天工硬质合金
TIANGONG CEMENTED CARBIDE

车削刀具 *Turning Tools*

天工硬质合金
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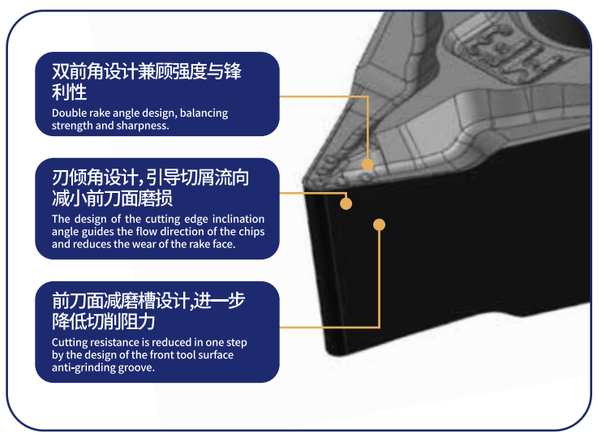
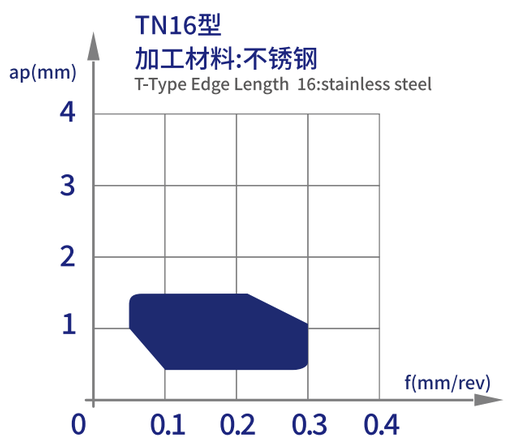
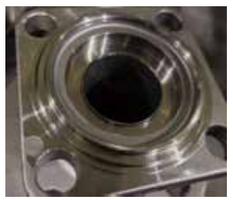
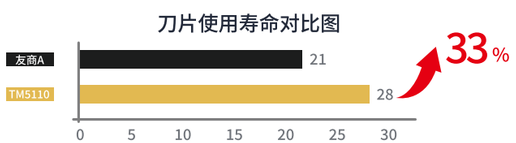




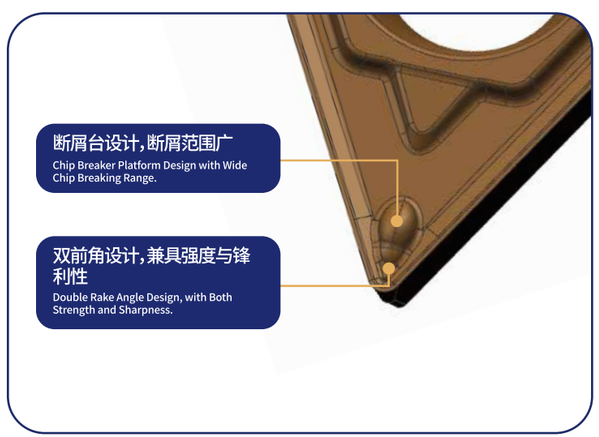
加工案例 Processing cases

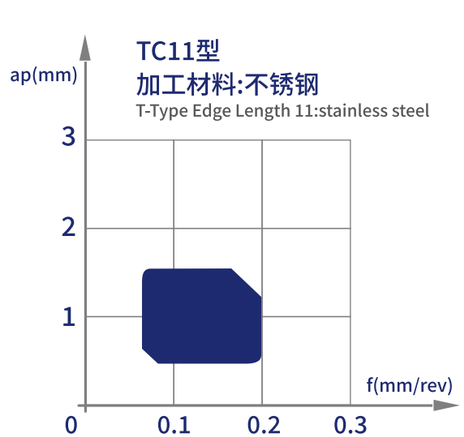
工件名称 Workpiece name	阀盖 Valve cover
工件材质 Workpiece Material	304不锈钢 304 stainless steel
切削参数 Cutting parameters	Vc=130m/min,Ap=1mm,f=0.15mm/r
冷却方式 Cooling method	切削液水冷 Emulsifiable Cutting Fluid
刀片型号 Insert Model	WNMG080408-MF3





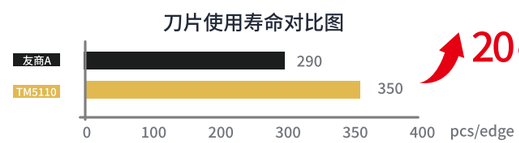
MF3断屑槽（正型不锈钢半精-精加工刀片）
MF3 Chipbreaker (Positive inserts for medium to finishing)



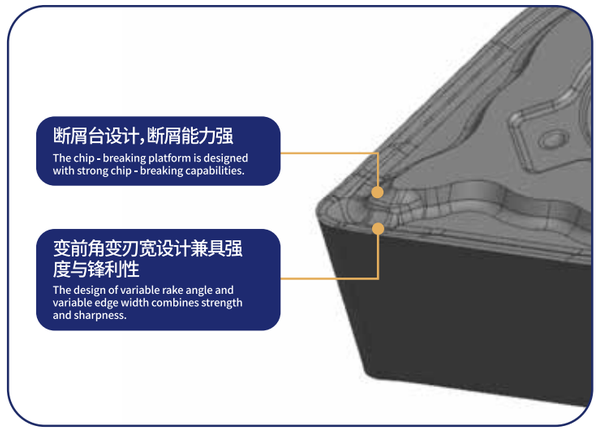


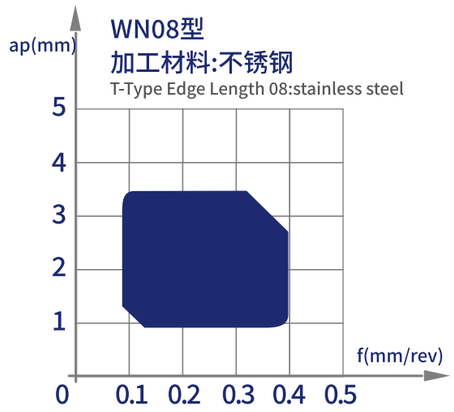
加工案例 Processing cases

工件名称 Workpiece name	出水接头 Water Outlet Connector
工件材质 Workpiece Material	304不锈钢 304 stainless steel
切削参数 Cutting parameters	Vc=110m/min,Ap=0.2mm,f=0.09mm/r
冷却方式 Cooling method	切削液水冷 Emulsifiable Cutting Fluid
刀片型号 Insert Model	TCMT110208-MF3



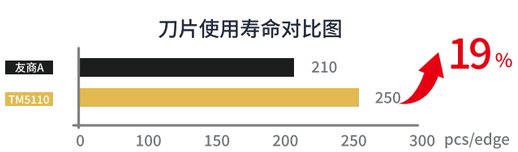
MM4断屑槽（不锈钢半精加工）
MM4 Chipbreaker（General-purpose for stainless steel）





加工案例 Processing cases

工件名称 Workpiece name	阀盖 Valve cover
工件材质 Workpiece Material	304不锈钢 304 stainless steel
切削参数 Cutting parameters	Vc=130m/min,Ap=1.5mm,f=0.15mm/r
冷却方式 Cooling method	切削液水冷 Emulsifiable Cutting Fluid
刀片型号 Insert Model	WNMG080408-MM4



牌号命名规则
Grade Identification System

T ① P ② 6 ③ 1 ④ 1 ⑤ 0 ⑥

① 品牌代号 Brand code： T——天工

② 材料应用代号 Material Application Code

代号 Code	P	M	K	N	S	H	U
工件材质 Material	钢 Steel	不锈钢 Stainless steel	铸铁 Cast iron	有色金属 Non-ferrous metal	难加工材料 HRSA	高硬材料 Hardened material	通用牌号 Universal grade

③ 材质 Material

代号 Code	1	2	3	4	5	6	7
刀具材质 Material	PCD	PCBN	陶瓷 Ceramics	金属陶瓷 Cermet	硬质合金物理涂层 Physically coated tungsten alloy	硬质合金化学涂层 Chemical coated tungsten alloy	硬质合金无涂层 Uncoated tungsten alloy

④ ISO材料分类 ISO Material

0	ISO:0-10
1	ISO:10-20
2	ISO:20-30
3	ISO:30-40
4	ISO:40-50

⑤ 应用对象 Application object

1	车削	General Turning
2	螺纹	Thread
3	车槽	Grooving
4	小零件	Precision Insert
5	铣削	Milling
6	车铣通用	General processing for turning and milling
7	钻削	Drilling

⑥ 材质代次Material generation

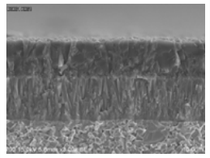
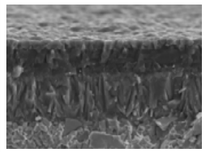
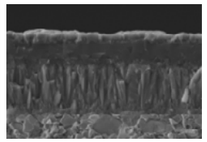
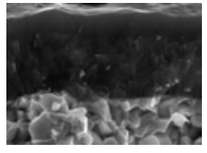
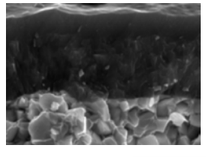
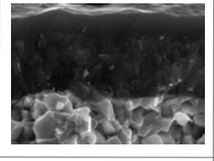
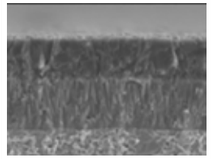
0	第一代 First generation
1	第二代 Second generation
2	第三代 Third generation
3	第四代 Fourth generation

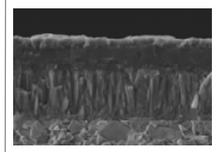
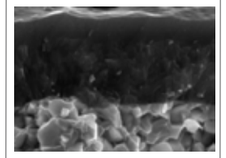
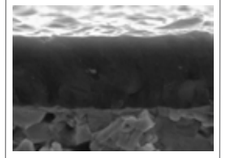
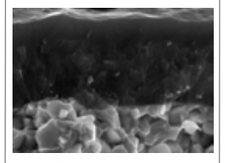
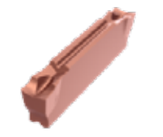
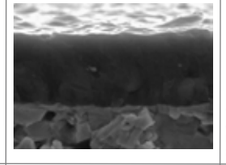
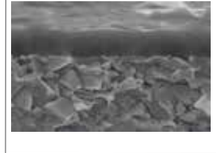
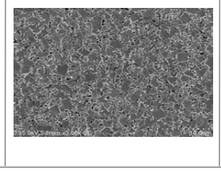
牌号一览表
Application Summary of Turning Grades

ISO使用 ISO Usage		普通车削 ISO Turning			螺纹 Threading		
代号 Code		涂层 Coated		无涂层 Uncoated	涂层 Coated		无涂层 Uncoated
		PVD	CVD	硬质合金	PVD	CVD	硬质合金
P	01						
	10		TP6110		TU5220		
	20		TP6210				
	30		TP6310				
	40						
M	01						
	10	TM5111			TM5120		
	20	TM5110			TM5220		
	30	TM5210					
	40						
K	01						
	10						
	20		TK6110			TU5220	
	30		TK6210				
	40						
N	01						
	10			TN7160			
	20						
	30						

ISO使用 ISO Usage		切断切槽 Parting and Grooving			小零件 Precision Insert		
代号 Code		涂层 Coated		无涂层 Uncoated	涂层 Coated		无涂层 Uncoated
		PVD	CVD	硬质合金	PVD	CVD	硬质合金
P	01				TU5140		
	10	TU5130					
	20						
	30						
	40						
M	01	TM5130			TU5140		
	10						
	20	TU5130					
	30						
	40						
K	01				TU5140		
	10	TU5130					
	20						
	30						
	40						
N	01						
	10						
	20						
	30						

牌号介绍
Introduction of Grade

牌号 Grade	涂层类型 Coating Type	加工用途 Processing Purpose	材质结构 Material Structure	特点 Feature	颜色 Colour
TP6110	CVD	P		采用特殊表面梯度合金基体与精细中温TiCN、厚Al_2O_3和TiN涂层的结合，获得更好的耐磨性，确保在高速连续加工时获得较长的刀具寿命； 适用于碳钢、合金钢、结构钢等材料在连续工况下的精加工。 By combining a special surface gradient alloy matrix with fine medium temperature TiCN, thick Al_2O_3 and TiN coatings, better wear resistance is achieved, ensuring longer tool life during high-speed continuous machining; Suitable for precision machining of carbon steel, alloy steel, structural steel and other materials under continuous working conditions.	
TP6210	CVD	P		采用兼顾强度与韧性的表面梯度合金基体与精细中温TiCN、厚Al_2O_3和TiN涂层的结合，具有良好抗磨损性能的同时，韧性大大提高； 适用于碳钢、合金钢、结构钢等材料在连续至一般断续工况的半精加工。 The combination of a surface gradient alloy matrix that balances strength and toughness with fine medium temperature TiCN, thick Al_2O_3, and TiN coatings provides excellent wear resistance while greatly improving toughness; Suitable for semi precision machining of carbon steel, alloy steel, structural steel and other materials under continuous to general intermittent working conditions.	
TP6310	CVD	P		采用良好韧性的表面梯度合金基体与精细中温TiCN、厚Al_2O_3和TiN涂层的结合，抗崩性能大大提高； 适用于碳钢、合金钢、结构钢等材料在断续工况的粗加工。 The combination of a surface gradient alloy matrix with good toughness and fine medium temperature TiCN, thick Al_2O_3, and TiN coatings greatly improves the anti collapse performance; Suitable for rough machining of carbon steel, alloy steel, structural steel and other materials under intermittent working conditions.	
TM5111	PVD	M		双层纳米结构PVD TiAlN/TiSiN涂层，搭配超硬微细晶硬质合金基体，大大提高刀片的耐磨性； 适合于不锈钢材料的连续精加工。 Double layered nanostructured PVD TiAlN/TiSiN coating, combined with ultra hard micro crystalline hard alloy substrate, greatly improves the wear resistance of the blade; Suitable for continuous precision machining of stainless steel materials.	
TM5110	PVD	M		双层纳米结构PVD TiAlN/TiSiN涂层，搭配微细晶硬质合金基体，提高耐磨性及红硬性； 适合于不锈钢材料的连续精加工和弱断续加工。 Double layered nanostructured PVD TiAlN/TiSiN coating, combined with a micro crystalline hard alloy substrate, improves wear resistance and red hardness; Suitable for continuous precision machining and weak intermittent machining of stainless steel materials.	
TM5210	PVD	M		双层纳米结构PVD TiAlN/TiSiN涂层，搭配微细晶硬质合金基体，提高刀片的韧性； 适合于不锈钢材料的中等加工。 Double layered nanostructured PVD TiAlN/TiSiN coating, combined with a fine-grained hard alloy substrate, improves the toughness of the blade; Suitable for medium processing of stainless steel materials.	
TK6110	CVD	K		Al_2O_3涂层与高耐磨性微细晶粒基体结合，经过特殊涂层后处理技术，表面光滑，在加工灰铸铁和球磨铸铁时，表现出良好的耐磨性。 适用于球铁和灰铸铁的精加工。 The combination of Al_2O_3 coating and high wear resistance fine grain matrix, after special coating post-treatment technology, has a smooth surface and exhibits good wear resistance when processing gray cast iron and ball milled cast iron Suitable for precision machining of ductile iron and gray cast iron.	

牌号 Grade	涂层类型 Coating Type	加工用途 Processing Purpose	材质结构 Material Structure	特点 Feature	颜色 Colour
TK6210	CVD	K		用精细中温TiCN、中厚Al_2O_3和TiN涂层，搭配专用细晶硬质合金基体，兼顾耐磨损性和抗崩刃性，保证加工的稳定性与高效性； 适用于铸铁材料的通用加工。 Using fine medium temperature TiCN, medium thickness Al_2O_3, and TiN coatings, combined with a specialized fine-grained hard alloy substrate, to balance wear resistance and anti chipping performance, ensuring stability and efficiency in processing; Suitable for general processing of cast iron materials.	
TM5120	PVD	M		全新双层纳米结构PVD TiAlN/TiSiN涂层，搭配微细晶硬质合金基体，提高耐磨性及红硬性； 适合于不锈钢材料的螺纹加工。 A new double-layer nanostructured PVD TiAlN/TiSiN coating, combined with a micro crystalline hard alloy substrate, improves wear resistance and red hardness; Suitable for threading stainless steel materials.	
TU5220	PVD	U		全新纳米结构PVD TiAlN涂层与高Co含量的微细晶硬质合金基体相结合，具有优异的抗积屑瘤特性和抗崩刃性； 适合于通用材料的螺纹加工。 The combination of a new nanostructured PVD TiAlN coating and a high Co content micro crystalline hard alloy matrix exhibits excellent anti chip and anti chipping properties; Suitable for threading of general materials.	
TM5130	PVD	M		全新双层纳米结构PVD TiAlN/TiSiN涂层搭配含钽铌微细晶粒硬质合金基体，大大提高产品的耐磨性； 适合于不锈钢材料的切槽切断加工。 The new double-layer nanostructured PVD TiAlN/TiSiN coating combined with a tantalum niobium fine-grained hard alloy substrate greatly improves the wear resistance of the product; Suitable for groove cutting and processing of stainless steel materials.	
TU5130	PVD	U		全新纳米结构PVD TiAlN涂层与含钽铌的微细晶硬质合金基体相结合，兼具耐磨性和抗崩刃性； 适合于通用材料的切槽切断加工。 The combination of a new nanostructured PVD TiAlN coating and a micro crystalline hard alloy matrix containing tantalum and niobium provides both wear resistance and anti chipping properties; Suitable for groove cutting and processing of general materials.	
TU5140	PVD	U		亚微细晶粒硬质合金牌号搭配高硬PVD涂层，表现出良好的耐磨性； 适用于钢和不锈钢材料的通用加工。 The sub fine grain hard alloy grade combined with high hardness PVD coating exhibits good wear resistance; Suitable for universal processing of steel and stainless steel materials.	
TN7160	PVD	N		亚微细晶粒硬质合金牌号，良好的韧性和耐磨性，通用性强。 适用于铜、铝等有色金属的加工。 The grade of submicron grain hard alloy has good toughness and wear resistance, and strong versatility. Suitable for processing non-ferrous metals such as copper and aluminum.	

ISO车削刀片型号表示规则

ISO Indexable Turning Insert Identification System

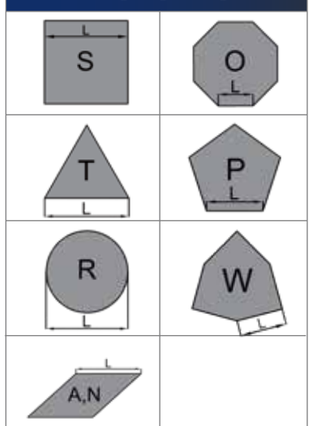
① 形状符号 Shape symbol

符号 Symbol	形状 Shape
C	菱形顶角80° Rhombic apex angle 80
D	菱形顶角55° Rhombic apex angle 55
E	菱形顶角75° Rhombic apex angle 75
F	菱形顶角50° Rhombic apex angle 50
M	菱形顶角86° Rhombic apex angle 86
V	菱形顶角35° Rhombic apex angle 35
W	六角形顶角：Hexagonal apex angle
H	正六角形 Regular hexagon
O	正八角形 Regular octagon
P	正五角形 Regular pentagon
T	正三角形 Equilateral triangle
S	正方形 Square
L	长方形 Rectangle
A	平行四边形85° Parallelogram85
B	平行四边形82° Parallelogram82
K	平行四边形55° Parallelogram55
R	圆形 Circular
X	其他 Other
菱形及平行四边形顶角为锐角 Diamonds and parallelograms with acute apex angles	

② 后角符号 Relief angle symbol

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

⑤ 切削长度符号 Cutting Edge Length



⑥ 厚度符号 Thickness Symble

符号 Symbol	厚度 Thickness
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.525

⑦ 刀尖符号 Corner Symbol

符号 Symbol	刀尖半径 Corner-R (mm)
01	锋利角 Sharp corner
005	0.05
01	0.1
02	0.2
04	0.4
08	0.8
12	1.2
圆形刀片 Circular blade	M0

⑧ 材料应用组 Material Application Group

P	钢 Steel
M	不锈钢 Stainless steel
K	铸铁 Cast iron
N	有色金属 Non-ferrous metal
S	难加工材料：HRSA
H	高硬材料 Hardened materia
U	通用于不同材料 Universal to different materials

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
T	N	M	G	16	04	08	P	M	3	

③ 精度符号 Precision symbol

符号 Symbol	刀尖高度公差 Corner Height Tolerance	厚度公差 Thickness Tolerance	内接圆公差 I.C.dia. Tolerance
A	±0.005	±0.025	±0.025
F			±0.13
C	±0.013		±0.025
H			±0.13
E	±0.025		±0.025
G		±0.13	
J	±0.005	±0.025	±0.05~±0.15
K	±0.013		
L	±0.025		
M	±0.08~±0.18	±0.13	
N		±0.025	
U	±0.13~±0.38	±0.13	±0.08~±0.25

④ 槽、孔符号 Hole/Chipbreaker Symbol

符号 Symbol	有无孔 Hole	孔的形状 Hole Shape	断屑槽 Chipbreaker	形状 Shape
N	无 Without		无 Without	
R			单面 Singlesided	
F			双面 Doublesided	
A	有 With	圆柱孔 Cylindrical hole	无 Without	
M			单面 Singlesided	
G			双面 Doublesided	
W		圆柱孔单面40°-60° With Hole and One Countersink40°-60°	无 Without	
T			单面 Singlesided	
Q		圆柱孔双面40°-60° With Hole and Doublesided40°-60°	无 Without	
U			双面 Doublesided	
B		圆柱孔单面70°-90° With Hole and One Countersink70°-90°	无 Without	
H			单面 Singlesided	
C		圆柱孔双面70°-90° With Hole and Doublesided70°-90°	无 Without	
J			双面 Doublesided	
X				

⑨ 应用场合 Application occasions

H	重型加工 Heavy load cutting
R	粗加工 Rough cutting
M	中等加工 Medium cutting
F	精加工 Fine machining

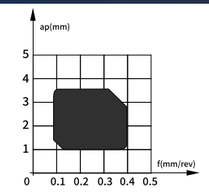
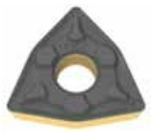
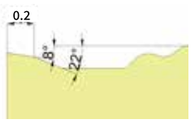
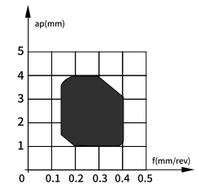
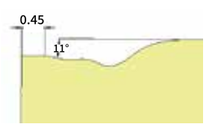
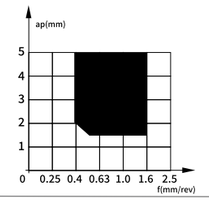
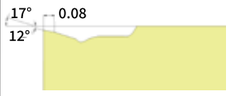
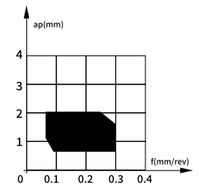
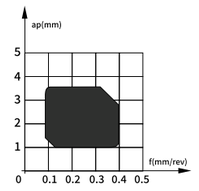
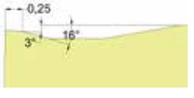
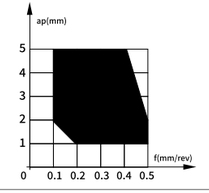
⑩ 槽型等级 Chipbreak grade

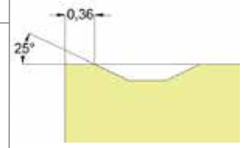
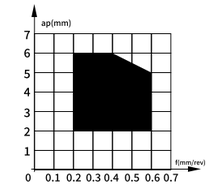
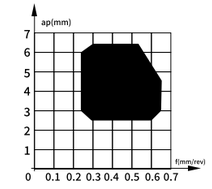
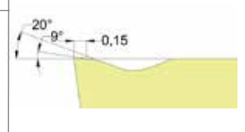
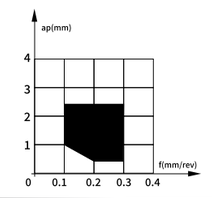
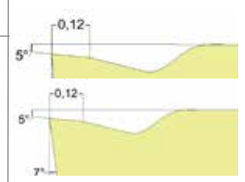
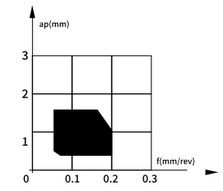
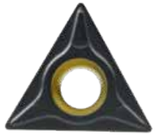
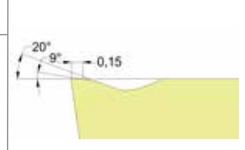
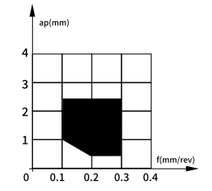
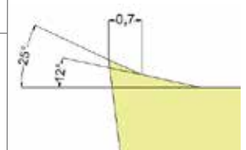
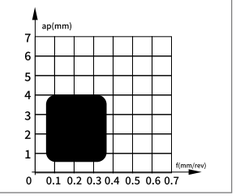
磨制槽型 Grinded chipbreaker	1	兼顾低切削力和控屑 Balancing low cutting force and chip control
	2	理想控屑 Ideal chip control
压制槽型 Pressed chipbreak	3	兼顾低切削力和控屑 Balancing low cutting force and chip control
	4	理想控屑 Ideal chip control
	5	兼顾不同切深 Considering different cutting depths
	6	开放槽型，低切削力 Open chipbreaker, low cutting force
	7	开放槽型，强壮刃口 Open chipbreaker, strong blade
	8	平板槽型 Flat chipbreaker

⑪刃口形式 Blade form

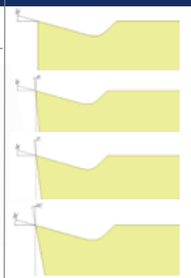
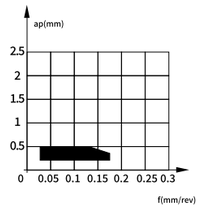
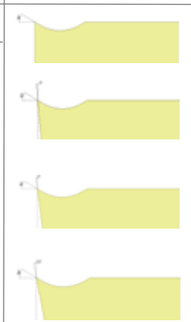
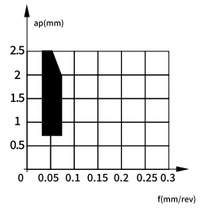
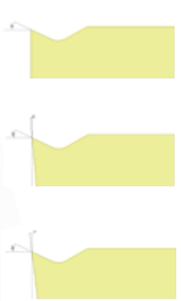
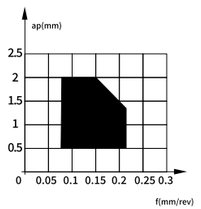
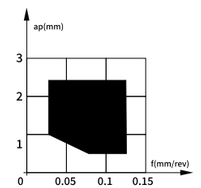
缺省 default	
W	带修光刃刀片 Inserts with wiper edge

车削刀片槽型介绍
Features of Turning Inserts

槽型 Chipbreaker	槽型截面 Cuttina edae	特点 Heatures	加工范围 Application Range
PM3 		适用于钢车半精加工； 双前角搭配断屑台设计，断屑能力好，通用性强。 Suitable for semi precision machining of steel cars; Double front corners with chip breaker design, good chip breaking ability and strong versatility.	
PM4 		适用于钢车半精加工； 大刃宽设计，抗冲击能力好，适用于轻断续和中等工况加工。 Suitable for semi precision machining of steel cars; Large blade width design, good impact resistance, suitable for light intermittent and medium working conditions processing.	
PR7 		适用于钢车重载加工； 抗冲击能力好，能满足恶劣工况。 Suitable for heavy-duty processing of steel cars; Good impact resistance and can meet harsh working conditions.	
MF3 		适用于不锈钢精加工； 刃倾角设计，有效降低切削阻力，引导切削排出，加工表面质量好。 Suitable for stainless steel precision machining; The blade inclination angle design effectively reduces cutting resistance, guides cutting discharge, and ensures good surface quality during machining.	
MM4 		适用于不锈钢半精加工； 变前角与变刃宽设计，兼具锋利与耐磨性，通用性好。 Suitable for semi precision machining of stainless steel; Variable front angle and blade width design, combining sharpness and wear resistance, with good versatility.	
KM3 		适用于铸铁半精加工； 正前角设计，加工表面质量好，适合铸铁连续和轻断续加工，通用性好。 Suitable for semi precision machining of cast iron; Positive front angle design, good surface quality for processing, suitable for continuous and light intermittent processing of cast iron, with good versatility.	

槽型 Chipbreaker	槽型截面 Cuttina edae	特点 Heatures	加工范围 Application Range
KR7 		适用于铸铁粗加工； 大刃宽设计，抗冲击能力强。 Suitable for rough machining of cast iron; Large blade width design, strong impact resistance.	
平板 		适用于铸铁粗加工； 平板刀片，抗冲击能力强，轻松应对恶劣工况。 Suitable for rough machining of cast iron; Flat blade, strong impact resistance, easy to cope with harsh working conditions.	
PM2 		适用于钢件半精加工； 通用性好，能满足不同工况下的加工需求。 Suitable for semi precision machining of steel parts; Good universality, able to meet the processing needs under different working conditions.	
MF3 		适用于不锈钢半精到精加工； 通用性好，加工表面质量高。 Suitable for semi precision to precision machining of stainless steel; Good universality and high processing surface quality.	
KM2 		适用于铸铁半精加工； 通用性好，能满足不同工况下的加工需求 Suitable for semi precision machining of cast iron; Good universality, able to meet the processing needs under different working conditions	
NF2 		适用于铝合金切削； 大前角设计，切削轻快，切削阻力小。 Suitable for cutting aluminum alloys; Large front angle design, light cutting, low cutting resistance.	

车削刀片槽型介绍
Features of Turning Insert

槽型 Chipbreaker	槽型截面 Cutting edae	特点 Feature	加工范围 Application Range
P 		适用于精密镗削加工，也可进行外圆精密加工；G级精度，无刃宽设计，刃口锋利，有效减小加工中的震动产生 Suitable for precision boring machining and can also be used for outer circle precision machining; G-level precision, no blade width design, sharp blade edge, effectively reducing vibration during processing	
G 		适用于小型轴类零件精密车削加工； G级精度，无刃宽设计，刃口锋利，切削轻快。 Suitable for precision turning of small shaft parts; G-level precision, no blade width design, sharp edge, easy cutting.	
S 		适用于小型轴类零件精密车削加工； G级精度，刃倾角设计，控制切屑流向，切削轻快。 Suitable for precision turning of small shaft parts; G-level precision, blade inclination angle design, control chip flow direction, and smooth cutting.	
UF2 		适用于小型轴类零件精密车削加工； 无刃宽设计，G级精度，切削轻快，加工表面质量高。 Suitable for precision turning of small shaft parts; No blade width design, G-level precision, light cutting, high surface quality machining.	

普通车削刀片一览表
ISO Turning Insert Overview

普通车削刀片一览表 ISO Turning Insert Overview						
PM3	CNMG-PM3 刃长:12  P18	DNMG-PM3 刃长:15  P19	SNMG-PM3 刃长:12  P20	TNMG-PM3 刃长:16  P21	VNMG-PM3 刃长:16  P22	WNMG-PM3 刃长:08  P24
PM4	CNMG-PM4 刃长:12  P18	DNMG-PM4 刃长:15  P19	SNMG-PM4 刃长:12  P20	TNMG-PM4 刃长:16  P21	VNMG-PM4 刃长:16  P22	WNMG-PM4 刃长:08  P24
PR7	CNMG-PR7 刃长:16、19  P18		SNMG-PR7 刃长:15、19、25  P20	TNMG-PR7 刃长:27  P21		
MF3	CNMG-MF3 刃长:12  P18	DNMG-MF3 刃长:15  P19	SNMG-MF3 刃长:12  P20	TNMG-MF3 刃长:16  P21	VNMG-MF3 刃长:16  P22	WNMG-MF3 刃长:08  P24
MM4	CNMG-MM4 刃长:12  P18	DNMG-MM4 刃长:15  P19	SNMG-MM4 刃长:12  P20	TNMG-MM4 刃长:16  P21	VNMG-MM4 刃长:16  P22	WNMG-MM4 刃长:08  P24
KM3	CNMG-KM3 刃长:12  P18	DNMG-KM3 刃长:15 P19	SNMG-KM3 刃长:12 P20	TNMG-KM3 刃长:16 P21	VNMG-KM3 刃长:16 P22	WNMG-KM3 刃长:08 P24
KR7	CNMG-KR7 刃长:12 P18	DNMG-KR7 刃长:15 P19	SNMG-KR7 刃长:12 P20	TNMG-KR7 刃长:16 P21	VNMG-KR7 刃长:16 P22	WNMG-KR7 刃长:08 P24
	CNMA 刃长:12、16 P18	DNMA 刃长:15 P19	SNMA 刃长:12、19 P20	TNMA 刃长:16、22 P21		WNMA 刃长:08 P24
PM2	CCMT-PM2 刃长:06、09 P24	DCMT-PM2 刃长:07、11 P25	SCMT-PM2 刃长:09 P26	TCMT-PM2 刃长:11、16 P27		
MF3	CCMT-MF3 刃长:06、09 P24	DCMT-MF3 刃长:07、11 P25	SCMT-MF3 刃长:09 P26	TCMT-MF3 刃长:11、16 P27	VBMT-MF3 刃长:11、16 P28	
KM2	CCMT-KM2 刃长:06、09 P24	DCMT-KM2 刃长:07、11 P25	SCMT-KM2 刃长:09 P26	TCMT-KM2 刃长:11、16 P27		
NF2	CCGX-NF2 刃长:06、09 P24	DCGX-NF2 刃长:07、11 P25	SCGX-NF2 刃长:09 P26	TCGX-NF2 刃长:09、11、16 P27	VCGX-NF2 刃长:11、16 P29	

小零件刀片一览表
Precision Insert

小零件刀片一览表 Precision Insert Overview				
P			TNGG-P 刃长:16 P30	
P			TBGT-P 刃长:06 P33	VBGT-P 刃长:11 P36
P	CCGT-P 刃长:06、09 P31	DCGT-P 刃长:07、11 P32	TCGT-P 刃长:06 P34	VCGT-P 刃长:11 P37
P			TPGT(H)-P 刃长:08、09、11 P35	VPGT-P 刃长:11 P38
G			TNGG-G 刃长:16 P30	
G				VBGT-G 刃长:11 P36
G	CCGT-G 刃长:06、09 P31	DCGT-G 刃长:07、11 P32	TCGT-G 刃长:11 P34	VCGT-G 刃长:11 P37
G			TPGT-G 刃长:08 P35	VPGT-G 刃长:11 P38
S			TNGG-S 刃长:16 P30	
S				VBGT-S 刃长:11 P36
S		DCGT-S 刃长:11 P32		VCGT-S 刃长:11 P37
UF2			TNGG-UF2 刃长:16 P30	
UF2		DCGT-UF2 刃长:11 P32		

螺纹刀片一览表
Threading Insert

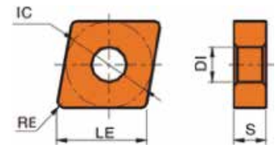
螺纹刀片一览表 Threading Insert Overview				
螺纹类型 Thread Type	螺纹代号 Thread Code	外形 Shape	页码 Page	螺距 Pitch
ISO公制螺纹 ISO metric thread	ISO		P41	1.0-6.0(mm)
惠氏螺纹 Whitworth thread 55 °	W		P43	19-11 (TPI)
60°通用螺纹 Partial Profile 60°	60°		P45	0.5-5.0(mm)
55°通用螺纹 Partial Profile 55°	55°		P47	48-5(TPI)
UN螺纹 UN thread	UN		P49	20-12(TPI)
BSPT螺纹 BSPT thread	BSPT		P51	19-11(TPI)

切槽切断刀片一览表
Grooving and Parting Insert

切槽切断刀片一览表 Grooving And Parting Insert Overview					
应用 Application	槽型 Chipbreaker	外形 Shape	页码 Page	系列 Examples of series	宽度 Width
切断刀片 Parting	J		P55	MG	2.0-8.0
半精加工 Semi-finishing	G		P55	MG	2.0-8.0
精加工 finishing	T		P55	MG	2.0-8.0
仿形加工 Contour Machining	M		P56	MR	2.0-6.0
精密切槽(三头) Precision Grooving				GBA	0.5-4.3

普通车削刀片(负型)
ISO Turning Insert(Negative)

80°CN□□

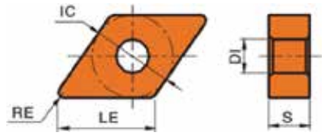


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	CNMG120404-PM3	12.9	12.7	4.76	5.16	0.4									●	●	●			
	CNMG120408-PM3	12.9	12.7	4.76	5.16	0.8									●	●	●			
	CNMG120404-PM4	12.9	12.7	4.76	5.16	0.4									○	○				
	CNMG120408-PM4	12.9	12.7	4.76	5.16	0.8									○	○				
	CNMG120412-PM4	12.9	12.7	4.76	5.16	1.2									○	○				
	CNMM160612-PR7	16.1	15.875	6.35	6.35	1.2											○			
	CNMM160616-PR7	16.1	15.875	6.35	6.35	1.6											○			
	CNMM190612-PR7	19.3	19.05	6.35	7.94	1.2											○			
	CNMM190616-PR7	19.3	19.05	6.35	7.94	1.6											○			
	CNMM190624-PR7	19.3	19.05	6.35	7.94	2.4											○			
	CNMG120404-MF3	12.9	12.7	4.76	5.16	0.4	○	●												
	CNMG120408-MF3	12.9	12.7	4.76	5.16	0.8	○	●												
	CNMG120404-MM4	12.9	12.7	4.76	5.16	0.4		●	○											
	CNMG120408-MM4	12.9	12.7	4.76	5.16	0.8		●	○											
	CNMG120412-MM4	12.9	12.7	4.76	5.16	1.2		●	○											
	CNMG120404-KM3	12.9	12.7	4.76	5.16	0.4												○	○	
	CNMG120408-KM3	12.9	12.7	4.76	5.16	0.8												○	○	
	CNMG120412-KM3	12.9	12.7	4.76	5.16	1.2												○	○	
	CNMG120404-KR7	12.9	12.7	4.76	5.16	0.4												●	●	
	CNMG120408-KR7	12.9	12.7	4.76	5.16	0.8												●	●	
	CNMG120412-KR7	12.9	12.7	4.76	5.16	1.2												●	●	
	CNMA120408	12.9	12.7	4.76	5.16	0.8													●	
	CNMA120412	12.9	12.7	4.76	5.16	1.2													●	
	CNMA160612	16.1	15.875	6.35	6.35	1.2													○	
	CNMA160616	16.1	15.875	6.35	6.35	1.6													○	

● 标准库存Stock ○ 需预订Available Upon Order

普通车削刀片（负型）
ISO Turning Insert(Negative)

55°DN□□



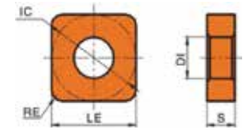
规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	DNMG150404-PM3	15.5	12.7	4.76	5.16	0.4									●	●	●			
	DNMG150408-PM3	15.5	12.7	4.76	5.16	0.8									●	●	●			
	DNMG150404-PM4	15.5	12.7	4.76	5.16	0.4										○	○			
	DNMG150408-PM4	15.5	12.7	4.76	5.16	0.8										○	○			
	DNMG150412-PM4	15.5	12.7	4.76	5.16	1.2										○	○			
	DNMG150404-MF3	15.5	12.7	4.76	5.16	0.4	○	●												
	DNMG150408-MF3	15.5	12.7	4.76	5.16	0.8	○	●												
	DNMG150404-MM4	15.5	12.7	4.76	5.16	0.4		●	○											
	DNMG150408-MM4	15.5	12.7	4.76	5.16	0.8		●	○											
	DNMG150404-KM3	15.5	12.7	4.76	5.16	0.4												○	○	
	DNMG150408-KM3	15.5	12.7	4.76	5.16	0.8												○	○	
	DNMG150404-KR7	15.5	12.7	4.76	5.16	0.4												●	●	
	DNMG150408-KR7	15.5	12.7	4.76	5.16	0.8												●	●	
	DNMG150412-KR7	15.5	12.7	4.76	5.16	1.2												●	●	
	DNMA150408	15.5	12.7	4.76	5.16	0.8													●	
	DNMA150412	15.5	12.7	4.76	5.16	1.2													●	
	DNMA150416	15.5	12.7	4.76	5.16	1.6													○	
	DNMA150608	15.5	12.7	6.35	5.16	0.8													○	
	DNMA150612	15.5	12.7	6.35	5.16	1.2													○	
	DNMA150616	15.5	12.7	6.35	5.16	1.6													○	

● 标准库存Stock　○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

普通车削刀片（负型）
ISO Turning Insert(Negative)

90°SN□□

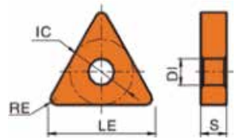


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	SNMG120404-PM3	12.7	12.7	4.76	5.16	0.4									●	●	●			
	SNMG120408-PM3	12.7	12.7	4.76	5.16	0.8									●	●	●			
	SNMG120412-PM3	12.7	12.7	4.76	5.16	1.2									●	●	●			
	SNMG120404-PM4	12.7	12.7	4.76	5.16	0.4										○	○			
	SNMG120408-PM4	12.7	12.7	4.76	5.16	0.8										○	○			
	SNMG120412-PM4	12.7	12.7	4.76	5.16	1.2										○	○			
	SNMM150612-PR7	15.875	15.875	6.35	6.35	1.2											○			
	SNMM150616-PR7	15.875	15.875	6.35	6.35	1.6											○			
	SNMM150624-PR7	15.875	15.875	6.35	6.35	2.4											○			
	SNMM190612-PR7	19.05	19.05	6.35	7.94	1.2											○			
	SNMM190616-PR7	19.05	19.05	6.35	7.94	1.6											○			
	SNMM190624-PR7	19.05	19.05	6.35	7.94	2.4											○			
	SNMG120404-MF3	12.7	12.7	4.76	5.16	0.4	○	●												
	SNMG120408-MF3	12.7	12.7	4.76	5.16	0.8	○	●												
	SNMG120404-MM4	12.7	12.7	4.76	5.16	0.4		●	○											
	SNMG120408-MM4	12.7	12.7	4.76	5.16	0.8		●	○											
	SNMG120412-MM4	12.7	12.7	4.76	5.16	1.2		●	○											
	SNMG120404-KM3	12.7	12.7	4.76	5.16	0.4												○	○	
	SNMG120408-KM3	12.7	12.7	4.76	5.16	0.8												○	○	
	SNMG120412-KM3	12.7	12.7	4.76	5.16	1.2												○	○	
	SNMG120404-KR7	12.7	12.7	4.76	5.16	0.4												○	○	
	SNMG120408-KR7	12.7	12.7	4.76	5.16	0.8												●	●	
	SNMG120412-KR7	12.7	12.7	4.76	5.16	1.2												●	●	
	SNMG120408	12.7	12.7	4.76	5.16	0.8												●	●	
	SNMA120412	12.7	12.7	4.76	5.16	1.2													●	
	SNMA120416	12.7	12.7	4.76	5.16	1.6													○	
	SNMA190612	19.05	19.05	6.35	7.94	1.2													○	
	SNMA190616	19.05	19.05	6.35	7.94	1.6													○	

● 标准库存Stock　○ 需预订Available Upon Order

普通车削刀片（负型）
ISO Turning Insert(Negative)

60°TN□□



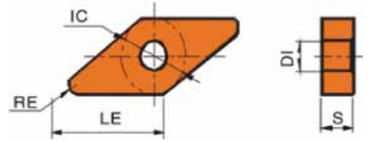
规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	TNMG160404-PM3	16.5	9.525	4.76	3.81	0.4									●	●	●			
	TNMG160408-PM3	16.5	9.525	4.76	3.81	0.8									●	●	●			
	TNMG160404-PM4	16.5	9.525	4.76	3.81	0.4									○	○	○			
	TNMG160408-PM4	16.5	9.525	4.76	3.81	0.8									○	○	○			
	TNMG160412-PM4	16.5	9.525	4.76	3.81	1.2									○	○	○			
	TNMM270616-PR7	27.5	15.875	6.35	6.35	1.6											○			
	TNMM270624-PR7	27.5	15.875	6.35	6.35	2.4											○			
	TNMG160404-MF3	16.5	9.525	4.76	3.81	0.4	○	●												
	TNMG160408-MF3	16.5	9.525	4.76	3.81	0.8	○	●												
	TNMG160404-MM4	16.5	9.525	4.76	3.81	0.4		●	○											
	TNMG160408-MM4	16.5	9.525	4.76	3.81	0.8		●	○											
	TNMG160412-MM4	16.5	9.525	4.76	3.81	1.2		●	○											
	TNMG160404-KM3	16.5	9.525	4.76	3.81	0.4												○	○	
	TNMG160408-KM3	16.5	9.525	4.76	3.81	0.8												○	○	
	TNMG160412-KM3	16.5	9.525	4.76	3.81	1.2												○	○	
	TNMG160404-KR7	16.5	9.525	4.76	3.81	0.4												●	●	
	TNMG160408-KR7	16.5	9.525	4.76	3.81	0.8												●	●	
	TNMG160412-KR7	16.5	9.525	4.76	3.81	1.2												●	●	
	TNMA160408	16.5	9.525	4.76	3.81	0.8													●	
	TNMA160412	16.5	9.525	4.76	3.81	1.2													●	
	TNMA160416	16.5	9.525	4.76	3.81	1.6													○	
	TNMA220408	22	12.7	4.76	5.16	0.8													○	
	TNMA220412	22	12.7	4.76	5.16	1.2													○	
	TNMA220416	22	12.7	4.76	5.16	1.6													○	

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

普通车削刀片（负型）
ISO Turning Insert(Negative)

35°VN□□

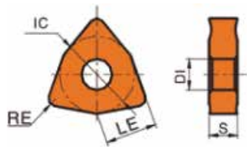


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	VNMG160404-PM3	16.6	9.525	4.76	3.81	0.4									●	●	●			
	VNMG160408-PM3	16.6	9.525	4.76	3.81	0.8									●	●	●			
	VNMG160404-PM4	16.6	9.525	4.76	3.81	0.4										○	○			
	VNMG160408-PM4	16.6	9.525	4.76	3.81	0.8										○	○			
	VNMG160412-PM4	16.6	9.525	4.76	3.81	1.2										○	○			
	VNMG160404-MF3	16.6	9.525	4.76	3.81	0.4	○	●												
	VNMG160408-MF3	16.6	9.525	4.76	3.81	0.8	○	●												
	VNMG160404-MM4	16.6	9.525	4.76	3.81	0.4		●	○											
	VNMG160408-MM4	16.6	9.525	4.76	3.81	0.8		●	○											
	VNMG160404-KM3	16.6	9.525	4.76	3.81	0.4												○	○	
	VNMG160408-KM3	16.6	9.525	4.76	3.81	0.8												○	○	
	VNMG160412-KM3	16.6	9.525	4.76	3.81	1.2												○	○	
	VNMG160404-KR7	16.6	9.525	4.76	3.81	0.4												●	●	
	VNMG160408-KR7	16.6	9.525	4.76	3.81	0.8												●	●	
	VNMG160412-KR7	16.6	9.525	4.76	3.81	1.2												●	●	

● 标准库存Stock ○ 需预订Available Upon Order

普通车削刀片（负型）
ISO Turning Insert(Negative)

80°WN□□



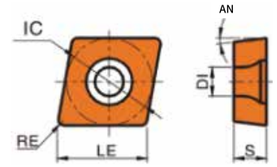
规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	WNMG080404-PM3	8.7	12.7	4.76	5.16	0.4									●	●	●			
	WNMG080408-PM3	8.7	12.7	4.76	5.16	0.8									●	●	●			
	WNMG080404-PM4	8.7	12.7	4.76	5.16	0.4										○	○			
	WNMG080408-PM4	8.7	12.7	4.76	5.16	0.8										○	○			
	WNMG080412-PM4	8.7	12.7	4.76	5.16	1.2										○	○			
	WNMG080404-MF3	8.7	12.7	4.76	5.16	0.4	○	●												
	WNMG080408-MF3	8.7	12.7	4.76	5.16	0.8	○	●												
	WNMG080404-MM4	8.7	12.7	4.76	5.16	0.4		●	○											
	WNMG080408-MM4	8.7	12.7	4.76	5.16	0.8		●	○											
	WNMG080412-MM4	8.7	12.7	4.76	5.16	1.2		●	○											
	WNMG080404-KM3	8.7	12.7	4.76	5.16	0.4													○	
	WNMG080408-KM3	8.7	12.7	4.76	5.16	0.8													○	
	WNMG080412-KM3	8.7	12.7	4.76	5.16	1.2													○	
	WNMG080404-KR7	8.7	12.7	4.76	5.16	0.4												○	●	
	WNMG080408-KR7	8.7	12.7	4.76	5.16	0.8												○	●	
	WNMG080412-KR7	8.7	12.7	4.76	5.16	1.2												○	●	
	WNMA080408	8.7	12.7	4.76	5.16	0.8												●	●	
	WNMA080412	8.7	12.7	4.76	5.16	1.2												●	●	
	WNMA080416	8.7	12.7	4.76	5.16	1.6												●	○	

● 标准库存Stock　○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

普通车削刀片（正型）
ISO Turning Insert(Positive)

80°CC□□

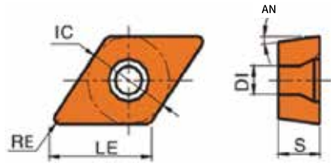


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7160
	CCMT060204-PM2	6.5	6.35	2.38	2.8	0.4									●	●				
	CCMT060208-PM2	6.5	6.35	2.38	2.8	0.8									●	●				
	CCMT09T304-PM2	9.7	9.525	3.97	4.4	0.4									●	●				
	CCMT09T308-PM2	9.7	9.525	3.97	4.4	0.8									●	●				
	CCMT120404-PM2	12.9	12.7	4.76	5.56	0.4									●	●				
	CCMT120408-PM2	12.9	12.7	4.76	5.56	0.8									●	●				
	CCMT060204-MF3	6.5	6.35	2.38	2.8	0.4	○	●												
	CCMT060208-MF3	6.5	6.35	2.38	2.8	0.8	○	●												
	CCMT09T304-MF3	9.7	9.525	3.97	4.4	0.4	○	●												
	CCMT09T308-MF3	9.7	9.525	3.97	4.4	0.8	○	●												
	CCMT060204-KM2	6.5	6.35	2.38	2.8	0.4												●	●	
	CCMT060208-KM2	6.5	6.35	2.38	2.8	0.8												●	●	
	CCMT09T304-KM2	9.7	9.525	3.97	4.4	0.4												●	●	
	CCMT09T308-KM2	9.7	9.525	3.97	4.4	0.8												●	●	
	CCMT120404-KM2	12.9	12.7	4.76	5.56	0.4												●	●	
	CCMT120408-KM2	12.9	12.7	4.76	5.56	0.8												●	●	
	CCGX060202-NF2	6.5	6.35	2.38	2.8	0.2														○
	CCGX060204-NF2	6.5	6.35	2.38	2.8	0.4														○
	CCGX060208-NF2	6.5	6.35	2.38	2.8	0.8														○
	CCGX09T302-NF2	9.7	9.525	3.97	4.4	0.2														○
	CCGX09T304-NF2	9.7	9.525	3.97	4.4	0.4														○
	CCGX09T308-NF2	9.7	9.525	3.97	4.4	0.8														○

● 标准库存Stock　○ 需预订Available Upon Order

普通车削刀片（正型）
ISO Turning Insert(Positive)

55°DC□□



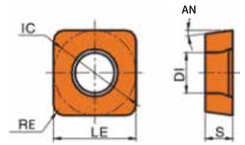
规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	DCMT070204-PM2	7.8	6.35	2.38	2.8	0.4								○						
	DCMT070208-PM2	7.8	6.35	2.38	2.8	0.8								●						
	DCMT11T304-PM2	11.6	9.525	3.97	4.4	0.4								○						
	DCMT11T308-PM2	11.6	9.525	3.97	4.4	0.8								●						
	DCMT070202-MF3	7.8	6.35	2.38	2.8	0.2								○						
	DCMT070204-MF3	7.8	6.35	2.38	2.8	0.4								●						
	DCMT070208-MF3	7.8	6.35	2.38	2.8	0.8								○						
	DCMT11T304-MF3	11.6	9.525	3.97	4.4	0.4								○						
	DCMT11T308-MF3	11.6	9.525	3.97	4.4	0.8								○						
	DCMT070204-KM2	7.8	6.35	2.38	2.8	0.4								○						
	DCMT070208-KM2	7.8	6.35	2.38	2.8	0.8								●						
	DCMT11T304-KM2	11.6	9.525	3.97	4.4	0.4								○						
	DCMT11T308-KM2	11.6	9.525	3.97	4.4	0.8								●						
	DCGX070202-NF2	7.8	6.35	2.38	2.8	0.2								○						
	DCGX070204-NF2	7.8	6.35	2.38	2.8	0.4								○						
	DCGX070208-NF2	7.8	6.35	2.38	2.8	0.8								○						
	DCGX11T302-NF2	11.6	9.525	3.97	4.4	0.2								●						
	DCGX11T304-NF2	11.6	9.525	3.97	4.4	0.4								●						
	DCGX11T308-NF2	11.6	9.525	3.97	4.4	0.8								○						

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

普通车削刀片（正型）
ISO Turning Insert(Positive)

90°SC□□

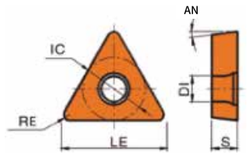


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	SCMT09T304-PM2	9.525	9.525	3.97	4.4	0.4									●	●				
	SCMT09T308-PM2	9.525	9.525	3.97	4.4	0.8									●	●				
	SCMT120404-PM2	12.7	12.7	4.76	5.56	0.4									●	●				
	SCMT120408-PM2	12.7	12.7	4.76	5.56	0.8									●	●				
	SCMT120412-PM2	12.7	12.7	4.76	5.56	1.2									●	●				
	SCMT09T304-MF3	9.525	9.525	3.97	4.4	0.4	○	●												
	SCMT09T308-MF3	9.525	9.525	3.97	4.4	0.8	○	●												
	SCMT09T304-KM2	9.525	9.525	3.97	4.4	0.4												●	●	
	SCMT09T308-KM2	9.525	9.525	3.97	4.4	0.8												●	●	
	SCMT120404-KM2	12.7	12.7	4.76	5.56	0.4												●	●	
	SCMT120408-KM2	12.7	12.7	4.76	5.56	0.8												●	●	
	SCMT120412-KM2	12.7	12.7	4.76	5.56	1.2												●	●	
	SCGX09T304-NF2	9.525	9.525	3.97	4.4	0.4														○
	SCGX09T308-NF2	9.525	9.525	3.97	4.4	0.8														○
	SCGX120404-NF2	12.7	12.7	4.76	5.56	0.4														○
	SCGX120408-NF2	12.7	12.7	4.76	5.56	0.8														○

● 标准库存Stock ○ 需预订Available Upon Order

普通车削刀片（正型）
ISO Turning Insert(Positive)

60°TC□□

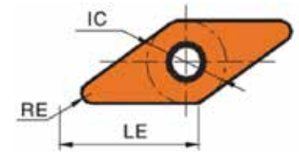


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	TCMT090204-PM2	9.6	5.56	2.38	2.5	0.4									●	●				
	TCMT090208-PM2	9.6	5.56	2.38	2.5	0.8									●	●				
	TCMT110204-PM2	11	6.35	2.38	2.8	0.4									●	●				
	TCMT110208-PM2	11	6.35	2.38	2.8	0.8									●	●				
	TCMT16T304-PM2	16.5	9.525	3.97	4.4	0.4									●	●				
	TCMT16T308-PM2	16.5	9.525	3.97	4.4	0.4									●	●				
	TCMT16T312-PM2	12.9	12.7	4.76	5.56	1.2									●	●				
	TCMT110204-MF3	11	6.35	2.38	2.8	0.4	○	●												
	TCMT110208-MF3	11	6.35	2.38	2.8	0.8	○	●												
	TCMT16T304-MF3	16.5	9.525	3.97	4.4	0.4	○	●												
	TCMT16T308-MF3	16.5	9.525	3.97	4.4	0.4	○	●												
	TCMT090204-KM2	9.6	5.56	2.38	2.5	0.4											●	●		
	TCMT090208-KM2	9.6	5.56	2.38	2.5	0.8											●	●		
	TCMT110204-KM2	11	6.35	2.38	2.8	0.4											●	●		
	TCMT110208-KM2	11	6.35	2.38	2.8	0.8											●	●		
	TCMT16T304-KM2	16.5	9.525	3.97	4.4	0.4											●	●		
	TCMT16T308-KM2	16.5	9.525	3.97	4.4	0.4											●	●		
	TCMT16T312-KM2	12.9	12.7	4.76	5.56	1.2											●	●		
	TCGX090204-NF2	9.6	5.56	2.38	2.5	0.4														○
	TCGX090208-NF2	9.6	5.56	2.38	2.5	0.8														○
	TCGX110202-NF2	11	6.35	2.38	2.8	0.2														○
	TCGX110204-NF2	11	6.35	2.38	2.8	0.4														○
	TCGX110208-NF2	11	6.35	2.38	2.8	0.8														○
	TCGX16T302-NF2	16.5	9.525	3.97	4.4	0.2														○
	TCGX16T304-NF2	16.5	9.525	3.97	4.4	0.4														○
	TCGX16T308-NF2	16.5	9.525	3.97	4.4	0.8														○

天工硬质合金 TIANGONG CEMENTED CARBIDE

普通车削刀片（正型）
ISO Turning Insert(Positive)

35°VB□□

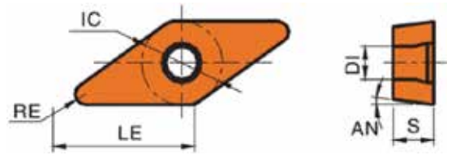


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	VBMT110304-MF3	11.2	6.35	3.18	2.8	0.4	○	●												
	VBMT110308-MF3	11.2	6.35	3.18	2.8	0.8	○	●												
	VBMT160404-MF3	16.6	9.525	4.76	4.4	0.4	○	●												
	VBMT160408-MF3	16.6	9.525	4.76	4.4	0.8	○	●												

● 标准库存Stock ○ 需预订Available Upon Order

普通车削刀片(正型)
ISO Turning Insert(Positive)

35°VC□□

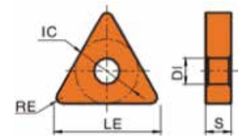


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	VCGX110302-NF2	11.2	6.35	3.18	2.8	0.2														○
	VCGX110304-NF2	11.2	6.35	3.18	2.8	0.4														○
	VCGX110308-NF2	11.2	6.35	3.18	2.8	0.8														○
	VCGX160402-NF2	16.6	9.525	4.76	4.4	0.2														○
	VCGX160404-NF2	16.6	9.525	4.76	4.4	0.4														○
	VCGX160408-NF2	16.6	9.525	4.76	4.4	0.8														○

● 标准库存Stock ○ 需预订Available Upon Order

小零件刀片(负型)
Precision Insert(Negative)

60°TN□□

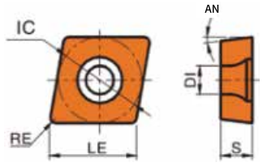


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	TNGG160401L-P	16.5	9.525	4.76	3.81	0.1								○						
	TNGG160401R-P	16.5	9.525	4.76	3.81	0.1								●						
	TNGG160402L-P	16.5	9.525	4.76	3.81	0.2								○						
	TNGG160402R-P	16.5	9.525	4.76	3.81	0.2								●						
	TNGG160404L-P	16.5	9.525	4.76	3.81	0.4								○						
	TNGG160404R-P	16.5	9.525	4.76	3.81	0.4								○						
	TNGG160404L-G	16.5	9.525	4.76	3.81	0.4								○						
	TNGG160404R-G	16.5	9.525	4.76	3.81	0.4								○						
	TNGG160408R-G	16.5	9.525	4.76	3.81	0.8								○						
	TNGG160408R-G	16.5	9.525	4.76	3.81	0.8								○						
	TNGG160404L-S	16.5	9.525	4.76	3.81	0.4								○						
	TNGG160404R-S	16.5	9.525	4.76	3.81	0.4								○						
	TNGG160408L-S	16.5	9.525	4.76	3.81	0.8								○						
	TNGG160408R-S	16.5	9.525	4.76	3.81	0.8								○						
	TNGG160402-UF2	16.5	9.525	4.76	3.81	0.2								●						
	TNGG160404-UF2	16.5	9.525	4.76	3.81	0.4								●						

● 标准库存Stock ○ 需预订Available Upon Order

小零件刀片(正型)
Precision Insert(Positive)

80°CC □□



规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	CCGT060201L-P	6.5	6.35	2.38	2.8	0.1								○						
	CCGT060201R-P	6.5	6.35	2.38	2.8	0.1								●						
	CCGT060202L-P	6.5	6.35	2.38	2.8	0.2								○						
	CCGT060202R-P	6.5	6.35	2.38	2.8	0.2								●						
	CCGT060204L-P	6.5	6.35	2.38	2.8	0.4								○						
	CCGT060204R-P	6.5	6.35	2.38	2.8	0.4								●						
	CCGT09T301L-P	9.7	9.525	3.97	4.4	0.1								○						
	CCGT09T301R-P	9.7	9.525	3.97	4.4	0.1								○						
	CCGT09T302L-P	9.7	9.525	3.97	4.4	0.2								○						
	CCGT09T302R-P	9.7	9.525	3.97	4.4	0.2								○						
	CCGT09T304L-P	9.7	9.525	3.97	4.4	0.4								○						
	CCGT09T304R-P	9.7	9.525	3.97	4.4	0.4								○						
	CCGT060201L-G	6.5	6.35	2.38	2.8	0.1								○						
	CCGT060201R-G	6.5	6.35	2.38	2.8	0.1								○						
	CCGT060202L-G	6.5	6.35	2.38	2.8	0.2								○						
	CCGT060202R-G	6.5	6.35	2.38	2.8	0.2								○						
	CCGT060204L-G	6.5	6.35	2.38	2.8	0.4								○						
	CCGT060204R-G	6.5	6.35	2.38	2.8	0.4								○						
	CCGT09T301L-G	9.7	9.525	3.97	4.4	0.1								○						
	CCGT09T301R-G	9.7	9.525	3.97	4.4	0.1								○						
	CCGT09T302L-G	9.7	9.525	3.97	4.4	0.2								○						
	CCGT09T302R-G	9.7	9.525	3.97	4.4	0.2								○						
	CCGT09T304L-G	9.7	9.525	3.97	4.4	0.4								○						
	CCGT09T304R-G	9.7	9.525	3.97	4.4	0.4								○						

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

小零件刀片(正型)
Precision Insert(Positive)

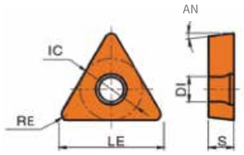
55°DC □□

规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	DCGT070201L-P	7.8	6.35	2.38	2.8	0.1									●	●				
	DCGT070201R-P	7.8	6.35	2.38	2.8	0.1									●	●				
	DCGT070202L-P	7.8	6.35	2.38	2.8	0.2									●	●				
	DCGT070202R-P	7.8	6.35	2.38	2.8	0.2									●	●				
	DCGT070204L-P	7.8	6.35	2.38	2.8	0.4									●	●				
	DCGT070204R-P	7.8	6.35	2.38	2.8	0.4									●	●				
	DCGT11T301L-P	11.6	9.525	3.97	4.4	0.1									●	●				
	DCGT11T301R-P	11.6	9.525	3.97	4.4	0.1	○	●												
	DCGT11T302L-P	11.6	9.525	3.97	4.4	0.2	○	●												
	DCGT11T302R-P	11.6	9.525	3.97	4.4	0.2	○	●												
	DCGT11T304L-P	11.6	9.525	3.97	4.4	0.4	○	●												
	DCGT11T304R-P	11.6	9.525	3.97	4.4	0.4											●	●		
	DCGT070201L-G	7.8	6.35	2.38	2.8	0.1											●	●		
	DCGT070201R-G	7.8	6.35	2.38	2.8	0.1											●	●		
	DCGT070202L-G	7.8	6.35	2.38	2.8	0.2											●	●		
	DCGT070202R-G	7.8	6.35	2.38	2.8	0.2											●	●		
	DCGT11T301L-G	11.6	9.525	3.97	4.4	0.1											●	●		
	DCGT11T301R-G	11.6	9.525	3.97	4.4	0.1											●	●		
	DCGT11T302L-G	11.6	9.525	3.97	4.4	0.2														○
	DCGT11T302R-G	11.6	9.525	3.97	4.4	0.2														○
	DCGT11T302L-S	11.6	9.525	3.97	4.4	0.2														○
	DCGT11T302R-S	11.6	9.525	3.97	4.4	0.2														○
	DCGT070201-UF2	7.8	6.35	2.38	2.8	0.1														○
	DCGT070202-UF2	7.8	6.35	2.38	2.8	0.2														○
	DCGT070204-UF2	7.8	6.35	2.38	2.8	0.4														○

● 标准库存Stock ○ 需预订Available Upon Order

小零件刀片(正型)
Precision Insert(Positive)

60°TB□□

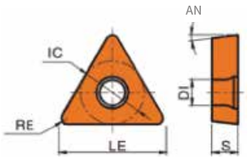


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	TBGT060101L-P	6.9	3.97	1.59	2.3	0.1								○						
	TBGT060101R-P	6.9	3.97	1.59	2.3	0.1								●						
	TBGT060102L-P	6.9	3.97	1.59	2.3	0.2								○						
	TBGT060102R-P	6.9	3.97	1.59	2.3	0.2								●						
	TBGT060104L-P	6.9	3.97	1.59	2.3	0.4								○						
	TBGT060104R-P	6.9	3.97	1.59	2.3	0.4								●						

● 标准库存Stock ○ 需预订Available Upon Order

小零件刀片(正型)
Precision Insert(Positive)

60°TC □□

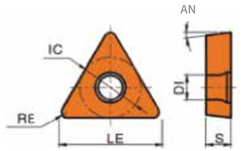


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	TCGT060102L-P	6.9	3.97	1.59	2.3	0.2								○						
	TCGT060102R-P	6.9	3.97	1.59	2.3	0.2								●						
	TCGT060104L-P	6.9	3.97	1.59	2.3	0.4								○						
	TCGT060104R-P	6.9	3.97	1.59	2.3	0.4								○						
	TCGT110301L-G	11	6.35	3.18	2.8	0.1								○						
	TCGT110301R-G	11	6.35	3.18	2.8	0.1								●						
	TCGT110302L-G	11	6.35	3.18	2.8	0.2								○						
	TCGT110302R-G	11	6.35	3.18	2.8	0.2								●						
	TCGT110304L-G	11	6.35	3.18	2.8	0.4								○						
	TCGT110304R-G	11	6.35	3.18	2.8	0.4								●						

● 标准库存Stock ○ 需预订Available Upon Order

小零件刀片（正型）
Precision Insert(Positive)

60°TP□□



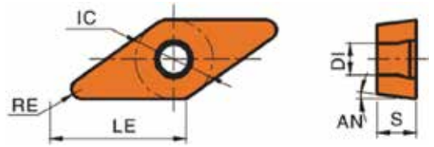
规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	TPGT080202L-P	8.2	4.76	2.38	2.3	0.2								●						
	TPGT080202R-P	8.2	4.76	2.38	2.3	0.2								●						
	TPGT080204L-P	8.2	4.76	2.38	2.3	0.4								○						
	TPGT080204R-P	8.2	4.76	2.38	2.3	0.4								○						
	TPGH090202L-P	9.6	5.56	2.38	3.0	0.2								●						
	TPGH090202R-P	9.6	5.56	2.38	3.0	0.2								●						
	TPGH090204L-P	9.6	5.56	2.38	3.0	0.4								●						
	TPGH090204R-P	9.6	5.56	2.38	3.0	0.4								●						
	TPGH110301L-P	11	6.35	3.18	3.4	0.1								○						
	TPGH110301R-P	11	6.35	3.18	3.4	0.1														
	TPGH110302L-P	11	6.35	3.18	3.4	0.2								○						
	TPGH110302R-P	11	6.35	3.18	3.4	0.2														
	TPGH110304L-P	11	6.35	3.18	3.4	0.4								○						
	TPGH110304R-P	11	6.35	3.18	3.4	0.4								○						
	TPGT080201L-G	8.2	4.76	2.38	2.3	0.1								○						
	TPGT080201R-G	8.2	4.76	2.38	2.3	0.1								●						
	TPGT080202L-G	8.2	4.76	2.38	2.3	0.2								○						
	TPGT080202R-G	8.2	4.76	2.38	2.3	0.2								●						
	TPGT080204L-G	8.2	4.76	2.38	2.3	0.4								○						
	TPGT080204R-G	8.2	4.76	2.38	2.3	0.4								○						

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

小零件刀片（正型）
Precision Insert(Positive)

35°VB□□

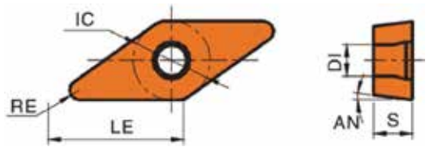


规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	VBGT110301L-P	11.2	6.35	3.18	2.8	0.1								○						
	VBGT110301R-P	11.2	6.35	3.18	2.8	0.1								●						
	VBGT110302L-P	11.2	6.35	3.18	2.8	0.2								○						
	VBGT110302R-P	11.2	6.35	3.18	2.8	0.2								●						
	VBGT110304L-P	11.2	6.35	3.18	2.8	0.4								○						
	VBGT110304R-P	11.2	6.35	3.18	2.8	0.4								●						
	VBGT110301L-G	11.2	6.35	3.18	2.8	0.1								○						
	VBGT110301R-G	11.2	6.35	3.18	2.8	0.1								○						
	VBGT110302L-G	11.2	6.35	3.18	2.8	0.2								○						
	VBGT110302R-G	11.2	6.35	3.18	2.8	0.2								●						
	VBGT110304L-G	11.2	6.35	3.18	2.8	0.4								○						
	VBGT110304R-G	11.2	6.35	3.18	2.8	0.4								○						
	VBGT110301L-S	11.2	6.35	3.18	2.8	0.1								○						
	VBGT110301R-S	11.2	6.35	3.18	2.8	0.1								○						
	VBGT110302L-S	11.2	6.35	3.18	2.8	0.2								●						
	VBGT110302R-S	11.2	6.35	3.18	2.8	0.2								○						
	VBGT110304L-S	11.2	6.35	3.18	2.8	0.4								●						
	VBGT110304R-S	11.2	6.35	3.18	2.8	0.4								○						

● 标准库存Stock ○ 需预订Available Upon Order

小零件刀片（正型）
Precision Insert(Positive)

35°VC□□



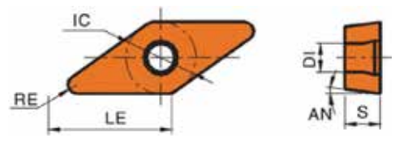
规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	VCGT110301L-P	11.2	6.35	3.18	2.8	0.1								○						
	VCGT110301R-P	11.2	6.35	3.18	2.8	0.1								●						
	VCGT110302L-P	11.2	6.35	3.18	2.8	0.2								○						
	VCGT110302R-P	11.2	6.35	3.18	2.8	0.2								●						
	VCGT110304L-P	11.2	6.35	3.18	2.8	0.4								○						
	VCGT110304R-P	11.2	6.35	3.18	2.8	0.4								○						
	VCGT110301L-G	11.2	6.35	3.18	2.8	0.1								○						
	VCGT110301R-G	11.2	6.35	3.18	2.8	0.1								○						
	VCGT110302L-G	11.2	6.35	3.18	2.8	0.2								○						
	VCGT110302R-G	11.2	6.35	3.18	2.8	0.2								○						
	VCGT110304L-G	11.2	6.35	3.18	2.8	0.4								○						
	VCGT110304R-G	11.2	6.35	3.18	2.8	0.4								○						
	VCGT110301L-S	11.2	6.35	3.18	2.8	0.1								○						
	VCGT110301R-S	11.2	6.35	3.18	2.8	0.1								●						
	VCGT110302L-S	11.2	6.35	3.18	2.8	0.2								○						
	VCGT110302R-S	11.2	6.35	3.18	2.8	0.2								●						
	VCGT110304L-S	11.2	6.35	3.18	2.8	0.4								○						
	VCGT110304R-S	11.2	6.35	3.18	2.8	0.4								○						

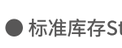
● 标准库存Stock　○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

小零件刀片（正型）
Precision Insert(Positive)

35°VP□□



规格型号 Designation		尺寸 Size					PVD								CVD					硬质合金 Uncoated
		LE	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	VPGT110301L-P	11.2	6.35	3.18	2.8	0.1								○						
	VPGT110301R-P	11.2	6.35	3.18	2.8	0.1								●						
	VPGT110302L-P	11.2	6.35	3.18	2.8	0.2								○						
	VPGT110302R-P	11.2	6.35	3.18	2.8	0.2								○						
	VPGT110301L-G	11.2	6.35	3.18	2.8	0.1								○						
	VPGT110301R-G	11.2	6.35	3.18	2.8	0.1								●						
	VPGT110302L-G	11.2	6.35	3.18	2.8	0.2								○						
	VPGT110302R-G	11.2	6.35	3.18	2.8	0.2								○						

● 标准库存Stock　○ 需预订Available Upon Order

螺纹刀片型号表示规则
Threading Insert Identification System

①刀片尺寸 Insert size	
代号 Size	IC(mm)
08	5
11	6.35
16	9.525
22	12.7
27	15.875

②螺纹类别 Thread type	
E	外螺纹 External thread
I	内螺纹 Internal thread

⑤螺纹标准 Thread standard
55=55°通用螺纹 55° Partial Profile Thread
60=60°通用螺纹 60° Partial Profile Thread
ISO=公制ISO螺纹 Metric ISO Thread
W=英制惠氏螺纹 British Whitworth Thread
UN=美制统一螺纹 Unified American Thread
BSPT=英制标准锥管螺纹 British Standard Tapered Pipe Thread

⑥材料应用组 Material Application Group	
P	钢 Steel
M	不锈钢 Stainless steel
K	铸铁 Cast iron
N	有色金属 Non-ferrous metal
S	难加工材料 HRSA
H	高硬材料 Hardened Material
U	通用于不同材料 Universal to different materials

③刀片方向 Hand of insert	
R	右手刀 Right-hand
L	左手刀 Left-hand

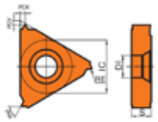
④螺距 Pitch		
全牙型螺距范围 Full profile		
mm	TPI	
0.35-5.0	72-5	
泛螺距 Partial profile		
代号 Code name	mm	TPI
A	0.5-1.5	48-16
AG	0.5-3.0	48-8
G	1.75-3.0	14-8
N	3.5-5.0	7-5

⑦应用场合 Application occasions	
H	重型加工 Heavy load cutting
R	粗加工 Rough cutting
M	中等加工 Medium cutting
F	精加工 Fine machining

⑧槽型等级 Chipbreaker grade		
磨制槽型 Grinded chipbreaker	1	兼顾低切削力和控屑 Balancing low cutting force and chip control
	2	理想控屑 Ideal chip control
压制槽型 Pressed chipbreaker	3	兼顾低切削力和控屑 Balancing low cutting force and chip control
	4	理想控屑 Ideal chip control
	5	兼顾不同切深 Considering different cutting depths
	6	开放槽型，低切削力 Open chipbreaker, low cutting force
	7	开放槽型，强壮刃口 Open chipbreaker, strong blade
	8	平板槽型 Flat chipbreaker

ISO公制螺纹
ISO metric thread

外螺纹 External thread



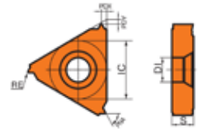
规格型号 Designation	螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
		PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
16 ER1.00ISO-UM3	1.00	0.7	0.7	9.525	0.14	3.52	4.0	60°				○	●									
16 ER1.25ISO-UM3	1.25	0.9	0.8	9.525	0.18	3.52	4.0	60°				○	●									
16 ER1.50ISO-UM3	1.50	1.0	0.8	9.525	0.22	3.52	4.0	60°				○	●									
16 ER1.75ISO-UM3	1.75	1.2	0.9	9.525	0.25	3.52	4.0	60°				○	●									
16 ER2.00ISO-UM3	2.00	1.3	1.0	9.525	0.29	3.52	4.0	60°				○	●									
16 ER2.50ISO-UM3	2.50	1.5	1.2	9.525	0.36	3.52	4.0	60°				○	●									
16 ER3.00ISO-UM3	3.00	1.6	1.3	9.525	0.43	3.52	4.0	60°				○	●									
22 ER3.50ISO-UM3	3.50	2.3	1.6	12.7	0.45	4.65	5.0	60°				○	●									
22 ER4.00ISO-UM3	4.00	2.3	1.6	12.7	0.52	4.65	5.0	60°				○	●									
22 ER4.50ISO-UM3	4.50	2.4	1.7	12.7	0.58	4.65	5.0	60°				○	●									
22 ER5.00ISO-UM3	5.00	2.4	1.7	12.7	0.63	4.65	5.0	60°				○	●									
22 ER5.50ISO-UM3	5.50	2.4	1.7	12.7	0.72	4.65	5.0	60°				○	●									
22 ER6.00ISO-UM3	6.00	2.4	1.7	12.7	0.78	4.65	5.0	60°				○	●									

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

ISO公制螺纹
ISO metric thread

内螺纹 Internal thread

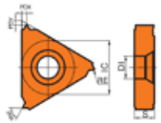


规格型号 Designation	螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
		PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
11 IR1.00ISO-UM3	1.00	0.7	0.7	6.35	0.07	3.05	3.2	60°				○	○									
11 IR1.25ISO-UM3	1.25	0.9	0.8	6.35	0.09	3.05	3.2	60°				○	○									
11 IR1.50ISO-UM3	1.50	1.0	0.8	63.5	0.11	3.05	3.2	60°				○	○									
11 IR1.75ISO-UM3	1.75	1.2	0.9	63.5	0.13	3.05	3.2	60°				○	○									
11 IR2.00ISO-UM3	2.00	1.3	0.9	63.5	0.15	3.05	3.2	60°				○	○									
16 IR1.00ISO-UM3	1.00	0.7	0.7	9.525	0.07	3.52	4.0	60°				○	●									
16 IR1.25ISO-UM3	1.25	0.9	0.8	9.525	0.09	3.52	4.0	60°				○	●									
16 IR1.50ISO-UM3	1.50	1.0	0.8	9.525	0.11	3.52	4.0	60°				○	●									
16 IR1.75ISO-UM3	1.75	1.2	0.9	9.525	0.13	3.52	4.0	60°				○	●									
16 IR2.00ISO-UM3	2.00	1.3	1.0	9.525	0.15	3.52	4.0	60°				○	●									
16 IR2.50ISO-UM3	2.50	1.5	1.1	9.525	0.18	3.52	4.0	60°				○	●									
16 IR3.00ISO-UM3	3.00	1.5	1.1	9.525	0.22	3.52	4.0	60°				○	●									
22 IR3.50ISO-UM3	3.50	2.3	1.6	12.7	0.22	4.65	5.0	60°				○	○									
22 IR4.00ISO-UM3	4.00	2.3	1.6	12.7	0.25	4.65	5.0	60°				○	○									
22 IR4.50ISO-UM3	4.50	2.4	1.6	12.7	0.28	4.65	5.0	60°				○	○									
22 IR5.00ISO-UM3	5.00	2.4	1.6	12.7	0.32	4.65	5.0	60°				○	○									
22 IR5.50ISO-UM3	5.50	2.5	1.8	12.7	0.36	4.65	5.0	60°				○	○									
22 IR6.00ISO-UM3	6.00	2.5	1.8	12.7	0.39	4.65	5.0	60°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

惠氏螺纹55°
Whitworth thread 55 °

外螺纹 External thread



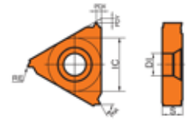
规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 ER11W-UM3	11	1.5	1.1	9.525	0.3	3.52	4.0	55°				○	○									
	16 ER12W-UM3	12	1.4	1.1	9.525	0.28	3.52	4.0	55°				○	○									
	16 ER14W-UM3	14	1.2	1.0	9.525	0.24	3.52	4.0	55°				●	●									
	16 ER16W-UM3	16	1.1	0.9	9.525	0.2	3.52	4.0	55°				●	●									
	16 ER18W-UM3	18	1.0	0.8	9.525	0.18	3.52	4.0	55°				●	●									
	16 ER19W-UM3	19	1.0	0.8	9.525	0.17	3.52	4.0	55°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

惠氏螺纹55°
Whitworth thread 55 °

内螺纹 Internal thread

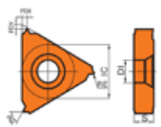


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	11 IR14W-UM3	14	1.2	1.0	6.35	0.27	3.05	3.2	55°				○	○									
	11 IR19W-UM3	19	1.0	0.8	6.35	0.19	3.05	3.2	55°				○	○									
	16 IR11W-UM3	11	1.5	1.1	9.525	0.3	3.52	4.0	55°				○	○									
	16 IR12W-UM3	12	1.4	1.1	9.525	0.28	3.52	4.0	55°				○	○									
	16 IR14W-UM3	14	1.2	1.0	9.525	0.24	3.52	4.0	55°				○	○									
	16 IR16W-UM3	16	1.1	0.9	9.525	0.2	3.52	4.0	55°				○	○									
	16 IR18W-UM3	18	1.0	0.8	9.525	0.18	3.52	4.0	55°				○	○									
	16 IR19W-UM3	19	1.0	0.8	9.525	0.17	3.52	4.0	55°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

通用60°
Partial Profile 60°

外螺纹 External thread

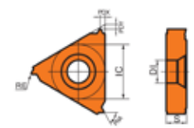


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 ERA60-UM3	0.5-1.5	0.9	0.8	9.525	0.08	3.47	4.0	60°				○	○									
	16ERAG60-UM3	0.5-3.0	1.7	1.2	9.525	0.08	3.47	4.0	60°				○	○									
	16 ERG60-UM3	1.75-3.0	1.7	1.2	9.525	0.25	3.47	4.0	60°				○	○									
	22 ERN60-UM3	3.5-5.0	2.5	1.7	12.7	0.51	4.71	4.0	60°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

通用60°
Partial Profile 60°

内螺纹 Internal thread

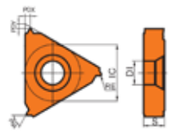


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size						PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	11 IRA60-UM3	0.5-1.5	0.9	0.8	6.35	0.08	3.2	60°				○	○									
	16 IRA60-UM3	0.5-1.5	0.9	0.8	9.525	0.08	4	60°				○	○									
	16IRAG60-UM3	0.5-3.0	1.7	1.2	9.525	0.08	4	60°				○	○									
	16 IRG60-UM3	1.75-3.0	1.7	1.2	9.525	0.13	4	60°				○	○									
	22 IRN60-UM3	3.5-5.0	1.7	2.5	12.7	0.25	5	60°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

通用55°
Partial Profile 55°

外螺纹 External thread

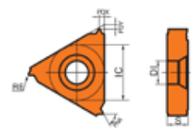


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 ERA55-UM3	48-16	0.9	0.8	9.525	0.08	3.47	4.0	55°				○	○									
	16 ERAG55-UM3	48-8	1.7	1.2	9.525	0.08	3.47	4.0	55°				○	○									
	16 ERG55-UM3	14-8	1.7	1.2	9.525	0.21	3.47	4.0	55°				○	○									
	22 ERN55-UM3	7-5	2.5	1.7	12.7	0.44	4.71	5.0	55°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

通用55°
Partial Profile 55°

内螺纹 Internal thread

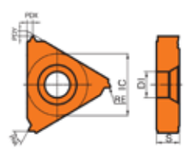


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	11 IRA55-UM3	48-16	0.9	0.8	6.35	0.08	3.00	3.2	55°				○	○									
	16 IRA55-UM3	48-16	0.9	0.8	9.525	0.08	3.47	4	55°				○	○									
	16 IRAG55-UM3	48-8	1.7	1.2	9.525	0.08	3.47	4	55°				○	○									
	16 IRG55-UM3	14-8	1.7	1.2	9.525	0.21	3.47	4	55°				○	○									
	22 IRN55-UM3	7-5	2.5	1.7	12.7	0.44	4.71	5	55°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

UN螺纹
UN thread

外螺纹 External thread

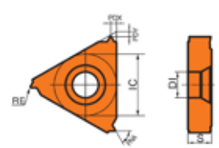


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 ER12UN-UM3	12	1.4	1.4	9.525	0.31	3.52	4.0	60°				○	○									
	16 ER16UN-UM3	16	1.1	0.9	9.525	0.23	3.52	4.0	60°				○	○									
	16 ER18UN-UM3	18	1.1	0.8	9.525	0.2	3.52	4.0	60°				○	○									
	16 ER20UN-UM3	20	1.1	0.8	9.525	0.18	3.52	4.0	60°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

UN螺纹
UN thread

内螺纹 Internal thread

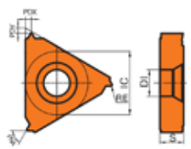


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 IR12UN-UM3	12	1.4	1.4	9.525	0.31	3.52	4.0	60°				○	○									
	16 IR16UN-UM3	16	1.1	0.9	9.525	0.23	3.52	4.0	60°				○	○									
	16 IR18UN-UM3	18	1.1	0.8	9.525	0.2	3.52	4.0	60°				○	○									
	16 IR20UN-UM3	20	1.1	0.8	9.525	0.18	3.52	4.0	60°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

BSPT螺纹
BSPT thread

外螺纹 External thread

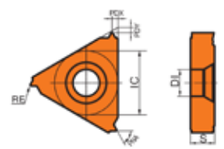


规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 ER11BSPT-UM3	11	1.5	1.1	9.525	0.3	3.52	4.0	55°				○	○									
	16 ER14BSPT-UM3	14	1.2	1.0	9.525	0.24	3.52	4.0	55°				○	○									
	16 ER19BSPT-UM3	19	0.9	0.8	9.525	0.17	3.52	4.0	55°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

BSPT螺纹
BSPT thread

内螺纹 Internal thread



规格型号 Designation		螺距/牙数 Pitch/TPI	尺寸 Size							PVD								CVD					硬质合金 Uncoated
			PDX	PDY	IC	RE	S	D1	PNA	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	16 IR11BSPT-UM3	11	1.5	1.1	9.525	0.3	3.52	4.0	55°				○	○									
	16 IR14BSPT-UM3	14	1.2	1.0	9.525	0.24	3.52	4.0	55°				○	○									
	16 IR19BSPT-UM3	19	0.9	0.8	9.525	0.17	3.52	4.0	55°				○	○									

● 标准库存Stock ○ 需预订Available Upon Order

切槽切断刀片命名规则
Grooving and Parting Inserts Identification System

MG ① M ② N ③ 400 ④ – J ⑤

①系列名称 Series	
代号 Code	系列名称 Series
MG	方头槽刀系列 MG chipbreaker with flat-top geometry
MR	圆头槽刀系列 MR chipbreaker with full radius geometry

②精度等级 Tolerance class	
代号 Code	精度等级 Tolerance class
M	M级
G	G级

③切削方向 Cutting direction	
代号 Code	切削方向 Cutting direction
R	右手刀 Right hand
L	左手刀 Left hand
N	无方向 Neutral

④切削刃宽度 Cutting edge width	
代号 Code	切削刃宽度 Width of cutting edge
150	1.5mm
200	2mm
250	2.5mm
300	3mm

⑤槽型代号 Chipbreaker code	
代号 Code	槽型 Chipbreaker
J	Chipbreaker J

GBA系列槽刀片命名规则
GBA series Grooving Insert Identification System

GBA ① 43 ② R ③ 200 ④ 020 ⑤ R ⑥

①系列名称 Series	
代号 Code	系列名称 Series
GBA	系列名称 Series

②刀片尺寸 Insert size	
代号 Code	刀片尺寸 Insert size
32	IC=9.525mm
43	IC=12.7mm

③切削方向 Cutting direction	
代号 Code	切削方向 Cutting direction
R	右手刀 Right-handed knifen
L	左手刀 Left hand
N	无方向 Neutral

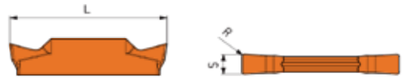
④切削刃宽度 Cutting edge width	
代号 Code	切削刃宽度 Width of cutting edge
200	2mm
300	3mm
400	4mm

⑤刀尖圆弧半径 Nose radius	
代号 Code	刀尖圆弧半径 Nose radius
010	0.1mm
020	0.2mm
030	0.3mm

⑥刀片轮廓 Tip profile	
代号 Code	刀片轮廓 Tip profile
S	平头 Flat top
R	圆头 Full radius

切槽切断刀片
Parting and Grooving Insert

MG□□



规格型号 Designation		尺寸 Size			PVD								CVD					硬质合金 Uncoated
		S	R	L	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	MGMN200-J	2.0	0.2	16.0						●	●							
	MGMN250-J	2.5	0.2	18.5						●	●							
	MGMN300-J	3.0	0.3	21.0						●	●							
	MGMN400-J	4.0	0.4	21.0						●	●							
	MGMN500-J	5.0	0.8	26.0						○	○							
	MGMN600-J	6.0	0.8	26.0						○	○							
	MGMN800-J	8.0	0.8	31.0						○	○							
	MGMN200-G	2.0	0.2	16.0						●	●							
	MGMN250-G	2.5	0.2	18.5						●	●							
	MGMN300-G	3.0	0.3	21.0						○	○							
	MGMN400-G	4.0	0.4	21.0						○	○							
	MGMN500-G	5.0	0.8	26.0						○	○							
	MGMN600-G	6.0	0.8	26.0						○	○							
	MGMN800-G	8.0	0.8	31.0						○	○							
	MGMN200-T	2.0	0.2	16.0						●	●							
	MGMN250-T	2.5	0.2	18.5						●	●							
	MGMN300-T	3.0	0.3	21.0						●	●							
	MGMN400-T	4.0	0.4	21.0						●	●							
	MGMN500-T	5.0	0.8	26.0						●	●							
	MGMN600-T	6.0	0.8	26.0						○	○							
	MGMN800-T	8.0	0.8	31.0						○	○							

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

切槽切断刀片
Parting and Grooving Insert

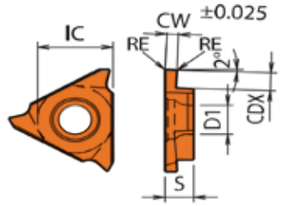
MR□□

规格型号 Designation		尺寸 Size			PVD								CVD					硬质合金 Uncoated
		S	R	L	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
	MRMN200-M	2.0	1.00	16.0						●	●							
	MRMN250-M	2.5	1.25	18.5						●	●							
	MRMN300-M	3.0	1.50	21.0						●	●							
	MRMN400-M	4.0	2.00	21.0						●	●							
	MRMN500-M	5.0	2.50	26.0						○	○							
	MRMN600-M	6.0	3.00	26.0						○	○							

● 标准库存Stock ○ 需预订Available Upon Order

切槽切断刀片
Parting and Grooving Insert

# GBA(平头)
GBA(Flat Top)

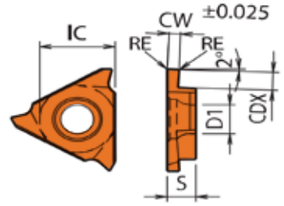


规格型号 Designation	尺寸 Size						PVD								CVD					硬质合金 Uncoated
	CW	CDX	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
GBA32R100-010	1.00	2.00	9.525	3.18	4.40	0.10						○	○							
GBA32L100-010	1.00	2.00	9.525	3.18	4.40	0.10						○	○							
GBA32R125-010	1.25	2.00	9.525	3.18	4.40	0.10						●	●							
GBA32L125-010	1.25	2.00	9.525	3.18	4.40	0.10						○	○							
GBA32R150-010	1.50	2.00	9.525	3.18	4.40	0.10						●	●							
GBA32L150-010	1.50	2.00	9.525	3.18	4.40	0.10						○	○							
GBA32R175-010	1.75	2.00	9.525	3.18	4.40	0.10						○	○							
GBA32L175-010	1.75	2.00	9.525	3.18	4.40	0.10						○	○							
GBA32R200-015	2.00	2.50	9.525	3.18	4.40	0.15						●	●							
GBA32L200-015	2.00	2.50	9.525	3.18	4.40	0.15						○	○							
GBA32R250-015	2.50	2.50	9.525	3.18	4.40	0.15						●	●							
GBA32L250-015	2.50	2.50	9.525	3.18	4.40	0.15						○	○							
GBA32R275-015	2.75	2.50	9.525	3.18	4.40	0.15						○	○							
GBA32L275-015	2.75	2.50	9.525	3.18	4.40	0.15						○	○							
GBA32R300-020	3.00	2.50	9.525	3.18	4.40	0.20						●	●							
GBA32L300-020	3.00	2.50	9.525	3.18	4.40	0.20						○	○							

● 标准库存Stock ○ 需预订Available Upon Order

切槽切断刀片
Parting and Grooving Insert

GBA(平头)
GBA(Flat Top)

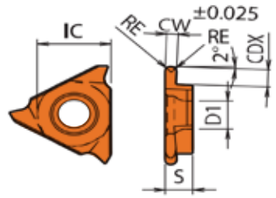


规格型号 Designation	尺寸 Size						PVD								CVD					硬质合金 Uncoated
	CW	CDX	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
GBA43R125-020	1.25	2.00	12.70	4.76	5.50	0.20						●	●							
GBA43L125-020	1.25	2.00	12.70	4.76	5.50	0.20						○	○							
GBA43R150-020	1.50	3.50	12.70	4.76	5.50	0.20						●	●							
GBA43L150-020	1.50	3.50	12.70	4.76	5.50	0.20						○	○							
GBA43R175-020	1.75	3.50	12.70	4.76	5.50	0.20						○	○							
GBA43L175-020	1.75	3.50	12.70	4.76	5.50	0.20						○	○							
GBA43R200-020	2.00	3.50	12.70	4.76	5.50	0.20						●	●							
GBA43L200-020	2.00	3.50	12.70	4.76	5.50	0.20						○	○							
GBA43R300-030	3.00	3.50	12.70	4.76	5.50	0.30						●	●							
GBA43L300-030	3.00	3.50	12.70	4.76	5.50	0.30						○	○							
GBA43R330-030	3.30	3.50	12.70	4.76	5.50	0.30						○	○							
GBA43L330-030	3.30	3.50	12.70	4.76	5.50	0.30						○	○							
GBA43R350-030	3.50	3.50	12.70	4.76	5.50	0.30						●	●							
GBA43L350-030	3.50	3.50	12.70	4.76	5.50	0.30						○	○							
GBA43R400-040	4.00	3.50	12.70	4.76	5.50	0.40						●	●							
GBA43L400-040	4.00	3.50	12.70	4.76	5.50	0.40						○	○							

● 标准库存Stock ○ 需预订Available Upon Order

切槽切断刀片
Parting and Grooving Insert

GBA(圆头)
GBA(Full radius)



规格型号 Designation	尺寸 Size						PVD							CVD					硬质合金 Uncoated
	CW	CDX	IC	S	D1	RE	TM5111	TM5110	TM5210	TM5120	TU5220	TM5130	TU5130	TU5140	TP6110	TP6210	TP6310	TK6110	TK6210	TN7180
GBA32R200-100R	2.0	2.50	9.525	3.18	4.40	1.0						●	●							
GBA32R300-200R	3.0	2.50	9.525	3.18	4.40	1.5						●	●							
GBA43R100-050R	1.0	2.0	12.70	4.76	5.50	0.50						○	○							
GBA43L100-050R	1.0	2.0	12.70	4.76	5.50	0.50						○	○							
GBA43R150-075R	1.5	3.5	12.70	4.76	5.50	0.75						○	○							
GBA43L150-075R	1.5	3.5	12.70	4.76	5.50	0.75						○	○							
GBA43R200-100R	2.0	3.5	12.70	4.76	5.50	1.00						●	●							
GBA43L200-100R	2.0	3.5	12.70	4.76	5.50	1.00						○	○							
GBA43R250-125R	2.5	4.0	12.70	4.76	5.50	1.25						●	●							
GBA43L250-125R	2.5	4.0	12.70	4.76	5.50	1.25						○	○							
GBA43R300-150R	3.0	4.0	12.70	4.76	5.50	1.50						●	●							
GBA43L300-150R	3.0	4.0	12.70	4.76	5.50	1.50						○	○							
GBA43R400-200R	4.0	5.0	12.70	4.76	5.50	2.00						○	○							
GBA43L400-200R	4.0	5.0	12.70	4.76	5.50	2.00						○	○							

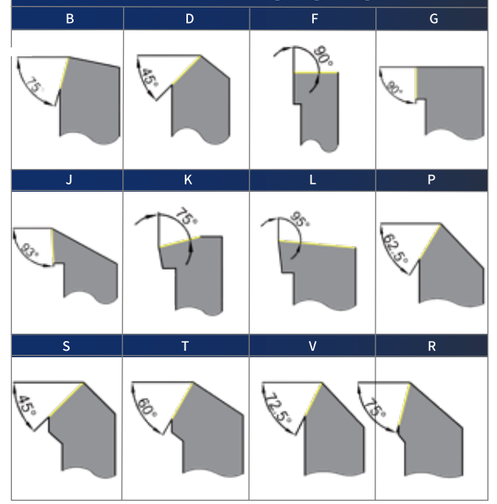
● 标准库存Stock　○ 需预订Available Upon Order

普通外圆车削刀杆命名规则
External Turning Toolholder Identification System

① 夹紧方式 Method of Clamping	
记号 Symbol	锁紧方式 Method of Clamping
M	压板式+偏心轴式 Wedge Lock Type Heavy Cutting Double Clamp Type
P	杠杆锁紧式 Lever Lock Type

② 刀片形状 Insert shape	
C	80°菱形 Rhombic80°
D	55°菱形 Rhombic55°
R	圆形 Circular
S	正方形 Square
T	正三角形 Equilateral triangle
V	35°菱形 Rhombic35°
W	等边不等角六角形 Equilateral unequal hexagonal

③ 主偏角 Cutting Edge Angle



④ 刀片后角 Insert Clearance angle	
N	负角型 Negative

⑤ 切削方向 Hand of Tool	
R	右手 Right
L	左手 Left
N	左右手 Left/Right

⑥ 刀尖高度 Insert height	
8	08
10	10
12	12
16	16
20	20
25	25
32	32

P	C	L	N	R	25	25	M	12
①	②	③	④	⑤	⑥	⑦	⑧	⑨

⑦ 刀体宽度 Tool Width	
8	08
10	10
12	12
16	16
20	20
25	25
32	32

⑧ 刀具长度 Tool Length	
D	60
E	70
F	80
H	100
K	125
M	150
P	170
Q	180
R	200

⑨ 切削刃长度 Cutting Edge Length						
刀片内切圆 Insert IC	刀片形状 Insert shape					
	正方形 Square	正三角形 Equilateral triangle	圆形 Circular	80°菱形 Rhombic 80°	55°菱形 Rhombic 55°	35°菱形 Rhombic 35°
6.00			06			
6,35		11		06	07	11
7.94		13				
8.00			08			
9.525	09	16		09	11	16
10.00			10			
12.00			12			
12.70	12	22		12	15	
15.875	15	27		16		
16.00			16			
19.05	19			19		
20.00			20			
25.00			25			
25.40	25					
32.00			32			

普通内孔车削刀杆命名规则
Internal Turning Toolholder Identification System

① 刀杆材质 Tool Material	
S	钢刀杆 Steel Shank

② 刀杆直径 Tool Diameter	
8	08
10	10
12	12
16	16
20	20
25	25
32	32

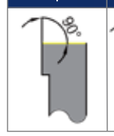
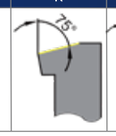
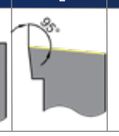
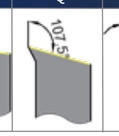
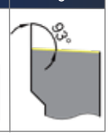
③ 刀柄长度 Tool Length	
K	125
M	150
Q	180
R	200
S	250
T	300
U	350

④ 夹紧方式 Method of Clamping	
S	螺钉夹紧式 Screw-on Type

⑤ 刀片形状 Insert shape	
C	 80°菱形 Rhombic80°
D	 55°菱形 Rhombic55°
S	 正方形 Square
T	 正三角形 Equilateral triangle
V	 35°菱形 Rhombic35°

S 16 Q S C L C R 09

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

⑥ 主偏角 Cutting Edge Angle				
F	K	L	Q	U
 90°	 75°	 95°	 107.5°	 93°

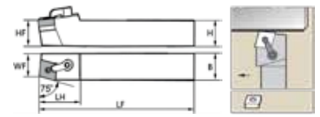
⑦ 刀片后角 Insert Clearance angle	
C	7°
P	11°

⑧ 切削方向 Hand of Tool	
R	右手 Right
L	左手 Left
N	左右手 Left/Right

⑨ 切削刃长度 Gutting Edge Length					
刀片内切圆 Insert IC	刀片形状 Insert shape				
	正方形 Square	正三角形 Equilateral triangle	80°菱形 Rhombic 80°	55°菱形 Rhombic 55°	35°菱形 Rhombic 35°
					
5.556					
6.350		09	06	07	11
9.525		11	09	11	
12.70		16	12		

外圆车削刀杆
External Turning Toolholder

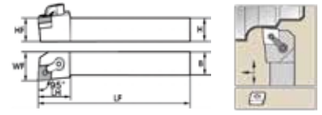
MCBNR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MCBNR/L2020K12	20	20	125	35	20	17	DC12M	STM6X17	YBM02	DM6×20	TH25L/TH30L	CN□□1204	●	○
MCBNR/L2525M12	25	25	150	35	25	22	DC12M	STM6X17	YBM02	DM6×20	TH25L/TH30L		●	○
MCBNR/L3232P12	32	32	170	35	32	27	DC12M	STM6X17	YBM02	DM6×25	TH25L/TH30L		●	○
MCBNR/L2525M16	25	25	150	42	25	22	DC16M	STM8*21	YBM03	DM6×25	TH30L	CN□□1606	○	○
MCBNR/L3232P16	32	32	170	42	32	27	DC16M	STM8*21	YBM03	DM6×28	TH30L		○	○

● 标准库存Stock ○ 需预订Available Upon Order

MCLNR/L

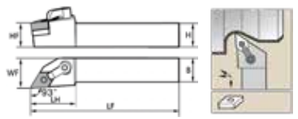


型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MCLNR/L2020K12	20	20	125	32	20	25	DC12M	STM6X17	YBM02	DM6×20	TH25L/TH30L	CN□□1204	●	○
MCLNR/L2525M12	25	25	150	32	25	32	DC12M	STM6X17	YBM02	DM6×20	TH25L/TH30L		●	○
MCLNR/L3232P12	32	32	170	32	32	40	DC12M	STM6X17	YBM02	DM6×25	TH25L/TH30L		●	○
MCLNR/L2525M16	25	25	150	38	25	32	DC16M	STM8*21	YBM03	DM6×25	TH30L	CN□□1606	○	○
MCLNR/L3232P16	32	32	170	38	32	40	DC16M	STM8*21	YBM03	DM6×28	TH30L		○	○

● 标准库存Stock ○ 需预订Available Upon Order

外圆车削刀杆
External Turning Toolholder

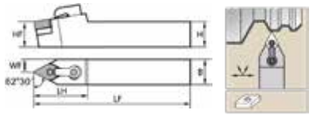
MDJNR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MDJNR/L2020K11	20	20	125	32	20	25	DD11M	STM5X13	YBM02	DM6X25	TH20L/TH30L	DN□□1104	●	○
MDJNR/L2020K15	20	20	125	38	20	25	DD15M	STM6X19	YBM03	DM6X25	TH25L/TH30L	DN□□1506	●	○
MDJNR/L2525M15	25	25	150	38	32	32	DD15M	STM6X19	YBM03	DM6X25	TH25L/TH30L		●	○
MDJNR/L2020K15H	20	20	125	38	25	25	DD15M	STM6X17	YBM03	DM6X25	TH25L/TH30L	DN□□1504	○	○
MDJNR/L2525M15H	25	25	150	38	32	32	DD15M	STM6X17	YBM03	DM6X25	TH25L/TH30L		○	○

● 标准库存Stock ○ 需预订Available Upon Order

MDPNN

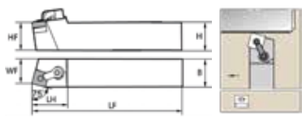


型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MDPNN/L2020K11	20	20	125	35	20	10	DD11M	STM5X13	YBM02	DM6X25	TH20L/TH30L	DN□□1104	●	○
MDPNN/L2020K15	20	20	125	42	20	10	DD15M	STM6X19	YBM03	DM6X25	TH25L/TH30L	DN□□1506	●	○
MDPNN/L2525M15	25	25	150	42	25	12.5	DD15M	STM6X19	YBM03	DM6X25	TH25L/TH30L		●	○
MDPNN/L2020K15H	20	20	125	42	20	10	DD15M	STM6X17	YBM03	DM6X25	TH25L/TH30L	DN□□1504	○	○
MDPNN/L2525M15H	25	25	150	42	25	12.5	DD15M	STM6X17	YBM03	DM6X25	TH25L/TH30L		○	○

● 标准库存Stock ○ 需预订Available Upon Order

外圆车削刀杆
External Turning Toolholder

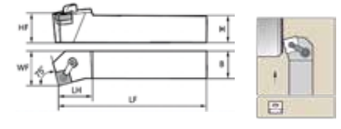
MSBNR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MSBNR/L2020K12	20	20	125	32	20	17	DS12M	STM6X17	YBM02	DM6×20	TH25L/TH30L	SN□□1204	●	○
MSBNR/L2525M12	25	25	150	32	25	22	DS12M	STM6X17	YBM02	DM6×20	TH25L/TH30L		●	○
MSBNR/L3232P12	32	32	170	32	32	27	DS12M	STM6X17	YBM02	DM6×25	TH25L/TH30L		●	○

● 标准库存Stock ○ 需预订Available Upon Order

MSKNR/L

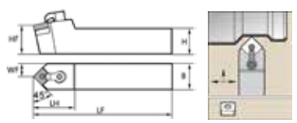


型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MSKNR/L2020K12	20	20	125	32	20	25	DS12M	STM6X17	YBM02	DM6×20	TH25L/TH30L	SN□□1204	●	○
MSKNR/L2525M12	25	25	150	32	25	32	DS12M	STM6X17	YBM02	DM6×20	TH25L/TH30L		●	○
MSKNR/L3232P12	32	32	170	32	32	40	DS12M	STM6X17	YBM02	DM6×25	TH25L/TH30L		●	○

● 标准库存Stock ○ 需预订Available Upon Order

外圆车削刀杆
External Turning Toolholder

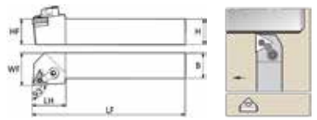
MSDNN



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MSDNN/L2020K12	20	20	125	32	20	10	DS12M	STM6X17	YBM02	DM6×20	TH25L/TH30L	SN□□1204	●	○
MSDNN/L2525M12	25	25	150	32	25	12.5	DS12M	STM6X17	YBM02	DM6×20	TH25L/TH30L		●	○
MSDNN/L3232P12	32	32	170	32	32	16	DS12M	STM6X17	YBM02	DM6×25	TH25L/TH30L		●	○

● 标准库存Stock ○ 需预订Available Upon Order

MTJNR/L



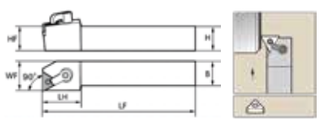
型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MTJNR/L2020K16	20	20	125	32	20	25	DT16M	STM5X13	YBM02	DM6×25	TH20L/TH30L	TN□□1604	●	○
MTJNR/L2525M16	25	25	150	32	25	32	DT16M	STM5X13	YBM02	DM6×25	TH20L/TH30L		●	○
MTJNR/L3232P16	32	32	170	32	32	40	DT16M	STM5X13	YBM02	DM6×28	TH20L/TH30L		●	○

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

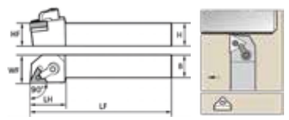
外圆车削刀杆
External Turning Toolholder

MTFNR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MTFNR/L2020K16	20	20	125	32	20	25	DT16M	STM5X13	YBM02	DM6×25	TH20L/TH30L	TN□□1604	●	○
MTFNR/L2525M16	25	25	150	32	25	32	DT16M	STM5X13	YBM02	DM6×25	TH20L/TH30L		●	○
MTFNR/L3232P16	32	32	170	32	32	40	DT16M	STM5X13	YBM02	DM6×28	TH20L/TH30L		●	○

MTGNR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MTGNR/L2020K16	20	20	125	32	20	25	DT16M	STM5X13	YBM02	DM6×25	TH20L/TH30L	TN□□1604	●	○
MTGNR/L2525M16	25	25	150	32	25	32	DT16M	STM5X13	YBM02	DM6×25	TH20L/TH30L		●	○
MTGNR/L3232P16	32	32	170	32	32	40	DT16M	STM5X13	YBM02	DM6×28	TH20L/TH30L		●	○

● 标准库存Stock ○ 需预订Available Upon Order

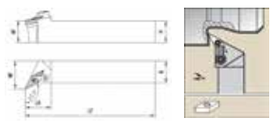
外圆车削刀杆
External Turning Toolholder

MVJNR/L

型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MVJNR/L2020K16	20	20	125	45	20	25	DT16M	STM5X13	YBM04	DM6×25	TH20L/TH30L	VN□□1604	●	○
MVJNR/L2525M16	25	25	150	45	25	32	DT16M	STM5X13	YBM04	DM6×25	TH20L/TH30L		●	○
MVJNR/L3232P16	32	32	170	45	32	40	DT16M	STM5X13	YBM04	DM6×28	TH20L/TH30L		○	○

● 标准库存Stock ○ 需预订Available Upon Order

MVQNR/L



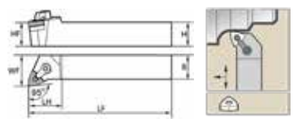
型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MVQNR/L2020K16	20	20	125	45	20	25	DV16M	STM5X13	YBM04	DM6×25	TH20L/TH30L	VN□□1604	●	○
MVQNR/L2525M16	25	25	150	45	25	32	DV16M	STM5X13	YBM04	DM6×25	TH20L/TH30L		●	○
MVQNR/L3232P16	32	32	170	45	32	40	DV16M	STM5X13	YBM04	DM6×28	TH20L/TH30L		○	○

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

外圆车削刀杆
External Turning Toolholder

MWLNR/L

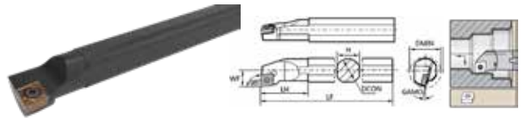


型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts					匹配刀片 Insert	库存Stock	
	H	B	LF	LH	HF	WF	刀垫 Shim	销钉 Pin	压板 Clamp	双头螺丝 Screw	扳手 wrench		R	L
MWLNR/L2020K08	20	20	125	32	20	25	DW08M	STM6X17	YBM02	DM6×20	TH25L/TH30L	WN□□0804	●	○
MWLNR/L2525M08	25	25	150	32	25	32	DW08M	STM6X17	YBM02	DM6×25	TH25L/TH30L		●	○
MWLNR/L3232P08	32	32	170	32	32	40	DW08M	STM6X17	YBM02	DM6×28	TH25L/TH30L		●	○

● 标准库存Stock ○ 需预订Available Upon Order

内孔车刀杆
Internal Turning Toolholder

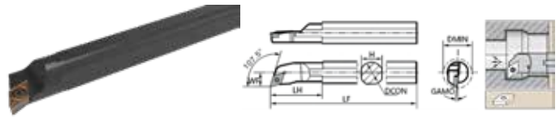
S□□-SCLCR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S12M-SCLCR/L06	16	12	16	11	150	7.5	M2.5*6.5	T08	CC□□0602	●	○
S12M-SCLCR/L09	16	12	20	11	150	8	M3.5*8	T15	CC□□09T3	●	○
S16Q-SCLCR/L09	20	16	25	15	180	10	M3.5*8	T15		●	○
S20R-SCLCR/L09	25	20	28	19	200	12	M3.5*10	T15		●	○
S25S-SCLCR/L09	32	25	30	24	250	15.5	M3.5*10	T15		●	○
S20R-SCLCR/L12	25	20	30	19	200	12.5	M4.0*11	T15	CC□□1204	●	○
S25S-SCLCR/L12	32	25	35	24	250	15.5	M4.0*11	T15		●	○

● 标准库存Stock ○ 需预订Available Upon Order

S□□-SDQCR/L



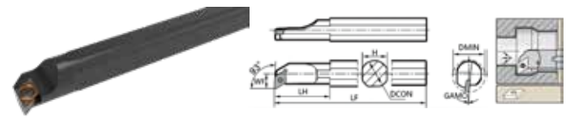
型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S12M-SDQCR/L07	16	12	18	11	150	9	M2.5*6.5	T08	DC □□0702	●	○
S16Q-SDQCR/L07	20	16	24	15	180	11	M2.5*6.5	T08		●	○
S20R-SDQCR/L11	25	20	30	19	200	13	M3.5*10	T15	DC□□11T3	●	○
S25S-SDQCR/L11	32	25	35	24	250	16	M3.5*10	T15		●	○

● 标准库存Stock ○ 需预订Available Upon Order

天工硬质合金 TIANGONG CEMENTED CARBIDE

内孔车刀杆
Internal Turning Toolholder

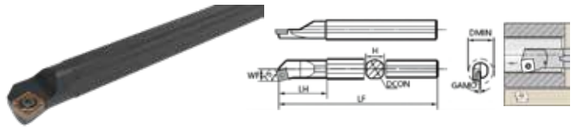
S□□-SDUCR/L



型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S10K-SDUCR/L07	14	10	16	9	150	7	M2.5*6.5	T08	DC□□0702	●	○
S12M-SDUCR/L07	16	12	18	11	150	9	M2.5*6.5	T08		●	○
S16Q-SDUCR/L07	20	16	20	15	180	11	M2.5*6.5	T08		●	○
S16Q-SDUCR/L11	20	16	18	15	180	11	M3.5*10	T15	DC □□ 11T3	●	○
S20R-SDUCR/L11	25	20	28	19	200	13	M3.5*10	T15		●	○
S25S-SDUCR/L11	32	25	28	24	250	16	M3.5*10	T15		●	○

● 标准库存Stock ○ 需预订Available Upon Order

S□□-SSKCR/L

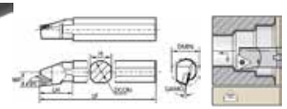


型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S12M-SSKCR/L09	16	12	11	11	150	9	M3.5*8	T15	SC□□09T3	●	○
S16Q-SSKCR/L09	20	16	22	15	180	11	M3.5*8	T15		●	○
S20R-SSKCR/L09	25	20	25	19	200	13	M3.5*8	T15		●	○
S25S-SSKCR/L12	32	25	40	24	250	17	M4.0*11	T15	SC□□1204	●	○

● 标准库存Stock ○ 需预订Available Upon Order

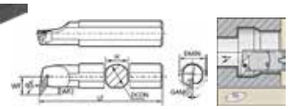
内孔车刀杆
Internal Turning Toolholder

S□□-STFCR/L

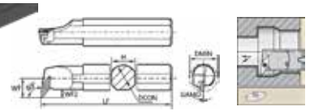
型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S12M-STFCR/L11	16	12	20	11	150	7	M2.5*6.5	T08	TC□□1102	●	○
S16Q-STFCR/L11	20	16	20	15	180	10	M2.5*6.5	T08		●	○
S20R-STFCR/L11	25	20	22	19	200	12	M2.5*6.5	T08		●	○
S25S-STFCR/L16	32	25	30	24	250	16	M3.5*10	T15	TC□□16T3	●	○

S□□-SVUCR/L

型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S16Q-SVUCR/L11	20	16	20	15	180	11.5	M2.5*6.5	T08	VC □□1103	●	○
S20R-SVUCR/L11	25	20	25	19	200	14	M2.5*6.5	T08		●	○
S25S-SVUCR/L16	32	25	25	24	250	20	M3.5*10	T15	VC □□ 1604	●	○

S□□-SVUBR/L

型号 Ordering Code	基本尺寸Dimension（mm）						附件Spare Parts		匹配刀片 Insert	库存Stock	
	DMIN	DCON	LH	H	LF	WF	刀片螺丝 Screw	扳手 wrench		R	L
S16Q-SVUBR/L11	20	16	20	15	180	11.5	M2.5*6.5	T08	VB □□1103	●	○
S20R-SVUBR/L11	25	20	25	19	200	14	M2.5*6.5	T08		●	○
S25S-SVUBR/L16	32	25	25	24	250	20	M3.5*10	T15	VB 1604	●	○

推荐切削参数
Recommended Cutting Parameters

ISO	工件材料 Workpiece material	硬度 Hardness	切削范围 Cutting range	工况 working condition		牌号 Grade	建议参数 Recommended cutting parameters 切削速度 VC（m/min）	切深 ap(mm)	进给量 f(mm/r)
P	碳钢（退火、回火） Carbon steel (Annealing, tempering)	≤HB200	精加工 Fine machining	连续	Continuous	TP6110	260-300-350	0.5-1.0-1.6	0.05-0.1-0.15
				中等	Medium	TP6210	240-280-320	0.5-1.0-1.6	0.05-0.1-0.15
				断续	Intermittent	TP6310	210-250-290	0.5-1.0-1.6	0.05-0.1-0.15
			半精加工 Semi-finishing	连续	Continuous	TP6110	230-280-320	1.1-1.7-2.1	0.1-0.15-0.21
				中等	Medium	TP6210	210-240-300	1.1-1.7-2.1	0.1-0.15-0.21
				断续	Intermittent	TP6310	190-220-260	1.1-1.7-2.1	0.1-0.15-0.21
			粗加工 Rough machining	连续	Continuous	TP6110	200-250-290	1.5-2.3-2.6	0.15-0.21-0.26
				中等	Medium	TP6210	180-220-270	1.5-2.3-2.6	0.15-0.21-0.26
				断续	Intermittent	TP6310	170-190-230	1.5-2.3-2.6	0.15-0.21-0.26
			重型加工 Heavy duty processing	连续	Continuous	TP6110	170-220-250	1.9-2.7-3.4	0.2-0.26-0.32
				中等	Medium	TP6210	160-180-220	1.9-2.7-3.4	0.2-0.26-0.32
				断续	Intermittent	TP6310	140-160-200	1.9-2.7-3.4	0.2-0.26-0.32
	低合金钢钢（退火、调质） Low alloy steel (Annealing, quenching and tempering)	HB170-HB300	精加工 Fine machining	连续	Continuous	TP6110	230-270-320	0.5-1.0-1.6	0.05-0.1-0.15
				中等	Medium	TP6210	220-250-300	0.5-1.0-1.6	0.05-0.1-0.15
				断续	Intermittent	TP6310	190-230-270	0.5-1.0-1.6	0.05-0.1-0.15
			半精加工 Semi-finishing	连续	Continuous	TP6110	210-250-300	1.1-1.7-2.1	0.1-0.15-0.21
				中等	Medium	TP6210	180-220-280	1.1-1.7-2.1	0.1-0.15-0.21
				断续	Intermittent	TP6310	160-200-230	1.1-1.7-2.1	0.1-0.15-0.21
			粗加工 Rough machining	连续	Continuous	TP6110	180-230-260	1.5-2.3-2.6	0.15-0.21-0.26
				中等	Medium	TP6210	160-190-250	1.5-2.3-2.6	0.15-0.21-0.26
				断续	Intermittent	TP6310	140-170-200	1.5-2.3-2.6	0.15-0.21-0.26
			重型加工 Heavy duty processing	连续	Continuous	TP6110	150-200-230	1.9-2.7-3.4	0.2-0.26-0.32
				中等	Medium	TP6210	130-150-200	1.9-2.7-3.4	0.2-0.26-0.32
				断续	Intermittent	TP6310	120-130-180	1.9-2.7-3.4	0.2-0.26-0.32
	高合金钢（淬火并回火） High-alloy steel (Quenching and tempering)	HB300-HB400	精加工 Fine machining	连续	Continuous	TP6110	200-240-280	0.5-1.0-1.6	0.05-0.1-0.15
				中等	Medium	TP6210	180-220-260	0.5-1.0-1.6	0.05-0.1-0.15
				断续	Intermittent	TP6310	160-200-250	0.5-1.0-1.6	0.05-0.1-0.15
			半精加工 Semi-finishing	连续	Continuous	TP6110	180-230-270	1.1-1.7-2.1	0.1-0.15-0.21
				中等	Medium	TP6210	150-200-230	1.1-1.7-2.1	0.1-0.15-0.21
				断续	Intermittent	TP6310	130-170-200	1.1-1.7-2.1	0.1-0.15-0.21
			粗加工 Rough machining	连续	Continuous	TP6110	150-200-230	1.5-2.3-2.6	0.15-0.21-0.26
				中等	Medium	TP6210	130-160-210	1.5-2.3-2.6	0.15-0.21-0.26
				断续	Intermittent	TP6310	110-140-180	1.5-2.3-2.6	0.15-0.21-0.26
			重型加工 Heavy duty processing	连续	Continuous	TP6110	120-140-180	1.9-2.7-3.4	0.2-0.26-0.32
				中等	Medium	TP6210	100-120-150	1.9-2.7-3.4	0.2-0.26-0.32
				断续	Intermittent	TP6310	100-110-130	1.9-2.7-3.4	0.2-0.26-0.32

推荐切削参数
Recommended Cutting Parameters

ISO	工件材料 Workpiece material	硬度 Hardness	切削范围 Cutting range	工况 working condition	牌号 Brand	建议参数 Recommended cutting parameters		
						切削速度 VC (m/min)	切深 ap(mm)	进给量 f(mm/r)
M	奥氏体 Austenite	HB180-HB200	精加工 Fine machining	连续 Continuous	TM5111	170-200-230	0.1-0.5-1.0	0.2-0.24-0.28
				中等 Medium	TM5110	150-170-210	0.1-0.5-1.0	0.2-0.24-0.28
				断续 Intermittent	TM5210	120-150-190	0.1-0.5-1.0	0.2-0.24-0.28
			半精加工 Semi-finishing	连续 Continuous	TM5111	150-180-200	0.5-1.0-1.5	0.25-0.3-0.35
				中等 Medium	TM5110	120-150-180	0.5-1.0-1.5	0.25-0.3-0.35
				断续 Intermittent	TM5210	110-130-160	0.5-1.0-1.5	0.25-0.3-0.35
			粗加工 Rough machining	连续 Continuous	TM5111	120-150-180	1.0-1.5-2.0	0.3-0.35-0.4
				中等 Medium	TM5110	100-130-150	1.0-1.5-2.0	0.3-0.35-0.4
				断续 Intermittent	TM5210	100-120-130	1.0-1.5-2.0	0.3-0.35-0.4
	铁素体/马氏体 Ferrite/Martensite	HB170-HB300	精加工 Fine machining	连续 Continuous	TM5111	160-190-220	0.1-0.5-1.0	0.2-0.24-0.28
				中等 Medium	TM5110	140-160-200	0.1-0.5-1.0	0.2-0.24-0.28
				断续 Intermittent	TM5210	110-150-180	0.1-0.5-1.0	0.2-0.24-0.28
			半精加工 Semi-finishing	连续 Continuous	TM5111	140-170-190	0.5-1.0-1.5	0.25-0.3-0.35
				中等 Medium	TM5110	110-140-170	0.5-1.0-1.5	0.25-0.3-0.35
				断续 Intermittent	TM5210	100-110-150	0.5-1.0-1.5	0.25-0.3-0.35
			粗加工 Rough machining	连续 Continuous	TM5111	120-150-180	1.0-1.5-2.0	0.3-0.35-0.4
				中等 Medium	TM5110	100-130-150	1.0-1.5-2.0	0.3-0.35-0.4
				断续 Intermittent	TM5210	90-100-130	1.0-1.5-2.0	0.3-0.35-0.4
	奥氏体-铁素体（双相） Austenite ferrite (Bipolar)	HB230-HB260	精加工 Fine machining	连续 Continuous	TM5111	160-190-220	0.1-0.5-1.0	0.2-0.24-0.28
				中等 Medium	TM5110	140-160-200	0.1-0.5-1.0	0.2-0.24-0.28
				断续 Intermittent	TM5210	110-150-180	0.1-0.5-1.0	0.2-0.24-0.28
			半精加工 Semi-finishing	连续 Continuous	TM5111	140-170-190	0.5-1.0-1.5	0.25-0.3-0.35
				中等 Medium	TM5110	110-140-170	0.5-1.0-1.5	0.25-0.3-0.35
				断续 Intermittent	TM5210	100-110-150	0.5-1.0-1.5	0.25-0.3-0.35
			粗加工 Rough machining	连续 Continuous	TM5111	120-150-180	1.0-1.5-2.0	0.3-0.35-0.4
				中等 Medium	TM5110	100-130-150	1.0-1.5-2.0	0.3-0.35-0.4
				断续 Intermittent	TM5210	90-100-130	1.0-1.5-2.0	0.3-0.35-0.4

天工硬质合金 TIANGONG CEMENTED CARBIDE

推荐切削参数
Recommended Cutting Parameters

ISO	工件材料 Workpiece material	硬度 Hardness	切削范围 Cutting range	工况 working condition	牌号 Brand	建议参数 Recommended cutting parameters		
						切削速度 VC (m/min)	切深 ap(mm)	进给量 f(mm/r)
K	可锻铸铁 Malleable iron	HB200-HB260	半精加工 Semi-finishing	连续 Continuous	TK6110	220-250-280	0.05-0.1-0.15	0.5-0.8-1.1
				中等 Medium	TK6110	200-240-260	0.05-0.1-0.15	0.5-0.8-1.1
				断续 Intermittent	TK6210	180-220-230	0.05-0.1-0.15	0.5-0.8-1.1
			粗加工 Rough machining	连续 Continuous	TK6110	180-220-240	0.1-0.15-0.2	1.0-1.5-2.0
				中等 Medium	TK6110	150-200-220	0.1-0.15-0.2	1.0-1.5-2.0
				断续 Intermittent	TK6210	120-150-200	0.1-0.15-0.2	1.0-1.5-2.0
			重型加工 Heavy duty processing	连续 Continuous	TK6110	150-170-210	0.15-0.2-0.3	2.0-2.5-3.0
				中等 Medium	TK6110	120-160-190	0.15-0.2-0.3	2.0-2.5-3.0
				断续 Intermittent	TK6210	100-120-150	0.15-0.2-0.3	2.0-2.5-3.0
	灰口铸铁 Grey cast iron	HB180-250	半精加工 Semi-finishing	连续 Continuous	TK6110	230-260-290	0.05-0.1-0.15	0.5-0.8-1.1
				中等 Medium	TK6110	170-220-240	0.05-0.1-0.15	0.5-0.8-1.1
				断续 Intermittent	TK6210	180-220-230	0.05-0.1-0.15	0.5-0.8-1.1
			粗加工 Rough machining	连续 Continuous	TK6110	180-220-240	0.1-0.15-0.2	1.0-1.5-2.0
				中等 Medium	TK6110	150-200-220	0.1-0.15-0.2	1.0-1.5-2.0
				断续 Intermittent	TK6210	120-150-200	0.1-0.15-0.2	1.0-1.5-2.0
			重型加工 Heavy duty processing	连续 Continuous	TK6110	150-170-210	0.15-0.2-0.3	2.0-2.5-3.0
				中等 Medium	TK6110	120-160-190	0.15-0.2-0.3	2.0-2.5-3.0
				断续 Intermittent	TK6210	100-120-150	0.15-0.2-0.3	2.0-2.5-3.0
	球墨铸铁 Nodular cast iron	HB160-HB270	半精加工 Semi-finishing	连续 Continuous	TK6110	230-250-280	0.05-0.1-0.15	0.5-0.8-1.1
				中等 Medium	TK6110	190-240-260	0.05-0.1-0.15	0.5-0.8-1.1
				断续 Intermittent	TK6210	160-220-230	0.05-0.1-0.15	0.5-0.8-1.1
			粗加工 Rough machining	连续 Continuous	TK6110	180-220-240	0.1-0.15-0.2	1.0-1.5-2.0
				中等 Medium	TK6110	150-200-220	0.1-0.15-0.2	1.0-1.5-2.0
				断续 Intermittent	TK6210	120-150-200	0.1-0.15-0.2	1.0-1.5-2.0
			重型加工 Heavy duty processing	连续 Continuous	TK6110	150-170-210	0.15-0.2-0.3	2.0-2.5-3.0
				中等 Medium	TK6110	120-160-190	0.15-0.2-0.3	2.0-2.5-3.0
				断续 Intermittent	TK6210	100-120-150	0.15-0.2-0.3	2.0-2.5-3.0

车削计算公式
Turning Calculation Formula

切削速度 Cutting Speed

切削速度：刀具切削刃上选定点相对于工件主运动的瞬时速度，单位通常是米 / 分钟（m/min）。合理的切削速度能保证加工效率和刀具寿命，比如在加工铝合金时，切削速度可能相对较高；而加工硬度较高的合金钢时，切削速度则需要适当降低。

Cutting Speed: The instantaneous velocity of a selected point on the cutting edge of a tool relative to the main motion of the workpiece, usually measured in meters per minute (m/min). A reasonable cutting speed can ensure machining efficiency and tool life, for example, when machining aluminum alloys, the cutting speed may be relatively high; When processing alloy steel with higher hardness, the cutting speed needs to be appropriately reduced.

$$V_c = \frac{\pi \times D_m \times n}{1000}$$

V_c：切削速度（m/min）
D_m：加工材料直径（mm）
n：主轴转速（r/min）

进给量 Feed rate

进给量：指刀具在进给运动方向上相对工件的位移量。对于车削加工，通常是指工件每转一转，刀具沿进给方向移动的距离，单位是毫米 / 转（mm/r）；进给量影响着加工表面质量和加工效率。

Feed rate: The displacement of the tool relative to the workpiece in the direction of feed motion. For turning machining, it usually refers to the distance that the tool moves along the feed direction for each rotation of the workpiece, measured in millimeters per revolution (mm/r); The feed rate affects the surface quality and processing efficiency of machining.

$$V_f = n \times f$$

V_f：进给速度（mm/s）
f：进给量（mm/r）

背吃刀量 Depth of cut

背吃刀量：指待加工表面与已加工表面之间的垂直距离，单位为毫米（mm）。它反映了刀具切入工件的程度，在粗加工时，通常会选择较大的切削深度以快速去除材料；在精加工时，则选择较小的切削深度以保证加工精度和表面质量。

Depth of cut: The vertical distance between the surface to be processed and the already processed surface, measured in millimeters (mm). It reflects the degree to which the tool cuts into the workpiece. During rough machining, a larger cutting depth is usually chosen to quickly remove the material; During precision machining, a smaller cutting depth is chosen to ensure machining accuracy and surface quality.

$$a_p = (d_w - d_m)/2$$

d_w：待加工表面直径（mm）
d_m：已加工表面直径（mm）

金属去除率 Metal removal rate

金属去除率：金属去除率是指单位时间内刀具从工件上切除的金属体积，通常用立方毫米每分钟（mm^3/min）或立方英寸每分钟（in^3/min）来表示

Metal removal rate: Metal removal rate refers to the volume of metal removed from a workpiece by a cutting tool per unit time, typically expressed in cubic millimeters per minute (mm^3/min) or cubic inches per minute (in^3/min)

$$Q = V_c \times a_p \times f$$

Q：金属去除率（cm^3/min）
a_p：切深（mm）

理论粗糙度 Theoretical roughness

理论粗糙度：在机械加工中，理论粗糙度是指在理想切削条件下，不考虑刀具磨损、振动、切削热等因素，仅由刀具切削刃的运动轨迹和进给量等因素所决定的工件表面粗糙度。

Theoretical roughness: In mechanical processing, theoretical roughness refers to the surface roughness of the workpiece determined solely by the motion trajectory and feed rate of the cutting edge of the tool, without considering factors such as tool wear, vibration, cutting heat, etc., under ideal cutting conditions.

$$Rz(h) = \frac{f^2}{8 \times r} \times 1000$$

$R_z(h)$：金属去除率（μm）
r：刀片的刀尖圆弧半径（mm）

功率 Power

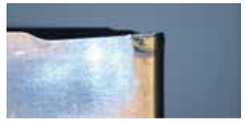
功率：在切削加工中，功率是一个重要的参数，它反映了机床驱动刀具进行切削加工时所需要的能量。在实际加工中，还需要考虑机床的传动效率、刀具的耐用度以及加工质量等因素，综合确定合理的切削功率和切削参数，以实现高效、优质的加工。

Power: In cutting, power is an important parameter that reflects the energy required for the machine tool to drive the cutting tool for cutting. In actual machining, it is also necessary to consider factors such as the transmission efficiency of the machine tool, the durability of the cutting tools, and the machining quality, and comprehensively determine reasonable cutting power and cutting parameters to achieve efficient and high-quality machining.

$$P_{mot} = \frac{Q \times K_c}{60000 \times \eta}$$

P_{mot}：所需功率（KW）
K_C：单位切削力（N/mm^2）

车削刀片的磨损形式
Wear Forms of Turning Insert

磨损类型 Wear type	特征 Characteristic	措施 Measure
后刀面磨损 Flank wear 	后刀面与工件的实际接触接触面积很小，接触压力很大，存在着弹性和塑性变形，在这个接触面上容易发生磨损。切削铸铁和以较小切削厚度切削塑性材料时主要发生这种磨损 The actual contact area between the back cutting surface and the workpiece is very small, the contact pressure is high, and there is elastic and plastic deformation, which makes it easy for wear to occur on this contact surface. This type of wear mainly occurs when cutting cast iron and cutting plastic materials with smaller cutting thicknesses.	1.使用抗磨损能力强的切削材质 2.加大进给量 3.降低切削速度 4.优化冷却效果 1. Use cutting materials with strong wear resistance 2. Increase the feed rate 3. Reduce cutting speed 4. Optimize the cooling effect
塑性变形 Plastic Deformation 	切削过程中高切削力和产生的过热会导致切屑控制差和表面质量差，后刀面过度磨损会导致刀片破裂 High cutting force and overheating generated during the cutting process can lead to poor chip control and surface quality, while excessive wear on the back cutting surface can cause blade breakage	1.使用抗磨损能力强的切削材质 2.减小进给量、减小切深 3.降低切削速度 4.优化冷却效果 1. Use cutting materials with strong wear resistance 2. Reduce feed rate and cutting depth 3. Reduce cutting speed 4. Optimize the cooling effect
崩刃 Tipping 	刃区出现微小的崩落、缺口或剥落且沿切削刃崩刃 Minor collapse, gap or peeling occurs in the cutting edge area and the cutting edge collapses along the cutting edge	1.使用韧性更好的硬质合金牌号 2.使用更加稳定的刀具并减少刀具悬伸 3.减小切深 4.降低切削速度 1. Use hard alloy grades with better toughness 2. Use more stable tools and reduce tool overhang 3. Reduce the cutting depth 4. Reduce cutting speed
积屑瘤 The built-up edge 	在前刀面上延切削刃方向有材料粘结 There is material bonding along the cutting edge direction on the front cutting surface	1.使用带有较大前角的锋利槽型 2.减小切削厚度 3.优化冷却效果，采用抗粘结发性能好的切削液 4.提升切削速度 1. Use sharp groove shapes with larger front angles 2. Reduce cutting thickness 3. Optimize the cooling effect and use cutting fluids with good anti sticking properties 4. Increase cutting speed
月牙洼（前刀面）磨损 Wear of crescent shaped groove (front cutting surface) 	以较大的速度切削塑性材料时，前刀面上靠近切削力的部位，在切屑的作用下，会磨损成月牙凹状，因此也称为月牙洼磨损 When cutting plastic materials at high speeds, the area near the cutting force on the front cutting surface will wear into a crescent shaped depression under the action of chips, hence also known as crescent shaped depression wear	1.使用使用带有较大前角的槽型 2.使用更加耐磨的刀具牌号 3.优化冷却效果 4.降低切削速度 1. Use groove shapes with larger front angles 2. Use more wear-resistant tool grades 3. Optimize cooling effect 4. Reduce cutting speed
热龟裂性崩损 Hot cracking induced collapse 	热冲击导致垂直与切削方向的多道裂纹 Multiple cracks perpendicular to the cutting direction caused by thermal shock	1.断续切削时尝试不使用冷却液 2.减小进给量 3.使用稳定槽型 4.降低切削速度 1. Try not to use coolant during intermittent cutting 2. Reduce the feed rate 3. Use stable groove type 4. Reduce cutting speed
涂层剥落 Disbonding 	基体材料直接暴露，加速磨损、变形或崩刃 Direct exposure of the substrate material accelerates wear, deformation, or blade breakage	1.选择更加稳定的切削刃设计 2.选择更粗的PCD颗粒 3.降低切削速度 4.减小后角 1. Choose a more stable cutting edge design 2. Choose coarser PCD particles 3. Reduce cutting speed 4. Reduce the rear angle