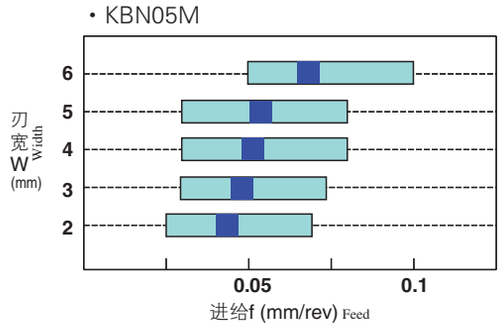


GS断屑槽横进给时的切深(ap),
设定为刀尖角R(rε)以下。
Set up depth of cut (ap) for turning less than radius size.

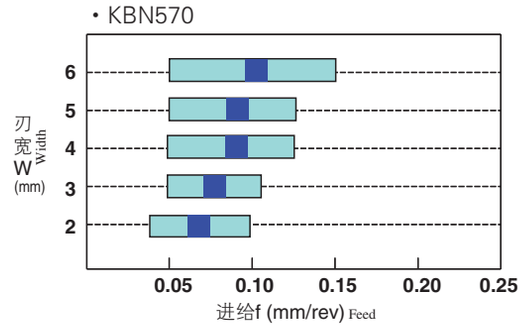
■切断 Cut-Off



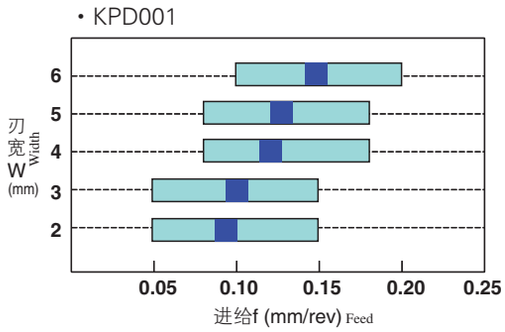
■槽加工(高硬度材) Grooving (Hard Material)



■槽加工(铁系烧结金属) Grooving (Sintered Steel)



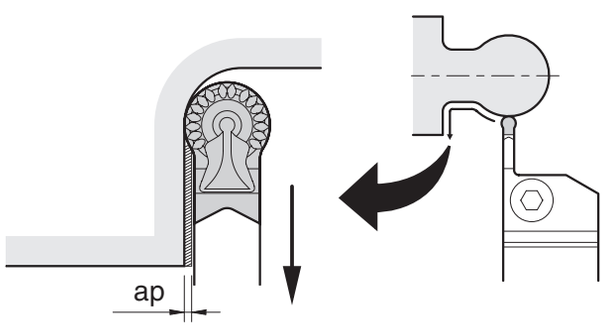
■槽加工(铝合金・黄铜) Grooving (Aluminum/Brass)



●CM断屑槽(关于提拉加工时的切深)最大切深(ap)的标准

CM chip-breaker [about max. a.p. for pulling up] Recommended ap for pulling up.

型号 Description		最大切深(ap：mm) Max. ap				
		安装刀杆型号 Description of Toolholder				
		KGD…-2T…	KGD…-3T…	KGD…-4T…	KGD…-5T…	KGD…-6T…
GDM	3020N-150R-CM	0.24	0.20	-	-	-
	4020N-200R-CM	-	0.24	0.20	-	-
	5020N-250R-CM	-	-	0.30	0.20	-
	6020N-300R-CM	-	-	-	0.30	0.25



●外径加工的要点 Point of OD turning

・加工要点(Ⅰ)(切槽后、横进给加工时的注意点)

Point (I) (Turning after grooving)

1)槽深0.5mm以上：粗加工时(参考图1)

over 0.5mm of groove depth : For Roughing (Refer to fig 1)

切槽后不马上进行横进给加工，切槽后一定返回0.1mm后进行横进给加工。

(对刀刃的负荷，仅集中在1个方向上)

Before turning, pull the tool back by 0.1mm after grooving. (Put the load on edge from single direction.)

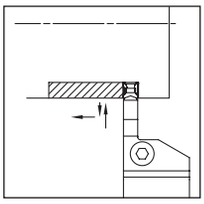


图1 fig 1

切槽后返回0.1mm，进行横进给
(槽深0.5mm以上：粗加工时)
Pull back the tool by 0.1mm before turning
(over 0.5mm of groove depth : For Roughing)

2)槽深0.5mm以下：精加工时(参照图2)

Less 0.5mm of groove depth : For Finishing (Refer to fig 2)

刀尖负担小，切槽后可马上进行横进给加工。

(不需要停止)

Available for turning continuously after grooving. (Dwell motion is not required)

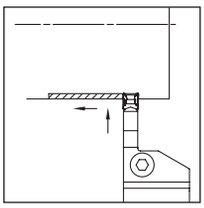


图2 fig 2

切槽加工后立即横进给加工
(槽深0.5mm以下：精加工时)
Turning continuously after grooving
(Less 0.5mm of groove depth : For Finishing)

・加工要点(Ⅱ) Point (II)

1)槽宽扩大加工时(参考图3) In case of expanding groove width (Refer to fig. 3)

请分段加工。 Please program to make steps at each pass.

2)最后进行精加工。 For finishing

(单边余量为0.5mm以上时，可使切屑处理良好。)

(Leave the material more than 0.5mm total to get bettter chip control.)

注)在没有顶尖固定的场合时，靠近顶尖侧加工，请适当降低进给量。

Caution) Recommend not feeding the tool toward to center when traversing without center.

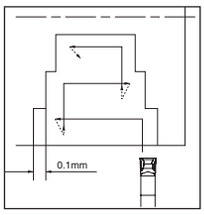
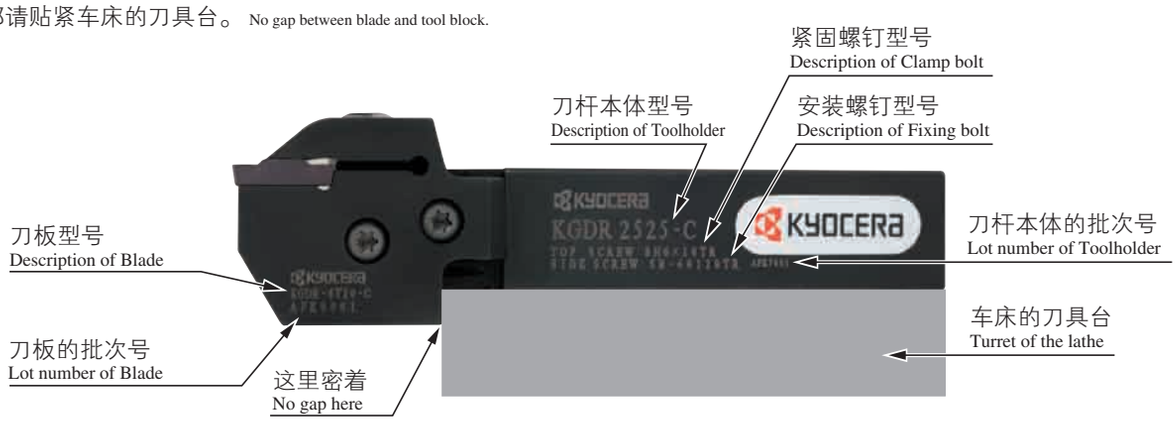


图3 fig 3

●组合型刀杆型号的查看方法与车床的安装 Descriptions of separate type toolholder and indication of setting up to machine.

下颚部请贴紧车床的刀具台。 No gap between blade and tool block.



■ KGDF型 端面切槽用工具 KGDF Face grooving tool

●GDFM/GDFMS型

使用分类的标准
Classification of usage

◉：连续~断续/第1推荐(◉ Continuous - Interruption / 1st Choice)
◔：连续~断续/第2推荐(◔ Continuous - Interruption / 2nd Choice)
●：连续/第1推荐(● Continuous / 1st Choice)

P	碳素钢、合金钢 Carbon steel, Alloy steel	●	◉	◔
M	不锈钢 Stainless Steel		◉	◔
K	铸铁 Cast iron			◉
N	有色金属 Non-ferrous Material			
S	钛合金 Titanium alloy			
H	高硬度材(40HRC以下) Hard materials (under 40HRC)			
	高硬度材(40HRC以上) Hard materials (over 40HRC)			

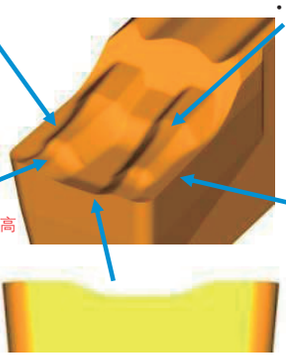
形状 Shape		型号 Description		尺寸(mm) Dimension W	公差 tolerance	rε	M	L	H	金属陶瓷 Cermet TN90	MEGACOAT PR1225	PR1215
切槽、横进给 Grooving & Turning	2刀尖规格 2-edge	GDFM	2020N-020GM	2.0	±0.03	0.2	1.5	20	3.9	●	●	●
			3020N-030GM	3.0		0.3	2.3		4.3	●	●	●
			4020N-040GM	4.0		0.4	3.3			●	●	●
			5020N-040GM	5.0	±0.04		4.2			●	●	●
		NEW	5020N-080GM			0.8				●	●	●
			6020N-040GM	6.0		0.4	5.2			●	●	●
		NEW	6020N-080GM			0.8				●	●	●
切槽、横向进给 Deep Grooving, Turning	2刀尖规格 2-edge	GDFM	3020N-030DM	3.0	±0.03	0.3	2.3	20	4.3	●	●	●
			4020N-040DM	4.0		0.4	3.3			●	●	●
			5020N-040DM	5.0	±0.04		4.2			●	●	●
			6020N-040DM	6.0			5.2			●	●	●
	1刀尖规格 1-edge	GDFMS	3020N-030DM	3.0	±0.03	0.3	2.3	20	4.3	●	●	●
			4020N-040DM	4.0		0.4	3.3			●	●	●
			5020N-040DM	5.0	±0.04		4.2			●	●	●
			6020N-040DM	6.0			5.2			●	●	●

・刀片型号的查看方法，请参考P8。
See page 8 for indication of insert description

●：标准库存 Standard Stock

●断屑槽特长 Advantages of chipbreaker

通用GM断屑槽
General Purpose, GM chipbreaker



・刀尖到后方平滑连接的壁面
Smooth wall design from front edge to back side
促进切屑变型以及排出方向的稳定性
Changes chip shape and stabilizes chip evacuation direction

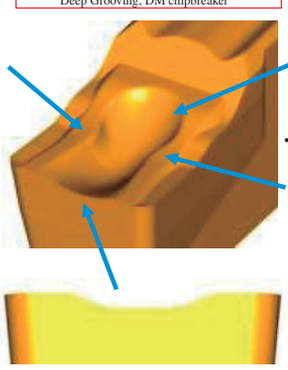
・平缓立起的壁面
Gently raised wall shape
切屑卷曲稳定化
Constantly curled chips

・刀尖附近的立起壁面
Front edge wall
台阶加工时切屑处理性能提高
Improves chip control at shouldering

・锋利的切刃棱线
Flat cutting edge line
切屑处理效果提高
Improves chip control

・前切刃的弯曲形状 Curved front edge line
提高切屑形状的稳定性 Stabilizes chip shape

深槽用DM断屑槽
Deep Grooving, DM chipbreaker



・内侧伸出的壁面
Convex wall
促进切屑变型以及排出方向的稳定性
Changes chip shape and stabilizes chip evacuation direction

・中央凹部
Concave portion
促进切屑变型
Changes chip shape smoothly

・平滑的延续至后方立起的壁面
Smooth wall design from front edge to back side
降低切削阻力
促进切屑变型以及排出方向的稳定性
Reduces cutting resistance
Changes chip shape and stabilizes chip evacuation direction

・前切刃的弯曲形状 Curved front edge line
提高切屑形状的稳定性 Stabilizes chip shape

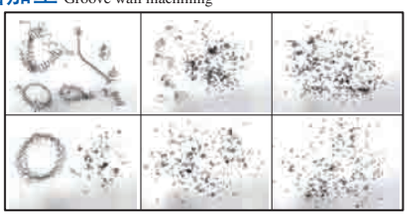
●GM断屑槽的切屑处理 Comparison of chip control (GM chipbreaker)

< 切削条件 > Cutting Condition
Vc=150m/min f =0.05~ 0.1mm/rev GDFM5020N-040GM SCM415 湿式 Wet

●端面切槽(ϕ62) Face grooving

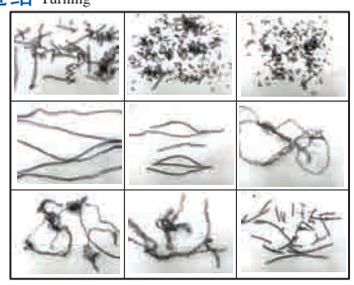
0.05 0.08 0.1
进给f (mm/rev) Feed

●侧面加工 Groove wall machining



切深幅度 Width of cut (mm)
1.0
0.5
0.1 0.15 0.2
进给f (mm/rev) Feed

●横进给 Turning



切深 ap (mm)
0.8
0.5
0.2
0.05 0.1 0.15
进给f (mm/rev) Feed

●KGDF型刀杆组合型号的查看方法 Indication of KGDF unit description

组合型号 (组合型号不刻印) Unit description (Unit description is not marked)	刀板 (刻印刀板型号) Blade (Blade description is marked)	刀杆本体 (刀杆本体型号刻印) Toolholder (Toolholder description is marked)
右手方向 Right-hand：KGDFR…S	右手方向 Right-hand：KGDFR…–C	左手方向 Left-hand：KGDL…–C
・本图显示为右手方向(R) Right-hand shown	・本图显示为右手方向(R) Right-hand shown	・本图显示为左手方向(L) Left-hand shown
左手方向 Left-hand：KGDFL…S	左手方向 Left-hand：KGDFL…–C	右手方向 Right-hand：KGDR…–C
・本图显示为左手方向(L) Left-hand shown	・本图显示为左手方向(L) Left-hand shown	・本图显示为右手方向(R) Right-hand shown

・右手(R)刀板适用左手(L)刀杆，左手(L)刀板适用右手(R)刀杆。
L-hand Toolholder for R-hand Blade, R-hand Toolholder for L-hand Blade
・组合型号无印字。于包装盒表标签上显示组合型号印字。
Unit description is shown on the lavel, not marked on
・刀杆本体与刀板个别购入，可组合使用。
Blade and tool holder are available to assemble when purchasing individually.
・刀板本体附带刀片锁紧螺钉(BH6x10TR)/刀板安装螺钉(SB–60120TR)/扳手(LTW–25)。
Insert clamp bolt (BH6x10TR)/Blade fixing bolt(SB-60120TR) come with tool holder.

●端面切槽用组合型号的查看方法 Indication of Face Grooving tool Unit Description

组合型号的方向 Hand of Unit
R：右手方向 Right-hand
L：左手方向 Left-hand

刀方尺寸 Shank size of tool holder
2020X：□20
2525X：□25

槽宽 Width
2：2mm
3：3mm
4：4mm
5：5mm
6：6mm

组合刀杆记号 Symbol of assembled holder
S:显示组合型号 Indicate the Unit Description

KGDF R 2020X 25 - 3 A S

系列名 Series
KGDF型
端面切槽
KGDF Face grooving

端面槽的最小加工径 Min.Bore Dia. (Face grooving)
最开始显示槽的可加工范围
(外径侧)的最小加工径
Min. diameter (outside of groove) for the first plumging.
25：25mm
30：30mm
⋮
235：235mm

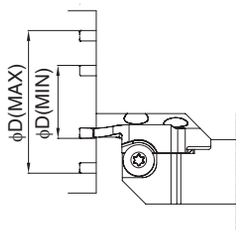
※最初可加工的端面槽(外形侧)最大加工径，请参考刀杆以及刀板型号表的「端面槽外径 ϕD(mm)」的MAX值。
Refer max. diameter (outside of groove) to "oD (mm)" in the chart for holder spec.

槽深 grooving depth

A：6mm ~ 13mm	2刀尖式样刀片用 For 2-edge type insert
B：13mm ~ 15mm	1刀尖式样刀片用 For 1-edge type insert
C：20mm ~ 25mm D：32mm	1刀尖式样刀片用 For 1-edge type insert

●端面槽外径：ϕD是指 What is min. ØD and max. ØD for?

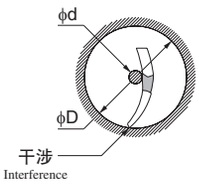
显示最初切削端面槽时，其刀板可能加工的范围。
此外，直径由槽外侧来判定。
"It indicates the available range for the 1st plunging.
Outside diameter of the groove is shown."



端面槽外径ϕD Face Grooving Dia.(Out side)
MIN：最小值(型号记载数值) minimum (Shown in the description)
MAX：最大值(参照型号表) maximum (Refer to the spec chart)

●小径加工时的横进给界限 limitation of groove expansion for small diameter.

当进行小径加工时，由于加工至中心为止刀杆有干涉，加工存在限制。而外径侧扩槽加工可以无限大(∞)。
Please be aware of the limit diameter when expanding the groove to the center. There is no limit diameter to expand the groove outside.



横进给界限ϕd
Limitation of groove expansion

型号 Description	ϕD	25	26	27	28以上 over
		ϕd			
KGDFR/L 2020X25-3AS		4	2	0	0 (无残芯) No remaining Boss
2525X25-3AS					
2020X25-4AS		6	3	0	
2525X25-4AS					
2020X25-5AS		7	4	1	
2525X25-5AS					
2020X25-6AS		9	4	1	
2525X25-6AS					

例)KGDFR2020X25–3AS进行外径ϕ25的端面槽加工后，在向中心方向进行横进给加工时，由于发生刀杆干涉，中心部残留ϕ4的残芯。
If a groove of external diameter Ø25 is created using KGDFR2020X25-3AS and turning is made toward the inside, a Ø4 portion will be left in middle due to interference of toolholder.

●端面切槽用刀板型号的查看方法 Face Grooving Blade Identification System

刀板的左右方向 hand of blade
R：右手方向 Right-hand
L：左手方向 Left-hand

槽宽 Width
2：2mm　5：5mm
3：3mm　6：6mm
4：4mm

刀板记号 Blade Symbol
C：可安装本体型号末尾带"–C"的刀杆
End of toolholder description can attach with holder of "-C"

KGDF R – 25 – 3 A – C

系列名 Series
KGDF型
端面切槽
KGDF Face Grooving

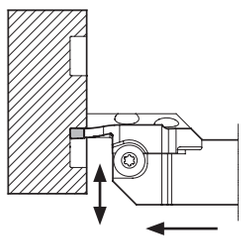
端面槽的最小加工径 Min. diameter in face grooving
最开始显示可加工端面槽(外径侧)的最小加工径
Indicates the minimum external diameter suitable for the initial face grooving.
25：25mm
⋮
235：235mm

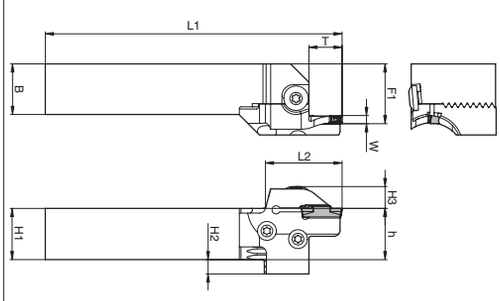
槽深 Grooving Depth

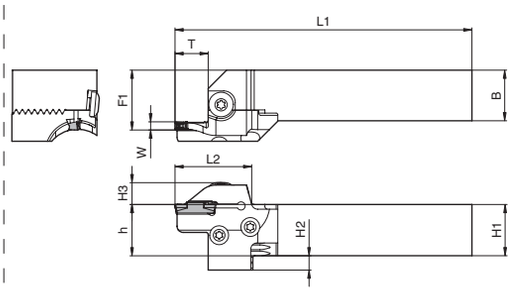
A：6mm ~ 13mm B：13mm ~ 15mm	2刀尖式样刀片用 (1刀尖式样刀片可) 2-Edge insert (1-Edge insert can also be used.)
C：20mm ~ 25mm D：32mm	1刀尖式样刀片用 1-Edge insert

刀板型号记号(端面槽)
Example of printing of blade number

■KGDF型 KGDF type







• 本图显示为右手方向(R)
Right-hand shown

• 本图显示为左手方向(L)
Left-hand shown

●刀杆尺寸(刀板 + 刀杆本体) Toolholder dimensions (blade and toolholder)

本体角度 Shank Angle	刃宽W Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➡P22	本体型号 Toolholder Description ➡P11	组合型号(标准库存型号) Unit Description (Std. Stock Description)	库存 Stock R	L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	F1	T
0°	2	□20	6	25	30	KGDF^{R}/$_{L}$ -25-2A-C	KGD^{L}/$_{R}$2020-C	KGDF^{R}/$_{L}$ 2020X25-2AS	●		20	12	11.6	20	115	33	24.5	6
				30	35	-30-2A-C		2020X30-2AS	●									
				35	45	-35-2A-C		2020X35-2AS	●									
				45	60	-45-2A-C		NEW 2020X45-2AS	●									
				60	80	-60-2A-C		2020X60-2AS	●									
				80	100	-80-2A-C		2020X80-2AS	●									
				100	130	-100-2A-C		2020X100-2AS	●									
			13	25	30	-25-2B-C		-	-	-					118	36		13
			15	30	35	-30-2B-C		-	-	-					120	38		15
				35	45	-35-2B-C		-	-	-								
				45	60	-45-2B-C		-	-	-								
				60	80	-60-2B-C		-	-	-								
				80	100	-80-2B-C		-	-	-								
				100	130	-100-2B-C		-	-	-								
		□25	6	25	30	KGDF^{R}/$_{L}$ -25-2A-C	KGD^{L}/$_{R}$2525-C	KGDF^{R}/$_{L}$ 2525X25-2AS	●		25	7	11.6	25	140	33	29.5	6
				30	35	-30-2A-C		2525X30-2AS	●									
				35	45	-35-2A-C		2525X35-2AS	●									
				45	60	-45-2A-C		NEW 2525X45-2AS	●									
				60	80	-60-2A-C		2525X60-2AS	●									
				80	100	-80-2A-C		2525X80-2AS	●									
				100	130	-100-2A-C		2525X100-2AS	●									
			13	25	30	-25-2B-C		-	-	-					143	36		13
			15	30	35	-30-2B-C		-	-	-					145	38		15
				35	45	-35-2B-C		-	-	-								
				45	60	-45-2B-C		-	-	-								
				60	80	-60-2B-C		-	-	-								
				80	100	-80-2B-C		-	-	-								
				100	130	-100-2B-C		-	-	-								
		□32	6	25	30	KGDF^{R}/$_{L}$ -25-2A-C	KGD^{L}/$_{R}$3232-C	-	-	-	32	-	11.6	32	160	33	36.5	6
				30	35	-30-2A-C		-	-	-								
				35	45	-35-2A-C		-	-	-								
				45	60	-45-2A-C		-	-	-								
				60	80	-60-2A-C		-	-	-								
				80	100	-80-2A-C		-	-	-								
				100	130	-100-2A-C		-	-	-								
			13	25	30	-25-2B-C		-	-	-					163	36		13
			15	30	35	-30-2B-C		-	-	-					165	38		15
				35	45	-35-2B-C		-	-	-								
				45	60	-45-2B-C		-	-	-								
				60	80	-60-2B-C		-	-	-								
				80	100	-80-2B-C		-	-	-								
				100	130	-100-2B-C		-	-	-								

注)T尺寸：显示可加工深度。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)
T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)
右手(R)刀板适用左手(L)刀杆，左手(L)刀板适用右手(R)刀杆。
L-hand Toolholder for R-hand Blade, R-hand Toolholder for L-hand Blade.
刀杆本体上，可全面安装方向合适的刀板。
The toolholder is applicable for all blade with suitable hand.

●：标准库存 Standard Stock

● 刀杆尺寸(刀板 + 刀杆本体) Toolholder dimensions (blade and toolholder)

本体角度 Shank Angle	槽宽 Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➡ P22	本体型号 Toolholder Description ➡ P11	组合型号 Unit Description (标准库存型号) Std. Stock Description	库存 Stock R	L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	F1	T
0°	3	□20	13	25	30	KGDF R/L -25-3A-C	KGD L/R 2020-C	KGDF R/L 2020X25-3AS	●	●	20	12	11.6	20	118	36	24.5	13
				30	40	-30-3A-C		2020X30-3AS	●	●								
				40	50	-40-3A-C		2020X40-3AS	●	●								
			15	50	65	-50-3B-C		2020X50-3BS	●	●					120	38		15
				65	85	-65-3B-C		2020X65-3BS	●	●								
				85	110	-85-3B-C		2020X85-3BS	●	●								
				110	145	-110-3B-C		2020X110-3BS	●	●								
			22	50	65	-50-3C-C		2020X50-3CS	●	●					127	45		22
				65	85	-65-3C-C		2020X65-3CS	●	●								
			25	85	110	-85-3C-C		2020X85-3CS	●	●					130	48		25
				110	145	-110-3C-C		2020X110-3CS	●	●								
		□25	13	25	30	KGDF R/L -25-3A-C	KGD L/R 2525-C	KGDF R/L 2525X25-3AS	●	●	25	7	11.6	25	143	36	29.5	13
				30	40	-30-3A-C		2525X30-3AS	●	●								
				40	50	-40-3A-C		2525X40-3AS	●	●								
			15	50	65	-50-3B-C		2525X50-3BS	●	●					145	38		15
				65	85	-65-3B-C		2525X65-3BS	●	●								
				85	110	-85-3B-C		2525X85-3BS	●	●								
				110	145	-110-3B-C		2525X110-3BS	●	●								
			22	50	65	-50-3C-C		2525X50-3CS	●	●					152	45		22
				65	85	-65-3C-C		2525X65-3CS	●	●								
			25	85	110	-85-3C-C		2525X85-3CS	●	●					155	48		25
				110	145	-110-3C-C		2525X110-3CS	●	●								
		□32	13	25	30	KGDF R/L -25-3A-C	KGD L/R 3232-C	-	–	–	32	–	11.6	32	163	36	36.5	13
				30	40	-30-3A-C		-	–	–								
				40	50	-40-3A-C		-	–	–								
			15	50	65	-50-3B-C		-	–	–					165	38		15
				65	85	-65-3B-C		-	–	–								
				85	110	-85-3B-C		-	–	–								
				110	145	-110-3B-C		-	–	–								
			22	50	65	-50-3C-C		-	–	–					172	45		22
				65	85	-65-3C-C		-	–	–								
			25	85	110	-85-3C-C		-	–	–					175	48		25
				110	145	-110-3C-C		-	–	–								

注)T尺寸：表示可加工槽深。(T尺寸为20mm以上时，2刀尖式样可加工的最大槽深为18mm)
T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)
右手(R)刀板适用左手(L)刀杆，左手(L)刀板适用右手(R)刀杆。
L-hand Toolholder for R-hand Blade, R-hand Toolholder for L-hand Blade.
刀杆本体上，可全面安装方向合适的刀板。
The toolholder is applicable for all blade with suitable hand.

●：标准库存 Standard Stock

●刀杆尺寸(刀板 + 刀杆本体) Toolholder dimensions (blade and toolholder)

本体角度 Shank Angle	槽宽 Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➔ P22	本体型号 Toolholder Description ➔ P11	组合型号 Unit Description (标准库存型号) Std. Stock Description	库存 Stock R	L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	F1	T
0°	4	□20	13	25	35	KGDF$^{R}/_{L}$ -25-4A-C	KGD$^{L}/_{R}$2020-C	KGDF$^{R}/_{L}$ 2020X25-4AS	●	●	20	12	11.6	20	118	36	24.5	13
			15	35	50	-35-4B-C		2020X35-4BS	●	●					120	38		15
				50	70	-50-4B-C		2020X50-4BS	●	●								
				70	100	-70-4B-C		2020X70-4BS	●	●								
				100	150	-100-4B-C		2020X100-4BS	●	●								
				150	220	-150-4B-C		2020X150-4BS	●	●								
				220	∞	-220-4B-C		2020X220-4BS	●	●								
			25	35	50	-35-4C-C		2020X35-4CS	●	●					130	48		25
				50	70	-50-4C-C		2020X50-4CS	●	●								
				70	100	-70-4C-C		2020X70-4CS	●	●								
				100	150	-100-4C-C		2020X100-4CS	●	●								
				150	220	-150-4C-C		2020X150-4CS	●	●								
				220	∞	-220-4C-C		2020X220-4CS	●	●								
		□25	13	25	35	KGDF$^{R}/_{L}$ -25-4A-C	KGD$^{L}/_{R}$2525-C	KGDF$^{R}/_{L}$ 2525X25-4AS	●	●	25	7	11.6	25	143	36	29.5	13
			15	35	50	-35-4B-C		2525X35-4BS	●	●					145	38		15
				50	70	-50-4B-C		2525X50-4BS	●	●								
				70	100	-70-4B-C		2525X70-4BS	●	●								
				100	150	-100-4B-C		2525X100-4BS	●	●								
				150	220	-150-4B-C		2525X150-4BS	●	●								
				220	∞	-220-4B-C		2525X220-4BS	●	●								
			25	35	50	-35-4C-C		2525X35-4CS	●	●					155	48		25
				50	70	-50-4C-C		2525X50-4CS	●	●								
				70	100	-70-4C-C		2525X70-4CS	●	●								
				100	150	-100-4C-C		2525X100-4CS	●	●								
				150	220	-150-4C-C		2525X150-4CS	●	●								
				220	∞	-220-4C-C		2525X220-4CS	●	●								
		□32	13	25	35	KGDF$^{R}/_{L}$ -25-4A-C	KGD$^{L}/_{R}$3232-C	-	–	–	32	–	11.6	32	163	36	36.5	13
			15	35	50	-35-4B-C		-	–	–					165	38		15
				50	70	-50-4B-C		-	–	–								
				70	100	-70-4B-C		-	–	–								
				100	150	-100-4B-C		-	–	–								
				150	220	-150-4B-C		-	–	–								
				220	∞	-220-4B-C		-	–	–								
			25	35	50	-35-4C-C		-	–	–					175	48		25
				50	70	-50-4C-C		-	–	–								
				70	100	-70-4C-C		-	–	–								
				100	150	-100-4C-C		-	–	–								
				150	220	-150-4C-C		-	–	–								
				220	∞	-220-4C-C		-	–	–								

注)T尺寸：表示可加工槽深。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)
T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)
右手(R)刀板适用左手(L)刀杆，左手(L)刀板适用右手(R)刀杆。
L-hand Toolholder for R-hand Blade, R-hand Toolholder for L-hand Blade.
刀杆本体上，可全面安装方向合适的刀板。
The toolholder is applicable for all blade with suitable hand.

●：标准库存 Standard Stock

● 刀杆尺寸(刀板 + 刀杆本体) Toolholder dimensions (blade and toolholder)

本体角度 Shank Angle	槽宽 Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➔ P22	本体型号 Toolholder Description ➔ P11	组合型号 Unit Description (标准库存型号) Std. Stock Description	库存 Stock R	L	尺寸(mm) Dimension H1=h	H2	H3	B	L1	L2	F1	T
0°	5	□20	15	25	35	KGDF^{R}/$_{L}$ -25-5B-C	KGD^{L}/$_{R}$2020-C	KGDF^{R}/$_{L}$ 2020X25-5BS	●	●	20	12	11.6	20	120	38	24.5	15
				35	50	-35-5B-C		2020X35-5BS	●	●								
				50	75	-50-5B-C		2020X50-5BS	●	●								
				75	115	-75-5B-C		2020X75-5BS	●	●								
				115	180	-115-5B-C		2020X115-5BS	●	●								
				180	235	-180-5B-C		2020X180-5BS	●	●								
				235	∞	-235-5B-C		2020X235-5BS	●	●								
			20	25	35	-25-5C-C		2020X25-5CS	●	●					125	43		20
			25	35	50	-35-5C-C		2020X35-5CS	●	●					130	48		25
				50	75	-50-5C-C		2020X50-5CS	●	●								
				75	115	-75-5C-C		2020X75-5CS	●	●								
				115	180	-115-5C-C		2020X115-5CS	●	●								
				180	235	-180-5C-C		2020X180-5CS	●	●								
				235	∞	-235-5C-C		2020X235-5CS	●	●								
			32	75	115	-75-5D-C		-	–	–					137	55		32
				115	180	-115-5D-C		-	–	–								
				180	235	-180-5D-C		-	–	–								
				235	∞	-235-5D-C		-	–	–								
		□25	15	25	35	KGDF^{R}/$_{L}$ -25-5B-C	KGD^{L}/$_{R}$2525-C	KGDF^{R}/$_{L}$ 2525X25-5BS	●	●	25	7	11.6	25	145	38	29.5	15
				35	50	-35-5B-C		2525X35-5BS	●	●								
				50	75	-50-5B-C		2525X50-5BS	●	●								
				75	115	-75-5B-C		2525X75-5BS	●	●								
				115	180	-115-5B-C		2525X115-5BS	●	●								
				180	235	-180-5B-C		2525X180-5BS	●	●								
				235	∞	-235-5B-C		2525X235-5BS	●	●								
			20	25	35	-25-5C-C		2525X25-5CS	●	●					150	43		20
			25	35	50	-35-5C-C		2525X35-5CS	●	●					155	48		25
				50	75	-50-5C-C		2525X50-5CS	●	●								
				75	115	-75-5C-C		-	–	–								
				115	180	-115-5C-C		-	–	–								
				180	235	-180-5C-C		-	–	–								
				235	∞	-235-5C-C		-	–	–								
			32	75	115	-75-5D-C		2525X75-5DS	●	●					162	55		32
				115	180	-115-5D-C		2525X115-5DS	●	●								
				180	235	-180-5D-C		2525X180-5DS	●	●								
				235	∞	-235-5D-C		2525X235-5DS	●	●								
		□32	15	25	35	KGDF^{R}/$_{L}$ -25-5B-C	KGD^{L}/$_{R}$3232-C	-	–	–	32	–	11.6	32	165	38	36.5	15
				35	50	-35-5B-C		-	–	–								
				50	75	-50-5B-C		-	–	–								
				75	115	-75-5B-C		-	–	–								
				115	180	-115-5B-C		-	–	–								
				180	235	-180-5B-C		-	–	–								
				235	∞	-235-5B-C		-	–	–								
			20	25	35	-25-5C-C		-	–	–					170	43		20
			25	35	50	-35-5C-C		-	–	–					175	48		25
				50	75	-50-5C-C		-	–	–								
				75	115	-75-5C-C		-	–	–								
				115	180	-115-5C-C		-	–	–								
				180	235	-180-5C-C		-	–	–								
				235	∞	-235-5C-C		-	–	–								
			32	75	115	-75-5D-C		-	–	–					182	55		32
				115	180	-115-5D-C		-	–	–								
				180	235	-180-5D-C		-	–	–								
				235	∞	-235-5D-C		-	–	–								

注)T尺寸：显示可加工深度。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)
T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)
右手(R)刀板适用左手(L)刀杆，左手(L)刀板适用右手(R)刀杆。
L-hand Toolholder for R-hand Blade, R-hand Toolholder for L-hand Blade.
刀杆本体上，可全面安装方向合适的刀板。
The toolholder is applicable for all blade with suitable hand.

●：标准库存 Standard Stock

●刀杆尺寸(刀板 + 刀杆本体) Toolholder dimensions (blade and toolholder)

本体角度 Shank Angle	槽宽 Width	刀杆尺寸 Shank size	可加工深度 Max. Grooving Depth	端面槽外径 Face Grooving Dia. ϕD (mm)		刀板型号 Blade Description ➔P22	本体型号 Toolholder Description ➔P11	组合型号 Unit Description (标准库存型号) Std. Stock Description	库存 Stock		尺寸(mm) Dimension							
	(mm)	(mm)	(mm)	MIN	MAX				R	L	H1=h	H2	H3	B	L1	L2	F1	T
0°	6	□20	15	25	35	KGDF$^{R}/_{L}$ -25-6B-C	KGD$^{L}/_{R}$2020-C	KGDF$^{R}/_{L}$ 2020X25-6BS	●	●	20	12	11.6	20	120	38	24.5	15
				35	50	-35-6B-C		2020X35-6BS	●	●								
				50	75	-50-6B-C		2020X50-6BS	●	●								
				75	115	-75-6B-C		2020X75-6BS	●	●								
				115	180	-115-6B-C		2020X115-6BS	●	●								
				180	235	-180-6B-C		2020X180-6BS	●	●								
				235	∞	-235-6B-C		2020X235-6BS	●	●								
			20	25	35	-25-6C-C		2020X25-6CS	●	●					125	43		20
			25	35	50	-35-6C-C		2020X35-6CS	●	●					130	48		25
				50	75	-50-6C-C		2020X50-6CS	●	●								
				75	115	-75-6C-C		2020X75-6CS	●	●								
				115	180	-115-6C-C		2020X115-6CS	●	●								
				180	235	-180-6C-C		2020X180-6CS	●	●								
				235	∞	-235-6C-C		2020X235-6CS	●	●								
			32	75	115	-75-6D-C		-	–	–					137	55		32
				115	180	-115-6D-C		-	–	–								
				180	235	-180-6D-C		-	–	–								
				235	∞	-235-6D-C		-	–	–								
		□25	15	25	35	KGDF$^{R}/_{L}$ -25-6B-C	KGD$^{L}/_{R}$2525-C	KGDF$^{R}/_{L}$ 2525X25-6BS	●	●	25	7	11.6	25	145	38	29.5	15
				35	50	-35-6B-C		2525X35-6BS	●	●								
				50	75	-50-6B-C		2525X50-6BS	●	●								
				75	115	-75-6B-C		2525X75-6BS	●	●								
				115	180	-115-6B-C		2525X115-6BS	●	●								
				180	235	-180-6B-C		2525X180-6BS	●	●								
				235	∞	-235-6B-C		2525X235-6BS	●	●								
			20	25	35	-25-6C-C		2525X25-6CS	●	●					150	43		20
			25	35	50	-35-6C-C		2525X35-6CS	●	●					155	48		25
				50	75	-50-6C-C		2525X50-6CS	●	●								
				75	115	-75-6C-C		-	–	–								
				115	180	-115-6C-C		-	–	–								
				180	235	-180-6C-C		-	–	–								
				235	∞	-235-6C-C		-	–	–								
			32	75	115	-75-6D-C		2525X75-6DS	●	●					162	55		32
				115	180	-115-6D-C		2525X115-6DS	●	●								
				180	235	-180-6D-C		2525X180-6DS	●	●								
				235	∞	-235-6D-C		2525X235-6DS	●	●								
		□32	15	25	35	KGDF$^{R}/_{L}$ -25-6B-C	KGD$^{L}/_{R}$3232-C	-	–	–	32	–	11.6	32	165	38	36.5	15
				35	50	-35-6B-C		-	–	–								
				50	75	-50-6B-C		-	–	–								
				75	115	-75-6B-C		-	–	–								
				115	180	-115-6B-C		-	–	–								
				180	235	-180-6B-C		-	–	–								
				235	∞	-235-6B-C		-	–	–								
			20	25	35	-25-6C-C		-	–	–					170	43		20
			25	35	50	-35-6C-C		-	–	–					175	48		25
				50	75	-50-6C-C		-	–	–								
				75	115	-75-6C-C		-	–	–								
				115	180	-115-6C-C		-	–	–								
				180	235	-180-6C-C		-	–	–								
				235	∞	-235-6C-C		-	–	–								
			32	75	115	-75-6D-C		-	–	–					182	55		32
				115	180	-115-6D-C		-	–	–								
				180	235	-180-6D-C		-	–	–								
				235	∞	-235-6D-C		-	–	–								

注)T尺寸：表示可加工槽深。(T尺寸为20mm以上时，2刃尖式样可加工的最大槽深为18mm)
T dimension shows the distance from the Toolholder to the cutting edge.(When using 2-edge insert, set the groove depth under 18mm.)
右手(R)刀板适用左手(L)刀杆，左手(L)刀板适用右手(R)刀杆。
L-hand Toolholder for R-hand Blade, R-hand Toolholder for L-hand Blade.
刀杆本体上，可全面安装方向合适的刀板。
The toolholder is applicable for all blade with suitable hand.

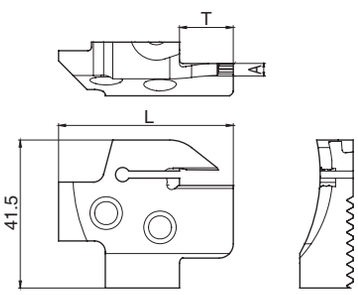
●：标准库存 Standard Stock

●零部件 Spare parts

组合型号 Unit Description	零部件 Spare parts		
	紧固螺钉(刀片锁紧) Clamp bolt (For Insert Clamp)	安装螺钉(刀板用) Fixing bolt(For Blade)	扳手 Wrench
KGDF$^{R}/_{L}$…S	BH6X10TR	SB–60120TR	LTW–25

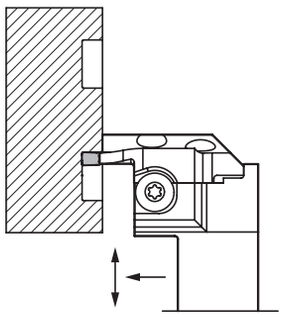
※购入刀杆本体时，附带本零部件。
The spare parts are included in the toolholder when purchasing the toolholder and blade separately.

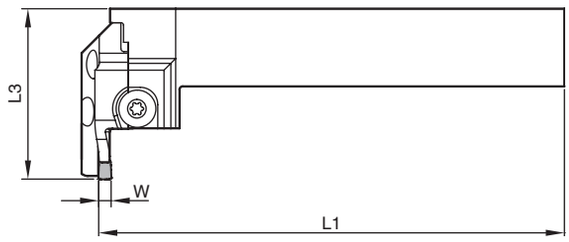
●刀板尺寸 Blade dimensions

形状 Shape	刀板型号 Description of Blade		库存 Stock R	库存 Stock L	尺寸(mm) Dimension L	尺寸(mm) Dimension T	尺寸(mm) Dimension A	端面槽外径 Face Grooving Dia. φD (mm) MIN	端面槽外径 Face Grooving Dia. φD (mm) MAX	刃宽 Width (mm) W	适合刀片 Applicable Inserts P15	刀杆本体型号 Description or Toolholder P11
 本图显示为右手方向(R) Right-hand Shown	KGDF R/L	-25-2A-C	●		44.4	6	1.5	25	30	2	GDFM 2020N-020GM	KGD L/R ····-C KGDS R/L ····-C
		-30-2A-C	●					30	35			
		-35-2A-C	●					35	45			
		-45-2A-C	●					45	60			
		-60-2A-C	●					60	80			
		-80-2A-C	●					80	100			
		-100-2A-C	●					100	130			
		-25-2B-C	●		47.4	13		25	30			
		-30-2B-C	●		49.4	15		30	35			
		-35-2B-C	●					35	45			
		-45-2B-C	●					45	60			
		-60-2B-C	●					60	80			
		-80-2B-C	●					80	100			
		-100-2B-C	●					100	130			
	KGDF R/L	-25-3A-C	●	●	47.35	13	2	25	30	3	GDFM 3020N-030GM GDFM 3020N-030DM GDFMS 3020N-030DM	
		-30-3A-C	●	●				30	40			
		-40-3A-C	●	●				40	50			
		-50-3B-C	●	●	49.35	15		50	65			
		-65-3B-C	●	●				65	85			
		-85-3B-C	●	●				85	110			
		-110-3B-C	●	●				110	145			
		-50-3C-C	●	●	56.35	22		50	65			
		-65-3C-C	●	●				65	85			
		-85-3C-C	●	●	59.35	25		85	110			
		-110-3C-C	●	●				110	145			
	KGDF R/L	-25-4A-C	●	●	47.35	13	3	25	35	4	GDFM 4020N-040GM GDFM 4020N-040DM GDFMS 4020N-040DM	
		-35-4B-C	●	●	49.35	15		35	50			
		-50-4B-C	●	●				50	70			
		-70-4B-C	●	●				70	100			
		-100-4B-C	●	●				100	150			
		-150-4B-C	●	●				150	220			
		-220-4B-C	●	●				220	∞			
		-35-4C-C	●	●	59.35	25		35	50			
		-50-4C-C	●	●				50	70			
		-70-4C-C	●	●				70	100			
		-100-4C-C	●	●				100	150			
		-150-4C-C	●	●				150	220			
		-220-4C-C	●	●				220	∞			
	KGDF R/L	-25-5B-C	●	●	49.35	15	4	25	35	5	GDFM 5020N-040GM GDFM 5020N-080GM GDFM 5020N-040DM GDFMS 5020N-040DM	
		-35-5B-C	●	●				35	50			
		-50-5B-C	●	●				50	75			
		-75-5B-C	●	●				75	115			
		-115-5B-C	●	●				115	180			
		-180-5B-C	●	●				180	235			
		-235-5B-C	●	●				235	∞			
		-25-5C-C	●	●	54.35	20		25	35			
		-35-5C-C	●	●	59.35	25		35	50			
		-50-5C-C	●	●				50	75			
		-75-5C-C	●	●				75	115			
		-115-5C-C	●	●				115	180			
		-180-5C-C	●	●				180	235			
		-235-5C-C	●	●				235	∞			
		-75-5D-C	●	●	66.35	32		75	115			
		-115-5D-C	●	●				115	180			
		-180-5D-C	●	●				180	235			
		-235-5D-C	●	●				235	∞			
	KGDF R/L	-25-6B-C	●	●	49.35	15	5	25	35	6	GDFM 6020N-040GM GDFM 6020N-080GM GDFM 6020N-040DM GDFMS 6020N-040DM	
		-35-6B-C	●	●				35	50			
		-50-6B-C	●	●				50	75			
		-75-6B-C	●	●				75	115			
		-115-6B-C	●	●				115	180			
		-180-6B-C	●	●				180	235			
		-235-6B-C	●	●				235	∞			
		-25-6C-C	●	●	54.35	20		25	35			
		-35-6C-C	●	●	59.35	25		35	50			
		-50-6C-C	●	●				50	75			
		-75-6C-C	●	●				75	115			
		-115-6C-C	●	●				115	180			
		-180-6C-C	●	●				180	235			
		-235-6C-C	●	●				235	∞			
		-75-6D-C	●	●	66.35	32		75	115			
		-115-6D-C	●	●				115	180			
		-180-6D-C	●	●				180	235			
		-235-6D-C	●	●				235	∞			

● : 标准库存 Standard Stock

■KGDF型 直角型(90°) KGDF type 90° separate type





• 本图显示为右手方向(R) Right-hand shown

●刀板：刀杆本体组合 Combinations of blade and toolholder

本体角度 Shank Angle	刃宽 W Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➔ P22	本体型号 Toolholder Description ➔ P11	尺寸 (mm) Dimension L1	L3
90°	2	□20	6	25	30	KGDF R/L -25-2A-C	KGDS R/L2020-C	125	49.7
				30	35	-30-2A-C			
				35	45	-35-2A-C			
				45	60	-45-2A-C			
				60	80	-60-2A-C			
				80	100	-80-2A-C			
				100	130	-100-2A-C			
			13	25	30	-25-2B-C			52.7
			15	30	35	-30-2B-C			54.7
				35	45	-35-2B-C			
				45	60	-45-2B-C			
				60	80	-60-2B-C			
				80	100	-80-2B-C			
				100	130	-100-2B-C			
		□25	6	25	30	KGDF R/L -25-2A-C	KGDS R/L2525-C	150	49.7
				30	35	-30-2A-C			
				35	45	-35-2A-C			
				45	60	-45-2A-C			
				60	80	-60-2A-C			
				80	100	-80-2A-C			
				100	130	-100-2A-C			
			13	25	30	-25-2B-C			52.7
			15	30	35	-30-2B-C			54.7
				35	45	-35-2B-C			
				45	60	-45-2B-C			
				60	80	-60-2B-C			
				80	100	-80-2B-C			
				100	130	-100-2B-C			
90°	3	□20	13	25	30	KGDF R/L -25-3A-C	KGDS R/L2020-C	125	52.7
				30	40	-30-3A-C			
				40	50	-40-3A-C			
			15	50	65	-50-3B-C			54.7
				65	85	-65-3B-C			
				85	110	-85-3B-C			
				110	145	-110-3B-C			
			22	50	65	-50-3C-C			59.7
				65	85	-65-3C-C			
			25	85	110	-85-3C-C			61.7
				110	145	-110-3C-C			
		□25	13	25	30	KGDF R/L -25-3A-C	KGDS R/L2525-C	150	52.7
				30	40	-30-3A-C			
				40	50	-40-3A-C			
			15	50	65	-50-3B-C			54.7
				65	85	-65-3B-C			
				85	110	-85-3B-C			
				110	145	-110-3B-C			
			22	50	65	-50-3C-C			59.7
				65	85	-65-3C-C			
			25	85	110	-85-3C-C			61.7
				110	145	-110-3C-C			

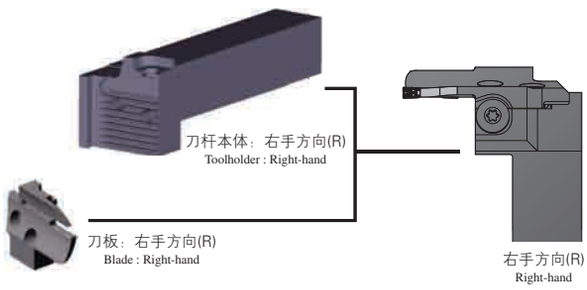
本体角度 Shank Angle	刃宽 W Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➔ P22	本体型号 Toolholder Description ➔ P11	尺寸 (mm) Dimension L1	L3
90°	4	□20	13	25	35	KGDF R/L -25-4A-C	KGDS R/L2020-C	125	52.7
			15	35	50	-35-4B-C			54.7
				50	70	-50-4B-C			
				70	100	-70-4B-C			
				100	150	-100-4B-C			
				150	220	-150-4B-C			
				220	∞	-220-4B-C			
			25	35	50	-35-4C-C			64.7
				50	70	-50-4C-C			
				70	100	-70-4C-C			
				100	150	-100-4C-C			
				150	220	-150-4C-C			
				220	∞	-220-4C-C			
		□25	13	25	35	KGDF R/L -25-4A-C	KGDS R/L2525-C	150	52.7
			15	35	50	-35-4B-C			54.7
				50	70	-50-4B-C			
				70	100	-70-4B-C			
				100	150	-100-4B-C			
				150	220	-150-4B-C			
				220	∞	-220-4B-C			
			25	35	50	-35-4C-C			64.7
				50	70	-50-4C-C			
				70	100	-70-4C-C			
				100	150	-100-4C-C			
				150	220	-150-4C-C			
				220	∞	-220-4C-C			

●刀板：刀杆本体组合 Combinations of blade and toolholder

本体角度 Shank Angle	刃宽 W Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➔ P22	本体型号 Toolholder Description ➔ P11	尺寸 (mm) Dimension L1	L3
90°	5	□20	15	25	35	KGDR/L -25-5B-C	KGDSR/L2020-C	125	54.7
				35	50	-35-5B-C			
				50	75	-50-5B-C			
				75	115	-75-5B-C			
				115	180	-115-5B-C			
				180	235	-180-5B-C			
				235	∞	-235-5B-C			
			20	25	35	-25-5C-C			59.7
			25	35	50	-35-5C-C			64.7
				50	75	-50-5C-C			
				75	115	-75-5C-C			
				115	180	-115-5C-C			
				180	235	-180-5C-C			
				235	∞	-235-5C-C			
			32	75	115	-75-5D-C			71.7
				115	180	-115-5D-C			
				180	235	-180-5D-C			
				235	∞	-235-5D-C			
		□25	15	25	35	KGDFR/L -25-5B-C	KGDSR/L2525-C	150	54.7
				35	50	-35-5B-C			
				50	75	-50-5B-C			
				75	115	-75-5B-C			
				115	180	-115-5B-C			
				180	235	-180-5B-C			
				235	∞	-235-5B-C			
			20	25	35	-25-5C-C			59.7
			25	35	50	-35-5C-C			64.7
				50	75	-50-5C-C			
				75	115	-75-5C-C			
				115	180	-115-5C-C			
				180	235	-180-5C-C			
				235	∞	-235-5C-C			
			32	75	115	-75-5D-C			71.7
				115	180	-115-5D-C			
				180	235	-180-5D-C			
				235	∞	-235-5D-C			

本体角度 Shank Angle	刃宽 W Width (mm)	刀杆尺寸 Shank size (mm)	可加工深度 Max. Grooving Depth (mm)	端面槽外径 Face Grooving Dia. ϕD (mm) MIN	MAX	刀板型号 Blade Description ➔ P22	本体型号 Toolholder Description ➔ P11	尺寸 (mm) Dimension L1	L3
90°	6	□20	15	25	35	KGDFR/L -25-6B-C	KGDSR/L2020-C	125	54.7
				35	50	-35-6B-C			
				50	75	-50-6B-C			
				75	115	-75-6B-C			
				115	180	-115-6B-C			
				180	235	-180-6B-C			
				235	∞	-235-6B-C			
			20	25	35	-25-6C-C			59.7
			25	35	50	-35-6C-C			64.7
				50	75	-50-6C-C			
				75	115	-75-6C-C			
				115	180	-115-6C-C			
				180	235	-180-6C-C			
				235	∞	-235-6C-C			
			32	75	115	-75-6D-C			71.7
				115	180	-115-6D-C			
				180	235	-180-6D-C			
				235	∞	-235-6D-C			
		□25	15	25	35	KGDFR/L -25-6B-C	KGDSR/L2525-C	150	54.7
				35	50	-35-6B-C			
				50	75	-50-6B-C			
				75	115	-75-6B-C			
				115	180	-115-6B-C			
				180	235	-180-6B-C			
				235	∞	-235-6B-C			
			20	25	35	-25-6C-C			59.7
			25	35	50	-35-6C-C			64.7
				50	75	-50-6C-C			
				75	115	-75-6C-C			
				115	180	-115-6C-C			
				180	235	-180-6C-C			
				235	∞	-235-6C-C			
			32	75	115	-75-6D-C			71.7
				115	180	-115-6D-C			
				180	235	-180-6D-C			
				235	∞	-235-6D-C			

■直角型(90°) 90° separate type



1) KGDF型直角型(90°)为标准品无组合型号的设定。
请分别购入刀杆本体、与刀板。
・ 右手(R)刀杆适用右手(R)刀板，左手(L)刀杆适用左手(L)刀板。
2)随刀杆本体附带刀片紧固螺钉(BH6x10TR)/刀板安装螺钉(SB−60120TR)/扳手(LTW−25)。

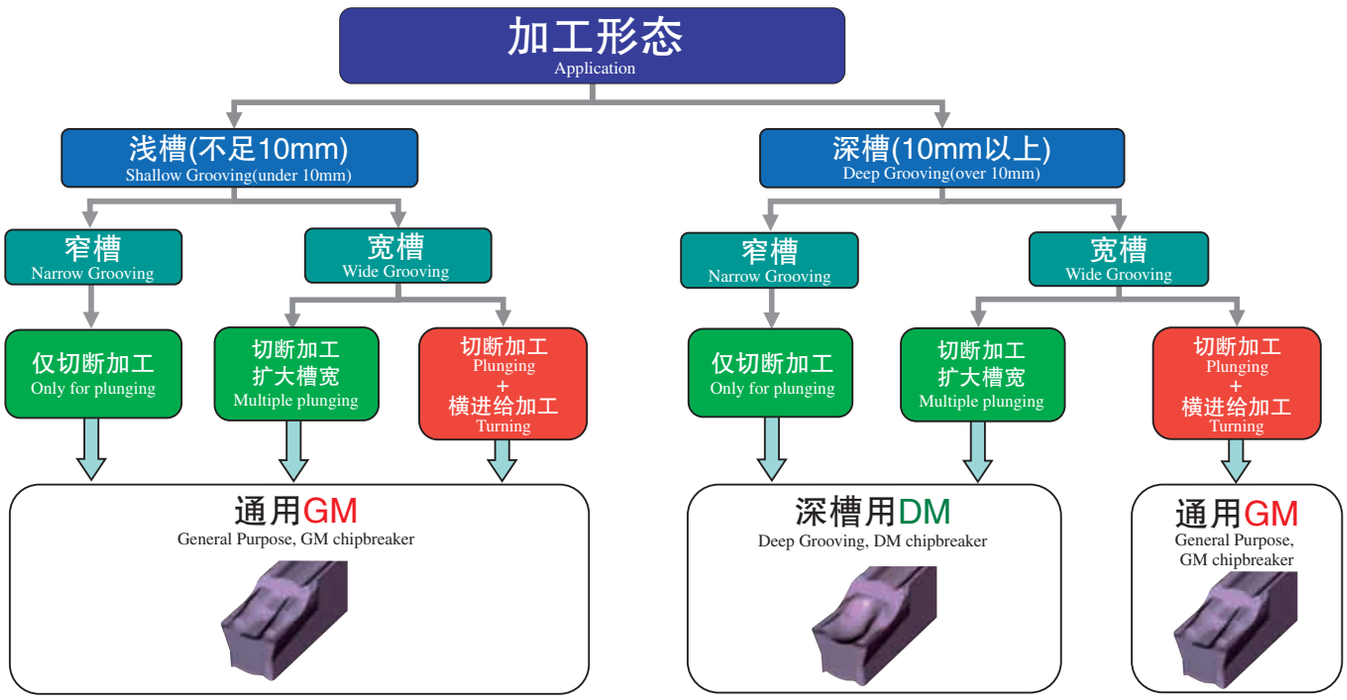
1) KGDF 90° type is not available as unit (Toolholder + blade). Please purchase toolholder and blade separately.
・R-hand Blade for R-hand Toolholder, L-hand Blade for L-hand Toolholder.
2) The insert clamping bolt (BH6X10TR), blade fixing bolt (SB-60120TR) and wrench (LTW-25) which are included in the toolholder can be used.

■推荐切削条件(端面切槽) Recommended Cutting Conditions (Face grooving)

被削材 Workpiece Material	推荐刀片材质(切削速度 m/min) Recommended Insert Grade Cutting Speed			备注 Remarks
	金属陶瓷 Cermet	MEGACOAT		
	TN90	PR1225	PR1215	
碳素钢 Carbon Steel (SxxC等)	☆ 80~200	★ 60~160	☆ 80~160	湿式 Wet
合金钢 Alloy Steel (SCM等)	☆ 70~160	★ 60~150	☆ 60~150	
不锈钢 Stainless Steel (SUS304等)	☆ 60~150	★ 50~120	☆ 50~120	
铸铁 Cast Iron (FC、FCD等)	–	–	★ 80~160	
铝、黄铜 Aluminum / Brass	–	–	–	

★：第1推荐 1st. Recommendation　☆：第2推荐 2nd. Recommendation

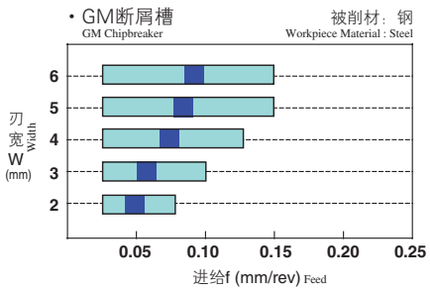
●断屑槽选择基准(端面槽) Chipbreaker Selection(Face grooving)

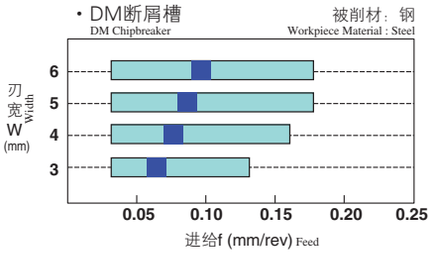


※通用GM断屑槽在进行槽加工时，如切屑处理不稳定，请使用深槽用DM断屑槽。
Please try DM chip-breaker when experiencing unstable chips evacuation with GM for plunging.

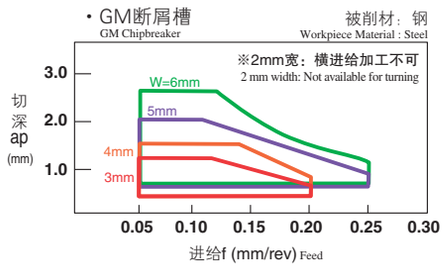
●推荐切削条件(进给、切深) Recommended Cutting Conditions (f, ap)

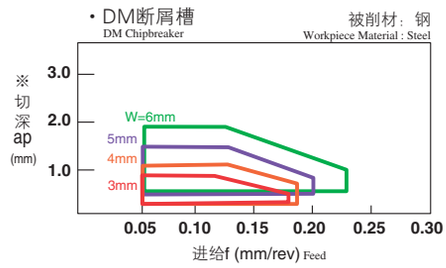
■槽加工Grooving





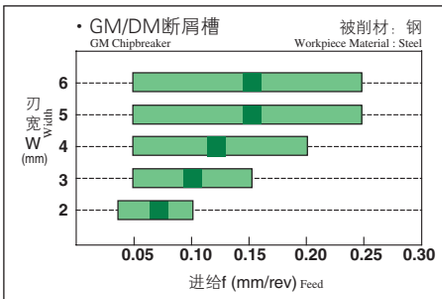
■横进给加工Turning





※DM断屑槽最大切深量：刀刃宽度×30%
DM Chipbreaker Max. Depth of Cut: Edge widthx 0.3

■台阶加工(侧面加工)Side grooving



●左表为GM/DM断屑槽进行台阶加工(侧面加工)时的进给(f)。
●侧面加工时，对刃宽(W)
・切深幅度小时，进给(f)增大
・切深幅度大时，推荐降低进给(f)。
●The left graph shows the feed rate (f) in shoulder grooving (side grooving) using GM / DM Chipbreakers.
・When cutting shoulder wall,
・If ap is set smaller, set feed higher.
If ap is set larger, set feed lower.

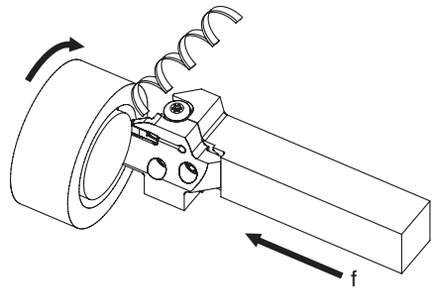
●端面切槽的要点 Points for face grooving

1)刀杆的选择
Toolholder Selection

端面切槽刀杆除要确认槽宽、槽深外，
也请确认可加工的端面槽外径。
Check available min and max dia as well as width and depth.

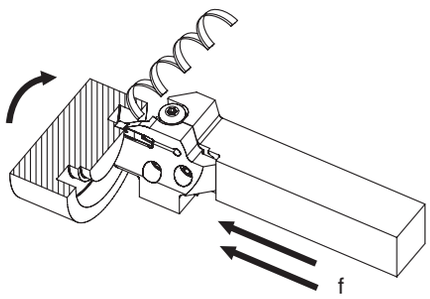
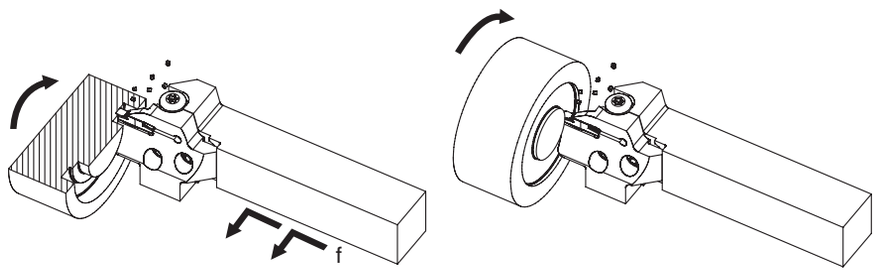
2)切削条件(进给：f)的设定
Machining conditions (Feed rate : f)

设定进给(f)保证钢等进行切入时产生连续的切屑。
Set proper feed rate to create continuous chips for face grooving on steel.



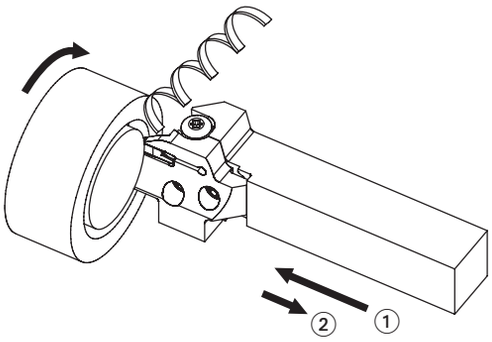
3)扩大槽宽时(切断加工、横进给加工)
Expand groove width (Plunging, Turning)

扩大槽宽加工时建议从外周侧向中心侧加工。
切屑排出良好。
Recommend turning from outside to inside to get better chips evacuation.

切断加工(切槽+侧面加工) Plunging (Face + Side grooving)	横进给加工 Turning
	

4)横进给加工的注意点 Points for turning

A.切深(ap) = 0.5mm以上时
To remove over 0.5mm depth of cut (cp), take the following three steps.
①切断加工 Plunging
②切深回复到0.1mm Pull back the tool by 0.1mm
③横进给加工 Turning
请以此加工。(参照图1)。 Refer to fig.1



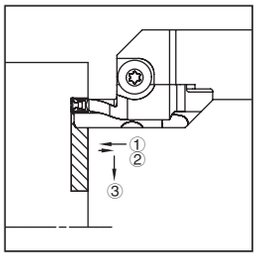
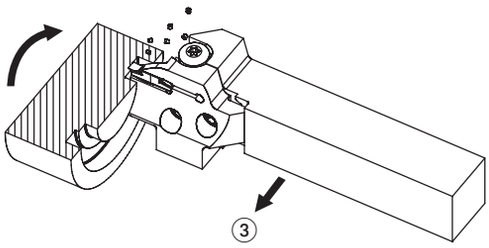


图1 fig 1

●扩展端面槽宽加工时(参考图2)
做阶梯状移动。
最后进行精加工。
To expand groove width (Refer to fig.2)
Leave steps at each pass for finishing



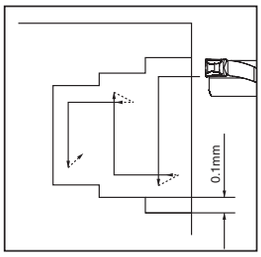
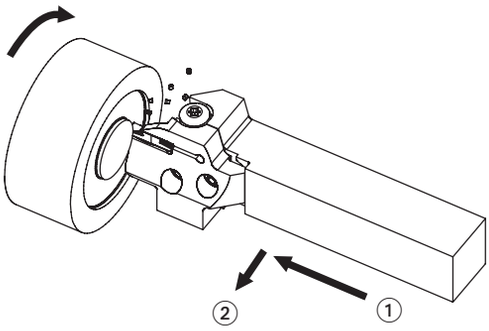


图2 fig 2

B.切深(ap) = 0.5mm以下时
May take the following two steps continuously for less than 0.5mm D.O.C.
①切断加工 Plunging
②横进给加工 Turning
可连续加工。(参照图3)。
Turning subsequent to grooving is possible (Refer to fig.3)



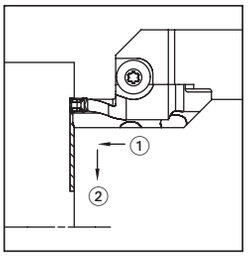
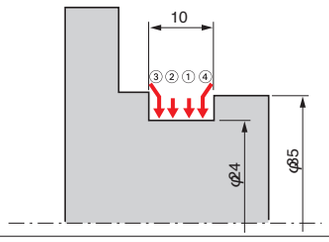


图3 fig 3

■加工实例 Case studies

SCr420H(槽加工 External Grooving)

- 齿轮 Gear
- Vc=113~164 m/min
- f=0.06 mm/rev
- WET
- GDM4020N-040GM (PR1225)
- KGDL2525X-3T10S



GM断屑槽 GM Chipbreaker **(PR1225)**	1500个/C 1500pcs/edge
其他公司产品K (PVD涂层) Competitor K (PVD Coated Carbide)	250个/C 250pcs/edge

寿命6倍 6 times longer tool life

结果

- KKGF型切槽GM断屑槽(PR1225)与其他公司产品K相比，工具寿命延长至6倍。
- K切屑无烫痕，处理良好。

Results

·KGD-type and GM chipbreaker (PR1225) improved tool life to 6 times of Comp. K.

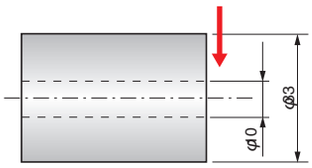
·No burned chips and good chip control.

其他公司产品K Competitor K　　**GM断屑槽** GM Chipbreaker

(根据用户评价)User Evaluation

S45CF(切断 Cut-Off)

- 套筒 Sleeve
- Vc=103 m/min
- f=0.12 mm/rev
- WET
- GDM3020N-025PM (PR1225)
- KGDL2525X-3T20S



PM断屑槽 PM Chipbreaker **(PR1225)**	250个/C 可延长 250pcs/edge, capable of further machining
其他公司产品L (PVD涂层) Competitor L (PVD Coated Carbide)	250个/C 有振刀 250pcs/edge, with chipping

结果

- KGD型切断PM断屑槽(PR1225)与其他公司产品L相比，即使加工相同数量后依然刀尖良好。
- 刀具寿命可延长(其他公司产品L，发生刀尖撞刀)。

Results

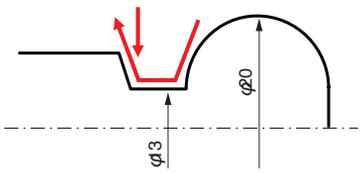
·KGD-type and PM chipbreaker (PR1225) showed good edge condition after machining same number of workpieces as Comp. L.

·Available for further machining. (Comp. L caused chipping)

(根据用户评价) User Evaluation

SCM435(仿形加工 Copying)

- 球头螺栓 Ball Stud
- Vc=100～160 m/min
- f=0.15～0.25 mm/rev
- ap=0.3 mm
- WET
- GDM3020N-150R-CM (PR1225)
- KGDR2020X-3T10S



CM断屑槽 CM Chipbreaker **(PR1225)**	800个/C 800pcs/edge
以往产品A Conventional A	400个/C 400pcs/edge

寿命2倍 2 times longer tool life

结果

- 切屑排出性良好、切屑缠绕以及咬屑得以改善。
  ⊠ 切屑使得刀尖崩损的问题解决。
- 无刀尖崩损，使刀具寿命延长至2倍。

Results

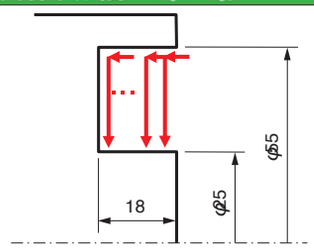
·Resolve issues such as chip-bite and tangled chips due to its surperior chip evacuation performance →Resolve brakage of edge caused by chips.

·Doubled tool life by reducing damage on the edge.

(根据用户评价) User Evaluation

SCM435H(端面切槽 Face grooving)

- 连杆 Piston
- Vc=150 m/min
- f=0.05 mm/rev(槽)Grooving
  0.1，0.15 mm/rev(横)Turning
- ap=1，1.8 mm(横)Turning
- WET
- GDFM4020N-040GM (PR1225)
- KGDFL2525X50-4CS



GM断屑槽 GM Chipbreaker **(PR1225)**	40个/C 可延长 40pcs/edge, capable of further machining
以往产品B Conventional B	40个/C 40pcs/edge, with chipping

结果

- KGDF型+GM断屑槽，与以往产品B相比切屑处理良好
  (多发生刀杆崩损的状态得到改善)
- MEGACOAT保证刀尖磨损量小、可继续使用
  (通过延长刀片寿命，改善运行成本)

Results

·KGDF + GM chipbreaker improved chip evacuatoin compared to B.
(Resolved frequent brakage of holder.)

·Smaller wear on the edge provided by MEGACOAT make the tool life longer.
(Lower running cost by longer tool life)

(根据用户评价) User Evaluation