

WATT CARBIDE

2023-2024 | WATT CUTTING TOOLS

CATALOGUE

ZHUZHOU WATT CARBIDE CO., LTD

Address: Hetang District, Zhuzhou City, Hunan Province, China

Wechat:+86 18975330669

Whatapp:+86 18273367663

Website:<https://www.carbide-cutting.com>

A Turning

- General Turning
- Grooving and Parting
- Thread Cutting

B Milling

- Indexable Milling
- Solid Carbide End Mill

C Drilling

- Indexable Hole Drill
- Solid Carbide Drill

Turning



Milling



Drilling



ISO	Material	Coating	Colour	Material Characteristics
P	Non-alloyed Steel/Alloyed Steel	YBC251	Yellow	A brand new strong and tough CVD coating, combined with a matrix with good thermal plastic deformation resistance of the cutting edge, ensures high wear resistance and collapse resistance. Suitable for semi precision to rough machining of carbon steel and low alloy steel under general continuous and intermittent working conditions.
		YBC252	Black	A new high hardness CVD coating combined with post-treatment technology, combined with a hard alloy matrix with excellent red hardness, ensures excellent wear resistance.
		YBC103	Bicolor	The new strong and tough CVD coating and special low stress post-treatment technology, combined with excellent wear-resistant matrix, ensure superior wear resistance and collapse resistance. Suitable for semi precision to rough machining of carbon steel and alloy steel under stable and unstable working conditions.
		YBC104	Colorful	A brand new composite coating formula, a new generation of high-quality substrate. Suitable for semi precision to precision machining of medium and high alloy steel.
		YBC301	Yellow	CVD coating, conventional steel parts milling processing.
		YBC302	Black	CVD coating, conventional steel parts milling processing.
M	Stainless Steel	YBG201	Yellow	P10 type soft steel milling, high toughness matrix, suitable for unstable cutting conditions of low hardness materials.
		YBG202	Black Gray	Suitable for turning and milling of medium and high alloy steel, mold steel, pre hardened steel, and stainless steel
		YBG204	Nano Blue	Suitable for turning and milling of medium and high alloy steel, mold steel, pre hardened steel, and stainless steel
		YBG205	Purplish red	Processing of conventional stainless steel.
		YBG206	Antique copper	Specially used for stainless steel turning and milling processing.
		YBG207 VP15TF	Antique copper	Conventional stainless steel and steel component processing. YBG217 upgraded version.
		YBG208	Colorful	Applicable to HRC40-65 ° quenched steel, as well as high-temperature alloys and titanium alloy milling processing
		YBM251	Yellow	CVD coating, conventional stainless steel and steel parts turning and milling processing.
		YBM253	Black	CVD coating, conventional stainless steel and steel parts turning and milling processing.
		YBG206H	Antique copper	A tough coating that combines high wear resistance and stability, combined with special edge treatment technology, exhibits excellent wear resistance and collapse resistance. Suitable for intermittent processing of stainless steel castings, SUS201304316, etc.
		YBG202H	Black Gray	Special ultra-high wear-resistant coating and special surface treatment technology effectively reduce cutting force and suppress the formation of chip deposits, significantly extending tool life. Suitable for continuous processing of stainless steel castings, SUS201304316, etc.
K	Cast Iron	YBD152	Black	CVD coating, suitable for processing gray cast iron and ductile iron, with good impact resistance
		YBD152D	Bicolor	CVD coating, suitable for gray cast iron, with good impact resistance.

Insert shape/Code		
A	B	C
D	E	H
K	L	M
O	P	R
S	T	T
V	W	Others Z

Insert shape

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other clearance angles

Metric							
Code	With/Without hole	With/Without chipbreaker	Section plane of insert	Code	With/Without hole	With/Without chipbreaker	Section plane of insert
B	With	Without		N	Without	Without	
H	With	Single-side		R	Without	Single-side	
C	With	Without		F	Without	Double-side	
J	With	Double-side		A	With	Without	
W	With	Without		M	With	Single-side	
T	With	Single-side		G	With	Double-side	
Q	With	Without		X	---	---	Special
U	With	Double-side					

Chipbreaker and clamping system



Tolerance code

Diameter of IC	Insert shape							
	C	D	R	S	T	V	W	K
3.97					06			
5.0			05		09			
5.96								
6.0			06					
6.35	06	07			11	11		
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0		19	16					
19.05	19		19	19	33			
20.0			20					
25.0	25	25	25					
25.4			25	25				
31.75			31					
32			32					

Length of cutting edge

Thickness is defined as the height from the bottom of insert to the highest part of cutting edge	
Code	Insert thickness(mm)
T0	0.79
T1	0.99
T01	1.59
T11	1.98
T02	2.38
T12	2.58
T03	3.18
T13	3.97
T04	4.76
T14	4.96
T05	5.96
T15	5.95
T06	6.35
T16	6.75
T07	7.94
T09	9.52
T19	9.72
T11	11.11
T12	12.70

Insert thickness

Chipbreaker code		
DF	DM	DR
HF	HM	HR
EF	EM	ER
NF	NM	SF
PM	HR	WGF

P	Steels																
M	Stainless Steels																
K	Cast Iron																
N	Non-Ferrous Materials																
S	Heat Resistant Supper Alloys																

Inserts Shape	Type	CVD						PVD				Cermet		Cc			
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1			
	CNMG120404	●	●	●	○	○	●										
	CNMG120408	●	●	●	○	○	●										
	CNMG120412	●	●	●	○	○	●										
	CNMG160608	●	●	○	○	○	●										
	CNMG160612	●	●	○	○	○	●										
	CNMG190608	●	●	○	○	○	●										
	CNMG190612	●	●	○	○	○	●										
CNMG190616	●	●	○	○	○	●											
	CNMG120404-PM	●	●	○	○	○	●										
	CNMG120408-PM	●	●	○	○	○	●										
	CNMG120412-PM	●	●	○	○	○	●										
	CNMG160608-PM	●	●	○	○	○	●										
	CNMG160612-PM	●	●	○	○	○	●										
	CNMG190608-PM	●	●	○	○	○	●										
	CNMG190612-PM	●	●	○	○	○	●										
CNMG190616-PM	●	●	○	○	○	●											
	CNMG120404-TM	●	●	●													
	CNMG120408-TM	●	●	●													
	CNMG120412-TM	●	●	●													
	CNMG120404-CQ	●	●	●													
	CNMG120408-CQ	●	●	●													
	CNMG120412-CQ	●	●	●													
	CNMG120404R-ZC	●	●	●				○	○								
	CNMG120408R-ZC	●	●	●				○	○								
	CNMG120404L-ZC	●	●	●				○	○								
	CNMG120408L-ZC	●	●	●				○	○								

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermet		Cc
Inserts Shape	Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		B	B	B	B	B	B	B	B	B	B	N	N	D
		C	C	C	M	M	D	G	G	G	G	G	G	1
		2	2	1	2	2	1	2	2	2	2	1	1	0
		5	5	0	5	5	5	0	0	0	0	5	5	1
		1	2	3	1	3	2	2	5	6	7	1	C	
	CNMG120404-MA							○			●			
	CNMG120408-MA							○			●			
	CNMG120404-MS							○		●				
	CNMG120408-MS							○		●				
	CNMG120404-EM							○	●					
	CNMG120408-EM							○	●					
	CNMG120404-EF							○	●					
	CNMG120408-EF							○	●					
	CNMG120402													●
	CNMG120404													●
	CNMG120408													●

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermet		Cc
Inserts Shape	Type	Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
			WNMG080404-PM	●	●	○	○	○	●					
WNMG080408-PM	●		●	○	○	○	●							
WNMG080412-PM	●		●	○	○	○	●							
	WNMG080404-DM	●	●	○	○	○	○							
	WNMG080408-DM	●	●	○	○	○	○							
	WNMG080404-CQ	●	●	●										
	WNMG080408-CQ	●	●	●										
	WNMG080412-CQ	●	●	●										
	WNMG080404-TM	●	●	●										
	WNMG080408-TM	●	●	●										
	WNMG080412-TM	●	●	●										
	WNMG080404-TC	○					●							
	WNMG080408-TC	○					●							
	WNMG080412-TC	○					●							
	WNMG080404R-ZC	●	●	●				●						
	WNMG080408R-ZC	●	●	●				●						
	WNMG080404L-ZC	●	●	●				●						
	WNMG080408L-ZC	●	●	●				●						
	WNMG080404-43	●	●	●										
	WNMG080408-43	●	●	●										
	WNMG080412-43	●	●	●										
	WNMG080404R/L-UF			●										
	WNMG080408R/L-UF			●										

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermets		Cc
Inserts Shape	Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		B	B	B	B	B	B	B	B	B	B	N	N	D
		C	C	C	M	M	D	G	G	G	G	G	G	1
		2	2	1	2	2	1	2	2	2	2	1	1	0
		5	5	0	5	5	5	0	0	0	0	5	5	1
		1	2	3	1	3	2	2	5	6	7	1	C	1
	WNMG080404-EF							●	●					
	WNMG080408-EF							●	●					
	WNMG080404-EM							●	●					
	WNMG080408-EM							●	●					
	WNMG080404-MA							○			●			
	WNMG080408-MA							○			●			
	WNMG080412-MA							○			●			
	WNMG080404-MS							○		●				
	WNMG080408-MS							○		●				
	WNMG080412-MS							○		●				
	WNMG080402													●
	WNMG080404													●
	WNMG080408													●

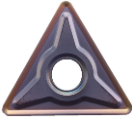
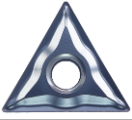
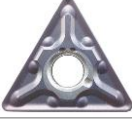

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermet		Cc
Inserts Shape	Type	Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
			TNMG160404-PM	●	●	○			●					
	TNMG160408-PM	●	●	○			●							
	TNMG160412-PM	●	●	○			●							
	TNMG160404-TM	●	●	●										
	TNMG160408-TM	●	●	●										
	TNMG160412-TM	●	●	●										
	TNMG160404-CQ	●	●	●										
	TNMG160408-CQ	●	●	●										
	TNMG160412-CQ	●	●	●										
	TNMG160404-43	●	●	●										
	TNMG160408-43	●	●	●										
	TNMG160412-43	●	●	●										
	TNMG160404R-ZC	●	●	●				●						
	TNMG160408R-ZC	●	●	●				●						
	TNMG160404L-ZC	●	●	●				●						
	TNMG160408L-ZC	●	●	●				●						
	TNMG160404-TC	●					●							
	TNMG160408-TC	●					●							
	TNMG160412-TC	●					●							
	TNMG160404R-VF	●	●	●										
	TNMG160408R-VF	●	●	●										
	TNMG160404L-VF	●	●	●										
	TNMG160408L-VF	●	●	●										

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermet		Cc
Inserts Shape	Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		B	B	B	B	B	B	B	B	B	B	N	N	D
		C	C	C	M	M	D	G	G	G	G	G	G	1
		2	2	1	2	2	1	2	2	2	2	1	1	0
		5	5	0	5	5	5	0	0	0	0	5	5	1
		1	2	3	1	3	2	2	5	6	7	1	C	
	TNMG160404-EM							●	●					
	TNMG160408-EM							●	●					
	TNMG160404-EF							●	●					
	TNMG160408-EF							●	●					
	TNMG160404-MA							○			●			
	TNMG160408-MA							○			●			
	TNMG160412-MA							○			●			
	TNMG160404-MS							○		●				
	TNMG160408-MS							○		●				

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermet		Cc
Inserts Shape	Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		B	B	B	B	B	B	B	B	B	B	N	N	D
		C	C	C	M	M	D	G	G	G	G	G	G	
		2	2	1	2	2	1	2	2	2	2	1	1	0
		5	5	0	5	5	5	0	0	0	0	5	5	1
		1	2	3	1	3	2	2	5	6	7	1	C	
	SNMG120404	●	●	○	○	○	●							
	SNMG120408	●	●	○	○	○	●							
	SNMG120412	●	●	○	○	○	●							
	SNMG150612	●	●	○	○	○	●							
	SNMG190612	●	●	○	○	○	●							
	SNMG190616	●	●	○	○	○	●							
	SNMG120404-PM	●	●	○	○	○	●							
	SNMG120408-PM	●	●	○	○	○	●							
	SNMG120412-PM	●	●	○	○	○	●							
	SNMG150612-PM	●	●	○	○	○	●							
	SNMG190612-PM	●	●	○	○	○	●							
	SNMG190616-PM	●	●	○	○	○	●							
	SNMG120404-TM	●	●	●										
	SNMG120408-TM	●	●	●										
	SNMG120408-DM	●	●		○	○								
	SNMG190612-DM	●	●		○	○								
	SNMG120404R-ZC	●	●	●					●					
	SNMG120408R-ZC	●	●	●					●					
	SNMG150612R-ZC	●	●	●										
	SNMG120404L-ZC	●	●	●					●					
	SNMG120408L-ZC	●	●	●					●					
	SNMG150612L-ZC	●	●	●										

A TURNING

● Available grade (always stock available) ○ Make-to-order

		P		M		K		N		S													
		Steels		Stainless Steels		Cast Iron		Non-Ferrous Materials		Heat Resistant Supper Alloys													
Inserts Shape	Type	CVD						PVD				Cermet		Cc									
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1									
	SNMG120404-HA								○			●											
	SNMG120404-MA								○			●											
	SNMG120408-MA								○			●											
	SNMG120412-MA								○			●											
	SNMG120404-MS								○		●												
	SNMG120408-MS								○		●												
	SNMG120412-MS								○		●												
	SNMG120402																						●
	SNMG120404																						●
	SNMG120408																						●
	SNMM250724-ER	○	●	○																			
	SNMM250924-ER	○	●	○																			

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD					Cermets		Cc
Inserts Shape	Type	Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1	
			VNMG160404-PM	●	●	○			●	○					
	VNMG160408-PM	●	●	○			●	○							
	VNMG160412-PM	●	●	○			●	○							
	VNMG160404-TM	●	●	●											
	VNMG160408-TM	●	●	●											
	VNMG160412-TM	●	●	●											
	VNMG160404-SL						●	○			●				
	VNMG160408-SL						●	○			●				
	VNMG160404-MA							○			●				
	VNMG160408-MA							○			●				
	VNMG160404-MS							○		●					
	VNMG160408-MS							○		●					
	VNMG160402												●		
	VNMG160404												●		
	VNMG160408												●		

A TURNING

● Available grade (always stock available) ○ Make-to-order

		Material Groups												
		P												
		Material Properties												
		M												
		K												
		N												
		S												
Inserts Shape	Type	CVD						PVD				Cermets		Cc
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
	DNMG150404-PM	●	●	○				●						
	DNMG150408-PM	●	●	○				●						
	DNMG150604-PM	●	●	○				●						
	DNMG150608-PM	●	●	○				●						
	DNMG150612-PM	●	●	○				●						
	DNMG150404-TM	●	●	●										
	DNMG150408-TM	●	●	●										
	DNMG150412-TM	●	●	●										
	DNMG150604-TM	●	●	●										
	DNMG150608-TM	●	●	●										
	DNMG150404-MA							○			●			
	DNMG150408-MA							○			●			
	DNMG150604-MA							○			●			
	DNMG150608-MA							○			●			

A TURNING

● Available grade (always stock available) ○ Make-to-order

		Material Groups												
P		Steels												
M		Stainless Steels												
K		Cast Iron												
N		Non-Ferrous Materials												
S		Heat Resistant Supper Alloys												
Inserts Shape	Type	CVD						PVD				Cermet		Cc
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
	CCMT060204-HM	●	●				○	○						
	CCMT09T304-HM	●	●				●	○						
	CCMT09T308-HM	●	●				●	○						
	CCMT120404-HM	●	●				○	○						
	CCMT120408-HM	●	●				○	○						
	CCMT060204-SL							○			●			
	CCMT060208-SL							○			●			
	CCMT09T304-SL							○			●			
	CCMT09T308-SL							○			●			
	CCMT120404-SL							○			●			
	CCMT120408-SL							○			●			
	CCMT09T304-53	●												
	CCMT120408-HR	●	●				○							
	CCGX060202												●	
	CCGX060204												●	
	CCGX060208												●	
	CCGX09T302												●	
	CCGX09T304												●	
	CCGX09T308												●	
	CCGX120402												●	
	CCGX120404												●	
	CCGX120408												●	

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD					Cermet		Cc
Inserts Shape	Type	Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1	
			DCMT070204-HM	●	●				○	○					
DCMT070208-HM	●		●				○	○							
DCMT11T304-HM	●		●				○	○							
DCMT11T308-HM	●		●				○	○							
	DCMT070204-MV						○		●						
	DCMT070208-MV						○		●						
	DCMT11T302-MV						○		●						
	DCMT11T304-MV						○		●						
	DCMT11T308-MV						○		●						
	DCMT11T304-SL						○			●					
	DCMT11T308-SL						○			●					
	DCGX070202													●	
	DCGX070204													●	
	DCGX070208													●	
	DCGX11T301													●	
	DCGX11T302													●	
	DCGX11T304													●	
	DCGX11T308													●	

A TURNING

● Available grade (always stock available) ○ Make-to-order

P	Steels														
M	Stainless Steels														
K	Cast Iron														
N	Non-Ferrous Materials														
S	Heat Resistant Supper Alloys														

Inserts Shape	Type	CVD						PVD				Cermet		Cc
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
	RCMT0602MO	●												
	RCMX1003MO	●												
	RCMX1204MO													
	RCMX1606MO	●	●											
	RCMX2006MO	●	○											
	RCMX3209MO	●	●											
	RPGX0803MO													●
	RPGX1003MO													●
	RPGX10T3MO													●
	RPGX1204MO													●
	RCGX0803MO													●
	RCGX1003MO													●
	RCGX10T3MO													●
	RCGX1204MO													●

A TURNING

● Available grade (always stock available) ○ Make-to-order

		Materials															
		P	M	K	N	S											
		CVD						PVD				Cermets		Cc			
Inserts Shape	Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
		C	C	C	M	M	D	G	G	G	G	G	G	G	D	D	
		2	2	1	2	2	1	2	2	2	2	2	2	2	1	1	
		5	5	0	5	5	5	0	0	0	0	0	0	1	1	1	
		1	2	3	1	3	2	2	5	6	7	1	1	1	1	1	
	SCMT09T304-HM	●	●				○	○									
	SCMT09T308-HM	●	●				○	○									
	SCMT120404-HM	●	●				○	○									
	SCMT120408-HM	●	●				○	○									
	SCMT120408-HR	●	●														
	SCMT120408	●	●														
	SCGX09T302															●	
	SCGX09T304															●	
	SCGX09T308															●	
	SCGX120402															●	
	SCGX120404															●	
	SCGX120408															●	
	SCGX120412															●	

A TURNING

● Available grade (always stock available) ○ Make-to-order

		CVD						PVD				Cermets		Cc
Inserts Shape	Type	Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 6	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
			TCMT090204-HM	●	●				○	○				
TCMT090208-HM	●		●				○	○						
TCMT110204-HM	●		●				○	○						
TCMT16T304-HM	●		●				○	○						
TCMT16T308-HM	●		●				○	○						
	TCMT110204-SL						○			●				
	TCMT110208-SL						○			●				
	TCMT16T304-SL						○			●				
	TCMT16T308-SL						○			●				
	TCMT16T308-52	●												
	TCGX090202												●	
	TCGX090204												●	
	TCGX090208												●	
	TCGX110202												●	
	TCGX110204												●	
	TCGX110208												●	
	TCGX16T302												●	
	TCGX16T304												●	
	TCGX16T308												●	

A TURNING

● Available grade (always stock available) ○ Make-to-order

		Material Groups																
		P	M	K	N	S												
		CVD						PVD				Cermet		Cc				
Inserts Shape	Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
		C	C	C	M	M	D	G	G	G	G	G	G	G	G	G	G	
		2	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	
		5	5	0	5	5	5	0	0	0	0	0	0	0	0	0	0	
		1	2	3	1	3	2	2	5	6	7	1	1	1	1	1	1	
	VBMT160404-TM	●	●															
	VBMT160408-TM	●	●															
	VBMT160404-HM	●	●				○	○										
	VBMT160408-HM	●	●				○	○										
	VBMT110302-MV							○		●								
	VBMT110304-MV							○		●								
	VBMT160404-MV							○		●								
	VBMT160408-MV							○		●								
	VBGX110302																●	
	VBGX110304																●	
	VBGX110308																●	
	VBGX160402																●	
	VBGX160404																●	
	VBGX160408																●	
	VCGX110301																●	
	VCGX110302																●	
	VCGX110304																●	
	VCGX110308																●	
	VCGX160401																●	
	VCGX160402																●	
	VCGX160404																●	
	VCGX160408																●	
	VCGX160412																	●

A TURNING

● Available grade (always stock available) ○ Make-to-order

Insert applications

ZP > Parting **ZT** > Grooving and turning
ZR > Profiling

Code of locating slot


Code of locating slot	A	B	E	F	G	H	K	L
Corresponding edge width of inserts	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0

Code of cutting edge number

S > Single cutting edge **D** > Double cutting edge

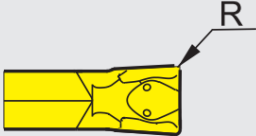
ZP **G** **D** **G** **04** **04** **M** **G**

Cutting edge width



015=1.5mm
 02=2.0mm
 025=2.5mm
 03=3.0mm
 04=4.0mm
 05=5.0mm
 06=6.0mm
 08=8.0mm

Nose radius



02=0.2mm
 03=0.3mm
 04=0.4mm
 08=0.8mm

Tolerance class

M > M-level tolerance
E > E-level tolerance

Chipbreaker code

G > Curve edges universal chipbreaker, suitable for machining various materials
M > linear edges universal chipbreaker, suitable for machining various materials
F > Special chipbreaker

P	Steels													
M	Stainless Steels													
K	Cast Iron													
N	Non-Ferrous Materials													
S	Heat Resistant Supper Alloys													

Inserts Shape	Type	CVD						PVD			Cermet		Cc	
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1	
	ZTED02503-MG	○						●	○					
	ZTFD0303-MG	●						●	●					
	ZTGD0404-MG	●						●	●					
	ZTHD0504-MG	●						●	○					
	ZTKD0608-MG	●						●	○					
	ZPFS0302-MG	●						●						
	ZPGS0402-MG	○						●						
	ZPHS0503-MG	○						●						
	ZPKS0604-MG	○						●						
	MRMN200-M	○						●						
	MRMN300-M	○						●						
	MRMN400-M	○						●						
	MRMN500-M	○						●						
	TDXU2							●						
	TDXU3							●						
	TDXU4							●						
	TDJ2							●						
	TDJ3							●						
	TDJ4							●						
	TDC2							●						
	TDC3							●						
	TDC4							●						

A TURNING

● Available grade (always stock available) ○ Make-to-order

P	Steels													
M	Stainless Steels													
K	Cast Iron													
N	Non-Ferrous Materials													
S	Heat Resistant Supper Alloys													

Inserts Shape	Type	CVD						PVD			Cermet		Cc
		Y B C 2 5 1	Y B C 2 5 2	Y B C 1 0 3	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y N G 1 5 1	Y N G 1 5 C	Y D 1 0 1
	MGMN200-T							●		●			
	MGMN250-T							●		●			
	MGMN300-T							●		●			
	MGMN400-T							●		●			
	MGMN500-T							●		●			
	MGMN600-T							●		●			
	MGMN200-M	●						●		●			
	MGMN250-M	●						●		●			
	MGMN300-M	●						●		●			
	MGMN400-M	●						●		●			
	MGMN500-M	●						●		●			
	MGMN150-G	●						●		●			
	MGMN200-G	●						●		●			
	MGMN250-G	●						●		●			
	MGMN200-J	○						●		●			
	MGMN250-J	○						●		●			
	MGMN300-J	○						●		●			
	MGMN400-J	○						●		●			
	MGMN200-DR	○						●		●			
	MGMN250-DR	○						●		●			
	MGMN300-DR	○						●		●			
	MGMN400-DR	○						●		●			

A TURNING

● Available grade (always stock available) ○ Make-to-order

P	Steels														
M	Stainless Steels														
K	Cast Iron														
N	Non-Ferrous Materials														
S	Heat Resistant Supper Alloys														

Inserts Shape	Type	CVD						PVD			Cermet		Cc
		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		B	B	B	B	B	B	B	B	B	N	N	D
	MGMN200-TDC										●		
	MGMN300-TDC										●		
	MGMN400-TDC										●		
	MGGN150-C												●
	MGGN150-G												●
	MGGN200-C												●
	MGGN200-G												●
	MGGN250-C												●
	MGGN250-G												●
	MGGN300-C												●
	MGGN300-M												●
	MGGN400-M												●
	MGGN500-C												●
	MGGN500-M												●

A TURNING

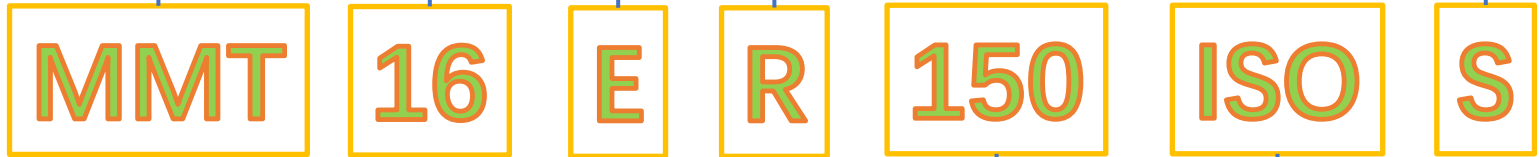
● Available grade (always stock available) ○ Make-to-order

Diameter of Inscribed Circle (mm)	
11	6.35
16	9.525

Application	
E	External
I	Internal

Hand of Tool	
R	Right

Designation





S	M-class inserts with 3-D chip breakers
----------	--

Pitch			
100	1.0 mm	A	0.5—1.5 mm or 48—16 thread/inch
125	1.25 mm		
150	1.5 mm		
175	1.75 mm	G	1.75—3.0 mm or 14—8 thread/inch
200	2.0 mm		
250	2.5 mm		
300	3.0 mm		


















Threading Type	
60	Partial Profile 60°
55	Partial Profile 55°
ISO	ISO Metric 60°
W	Whitworth 55° for BSW, BSP
BSPT	BSPT 55°
UN	American UN 60°

P	Steels													
M	Stainless Steels													
K	Cast Iron													
N	Non-Ferrous Materials													
S	Heat Resistant Supper Alloys													

Inserts Shape	Type	CVD						PVD			Cermet		Cc
		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		B	B	B	B	B	B	B	B	B	N	N	D
	MMT16ER150ISO-S										●	●	
	MMT16ER200ISO-S										●	●	
	MMT16ER250ISO-S										●	●	
	MMT16ER300ISO-S										●	●	
	MMT16ER300ISO-S										●	●	
	MMT16ERAG55-S										●	●	
	MMT16ERAG60-S										●	●	
	MMT16IR150ISO-S										●	●	
	MMT16IR200ISO-S										●	●	
	MMT16IR250ISO-S										●	●	
	MMT16IR300ISO-S										●	●	
	MMT16IR300ISO-S										●	●	
	MMT16IRAG55-S										●	●	
	MMT16IRAG60-S										●	●	















A TURNING

● Available grade (always stock available) ○ Make-to-order

Insert shape/Code		
 A	 B	 C
 D	 E	 H
 K	 L	 M
 O	 P	 R
 S	 T	 T
 V	 W	Others Z

Insert shape

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other clearance angles

Metric							
Code	With/Without hole	With/Without chipbreaker	Section plane of insert	Code	With/Without hole	With/Without chipbreaker	Section plane of insert
B	With	Without		N	Without	Without	
H	With	Single-side		R	Without	Single-side	
C	With	Without		F	Without	Double-side	
J	With	Double-side		A	With	Without	
W	With	Without		M	With	Single-side	
T	With	Single-side		G	With	Double-side	
Q	With	Without		X	---	---	Special
U	With	Double-side					

Chipbreaker and clamping system

S E E T 12 T3 DM

Tolerance code

Diameter of IC	Insert shape							
	C	D	R	S	T	V	W	K
3.97					06			
5.0			05		09			
5.56								
6.0			06					
6.35	06	07			11	11		
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0		19	16					
19.05	19		19	19	33			
20.0			20					
25.0	25	25	25					
25.4			25	25				
31.75			31					
32			32					

Length of cutting edge

Thickness is defined as the height from the bottom of insert to the highest part of cutting edge	
Code	Insert thickness(mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Insert thickness

Chipbreaker code		
 DF	 DM	 DR
 HF	 HM	 HR
 EF	 EM	 ER
 NF	 NM	 SF
 PM	 HR	 WGF

P	Steels																		
M	Stainless Steels																		
K	Cast Iron																		
N	Non-Ferrous Materials																		
S	Heat Resistant Supper Alloys																		

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc					
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1					
	SEET12T3-DM	●	●	●	●	○													
	SEKT1204AFTN							●											
	R245-12T3 E-PL												●	○					
	EPMW0603-8							●		○									
	ONHU08T508-PM		●	○	●	●		●	●										
	ONHU060408-PM		●	○	●	●		●	●										
	WNMU080608EN-GM		●	○	●	●		●	○	●	○								
	WNMU040304EN-GM		●	○	●	●		●	○	●	○								
	WNMU040308EN-GM		●	○	●	●		●	○	●	○								
	WNMU060408R-M		●	○	●	●		●	○	●	○								

B MILLING

● Available grade (always stock available) ○ Make-to-order

P	Steels																		
M	Stainless Steels																		
K	Cast Iron																		
N	Non-Ferrous Materials																		
S	Heat Resistant Supper Alloys																		

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc					
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1					
			SNEG1506ANR-GM		●	○	●	●		●	●		○						
	SEET090308PER-PM	○	○	○	○	○		●											
	SEET120308PER-PM	○	○	○	○	○		●											
	APKT1003R0.5	○	○					●		○	○								
	APKT11T308-PM	●	●					●	●										
	APKT160408-PM	●	●					●	●										
	LNMU0303ZER-MJ							●		●	●								

B MILLING

● Available grade (always stock available) ○ Make-to-order

P	Steels																		
M	Stainless Steels																		
K	Cast Iron																		
N	Non-Ferrous Materials																		
S	Heat Resistant Supper Alloys																		

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc					
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1					
	LOGU030310ER							●		●	●								
	4NKT060308R							●		●	○								
	BLMP0603R-M							●		●	○								
	BLMP0904R-M							●		●	○								
	SOMT100420ER-GM							●		○									
	SOMT140520ER-GM							●		●									
	ODMT0605ANN-MR							●		●									
	JDMT070204R							●		●									
	JDMT070208R							●		●									

B MILLING

● Available grade (always stock available) ○ Make-to-order

P	Steels																		
M	Stainless Steels																		
K	Cast Iron																		
N	Non-Ferrous Materials																		
S	Heat Resistant Supper Alloys																		

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc					
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1					
	PNMU090508XNEN-GM		●		●	●		●		●	○								
	SDMT09T312-DM									●									
	SDMT120412-DM																		
	SDMT1205ZDTN							●		●									
	SDMT1505ZDTN							●		●									
	SPMT120408-PM		○		○	○		●											
	APKT150412-PM		○		○	○		●											

B MILLING

● Available grade (always stock available) ○ Make-to-order

P	Steels														
M	Stainless Steels														
K	Cast Iron														
N	Non-Ferrous Materials														
S	Heat Resistant Supper Alloys														

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
	APMT1135PDR							●	●					
	APMT160408PDER							●	●					
	APMT1604PDER-KZ							●		●	○			
	APMT1135PDER-DL						●	●						
	APMT1605PDER-DL						●	●						
	APMT1135PDER-H2							●		●				
	APMT1135PDER-H2-R0.4							●		●				
	APMT1135PDER-H2-R1.0							●		●				
	APMT1135PDER-H2-R1.2							●		●				
	APMT1135PDER-H2-R1.6							●		●				
	APMT1135PDER-H2-R2.0							●		●				
	APMT1604PDER-H2-R0.2							●		●				
	APMT1604PDER-H2-R0.4							●		●				
	APMT1604PDER-H2							●		●				
	APMT1604PDER-H2-R1.0							●		●				
	APMT1604PDER-H2-R1.2							●		●				
	APMT1604PDER-H2-R1.6							●		●				
	APMT1604PDER-H2-R2.0							●		●				
	APMT1604PDER-H2-R2.4							●		●				
	APMT1604PDER-H2-R3.0							●		●				
	APMT1604PDER-H2-R4.0							●		●				
	APMT1135PDER-H2												●	
	APMT1604PDER-H2												●	

● Available grade (always stock available) ○ Make-to-order

B MILLING

P	Steels																		
M	Stainless Steels																		
K	Cast Iron																		
N	Non-Ferrous Materials																		
S	Heat Resistant Supper Alloys																		

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc					
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1					
	XSEQ1202	○		○					●		●								●
	XSEQ1203	○		○					●		●								●
	XSEQ12T3	○		○					●		●								●
	XSEQ1204	○		○					●		●								●
	XSEQ12T4	○		○					●		●								●
	MPHT060304-DM		○		○	●			●										
	MPHT080305-DM		○		○	●			●										
	MPHT120408-DM		○		○	●			●										
	MPHT120420-DM								○										
	MPHT060304-LH																		●
	MPHT080305-LH																		●
	MPHT120408-LH																		●
	RDKW10T3MO								●		●	○							
	RDKW1204MO								●		●	○							
	RDKW1604MO								●		●	○							
	RDKW1204MO-1								●		●	○							
	RDKW1604MO-1								●		●	○							
	RPMW1003MO								●	●	●								
	RPMT1204-M-C								●										
	RCKT1606MO-ER		●		●	●			●		●								

B MILLING

● Available grade (always stock available) ○ Make-to-order

P	Steels																		
M	Stainless Steels																		
K	Cast Iron																		
N	Non-Ferrous Materials																		
S	Heat Resistant Supper Alloys																		

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc					
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1					
	SPKR1504EDR-GM	●	●		●			●											
	SPKR1504EDL-GM	●	●		●			●											
	SPKN1504EDSKR	●	●		●			●											
	SPKN1504EDSKL	●	●		●			●											
	TPKN2204PDSKR	●	●		●			●											
	SEKR1203AZ-YM							●	●	●									
	SEEN1203AFTN													●	○				
	SNMX1206ZNN-M							●		●									
	SNMX1205ANN-DL							●		●									
	SNMX1205QNN-JL							●		●									
	SNMU1206XTN							●		○									

● Available grade (always stock available) ○ Make-to-order

A TURNING

Code	Insert shap
S	
W	

Insert shape / code

Clearance angle of main cutting edge

Code	Clearance angle	Code	Clearance angle
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other clearance angles

Metric

Code	With/Without hole	With/Without chipbreaker	Section plane of insert	Code	With/Without hole	With/Without chipbreaker	Section plane of insert
B	With	Without		N	Without	Without	
H	With	Single-side		R	Without	Single-side	
C	With	Without		F	Without	Double-side	
J	With	Double-side		A	With	Without	
W	With	Without		M	With	Single-side	
T	With	Single-side		G	With	Double-side	
Q	With	Without		X	---	---	Special
U	With	Double-side					

Chipbreaker and clamping system

W **C** **M** **X** **03** **02** **08**

Tolerance code

Code	Length	
	W	S
03	3.8	
04	4.3	
05	5.4	
06	6.5	6.35
08	8.7	8.0
09		9.525
12		12.7

Length of cutting edge

Insert thickness

Thickness is defined as the height from the bottom of insert to the highest part of cutting edge

Code	Insert thickness(mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Nose radius

Code	Description
04	0.4mm
08	0.8mm
12	1.2mm


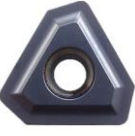

P	Steels														
M	Stainless Steels														
K	Cast Iron														
N	Non-Ferrous Materials														
S	Heat Resistant Supper Alloys														

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1
	WCMX030208-U						○	●		○				
	WCMX040208-U						○	●		○				
	WCMX050308-U						○	●		○				
	WCMX06T308-U						○	●		○				
	WCMX080412-U						○	●		○				
	WCMX030208						○	●		○				
	WCMX040208						○	●		○				
	WCMX050308						○	●		○				
	WCMX06T308						○	●		○				
	WCMX080412						○	●		○				
	WCMX030208												●	
	WCMX040208												●	
	WCMX050308												●	
	WCMX06T308												●	
	WCMX080412												●	
	SPGT050204						○	●		○				
	SPGT060204						○	●		○				
	SPGT07T308						○	●		○				
	SPGT090408						○	●		○				
	SPGT110408						○	●		○				
	SPGT140512						○	●		○				
	SPGT050204												●	
	SPGT060204												●	
	SPGT07T308												●	
	SPGT090408												●	
	SPGT110408												●	
	SPGT140512												●	

C DRILLING

● Available grade (always stock available) ○ Make-to-order

P	Steels																
M	Stainless Steels																
K	Cast Iron																
N	Non-Ferrous Materials																
S	Heat Resistant Supper Alloys																

Inserts Shape	Type	CVD					PVD					H	Cermet	Cc			
		Y B C 3 0 1	Y B C 3 0 2	Y B M 2 5 1	Y B M 2 5 3	Y B D 1 5 2	Y B G 2 0 1	Y B G 2 0 2	Y B G 2 0 5	Y B G 2 0 7	Y B G 2 0 8	Y N G 1 5 1	Y N G 1 5 1 C	Y D 1 0 1			
	SOMT040204-DP						●	○									
	SOMT060204-DP						●	○									
	SOMT070306-DP						●	○									
	SOMT08T306-DP						●	○									
	SOMT09T308-DP						●	○									
	SOMT11T308-DP						●	○									
	SOMT130408-DP						●	○									
	SOMT150510-DP						●	○									
	TPMX0902-RG						●	●									
	TPMX1403-RG						●	●									
	TPMX1704-RG						●	●									
	TPMX2204-RG						●	●									
	TPMX2405-RG						●	●									
	TPMX2807-RG						●	●									
	TPMX1403-RB						●	●									
	TPMX1704-RB						●	●									
	TPMX2204-RB						●	●									
	TPMX2405-RB						●	●									
	TPMX2807-RB						●	●									

C DRILLING

● Available grade (always stock available) ○ Make-to-order