

THE NEW VALUE FRONTIER

京瓷 创造新价值



铣削加工
Milling

MRW型

高效率多刀尖 圆弧铣刀

MRW型

High Efficiency Radius Cutter with Multiple Edges

- **经济性：双面8刀尖式**
Economical 8-Edge Insert
- **螺旋切刃低阻力**
Low Cutting Force with Kyocera's helical cutting edge design
- **实现稳定加工
平板锁紧构造**
Higher Stability with flat lock structure



NEW 从钢加工到难切削材广泛对应
Wide range of applications from steel to
difficult-to-cut materials

难切削用刀片材质
For difficult-to-cut materials
PR1535 / CA6535

ADVANCING PRODUCTIVITY

致力于生产效率提高的京瓷



MRW型

高效率 高经济性 对应广泛的被切削材 双面式圆弧刀盘隆重登场

The MRW Radius Cutter lowers cutting costs and increases efficiency!
Double-faced inserts improve milling in a wide variety of materials

POINT.1 经济性：双面8刀尖式

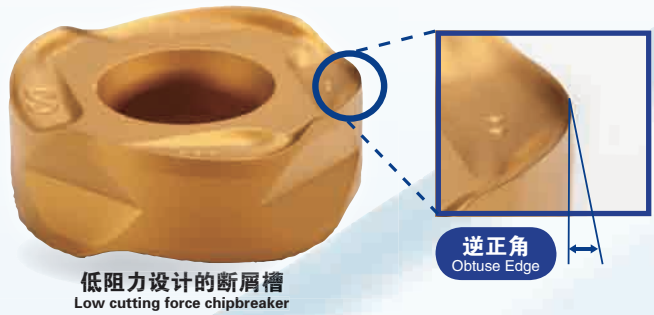
Economical 8-edge insert

POINT.2 同时具有锋利度与刀刃强度

Combined sharpness & cutting edge strength

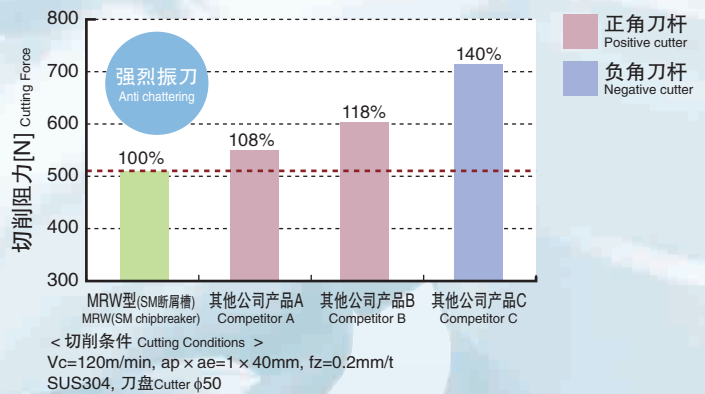
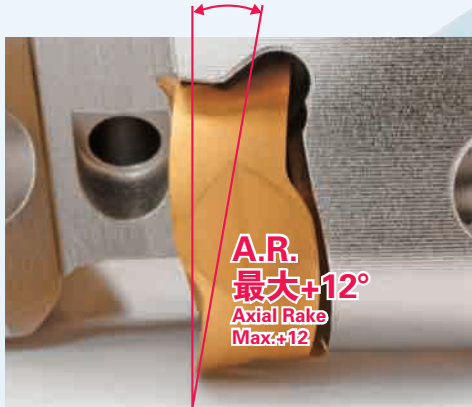
逆正角设计提高切刃强度

Improved edge strength due to obtuse edge



POINT.3 螺旋切刃A.R.确保最大+12°，保证与正角同等的低阻力

Helical cutting edge design with maximum axial rake 12° lowers cutting forces equivalent to positive inserts



POINT.4 平板锁紧构造使刀片紧紧固定，阻止刀片旋转，实现稳定加工

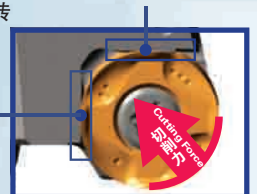
Flat Lock Structure to hold insert firmly
Prevents insert rotation during machining to provide stable cutting



平板锁紧构造 Flat Lock Structure

两大宽广紧固面
· 将切削力均匀的分配
· 防止刀片旋转

Wide flat binding face
· Receives even cutting forces
· Prevents insert rotation



从钢加工到不锈钢、耐热合金的 4种材质与3种断屑槽实现长寿命加工

Longer tool life with a wide lineup including 4 grades and 3 chipbreakers! Available for steel, stainless steel, and heat resistant alloys

被削材 Workpiece		适合刀片材质 Applicable Insert Grade	适合断屑槽 Applicable Chipbreaker
P 碳素钢·合金钢·模型钢 Carbon Steel / Alloy Steel / Die Steel		PR1525	GM/SM/GH断屑槽 Chipbreaker
K 灰口铸铁·球墨铸铁 Gray Cast Iron / Nodular Cast Iron		PR1510	GH/GM断屑槽 Chipbreaker
S Ni基耐热合金 Ni-base Heat Resistant Alloy	M 马氏体系不锈钢 Martensitic Stainless Steel	CA6535	SM/GM断屑槽 Chipbreaker
S Ni基耐热合金 Ni-base Heat Resistant Alloy	M 奥氏体系不锈钢 Austenitic Stainless Steel	PR1535	SM/GM断屑槽 Chipbreaker
S 钛合金 Titanium Alloy	M 析出硬化系不锈钢 Precipitation Hardened Stainless Steel		

断屑槽的区别使用与推荐切削条件 For Chipbreaker Selection and Recommended Cutting Conditions → P6

POINT.5

难削材用新材料隆重登场!

New grade for difficult-to-cut material

抑制突发崩损、实现稳定加工
抗崩损性能卓越、实现高效率加工

Stable cutting prevents insert fracturing
Good for high efficiency machining



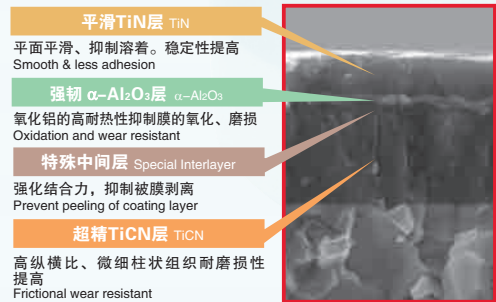
CA6535

马氏体系不锈钢、Ni基耐热合金用
CVD发挥高耐热性、耐磨损性
采用薄膜涂层提高稳定性

For martensitic stainless steel and Ni-base heat resistant alloy
High heat resistance and wear resistance with CVD coating
Improved stability due to thin film coating technology



新开发
高韧性母材
Newly Developed
Tougher Substrate



平滑TiN层 TiN
平面平滑、抑制溶着。稳定性提高
Smooth & less adhesion

强韧 α -Al₂O₃层 α -Al₂O₃
氧化铝的高耐热性抑制膜的氧化、磨损
Oxidation and wear resistant

特殊中间层 Special Interlayer
强化结合力，抑制被膜剥离
Prevent peeling of coating layer

超精TiCN层 TiCN
高纵横比、微细柱状组织耐磨损性提高
Frictional wear resistant



PR1535

Ni基耐热合金、钛合金、析出硬化系不锈钢用
特殊纳米涂层“MEGACOAT NANO”，
实现加工的稳定化和长寿命

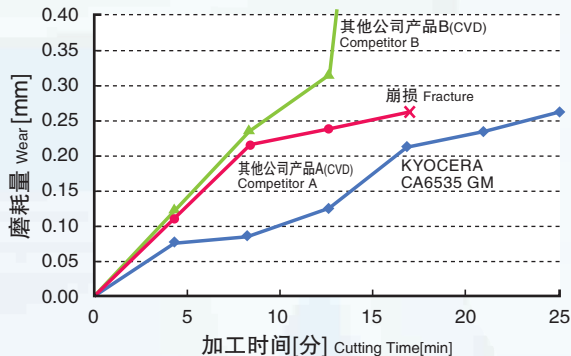
For Ni-base heat resistant alloy, titanium alloy and precipitation hardened stainless steel
Stabilized milling operation and long tool life with Kyocera's MEGACOAT NANO coating technology

MEGACOAT
基础层构造
Layer structure of MEGACOAT



寿命比较 Tool Life Comparison

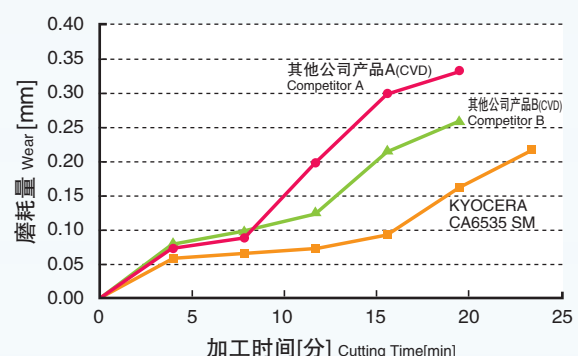
• Ni基耐热合金 Ni-base Heat Resistant Alloy



< 切削条件 Cutting Conditions > Vc=50m/min, ap=1.0mm, fz=0.15mm/t, WET

第一推荐 GM断屑槽
1st recommendation GM chipbreaker

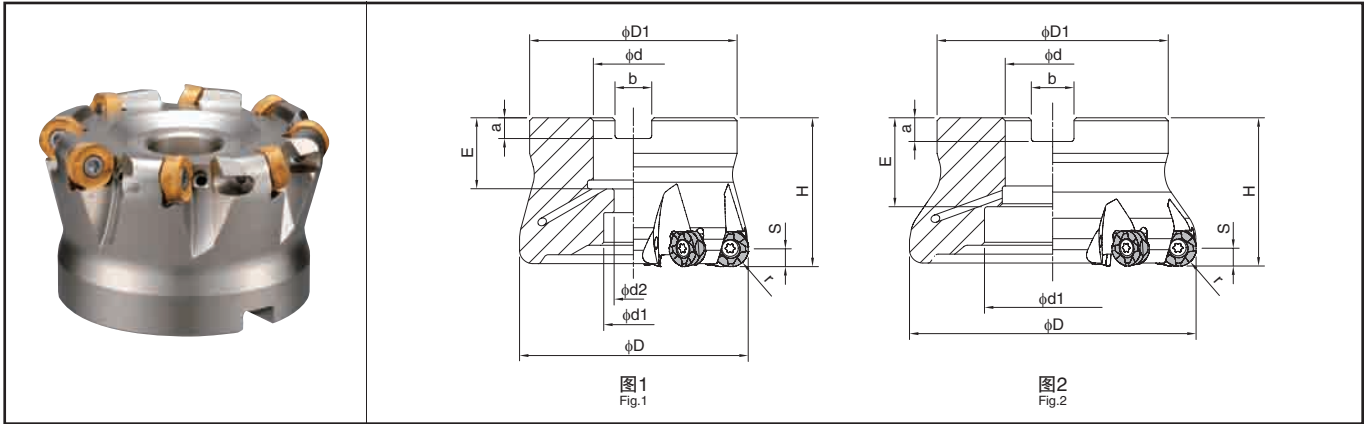
• 马氏体系不锈钢 Martensitic Stainless Steel



< 切削条件 Cutting Conditions > Vc=300m/min, ap=2.0mm, fz=0.2mm/t, WET

第一推荐 SM断屑槽
1st recommendation SM chipbreaker

MRW型面铣刀(带冷却剂孔) MRW Face Mill (with coolant hole)



刀杆尺寸 Toolholder Dimensions

型号 Description	库存 Stock	刀刃数 No. of inserts	尺寸(mm) Dimension											前角(°) Rake Angle		冷却液孔 Coolant Hole	形状 Drawing	重量 (kg) Weight	最高转速 (min ⁻¹) Max. Revolution														
			r	φD	φD1	φd	φd1	φd2	H	E	a	b	S	A.R.	R.R.																		
刀柄安装部英制式样 Bore Dia. Inch Spec	MRW 080R-12-6T	●	6	6	80	70	25.4	20	13	50	27	6	9.5	6.0	+12°	-15.5°	有 Yes	图1 Fig.1	1.2	12,000													
	080R-12-8T	●	8		80	70	25.4	20	13		27	6	9.5					图2 Fig.2	1.1														
	100R-12-7T	●	7		100	78	31.75	46	-		34	8	12.7					图1 Fig.1	1.5	10,600													
	100R-12-9T	●	9																		图2 Fig.2	1.4											
	MRW 080R-16-6T	●	6	8	80	70	25.4	20	13	50	27	6	9.5	8.0	+11°	-16.5°		图1 Fig.1	1.1	11,000													
	080R-16-7T	●	7		80	70	25.4	20	13		27	6	9.5					图2 Fig.2	1.1														
	100R-16-6T	●	6		100	78	31.75	46	-		34	8	12.7					图1 Fig.1	1.4	9,600													
	100R-16-8T	●	8																		图2 Fig.2	1.4											
	125R-16-8T	●	8		125	89	38.1	55	-	63	38	10	15.9					图2 Fig.2	2.6	8,560													
	125R-16-10T	●	10																		图2 Fig.2	2.6											
公制式样 Metric Spec	MRW 050R-12-5T-M	●	5		6	50	48	22	18	40	21	6.3	10.4				6.0	+12°	-15.5°	有 Yes	图1 Fig.1	0.3	16,000										
	050R-12-6T-M	●	6			50	48		18													11		21	6.3	10.4	0.3						
	063R-12-6T-M	●	6	63		60	-	19	40					21	6.3	10.4						图1 Fig.1	0.6	14,000									
	063R-12-7T-M	●	7																						图2 Fig.2	0.6							
	080R-12-6T-M	●	6	80		70	27	20	13		50	24	7	12.4	6.0	+12°						-15.5°	1.1	12,000									
	080R-12-8T-M	●	8																				80		70	27	20	13	24	7	12.4	图2 Fig.2	1.1
	100R-12-7T-M	●	7																				100	78	32	46	-	30	8	14.4	图1 Fig.1	1.5	10,600
	100R-12-9T-M	●	9																														
	MRW 063R-16-5T-M	●	5	8	63	60	22	19	11	40	21	6.3	10.4	8.0			+11°	-16.5°	有 Yes		图1 Fig.1		0.5	12,800									
	063R-16-6T-M	●	6		63	60	22	19	11														21		6.3	10.4	0.5						
	080R-16-6T-M	●	6		80	70	27	20	13														50	24	7	12.4	8.0	+11°	-16.5°	1.1	11,000		
	080R-16-7T-M	●	7																											80		70	27
	100R-16-6T-M	●	6		100	78	32	46	-	30	8	14.4	图1 Fig.1		1.4	9,600																	
	100R-16-8T-M	●	8																			图2 Fig.2								1.3			
	125R-16-8T-M	●	8		125	89	40	55	-	63	33	9	16.4		图2 Fig.2	2.6						8,560											
	125R-16-10T-M	●	10																				图2 Fig.2	2.5									

●: 标准库存 Std. Item

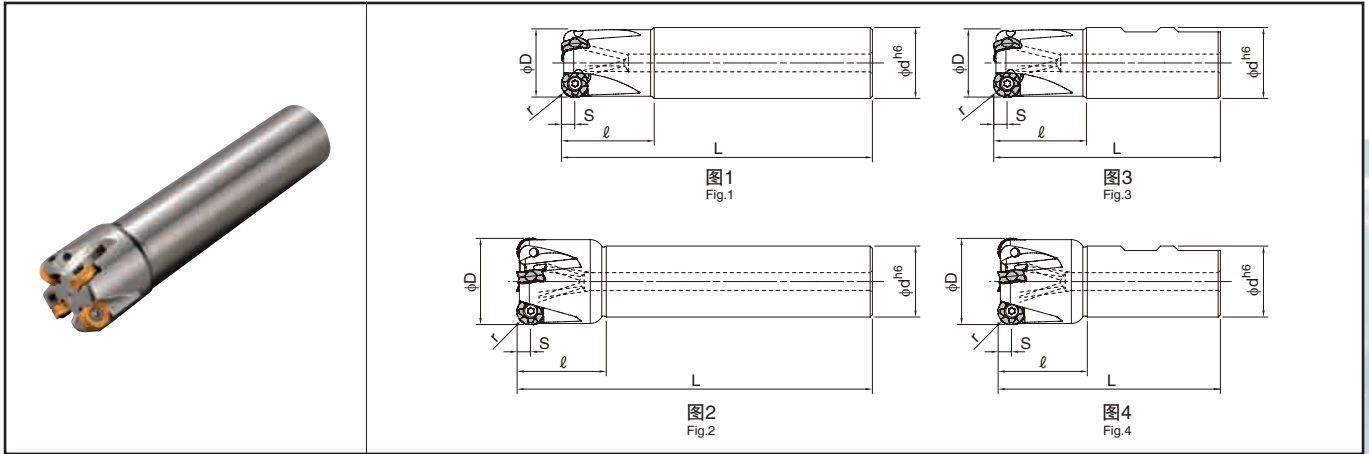
零件和适合刀片 Spare Parts and Applicable Inserts

型号 Description	紧固螺栓 Clamp Screw	扳手 Wrench		防高温烧结剂 Anti-seize Compound	刀轴安装螺钉 Mounting Bolt	适合刀片 Applicable Inserts
		DTPM-15	TTP-20			
MRW 050R-12... 063R-12... 080R-12... 100R-12...	SB-4085TRP	DTPM-15		MP-1	HH10 × 30	ROMU12...
刀片锁紧用紧固扭矩 3.5N · m Recommended Torque for Insert Clamp 3.5N · m					HH12 × 35	
					-	
					-	
MRW 063R-16... 080R-16... 100R-16... 125R-16...	SB-50140TRP	TTP-20		MP-1	HH10 × 30	ROMU16...
刀片锁紧用紧固扭矩 4.5N · m Recommended Torque for Insert Clamp 4.5N · m					HH12 × 35	
					-	
					-	

- 有关最高转速的标记
Caution with Max. Revolution
因误操作等超出最高转速以上的情况下，请注意有可能离心力导致芯片或零部件飞散等。
When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force.
- 固定刀片时，请涂沫少量防高温烧结剂(MP-1)在紧固螺丝上。
Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.
- S表示最大切深。详情请参考P6。
S is Maximum ap. For more details, see page 6.

推荐切削条件 Recommended Cutting Conditions → P6

MRW型立铣刀(带冷却剂孔) MRW End Mill (with coolant hole)



刀杆尺寸 Toolholder Dimensions

型号 Description	库存 Stock	刀刃数 No. of inserts	尺寸(mm) Dimension							前角(°) Rake Angle		冷却液孔 Coolant Hole	形状 Drawing	最高转速 (min^{-1}) Max. Revolution
			r	ϕD	ϕd	L	ℓ	S	A.R. (MAX.)	R.R.				
直型刀柄 Standard (Straight)	MRW 32-S32-12-3T	●	3	6	32	32	140	40	6.0	+12°	-20°	有 Yes	图1 Fig.1	22,000
	40-S32-12-4T	●	4		40	32	160				-16.5°		图2 Fig.2	18,800
	50-S42-12-5T	●	5		50	42	170						-15.5°	图2 Fig.2
	MRW 40-S32-16-3T	●	3	8	40	32	160	40	8.0	+11°	-18°	有 Yes		图2 Fig.2
	50-S42-16-4T	●	4		50	42	170				-16.5°		图2 Fig.2	14,800
	63-S42-16-5T	●	5		63	42	170						50	12,800
长款刀柄 Long Shank (Straight)	MRW 32-S32-12-2T-200	●	2	6	32	32	200	40	6.0	+12°	-20°	有 Yes	图1 Fig.1	22,000
	40-S32-12-3T-200	●	3		40	32	200				-16.5°		图2 Fig.2	18,800
	50-S42-12-4T-300	●	4		50	42	300						-15.5°	图2 Fig.2
	MRW 40-S32-16-2T-200	●	2	8	40	32	200	40	8.0	+11°	-18°	有 Yes		图2 Fig.2
	50-S42-16-3T-300	●	3		50	42	300				-16.5°		图2 Fig.2	14,800
	63-S42-16-4T-300	●	4		63	42	300						50	12,800
侧固式刀柄 Standard (Weldon)	MRW 32-W32-12-3T	●	3	6	32	32	102	40	6.0	+12°	-20°	有 Yes	图3 Fig.3	22,000
	40-W32-12-4T	●	4		40	32	100				-16.5°		图4 Fig.4	18,800
	50-W40-12-5T	●	5		50	40	110						-15.5°	图4 Fig.4
	MRW 40-W32-16-3T	●	3	8	40	32	100	40	8.0	+11°	-18°	有 Yes		图4 Fig.4
	50-W40-16-4T	●	4		50	40	110				-16.5°		图4 Fig.4	14,800
	63-W40-16-5T	●	5		63	40	120						50	12,800

●: 标准库存 Std. Item

零件和适合刀片 Spare Parts and Applicable Inserts

型号 Description	紧固螺栓 Clamp Screw	扳手 Wrench		防高温烧结剂 Anti-seize Compound	适合刀片 Applicable Inserts
MRW ...-12...	SB-4085TRP	DTPM-15	TTP-20	MP-1	ROMU12...
	刀片锁紧用紧固扭矩 3.5N · m Recommended Torque for Insert Clamp 3.5N · m				
MRW ...-16...	SB-50140TRP	TTP-20		MP-1	ROMU16...
	刀片锁紧用紧固扭矩 4.5N · m Recommended Torque for Insert Clamp 4.5N · m				

有关最高转速的标记

Caution with Max. Revolution

因误操作等超出最高转速以上的情况下，请注意有可能离心力导致芯片或零部件飞散等。


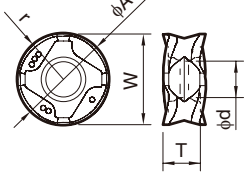


When running an endmill or a cutter at the maximum revolution, the insert or cutter may be damaged by centrifugal force.

固定刀片时，请涂抹少量防高温烧结剂(MP-1)在紧固螺丝上。
Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.

S表示最大切深。详情请参考P6。
S is Maximum ap. For more details, see page 6.

推荐切削条件 Recommended Cutting Conditions → P6

铣削刀片(带孔) Milling Inserts (with hole)

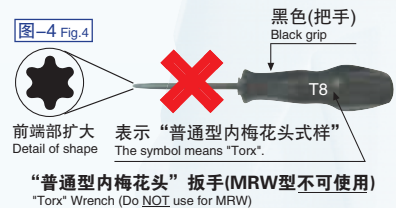
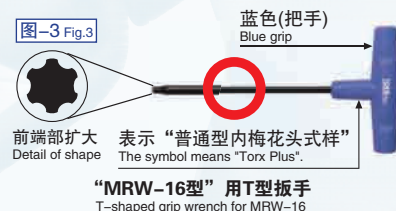
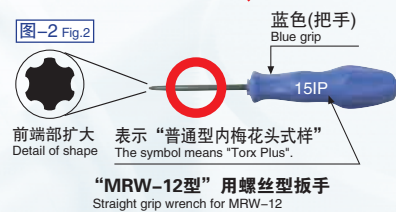
使用分类的标准 Classification of Usage		P	碳素钢·合金钢 Carbon Steel / Alloy Steel	★										适用刀杆参照页 Applicable Holder Reference Page
			模型钢 Die Steel	★										
★: 粗加工/第1推荐 Roughing / 1st Choice ☆: 粗加工/第2推荐 Roughing / 2nd Choice ■: 精加工/第1推荐 Finishing / 1st Choice □: 精加工/第2推荐 Finishing / 2nd Choice (高硬度45HRC以下时) In case hardness is under 45 HRC		M	奥氏体系不锈钢(SUS304等) Austenitic Stainless Steel	★	☆									
			马氏体系不锈钢(SUS403等) Martensitic Stainless Steel	☆					★					
			析出硬化系不锈钢 Precipitation Hardened Stainless Steel	★										
		K	灰口铸铁 Gray Cast Iron							★				
			球墨铸铁 Nodular Cast Iron							★				
		S	耐热合金(Ni基耐热合金) Heat Resistant Alloy (Ni-base Heat Resistant Alloy)	★							☆			
			钛合金(Ti-6Al-4V) Titanium Alloy	★					☆					
		H	高硬度材 Hard Materials		☆									
形状 Insert		型号 Description	尺寸(mm) Dimension					MEGACOAT NANO			CVD涂层 CVD Coated Carbide		P3 P4	
			φA	T	φd	W	r	PR1535	PR1525	PR1510	CA6535			
 一般 General Purpose		ROMU 1204M0ER-GM	12	4.75	4.6	11.8	6	●	●	●	●			
		1605M0ER-GM	16	5.48	6.2	15.8	8	●	●	●	●			
 低阻力型 Low Cutting force		ROMU 1204M0ER-SM	12	4.75	4.6	11.8	6	●	●		●			
		1605M0ER-SM	16	5.48	6.2	15.8	8	●	●		●			
 先强化型(重切削用) Tough Edge (Heavy Milling)		ROMU 1204M0ER-GH	12	4.75	4.6	11.8	6	●	●	●	●			
		1605M0ER-GH	16	5.48	6.2	15.8	8	●	●	●	●			

●: 标准库存 Std. Item

刀片交换顺序 How to mount an insert

1. 请清除刀片安装部的杂物。
2. 紧固螺栓
 - ① 请在锥形部位与螺纹部位涂上防高温烧结剂。
 - ② 安装扳手前端部时, 轻微朝紧固面方向顶住, 然后拧紧(如图-1)。
3. 本产品的紧固螺丝以及扳手为增强型内梅花头式样。
 - ① “MRW-12型”为螺丝刀型扳手(如图-2)
 - ② “MRW-16型”为T型扳手(如图-3)
 在紧固螺丝时请务必使用附带扳手。
 ※如误使用“普通内梅花头”扳手(如图-4), 则有可能导致螺栓头部与扳手前端破损, 从而使夹具螺栓无法取出。
4. 请将扳手与紧固螺栓朝平行方向拧紧。
推荐紧固扭矩……参照P3·P4
5. 紧固后, 刀片底座与刀杆的支撑底座, 以及刀片侧面与紧固面之间请确保无缝隙。
若存在缝隙, 请重新按规定顺序安装。

1. Be sure to remove dust and chips from the insert mounting pocket.
- ① Apply anti-seize compound on portion of taper and thread of clamp screw.
- ② Attach the screw to the front end of the wrench. While lightly pressing the insert against the constraint surfaces, put the screw into the hole of the insert and tighten. (See Fig. 1)
3. Wrenches and clamp screws are "Torx Plus".
 - ① Fig. 2 wrench is for MRW-12. (Straight grip)
 - ② Fig. 3 wrench is for MRW-16. (T-shaped grip)
 Use a "Torx Plus" Wrench for tightening clamp screw.
 *If a "Torx" Wrench (Fig. 4) is used to tighten, the screw head might become damaged and then the screw cannot be removed.
4. When tightening the screw, make sure that the wrench is parallel to the screw.
For recommended torque, see page 3 and 4.
5. After tightening the screw, make sure that there is no clearance between the insert seat surface and the bearing surface of the holder or between the insert side surfaces and the constraint surface of the holder.
If there is any clearance, remove the insert and mount it again according to the above steps.



推荐切削条件 Recommended Cutting Conditions

被削材 Workpiece Material	推荐断屑槽(进给量 f_z mm/t) Recommended Chipbreaker ※ROMU12型... $ap=3$ mm ROMU16型... $ap=4$ mm时的推荐进给量(基准值) Recommended feed rate (standard value) for ROMU12 type: $ap=3$ mm, ROMU16 type: $ap=4$ mm			推荐刀片材质(切削速度 V_c : m/min) Recommended Insert Grade			
				MEGACOAT NANO			CVD涂层 CVD Coated Carbide
	GM	SM	GH	PR1535	PR1525	PR1510	CA6535
碳素钢 Carbon Steel (SxxC)	★ 0.1 ~ 0.2 ~ 0.3	☆ 0.06 ~ 0.15 ~ 0.2	☆ 0.15 ~ 0.3 ~ 0.35	-	★ 120 ~ 180 ~ 250	-	-
合金钢 Alloy Steel (SCM等)	★ 0.1 ~ 0.2 ~ 0.3	☆ 0.06 ~ 0.15 ~ 0.2	☆ 0.15 ~ 0.3 ~ 0.35	-	★ 100 ~ 160 ~ 220	-	-
模具钢 Die Steel (SKD/NAK等)	★ 0.1 ~ 0.15 ~ 0.25	☆ 0.06 ~ 0.12 ~ 0.2	☆ 0.15 ~ 0.2 ~ 0.3	-	★ 80 ~ 140 ~ 180	-	-
奥氏体系不锈钢 Austenitic Stainless Steel (SUS304等)	☆ 0.1 ~ 0.15 ~ 0.2	★ 0.06 ~ 0.12 ~ 0.2	-	★ 100 ~ 160 ~ 200	☆ 100 ~ 160 ~ 200	-	-
马氏体系部锈钢 Martensitic Stainless Steel (SUS403等)	☆ 0.1 ~ 0.15 ~ 0.2	★ 0.06 ~ 0.12 ~ 0.2	-	☆ 150 ~ 200 ~ 250	-	-	★ 180 ~ 240 ~ 300
析出硬化系不锈钢 Precipitation Hardened Stainless Steel(SUS630等)	★ 0.1 ~ 0.15 ~ 0.2	☆ 0.06 ~ 0.12 ~ 0.2	-	★ 90 ~ 120 ~ 150	-	-	-
灰口铸铁 Gray Cast Iron(FC)	★ 0.1 ~ 0.2 ~ 0.3	-	☆ 0.15 ~ 0.3 ~ 0.35	-	-	★ 120 ~ 180 ~ 250	-
球墨铸铁 Nodular Cast Iron (FCD)	★ 0.1 ~ 0.15 ~ 0.25	-	☆ 0.15 ~ 0.2 ~ 0.3	-	-	★ 100 ~ 150 ~ 200	-
Ni基耐热合金 Ni-base Heat Resistant Alloy	★ 0.1 ~ 0.12 ~ 0.15	☆ 0.06 ~ 0.1 ~ 0.15	-	★ 20 ~ 30 ~ 50	-	-	☆ 20 ~ 40 ~ 50
钛合金 Titanium Alloy (Ti-6Al-4V)	☆ 0.1 ~ 0.12 ~ 0.15	★ 0.06 ~ 0.1 ~ 0.15	-	★ 40 ~ 60 ~ 80	-	☆ 30 ~ 50 ~ 70	-

※ 镍基耐热合金、钛合金推荐湿式加工。
Machining with coolant is recommended for Ni-base Heat Resistant Alloy and Titanium Alloy

★: 第一推荐 ☆: 第二推荐
★: 1st recommendation ☆: 2nd recommendation

※ 切削条件中的粗体字表示推荐条件的中间值。请根据实际加工情况在范围内调整切削速度、进给。
The figure in bold font is center value of the recommended cutting conditions. Adjust the cutting speed and the feed rate within the above conditions according to the actual machining situation.

※ 切削条件中的推荐进给表示切深(ap)为 $r/2$ (ROMU12型3mm、ROMU16型4mm)时的基准值。
切深在此以下时根据下表的换算系数计算的数值作为推荐值。
Recommended feed rate is the reference value when ap is $r \div 2$ (3mm for ROMU12, 4mm for ROMU16).
For lower ap than the above conditions, the conversion factor in the following table is recommended.

切深是根据每1刀刃的进给的换算系数 Conversion factor for feed per tooth by depth of cut (ap)

刀片 Insert	推荐切深 ap (recommended)	最大切深 ap ap (max)	每1刀刃进给的换算系数 Conversion factor for feed per tooth				
			$ap=0.5$ mm	$ap=1$ mm	$ap=2$ mm	$ap=3$ mm	$ap=4$ mm
ROMU12型 ROMU12 type	3mm以下 3mm or less	6mm	2.1	1.5	1.1	1.0 (基准)Standard	-
ROMU16型 ROMU16 type	4mm以下 4mm or less	8mm	2.4	1.7	1.3	1.1	1.0 (基准)Standard

• 计算例(ROMU12型、碳素钢、GM断屑槽、切深 $ap=1$ mm时) Example (ROMU12 type, Carbon Steel, GM chipbreaker, $ap=1$ mm)

$$f_z=0.2\text{mm/t (碳素钢、GM断屑槽的进给基准值)} \times 1.5 \text{ (ROMU12型、} ap=1\text{mm时的换算系数)} = f_z=0.3\text{mm/t (推荐值)}$$

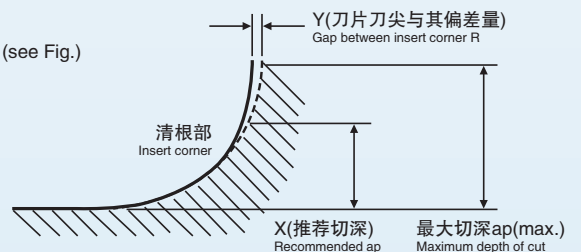
Standard value for Carbon Steel / GM chipbreaker Conversion factor for ROMU12 / $ap=1$ mm Recommended feed per tooth

※ 推荐切深ROMU12型3mm以下，ROMU16型4mm以下。
去除暂时超过推荐切深的情况，一般请使用推荐切深以下。
Recommended ap : 3mm or less for ROMU12, 4mm or less for ROMU16
Except the case that ap temporarily surpasss the recommended ap , machining under the recommended ap is recommended.

清根部R的加工形状 Corner R shape during processing

本产品清根部R的加工形状的标准(请参照右图) Corner R shape during processing with MRW (see Fig.)

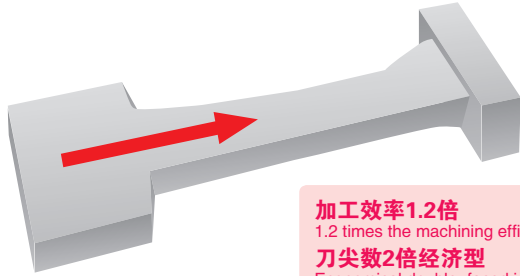
刀片 Insert	最大切深 ap ap (max.)	X	Y
ROMU12型 ROMU12 type	6mm	3mm	0.1mm
ROMU16型 ROMU16 type	8mm	4mm	0.1mm



※ 超出推荐切深(X)加工时，圆弧R的加工形状中刀片R(r)产生了偏差量Y。
When machining with larger ap than recommended ap (X), there is a gap (Y) between the workpiece corner and insert corner R (r).

※ 以上为标准数据。根据切削条件等会有 ± 0.2 mm左右的变动。
The above figure is estimation. There is a ± 0.2 mm variation depending on the cutting conditions.

12Cr钢 12Cr Steel



加工效率1.2倍
1.2 times the machining efficiency
刀尖数2倍经济型
Economical double-faced insert

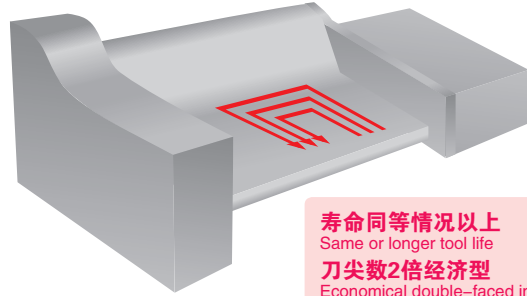
- 涡轮叶片 Turbine Blade · Vc=270m / min · fz=0.278mm/t
- ap=0.5 ~ 1.0mm ae=max.35mm · 干式 Dry
- MRW050R-12-6T-M(6枚刃)⁶ inserts · ROMU1204M0ER-SM(CA6535)

CA6535	稳定加工 Stable Machining
其他公司产品A(正角刀盘) Competitor A (Positive cutter)	切削音大加工不稳定 Unstable machining with large noise

与其他公司产品A比较,加工效率提高1.2倍,寿命相同下实现稳定加工。
MRW型刀尖数2倍提高了经济性,成本优势明显。
MRW improved machining efficiency by 1.2 times with same tool life compared with Competitor A.
MRW has cost advantage due to double sided inserts.

(来自用户的评价) User Evaluation

12Cr钢 12Cr Steel



寿命同等情况以上
Same or longer tool life
刀尖数2倍经济型
Economical double-faced insert

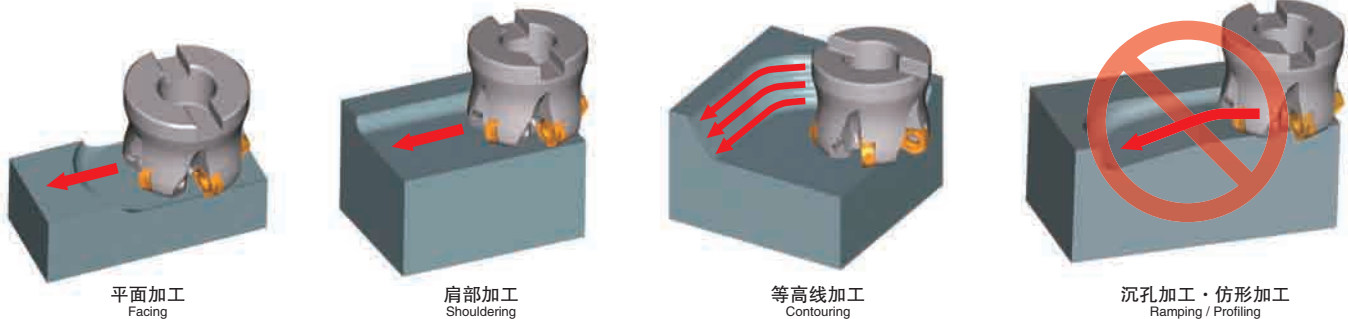
- 涡轮叶片 Turbine Blade · Vc=250m / min · fz=0.16mm/t
- ap=2.0mm ae=5 ~ 30mm · 湿式 Wet
- MRW050R-12-5T-M(5枚刃)⁵ inserts · ROMU1204M0ER-SM(CA6535)

CA6535	稳定加工·可能延长寿命 Stable, available for further machining
其他公司产品B(正角刀盘) Competitor B (Positive cutter)	切削音大加工不稳定 Unstable machining with large noise

与其他公司产品B相比,刀尖的损伤少切削音小。
达成同等以上寿命时,刀尖数是2倍,成本优势明显。
MRW showed less damage on the cutting edge and reduced cutting noise.
MRW has equal or longer tool life and cost advantage due to double sided inserts.

(来自用户的评价) User Evaluation

加工形态 Applications



※沉孔加工、仿形加工等3坐标加工无法对应。
MRW is not available for 3D machining such as Ramping and Profiling.

各种APP应用程序,为客户生产效率提高做出贡献。

搜索“京瓷切削工具”或扫描二维码下载APP应用

iPhone



iPad



Android



还可在京瓷网站获取最新信息。 <http://www.kyocera.com.cn/prdct/cuttingtool/index.html>



京瓷(中国)商贸有限公司

机械工具事业部

上海市闸北区万荣路700号大宁中心广场A3幢140室(200072)
TEL:021-3660-7711 FAX:021-5638-6200

<http://www.kyocera.com.cn/prdct/cuttingtool/index.html>

CP312-2 CAT/6T1410GPH