



2023-2024 Product Catalog

Zhuzuan(Chongqing) CNC Tool Co.,Ltd

With A Professional Level,
to Provide the CNC Cutting Tools



株钻（重庆）数控刀具有限公司
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D99Y Series Blade Type

Blade Design: Large Front Angle, Sharp Edge, Cutting Fast

Match High Strength and Red Hard Coating

To achieve large cutting depth of stainless steel blades and satisfy the rough machine for large feed, high-speed requirements.



Cutting tool cost savings of **200%**

More Workpieces can process and the costs can significantly reduce

Case Analysis

Brand	One famous Brand Cutter	Our Brand Cutter
Model	RPHT1204MO	RPHT1204MO
Work Material	2Cr12NiMo1W1V(High Strength Blade Steel)HRC35	
Working Condition	High -pressure steel grade 12 moving and locking blades, air cooling,rough milled airway profile	
Shank Diameter	φ32	
Machining Parameters	Vc=231m/minFz=0.38mm/z	Ap=1.5mm
Tool life	12 workpieces/pcs	16 workpieces/pcs

D99T Series Titanium Alloy

Special cutting edge structure and treatment, fine grinding profile, not only ensure the integrity of the blade edge but also ensure the precision of repeated positioning of the blade



Cutting Light and Fast

Good wear resistance

Good high-temperature resistance performance



Cutting tool cost savings of **300%**

The tool life of our cutter is the same as one brand cutter in Austria.

Case Analysis

Brand	One Brand in Austria	CQ Cutool
Model	RPHX1204M8SN F50	RPHX1204-DF
Work Mater	TA15 titanium alloy (HRC30)	
Work Condi	Titanium alloy semi-finishing/roughing rough milling on all sides	
Shank Diameter	φ32	
Machining Parameters	Vc=60m/min Fz=0.5mm/z	Ap=1.5mm
Surface Condition	Ra6.4	
Work Hour	2 Hours	

LNMU Series

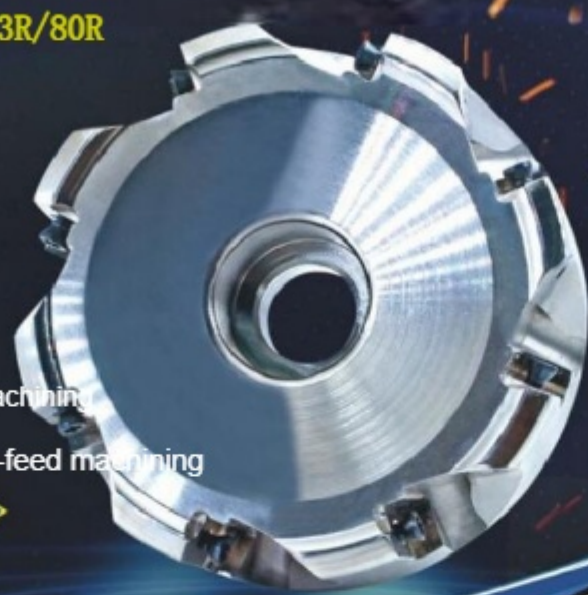
Diameter: 16R/20R/22R/25R/32R

40R/50R/63R/80R

Double negative angles of the cutter body, combined with the unique blade structure to achieve double positive tool angle;

Four flutes fast feed square shoulder milling cutter with a cutting depth of 1mm can replace R5,R611351604. Suitable for flat steep grooving milling, semi precision/rough Machining.

The blade comes with a self-sharpening edge, enabling high-feed machining and achieving a better surface roughness.



Inserts Material

Grade	D3320	D570	D7320	D7420S	D8420	D9920S
Work Range	Below HRC35	HRC25-55	HRC25-50	HRC20-45	HRC20-45	HRC40-63
Work Material	Q235、A3、45# Steel	Steel Stainless Steel Cast Iron	Mould Steel Pre-hardened Steel Stainless Steel Cast Iron	304/305/202/205、quenched and tempered steel 45、718	Cast iron、Mould Steel Pre-hardened Steel	Quenched and tempered steel、Manganese Steel Cold work toolsteel GM and E5R

JDMT Series

Diameter: 08/10/11/12/13/14/16

The screw has a tightening design, ensuring a close fit between the blade position groove and the blade. This minimizes vibrations during machining, reducing potential damage to the machine.

The surface for work positioning has center holes at both ends. The axis of the needle maintains a constant distance from the grinding wheel line, ensuring high concentricity and true roundness of the cutter bar.



R0.4 corner radius

R0.8 corner radius

R0.4 Corner radius



Inserts Material

Grade	D3320	D7320	D7420S
Work Range	Below HRC35	HRC25-50	HRC20-45
Work Material	Q235、A3、45# steel	Mould Steel、Pre-hardened steel、Stainless steel、Cast Iron	Stainless steel-304/305/202/205/quenched and tempered steel

WNMU Series

Cutter Diameter : 9050 R/63R/80R/100R/125R/160R/200R/250R

Using high-quality steel material, the surface hardness is suitable for flat surfaces, steps, contour surfaces, and groove machining

A six-flute 90-degree square shoulder milling cutter and more economical compared to AP blades. It's suitable for semi-precision/rough machining. It's compatible with M5*16 screws.

The blade comes with a self-sharpening edge, enabling high feed machining and achieving a better surface roughness.



Inserts Material

Grade	D570	D8320S	D7320	D7420S	D8420	D9920S
Work Range	HRC35 and below	HRC15-40	HRC25-50	HRC20-45	HRC20-45	HRC40-63
Work Material	Q235, A3, 45#Steel	Low Carbon Steel/Medium Carbon Steel/Q235/	Mould Steel, Pre-hardened Steel, Stainless Steel, Cast Iron	Stainless Steel 304/305 /202/205/718	Cast Iron, Mould Steel, Pre-hardened Steel	Titanium alloy, Blade, manganese steel, Cold Work Tool Steel/GM and E5R steel

Groove Cutting Series

Inserts Model: MGMN/MRMN/TDC/SP

Free forging process, high-temperature quenching, significantly improves the strength, hardness, and toughness of the cutting tools

In conjunction with our brand's blades, greatly enhances work efficiency



-T



Inserts Material

Grade	9050	9030	3020
Work Range	Below HRC45	Below HRC35	Below HRC35
Work Material	General Type, Steel, Stainless Steel, Cast Iron	Stainless Steel 304/305/202/205/718 And some adhesive or sticky steel parts	Stainless Steel 304/305/202/205/Quench-hardened Steel

Milling Inserts Series

Cutter Diameter: 50R/63R/80R/100R/125R/160R/200R/250R

Precision chip groove design, efficient and easy chip removal

High-quality material heat treatment, improves the hardness and shock resistance of the tool body



Inserts Material

Grade	D3320	D5320	D7320	D7420S	D8420A	D9920S
Work Range	Below HRC35	Below HRC35	HRC25-50	HRC20-45	HRC20-45	HRC40-63
Work Material	Steel/medium carbon steel/ Q235/Q345/Q123	Q123/Q235/45# Steel	Mould Steel, Pre-hardened Steel, Stainless Steel, Cast Iron	Stainless 304/305/202/205/718	Gray Iron/ductile iron HT200 HT300/QT500	Titanium Alloy, Blade, Manganese Steel, Cold work tool steel/GM and ESR steel

Drilling Inserts Series

WC Type/SP Type 2D/3D/4D/5D/6D

The design of Screw-biased fastening ensures a tight fit between the position groove of blade and the blade, which reducing vibration during processing and minimizing damage to the machine tool.

The surface of the work positioning is centered on both ends with a central hole, and the axis of the needle is kept at a distance from the grinding wheel line so as to ensure high concentricity and true roundness of the tool holder.



Inserts Material

Grade	D5520S	D7320	D7420S
Work Range	HRC25-55	HRC20-50	HRC20-45
Work Material	Steel, Medium-low Carbon steel, 202, 205	Mould steel, Prehardened Steel, Stainless Steel 304, 305	Stainless Steel-304/305/202/205/Quenched Steel



Milling Cases



Grade	D7320
Work Material	Mould Steel, Prehardened Steel, Stainless steel, Cast Iron and so on For examples: Quenched and Tempered 45 Steel, H13, 718, 42CrMo, P20, NAK80
General Groove Characteristics	General Chipbreaker for finishing and roughing, large clearance angle 11°, specially designed to increase front angle, for quick and light cutting
Characteristics of Finishing and Roughing for Chipbreaker Types.	For H2 rough machining, with good impact resistance and effective results in cast iron and steel components when cutting not too deep or wide; the performance in machining stainless steel is average. For M2 precision/semi-precision machining, the groove type is sharp and suitable for processing stainless steel
Inserts characteristics	Imported base material, combined with the Balchäs process and a new generation of high-aluminum coating, featuring strong versatility and significantly improved lifespan

Case one

- ◎ Inserts Shape: LNMU0303ZER D7320
- ◎ Work Material: S50C Steel(HRC25)
- ◎ Work Method: Wet coarse milling, slot milling
- ◎ Cutting Parameters: $V_c=190\text{m/min}$; $F_z=0.8\text{mm/z}$; $A_p=0.8\text{mm}$
- ◎ Cutting Life: One complete insert can work 10 hours



Case Two

- ◎ Inserts Shape: WNMU080608EN-ZL D7320
- ◎ Work Material: Q345Steel(HRC32-35)
- ◎ Work Method: Wet face milling for roughing
- ◎ Cutting Parameters: $V_c=251\text{m/min}$; $F_z=0.28\text{mm/z}$; $A_p=1\text{mm}$
- ◎ Cutting Life: One flute of the insert can work 2 workpieces and one complete insert can work 12 workpieces.



Milling Cases



Case Three

- ◎ Inserts Shape: APMT1604PDER-ZLD7320
- ◎ Work Material: 45# Steel(HRC19-23)
- ◎ Work Method: Mixed dry and wet
- ◎ Cutting Parameters: $V_c=160\text{m/min}$; $F_z=0.28\text{mm/z}$; $A_p=0.35\text{mm}$
- ◎ Cutting Life: One flute of the inserts can work 6 hours and one complete insert can work 12 hours



Case Four

- ◎ Inserts Shape: APMT1135PDER-ZL D7320
- ◎ Work Material: 38CrMoAl advanced nitrided steel (HRC25)
- ◎ Work Method: Wet coarse milling of inner holes
- ◎ Cutting Parameters: $V_c=125\text{m/min}$; $F_z=0.4\text{mm/z}$; $A_p=0.3\text{mm}$
- ◎ Cutting Life: One complete insert can work 5 hours,



Cases Five

- ◎ Inserts Shape: RPMT1204MO D7320
- ◎ Work Material: 40CrMo Steel(HRC35)
- ◎ Work Method: dry face milling
- ◎ Cutting Parameter: $V_c=157\text{m/min}$; $F_z=0.38\text{mm/z}$; $A_p=0.25\text{mm}$
- ◎ Cutting Life: : One flute of the insert can work 9 hours





Milling Inserts



Grade	D3320
Work Material	Steel, Cast Iron, Q235, A3, Q345, Q123, 45#steel and so on
General Groove Characteristics	General Chipbreaker for finishing and roughing, large clearance angle 11°, specially designed to increase front angle, for quick and light cutting
Characteristics of Finishing and Roughing for Chipbreaker Types	For H2 rough machining, with good impact resistance and effective results in cast iron and steel components when cutting not too deep or wide; the performance in machining stainless steel is average. For M2 precision/semi-precision machining, the groove type is sharp and suitable for processing stainless steel
Inserts characteristics	The new Balchas coating process, low friction, high oxidation resistance, widely used in various steel processing application

Case One

- ◎Inserts Shape: LNMU0303ZER D3320
- ◎Work Material: Q235carbon structural steel (HRC19-23)
- ◎Work Method: Wet side milling
- ◎Cutting Parameter: $V_c=200\text{m/min}$; $F_z=0.5\text{mm/z}$; $A_p=0.5\text{mm}$
- ◎Cutting Life: One complete insert can work 6 hours. The large feed can enhance work efficiency.



Case Two

- ◎Inserts Shape: APMT1604PEER D3320
- ◎Work Material: 45# quenched and tempered steel (HRC30)
- ◎Work Method: Dry continuous processing
- ◎Cutting Parameter: $V_c=196\text{m/min}$; $F_z=0.32\text{mm/z}$; $A_p=0.3\text{mm}$
- ◎Cutting Life: One complete insert can work 8 hours. The inset has fast and light machining and minimal vibration



Milling Inserts



Grade	D9920S
Work Material	quench-hardened steel, alloy steel Examples: Blade, manganese steel, High wear resistance, high toughness cold work tool steel, GM steeland E5R steel and so on.
General Groove Characteristics	General Chipbreaker for finishing and roughing, large clearance angle 11°, specially designed to increase front angle, for quick and light cutting
Inserts characteristics	Multi-layer composite Balchas coating, paired with high hardness and high toughness blanks, particularly effective in processing quenched and hardened steel (HRC45-63)

Case one

- ◎Inserts Shape: WNMU080608EN-ZL D9920S
- ◎Work Material: 42CrMo tempered steel (HRC47)
- ◎Work Method: Dry face milling
- ◎Cutting Parameter: $V_c=350\text{m/min}$; $F_z=0.32\text{mm/z}$; $A_p=0.4\text{mm}$
- ◎Cutting Life: One complete insert can work 9 hours. The minimal wear on the back cutting edge and higher surface quality



Case Two

- ◎Inserts Shape: APMT1135PDER D9920S
- ◎Work Material: Gcr15 quenched bearing steel (HRC58)
- ◎Work Method: Wet down milling
- ◎Cutting Parameter: $V_c=85\text{m/min}$; $F_z=0.23\text{mm/z}$; $A_p=0.3\text{mm}$
- ◎Cutting Life: One complete can work 1.5 hours





Milling Inserts



Grade	D9920
Work Material	quench-hardened steel, alloy steel Examples: Blade, manganese steel, High wear resistance, high toughness cold work tool steel, GM steel and E5R steel and so on.
General Groove Characteristics	General Chipbreaker for finishing and roughing. large clearance angle 11°, specially designed to increase front angle, for quick and light cutting
Inserts characteristics	The Balchas high-hardness edition specializes in challenging conditions with high-hardness materials

Case one

- ⊙ Inserts Shape: RPMT1003MO D9920
- ⊙ Work Material: NAK80(HRC28-32)
- ⊙ Work Method: Dry surface milling
- ⊙ Cutting Parameter: $V_c=150\text{m/min}$; $F_z=0.35\text{mm/z}$; $A_p=0.45\text{mm}$
- ⊙ One complete insert can work 3 hours, it has the superior cutting edge coating and can process high-hardness materials and stable surface.



Case two

- ⊙ Inserts Shape: A PMT1135PDER D9920
- ⊙ Work Material: 42Cr quenching (HRC40)
- ⊙ Work Method: Wet down milling
- ⊙ Cutting Parameter: $V_c=120\text{m/min}$; $F_z=0.3\text{mm/z}$; $A_p=0.2\text{mm}$
- ⊙ Cutting Life: One complete insert can be worked 6 hours



Milling Inserts



Grade	D7420S
Work Material	Stainless Steel 304/305/202/205 quenching of 45 steel, H13, 718, 718C, 42CrMnMo and so on
General Groove Characteristics	General Chipbreaker for finishing and roughing. large clearance angle 11°, specially designed to increase front angle, for quick and light cutting
Inserts characteristics	Balchas new talent surpasses VP15TF in terms of cost-effectiveness

Case one

- ⊙ Inserts Shape: APMT1135PDER-M2 D7420S
- ⊙ Work Material: SUS304 Stainless Steel(HRC20)
- ⊙ Work Method: Dry surface milling
- ⊙ Cutting Parameter: $V_c=110\text{m/min}$; $F_z=0.31\text{mm/z}$; $A_p=0.6\text{mm}$
- ⊙ Cutting Life: One complete insert can work 4 hours, it's Comparable performance to a certain famous foreign brand.



Case Two

- ⊙ Inserts Shape: JDMT070204 D7420S
- ⊙ Work Material: Q235 Carbon Structural Steel(HRC23)
- ⊙ Work Method: Wet down milling
- ⊙ Cutting Parameter: $V_c=90\text{m/min}$; $F_z=0.63\text{mm/z}$; $A_p=0.3\text{mm}$
- ⊙ Cutting Life: One complete insert can be worked 2.5 hours.





Milling Inserts



Grade	D8420A
Work Material	Gray iron, ductile iron, cast iron HT200、HT300、QT500、QT600 and so on.
General groove Characteristics	For H2 rough machining, with good impact resistance and effective results in cast iron and steel components when cutting not too deep or wide; the performance in machining stainless steel is average.
Inserts characteristics	Thickened CVD coating, upgraded materials, improved performance by 40%.

Case One

- Inserts Shape: APMT1604PDER D8420A
- ◎ Work Material: HT250(HRC23)
- ◎ Work Method: Dry cylinder side milling
- ◎ Cutting Parameter: $V_c=285\text{m/min}$; $F_z=0.1\text{mm/z}$; $A_p=0.8\text{mm}$
- ◎ Cutting Life: one complete insert can be worked for 8 hours, and the verticality of the workpiece is <0.08



Case Two

- Inserts Shape: WNMU080608EN D8420A
- ◎ Work Material: QT500 Nodular Iron (HRC27)
- ◎ Work Method: Dry Face Milling
- ◎ Cutting Parameter: $V_c=200\text{m/min}$; $F_z=0.3\text{mm/z}$; $A_p=1.5\text{mm}$
- ◎ Cutting Life: one complete insert can be worked for 10 hours
- ultra-thick CVD coating, combined with gantry milling, better wear resistance



Milling Inserts



Grade	D570
Work Material	Used for general processing of various materials such as steel and stainless steel, mold steel, alloy steel Examples: P20.45steel、HB.42crmo、718H
Inserts characteristics	Copper-colored PVD Balzers coating, with a special ratio of ultra-fine particles, improves basic wear resistance and toughness and reduces the risk of chipping.

Case One

- Inserts Shape: APMT1604PEER D570
- ◎ Work Material: 718H(HRC45)
- ◎ Work Method: Dry air-cooled hybrid milling
- ◎ Cutting Parameter: $V_c=130\text{m/min}$; $F_z=0.3\text{mm/z}$; $A_p=0.4\text{mm}$
- ◎ Cutting Life: It takes 2.5 hours to process a single piece. Compared with a Korean brand, the performance is improved by 30%.

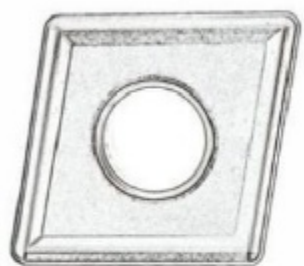


Case Two

- Inserts Shape: RPMT1003MO D570
- ◎ Work Material: Mold Steel P20(HRC32)
- ◎ Work Method: Dry roughing of air-cooled mold core
- Cutting Parameter: $V_c=157\text{m/min}$; $F_z=0.75\text{mm/z}$; $A_p=0.3\text{mm}$
- ◎ Cutting Life: One complete inserts can be worked for 4 hours, the blade is more durable and the cost is lower.



Turning Inserts



Grade		D8115
Applicable for Processing		External、End face、Internal
TM Slot	Groove characteristics	The cutting edge of the return groove is thick, has good impact resistance, and doubles the wear resistance. It can be compared with UC5115.
	Work Material	Cast iron, pig iron, ductile iron, etc.
GF Slot	Groove characteristics	Suitable for intermittent machining, stronger cutting edge, dedicated for rough machining
	Work Material	Cast iron, pig iron, ductile iron, etc

Case one

- ◎Inserts Shape: CNMG120408 D8115
- ◎Work Material: HT200(HRC22)
- ◎Work Method: Dry continuous rough turning of external
- ◎Cutting Parameter: $V_c=438\text{m/min}$; $F_z=0.3\text{mm/z}$; $A_p=1.2\text{mm}$
- ◎Cutting Life: A single piece can process 60-70 pieces, which is equivalent to the performance of foreign products

Case Two

- ◎Inserts Shape: WNMG080408 D8115
- ◎Work Material: QT500(HRC27)
- ◎Work Method: Wet external turning of three-column shell
- ◎Cutting Parameter: $V_c=190\text{m/min}$; $F_z=0.4\text{mm/z}$; $A_p=1\text{mm}$
- ◎Cutting Life: A single insert can process 170-180 pieces, and the service life is increased by 30%.

Turning Inserts



Grade		D7420
Applicable for Processing		External、End face、Internal
TM Slot	Groove characteristics	Stainless steel has a rough groove, strong edge strength, and good impact resistance. It is not easy to collapse, especially under harsh working conditions, and the cutting depth can reach 1-5mm.
	Work Material	304, 305, 316 and other stainless steel or other sticky steel parts, It can be compared with VP15TF
GF Slot	Groove characteristics	Stainless steel semi-precision geometry, suitable for continuous cutting, excellent chip breaking effect, cutting depth up to 1-3mm
	Work Material	304, 305, 316 and other stainless steel or other sticky steel parts, It can be compared with VP15TF

Case one

- ◎Inserts Shape: TNMG160408-MS D7420
- ◎Work Material: SUS304 Stainless Steel(HRC20)
- ◎Work Method: Continuous semi-finishing of end faces
- ◎Cutting Parameter: $V_c=243\text{m/min}$; $F_z=0.2\text{mm/z}$; $A_p=1\text{mm}$
- ◎Cutting Life: A single insert can progress about 125 pieces, with faster processing and higher surface finish

Case Two

- ◎Inserts Shape: WNMG080408-MA D7420
 - ◎Work Material: SUS316(HRC19)
 - ◎Work Method: Continuous rough turning of end faces
 - ◎Cutting Parameter: $V_c=211\text{m/min}$; $F_z=0.23\text{mm/z}$; $A_p=0.8\text{mm}$
 - ◎Cutting Life: 80 pieces can be processed with a single blade.
- Under high speed and high feed, rough turning of oxide scale has obvious advantages.

Turning Inserts



Grade		D9025
Applicable for Processing		External, End Face, Internal
TM Slot	Groove Characteristic	Toshiba's chipbreaker is mainly used for continuous machining, can break chips slightly, is rough machining, and is more wear-resistant.
	Work Material	P20, 718, 718S, 42CrMo, Modulated 45 steel And so on.
GF Slot	Groove Characteristic	Continuous machining, fine machining of geometries, good chip breaking, and good anti-seismic effect
	Work Material	45# Steel, A3Steel, Q123, Q235, Q345 and so on

Case one

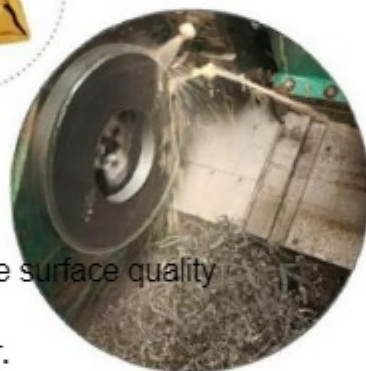
○ Inserts Shape: WNMG080408-GF D9025

◎ Work Material: 65Mn(HRC22)

○ Work Method: Wet end finishing turning

◎ Cutting Parameter: $V_c=330\text{m/min}$; $F_z=0.28\text{mm/z}$; $A_p=0.8\text{mm}$

◎ Cutting Life: About 45 pieces can be processed with one insert. The surface quality is significantly improved, The cutting edge is sharp and cutting is faster.



Case Two

○ Inserts Shape: WNMG080404-TM D9025

◎ Work Material: 55 Steel(HRC18-20)

○ Work Method: Wet precision turning of end faces

◎ Cutting Parameter: $V_c=260\text{m/min}$; $F_z=0.32\text{mm/z}$; $A_p=1.5\text{mm}$

◎ Cutting Life: 75 pieces processed with a single insert, an increase of more than 15%.



Turning Inserts



Grade		CermetD60
Applicable for Processing		High-speed continuous finishing of steels, cast irons and sintered alloys
Inserts Characteristic		It is a general-purpose cermet material with excellent wear resistance and chipping resistance that improves the surface quality of finishing, which can improve tool tip processing technology and can achieve a beautiful finished surface.

Case One

○ Inserts Shape: TNMG160404-HQ D60

○ Work Material: 545C transmission shaft

○ Work Method: Wet continuous turning

◎ Cutting Parameter: $V_c=200\text{m/min}$; $F_z=0.12\text{mm/z}$; $A_p=0.35\text{mm}$

◎ Cutting Life: 249 pieces can be processed in a single piece, which has a lifespan 1.75 times longer than that of previous products.



Case Two

○ Inserts Shape: TNGG160402R-F D60

◎ Work Material: SCM435 Pump Parts

○ Work Method: Wet turning

◎ Cutting Parameter: $V_c=100\text{m/min}$; $F_z=0.25\text{mm/z}$; $A_p=1\text{mm}$

◎ Cutting Life: 200 pieces can be processed per piece, 1.6 times longer than previous products.



List of Milling Inserts

Milling Inserts for Steel

 APMT1604PEER D5320	 APMT1604PDER-H2 D5320	 APMT1135PEER D5320	 APMT1135PDER-H2 D5320	 LNMU0303ZER D8320S D
 RPMT1204MO D5320	 RDMT1204MO D5320	 RPMT1204MO-MM D5320	 RPMT1003MO D5320	 WNMU080608EN D8320S J

Milling Inserts for Hard Steel

 APMT1604PEER D3320	 APMT1604PDER-H2 D3320	 APMT1604PDER-G23 D3320	 APMT1604PDER-R2.0 D3320	 APMT1604PDER-R3.0 D3320
 APMT1135PEER D3320	 APMT1135PDER-H2 D3320	 APMT1135PDER-G23 D3320	 APMT1135PDER-R1.6 D3320	 EPNW0603TN D3320 R
 RDKW1204MO D3320	 RPMW1003MO D3320	 LPGT010210ER D3320 J	 JDMT070204 D3320 R	 LNMU0303ZER D3320 D
 SEKT1204AFTN D3320 P	 SEMT13T3AGSN D3320	 SEER1203AFS D3320	 SDMT120512-ZJW D3320 R	 SDMT150512-ZJW D3320 R
 WDMW080520ZTR D3320 DJ	 JDMW140520SR D3320 S	 JDMW120420SR D3320 S	 WNMU060408EN D3320 J	 WNMU040304EN D3320 J

List of Milling Inserts

Milling Inserts for Steel

 APMT1604PEER D7320	 APMT1604PDER-ZL D7320	 APMT1604PDER-H2 D7320	 APMT1604PDER-M2 D7320	 AXMT170508PEER-G D7320 Z
 APMT1135PEER D7320	 APMT1135PDER-ZL D7320	 APMT1135PDER-H2 D7320	 APMT1135PDER-M2 D7320	 AXMT123508PEER-G D7320 Z
 RPMT1204MO D7320	 RDMT1204MO D7320	 RPMT1003MO D7320	 RPMT10T3MO-JS D7320	 RPMT08T2MO-JS D7320
 BLMP0904R-M D7320 T	 4NKT060308R D7320 T	 LNPU110408SRGE D7320 K	 JDMT070204 D7320 R	 LNMU0303ZER D7320 D
 SDMT120512 D7320 R	 SOMT140520ER-GM D7320 J	 WPMT080615ZSR D7320 D	 WDMW080520ZTR D7320 DJ	 WNMU080608EN-ZL D7320 J
 SEKT1204AFTN D7320 P	 SNMX1205ANN-M D7320 W	 SNMU130508EN-H D7320 J	 PNMU090508ENER-GM D7320 J	 HNMG0907ANSN-R D7320 P

Milling Inserts for Cast Iron

 APMT1604PDER-H2 D8420A	 APMT1135PDER-H2 D8420A	 APMT1604PDER-M2 D8420A	 APMT1135PDER-M2 D8420A	 WNMU080608EN D8420A J
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List of Milling Inserts

Milling Inserts for General Type

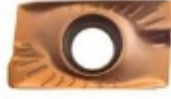
 APMT1604PDER D570	 APMT1604PEER D570	 APMT1604PDER-H2 D570	 APMT1604PDER-M2 D570	 LNMU0303ZER D570 D
 APMT1135PDER D570	 APMT1135PEER D570	 APMT1135PDER-H2 D570	 APMT1135PDER-M2 D570	 4NKT060308R D570 T
 RPMT08T2MO D570	 RPMT1003MO D570	 RPMT1204MO D570	 RDMT1204MO D570	 RDMT1605MO D570
 WNMU040304 D570 J	 WNMU060408 D570 J	 WNMU080608EN D570 J	 XNMU080608 D570 G	 PNMU0905XNER-GM D570 J
 JDMT070204/08 D570 R	 BLMP0603R-M D570 T	 BLMP0904R-M D570 T	 SDMT120512 D570 R	 SDMT150512 D570 R
 SNMU1206QNN D570 L	 SNMX1205ANN-M D570 W	 SNMU1206XTN D570 DL	 SDMT140520EN-LD D570 J	 HNMG0907ANSN-R D570 P

Milling Inserts for Cermet

 APMT1604PDER-FM D60	 APMT1604PDER-H2 D60	 APMT1135PDER-H2 D60	 RPMT1203MO D60	 SEEN1203AFTN D60
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List of Milling Inserts

Milling Inserts for Stainless Steel

 APMT1604PDER D7420S	 APMT1604PDER-H2 D7420S	 APMT1604PDER-M2 D7420S	 RDKT1204MO D7420S	 RPMT1204MO D7420S
 APMT1135PDER D7420S	 APMT1135PDER-H2 D7420S	 APMT1135PDER-M2 D7420S	 RPMT1003MO D7420S	 WNMU080608EN D7420S J
 JDMT070208 D7420S R	 BLMP0904R-M D7420S T	 BLMP0603R-M D7420S T	 4NKT060308R D7420S T	 LNMU0303ZER D7420S D
 LOGU030310ER-GM D7420S R	 LNPU110408SRGE D7420S K	 SNMX1205ANN-M D7420S W	 PNMU090508ENER-GM D7420S J	 HNMG0907ANSN-R D7420S P

Milling Inserts for HSS

 APMT1604PDER D9920	 APMT1135PDER D9920	 RPMT1204MO D9920	 RPMT1003MO D9920
 APMT1604PEER D9920S	 APMT1135PEER D9920S	 RPMT1204MO D9920S	 RPMT1003MO D9920S
 RDMT1204MO D9920S R	 LNMU0303ZER D9920S D	 SNMU130508EN-H D9920S J	 WNMU080608EN D9920S J

Notes:
For Japanese and Korean brands

R - The same applies to Hitachi brand

J - The same applies to Kyocera brand

D - The same applies to Toshiba brand

T - The same applies to TaeguTec Brand

Z - The same applies to Sumitomo Brand

S - The same applies to Mitsubishi Brand

DJ - The same applies to DIJET Brand

DL - The same applies to Duracarb Brand

For Europe and America brands

K - The same applies to KENNAMETAL Brand

W - The same applies to Walter Brand

P - The same applies to DORMER Brand

G - The same applies to Seco Brand

List of Turning Inserts

Drilling Inserts for General



D7320
SPMG050204DG
SPMG060204DG
SPMG07T308DG
SPMG090408DG
SPMG110408DG

D7320
WCMX030204
WCMX030208
WCMX040204
WCMX040208
WCMX050308
WCMX06T308
WCMX080412

D7320
WCMX020104FN
WCMX030208FN
WCMX040208FN
WCMX050308FN
WCMX06T308FN
WCMX080412FN



D7420S
SOMT050204-DP
SOMT060204-DP
SOMT070306-DP
SOMT08T306-DP
SOMT09T308-DP
SOMT11T308-DP
SOMT130408-DP

D5520S
SPMG030104DG
SPMG040204DG
SPMG050204DG
SPMG060204DG
SPMG07T308DG
SPMG090408DG
SPMG110408DG
SPMG140512DG

D5520S
WCMX030208FN
WCMX040208FN
WCMX050308FN
WCMX06T308FN
WCMX080412FN

Drilling Inserts for Aluminium



D01
WCKT030208-DA
WCKT040208-DA
WCKT050308-DA
WCKT06T308-DA
WCKT080412-DA

D01
SPGT050204
SPGT060204
SPGT07T308
SPGT090408
SPGT110408

WC Type

10.5-13.5mm Small Drill Bit

2D/3D/4D/5D/6D



SP Type

8.5-12mm Small

2D/3D/4D/5D/6D



List of Turning Inserts

Turning Inserts for Cermet D60



WNMG080404-HQ
WNMG080408-HQ



WNMG080404-FG
WNMG080408-FG



TNMG160404-HQ
TNMG160408-HQ



TNMG160404-FG
TNMG160408-FG



CNMG120404-HQ
CNMG120408-HQ



DNMG150404-HQ
DNMG150408-HQ



SNMG130404-HQ
SNMG130408-HQ



VNMG160404-HQ
VNMG160408-HQ



CCMT060202-HQ
CCMT060204-HQ
CCMT09T302-HQ
CCMT09T304-HQ



TCMT090202-HQ
TCMT090204-HQ



TCMT110202-HQ
TCMT110204-HQ
TCMT110208-HQ



TCMT16T304-HQ
TCMT16T308-HQ



DCMT070202-HQ
DCMT070204-HQ
DCMT070208-HQ
DCMT11T302-HQ
DCMT11T304-HQ
DCMT11T306-HQ



VBMT110304-HQ
VBMT110308-HQ
VBMT160404-HQ
VBMT160408-HQ



TNGG160402R-C
TNGG160402L-C
TNGG160404R-C
TNGG160404L-C



TNGG160402R-S
TNGG160404R-S
TNGG160402L-S
TNGG160404L-S



CCGT030102L-F
CCGT040102L-F



WBG060102L-F
WBG060104L-F



CCGT060202R/L-U
CCGT060204R/L-U
CCGT09T302R/L-U
CCGT09T304R/L-U



TPGH080202/04L
TPGH090202/04L
TPGH110302/04L



TBGT060102L
TBGT060104L



TCGT090202L
TCGT090204L
TCGT110202L
TCGT110204L



DCGT070202L-U
DCGT070204L-U
DCGT11T302R/L-U
DCGT11T304R/L-U



VBGT110301R/L-Y
VBGT110302R/L-Y
VBGT110304R/L-Y
VBGT160402R/L-Y
VBGT160404R/L-Y

List of Turning Inserts

Turning Inserts For Steel D9025

	WNMG080404-TM WNMG080408-TM WNMG080412-TM		WNMG080404R-S WNMG080408R-S WNMG080404L-S WNMG080408L-S
	TNMG160404-TM TNMG160408-TM TNMG160412-TM		TNMG160404R-S TNMG160408R-S TNMG160404L-S TNMG160408L-S
	CNMG120404-TM CNMG120408-TM CNMG120412-TM		CNMG120404R-S CNMG120408R-S CNMG120404L-S CNMG120408L-S
	DNMG150404-TM DNMG150408-TM DNMG150412-TM		VNMG160404-TM VNMG160408-TM VNMG160412-TM
	SNMG120404-TM SNMG120408-TM SNMG120412-TM		SNMG120404R-S SNMG120408R-S SNMG120404L-S SNMG120408L-S
	CCMT060202 CCMT060204-HM CCMT060208		CCMT09T302-HM CCMT09T304-HM CCMT09T308-HM
	CCMT120404-HM CCMT120408-HM		SCMT09T304-HM SCMT09T308-HM
	TCMT110202 TCMT110204 TCMT110208		TCMT16T304-HM TCMT16T308-HM
	DCMT070202-HQ DCMT070204-HM DCMT070208-HG		DCMT11T302-HQ DCMT11T304-HM DCMT11T308-HM

Turning Inserts for Cast Iron D8115

	WNMG080404 WNMG080408 WNMG080412		WNMG080408-GH WNMG080412-GH
	TNMG160402 TNMG160404 TNMG160408		CNMG120404/08/17 CNMG120408-GH CNMG120412-GH
	SNMG120404 SNMG120408 SNMG120412		VNMG160404 VNMG160408

List of Turning Inserts

Turning Inserts For Stainless Steel D7420

	WNMG080404-MA WNMG080408-MA		WNMG080404-MS WNMG080408-MS
	TNMG160402-MA TNMG160404-MA TNMG160408-MA		TNMG160404-MS TNMG160408-MS
	WNMG080404-MA WNMG080408-MA		CNMG120404-MS CNMG120408-MS
	DNMG150404 DNMG150408		SNMG120404 SNMG120408 SNMG120412
	VNMG160404-MA VNMG160408-MA		VNMG160404-MS VNMG160408-MS
	VBMT110304-MV VBMT110302-MV		VBMT160404-MV VBMT160408-MV
	CCMT060202 CCMT060204 CCMT060208		CCMT09T302 CCMT09T304 CCMT09T308
	CCMT120404 CCMT120408		TCMT090202 TCMT090204
	TCMT16T304 TCMT16T308		TCMT110202 TCMT110204 TCMT110208
	DCMT070202-MV DCMT070204-MV		DCMT11T302-MV DCMT11T304-MV DCMT11T308-MV

Threading Inserts For General D5135

	16ER150ISO 16ER175ISO 16ER200ISO 16ER250ISO 16ER300ISO		16IRAG55 16ERAG55 16ERAG60 16ER100ISO 16ER125ISO 16ER150ISO 16ER175ISO 16ER200ISO 11/16IR100ISO 16IR200ISO 11/16IR125ISO 16IR250ISO 11/16IR150ISO 16IR300ISO
			

List of Turning Inserts

Groove Inserts for General Type D9050

	MGMN150-G MGMN200-G MGMN250-G MGMN300-G		MGMN200-M MGMN250-M MGMN300-M MGMN400-M MGMN500-M MGMN600-M
	MGMN200-T MGMN250-T MGMN300-T MGMN400-T MGMN500-T		MRMN200-M MRMN300-M MRMN400-M MRMN500-M MRMN600-M
	MGMN200-DR MGMN250-DR MGMN300-DR MGMN400-DR MGMN500-DR		MGMN200 MGMN300 MGMN400 MGMN500
	TDC2 TDC3 TDC4 TDC5		SP200 SP300 SP400

Groove Inserts for Steel D3020

	MGMN150-G MGMN200-G MGMN250-G MGMN300-G		MGMN200-M MGMN250-M MGMN300-M MGMN400-M MGMN500-M MGMN600-M
	MGMN200-T MGMN250-T MGMN300-T MGMN400-T MGMN500-T		MRMN200-M MRMN300-M MRMN400-M MRMN500-M MRMN600-M
	SP200 SP300 SP400		

Inserts for Aluminium

	MGMN150-G MGMN200-G MGMN250-G		MGMN250-M MGMN300-M MGMN400-M MGMN500-M
	MGMN200 MGMN300 MGMN400 MGMN500		

List of Turning Inserts

Milling Inserts for Aluminium

	APKT160402PDFR-MA APKT160404PDFR-MA APKT160408PDFR-MA		APKT113502PDFR-MA APKT113504PDFR-MA APKT113508PDFR-MA
	APKT1604PDFR-MA3		APGT1604PDFR-G2
	SEHT1204AFFN-X83		RPGT1204-AK RPGT1003-AK RPGT0803-AK

Turning Inserts for Aluminium D01

	WNMG080402-HA WNMG080404-HA WNMG080408-HA		TNMG160402-HA TNMG160404-HA TNMG160408-HA
	CNMG120402-HA CNMG120404-HA CNMG120408-HA		SNMG120402-HA SNMG120404-HA
	VNMG160402-HA VNMG160404-HA		CCGT120402-AK CCGT120404-AK
	CCGT09T302-AK CCGT09T304-AK CCGT09T308-AK		CCGT060202-AK CCGT060204-AK CCGT060208-AK
	TCGT090202-AK TCGT090204-AK		TCGT110202-AK TCGT110204-AK
	TCGT16T302-AK TCGT16T304-AK		SCGT09T302-AK SCGT09T304-AK SCGT120402-AK SCGT120404-AK
	DCGT11T302-AK DCGT11T304-AK DCGT11T308-AK		DCGT070202-AK DCGT070204-AK DCGT070208-AK
	VCGT110302-AK VCGT110304-AK		VCGT160402-AK VCGT160404-AK
	VBGT110302-AK VBGT110304-AK		VBGT160402-AK VBGT160404-AK

List of Turning Inserts

Shallow Groove Inserts D7040

	TGF32R033-300		TGF32L100-300
	TGF43R100-300		TGF43L100-300
	TER16 100-300		TNR16 100-300
	GER100-A GER150-A GER200-A		GER100-300-B
	CER100~400C/D		7GR100 7GR150 7GR200
	8GR100-350		9GR100-350

Fine Grinding Inserts D7040

	TNGG160402/04R TNGG160402/04L		TNGG160402/04R-S TNGG160402/04L-S
	CCGT030102L-F CCGT040102L-F CCGT060202/04L-F CCGT09T302/04L-F		CCGT060202/04R-U CCGT060202/04L-U CCGT09T302/04R-U CCGT09T302/04L-U
	DCGT11T302/04R-U DCGT11T302/04L-U		VBGT110301/02/04R-Y VBGT110301/02/04L-Y VBGT160404R-Y VBGT160404L-Y
	TBGT060102L TBGT060104L		TPGH080202/04L TPGH090202/04L TPGH110302/04L
	TCGT110202L TCGT110204L		WBG060102L-F WBG060104L-F

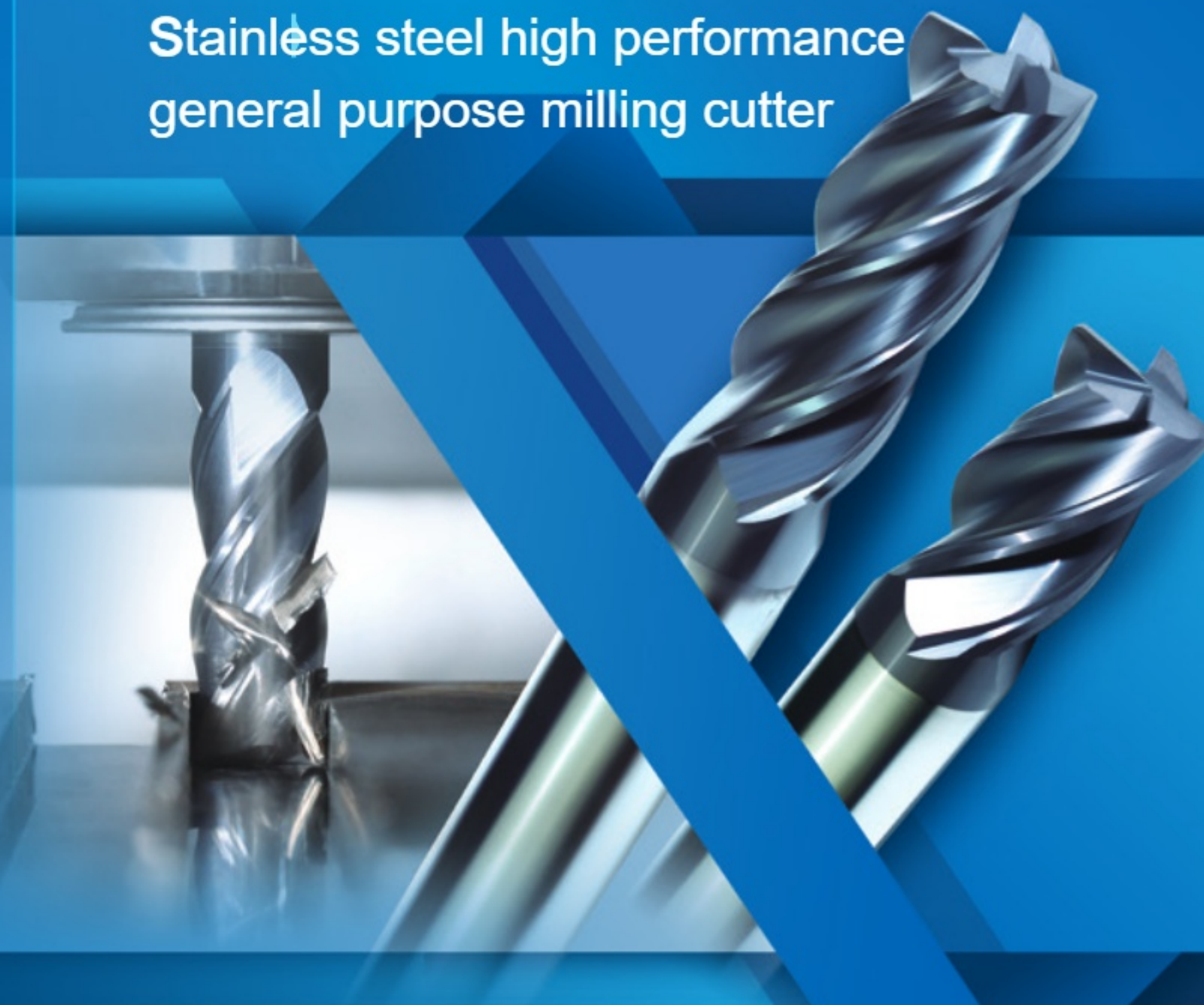


Recommended table of cutting parameters for end slot milling

MM-4E ★ MM-4EF ★ MM-4R ★ MM-4RFP				
Cutting Parameter	40~80		40~60	
	Carbon steel, alloy steel		Stainless Steel	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Steel (min ⁻¹)	Feed Steel (mm/min)
4	4800	380	3980	220
6	3184	260	2700	240
8	2400	240	2000	260
10	1900	240	1600	300
12	1600	200	1300	250
16	1200	180	1000	180
20	1100	160	800	160
最大切深量				

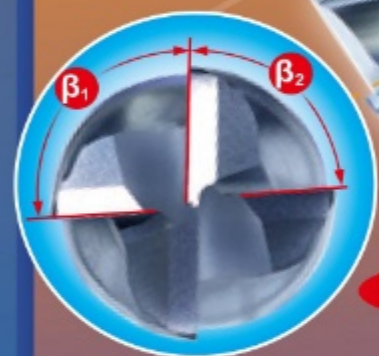
MM Series

Stainless steel high performance
general purpose milling cutter



MM Series

Stainless steel high-performance general-purpose milling cutter
Suitable for efficient, versatile machining of all types of stainless steel and steel parts



The unequal spiral and unequal pitch structure greatly improves the anti-vibration performance of the tool, effectively suppresses cutting vibration and improves the finish of the machined surface

The unique groove design takes into account tool rigidity and chip space, and can realize trochoidal milling, large feed machining and other working conditions

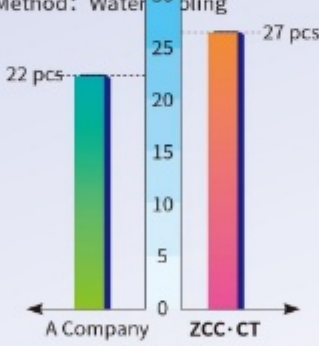
The special edge treatment process can effectively reduce cutting adhesion, delay tool wear, and greatly increase service life

Substrates and coatings with better versatility and wear resistance



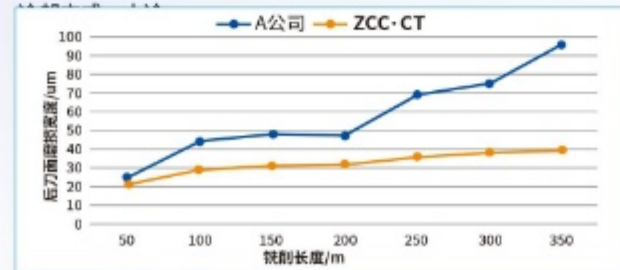
Case one

Work Parts: Medical Equipment
Work Material: SUS304
Work Equipment:
Cutting Tools: MM-4R-D8.0R0.5,
Four-edge coated radius end mill
Cutting Parameter: S=2500rpm, F=250mm/min,
Ap=3.3mm
Work Method: Slot Milling
Cooling Method: Water Cooling



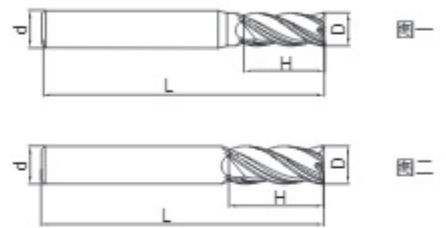
Case Two

Work Material: SUS304
Work Equipment: 加工中心
Cutting Tools: MM-4E-D6.0
Cutting Parameter: S=5300rpm, F=2120mm/min,
Ap=9mm, Ae=0.6mm



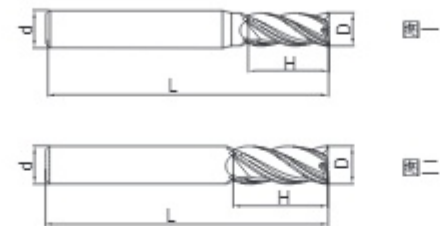
Stainless steel high performance general milling cutter MM series

MM-4E



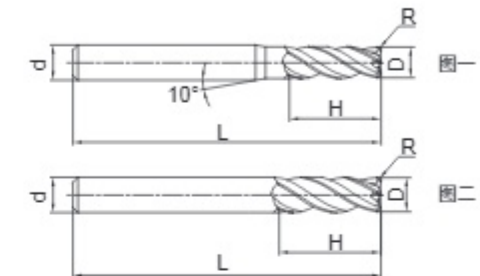
型 号	基本尺寸 (mm)				齿数	形式
	D	d	H	L		
MM-4E-D1.0S	1.0	4	3	50	4	Picture 1
MM-4E-D1.5S	1.5	4	4	50	4	Picture 1
MM-4E-D2.0S	2.0	4	6	50	4	Picture 1
MM-4E-D2.5S	2.5	4	8	50	4	Picture 1
MM-4E-D3.0S	3.0	4	8	50	4	Picture 1
MM-4E-D3.0	3.0	6	8	50	4	Picture 1
MM-4E-D4.0S	4.0	4	11	50	4	Picture 2
MM-4E-D4.0	4.0	6	11	50	4	Picture 1
MM-4E-D5.0	5.0	6	13	50	4	Picture 1
MM-4E-D6.0	6.0	6	16	50	4	Picture 2
MM-4E-D7.0	7.0	8	20	60	4	Picture 1
MM-4E-D8.0	8.0	8	20	60	4	Picture 2
MM-4E-D9.0	9.0	10	22	75	4	Picture 1
MM-4E-D10.0	10.0	10	25	75	4	Picture 2
MM-4E-D12.0	12.0	12	30	75	4	Picture 2
MM-4E-D14.0	14.0	14	32	75	4	Picture 2
MM-4E-D16.0	16.0	16	45	100	4	Picture 2
MM-4E-D18.0	18.0	18	45	100	4	Picture 2
MM-4E-D20.0	20.0	20	45	100	4	Picture 2

MM-4EF



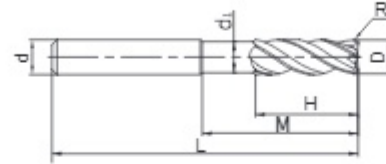
型 号	基本尺寸 (mm)				齿数	形式
	D	d	H	L		
MM-4EF-D1.0S	1.0	4	2	50	4	Picture 1
MM-4EF-D1.5S	1.5	4	3	50	4	Picture 1
MM-4EF-D2.0S	2.0	4	4	50	4	Picture 1
MM-4EF-D2.5S	2.5	4	5	50	4	Picture 1
MM-4EF-D3.0S	3.0	4	6	50	4	Picture 1
MM-4EF-D3.0	3.0	6	6	50	4	Picture 1
MM-4EF-D4.0S	4.0	4	8	50	4	Picture 2
MM-4EF-D4.0	4.0	6	8	50	4	Picture 1
MM-4EF-D5.0	5.0	6	10	50	4	Picture 1
MM-4EF-D6.0	6.0	6	12	50	4	Picture 2
MM-4EF-D7.0	7.0	8	14	60	4	Picture 1
MM-4EF-D8.0	8.0	8	16	60	4	Picture 2
MM-4EF-D9.0	9.0	10	18	75	4	Picture 1
MM-4EF-D10.0	10.0	10	20	75	4	Picture 2
MM-4EF-D12.0	12.0	12	24	75	4	Picture 2
MM-4EF-D14.0	14.0	14	28	75	4	Picture 2
MM-4EF-D16.0	16.0	16	32	100	4	Picture 2
MM-4EF-D18.0	18.0	18	36	100	4	Picture 2
MM-4EF-D20.0	20.0	20	40	100	4	Picture 2

MM-4R



型 号	基本尺寸 (mm)					齿数	形式
	D	R	d	H	L		
MM-4R-D1.0R0.1S	1.0	0.1	4	3	50	4	Picture 1
MM-4R-D1.5R0.2S	1.5	0.2	4	4	50	4	Picture 1
MM-4R-D2.0R0.2S	2.0	0.2	4	6	50	4	Picture 1
MM-4R-D3.0R0.2S	3.0	0.2	4	8	50	4	Picture 1
MM-4R-D3.0R0.3S	3.0	0.3	4	8	50	4	Picture 1
MM-4R-D4.0R0.2S	4.0	0.2	4	10	50	4	Picture 2
MM-4R-D4.0R0.3S	4.0	0.3	4	10	50	4	Picture 2
MM-4R-D4.0R0.5S	4.0	0.5	4	10	50	4	Picture 2
MM-4R-D6.0R0.5	6.0	0.5	6	16	50	4	Picture 2
MM-4R-D6.0R1.0	6.0	1.0	6	16	50	4	Picture 2
MM-4R-D8.0R0.5	8.0	0.5	8	20	60	4	Picture 2
MM-4R-D8.0R1.0	8.0	1.0	8	20	60	4	Picture 2
MM-4R-D10.0R0.5	10.0	0.5	10	25	75	4	Picture 2
MM-4R-D10.0R1.0	10.0	1.0	10	25	75	4	Picture 2
MM-4R-D10.0R2.0	10.0	2.0	10	25	75	4	Picture 2
MM-4R-D12.0R1.0	12.0	1.0	12	30	75	4	Picture 2
MM-4R-D12.0R2.0	12.0	2.0	12	30	75	4	Picture 2
MM-4R-D12.0R3.0	12.0	3.0	12	30	75	4	Picture 2
MM-4R-D16.0R1.0	16.0	1.0	16	45	100	4	Picture 2
MM-4R-D16.0R2.0	16.0	2.0	16	45	100	4	Picture 2
MM-4R-D16.0R3.0	16.0	3.0	16	45	100	4	Picture 2
MM-4R-D20.0R1.0	20.0	1.0	20	45	100	4	Picture 2
MM-4R-D20.0R2.0	20.0	2.0	20	45	100	4	Picture 2
MM-4R-D20.0R3.0	20.0	3.0	20	45	100	4	Picture 2

MM-4RFP



型号	基本尺寸 (mm)							齿数
	D	R	d	d ₁	H	M	L	
MM-4RFP-D6.0R0.5	6.0	0.5	6	5.8	6	18	75	4
MM-4RFP-D6.0R1.0	6.0	1.0	6	5.8	6	18	75	4
MM-4RFP-D8.0R0.5	8.0	0.5	8	7.8	8	24	100	4
MM-4RFP-D8.0R1.0	8.0	1.0	8	7.8	8	24	100	4
MM-4RFP-D10.0R0.5	10.0	0.5	10	9.5	10	30	100	4
MM-4RFP-D10.0R1.0	10.0	1.0	10	9.5	10	30	100	4
MM-4RFP-D10.0R2.0	10.0	2.0	10	9.5	10	30	100	4
MM-4RFP-D12.0R1.0	12.0	1.0	12	11.5	12	36	120	4
MM-4RFP-D12.0R2.0	12.0	2.0	12	11.5	12	36	120	4
MM-4RFP-D12.0R3.0	12.0	3.0	12	11.5	12	36	120	4
MM-4RFP-D16.0R1.0	16.0	1.0	16	15.5	16	40	150	4
MM-4RFP-D16.0R2.0	16.0	2.0	16	15.5	16	40	150	4
MM-4RFP-D16.0R3.0	16.0	3.0	16	15.5	16	40	150	4
MM-4RFP-D20.0R1.0	20.0	1.0	20	19	20	60	150	4
MM-4RFP-D20.0R2.0	20.0	2.0	20	19	20	60	150	4
MM-4RFP-D20.0R3.0	20.0	3.0	20	19	20	60	150	4

Stainless steel high performance general milling cutter MM series

MM-4E ★ MM-4EF				
切削参数	80~250		70~120	
	碳钢、合金钢		不锈钢	
直径 (mm)	转速 (min ⁻¹)	进给 (mm/min)	转速 (min ⁻¹)	进给 (mm/min)
1	20000	800	20000	800
2	12700	760	12700	760
4	7960	800	7960	800
6	6400	830	5300	640
8	4800	810	4000	640
10	3800	800	3200	600
12	3200	800	2650	600
16	2400	760	2000	550
20	1900	740	1600	500
20	1900	400	1600	270
最大切深量				

MM-4R ★ MM-4RFP				
切削参数	80~250		70~120	
	碳钢、合金钢		不锈钢	
直径 (mm)	转速 (min ⁻¹)	进给 (mm/min)	转速 (min ⁻¹)	进给 (mm/min)
1	20000	1000	20000	1000
2	12700	950	12700	950
4	7960	1000	7960	1000
6	6400	1000	5300	800
8	4800	1000	4000	800
10	3800	1000	3200	750
12	3200	1000	2650	750
16	2400	950	2000	680
20	1900	900	1600	620
最大切深量				



GMX Series
General Machining End Mills

Zhuzuan(Chongqing) CNC Tool Co.,Ltd

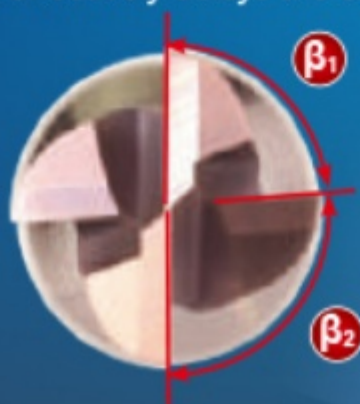
GMX Series

General Machining End Mills

- Brand new edge processing technology, with strong edge wear resistance and chipping resistance.

High vibration resistance

The unequal tooth and unequal spiral structure greatly improves the vibration resistance of the tool and effectively delays the chipping of the tool.



$\alpha_1 \neq \alpha_2$

$\beta_1 \neq \beta_2$



Higher oxidation resistance and thermal stability

Coating greatly improves tool wear resistance

Sharp cutting edge, faster cutting and long tool life

Wide range of applications

Able to achieve high-efficiency cutting from ordinary steel to pre-hardened steel.

Work Case (一)

Cutter Shape: GMX-4E-D6.0

Work Material: NAK80 (HRC35)

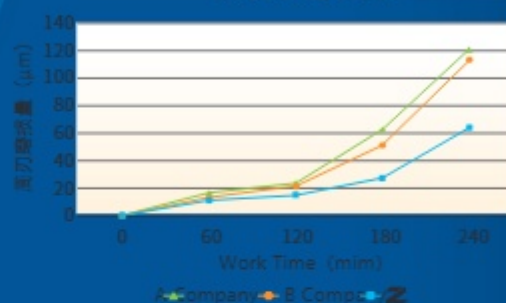
Work Method: 侧铣

Cooling Method: Dry Cut

Work Machine Tools: Mikron CNC Machine Center

Cutting Parameter: S=8000r/min, F=1600mm/r, ap=9mm, ae=0.6mm

Side Milling NAK80



Work Case (二)

Cutter Shape: GMX-4E-D6.0

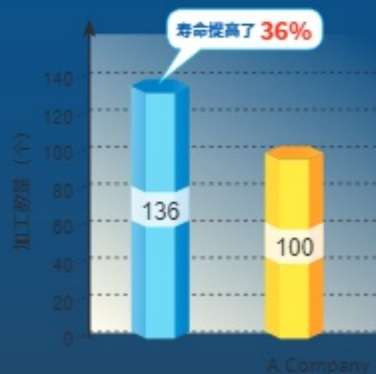
Work Material: 42CrMO (HRC32)

Work Method: Slot Milling

Cooling Method: Water Cooling

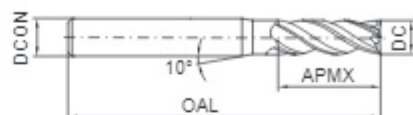
加工机床: 立式五轴加工中心

切削参数: S=6000r/min, F=900mm/min, ap=4mm, ae=6mm



Four-edge straight shank flat end mill

GMX-4E



Picture 1



Picture 2



Order Number	Basic size(mm)				Flutes Z	Picture 1	Stock
	DC	DCON	APMX	OAL			
GMX-4E-D1.0F	1.0	3	3	50	4	Picture 1	○
GMX-4E-D1.5F	1.5	3	4	50	4	Picture 1	○
GMX-4E-D2.0F	2.0	3	6	50	4	Picture 1	○
GMX-4E-D2.5F	2.5	3	8	50	4	Picture 1	○
GMX-4E-D3.0F	3.0	3	8	50	4	Picture 2	○
GMX-4E-D1.0S	1.0	4	3	50	4	Picture 1	●
GMX-4E-D1.5S	1.5	4	4	50	4	Picture 1	●
GMX-4E-D2.0S	2.0	4	6	50	4	Picture 1	●
GMX-4E-D2.5S	2.5	4	8	50	4	Picture 1	●
GMX-4E-D3.0S	3.0	4	8	50	4	Picture 1	●
GMX-4E-D3.5S	3.5	4	10	50	4	Picture 2	●
GMX-4E-D4.0S	4.0	4	11	50	4	Picture 1	○
GMX-4E-D1.0	1.0	6	3	50	4	Picture 1	○
GMX-4E-D1.5	1.5	6	4	50	4	Picture 1	○
GMX-4E-D2.0	2.0	6	6	50	4	Picture 1	○
GMX-4E-D2.5	2.5	6	8	50	4	Picture 1	●
GMX-4E-D3.0	3.0	6	8	50	4	Picture 1	○
GMX-4E-D3.5	3.5	6	10	50	4		

● In Stock ○ According to order

Applicable table of materials to be processed

○ Very Suitable ○ Suitable

Work Material											
Carbon Steel	Alloy Steel	Pre-hardened steel,quenched and tempered steel				Stainless steel	cast iron Ductile Iron	copper alloy	Aluminu m alloy	Titanium alloy	heat resist ant alloy
		~40HRC	~50HRC	~60HRC	~70HRC						
○	○	○	○			○	○				

Four-edge straight shank flat end mill

GMX-4E



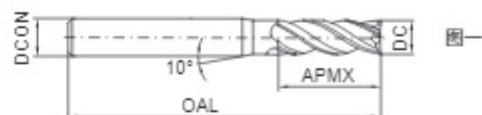
侧面加工



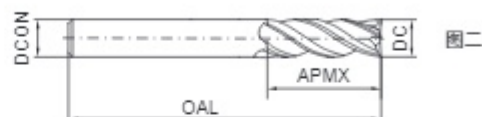
台阶加工



直角槽加工



图一



图二



38°-40°



AIC-Ni

DC DC≤12 0~0.020
12<DC 0~0.030

Order Number	Basic size(mm)				FlutesZ	Picture	Stock
	DC	DCON	APMX	OAL			
GMX-4E-D4.0	4.0	6	11	50	4	Picture 1	○
GMX-4E-D4.5	4.5	6	11	50	4	Picture 1	○
GMX-4E-D5.0	5.0	6	13	50	4	Picture 1	○
GMX-4E-D5.5	5.5	6	16	50	4	Picture 1	○
GMX-4E-D6.0	6.0	6	16	50	4	Picture 2	○
GMX-4E-D7.0	7.0	8	20	60	4	Picture 1	●
GMX-4E-D8.0	8.0	8	20	60	4	Picture 1	●
GMX-4E-D9.0	9.0	10	22	75	4	Picture 1	●
GMX-4E-D10.0	10.0	10	25	75	4	Picture 1	●
GMX-4E-D12.0	12.0	12	30	75	4	Picture 1	●
GMX-4E-D14.0	14.0	14	32	75	4	Picture 2	●
GMX-4E-D16.0	16.0	16	45	100	4	Picture 1	○
GMX-4E-D18.0	18.0	18	45	100	4	Picture 1	○
GMX-4E-D20.0	20.0	20	45	100	4	Picture 1	○

● In Stock ○ According to order

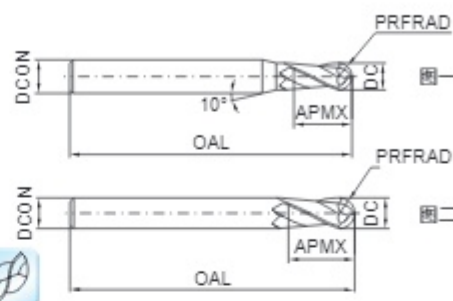
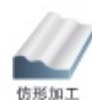
Applicable table of materials to be processed

○ Very Suitable ○ Suitable

Work Material											
Carbon Steel	Alloy Steel	Pre-hardened steel,quenched and tempered steel				Stainless steel	cast iron Ductile Iron	copper alloy	Aluminum alloy	Titanium alloy	heat resistant alloy
		~40HRC	~50HRC	~60HRC	~70HRC						
											

Two-flute straight shank ball end mill

GMX-2B



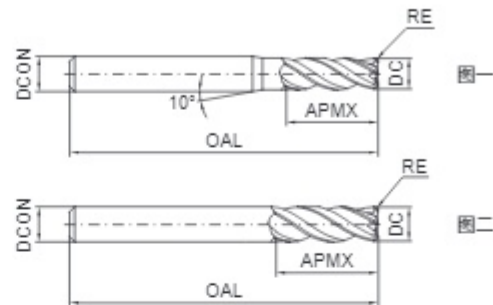
Order Number	(mm)					Flutes Z	Picture	Stock
	DC	PRFRAD	DCON	APMX	OAL			
GMX-2B-R1.0F	2.0	1.0	3	4	50	2	Picture 1	○
GMX-2B-R1.25F	2.5	1.25	3	5	50	2	Picture 1	○
GMX-2B-R1.5F	3.0	1.5	3	6	50	2	Picture 2	○
GMX-2B-R0.5S	1.0	0.5	4	2	50	2	Picture 1	●
GMX-2B-R0.75S	1.5	0.75	4	3	50	2	Picture 1	●
GMX-2B-R1.0S	2.0	1.0	4	4	50	2	Picture 1	●
GMX-2B-R1.25S	2.5	1.25	4	5	50	2	Picture 1	●
GMX-2B-R1.5S	3.0	1.5	4	6	50	2	Picture 1	●
GMX-2B-R1.75S	3.5	1.75	4	8	50	2	Picture 1	○
GMX-2B-R2.0S	4.0	2.0	4	8	50	2	Picture 2	●
GMX-2B-R0.5	1.0	0.5	6	2	50	2	Picture 1	○
GMX-2B-R0.75	1.5	0.75	6	3	50	2	Picture 1	○
GMX-2B-R1.0	2.0	1.0	6	4	50	2	Picture 1	○
GMX-2B-R1.25	2.5	1.25	6	5	50	2	Picture 1	●
GMX-2B-R1.5	3.0	1.5	6	6	50	2	Picture 1	○
GMX-2B-R1.75	3.5	1.75	6	8	50	2	Picture 1	●
GMX-2B-R2.0	4.0	2.0	6	8	50	2	Picture 1	○
GMX-2B-R2.5	5.0	2.5	6	10	50	2	Picture 1	○
GMX-2B-R2.75	5.5	2.75	6	12	50	2	Picture 2	●
GMX-2B-R3.0	6.0	3.0	6	12	50	2	Picture 1	○
GMX-2B-R3.5	7.0	3.5	8	14	60	2	Picture 2	●
GMX-2B-R4.0	8.0	4.0	8	16	60	2	Picture 1	○
GMX-2B-R4.5	9.0	4.5	10	18	75	2	Picture 2	●
GMX-2B-R5.0	10.0	5.0	10	20	75	2	Picture 2	○
GMX-2B-R6.0	12.0	6.0	12	24	75	2	Picture 2	○
GMX-2B-R7.0	14.0	7.0	14	28	75	2	Picture 2	○
GMX-2B-R8.0	16.0	8.0	16	32	100	2		
GMX-2B-R10.0	20.0	10.0	20	40	100	2		

Applicable table of materials to be processed

● In Stock ○ According to order

Very Suitable Suitable

Work Material											
Carbon Steel	Alloy Steel	Pre-hardened steel,quenched and tempered steel				Stainless steel	cast iron Ductile Iron	coppern alloy	Aluminu m alloy	Titanium alloy	heat resis- ant alloy
		~40HRC	~50HRC	~60HRC	~70HRC						
○	○	○	○			○	○				

Four-edge straight shank arc
end mill**GMX-4R**

Order Number	Basic Size (mm)					Flutes Z	Picture	Stock
	DC	RE	DCON	APMX	OAL			
GMX-4R-D1.0R0.2S	1.0	0.2	4	3	50	4	Picture 1	●
GMX-4R-D1.5R0.2S	1.5	0.2	4	4	50	4	Picture 1	●
GMX-4R-D2.0R0.2S	2.0	0.2	4	6	50	4	Picture 1	●
GMX-4R-D2.0R0.5S	2.0	0.5	4	6	50	4	Picture 1	○
GMX-4R-D2.5R0.2S	2.5	0.2	4	8	50	4	Picture 1	○
GMX-4R-D2.5R0.5S	2.5	0.5	4	8	50	4	Picture 1	○
GMX-4R-D3.0R0.2S	3.0	0.2	4	8	50	4	Picture 1	●
GMX-4R-D3.0R0.5S	3.0	0.5	4	8	50	4	Picture 2	○
GMX-4R-D4.0R0.2S	4.0	0.2	4	10	50	4	Picture 2	○
GMX-4R-D4.0R0.3S	4.0	0.3	4	10	50	4	Picture 2	○
GMX-4R-D1.0R0.2	1.0	0.2	6	3	50	4	Picture 2	○
GMX-4R-D1.5R0.2	1.5	0.2	6	4	50	4	Picture 2	○
GMX-4R-D2.0R0.2	2.0	0.2	6	6	50	4	Picture 2	○
GMX-4R-D2.0R0.5	2.0	0.5	6	6	50	4	Picture 2	○
GMX-4R-D2.5R0.2	2.5	0.2	6	8	50	4	Picture 2	○
GMX-4R-D2.5R0.5	2.5	0.5	6	8	50	4	Picture 2	●
GMX-4R-D3.0R0.2	3.0	0.2	6	8	50	4	Picture 2	●
GMX-4R-D3.0R0.5	3.0	0.5	6	8	50	4	Picture 2	○
GMX-4R-D4.0R0.2	4.0	0.2	6	10	50	4	Picture 2	○
GMX-4R-D4.0R0.3	4.0	0.3	6	10	50	4	Picture 2	●
GMX-4R-D4.0R0.5	4.0	0.5	4	10	50	4		

● In Stock ○ According to order

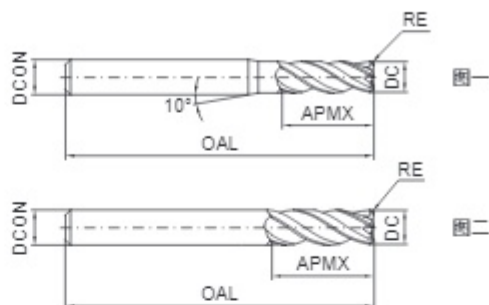
Applicable table of materials to be processed

Very Suitable Suitable

Work Material											
Carbon Steel	Alloy Steel	Pre-hardened steel,quenched and tempered steel				Stainless Steel	cast iron Ductile Iron	coppern alloy	Aluminu m alloy	Titanium alloy	heat resis- ant alloy
		~40HRC	~50HRC	~60HRC	~70HRC						
⊙	⊙	⊙	⊙			⊙	⊙				

Four-edge straight shank arc end mill

GMX-4R



Order Number	Basic Size(mm)					Flutes Z	Picture	Stock
	DC	RE	DCON	APMX	OAL			
GMX-4R-D5.0R0.2	5.0	0.2	6	13	50	4	Picture 1	○
GMX-4R-D5.0R0.5	5.0	0.5	6	13	50	4	Picture 1	○
GMX-4R-D5.0R1.0	5.0	1.0	6	13	50	4	Picture 1	○
GMX-4R-D6.0R0.3	6.0	0.3	6	16	50	4	Picture 2	○
GMX-4R-D6.0R0.5	6.0	0.5	6	16	50	4	Picture 2	●
GMX-4R-D6.0R1.0	6.0	1.0	6	16	50	4	Picture 2	●
GMX-4R-D8.0R0.3	8.0	0.3	8	20	60	4	Picture 2	○
GMX-4R-D8.0R0.5	8.0	0.5	8	20	60	4	Picture 2	●
GMX-4R-D8.0R1.0	8.0	1.0	8	20	60	4	Picture 2	○
GMX-4R-D10.0R0.3	10.0	0.3	10	25	75	4	Picture 2	●
GMX-4R-D10.0R0.5	10.0	0.5	10	25	75	4	Picture 2	●
GMX-4R-D10.0R1.0	10.0	1.0	10	25	75	4	Picture 2	○
GMX-4R-D10.0R2.0	10.0	2.0	10	25	75	4	Picture 2	○
GMX-4R-D10.0R3.0	10.0	3.0	10	25	75	4	Picture 2	○
GMX-4R-D12.0R0.3	12.0	0.3	12	30	75	4	Picture 2	○
GMX-4R-D12.0R0.5	12.0	0.5	12	30	75	4	Picture 2	○
GMX-4R-D12.0R1.0	12.0	1.0	12	30	75	4	Picture 2	○
GMX-4R-D12.0R2.0	12.0	2.0	12	30	75	4	Picture 2	○
GMX-4R-D12.0R3.0	12.0	3.0	12	30	75	4	Picture 2	○

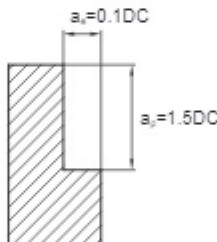
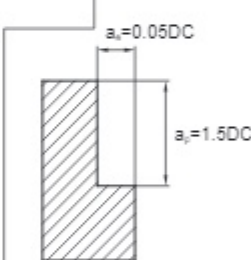
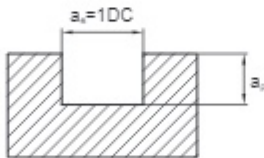
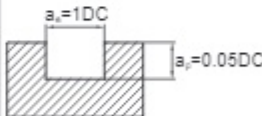
● In stock ○ According to order

Applicable table of materials to be processed

● Very Suitable ○ Suitable

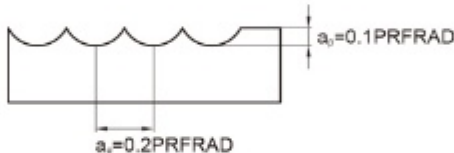
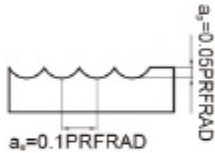
Work Material											
Carbon Steel	Alloy Steel	Pre-hardened steel, quenched and tempered steel				Stainless Steel	cast iron Ductile Iron	copper alloy	Aluminum alloy	Titanium alloy	heat resistant alloy
		~40HRC	~50HRC	~60HRC	~70HRC						
○	○	○	○			○	○				

GMX-4ECutting Parameter

Work Material	Cast Iron Ductile Iron		Carbon Steel, alloy steel ~750N/mm ²		Carbon Steel, alloy steel ~30HRC		Pre-hardened steel,quenched and tempered steel ~40HRC		Stainless Steel		Pre-hardened steel,quenched and tempered steel ~50HRC						
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Rate (mm/min)	Rotating Speed (min ⁻¹)	Feed Rate (mm/min)	Rotating Speed (min ⁻¹)	Feed Rate (mm/min)	Rotating Speed (min ⁻¹)	Feed Rate (mm/min)	Rotating Speed (min ⁻¹)	Feed Rate (mm/min)	Rotating Speed (min ⁻¹)	Feed Rate (mm/min)					
1	20000	250	20000	250	20000	200	20000	200	20000	90	20000	150					
2	15000	400	15000	400	15000	360	15000	350	11150	100	13000	225					
3	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410					
4	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420					
5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440					
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450					
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460					
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435					
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435					
14	3000	680	3000	680	2700	630	2300	525	1600	125	1800	410					
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410					
18	2300	670	2300	670	2100	620	1800	515	1250	105	1400	405					
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405					
Maximum depth of cut																	
	 <table data-bbox="774 1362 1069 1455"><tr><th>刀具直径</th><th>切深ap</th></tr><tr><td>Ø1≤DC<Ø3</td><td>0.15DC</td></tr><tr><td>Ø3≤DC</td><td>0.3DC</td></tr></table>						刀具直径	切深ap	Ø1≤DC<Ø3	0.15DC	Ø3≤DC	0.3DC					
刀具直径	切深ap																
Ø1≤DC<Ø3	0.15DC																
Ø3≤DC	0.3DC																

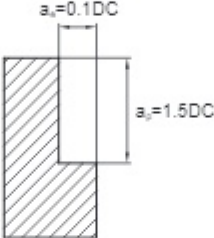
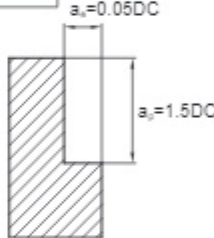
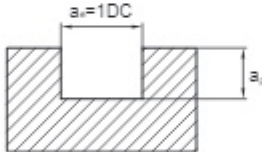
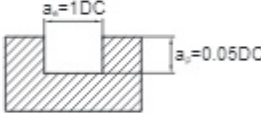
- The above table is the standard value for side milling. When the tool is grooving, the rotation speed should be 50% to 70% of the above table, and the feed speed should be 40% to 60% as the standard value.
- Please use high-precision machine tools and tool holders.
- Please use air cooling or a cutting fluid that does not easily generate fumes.
- Climbing milling is recommended for side milling.
- When the installation rigidity of the machine tool and the workpiece is poor, vibration and abnormal sounds will occur. In this case, the rotation speed and feed speed in the above table should be reduced year-on-year.
- Keep the overhang length of the tool as short as possible without interference.

GMX-2BCutting Parameter

Work Material	cast iron Ductile Iron		Carbon steel, alloy steel ~750N/mm ²		Carbon steel, alloy steel~30HRC		Pre-hardened steel, quenched and tempered steel~40HRC		Stainless Steel		Pre-hardened steel, quenched and temp ered ~50HRC	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
R0.5	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
R1.0	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
R1.5	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
R2.0	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
R2.5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
R3.0	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
R4.0	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
R5.0	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
R6.0	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420
R8.0	3000	1050	3000	1050	2400	800	2000	600	1350	380	1600	375
R10.0	2400	950	2400	950	1900	680	1600	560	1100	370	1250	330
Maximum depth of cut												

1. Please use high-precision machine tools and tool holders.
2. Please use air cooling or a cutting fluid that does not easily generate fumes.
3. When the installation rigidity of the machine tool and the workpiece is poor, vibration and abnormal sounds will occur. In this case, the rotation speed and feed speed in the above table should be reduced year-on-year.
4. Keep the overhang length of the tool as short as possible without interference.

GMX-4RCutting Parameter

Work Material	cast iron Ductile Iron		Carbon steel, alloy steel ~750N/mm2		Carbon steel, alloy steel ~30HRC		Pre-hardened steel, quenched and tempered steel ~40HRC		Stainless Steel		Pre-hardened steel, quenched and tempered steel ~50HRC						
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed speed(m m/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)					
3	14000	820	14000	820	13000	755	10600	630	7500	145	8500	490					
4	10800	840	10800	840	10000	770	8000	640	5500	145	6500	500					
5	8200	880	8200	880	7600	810	6400	670	4500	145	5000	530					
6	7000	900	7000	900	6400	830	5300	690	3700	160	4200	540					
8	5200	890	5200	890	4800	815	4000	680	2800	160	3200	550					
10	4200	880	4200	880	3800	810	3200	670	2200	160	2500	520					
12	3500	880	3500	880	3200	810	2650	670	1850	160	2100	520					
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	490					
Maximum depth of cut																	
	 <table data-bbox="770 1162 1064 1256"><tr><th>刀具直径</th><th>切深a_y</th></tr><tr><td>Ø1≤DC<Ø3</td><td>0.15DC</td></tr><tr><td>Ø3≤DC</td><td>0.3DC</td></tr></table>						刀具直径	切深a _y	Ø1≤DC<Ø3	0.15DC	Ø3≤DC	0.3DC					
刀具直径	切深a _y																
Ø1≤DC<Ø3	0.15DC																
Ø3≤DC	0.3DC																

1. The above table is the standard value for side milling. When the tool is grooving, the rotation speed should be 50% to 70% of the above table, and the feed speed should be 40% to 60% as the standard value.

2. Please use high-precision machine tools and tool holders.

3. Please use air cooling or a cutting fluid that does not easily generate fumes.

4. Side milling is recommended for side milling.

5. When the installation rigidity of the machine tool and the workpiece is poor, vibration and abnormal sounds will occur. In this case, the rotation speed and feed speed in the above table should be reduced year-on-year.

6. Keep the tool overhang as short as possible without interference.