

适用合金钢、碳钢材料精加工及半精加工领域。  
切削性能优良，显著降低切削阻力，大幅度提升加工表面质量。

# 金属陶瓷M级产品系列



## 7 牌号解析

### TN1020

#### 加工材质

适用于硬度低于HRC40碳钢、合金钢、铝合金等。

#### 加工类型

通用型牌号，精加工半精加工，车削、铣削、开槽。

#### 特性优势

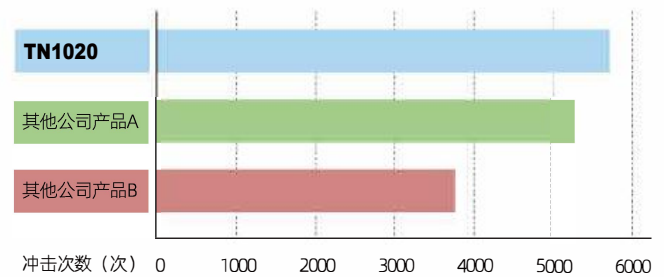
细晶，高耐磨性，高表面光洁度，高切削效率。

密度 (g/cm <sup>3</sup> )	6.77	硬度 (HRA)	92.5
抗弯强度 (MPa)	≥1800	断裂韧性 (MPa·m <sup>1/2</sup> )	8.2

### 较好的抗崩损性能

采用高稳定性新工艺保证优秀的抗崩损性能

抗崩损性对比 (本公司对比) 5次测定平均值



切削参数: Vc=200m/min, ap=1.5mm, f=0.2mm/rev, 湿式加工  
被切削材: 45# (间断切削4槽)

### PV2110

NANO 涂层

高性能NANO涂层，表面附加TiN复合涂层，抗粘附性能，金黄色外观，可以轻松辨认已使用刀尖。

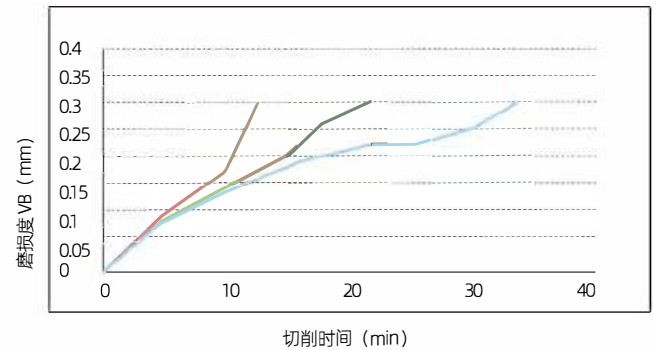
密度 (g/cm <sup>3</sup> )	6.77	硬度 (HRA)	92.5
抗弯强度 (MPa)	≥1800	断裂韧性 (MPa·m <sup>1/2</sup> )	8.2



特殊的PVD涂层材质与基体优异的结合性能，公司内部钢件高速加工首推牌号，高耐磨性与高韧性良好匹配。

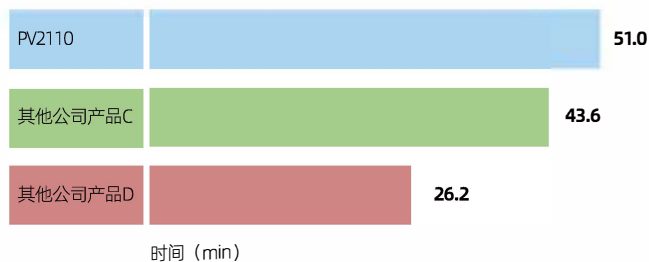
耐磨损性对比 (本公司对比) 5次测定平均值

— PV2110 — 其他公司产品C — 其他公司产品D



### 刀具加工寿命对比

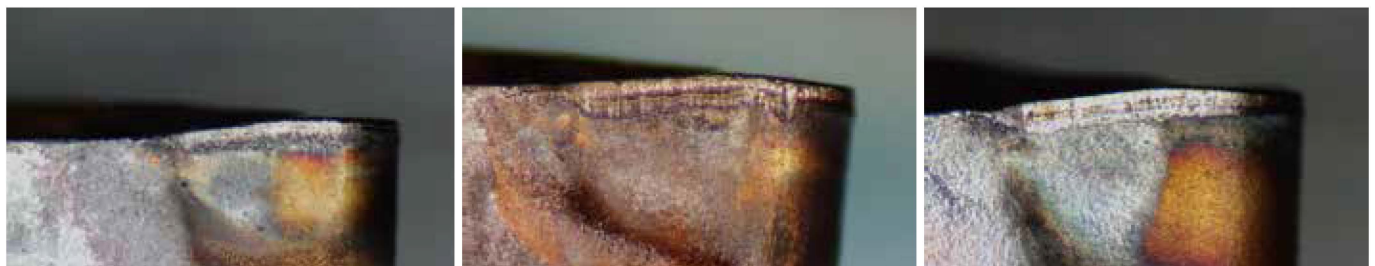
(本公司对比) 5次测定平均值



### 刀尖磨损状态对比

(本公司对比) 5次测定平均值

切削参数: Vc=320m/min, ap=1.5mm, f=0.2mm/rev, 湿式加工 被切削材: 42CrMo




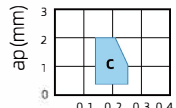
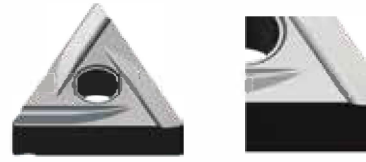
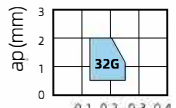

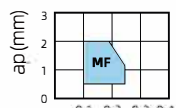

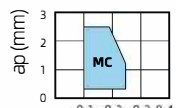

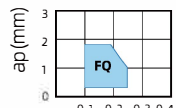

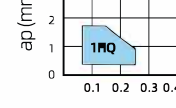
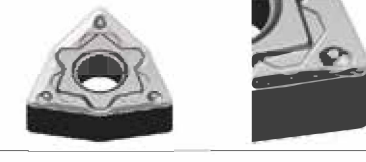
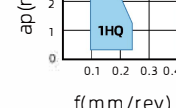
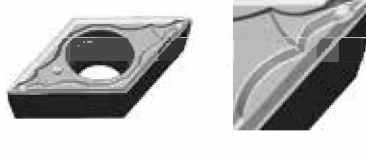
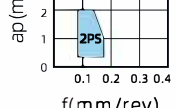
PV2110


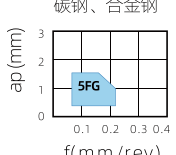

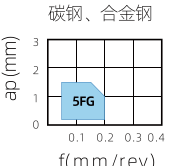

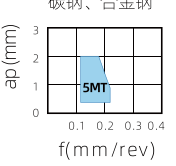

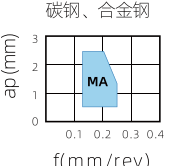

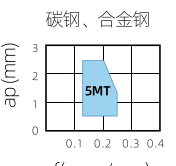

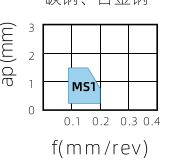

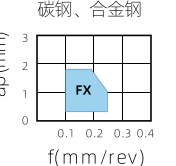

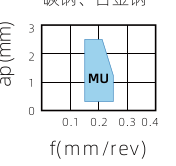

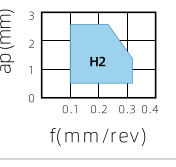
其他公司产品C

其他公司产品D

## 2 断屑槽型












### 丰富完善的断屑槽阵容

切削范围	类型	名称	形状及断屑槽断面	特点	切削参数推荐
半精加工 精加工	负型	C		通用型断屑槽，能良好适应各种普通常用切削工况。	碳钢、合金钢 ap (mm)  f (mm/rev)
半精加工	负型	32G		M级双面断屑槽，兼备刀尖强度与切削锋利性，适用于从轻切削到中切削的广泛领域。有切削方向，因此能有效控制切削排出。研磨型断屑槽。	碳钢、合金钢 ap (mm)  f (mm/rev)
半精加工 精加工	负型	MF (5VF)		适合细长工件加工，大前角降低切削力，使用中低碳钢加工以及HRC低于40的合金钢。可加工HRC低于30的轻微氧化皮。	碳钢、合金钢 ap (mm)  f (mm/rev)
		MC (5FS)		普通中等加工，通用型韧性前角，特别适合中低碳钢加工，以及HRC低于45的合金钢。可加工HRC低于30的轻微氧化皮。	碳钢、合金钢 ap (mm)  f (mm/rev)
半精加工	负型	FQ		切削性能良好，适合低碳钢等材料的中等加工领域。HRC不超过40合金钢能有效降低切削阻力。	碳钢、合金钢 ap (mm)  f (mm/rev)
半精加工 精加工	正型	1HQ		轻切削范围内通用切削槽型。适合中低碳钢加工，以及HRC不超过40合金钢。能有效降低切削阻力。	碳钢、合金钢 ap (mm)  f (mm/rev)
半精加工	负型	HS		普通中等加工，通用型韧性前角，特别适合中低碳钢加工，以及HRC低于45的合金钢。可加工HRC低于30的轻微氧化皮。	碳钢、合金钢 ap (mm)  f (mm/rev)
半精加工	正型	2PS		采用三维断屑槽设计，在半精切削加工中具有出众的排屑性能和低切削力优势。低成本、M级正前角刀片，可在广泛的应用中实现高效的镗孔加工。	碳钢、合金钢 ap (mm)  f (mm/rev)

切削范围	类型	名称	形状及断屑槽断面	特点	切削参数推荐
半精加工 精加工	正型	5FG		适应精到中轻加工，适合中低碳钢加工，以及HRC不超过40合金钢。良好保持低切削力，断屑良好。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
	负型			普通工件精加工及半精加工，适用中低碳钢加工有自己HRC不超过40合金钢，低切削力，推荐在良好工况下使用。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
半精加工	正型	5MT		适应半精加工，有效降低切削阻力，适合中低碳钢加工，以及HRC不超过40合金钢。HRC低于30可以加工轻微氧化皮。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
	负型	MA		从轻加工到粗加工，通用型韧性前角，可加工中低碳钢以及HRC低于40的合金钢、HRC低于30的轻微氧化皮。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
	负型	5MT		从轻加工到粗加工，通用型韧性前角，可加工中低碳钢以及HRC低于40的合金钢、HRC低于30的轻微氧化皮。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
半精加工 精加工	负型	MS1 (TS)		M级双面断屑槽，适用于钢材半精加工到精加工。中低碳钢加工以及HRC不超过40合金钢。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
		FX		切削性能良好，适合低碳钢等材料的中等加工领域。HRC不超过40合金钢能有效降低切削阻力。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
半精加工	负型	MU		通用断屑槽型，可胜任钣金加工到粗加工工况，适合普通钢材加工。	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)
半精加工 粗加工	正型	H2		刀尖强化型铣刀片用于立铣刀加工侧壁	碳钢、合金钢  $a_p$ (mm) $f$ (mm/rev)

### 3 型号标准

#### 负型M级、半M级

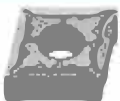











外观	型号	尺寸(mm)			牌号	
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020	PV2110
	CNMG120404-FQ	12.7	4.76	0.4	●	●
	CNMG120408-FQ	12.7	4.76	0.8	●	●
	DNMG150404-FQ	12.7	4.76	0.4	●	●
	DNMG150408-FQ	12.7	4.76	0.8	●	●
	DNMG150604-FQ	12.7	6.35	0.4	●	●
	DNMG150608-FQ	12.7	6.35	0.8	●	●
	SNMG120404-FQ	12.7	4.76	0.4	●	●
	SNMG120408-FQ	12.7	4.76	0.8	●	●
	TNMG160404-FQ	9.525	4.76	0.4	●	●
	TNMG160408-FQ	9.525	4.76	0.8	●	●
	VNMG160404-FQ	9.525	4.76	0.4	●	●
	VNMG160408-FQ	9.525	4.76	0.8	●	●
	WNMG080404-FQ	12.7	4.76	0.4	●	●
	WNMG080408-FQ	12.7	4.76	0.8	●	●
	WNMG080412-FQ	12.7	4.76	1.2	●	●
	CNMG120404-FX	12.7	4.76	0.4	●	●
	CNMG120408-FX	12.7	4.76	0.8	●	●
	SNMG120404-FX	12.7	4.76	0.4	●	●
	SNMG120408-FX	12.7	4.76	0.8	●	●
	TNMG160404-FX	9.525	4.76	0.4	●	●
	TNMG160408-FX	9.525	4.76	0.8	●	●
	WNMG080404-FX	12.7	4.76	0.4	●	●
	WNMG080408-FX	12.7	4.76	0.8	●	●
	WNMG080404-HS	12.7	4.76	0.4	●	●
	WNMG080408-HS	12.7	4.76	0.8	●	●



## 负型M级、半M级

外观	型号	尺寸(mm)			牌号	
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020	PV2110
	DNMG150404R/L-MF	12.7	4.76	0.4	●	●
	TNMG160404R/L-MF	9.525	4.76	0.4	●	●
	TNMG160408R/L-MF	9.525	4.76	0.8	●	●
	TNMG160404R/L-5VF	9.525	4.76	0.4	●	●
	TNMG160408R/L-5VF	9.525	4.76	0.8	●	●
	TNMG160404R-MC1	9.525	4.76	0.4	●	●
	TNMG160408R-MC1	9.525	4.76	0.8	●	●
	SNMG120404-5MT	12.7	4.76	0.4	●	●
	SNMG120408-5MT	12.7	4.76	0.8	●	●
	SNMG120408-MA	12.7	4.76	0.8	●	●
	TNMG160404-5MT	9.525	4.76	0.4	●	●
	TNMG160404-MA	9.525	4.76	0.4	●	●
	TNMG160408-MA	9.525	4.76	0.8	●	●
	VNMG160404-5MT	9.525	4.76	0.4	●	●
	VNMG160408-MA	9.525	4.76	0.8	●	●
	WNMG080404-5MT	12.7	4.76	0.4	●	●
	WNMG080408-5MT	12.7	4.76	0.8	●	●
	TNMG160404-5FG	9.525	4.76	0.4	●	●
	TNMG160408-5FG	9.525	4.76	0.8	●	●
	WNMG080404-5FG	12.7	4.76	0.4	●	●
	WNMG080408-5FG	12.7	4.76	0.8	●	●
	TNMG160404R/L-5FS	9.525	4.76	0.4	●	●
	TNMG160408R/L-5FS	9.525	4.76	0.8	●	●


## 负型M级、半M级

外观	型号	尺寸(mm)			牌号	
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020	PV2110
	CNMG120404-MS1	12.7	4.76	0.4	●	●
	CNMG120408-MS1	12.7	4.76	0.8	●	●
	TNMG160404-MS1	9.525	4.76	0.4	●	●
	TNMG160408-MS1	9.525	4.76	0.8	●	●
	WNMG080404-MS1	12.7	4.76	0.4	●	●
	WNMG080408-MS1	12.7	4.76	0.8	●	●
	TNMG160404-2TS	9.525	4.76	0.4	●	●
	TNMG160408-2TS	9.525	4.76	0.8	●	●
	WNMG080404-2TS	12.7	4.76	0.4	●	●
	WNMG080408-2TS	12.7	4.76	0.8	●	●
	TNMG160404R/L-MC	9.525	4.76	0.4	●	●
	TNMG160408R/L-MC	9.525	4.76	0.8	●	●
	WNMG080404R/L-MC	12.7	4.76	0.4	●	●
	WNMG080408R/L-MC	12.7	4.76	0.8	●	●
	CNMG120404-MU	12.7	4.76	0.4	●	●
	CNMG120408-MU	12.7	4.76	0.8	●	●
	DNMG150404-MU	12.7	4.76	0.4	●	●
	DNMG150408-MU	12.7	4.76	0.8	●	●
	DNMG150604-MU	12.7	6.35	0.4	●	●
	DNMG150608-MU	12.7	6.35	0.8	●	●
	TNMG160404-MU	9.525	4.76	0.4	●	●
	TNMG160408-MU	9.525	4.76	0.8	●	●
	VNMG160404-MU	9.525	4.76	0.4	●	●
	VNMG160408-MU	9.525	4.76	0.8	●	●
	WNMG080404-MU	12.7	4.76	0.4	●	●
	WNMG080408-MU	12.7	4.76	0.8	●	●








## 负型M级、半M级

外观	型号	尺寸(mm)			牌号	
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020	PV2110
	TNMG160402R/L-C	9.525	4.76	0.2	●	●
	TNMG160404R/L-C	9.525	4.76	0.4	●	●
	TNMG160408R/L-C	9.525	4.76	0.8	●	●
	TNMG160404R/L-32G	9.525	4.76	0.4	●	●
	TNMG160408R/L-32G	9.525	4.76	0.8	●	●

## 正型M级




外观	型号	尺寸(mm)			牌号	
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020	PV2110
	CCMT060202-1HQ	6.35	2.38	0.2	●	●
	CCMT060204-1HQ	6.35	2.38	0.4	●	●
	CCMT09T302-1HQ	9.525	3.97	0.2	●	●
	CCMT09T304-1HQ	9.525	3.97	0.4	●	●
	CCMT09T304-3MU	9.525	3.97	0.4	●	●
	DCMT070202-1HQ	6.35	2.38	0.2	●	●
	DCMT070204-1HQ	6.35	2.38	0.4	●	●
	DCMT11T302-1HQ	9.525	3.97	0.2	●	●
	DCMT11T304-1HQ	9.525	3.97	0.4	●	●
	DCMT11T308-1HQ	9.525	3.97	0.8	●	●
	DCMT11T304-2PS	9.525	3.97	0.4	●	●



# 正型M级

外观	型号	尺寸(mm)			牌号	
		内切圆(I.C)	厚度(S)	刀尖圆弧半径(Re)	TN1020	PV2110
	TCMT090202-1HQ	5.56	2.38	0.2	●	●
	TCMT090204-1HQ	5.56	2.38	0.4	●	●
	TCMT110202-1HQ	6.35	2.38	0.2	●	●
	TCMT110204-1HQ	6.35	2.38	0.4	●	●
	TCMT110208-1HQ	6.35	2.38	0.8	●	●
	TPMT110304-1HQ	6.35	3.18	0.4	●	●
	TPMT110308-1HQ	6.35	3.18	0.8	●	●
	TCMT16T304-1HQ	9.525	3.97	0.4	●	●
	VBMT110304-1HQ	6.35	3.18	0.4	●	●
	VBMT160404-1HQ	9.525	4.76	0.4	●	●
	CCMT060204-5FG	6.35	2.38	0.4	●	●
	CCMT09T304-5FG	9.525	3.97	0.4	●	●
	CCMT09T308-5FG	9.525	3.97	0.8	●	●
	DCMT070204-5FG	6.35	2.38	0.4	●	●
	DCMT11T304-5FG	9.525	3.97	0.4	●	●
	DCMT11T308-5FG	9.525	3.97	0.8	●	●
	TCMT110204-5FG	6.35	2.38	0.4	●	●
	TCMT16T304-5FG	9.525	3.97	0.4	●	●
	TPMT110304-5FG	6.35	3.18	0.4	●	●
	CCMT060204-5MT	6.35	2.38	0.4	●	●
	CCMT09T304-5MT	9.525	3.97	0.4	●	●
	CCMT09T308-5MT	9.525	3.97	0.8	●	●
	DCMT11T304-5MT	9.525	3.97	0.4	●	●
	DCMT11T308-5MT	9.525	3.97	0.8	●	●

## 正型M级

外观	型号	尺寸(mm)			牌号	
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020	PV2110
	SCMT09T304-5MT	9.525	3.97	0.4	●	●
	SCMT09T308-5MT	9.525	3.97	0.8	●	●
	TCMT110204-5MT	6.35	2.38	0.4	●	●
	TCMT16T304-5MT	9.525	3.97	0.4	●	●
	TCMT16T308-5MT	9.525	3.97	0.8	●	●

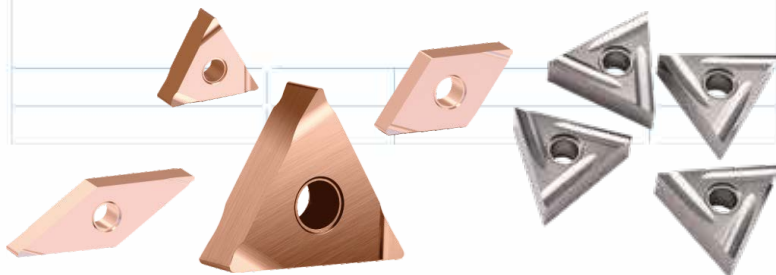
外观	型号	尺寸(mm)				牌号	
		长度 (mm)	宽度 (mm)	高度 (mm)	刀尖圆弧半径 (Re)	TN1020	PV2110
	APMT1135PDER-H2	11	6.35	3.5	0.8	●	●
	APMT1604PDER-H2	16.5	9.525	4.76	0.8	●	●
	APMT1604PDER-FM	16.5	9.525	4.76	0.8	●	●
	MGMN200-02-G	16	2.0	3.5	0.2	●	●
	MGMN250-02-G	18.5	2.5	3.85	0.2	●	●
	MGMN300-03-G	21.0	3.0	4.80	0.3	●	●
	MGMN400-03-G	21.0	4.0	4.80	0.3	●	●

外观	型号	尺寸(mm)		牌号	
		内切圆 (mm)	高度 (mm)	TN1020	PV2110
	RCKT1204MO-PM	12.0	4.76	●	●
	RPMT1203-BB	12.0	3.18	●	●
	RPMT1604-BB	16.0	4.76	●	●
	RCKTO803MO-BB	8.0	3.18	●	●



适用合金钢、碳钢材料精加工及半精加工及铝材精加工超精加工领域。切削性能优良，显著降低切削阻力，大幅度提升加工表面质量。


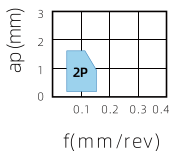

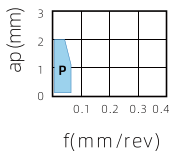

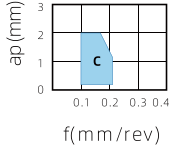

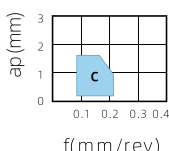

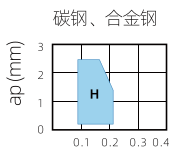

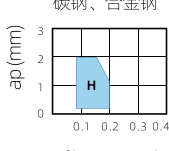


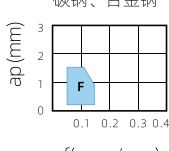

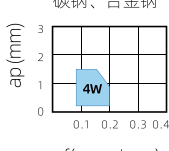
# 金属陶瓷G级产品系列



## 2 断屑槽型





丰富完善的断屑槽阵容

切削范围	类型	名称	形状及断屑槽断面	特点	切削参数推荐
半精加工	负型	G (2G)		适用于中低碳钢连续~轻断续加工的断屑槽。	<p>碳钢、合金钢</p>
半精加工	正型	Y		切削效果好，可获得良好的加工面。	<p>碳钢、合金钢</p>
精加工	负型	25R		双面断屑槽，低碳钢等粘性材料加工中切削效果良好。	<p>碳钢、合金钢</p>
精加工	正型	2W15		宽口型断屑槽，适用多种精加工应用情况。	<p>碳钢、合金钢</p>
低进给	正型	1U		低进给条件下即使切深变化，也能切实控制切屑，使低阻力加工成为可能。	<p>碳钢、合金钢</p>







切削范围	类型	名称	形状及断屑槽断面	特点	切削参数推荐
半精加工	负型	2P		在低碳钢等粘性材料的中切削应用工况里，效果尤其良好。	碳钢、合金钢 
	精加工	正型 P (P1)			碳钢、合金钢 
半精加工	负型	C		适用于普通切削常用的通用型槽型。	碳钢、合金钢 
	正型				碳钢、合金钢 
	负型	H		通用平行断屑槽，中低进给量条件下切屑处理良好。	碳钢、合金钢 
	正型				碳钢、合金钢 
	精加工	正型	S (S1)		能有效控制切屑，低阻力切削效果显著。
负型		3F (F, F1)		锋利刀尖规格能实现良好的切削效果，同时能明显降低切削阻力，并有效控制排屑方向，确保切屑顺畅排除。	碳钢、合金钢 
正型		4W		宽口型断屑槽，适用多种精加工应用情况。	碳钢、合金钢 

### 3 型号标准



#### G级正型

外观	型号	尺寸(mm)			牌号
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020/PV2110
	CCGT060202R/L-C	6.35	2.38	0.2	●
	CCGT060204R/L-C	6.35	2.38	0.4	●
	CCGT09T302R/L-C	9.525	3.97	0.2	●
	CCGT09T304R/L-C	9.525	3.97	0.4	●
	CCGT09T320R/L-C	9.525	3.97	2.0	●
	CCGT040101R/L-S	4.3	1.8	0.1	●
	CCGT040102R/L-S	4.3	1.8	0.2	●
	CCGT040104R/L-S	4.3	1.8	0.4	●
	CCGT060202R/L-S1	6.35	2.38	0.2	●
	CCGT060204R/L-S1	6.35	2.38	0.4	●
	CCGT09T302R/L-S1	9.525	3.97	0.2	●
	CCGT09T304R/L-S1	9.525	3.97	0.4	●
	CCGT060201ER/L-1U	6.35	2.38	0.1	●
	CCGT060202FR/L-1U	6.35	2.38	0.2	●
	CCGT060204FR/L-1U	6.35	2.38	0.4	●
	CCGT060202ER/L-1U	6.35	2.38	0.2	●
	CCGT060204ER/L-1U	6.35	2.38	0.4	●
	CCGT09T302R/L-1U	9.525	3.97	0.2	●
	CCGT09T304R/L-1U	9.525	3.97	0.4	●
	CCGT09T301FR/L-1U	9.525	3.97	0.1	●
	CCGT09T301R/L-1U	9.525	3.97	0.1	●
	CCGT09T302FR/L-1U	9.525	3.97	0.2	●
	CCGT09T304FR/L-1U	9.525	3.97	0.4	●
		CCGT09T301R/L-2W20	9.525	3.97	0.1

## G级正型




外观	型号	尺寸(mm)			牌号
		内切圆 (L.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020/PV2110
	CCGT060200R/L-H	6.35	2.38	0	●
	CCGT060202R/L-H	6.35	2.38	0.2	●
	CCGT060204R/L-H	6.35	2.38	0.4	●
	CCGT09T300R/L-H	9.525	3.97	0	●
	CCGT09T302R/L-H	9.525	3.97	0.2	●
	CCGT09T304R/L-H	9.525	3.97	0.4	●
	DCGT070202R/L-C	6.35	2.38	0.2	●
	DCGT070204R/L-C	6.35	2.38	0.4	●
	DCGT11T301R/L-C	9.525	3.97	0.1	●
	DCGT11T302R/L-C	9.525	3.97	0.2	●
	DCGT11T304R/L-C	9.525	3.97	0.4	●
	DCGT11T301R/L-S	9.525	3.97	0.1	●
	DCGT070201R/L-S1	6.35	2.38	0.1	●
	DCGT070202R/L-S1	6.35	2.38	0.2	●
	DCGT070204R/L-S1	6.35	2.38	0.4	●
	DCGT11T302R/L-S1	9.525	3.97	0.2	●
	DCGT11T304R/L-S1	9.525	3.97	0.4	●
	DCGT11T302R/L-H	9.525	3.97	0.2	●
	DCGT11T304R/L-H	9.525	3.97	0.4	●
	DCGT11T308R/L-H	9.525	3.97	0.8	●
	DCGT11T301FR/L-1U	9.525	3.97	0.1	●
	DCGT11T302FR/L-1U	9.525	3.97	0.2	●
	DCGT11T304FR/L-1U	9.525	3.97	0.4	●
	TBGH060102R/L-S1	3.97	1.59	0.2	●
	TBGH060104R/L-S1	3.97	1.59	0.4	●
	TPGH080202R/L-S1	4.76	2.38	0.2	●
	TPGH080204R/L-S1	4.76	2.38	0.4	●
	TPGH090202R/L-S1	5.56	2.38	0.2	●

## G级正型





外观	型号	尺寸(mm)			牌号
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020/PV2110
	TPGH090204R/L-S1	5.56	2.38	0.4	●
	TPGH110302R/L-S1	6.35	3.18	0.2	●
	TPGH110304R/L-S1	6.35	3.18	0.4	●
	TPGH080201R/L-S	4.76	2.38	0.1	●
	TPGH080208R/L-S	4.76	2.38	0.8	●
	TPGH090201R/L-S	5.56	2.38	0.1	●
	TPGH090208R/L-S	5.56	2.38	0.8	●
	TPGH110301R/L-S	6.35	3.18	0.1	●
	TPGH110308R/L-S	6.35	3.18	0.8	●
	TBGT060102R/L-4W	3.97	1.59	0.2	●
	TBGT060104R/L-4W	3.97	1.59	0.4	●
	TPGT080202R/L-4W	4.76	2.38	0.2	●
	TPGT080204R/L-4W	4.76	2.38	0.4	●
	TPGT090202R/L-4W	5.56	2.38	0.2	●
	TPGT090204R/L-4W	5.56	2.38	0.4	●
	TCGT110202R/L-4W	6.35	2.38	0.2	●
	TCGT110204R/L-4W	6.35	2.38	0.4	●
	TPGT110302R/L-4W	6.35	3.18	0.2	●
TPGT110304R/L-4W	6.35	3.18	0.4	●	
	TBGT060102R/L-S1	3.97	1.59	0.2	●
	TBGT060104R/L-S1	3.97	1.59	0.4	●
	TPGT080202R/L-S1	4.76	2.38	0.2	●
	TPGT080204R/L-S1	4.76	2.38	0.4	●
	TPGT090202R/L-S1	5.56	2.38	0.2	●
	TPGT090204R/L-S1	5.56	2.38	0.4	●
	TCGT110202R/L-S1	6.35	2.38	0.2	●
	TCGT110204R/L-S1	6.35	2.38	0.4	●



## G级正型

外观	型号	尺寸(mm)			牌号 TN1020/PV2110
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	
	TPGT110302R/L-S1	6.35	3.18	0.2	●
	TPGT110304R/L-S1	6.35	3.18	0.4	●
	TCGT110201R/L-S	6.35	2.38	0.1	●
	TCGT110208R/L-S	6.35	2.38	0.8	●
	TCGT110202R/L-C	6.35	2.38	0.2	●
	TCGT110204R/L-C	6.35	2.38	0.4	●
	TPGH110302R/L-2W15	6.35	3.18	0.2	●
	TPGH110304R/L-2W15	6.35	3.18	0.4	●
	VCGT110301R/L-S	6.35	3.18	0.1	●
	VCGT110302R/L-S	6.35	3.18	0.2	●
	VCGT110304R/L-S	6.35	3.18	0.4	●
	VCGT110308R/L-S	6.35	3.18	0.8	●
	VBGT110301R/L-S1	6.35	3.18	0.1	●
	VBGT110302R/L-S1	6.35	3.18	0.2	●
	VBGT110304R/L-S1	6.35	3.18	0.4	●
	VBGT160402R/L-S1	9.525	4.76	0.2	●
	VBGT160404R/L-S1	9.525	4.76	0.4	●
	VBGT160408R/L-S1	9.525	4.76	0.8	●
	VCGT160402R/L-S1	9.525	4.76	0.2	●
	VCGT160404R/L-S1	9.525	4.76	0.4	●
	VCGT160408R/L-S1	9.525	4.76	0.8	●
	VBGT110301R/L-Y	6.35	3.18	0.1	●
	VBGT110302R/L-Y	6.35	3.18	0.2	●
	VBGT110304R/L-Y	6.35	3.18	0.4	●
	VBGT160402R/L-Y	9.525	4.76	0.2	●
	VBGT160404R/L-Y	9.525	4.76	0.4	●
	VBGT160408R/L-Y	9.525	4.76	0.8	●





## G级正型

外观	型号	尺寸(mm)			牌号 TN1020/PV2110
		内切圆 (L.C)	厚度 (S)	刀尖圆弧半径 (Re)	
	VBGT110302R/L-C	6.35	3.18	0.2	●
	VBGT110304R/L-C	6.35	3.18	0.4	●
	VCGT110301R/L-C	6.35	3.18	0.1	●
	VCGT110302R/L-C	6.35	3.18	0.2	●
	VCGT110304R/L-C	6.35	3.18	0.4	●
	VBGT160402R/L-C	9.525	4.76	0.2	●
	VBGT160404R/L-C	9.525	4.76	0.4	●
	VBGT160408R/L-C	9.525	4.76	0.8	●
	VCGT160402R/L-C	9.525	4.76	0.2	●
	VCGT160404R/L-C	9.525	4.76	0.4	●
	VCGT160408R/L-C	9.525	4.76	0.8	●
		VBGT110301FR/L-P1	6.35	3.18	0.1
VBGT110302FR/L-P1		6.35	3.18	0.2	●
VBGT110304FR/L-P1		6.35	3.18	0.4	●
VBGT160402R/L-P		9.525	4.76	0.2	●
VBGT160404R/L-P		9.525	4.76	0.4	●
VBGT160408R/L-P		9.525	4.76	0.8	●
VCGT160402R/L-P		9.525	4.76	0.2	●
VCGT160404R/L-P		9.525	4.76	0.4	●
VCGT160408R/L-P		9.525	4.76	0.8	●
	VBGT160402R/L-H	9.525	4.76	0.2	●
	VBGT160404R/L-H	9.525	4.76	0.4	●
	VBGT160408R/L-H	9.525	4.76	0.8	●
	WBGT060102R/L-S1	3.97	1.59	0.2	●
	WBGT060104R/L-S1	3.97	1.59	0.4	●


## G级负型

外观	型号	尺寸(mm)			牌号
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	
	CNGG120402R/L-C	12.7	4.76	0.2	●
	CNGG120404R/L-C	12.7	4.76	0.4	●
	CNGG120408R/L-C	12.7	4.76	0.8	●
	CNGG120402R/L-H	12.7	4.76	0.2	●
	CNGG120404R/L-H	12.7	4.76	0.4	●
	CNGG120408R/L-H	12.7	4.76	0.8	●
	CNGG120402R/L-P	12.7	4.76	0.2	●
	CNGG120404R/L-P	12.7	4.76	0.4	●
	CNGG120408R/L-P	12.7	4.76	0.8	●
	CNGG120402R/L-S1	12.7	4.76	0.2	●
	CNGG120404R/L-S1	12.7	4.76	0.4	●
	CNGG120408R/L-S1	12.7	4.76	0.8	●
	DNGG110402R/L-C	9.525	4.76	0.2	●
	DNGG110404R/L-C	9.525	4.76	0.4	●
	DNGG110408R/L-C	9.525	4.76	0.8	●
	DNGG110402R/L-H	9.525	4.76	0.2	●
	DNGG110404R/L-H	9.525	4.76	0.4	●
	DNGG110408R/L-H	9.525	4.76	0.8	●
	DNGG150402R/L-H	12.7	4.76	0.2	●
	DNGG150404R/L-H	12.7	4.76	0.4	●
	DNGG150408R/L-H	12.7	4.76	0.8	●
	DNGG110402R/L-S	9.525	4.76	0.2	●
	DNGG110404R/L-S	9.525	4.76	0.4	●
	DNGG110408R/L-S	9.525	4.76	0.8	●
	DNGG150402R/L-S	12.7	4.76	0.2	●
	DNGG150404R/L-S	12.7	4.76	0.4	●
	DNGG150408R/L-S	12.7	4.76	0.8	●

## G级负型

外观	型号	尺寸(mm)			牌号
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020/PV2110
	DNGG150402R/L-S1	12.7	4.76	0.2	●
	DNGG150404R/L-S1	12.7	4.76	0.4	●
	DNGG150408R/L-S1	12.7	4.76	0.8	●
	SNGG090302R/L-P	9.525	3.18	0.2	●
	SNGG090304R/L-P	9.525	3.18	0.4	●
	SNGG090308R/L-P	9.525	3.18	0.8	●
	SNGG120402R/L-P	12.7	4.76	0.2	●
	SNGG120404R/L-P	12.7	4.76	0.4	●
	SNGG120408R/L-P	12.7	4.76	0.8	●
	SNGG120420R/L-2G	12.7	4.76	2.0	●
	SNGG120425R/L-2G	12.7	4.76	2.5	●
	SNGG090302R/L-C	9.525	3.18	0.2	●
	SNGG090304R/L-C	9.525	3.18	0.4	●
	SNGG090308R/L-C	9.525	3.18	0.8	●
	SNGG120402R/L-C	12.7	4.76	0.2	●
	SNGG120404R/L-C	12.7	4.76	0.4	●
	SNGG120408R/L-C	12.7	4.76	0.8	●
	SNGG120412R/L-C	12.7	4.76	1.2	●
	TNGG160401R/L-2P	9.525	4.76	0.1	●
	TNGG160402R/L-2P	9.525	4.76	0.2	●
	TNGG160404R/L-2P	9.525	4.76	0.4	●
	TNGG160408R/L-2P	9.525	4.76	0.8	●
	TNGG160401R/L-C	9.525	4.76	0.1	●
	TNGG160402R/L-C	9.525	4.76	0.2	●
	TNGG160404R/L-C	9.525	4.76	0.4	●
	TNGG160408R/L-C	9.525	4.76	0.8	●
	TNGG220402R/L-C	12.7	4.76	0.2	●


## G级负型

外观	型号	尺寸(mm)			牌号
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	TN1020/PV2110
	TNGG220404R/L-C	12.7	4.76	0.4	●
	TNGG220408R/L-C	12.7	4.76	0.8	●
	TNGG160401R/L-F	9.525	4.76	0.1	●
	TNGG160402R/L-F1	9.525	4.76	0.2	●
	TNGG160404R/L-F1	9.525	4.76	0.4	●
	TNGG160408R/L-F1	9.525	4.76	0.8	●
	TNGG160401R/L-2W	9.525	4.76	0.1	●
	TNGG160402R/L-2W	9.525	4.76	0.2	●
	TNGG160404R/L-2W	9.525	4.76	0.4	●
	TNGG160408R/L-2W	9.525	4.76	0.8	●
	TNGG160402R/L-3F	9.525	4.76	0.2	●
	TNGG160404R/L-3F	9.525	4.76	0.4	●
	TNGG160408R/L-3F	9.525	4.76	0.8	●
	TNGG160402R/L-25R	9.525	4.76	0.2	●
	TNGG160404R/L-25R	9.525	4.76	0.4	●
	VNGG160402R/L-C	9.525	4.76	0.2	●
	VNGG160404R/L-C	9.525	4.76	0.4	●
	VNGG160408R/L-C	9.525	4.76	0.8	●
	VNGG160402R/L-H	9.525	4.76	0.2	●
	VNGG160404R/L-H	9.525	4.76	0.4	●
	VNGG160408R/L-H	9.525	4.76	0.8	●
	VNGG160402R/L-S	9.525	4.76	0.2	●
	VNGG160404R/L-S	9.525	4.76	0.4	●
	VNGG160408R/L-S	9.525	4.76	0.8	●
	VNGG160402R/L-S1	9.525	4.76	0.2	●
	VNGG160404R/L-S1	9.525	4.76	0.4	●
	VNGG160408R/L-S1	9.525	4.76	0.8	●



## G级负型

外观	型号	尺寸(mm)			牌号
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	
	WNGG060402R/L-C	9.525	4.76	0.2	●
	WNGG060404R/L-C	9.525	4.76	0.4	●
	WNGG060408R/L-C	9.525	4.76	0.8	●
	WNGG080402R/L-C	12.7	4.76	0.2	●
	WNGG080404R/L-C	12.7	4.76	0.4	●
	WNGG080408R/L-C	12.7	4.76	0.8	●
	WNGG060402R/L-S	9.525	4.76	0.2	●
	WNGG060404R/L-S	9.525	4.76	0.4	●
	WNGG060408R/L-S	9.525	4.76	0.8	●
	WNGG060402R/L-S1	9.525	4.76	0.2	●
	WNGG060404R/L-S1	9.525	4.76	0.4	●
	WNGG060408R/L-S1	9.525	4.76	0.8	●
	WNGG080402R/L-S	12.7	4.76	0.2	●
	WNGG080404R/L-S	12.7	4.76	0.4	●
	WNGG080408R/L-S	12.7	4.76	0.8	●
	WNGG080402R/L-S1	12.7	4.76	0.2	●
	WNGG080404R/L-S1	12.7	4.76	0.4	●
	WNGG080408R/L-S1	12.7	4.76	0.8	●

外观	型号	尺寸(mm)				牌号
		内切圆 (I.C)	厚度 (S)	刀尖宽度 (S)	刀尖圆弧半径 (Re)	
	TGF32R200-010	9.525	3.18	2.0	0.1	●

# PVD涂层硬质合金G级产品系列

被削材	钢 (碳钢/合金钢)					不锈钢/不锈钢铸钢					铸铁 (灰口铸铁/球墨铸铁)			
切削领域	精加工 ←→ 粗加工					精加工 ←→ 粗加工					精加工 ←→ 粗加工			
使用分类	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30
PVD涂层硬质合金	PM4112 PM8110					PM4112 PM8110								

## PVD涂层硬质合金

材质符号	比重	母材硬度		抗崩韧性 (MPa·m <sup>1/2</sup> )	抗折强度 (MPa)
		HV30	HRA		
MF810	14.4	1600	92.5	12	4500
MF412	14.2	1700	93.5	11	4800


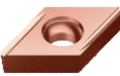



## 涂层牌号说明



牌号	颜色	涂层硬度(HV)	抗氧化温度(°C)	摩擦系数	涂层厚度(μm)	应用推荐
PM8110	紫黑	3500	900	0.3	2.5-3	钢、不锈钢、铸铁、钛合金多种工况
PM4112						
PM8210	灰黑色	4000	1200	0.3	3-4	通用不锈钢加工用
PM4212						
PM8310	古铜色	4200	1000	0.3	2-3	HRC55度难加工材质、高温合金、钛合金
PM4312						

## PVD涂层硬质合金(车削用)

\* 本表基于各公司的样本及公开刊物制作、未获得各公司的承认。

使用分类符号		美奢锐	京瓷	三菱综合材料	日本特殊陶业	山特维克
分类	符号					
P(钢用)	P01	PM4112	/	/	/	/
	P10	PM4112	/	/	/	/
	P20	PM4112 PM8110	PR930 PR1225	VP15TF		GC1125
	P30	PM8110	PR1225	VP15TF	ZM3 QM3	GC1125
M(不锈钢用)	M10	PM4112	PR930	VP10MF	/	/
	M20	PM4112 PM8110	PR930 PR1225	VP15TF	/	GC1125
	M30	PM8110	PR1225	VP15TF	ZM3 QM3	GC1125

外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PM8310	PM4112	PM4212	PM4312
	CCGT060202R/L-S1	6.35	2.38	0.2	●	●	●	●	●	●
	CCGT060204R/L-S1	6.35	2.38	0.4	●	●	●	●	●	●
	CCGT09T302R/L-S1	9.525	3.97	0.2	●	●	●	●	●	●
	CCGT09T304R/L-S1	9.525	3.97	0.4	●	●	●	●	●	●
	DCGT070202R/L-C	6.35	2.38	0.2	●	●	●	●	●	●
	DCGT070204R/L-C	6.35	2.38	0.4	●	●	●	●	●	●
	DCGT070201R/L-S1	6.35	2.38	0.1	●	●	●	●	●	●
	DCGT070202R/L-S1	6.35	2.38	0.2	●	●	●	●	●	●
	DCGT070204R/L-S1	6.35	2.38	0.4	●	●	●	●	●	●
	DCGT11T302R/L-S1	9.525	3.97	0.2	●	●	●	●	●	●
	DCGT11T304R/L-S1	9.525	3.97	0.4	●	●	●	●	●	●
	TBGH060102R/L-S1	3.97	1.59	0.2	●	●	●	●	●	●
	TBGH060104R/L-S1	3.97	1.59	0.4	●	●	●	●	●	●
	TPGH080202R/L-S1	4.76	2.38	0.2	●	●	●	●	●	●
	TPGH080204R/L-S1	4.76	2.38	0.4	●	●	●	●	●	●
	TPGT080202R/L-S1	4.76	2.38	0.2	●	●	●	●	●	●
	TPGT080204R/L-S1	4.76	2.38	0.4	●	●	●	●	●	●
	TPGH090202R/L-S1	5.56	2.38	0.2	●	●	●	●	●	●
	TPGH090204R/L-S1	5.56	2.38	0.4	●	●	●	●	●	●
	TPGH110302R/L-S1	6.35	3.18	0.2	●	●	●	●	●	●
	TPGH110304R/L-S1	6.35	3.18	0.4	●	●	●	●	●	●
	TBGT060102R/L-S1	3.97	1.59	0.2	●	●	●	●	●	●
	TBGT060104R/L-S1	3.97	1.59	0.4	●	●	●	●	●	●
	TPGT090202R/L-S1	5.56	2.38	0.2	●	●	●	●	●	●

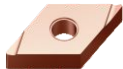




外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PV8310	PV4112	PM4212	PM4312
	TPGT090204R/L-S1	5.56	2.38	0.4	●	●	●	●	●	●
	TCGT110202R/L-S1	6.35	2.38	0.2	●	●	●	●	●	●
	TCGT110204R/L-S1	6.35	2.38	0.4	●	●	●	●	●	●
	TPGT110302R/L-S1	6.35	3.18	0.2	●	●	●	●	●	●
	TPGT110304R/L-S1	6.35	3.18	0.4	●	●	●	●	●	●
	VBGT110301R/L-S1	6.35	3.18	0.1	●	●	●	●	●	●
	VBGT110302R/L-S1	6.35	3.18	0.2	●	●	●	●	●	●
	VBGT110304R/L-S1	6.35	3.18	0.4	●	●	●	●	●	●
	VBGT160402R/L-S1	9.525	4.76	0.2	●	●	●	●	●	●
	VBGT160404R/L-S1	9.525	4.76	0.4	●	●	●	●	●	●
	VBGT160408R/L-S1	9.525	4.76	0.8	●	●	●	●	●	●
	VCGT160402R/L-S1	9.525	4.76	0.2	●	●	●	●	●	●
	VCGT160404R/L-S1	9.525	4.76	0.4	●	●	●	●	●	●
	VCGT160408R/L-S1	9.525	4.76	0.8	●	●	●	●	●	●
	VBGT110301R/L-Y	6.35	3.18	0.1	●	●	●	●	●	●
	VBGT110302R/L-Y	6.35	3.18	0.2	●	●	●	●	●	●
	VBGT110304R/L-Y	6.35	3.18	0.4	●	●	●	●	●	●
	VBGT160402R/L-Y	9.525	4.76	0.2	●	●	●	●	●	●
	VBGT160404R/L-Y	9.525	4.76	0.4	●	●	●	●	●	●
	VBGT160408R/L-Y	9.525	4.76	0.8	●	●	●	●	●	●
	VBGT110302R/L-C	6.35	3.18	0.2	●	●	●	●	●	●
	VBGT110304R/L-C	6.35	3.18	0.4	●	●	●	●	●	●
	VCGT110301R/L-C	6.35	3.18	0.1	●	●	●	●	●	●
	VCGT110302R/L-C	6.35	3.18	0.2	●	●	●	●	●	●




外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PV8310	PV4112	PM4212	PM4312
	VC GT110304R/L-C	6.35	3.18	0.4	●	●	●	●	●	●
	VB GT160402R/L-C	9.525	4.76	0.2	●	●	●	●	●	●
	VB GT160404R/L-C	9.525	4.76	0.4	●	●	●	●	●	●
	VB GT160408R/L-C	9.525	4.76	0.8	●	●	●	●	●	●
	VC GT160402R/L-C	9.525	4.76	0.2	●	●	●	●	●	●
	VC GT160404R/L-C	9.525	4.76	0.4	●	●	●	●	●	●
	VC GT160408R/L-C	9.525	4.76	0.8	●	●	●	●	●	●
	VB GT160402R/L-H	9.525	4.76	0.2	●	●	●	●	●	●
	VB GT160404R/L-H	9.525	4.76	0.4	●	●	●	●	●	●
	VB GT160408R/L-H	9.525	4.76	0.8	●	●	●	●	●	●
	WB GT060102R/L-S1	3.97	1.59	0.2	●	●	●	●	●	●
	WB GT060104R/L-S1	3.97	1.59	0.4	●	●	●	●	●	●

外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PM8310	PM4112	PM4212	PM4312
	WNGG080402R/L-S	12.7	4.76	0.2	●	■	●	●	■	●
	WNGG080404R/L-S	12.7	4.76	0.4	●	■	●	●	■	●
	WNGG080408R/L-S	12.7	4.76	0.8	●	■	●	●	■	●
	WNGG080402R/L-S1	12.7	4.76	0.2	●	■	●	●	■	●
	WNGG080404R/L-S1	12.7	4.76	0.4	●	■	●	●	■	●
	WNGG080408R/L-S1	12.7	4.76	0.8	●	■	●	●	■	●



外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PV8310	PV4112	PM4212	PM4312
	CNGG120402R/L-C	12.7	4.76	0.2	●	●	●	●	●	●
	CNGG120404R/L-C	12.7	4.76	0.4	●	●	●	●	●	●
	CNGG120408R/L-C	12.7	4.76	0.8	●	●	●	●	●	●
	CNGG120402R/L-H	12.7	4.76	0.2	●	●	●	●	●	●
	CNGG120404R/L-H	12.7	4.76	0.4	●	●	●	●	●	●
	CNGG120408R/L-H	12.7	4.76	0.8	●	●	●	●	●	●
	CNGG120402R/L-S	12.7	4.76	0.2	●	●	●	●	●	●
	CNGG120404R/L-S	12.7	4.76	0.4	●	●	●	●	●	●
	CNGG120408R/L-S	12.7	4.76	0.8	●	●	●	●	●	●
	DNNG110402R/L-C	9.525	4.76	0.2	●	●	●	●	●	●
	DNNG110404R/L-C	9.525	4.76	0.4	●	●	●	●	●	●
	DNNG110408R/L-C	9.525	4.76	0.8	●	●	●	●	●	●
	DNNG110402R/L-H	9.525	4.76	0.2	●	●	●	●	●	●
	DNNG110404R/L-H	9.525	4.76	0.4	●	●	●	●	●	●
	DNNG110408R/L-H	9.525	4.76	0.8	●	●	●	●	●	●
	DNNG150402R/L-H	12.7	4.76	0.2	●	●	●	●	●	●
	DNNG150404R/L-H	12.7	4.76	0.4	●	●	●	●	●	●
	DNNG150408R/L-H	12.7	4.76	0.8	●	●	●	●	●	●
	DNNG110402R/L-S	9.525	4.76	0.2	●	●	●	●	●	●
	DNNG110404R/L-S	9.525	4.76	0.4	●	●	●	●	●	●
	DNNG110408R/L-S	9.525	4.76	0.8	●	●	●	●	●	●
	DNNG150402R/L-S	12.7	4.76	0.2	●	●	●	●	●	●
	DNNG150404R/L-S	12.7	4.76	0.4	●	●	●	●	●	●
	DNNG150408R/L-S	12.7	4.76	0.8	●	●	●	●	●	●

外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PV8310	PV4112	PV4212	PV4312
	DNGG150402R/L-S1	12.7	4.76	0.2	●	●	●	●	●	●
	DNGG150404R/L-S1	12.7	4.76	0.4	●	●	●	●	●	●
	DNGG150408R/L-S1	12.7	4.76	0.8	●	●	●	●	●	●
	SNGG090302R/L-P	9.525	3.18	0.2	●	●	●	●	●	●
	SNGG090304R/L-P	9.525	3.18	0.4	●	●	●	●	●	●
	SNGG090308R/L-P	9.525	3.18	0.8	●	●	●	●	●	●
	SNGG120402R/L-P	12.7	4.76	0.2	●	●	●	●	●	●
	SNGG120404R/L-P	12.7	4.76	0.4	●	●	●	●	●	●
	SNGG120408R/L-P	12.7	4.76	0.8	●	●	●	●	●	●
	SNGG090302R/L-C	9.525	3.18	0.2	●	●	●	●	●	●
	SNGG090304R/L-C	9.525	3.18	0.4	●	●	●	●	●	●
	SNGG090308R/L-C	9.525	3.18	0.8	●	●	●	●	●	●
	SNGG120402R/L-C	12.7	4.76	0.2	●	●	●	●	●	●
	SNGG120404R/L-C	12.7	4.76	0.4	●	●	●	●	●	●
	SNGG120408R/L-C	12.7	4.76	0.8	●	●	●	●	●	●
	SNGG120412R/L-C	12.7	4.76	1.2	●	●	●	●	●	●
	TNGG160402R/L-C	9.525	4.76	0.2	●	●	●	●	●	●
	TNGG160404R/L-C	9.525	4.76	0.4	●	●	●	●	●	●
	TNGG160408R/L-C	9.525	4.76	0.8	●	●	●	●	●	●
	TNGG220402R/L-C	12.7	4.76	0.2	●	●	●	●	●	●
	TNGG220404R/L-C	12.7	4.76	0.4	●	●	●	●	●	●
	TNGG220408R/L-C	12.7	4.76	0.8	●	●	●	●	●	●
	TNGG160402R/L-F1	9.525	4.76	0.2	●	●	●	●	●	●
	TNGG160404R/L-F1	9.525	4.76	0.4	●	●	●	●	●	●
	TNGG160408R/L-F1	9.525	4.76	0.8	●	●	●	●	●	●

外观	型号	尺寸 (mm)			牌号					
		内切圆 (I.C)	厚度 (S)	刀尖圆弧半径 (Re)	PM8110	PM8210	PM8310	PM4112	PM4212	PM4312
	VN160402R/L-C	12.7	4.76	0.2	●	●	●	●	●	●
	VN160404R/L-C	12.7	4.76	0.4	●	●	●	●	●	●
	VN160408R/L-C	12.7	4.76	0.8	●	●	●	●	●	●
	VN160402R/L-H	9.525	3.18	0.2	●	●	●	●	●	●
	VN160404R/L-H	9.525	3.18	0.4	●	●	●	●	●	●
	VN160408R/L-H	9.525	3.18	0.8	●	●	●	●	●	●
	VN160402R/L-S	12.7	4.76	0.2	●	●	●	●	●	●
	VN160404R/L-S	12.7	4.76	0.4	●	●	●	●	●	●
	VN160408R/L-S	12.7	4.76	0.8	●	●	●	●	●	●
	VN160402R/L-S1	9.525	3.18	0.2	●	●	●	●	●	●
	VN160404R/L-S1	9.525	3.18	0.4	●	●	●	●	●	●
	VN160408R/L-S1	9.525	3.18	0.8	●	●	●	●	●	●
	WN060402R/L-C	12.7	4.76	0.2	●	●	●	●	●	●
	WN060404R/L-C	12.7	4.76	0.4	●	●	●	●	●	●
	WN060408R/L-C	12.7	4.76	0.8	●	●	●	●	●	●
	WN080402R/L-C	12.7	4.76	1.2	●	●	●	●	●	●
	WN080404R/L-C	9.525	4.76	0.2	●	●	●	●	●	●
	WN080408R/L-C	9.525	4.76	0.4	●	●	●	●	●	●
	WN060402R/L-S	9.525	4.76	0.8	●	●	●	●	●	●
	WN060404R/L-S	12.7	4.76	0.2	●	●	●	●	●	●
	WN060408R/L-S	12.7	4.76	0.4	●	●	●	●	●	●
	WN060402R/L-S1	12.7	4.76	0.8	●	●	●	●	●	●
	WN060404R/L-S1	9.525	4.76	0.2	●	●	●	●	●	●
	WN060408R/L-S1	9.525	4.76	0.4	●	●	●	●	●	●