

MingHong

浙江鸣鸿精密技术有限公司
Zhejiang MingHong Precision Co. Ltd

CUTTING TOOLS CATELOGE

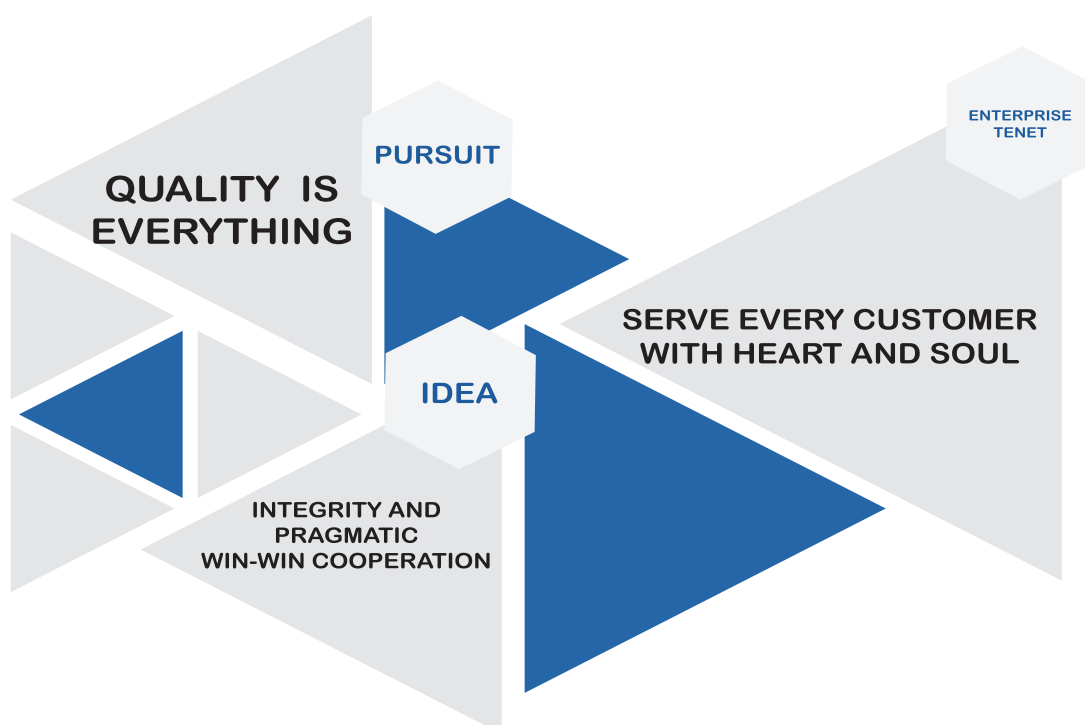
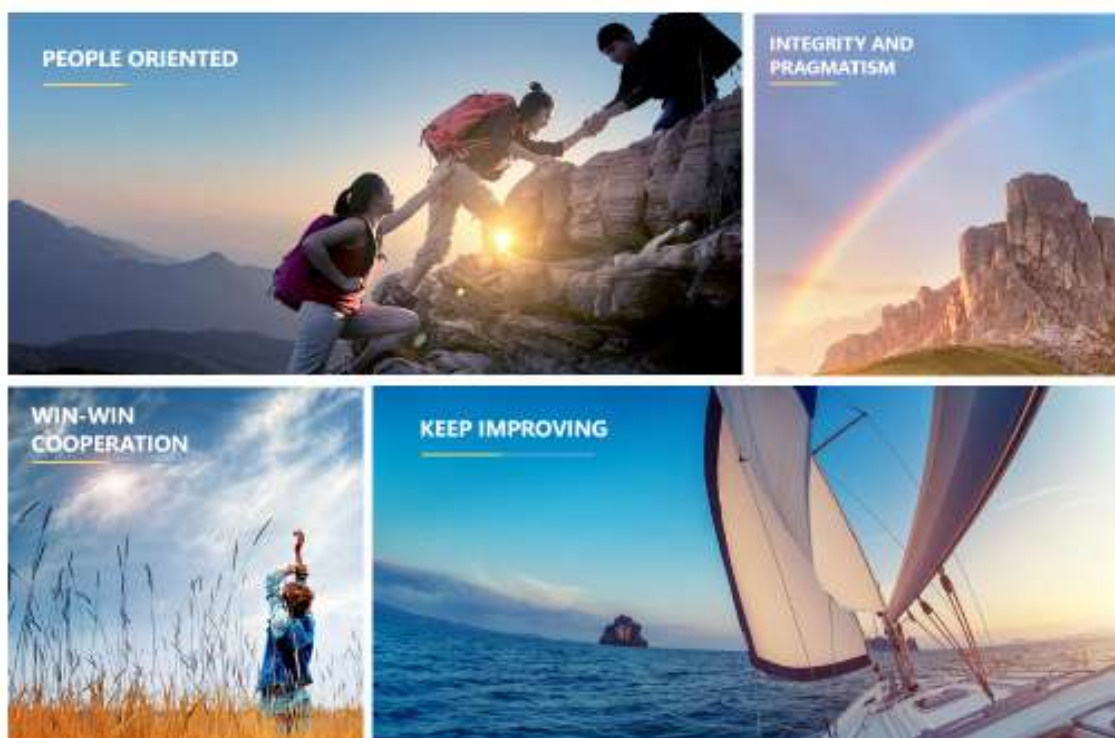


ZHEJIANG MINGHONG PRECISION TECHNOLOGY CO., LTD



浙江鸣鸿精密技术有限公司
Zhe jiang MingHong Precision Co. Ltd

CORE VALUES



ABOUT MINGHONG

Zhejiang Minghong Precision Technology Co., Ltd. is a high-tech enterprise integrating independent research and development and production of high-precision cutting tools, headquartered in Linping District, Hangzhou City, Zhejiang Province, China.

The company is committed to the advancement and development of industry technology, and has more than 10 years of experience in the production of high-precision cutting tools. In 2022, the company officially launched the factory direct sales business to provide global customers with overall solutions for precision cutting tools.

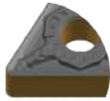
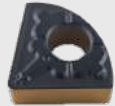
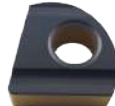
The company's products are widely used in 3C consumer electronics, molds, graphite, automobiles, medical equipment and other processing and manufacturing fields. Customers are located in China, South Korea, Japan, Russia and other countries and regions, and strive to build a dedicated, professional and dedicated modern enterprise.

All the staff of the company adhere to the tenet of strict requirements and innovation, pay attention to every commitment, focus on every detail, keep improving, produce excellent products, and win unanimous praise from many customers.



ISO9001 Certification

Negative Turning Insert Slot Type

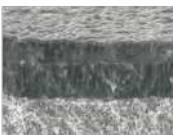
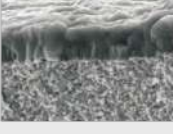
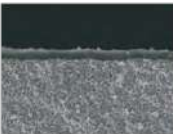
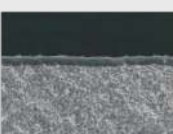
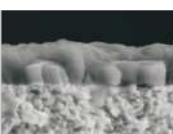
Slot Type	Features	Image
-PP	Steel Material Semi-Finishing and Semi-Precision Slot Type: The unique slot type effectively controls chip curling and breaking; The cutting edge is sharp, making the cutting process smooth; A good surface quality can be achieved.	
-DZ	Steel Material Semi-Finishing Slot Type: The negative back angle design enhances the strength and impact resistance of the blade edge; The dual chip-breaker design widens the range of chip breaking.	
-AR	The special wide blade design and negative back angle with three-dimensional chip-breaking slot design have excellent edge strength, extending the cutting life; suitable for rough machining and intermittent machining of steel materials.	
-43	Steel Semi-Finishing to Medium Rough Machining Preferred: The special edge structure balances sharpness and wear resistance, with excellent chip-breaking performance, performing well even under uneven machining allowance conditions.	
-LS	Medium Machining Slot Type: Directional cutting can effectively control chip removal; the wear-resistant slot structure is suitable for a wide range of semi-precision to medium machining.	
-HQ	For finishing and semi-finishing chip-breaking slots; The very large positive front angle reduces cutting resistance; The positive blade inclination design effectively controls the cutting flow, resulting in good chip-breaking effects.	
-CF	Unique slot type design; for precise and semi-precise cutting edges, smaller cutting resistance, and good chip handling capability even at small depths of cut.	
-SM	Unique slot type design; balances the sharpness and strength of the blade edge; effectively addresses the challenges of cutting, high cutting temperatures, tool sticking, and work hardening in stainless steel machining; can achieve higher machining efficiency; suitable for semi-finishing of stainless steel materials.	
-MQ	Sharp cutting edges, low cutting resistance, and good chip handling capability even at small depths of cut, suitable for precise and semi-precise machining of stainless steel.	
-KM	High strength cutting edges, suitable for intermittent cutting, and machining of forged skins or oxide layer materials; applicable to cast iron materials	

Positive Rake Turning Insert Slot Type

Slot Type	Features	Image
-MP	Semi-finishing slot type, suitable for steel, stainless steel, and cast iron materials. The combination of a flat edge and a large leading angle ensures both excellent blade strength and sharp cutting performance.	
-GM	The combination of a large leading angle and variable blade width provides good edge strength and sharp cutting performance, offering broad applicability and stable cutting across various fields.	

Remarks:

Steel Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

NO.	Coating Type	Color	Coating Composition	Features
SP3100	CVD	Dual-color		Ultra-fine MT-TiCN, Al ₂ O ₃ , and a smooth TiN coating structure combined with a wear-resistant gradient carbide substrate, offering excellent wear resistance, suitable for precise and semi-precise machining of steel and alloy steel.
SP3200	CVD	Dual-color		Fine MT-TiCN, Al ₂ O ₃ , and a smooth TiN coating structure combined with a tough gradient alloy substrate. While providing good wear resistance, toughness is greatly improved, suitable for semi-finishing to light rough machining of steel and alloy steel under general conditions.
SP3600	CVD	Dual-color		A gradient layer carbide substrate with a high cubic phase content, providing excellent resistance to plastic deformation and toughness. A new Al ₂ O ₃ coating, specially post-treated, offers excellent wear resistance, a general grade for semi-finishing and rough machining of steel materials.
SP3700	CVD	Dual-color		Fine MT-TiCN, Al ₂ O ₃ coating structure combined with a surface gradient alloy substrate that resists chipping, suitable for rough machining of steel and alloy steel in unstable conditions.
ZT6215	CVD	Black		A wear-resistant fine-grain substrate combined with a thick MT-TiCN+ Al ₂ O ₃ coating: Special post-treatment of the coating significantly enhances edge strength, ensuring stability in cutting, particularly suitable for machining cast iron.
DHQ8805AH	PVD	Bronze		A tough fine-grain carbide substrate with high edge strength, paired with a PVD AlTiN coating, offers outstanding wear resistance, suitable for light milling of steel and cast iron materials.
DHQ8030 DHQ8030H DHQ8030A DHQ8030AH	PVD	Purple-black Bronze Purple-black Bronze		The newly upgraded AlTiN+ coating has excellent heat resistance and oxidation resistance, combined with a high wear and breakage resistant carbide substrate, ensures stable machining under different conditions.
DHQ8815 DHQ8815H	PVD	Purple-black Bronze		A super-fine carbide substrate with high cobalt content, offering good edge strength, paired with a thermally stable PVD coating, has a low friction coefficient and high nano-hardness. Suitable for turning stainless steel materials.
DHQ8815AH	PVD	Bronze		A fine-grain carbide substrate with high cobalt content, providing good edge strength, paired with a thermally stable PVD silicon-containing coating, features low friction coefficient, high nano-hardness, strong versatility, and a longer lifespan.
DHQ8805 DHQ8805H	PVD	Black Bronze		A tough fine-grain carbide substrate with good edge strength, paired with a thermally stable PVD coating, features a low friction coefficient and high nano-hardness.

ISO Turning Insert Naming Rules

C	N	M	G
1	2	3	4

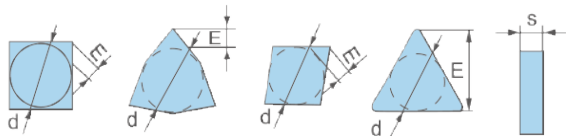
1- Shape / Code

A	B	C	D	E	H	K	L	M
								
85°	82°	80°	55°	75°	120°	55°	90°	86°
O	P	R	S	T	V	W	Z	
								Other
135°	108°	360°	90°	60°	35°	80°		

2- Trailing Edge Back Angle

A	B	C	D	E	F	G	N	P	O
									Additional Back Angle
3°	5°	7°	15°	20°	25°	30°	0°	11°	

3- Tolerance



Grade	Unit	Inner Cutting Circle Diameter d	Tip Height m	Thickness s
A	mm	±0.025	±0.005	±0.025
C	mm	±0.025	±0.013	±0.025
E	mm	±0.025	±0.025	±0.025
F	mm	±0.013	±0.005	±0.025
G	mm	±0.025	±0.025	±0.130
H	mm	±0.013	±0.013	±0.025
J	mm	*	±0.005	±0.025
K	mm	*	±0.013	±0.025
L	mm	*	±0.025	±0.025
M	mm	*	*	±0.127
U	mm	*	*	±0.127

*Refer to the table on the right for details

Shape: C.E.H.M.O.R.S.T.R.W				
IC	d		m	
	J.K.L.M.N	U	M.N	U
4.76	±0.05	±0.08	±0.08	±0.13
5.56	±0.05	±0.08	±0.08	±0.13
6	±0.05	±0.08	±0.08	±0.13
6.35	±0.05	±0.08	±0.08	±0.13
7.94	±0.05	±0.08	±0.08	±0.13
8	±0.05	±0.08	±0.08	±0.13
9.525	±0.05	±0.08	±0.08	±0.13
10	±0.05	±0.08	±0.08	±0.13
12	±0.08	±0.13	±0.13	±0.2
12.7	±0.08	±0.13	±0.13	±0.2
15.875	±0.1	±0.18	±0.15	±0.27
16	±0.1	±0.18	±0.15	±0.27
19.05	±0.1	±0.18	±0.15	±0.27
20	±0.1	±0.18	±0.15	±0.27
25	±0.13	±0.25	±0.18	±0.38
25.4	±0.13	±0.25	±0.18	±0.38

M&N Level	D Shape		V Shape	
	d	m	d	m
5.56	±0.05	±0.11		
6.35	±0.05	±0.11	±0.05	±0.16
7.94	±0.05	±0.11	±0.05	±0.16
9.525	±0.05	±0.11	±0.05	±0.16
12.7	±0.08	±0.15	±0.08	±0.2
15.875	±0.10	±0.18	±0.10	±0.27

4- Reinforced Form

A	B	C	D	E	H	L	M
							
	70°-90°	70°-90°			70°-90°	70°-90°	
O	P	R	S	T	V	Z	
							Special
	40°-60°		40°-60°	40°-60°	40°-60°		

ISO Turning Insert Naming Rules

12	04	08	-	AM
5	6	7	-	8

5- Cutting Edge Length

Inner Cutting Circle Diameter(mm)	Insert Shape							
	C	D	R	S	T	V	W	K
3.97					06		02	
5.0			05					
5.56			09					
6.0		06						
6.35	06	07			11	11	04	
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			16					
19.05	19		19	19	33			
20.0			20					
25.0			25					
25.4	25		25	25				
31.75			31					
32			32					

6- Thickness

Add 'O' or 'T' before rounding down

A.B

C.N

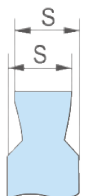
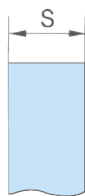
O.W

H.W

R.T

F.G

J.U



Example:

01=1.59

T1=1.98

02=2.38

03=3.18

T3=3.97

04=4.76

05=5.56

06=6.35

07=7.94

09=9.525

11=11.11

12=12.70

14=14.29

15=15.88

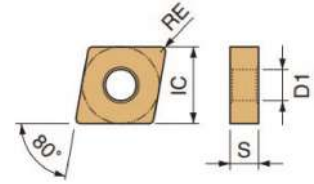
7- Tip Arc

Code	Tip Arc Radius(mm)
00	Without Corner Radius
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Other
Round Inserts	

8- Chip-Breaking Groove

Steel Component Turning Insert Models

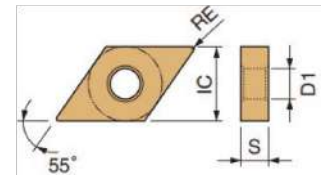
Steel Component Turning Insert, Negative 80°(C)



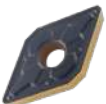
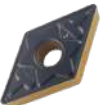
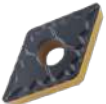
Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	CNMG120404-AM	12.7	5.16	4.76	0.4	○	●	●	○								
	120408-AM	12.7	5.16	4.76	0.8	○	●	●	○								
	120412-AM	12.7	5.16	4.76	1.2	○	●	●	○								
	CNMG120404-DZ	12.7	5.16	4.76	0.4	○	●	●	○								
	120408-DZ	12.7	5.16	4.76	0.8	○	●	●	○								
	120412-DZ	12.7	5.16	4.76	1.2	○	●	●	○								
	CNMG120404-43	12.7	5.16	4.76	0.4	○	●	●	○								
	120408-43	12.7	5.16	4.76	0.8	○	●	●	○								
	120412-43	12.7	5.16	4.16	1.2	○	●	●	○								
	CNMG120404L/R-LS	12.7	5.16	4.76	0.4	○	●	●	○								
	120408L/R-LS	12.7	5.16	4.76	0.8	○	●	●	○								
	120412L/R-LS	12.7	5.16	4.76	1.2	○	●	●	○								

Steel Component Turning Insert, Negative 55°(D)

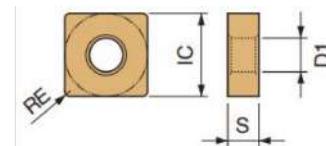


Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	CNMG150404-AM	12.7	5.16	4.76	0.4	○	●	●	○								
	150408-AM	12.7	5.16	4.76	0.8	○	●	●	○								
	150412-AM	12.7	5.16	4.76	1.2	○	●	●	○								
	150604-AM	12.7	5.16	6.35	0.4	○	●	●	○								
	150608-AM	12.7	5.16	6.35	0.8	○	●	●	○								
	150612-AM	12.7	5.16	6.35	1.2	○	●	●	○								
	DNMG150404-DZ	12.7	5.16	4.76	0.4	○	●	●	○								
	150408-DZ	12.7	5.16	4.76	0.8	○	●	●	○								
	150412-DZ	12.7	5.16	4.76	1.2	○	●	●	○								
	150604-DZ	12.7	5.16	6.35	0.4	○	●	●	○								
	150608-DZ	12.7	5.16	6.35	0.8	○	●	●	○								
	150612-DZ	12.7	5.16	6.35	1.2	○	●	●	○								
	DNMG150404-43	12.7	5.16	4.76	0.4	○	●	●	○								
	150408-43	12.7	5.16	4.76	0.8	○	●	●	○								
	150412-43	12.7	5.16	4.76	1.2	○	●	●	○								
	150604-43	12.7	5.16	6.35	0.4	○	●	●	○								
	150608-43	12.7	5.16	6.35	0.8	○	●	●	○								
	150612-43	12.7	5.16	6.35	1.2	○	●	●	○								

Steel Component Turning Insert Models

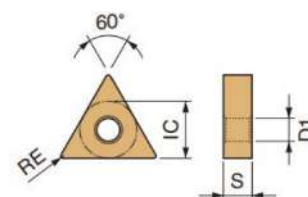
Steel Component Turning Insert, Negative90°(S)



Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08815(H)	DH08815AH
	SNMG120404-AM	12.7	5.16	4.76	0.4	○	●	●	○								
	120408-AM	12.7	5.16	4.76	0.8	○	●	●	○								
	120412-AM	12.7	5.16	4.76	1.2	○	●	●	○								
	SNMG120404-DZ	12.7	5.16	4.76	0.4	○	●	●	○								
	120408-DZ	12.7	5.16	4.76	0.8	○	●	●	○								
	120412-DZ	12.7	5.16	4.76	1.2	○	●	●	○								
	SNMG120404R/L-LS	12.7	5.16	4.76	0.4	○	●	●	○								
	120408R/L-LS	12.7	5.16	4.76	0.8	○	●	●	○								
	120412R/L-LS	12.7	5.16	4.76	1.2	○	●	●	○								

Steel Component Turning Insert, Negative60°(T)



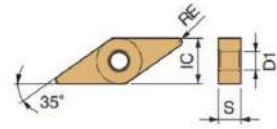
Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH0805(H)	DH0805AH
	TNMG160404-PP	9.525	3.81	4.76	0.4	○	●	●	○								
	160408-PP	9.525	3.81	4.76	0.8	○	●	●	○								
	160412-PP	9.525	3.81	4.76	1.2	○	●	●	○								
	TNMG160404-DZ	9.525	3.81	4.76	0.4	○	●	●	○								
	160408-DZ	9.525	3.81	4.76	0.8	○	●	●	○								
	160412-DZ	9.525	3.81	4.76	1.2	○	●	●	○								
	TNMG160404-43	9.525	3.81	4.76	0.4	○	●	●	○								
	160408-43	9.525	3.81	4.76	0.8	○	●	●	○								
	160412-43	9.525	3.81	4.76	1.2	○	●	●	○								
	TNMG160404-HQ	9.525	3.81	4.76	0.4	○	●	●	○								
	160408-HQ	9.525	3.81	4.76	0.8	○	●	●	○								
	160412-HQ	9.525	3.81	4.76	1.2	○	●	●	○								
	TNMG160404R/L-LS	9.525	3.81	4.76	0.4	○	●	●	○								
	160408R/L-LS	9.525	3.81	4.76	0.8	○	●	●	○								
	160412R/L-LS	9.525	3.81	4.76	1.2	○	●	●	○								
	TNMG160404R/L-DL	9.525	3.81	4.76	0.4	○	●	●	○								
	160408R/L-DL	9.525	3.81	4.76	0.8	○	●	●	○								
	160412R/L-DL	9.525	3.81	4.76	1.2	○	●	●	○								

Steel Component Turning Insert Models

Steel Component Turning Insert, Negative35°(V)

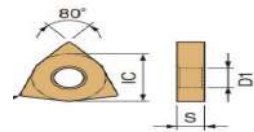
Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08015(H)	DH08015AH
	SNMG120404-AM	9.525	3.81	4.76	0.4	○	●	●	○								
	120408-AM	9.525	3.81	4.76	0.8	○	●	●	○								
	120412-AM	9.525	3.81	4.76	1.2	○	●	●	○								
	VNMG160404-DZ	9.525	3.81	4.76	0.4	○	●	●	○								
	160408-DZ	9.525	3.81	4.76	0.8	○	●	●	○								
	160412-DZ	9.525	3.81	4.76	1.2	○	●	●	○								
	VNMG160404-41	9.525	3.81	4.76	0.4	○	●	●	○								
	160408-41	9.525	3.81	4.76	0.8	○	●	●	○								
	160412-41	9.525	3.81	4.76	1.2	○	●	●	○								
	VNMG160404-40°	9.525	4.4	4.76	0.4	○	○	●	○								
	VNMG160404-38°	9.525	4.4	4.76	0.4	○	○	●	○								
	VNMG160404-37°	9.525	4.4	4.76	0.4	○	○	●	○								
	VNMG160404-35°	9.525	4.4	4.76	0.4	○	○	●	○								
	YBNG160404-MTF	9.525	3.81	4.76	0.4	○	○	●	○								

Steel Component Turning Insert, Negative80°(W)

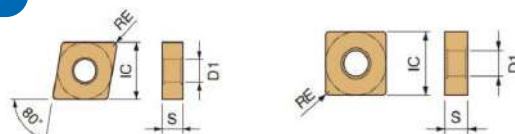
Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH08015(H)	DH08015AH
	WNMG080404-PP	12.7	5.16	4.76	0.4	○	●	●	○								
	080408-PP	12.7	5.16	4.76	0.8	○	●	●	○								
	080412-PP	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404-SQ	12.7	5.16	4.76	0.4	○	●	●	○								
	080408-SQ	12.7	5.16	4.76	0.8	○	●	●	○								
	080412-SQ	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404-DZ	12.7	5.16	4.76	0.4	○	●	●	○								
	080408-DZ	12.7	5.16	4.76	0.8	○	●	●	○								
	080412-DZ	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404-43	12.7	5.16	4.76	0.4	○	●	●	○								
	080408-43	12.7	5.16	4.76	0.8	○	●	●	○								
	080412-43	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404-HQ	12.7	5.16	4.76	0.4	○	●	●	○								
	080408-HQ	12.7	5.16	4.76	0.8	○	●	●	○								
	080412-HQ	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404-AR	12.7	5.16	4.76	0.4	○	●	●	○								
	080408-AR	12.7	5.16	4.76	0.8	○	●	●	○								
	080412-AR	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404R/L-LS	12.7	5.16	4.76	0.4	○	●	●	○								
	080408R/L-LS	12.7	5.16	4.76	0.8	○	●	●	○								
	080412R/L-LS	12.7	5.16	4.76	1.2	○	●	●	○								
	WNMG080404R/L-DL	12.7	5.16	4.76	0.4	○	●	●	○								
	080408R/L-DL	12.7	5.16	4.76	0.8	○	●	●	○								
	080412R/L-DL	12.7	5.16	4.76	1.2	○	●	●	○								

Steel Component Turning Insert Models

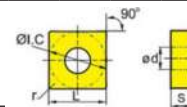
Heavy-Duty Turning Insert (Positive Rake Angle)



Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

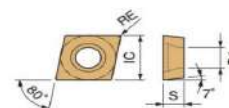
Insert Shape	Model	Dimensions (mm)				Grade													
		IC	D1	S	RE	CVD Coating						PVD Coating							
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH080815(H)	DH080815AH		
 	CNMG160608	15.875	6.35	6.35	0.8					•	•						•		
	CNMG160612	15.875	6.35	6.35	1.2					•	•						•		
	CNMG160616	15.875	6.35	6.35	1.6					•	•						•		
	CNMG190608	19.05	7.94	6.35	0.8					•	•						•		
	CNMG190612	19.05	7.94	6.35	1.2					•	•						•		
	CNMG190616	19.05	7.94	6.35	1.6					•	•						•		
	SNMG190612	19.05	7.94	6.35	1.2					•	•						•		
	SNMG190616	19.05	7.94	6.35	1.6					•	•						•		

Heavy-Duty Turning Insert (Negative Rake Angle)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(+)	DHQ8050A(+)	DHQ815(H)	DHQ815AH
	SNMG190608-PM	19.05	6.35	7.94	0.8				●								
	190612-PR	19.05	6.35	7.94	1.2				●								
	190616-PR	19.05	6.35	7.94	1.6				●								
	SNMG250724-PM	25.4	9.12	7.94	2.4				●								
	250924-PM	25.4	9.12	9.525	2.4				●								

Steel Component Turning Insert, Positive55°(D)

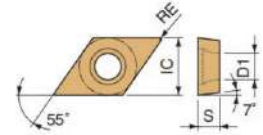


Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH080815(H)	DH080815AH
	CCMT060204-MP	6.35	2.8	2.38	0.4	○	○	●	○	●							
	060208-MP	6.35	2.8	2.38	0.8	○	○	●	○	●							
	CCMT09T302-MP	9.525	4.4	3.97	0.4	○	○	●	○	●							
	09T308-MP	9.525	4.4	3.97	0.8	○	○	●	○	●							
	CCMT120404-MP	12.7	5.5	4.76	0.4	○	○	●	○	●							
	120408-MP	12.7	5.5	4.76	0.8	○	○	●	○	●							
	CCMT060204-GM	6.35	2.8	2.38	0.4	○	●	○	○								
	060208-GM	6.35	2.8	2.38	0.8	○	●	○	○								
	CCMT09T302-GM	9.525	4.4	3.97	0.4	○	●	○	○								
	09T308-GM	9.525	4.4	3.97	0.8	○	●	○	○								
	CCMT120404-GM	12.7	5.5	4.76	0.4	○	●	○	○								
	120408-GM	12.7	5.5	4.76	0.8	○	●	○	○								

Steel Component Turning Insert Models

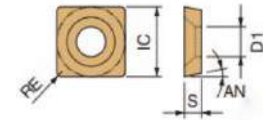
Steel Component Turning Insert, Positive55°(D)



Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08815(H)	DH08815AH
	DCMT070204-MP	6.35	2.8	2.8	0.4	○	○	●	○	●							
	070208-MP	6.35	2.8	2.38	0.8	○	○	●	○	●							
	DCMT11T304-MP	9.525	4.4	3.97	0.4	○	○	●	○	●							
	11T308-MP	9.525	4.4	3.97	0.8	○	○	●	○	●							
	DCMT070204-GM	6.35	2.8	2.38	0.4	○	●	○	○								
	070208-GM	6.35	2.8	2.38	0.8	○	●	○	○								
	DCMT11T304-GM	9.525	4.4	3.97	0.4	○	●	○	○								
	11T308-GM	9.525	4.4	3.97	0.8	○	●	○	○								

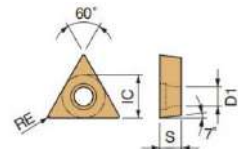
Steel Component Turning Insert, Positive90°(S)



Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH0815(H)	DH08015AH
	SCMT09T304-MP	9.525	4.4	3.97	0.4	○	○	●	○	●							
	09T308-MP	9.525	4.4	3.97	0.8	○	○	●	○	●							
	SCMT120404-MP	12.7	5.5	4.76	0.4	○	○	●	○	●							
	120408-MP	12.7	5.5	4.76	0.8	○	○	●	○	●							
	SCMT09T304-GM	9.525	4.4	3.97	0.4	○	●	○	○								
	09T308-GM	9.525	4.4	3.97	0.8	○	●	○	○								
	SCMT120404-GM	12.7	5.5	4.76	0.4	○	●	○	○								
	120408-GM	12.7	5.5	4.76	0.8	○	●	○	○								

Steel Component Turning Insert, Positive60°(T)



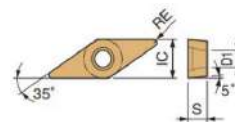
Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)

Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH08015(H)	DH08015AH
	TCMT110204-MP	6.35	2.8	2.38	0.4	○	○	●	○	●							
	110208-MP	6.35	2.8	2.38	0.8	○	○	●	○	●							
	TCMT16T304-MP	9.525	4.4	3.97	0.4	○	○	●	○	●							
	16T308-MP	9.525	4.4	3.97	0.8	○	○	●	○	●							
	TCMT110204-GM	6.35	2.8	2.38	0.4	○	●	○	○								
	110208-GM	6.35	2.8	2.38	0.8	○	●	○	○								
	TCMT16T304-GM	9.525	4.4	3.97	0.4	○	●	○	○								
	16T308-GM	9.525	4.4	3.97	0.8	○	●	○	○								

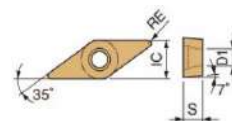
Steel Component Turning Insert Models

Steel Component Turning Insert, Positive35°(V)

Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)



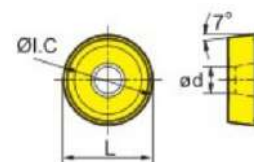
Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP 3100	SP 3200	SP 3600	SP 3700	ZT 6215	ZT 6225	DH Q1010	DH Q1020	DH Q8030A(H)	DH Q8805A(H)	DH Q8815(H)	DH Q8815AH
	VBMT160404-GM	9.525	4.4	3.18	0.4	○	●	○	○								
	160408-GM	9.525	4.4	4.76	0.8	○	●	○	○								



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH Q1010	DH Q1020	DH Q8030A(H)	DH Q8805A(H)	DH Q8815(H)	DH Q8815AH
	VBMT160404-MV	9.525	4.4	3.18	0.4	○	●	○	○								
	160408-GM	9.525	4.4	4.76	0.8	○	●	○	○								

Steel turning blade RCMX normal shape

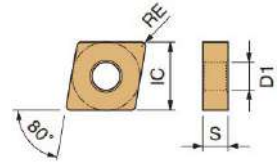
Steel Component Grade Naming Rules: SPXX00 (dual-color), SPXX10 (yellow), SPXX20 (black)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	RCMX0803MO	8	8	3.18	3.36	○	○	●	○	●							
	RCMX1003MO	10	10	3.18	3.6	○	○	●	○	●							
	RCMX1204MO	12	12	4.76	4.4	○	○	●	○	●							
	RCMX1606MO	16	16	6.35	5.5	○	○	●	○	●							
	RCMX2006MO	20	20	6.35	6.5	○	○	●	○								
	RCMX2507MO	25	25	7.94	7.2	○	○	●	○								
	RCMX3209MO	32	30	9.52	9.5	○	○	●	○								

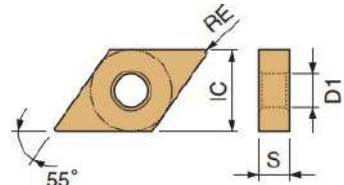
Cast Iron Turning Insert Models

Cast Iron Turning Insert, Negative80°(C)



Insert Shape	Model	Dimensions (mm)				Grade									
		IC	D1	S	RE	CVD Coating					PVD Coating				
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH1010	DH1020	DH1030A(H)	DH1030A(H)
	CNMG120404	12.7	5.16	4.76	0.4					•	○				
	120408	12.7	5.16	4.76	0.8					•	○				
	120412	12.7	5.16	4.76	1.2					•	○				
	CNMG160608	15.875	6.35	6.35	0.8					•	○				
	CNMG160612	15.875	6.35	6.35	1.2					•	○				
	CNMG160616	15.875	6.35	6.35	1.6					•	○				
	CNMG190612	15.875	6.35	6.35	1.2										
	CNMA120404	12.7	5.16	4.76	0.4					•	○				
	120408	12.7	5.16	4.76	0.8					•	○				
	120412	12.7	5.16	4.76	1.2										
										•	○				
	CNMG120404-KM	12.7	5.16	4.76	0.4					•	○				
	120408-KM	12.7	5.16	4.76	0.8					•	○				
	120412-KM	12.7	5.16	4.76	1.2					•	○				

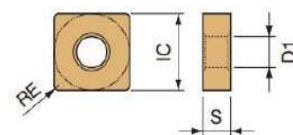
Cast Iron Turning Insert, Negative55°(D)



Insert Shape	Model	Dimensions (mm)				Grade									
		IC	D1	S	RE	CVD Coating					PVD Coating				
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH1010	DH1020	DH1030A(H)	DH1030A(H)
	DNMG150404	12.7	5.16	4.76	0.4					•	○				
	150408	12.7	5.16	4.76	0.8					•	○				
	150412	12.7	5.16	4.76	1.2					•	○				
	150604	12.7	5.16	6.35	0.4					•	○				
	150608	12.7	5.16	6.35	0.8					•	○				
	150612	12.7	5.16	6.35	1.2					•	○				
	DNMA150404	12.7	5.16	4.76	0.4					•	○				
	150408	12.7	5.16	4.76	0.8					•	○				
	150412	12.7	5.16	4.76	1.2					•	○				
	150604	12.7	5.16	6.35	0.4					•	○				
	150608	12.7	5.16	6.35	0.8					•	○				
	150612	12.7	5.16	6.35	1.2					•	○				

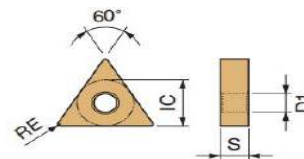
Cast Iron Turning Insert Models

Cast Iron Turning Insert, Negative90°(S)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH0815(H)	DH0815AH
	SNMG120404	12.7	5.16	4.76	0.4					●	○						
	120408	12.7	5.16	4.76	0.8					●	○						
	120412	12.7	5.16	4.76	1.2					●	○						
	SNMG190612	19.05	7.94	6.35	1.2					●	○						
	SNMG190616	19.05	7.94	6.35	1.6					●	○						
	SNMA120404	12.7	5.16	4.76	0.4					●	○						
	120408	12.7	5.16	4.76	0.8					●	○						
	120412	12.7	5.16	4.76	1.2					●	○						

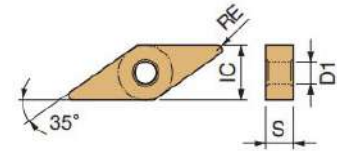
Cast Iron Turning Insert, Negative60°(T)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH0815(H)	DH0815AH
	TNMG160404	9.525	3.81	4.76	0.4					●	○						
	160408	9.525	3.81	4.76	0.8					●	○						
	160412	9.525	3.81	4.76	1.2					●	○						
	TNMA160404	9.525	3.81	4.76	0.4					●	○						
	160408	9.525	3.81	4.76	0.8					●	○						
	160412	9.525	3.81	4.76	1.2					●	○						
	TNMG220408	12.7	5.16	4.76	0.8					●	○						
	150408	12.7	5.16	4.76	1.2					●	○						
	150412	12.7	5.16	4.76	1.6					●	○						
	TNMA220408	12.7	5.16	4.76	0.8					●	○						
	150408	12.7	5.16	4.76	1.2					●	○						
	150412	12.7	5.16	4.76	1.6					●	○						
	TNMG220408-KM	12.7	5.16	4.76	0.8					●	○						
	150408-KM	12.7	5.16	4.76	1.2					●	○						
	150412-KM	12.7	5.16	4.76	1.6					●	○						

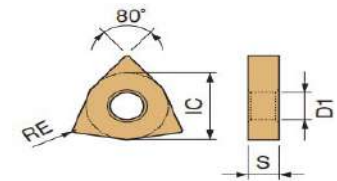
Cast Iron Turning Insert Models

Cast Iron Turning Insert, Negative35°(V)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH08015(H)	DH08015AH
	VNMG160404	9.525	3.81	4.76	0.4					●	○						
	160408	9.525	3.81	4.76	0.8					●	○						
	160412	9.525	3.81	4.76	1.2					●	○						
	VNMA160404	9.525	3.81	4.76	0.4					●	○						
	160408	9.525	3.81	4.76	0.8					●	○						
	160412	9.525	3.81	4.76	1.2					●	○						

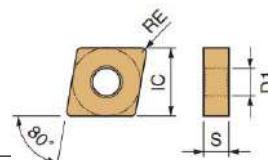
Cast Iron Turning Insert, Negative80°(W)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(1+)	DHQ8050A(1+)	DHQ815(H)	DHQ815AH
	WNMG080404	12.7	5.16	4.76	0.4					●	○						
	080408	12.7	5.16	4.76	0.8					●	○						
	080412	12.7	5.16	4.76	1.2					●	○						
	WNMA080404	12.7	5.16	4.76	0.4					●	○						
	080408	12.7	5.16	4.76	0.8					●	○						
	080412	12.7	5.16	4.76	1.2					●	○						
	WNMG080404-KM	12.7	5.16	4.76	0.4					●	○						
	080408-KM	12.7	5.16	4.76	0.8					●	○						
	080412-KM	12.7	5.16	4.76	1.2					●	○						

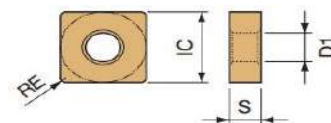
Stainless Steel Turning Insert Models

Stainless Steel Turning Insert, Negative80°(C)



Insert Shape	Model	Dimensions (mm)				Grade												
		IC	D1	S	RE	CVD Coating					PVD Coating							
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH1010	DH1020	DH1030A(H)	DH10805A(H)	DH10815(H)	DH10815AH	
	CNMG120404-MS	12.7	5.16	4.76	0.4												●	●
	120408-MS	12.7	5.16	4.76	0.8												●	●
	120412-MS	12.7	5.16	4.76	1.2												●	●
	CNMG160608	15.875	6.35	6.35	0.8												●	○
	CNMG160612	15.875	6.35	6.35	1.2												●	○
	CNMG160616	15.875	6.35	6.35	1.6												●	○
	CNMG190612	15.875	6.35	6.35	1.2												●	○
	CNMG190616	19.05	7.94	6.35	1.6												●	○
	CNMG120404-MA	12.7	5.16	4.76	0.4												●	●
	120408-MA	12.7	5.16	4.76	0.8												●	●
	120412-MA	12.7	5.16	4.76	1.2												●	●

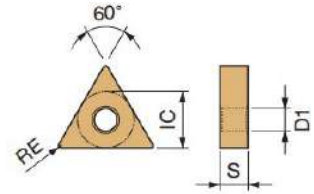
Stainless Steel Turning Insert, Negative90°(S)

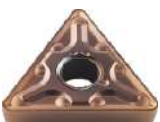


Insert Shape	Model	Dimensions (mm)				Grade												
		IC	D1	S	RE	CVD Coating						PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH1010	DH1020	DH108030A(H)	DH108805A(H)	DH108815(H)	DH108815AH	
	SNMG120404-CF	12.7	5.16	4.76	0.4												●	●
	SNMG120408-CF	12.7	5.16	4.76	0.8												●	●
	SNMG120404-MS	12.7	5.16	4.76	0.4												●	●
	SNMG120408-MS	12.7	5.16	4.76	0.8												●	●
	SNMG120412-MS	12.7	5.16	4.76	1.2												●	●
	SNMG190612	19.05	7.94	6.35	1.2												●	○
	SNMG190616	19.05	7.94	6.35	1.6												●	○
	SNMG120404-MA	12.7	5.16	4.76	0.4												●	●
	120408-MA	12.7	5.16	4.76	0.8												●	●
	120412-MA	12.7	5.16	4.76	1.2												●	●
	SNMG120404-HA	12.7	5.16	4.76	0.4												●	●
	120408-HA	12.7	5.16	4.76	0.8												●	●
	120412-HA	12.7	5.16	4.76	1.2												●	●

Stainless Steel Turning Insert Models

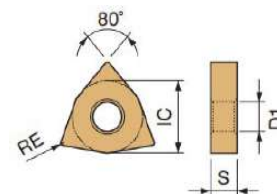
Stainless Steel Turning Insert, Negative60°(T)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(+)	DHQ8050A(+)	DHQ815(H)	DHQ815AH
	TNMG160404-CF	9.525	3.81	4.76	0.4											•	•
	160408-CF	9.525	3.81	4.76	0.8											•	•
	TNMG160404-SE	9.525	3.81	4.76	0.4											•	•
	160408-SE	9.525	3.81	4.76	0.8											•	•
	160412-SE	9.525	3.81	4.76	1.2											•	•
	TNMG160404-MM	9.525	3.81	4.76	0.4											•	•
	160408-MM	9.525	3.81	4.76	0.8											•	•
	160412-MM	9.525	3.81	4.76	1.2											•	•
	TNMG160404-MS	9.525	3.81	4.76	0.4											•	•
	160408-MS	9.525	3.81	4.76	0.8											•	•
	160412-MS	9.525	3.81	4.76	1.2											•	•
	TNMG160404-MA	9.525	3.81	4.76	0.4											•	•
	160408-MA	9.525	3.81	4.76	0.8											•	•
	160412-MA	9.525	3.81	4.76	1.2											•	•
	TNMG160404R/L-DL	9.525	3.81	4.76	0.4											•	•
	160408R/L-DL	9.525	3.81	4.76	0.8											•	•
	160412R/L-DL	9.525	3.81	4.76	1.2											•	•
	TNMG160404-MQ	9.525	3.81	4.76	0.4											•	•
	160408-MQ	9.525	3.81	4.76	0.8											•	•
	160412-MQ	9.525	3.81	4.76	1.2											•	•
	TNMG160404-SM	9.525	3.81	4.76	0.4											•	•
	160408-SM	9.525	3.81	4.76	0.8											•	•
	160412-SM	9.525	3.81	4.76	1.2											•	•
	TNMG160404-MU	9.525	3.81	4.76	0.4											•	•
	160408-MU	9.525	3.81	4.76	0.8											•	•
	160412-MU	9.525	3.81	4.76	1.2											•	•

Stainless Steel Turning Insert Models

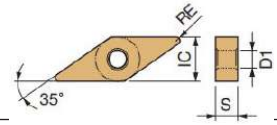
Stainless Steel Turning Insert, Negative80°(W)



Insert Shape	Model	Dimensions (mm)				Grade												
		IC	D1	S	RE	CVD Coating						PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH41010	DH41020	DH40830A(H)	DH40805A(H)	DH40815(H)	DH40815AH	
	WNMG080404-CF	12.7	5.16	4.76	0.4												•	•
	080408-CF	12.7	5.16	4.76	0.8												•	•
																	•	•
	WNMG080404-SE	12.7	5.16	4.76	0.4												•	•
	080408-SE	12.7	5.16	4.76	0.8												•	•
	080412-SE	12.7	5.16	4.76	1.2												•	•
	WNMG080404-MM	12.7	5.16	4.76	0.4												•	•
	080408-MM	12.7	5.16	4.76	0.8												•	•
	080412-MM	12.7	5.16	4.76	1.2												•	•
	WNMG080404-MS	12.7	5.16	4.76	0.4												•	•
	080408-MS	12.7	5.16	4.76	0.8												•	•
	080412-MS	12.7	5.16	4.76	1.2												•	•
	WNMG080404-MA	12.7	5.16	4.76	0.4												•	•
	080408-MA	12.7	5.16	4.76	0.8												•	•
	080412-MA	12.7	5.16	4.76	1.2												•	•
	WNMG080404-MQ	12.7	5.16	4.76	0.4												•	•
	080408-MQ	12.7	5.16	4.76	0.8												•	•
	080412-MQ	12.7	5.16	4.76	1.2												•	•
	WNMG080404-SM	12.7	5.16	4.76	0.4												•	•
	080408-SM	12.7	5.16	4.76	0.8												•	•
	080412-SM	12.7	5.16	4.76	1.2												•	•
	WNMG080404-MU	12.7	5.16	4.76	0.4												•	•
	080408-MU	12.7	5.16	4.76	0.8												•	•
	080412-MU	12.7	5.16	4.76	1.2												•	•
	WNMG080404R/L-DL	12.7	5.16	4.76	0.4												•	•
	080408R/L-DL	12.7	5.16	4.76	0.8												•	•
	080412R/L-DL	12.7	5.16	4.76	1.2												•	•

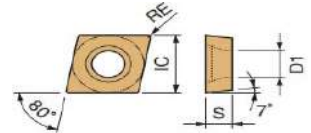
Stainless Steel Turning Insert Models

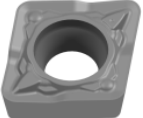
Stainless Steel Turning Insert, Negative35°(V)



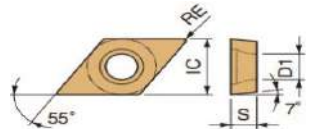
Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	VNMG160404-CF	9.525	3.81	4.76	0.4											•	•
	160408-CF	9.525	3.81	4.76	0.8											•	•
	VNMG160404-MS	9.525	3.81	4.76	0.4												
	160408-MS	9.525	3.81	4.76	0.8											•	•
	160412-MS	9.525	3.81	4.76	1.2											•	•
	VNMG160404-MA	9.525	3.81	4.76	0.4											•	•
	160408-MA	9.525	3.81	4.76	0.8											•	•
	160412-MA	9.525	3.81	4.76	1.2											•	•

Stainless Steel Turning Insert, Positive80°(C)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	CCMT060204-MP	6.35	2.8	2.38	0.4											•	•
	060208-MP	6.35	2.8	2.38	0.8											•	•
	CCMT09T304-MP	9.525	4.4	3.97	0.4											•	•
	09T308-MP	9.525	4.4	3.97	0.8											•	•
	CCMT120404-MP	12.7	5.16	4.76	0.4											•	•
	120408-MP	12.7	5.16	4.76	0.8											•	•
	CCMT060204-PSS	6.35	2.8	2.38	0.4											•	•
	060208-PSS	6.35	2.8	2.38	0.8											•	•
	CCMT09T304-PSS	9.525	4.4	3.97	0.4											•	•
	09T308-PSS	9.525	4.4	3.97	0.8											•	•

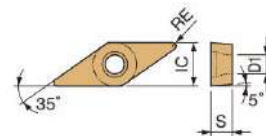
Stainless Steel Turning Insert, Positive55°(D)



Insert Shape	Model	Dimensions (mm)				Grade												
		IC	D1	S	RE	CVD Coating					PVD Coating							
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH	
	DCMT070204-MP/MV	6.35	2.8	2.38	0.4											●	●	
	070208-MP/MV	6.35	2.8	2.38	0.8												●	●
	DCMT11T304-MP/MV	9.525	4.4	3.97	0.4												●	●
	11T308-MP/MV	9.525	4.4	3.97	0.8												●	●

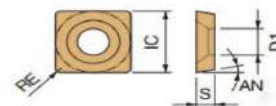
Stainless Steel Turning Insert Models

Stainless Steel Turning Insert, Positive35°(V)



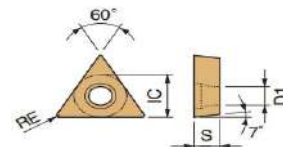
Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	VBMT11T304-MV	6.35	2.8	3.97	0.4											●	●
	11T308-MV	9.525	3.81	4.76	0.8											●	●
	VBMT160404-MV	9.525	4.4	4.76	0.4											●	●
	160408-MV	9.525	4.4	4.76	0.8											●	●

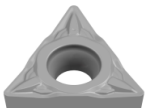
Stainless Steel Turning Insert, Positive90°(S)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	SCMT09T304-MP	9.525	4.4	3.97	0.4											●	●
	08T308-MP	9.525	4.4	3.97	0.8											●	●
	SCMT120404-MP	12.7	5.5	4.76	0.4											●	●
	120408-MP	12.7	5.5	4.76	0.8											●	●

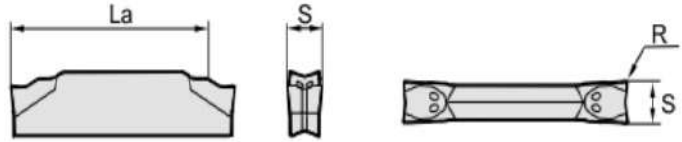
Stainless Steel Turning Insert, Positive60°(T)



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8050A(H)	DHQ8815(H)	DHQ8815AH
	TCMT090204-MP	5.56	2.6	2.38	0.4											•	•
	090208-MP	5.56	2.6	2.38	0.8											•	•
	TCMT110204-MP	5.56	2.8	2.38	0.4											•	•
	110208-MP	5.56	2.8	2.38	0.8											•	•
	TCMT16T304-MP	9.525	4.4	3.97	0.4											•	•
	16T308-MP	9.525	4.4	3.97	0.8											•	•
	TCMT090204-PSS	5.56	2.6	2.38	0.4											•	•
	090208-PSS	5.56	2.6	2.38	0.8											•	•
	TCMT110204-PSS	6.35	2.8	2.38	0.4											•	•
	110208-PSS	6.35	2.8	2.38	0.8											•	•
	TPMT080204-PS	4.76	2.4	2.38	0.4										•		
	090204-PS	5.56	2.8	2.38	0.4										•		
	110304-PS	6.35	3.4	2.38	0.4										•		

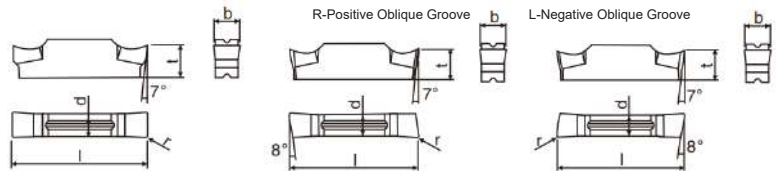
Slot Insert Series

Cut-Off / Grooving Inserts



Insert Shape	Model	Dimensions (mm)			Grade											
		S±0.1	R±0.1	Maximum cutting depth	CVD Coating					PVD Coating						
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08815(H)	DH08815AH
	MGMN200-G/T	2.0	0.2	14.5		•	•		•		•					
	250-G/T	2.5	0.2	17		•	•		•		•					
	300-G/T	3.0	0.4	17		•	•		•		•					
	400-M/T	4.0	0.4	22		•	•		•		•					
	500-M/T	5.0	0.8	22		•	•		•		•					
	600-M	6.0	0.8	22		•	•		•		•					
	800-M	8.0	0.8	26		•	•		•		•					
	MRMN200-M	2.0	0.2	14.5		•	•		•		•					
	250-M	2.5	0.2	17		•	•		•		•					
	300-M	3.0	0.4	17		•	•		•		•					
	400-M	4.0	0.4	22		•	•		•		•					
	500-M	5.0	0.8	22		•	•		•		•					
	600-M	6.0	0.8	22		•	•		•		•					
	800-M	8.0	0.8	26		•	•		•		•					

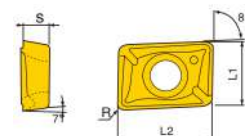
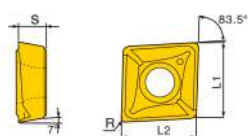
Ground Cut-Off / Grooving Series



Insert Shape	Model	6Dimensions (mm)					Grade											
		b	r	l	d	t	CVD Coating					PVD Coating						
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08815(H)	DH08815AH
	MGGN150	1.5	0.15	16	1.2	3.5							•		•			
	MGGN200	2	0.2	16	1.6	3.5							•		•			
	MGGN250	2.5	0.2	18.5	2	3.85							•		•			
	MGGN300	3	0.4	21	2.35	4.8							•		•			
	MGGN400	4	0.4	21	3.3	4.8							•		•			
	MGGN500	5	0.4	26	4.1	5.8							•		•			
	MGGN150L/R	1.5		16	1.2	3.5							•		•			
	MGGN200L/R	2		16	1.6	3.5							•		•			
	MGGN250L/R	2.5		18.5	2	3.85							•		•			
	MGGN300L/R	3		21	2.35	4.8							•		•			
	MGGN400L/R	4		21	3.3	4.8							•		•			
	MGGN500L/R	5		26	4.1	5.8							•		•			

Drilling Insert Models

XCMT Drilling Inserts



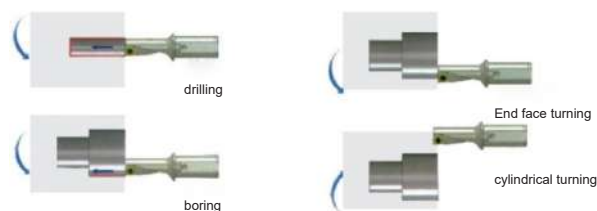
Insert Shape	Model	Dimensions (mm)				Grade											
		L1	L2	S	R	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ815(H)	DHQ815AH
	XCMT040104R-TC	4.4	6.4	1.70	0.4							•					
	XCMT040104L-TC	4.4	6.4	1.70	0.4							•					
	XCMT050204-TC	5.6	5.6	2.10	0.4							•					
	XCMT060204-TC	6.4	6.4	2.38	0.4							•					
	XCMT070304-TC	7.5	7.5	3.18	0.4							•					
	XCMT080304-TC	8.4	8.4	3.18	0.4							•					
	XCMT10T304-TC	10.5	10.5	3.97	0.4							•					
	XCMT10T308-TC	10.5	10.5	3.97	0.8							•					
	XCMT130404-TC	13.4	13.4	4.76	0.4							•					
	XCMT130408-TC	13.4	13.4	4.76	0.8							•					
	XCMT170508-TC	17.4	17.4	5.56	0.8							•					

Product Features

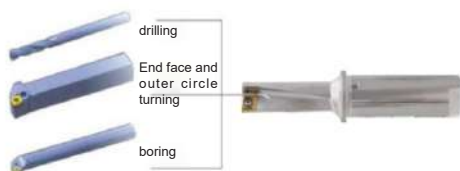
1. Designed with integral cooling holes for better chip evacuation performance.



2. A single tool solves drilling, turning, and boring needs, combining three functions in one multifunctional tool.



3. Reduces tool usage, significantly lowering production costs.



4. Saves tool setup time, improving processing efficiency by more than double.



Milling Insert Naming Rules

A	P	M	T
1	2	3	4

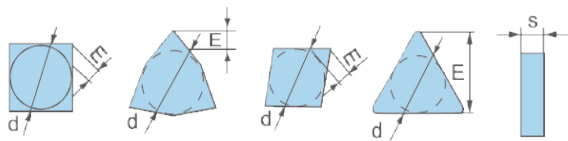
1- Shape / Code

A	H	M	O	R	S	T	Z	X
								Special
85°	120°	86°	135°	360°	90°	60°	66°	

2- Main Cutting Edge Back Angle

C	D	E	F	G	N	P	O
							Additional Back Angle
7°	15°	20°	25°	30°	0°	11°	

3- Tolerance



Grade	Unit	Inner Cutting Circle Diameter d	Tip Height m	Thickness s
A	mm	±0.025	±0.005	±0.025
C	mm	±0.025	±0.013	±0.025
E	mm	±0.025	±0.025	±0.025
F	mm	±0.013	±0.005	±0.025
G	mm	±0.025	±0.025	±0.130
H	mm	±0.013	±0.013	±0.025
J	mm	*	±0.005	±0.025
K	mm	*	±0.013	±0.025
L	mm	*	±0.025	±0.025
M	mm	*	*	±0.127

*Refer to the table on the right for details.

Shape: C.E.H.M.O.R.S.T.R.W				
IC	d		m	
	J.K.L.M.N	U	M.N	U
4.76	±0.05	±0.08	±0.08	±0.13
5.56	±0.05	±0.08	±0.08	±0.13
6	±0.05	±0.08	±0.08	±0.13
6.35	±0.05	±0.08	±0.08	±0.13
7.94	±0.05	±0.08	±0.08	±0.13
8	±0.05	±0.08	±0.08	±0.13
9.525	±0.05	±0.08	±0.08	±0.13
10	±0.05	±0.08	±0.08	±0.13
12	±0.08	±0.13	±0.13	±0.2
12.7	±0.08	±0.13	±0.13	±0.2
15.875	±0.1	±0.18	±0.15	±0.27
16	±0.1	±0.18	±0.15	±0.27
19.05	±0.1	±0.18	±0.15	±0.27
20	±0.1	±0.18	±0.15	±0.27
25	±0.13	±0.25	±0.18	±0.38
25.4	±0.13	±0.25	±0.18	±0.38

M&N Level	D Shape		V Shape	
IC	d	m	d	m
5.56	±0.05	±0.11		
6.35	±0.05	±0.11	±0.05	±0.16
7.94	±0.05	±0.11	±0.05	±0.16
9.525	±0.05	±0.11	±0.05	±0.16
12.7	±0.08	±0.15	±0.08	±0.2
15.875	±0.10	±0.18	±0.10	±0.27

4- Reinforcement Form

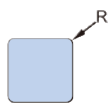
A	B	C	F	G	H	J	M
							
	70°-90°	70°-90°			70°-90°	70°-90°	
N	Q	R	T	U	W	X	
							Special
	40°-60°		40°-60°	40°-60°	40°-60°		

Milling Insert Naming Rules

16	04	PD	E	R	-	H
5	6	7	8	9	-	10

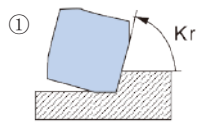
5- Cutting Edge Length							
Inner Cutting Circle Diameter(mm)	Insert Shape						
	H	M	O	R	S	T	Z
3.180						05	
3.970						06	
5.000				05			
5.560				06			
6.000							
6.350						11	
8.000				08			
9.525				09	09	16	
10.000				10			
12.000				12			
12.700			04	12	12	22	
15.875				15	15	27	
16.000			05	16			
19.050				19	19	33	
20.000				20			
25.000				25			
25.400				25	25		
31.750				31			
32.000				32			

7- Tip Arc and Honed Edge



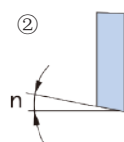
00= 锋刃	16=1.6	48=4.8
01=0.1	20=2.0	56=5.6
02=0.2	24=2.4	64=6.4
04=0.4	28=2.8	X=Other
12=1.2	40=4.0	

Round Inserts: MO denotes metric diameter size.



① Primary Clearance Angle (main cutting edge angle) (Kr)

A=45
D=60
E=75
F=85
P=90



② Honed Edge Back Angle (n)

A=3
B=5
C=7
D=15
E=20
F=25
G=30
N=0
P=11

6- Thickness



01=1.59

T1=1.98

02=2.38

T2=2.78

03=3.18

T3=3.97

04=4.76

05=5.56

06=6.35

07=7.94

09=9.525

8- Cutting Edge Shape



Sharp Cutting Edge



Rounded Edge Cutting Blade



Negative Bevel



Double Negative Bevel

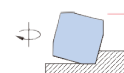


Negative Bevel with Rounded Edge Cutting Blade

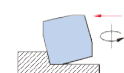


Double Negative Bevel with Rounded Edge Cutting Blade

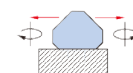
9- Cutting Direction



Right-Hand Insert



Left-Hand Insert



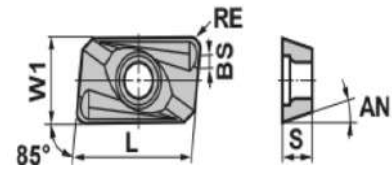
Centered Insert

10- Chip-Breaking Groove

Milling Insert Models

AP..

Abrasive Milling Inserts

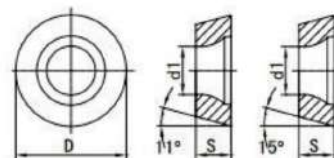


Insert Shape	Model	Dimensions (mm)					Grade												
		L	Wl	S	BS	RE	CVD Coating					PVD Coating							
							SP 3100	SP 3200	SP 3600	SP 3700	ZT 6215	ZT 6225	DH Q1010	DH Q1020	DH Q8030A(+)	DH Q805A(+)	DH Q815(+)	DH Q815AH	
	APMT1135PDER-H2	11.22	6.22	3.5	1.5	0.8										●	○		
	1604PDER-H2	17.22	8.25	4.76	1.4	0.8										●	○		
	160420PDER-H2	17.22	9.25	4.76	1.4	2.0										●	○		
	16043PDER-H2	17.22	9.25	4.76	1.4	3.0										●	○		
	APMT1135PDER-M2	11.22	6.22	3.5	1.5	0.8										●	○		
	1604PDER-M2	17.22	9.25	4.76	1.4	0.8										●	○		
	APMT1135PDER	11.22	6.2	3.5	1.5	0.8										●	○		
	1604PDER	17.3	9.3	5.25	2	0.8										●	○		
	APMT1135PDER-HM	11.22	6.2	3.5	1.5	0.8										●	○		
	APMT1135PDER-FM	17.3	9.3	5.25	2	0.8										●	○		

Milling Insert Models

RD/RP

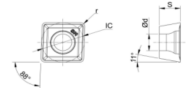
Round Milling Inserts



Insert Shape	Model	Dimensions (mm)			Grade												
		D	S	d1	CVD Coating						PVD Coating						
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH	
	RPMW1003MO-FR	10	3.018	4.4										•	•		
	RDMW10T3MO-FR	10	3.97	4.4										•	•		
	RDMW1204MO-FR	12	4.76	4.4										•	•		
	RPMT10T3MO-FR	10	3.97	4.4										•	•		
	RP<T1204MO-FR	12	4.76	4.4										•	•		
	RPMW1003MO	10	3.18	4.4										•	○		
	RDMW10T3MO	10	3.97	4.4										•	○		
	RDMW1204MO	12	4.76	4.4										•	○		
	RDMW1605MO	16	5.56	5.5										•	○		
	RDMT1003MO-RL	10	3.18	4.4										•	○		
	RDMT10T3MO-RL	10	3.97	4.4										•	○		
	RDMT1204MO-RL	12	4.76	4.4										•	○		
	RPMT1204MO-C	12	4.76	4.4										•	○		
	RPMT08T2MO-JS	08	2.78	3.5										•	○		
	RPMT10T3MO-JS	10	3.97	4.4										•	○		
	RPMT1204MO-JS	12	4.76	4.4										•	○		

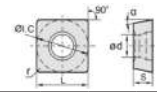
Milling Insert Models

MPHT12/08/06



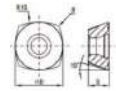
Insert Shape	Model	Dimensions (mm)				Grade										
		IC	d	r	S	CVD Coating					PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH-Q1010	DH-Q1020	DH-Q8030A(H)	DH-Q8805A(H)	DH-Q8815(H)
	MPHT060304-DM	6.35	2.8	0.4	3.18									•		
	MPHT080305-DM	8.3	3.5	0.5	3.18									•		
	MPHT120408-DM	12.7	5.56	0.8	4.76									•		

SDMT12



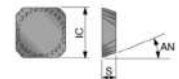
Insert Shape	Model	Dimensions (mm)			Grade											
		IC	a	S	CVD Coating					PVD Coating						
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ805A(H)	DHQ815(H)	DHQ815AH
	SDMT1204PDSR-MJ	12.7	15	4.76									●	○		

SDMT12/15



Insert Shape	Model	Dimensions (mm)			Grade												
		D	S	R	CVD Coating						PVD Coating						
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ805A(H)	DHQ815(H)	DHQ815AH	
	SDMT120512-G	12.7	5.56	1.2										●	○		
	SDMT150512-G	15.875	5.56	1.2										●	○		

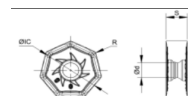
SEKR12/15



Insert Shape	Model	Dimensions (mm)			Grade											
		IC	AN	S	CVD Coating					PVD Coating						
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ805A(H)	DHQ815(H)	DHQ815AH
	SEKR1203AZ-YM	12.7	20	3.18									●	○		
	SEKR1504YZ-AM	15.875	20	4.76									●	○		
	SEKR1203AFTN	12.7	20	3.18									●	○		
	SEKR1504AFTN	15.875	20	4.76									●	○		

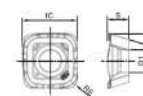
Milling Insert Models

XMMU070508-MM4



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	d	r	S	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH0805A(H)	DH0815(H)	DH0815AH
	XMMU070508-MM4	14.5	4.07	0.8	5.4									•	•		

SOMT



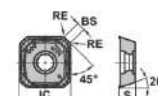
Insert Shape	Model	Dimensions (mm)				Grade												
		IC	S	D1	AN	CVD Coating					PVD Coating							
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08050A(H)	DH0815(H)	DH0815AH	
	SOMT100420ER-GM	10.30	4.58	4.6	16°									●	○			
	SOMT140520ER-GM	14.14	5.56	5.8	16°										●	○		

SEKT12



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	S	d1	Bs	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH0805A(H)	DH0815(H)	DH0815AH
	SEKT1204AFTN	12.7	4.76	5.5	1.7									●	○		

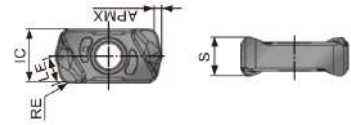
SEMT13



Insert Shape	Model	Dimensions (mm)			Grade												
		IC	AN	S	CVD Coating					PVD Coating							
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8050A(H)	DHQ815(H)	DHQ815AH	
	SEMT13T3AGSN-JM	13.4	20	4.76										●	○		

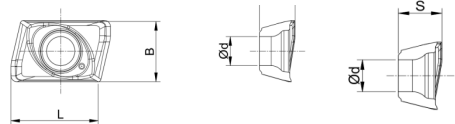
Milling Insert Models

LNMU03



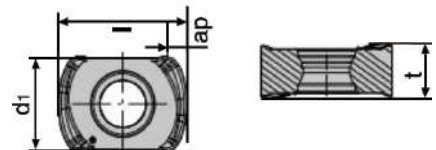
Insert Shape	Model	Dimensions (mm)					Grade												
		APMX	LE	IC	S	RE	CVD Coating						PVD Coating						
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQA1010	DHQA1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH	
	LNMU0303ZER-DZ	1.00	3.20	6.00	4.29	1.2										●	○		

JDMT07



Insert Shape	Model	Dimensions (mm)					Grade												
		IC	S		D1	AN	CVD Coating					PVD Coating							
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH	
	JDMT070204-M	6	4.26	2	0.4	2.45										●	○		
	JDMT070204-M	6	4.26	2	0.8	2.45										●	○		

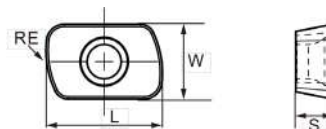
BLMP0603R-M



Insert Shape	Model	Dimensions (mm)				Grade											
		l	d1	t	ap	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQA1010	DHQA1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	BLMP0603R-M	9	6.39	3.73	1.0									●	○		

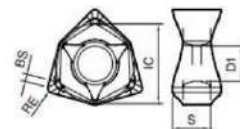
Milling Insert Models

RPNW06



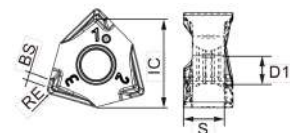
Insert Shape	Model	Dimensions (mm)				Grade											
		L	W	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	EPNW00TN-8	9.9	6.3	3.18	8									●	○		

WNMU08



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	D1	S	RE	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	WNMU080608EN-GM	14	6.2	6.65	0.8									●	○		
	WNMU040304EN-GM	6.55	3.2	3.3	0.4									●	○		

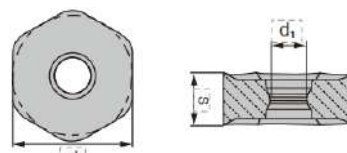
XNEX08



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	d1	S	RE	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH Q1010	DH Q1020	DH Q8030A(H)	DH Q8805A(H)	DH Q8815(H)	DH Q8815AH
	XNMX080608-TR													●	○		
	XNMX040308-TR													●	○		

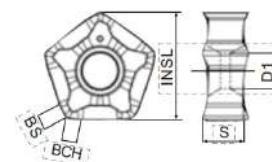
Milling Insert Models

HNMX



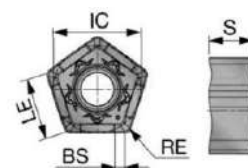
Insert Shape	Model	Dimensions (mm)			Grade											
		d	d1	S	CVD Coating					PVD Coating						
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH1010	DH1020	DH08030A(H)	DH0805A(H)	DH0815(H)	DH0815AH
	HNMX0906ANSN-R	16.5	4.90	6.35									●	○		

PNMU



Insert Shape	Model	Dimensions (mm)					Grade												
		INSL	S	DI	BCH	BS	CVD Coating					PVD Coating							
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH	
	PNMU0905XNER-GM	14.6	5.56	4.7	2.0	2.0										•	◦		

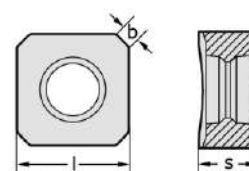
PNMU



Insert Shape	Model	Dimensions (mm)					Grade												
		LE	S	IC	BS	RE	CVD Coating					PVD Coating							
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08815(H)	DH08815AH	
	PNMU0905GNEN	8.9	6.00	12.20	1.40	0.80										●	○		

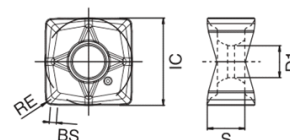
Milling Insert Models

SNMX09/12



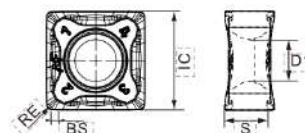
Insert Shape	Model	Dimensions (mm)			Grade													
		d	d1	S	CVD Coating						PVD Coating							
					SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH		
	SNMX0904ANN-F57	9.52	1.2	4.71										●	○			
	SNMX1205ANN-F57	12.7	1.5	5.59											●	○		

SNMU130508



Insert Shape	Model	Dimensions (mm)					Grade												
		IC	D1	S	BS	RE	CVD Coating					PVD Coating							
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH	
	SNMU130508EN-GM	13	4.7	5.51	1	0.8										●	○		

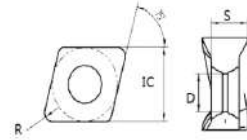
SNMX1206



Insert Shape	Model	Dimensions (mm)					Grade												
		IC	D1	S	BS	RE	CVD Coating						PVD Coating						
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH Q1010	DH Q1020	DH Q8030A(H)	DH Q8805A(H)	DH Q8815(H)	DH Q8815AH	
	SNMX1206ANN-MF	12.7	5.3	6.35	1	0.8										•	◦		

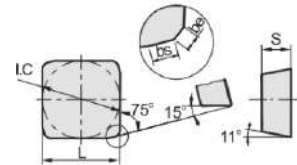
Milling Insert Models

4NKT



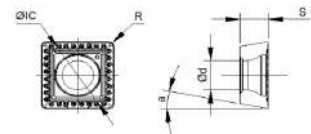
Insert Shape	Model	Dimensions (mm)				Grade											
		IC	d	S	R	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ805A(H)	DHQ815(H)	DHQ815AH
	4NKT060308R-M	6.6	3.4	3.65	0.8									●	○		

SPKN12/15



Insert Shape	Model	Dimensions (mm)					Grade													
		L	IC	S	be	bs	CVD Coating						PVD Coating							
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8050A(H)	DHQ815(H)	DHQ815AH		
	SPKN1203EDSKR/L	12.7	12.7	3.18	1	1.4										●	○			
	SPKN1203EDTKR/L	12.7	12.7	3.18	1	1.4											●	○		
	SPKN1504EDSKR/L	15.875	15.875	4.76	1	1.4											●	○		
	SPKN1504EDTKR/L	15.875	15.875	4.76	1	1.4												●	○	

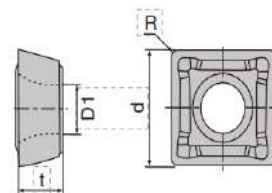
TPKN16/22



Insert Shape	Model	Dimensions (mm)					Grade											
		IC	d	R	S	a	CVD Coating					PVD Coating						
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ805A(H)	DHQ815(H)	DHQ815AH
	SPMT120408-PM	12.7	5.5	0.8	4.76	11°									●	○		

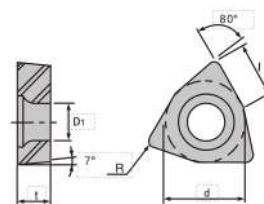
Drilling Insert Models

SPMG-TT Drilling Inserts



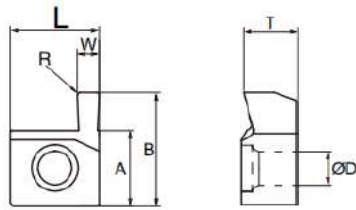
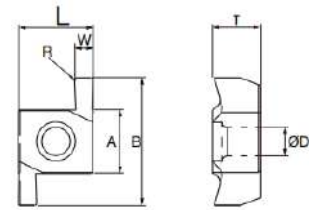
Insert Shape	Model	Dimensions (mm)				Grade											
		d	D1	t	R	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	SOMT030104-TT	3.55	1.84	1.4	0.4							●					
	SOMT040202-TT	4	1.9	1.8	0.2							●					
	SPMT040204-PD	4.65	2.4	2.3	0.4							●					
	SPMG050204-TT	5	2.25	2.38	0.4							●					
	060204-TT	6	2.61	2.38	0.4							●					
	07T308-TT	7.94	2.85	3.97	0.8							●					
	090408-TT	9.8	4.05	4.3	0.8							●					
	110408-TT	11.5	4.45	4.8	0.8							●					
	120408-TT	12.7	4.37	4.76	0.8							●					
	140512-TT	14.3	5.75	5.2	1.2							●					

TPKN16/22



Insert Shape	Model	Dimensions (mm)				Grade											
		d	D1	t	R	CVD Coating						PVD Coating					
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
	WCMX030208-SU	5.56	3.8	2.38	0.8							●					
	040208-SU	6.35	4.3	2.38	0.8							●					
	050308-SU	7.94	5.4	3.18	0.8							●					
	06T308-SU	9.525	6.5	3.97	0.8							●					
	080412-SU	12.7	8.7	4.76	1.2							●					

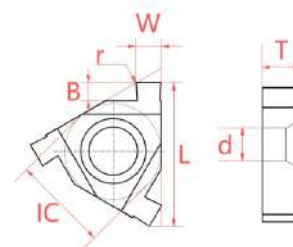
Internal Grooving Insert Models

Single Point Type
6GR/L
7GR/LDouble Point Type
8GR/L
9GR/L

Insert Shape	Model	Maximum cutting depth	Dimensions (mm)							Grade											
			W	A	B	T	D	L	R	CVD Coating						PVD Coating					
										SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ8815(H)	DHQ8815AH
 	6GR/L 100	1.5	1	4.76	6.44	2.34	2.3	5.56	0.2									•			
	6GR/L 150	1.5	1.5	4.76	6.44	2.34	2.3	5.56	0.2									•			
	6GR/L 200	1.5	2	4.76	6.44	2.34	2.3	5.56	0.2									•			
	7GR/L 100	1.5	1	5.56	7.36	3.08	2.58	5.56	0.2									•			
	7GR/L 150	1.5	1.5	5.56	7.36	3.08	2.58	5.56	0.2									•			
	7GR/L 200	1.5	2	5.56	7.36	3.08	2.58	5.56	0.2									•			
	8GR/L 100	1.5	1	5.56	10.16	3.87	2.58	6.15	0.2									•			
	8GR/L 150	2	1.5	5.56	10.16	3.87	2.58	6.15	0.2									•			
	8GR/L 200	2	2	5.56	10.16	3.87	2.58	6.15	0.2									•			
	8GR/L 250	2	2.5	5.56	10.16	3.87	2.58	6.15	0.2									•			
	8GR/L 300	2	3	5.56	10.16	3.87	2.58	6.15	0.2									•			
	8GR/L 350	2	3.5	5.56	10.16	3.87	2.58	6.15	0.2									•			
	9GR/L 100	1.5	1	6.35	12.95	4.66	2.86	7.74	0.2									•			
	9GR/L 150	2	1.5	6.35	12.95	4.66	2.86	7.74	0.2									•			
	9GR/L 200	3	2	6.35	12.95	4.66	2.86	7.74	0.2									•			
	9GR/L 250	3	2.5	6.35	12.95	4.66	2.86	7.74	0.2									•			
	9GR/L 300	3	3	6.35	12.95	4.66	2.86	7.74	0.2									•			
	9GR/L 350	3	3.5	6.35	12.95	4.66	2.86	7.74	0.2									•			

Shallow Groove Insert Models

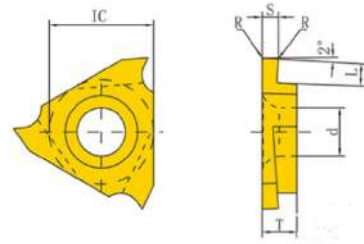
Triangular Flush-Mount Shallow Groove Tool



Insert Shape	Model	Dimensions (mm)					Grade												
		IC	W	B	R	T	CVD Coating						PVD Coating						
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ805A(H)	DHQ815(H)	DHQ815AH	
	16ER050-005	9.525	0.5	0.8	0.05	3.65											•		
	16ER100-010	9.525	1.0	2	0.1	3.65											•		
	16ER150-010	9.525	1.5	2	0.1	3.65											•		
	16ER200-020	9.25	2.0	2	0.2	3.65											•		
	16ER250-020	9.525	2.5	2	0.2	3.65											•		
	16ER300-020	9.525	3	2	0.2	3.65											•		
	16IR050-005	9.525	0.5	0.8	0.05	3.65											•		
	16IR100-010	9.525	1.0	2	0.1	3.65											•		
	16IR150-010	9.525	1.5	2	0.1	3.65											•		
	16IR200-020	9.525	2.0	2	0.2	3.65											•		
	16IR250-020	9.525	2.5	2	0.2	3.65											•		
	16IR300-020	9.525	3	2	0.2	3.65											•		

Shallow Groove Insert Models

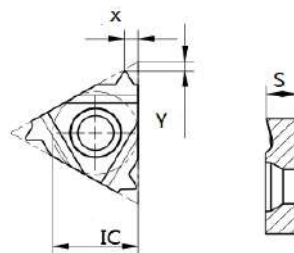
TGF Shallow Groove Tool



Insert Shape	Model	Dimensions (mm)					Grade											
		IC	d	T	S	L	CVD Coating					PVD Coating						
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8805A(H)	DHQ815(H)	DHQ815AH
	TGF32R075-010	9.525	3.81	3.65	0.75	2									•			
	TGF32R095-010	9.525	3.81	3.65	0.95	2									•			
	TGF32R100-010	9.525	3.81	3.65	1.0	2.2									•			
	TGF32R110-010	9.525	3.81	3.65	1.1	2.2									•			
	TGF32R120-010	9.525	3.81	3.65	1.2	2.2									•			
	TGF32R125-010	9.525	3.81	3.65	1.25	2.2									•			
	TGF32R130-010	9.525	3.81	3.65	1.3	2.2									•			
	TGF32R140-010	9.525	3.81	3.65	1.4	2.2									•			
	TGF32R150-010	9.525	3.81	3.65	1.5	2.4									•			
	TGF32R175-010	9.525	3.81	3.65	1.75	2.4									•			
	TGF32R200-015	9.525	3.81	3.65	2.0	2.7									•			
	TGF32R210-015	9.525	3.81	3.65	2.1	2.7									•			
	TGF32R220-015	9.525	3.81	3.65	2.2	2.7									•			
	TGF32R230-015	9.525	3.81	3.65	2.3	2.7									•			
	TGF32R240-015	9.525	3.81	3.65	2.4	2.7									•			
	TGF32R250-015	9.525	3.81	3.65	2.5	3									•			
	TGF32R300-020	9.525	3.81	3.65	3	3									•			
	GBA43R/L	12.7	5.16	4.76	Model as follows: GBA/L 43-100、GBA/L 43-125、GBA/L 43-150 GBA/L 43-175、GBA/L 43-200、GBA/L 43-230 GBA/L 43-250、GBA/L 43-280、GBA/L 43-300 GBA/L 43-325、GBA/L 43-350、GBA/L 43-375 GBA/L 43-400、GBA/L 43-450													

Threading Insert Models

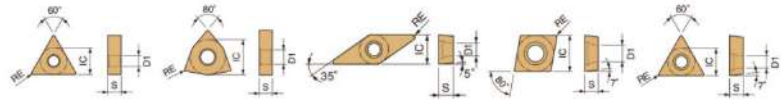
Threading Inserts



Insert Shape	Model	Dimensions (mm)					Grade											
		IC	S	X	Y	pitch	CVD Coating						PVD Coating					
							SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DHQ1010	DHQ1020	DHQ8030A(H)	DHQ8050A(H)	DHQ815(H)	DHQ815AH
	16ER1.0ISO	9.525	3.5	0.7	0.7	1										•		
	16ER1.5ISO	9.525	3.5	1.0	0.8	1.5										•		
	16ER2.0ISO	9.525	3.5	1.3	1.0	2										•		
	16ER2.5ISO	9.252	3.5	1.5	1.1	2.5										•		
	16ER3.0ISO	9.525	3.5	1.6	1.2	3										•		
	16ER-AG55	9.525	3.5	1.7	1.2	0.5-3										•		
	16IR1.0ISO	9.525	3.5	0.7	0.6	1										•		
	16IR1.5ISO	9.252	3.5	1.0	0.8	1.5										•		
	16IR2.0ISO	9.525	3.5	1.3	1.0	2										•		
	16IR2.5ISO	9.525	3.5	1.5	1.1	2.5										•		
	16IR3.0ISO	9.525	3.5	1.5	1.1	3										•		
	16IR-AG55	9.525	3.5	1.7	1.2	0.5-3										•		
	11ER 11IR	6.35	Model as follows: 11ER0.5ISO、11ER0.75ISO、11ER1.0ISO、11ER1.25ISO 11ER1.5ISO、11ER1.75ISO、11ER2.0ISO、11ERA55、11ERA60 11IR0.75ISO、11IR1.0ISO、11IR1.25ISO、11IE1.5ISO 11IR1.75ISO、11IR2.0ISO、11RA55、11IR60															
	22ER 22IR	12.7	Model as follows: 22ER3.5ISO、22ER4.0ISO、22ER4.5ISO、22ERISO、22ER5.5ISO、22ER60ISO 22IRO3.5ISO、22IR4.0ISO、22IR4.5ISO、22IR5.0ISO、22IR5.5ISO、22IR6.0ISO															

Ground Turning Insert Models

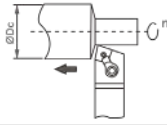
Ground Turning Inserts



Insert Shape	Model	Dimensions (mm)				Grade											
		IC	ød	S	R	CVD Coating					PVD Coating						
						SP3100	SP3200	SP3600	SP3700	ZT6215	ZT6225	DH01010	DH01020	DH08030A(H)	DH08805A(H)	DH08815(H)	DH08815AH
	TNGG160404R/L-S	9.25	3.81	4.76	0.4									•			
														•			
	TNGG160408R/L-S	9.525	3.81	4.76	0.8									•			
														•			
	TNGG160404R/L-2G	9.25	3.81	4.76	0.4									•			
														•			
	TNGG160408R/L-2G	9.525	3.81	4.76	0.8									•			
														•			
	WNMG080404R/L-S	12.7	5.16	4.76	0.4									•			
														•			
	WNMG080408R/L-S	12.7	5.16	4.76	0.8									•			
														•			
	WNMG080404R/L-2G	12.7	5.16	4.76	0.4									•			
														•			
	WNMG080408R/L-2G	12.7	5.16	4.76	0.8									•			
														•			
	VBGT110302R/L-S	6.35	2.8	3.18	0.2									•			
														•			
	VBGT110304R/L-S	6.35	2.8	3.18	0.4									•			
														•			
	VBGT110302R/L-2G	6.35	2.8	3.18	0.2									•			
														•			
	VBGT110304R/L-2G	6.35	2.8	3.18	0.4									•			
														•			
	CCGT09T302R/L-S	9.525	4.4	3.97	0.2									•			
	CCGT09T304R/L-S	9.525	4.4	3.97	0.4									•			
	CCGT060202R/L-S	6.35	2.8	2.38	0.2									•			
	CCGT060204R/L-S	6.35	2.8	2.38	0.4									•			
	CCGT09T302R/L-2G	9.525	4.4	3.97	0.2									•			
	CCGT09T304R/L-2G	9.525	4.4	3.97	0.4									•			
	CCGT060202R/L-2G	6.35	2.8	2.38	0.2									•			
	CCGT060204R/L-2G	6.35	2.8	2.38	0.4									•			
	TPHT080202R/L-S	4.76	2.5	2.38	0.2									•			
	TPHT080204R/L-S	4.76	2.5	2.38	0.4									•			
	TCGT090202R/L-S	5.56	3	2.38	0.2									•			
	TCGT090204R/L-S	5.56	3	2.38	0.4									•			
	TCGT110302R/L-S	6.35	3.4	3.18	0.2									•			
	TCGT110304R/L-S	6.35	3.4	3.18	0.4									•			
	TPHT080202R/L-2G	4.76	2.5	2.38	0.2									•			
	TPHT080204R/L-2G	4.76	2.5	2.38	0.4									•			
	TCGT090202R/L-2G	5.56	3	2.38	0.2									•			
	TCGT090204R/L-2G	5.56	3	2.38	0.4									•			
	TCGT110302R/L-2G	6.35	3.4	3.18	0.2									•			
	TCGT110304R/L-2G	6.35	3.4	3.18	0.4									•			

Calculation Method For Turning Machining

•Cutting Speed



$$V_c = \frac{\pi * D_c * n}{1000} \quad (\text{m/min})$$

Vc: Cutting Speed (m/min)
 π : $\pi \approx 3.14$
 Dc: Workpiece Diameter (mm)
 n: Spindle Speed (rev/min)

•Feed Rate

$$V_f = f * n (\text{mm/min})$$

Vf: Feed Rate (mm/min)
 f: Feed per Revolution (mm/rev)
 n: Spindle Speed (rev/min)

•Cutting Power

$$P_{\text{mot}} = \frac{K_c * V_c * a_p * f}{60000 * \eta} \quad (\text{KW})$$

Pmot: Cutting Power (KW)
 Kc: Specific Cutting Force (N/mm²)
 Vc: Cutting Speed (m/min)
 ap: Depth of Cut (mm)
 f: Feed per Revolution (mm/rev)
 η : Mechanical Efficiency

•Cutting Depth

$$h = f * \text{sinkr} (\text{mm})$$

h: Cutting Depth (mm)
 f: Feed per Revolution (mm/rev)

•Cutting Width

$$b = \frac{a_p}{\text{sinkr}} \quad (\text{mm})$$

b: Cutting Width (mm)
 ap: Depth of Cut (mm)

•Cutting Area

$$A = h * b = a_p * f (\text{mm}^2)$$

A: Cutting Area (mm²)
 ap: Depth of Cut (mm)
 f: Feed per Revolution (mm/rev)

•Cutting Force

$$F_c = K_c * a_p * f (\text{N})$$

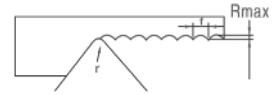
Fc: Cutting Force (N)
 Kc: Specific Cutting Force (N/mm²)
 ap: Depth of Cut (mm)
 f: Feed per Revolution (mm/rev)

•Metal Removal Rate

$$Q = a_p * f * V_c (\text{cm}^3/\text{min})$$

Q: Metal Removal Rate (cm³/min)
 ap: Depth of Cut (mm)
 f: Feed per Revolution (mm/rev)
 Vc: Cutting Speed (m/min)

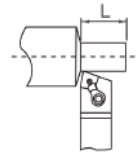
•Theoretical Surface Roughness



$$R_{\text{max}} = \frac{f^2}{8 * r} * 1000 (\mu\text{m})$$

Rmax: Theoretical Surface Roughness (um)
 f: Feed per Revolution (mm/rev)
 r: Nose Radius (mm)

•Machining Time



$$T_c = \frac{L}{f * n} \quad (\text{min})$$

Tc: Machining Time (min)
 f: Feed per Revolution (mm/rev)

Common Calculation Method For Milling

•Cutting Speed

$$V_c = \frac{\pi * D_c * n}{1000} \quad (\text{m/min})$$

Vc: Cutting Speed (m/min) π : $\pi \approx 3.14$
 Dc: Nominal Diameter of the Milling Cutter (mm)
 n: Spindle Speed (rev/min)

•Spindle Speed

$$n = \frac{1000 * V_c}{\pi * D_c} \quad (\text{rev/min})$$

Vc: Cutting Speed (m/min) π : $\pi \approx 3.14$
 Dc: Nominal Diameter of the Milling Cutter (mm)
 n: Spindle Speed (rev/min)

•Feed Rate

$$V_f = f_z * n * Z (\text{mm/min})$$

Vf: Feed Rate (mm/min)
 fz: Feed per Tooth (mm/z)
 n: Spindle Speed (rev/min)
 Z: Number of Teeth

•Feed per Tooth

$$f_z = \frac{V_f}{n * Z} \quad (\text{mm/Z})$$

fz: Feed per Tooth (mm/z)
 Vf: Feed Rate (mm/min)
 n: Spindle Speed (rev/min)
 Z: Number of Teeth

•Feed per Revolution

$$f = \frac{V_f}{n} \quad (\text{mm/rev})$$

f: Feed per Revolution (mm/z)
 Vf: Feed Rate (mm/min)

•Machining Time

$$T_c = \frac{L}{V_f} \quad (\text{min})$$

Tc: Machining Time (min)
 L: Actual Travel Distance (mm)
 Vf: Feed Rate (mm/min)

•Horsepower

$$H_p = \frac{P_{\text{mot}}}{0.75}$$

Hp: Horsepower
 Pmot: Cutting Power (KW)

•Power Requirement

$$P_{\text{mot}} = \frac{a_p * a_e * V_f * K_c}{6 * 10^7 * \eta} \quad (\text{KW})$$

Pmot: Cutting Power (KW)
 ap: Depth of Cut ae: Width of Cut
 Kc: Specific Cutting Force (N/mm²)
 η : Machine Tool Efficiency Coefficient (0.7~0.95)

•Average Cutting Depth

$$h_m = \frac{114.7 * f_z * \text{sink} * (a_e / D_c)}{\psi_s} \quad (\text{mm})$$

hm: Average Cutting Depth
 fz: Feed per Tooth (mm/z)

•Feed Force

Milling Cutter in Central Position

$$\psi_s = 2 * \arcsin \left(\frac{a_e}{D_c} \right) [^\circ]$$

Milling Cutter in Eccentric Position

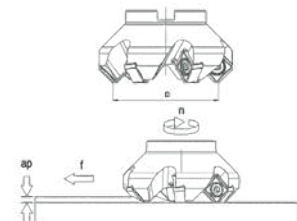
$$\psi_s = 90^\circ + \arcsin \frac{a_e - (D_c/2)}{(D_c/2)} [^\circ]$$

ψ_s : Pressure Angle
 ae: Width of Cut
 Dc: Nominal Diameter of the Milling Cutter (mm)

•Metal Removal Rate

$$Q = \frac{a_p * a_e * V_f}{1000} \quad (\text{cm}^3/\text{min})$$

Q: Metal Removal Rate (cm³/min)
 ap: Depth of Cut
 ae: Width of Cut



Common Problems and Solutions in Turning Processing

Common Problems	Causes	Solutions															
		Tool material		Cutting conditions				Tool shape						Machine clamping			
		Use of harder materials	Use of more ductile materials	Cutting speed	Feed	Depth of cut	Cutting fluid	Change insert slot type	Rake angle	Tip arc radius	Primary clearance angle	Cutting edge arc	Improve insert precision	Enhance tool shank rigidity	Clamping of workpiece and tool holder	Overhang of the tool holder	Power, machine tool clearance
Exceeding precision standards during machining	Increased wear on the flank face	√															
	Unsuitable cutting conditions																
Poor surface quality	Increased wear on the flank face, dull cutting edge	√					√					√					
	Wear on the cutting edge		√					√							√	√	√
	Unsuitable cutting edge geometry							√				√					
	Unsuitable cutting conditions						√										
	Vibration, chatter		√				√	√					√	√	√	√	√
	Built-up edge						√	√				√					
Influence of cutting heat	Unsuitable cutting conditions																
	Unsuitable cutting edge geometry	√						√									
Dimensional fluctuations during processing	Inappropriate blade precision											√					
	Misalignment of workpiece and tool position							√					√	√	√	√	√
Increased wear on the flank and rake face	Wear on the flank face	√						√									
	Wear on the rake face	√						√									
Micro-chipping	Vibration, impact		√					√					√	√	√	√	√
Built-up edge	Unsuitable hardness of the workpiece for the cutting conditions of the tool						√	√				√					
Thermal cracking	Mismatch between the hardness of the workpiece material and the tool material and cutting conditions						√	√									
Deformation of the cutting edge portion of the tool	Occurs during intermittent cutting with large feed	√					√	√									
Tool life	Unsuitable material and cutting conditions		√					√					√	√	√	√	√
Long chip winding	Unsuitable cutting conditions						√										
	Unsuitable cutting edge geometry							√									
Short chips causing splatter	Unsuitable cutting conditions						√										
	Unsuitable cutting edge geometry							√									
Burs on steel and aluminum	Unsuitable cutting conditions						√										
	Unsuitable cutting edge geometry	√						√									
Edge collapse on cast iron	Unsuitable cutting conditions						√										
	Unsuitable cutting edge geometry	√						√	√								
Burs on soft steel	Unsuitable cutting conditions																
	Unsuitable cutting edge geometry	√						√					√	√	√	√	√

Common Failure Modes of Turning Inserts and Solutions

Failure Forms	Picture Example	Cause Analysis	Countermeasures
Flank Wear		·Tool material too soft ·cutting speed too high ·insufficient back angle ·feed too small ·inadequate cooling	·Use highly wear-resistant tool materials ·reduce cutting speed ·increase back angle ·increase feed
Crescent Wear		·Tool material too soft ·cutting speed too high ·feed too large	·Use highly wear-resistant tool materials ·reduce cutting speed ·decrease feed ·increase coolant flow
Chipping		·Tool material too hard ·insufficient cutting edge strength	·Use tool materials with good toughness ·enhance cutting edge strength
Plastic Deformation		·Tool material too soft ·cutting speed too high ·excessive cutting depth and feed ·insufficient cooling	·Use highly wear-resistant tool materials ·reduce cutting speed ·use tool materials with high thermal conductivity ·increase coolant flow
Built-up Edge		·Cutting speed too low ·cutting edge not sharp ·inappropriate tool material ·insufficient cooling	·Increase cutting speed ·use a sharper groove type ·choose tool materials with low affinity ·increase coolant flow
Mechanical Wear		·Feed and depth of cut too large ·tool chattering during cutting	·Switch to materials with greater toughness ·increase chamfer ·use tool shanks with higher rigidity
Thermal Cracking		·Significant temperature variation at the cutting edge	·Choose dry cutting or ensure adequate cooling ·use tool materials with good toughness
Boundary Wear		·Excessive feed, high cutting speed ·tool material too soft	·Use highly wear-resistant tool materials ·increase the rake angle to sharpen the cutting edge ·reduce the cutting speed
Coating Delamination		·Material adhesion on cutting edge ·inefficient chip evacuation	·Increase the rake angle to sharpen the cutting edge ·increase the size of the chip gullet



浙江鸣鸿精密技术有限公司
Zhejiang MingHong Precision Co. Ltd

CUTTING TOOLS CATELOGE

Address: No. 101, Puluhi Center, Xintang Street, Xiaoshan District, Hangzhou City, Zhejiang Province, China

TEL: 0571-8211 7595

+7 999 346 2702(Whatsapp)

+86 180 5879 6040 (Wechat)

Mail: Alexey.fang@zjmhjm.com Jackson.zhao@zjmhjm.com

SITE: www.zjmhjm.com