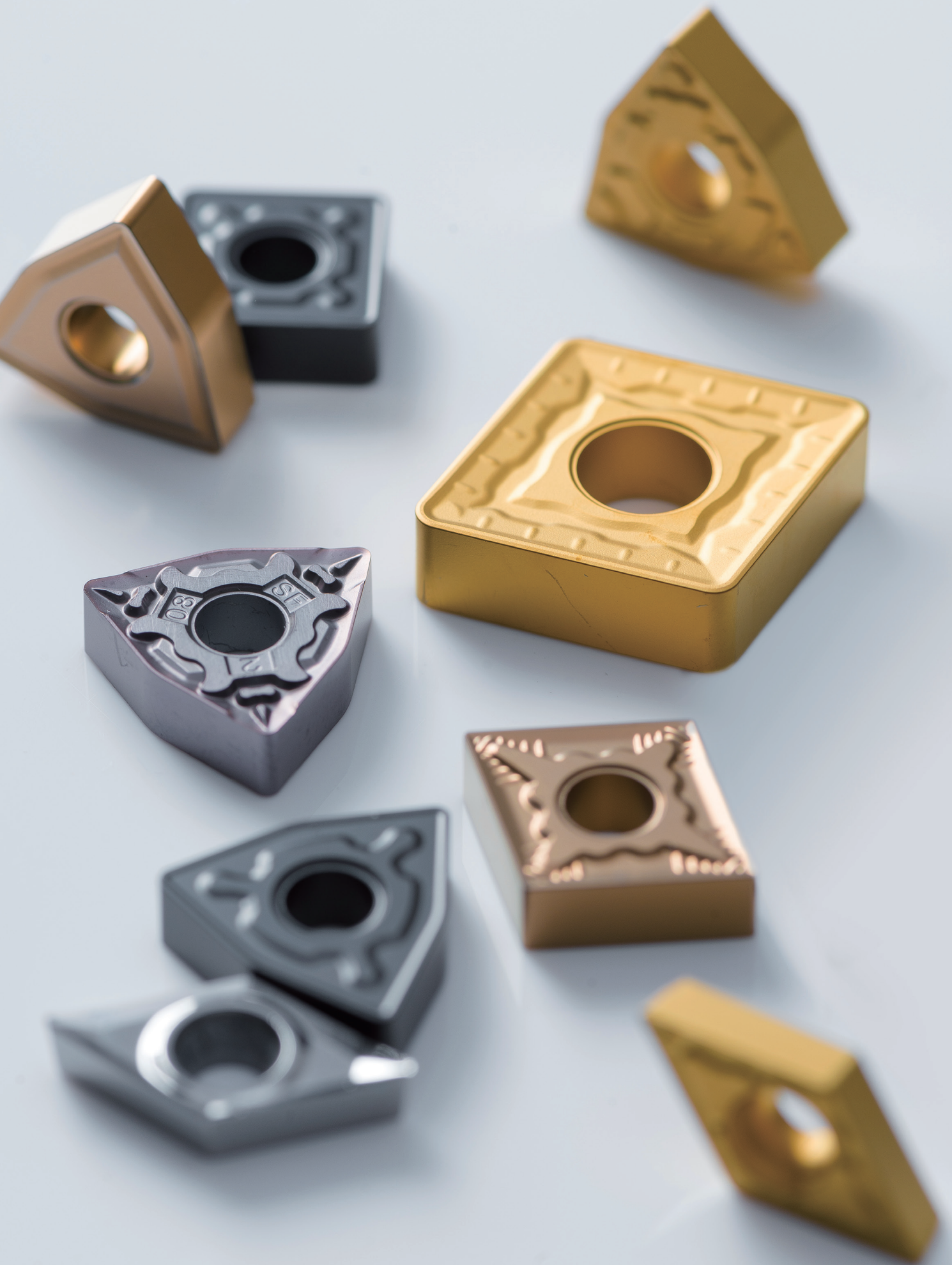


TURNING TOOLS

GENERAL TURNING





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General Turning — E

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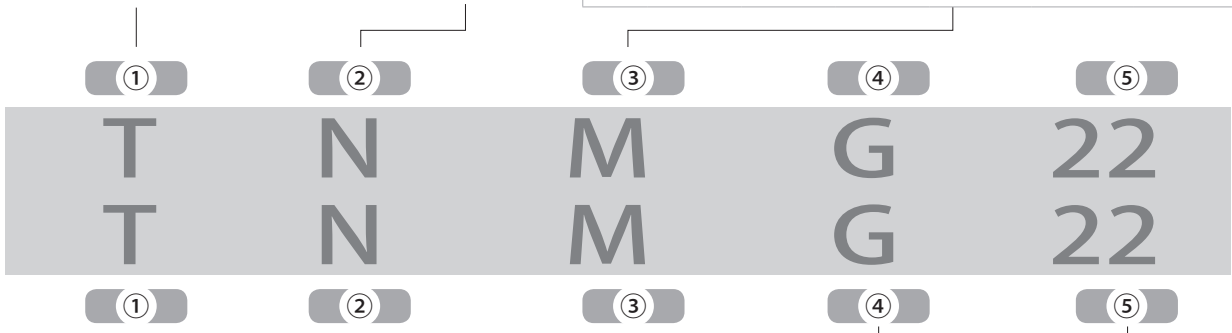
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GENERAL TURNING



ISO Turning Indexable Inserts Identification System

Symbol	Shape	Corner Angle	Shape	Symbol	Relief Angle	Tolerance (mm)			Tolerance (inch)			
Symbol	Shape	Corner Angle	Shape	Symbol	Relief Angle	Corner Height (m)	Thickness (s)	I.C.dia. (∅d)	Corner Height (m)	Thickness (s)	I.C.dia. (∅d)	
H	Hexagon	120°		A	3°	±0.005	±0.025	±0.025	±0.0002	±0.001	±0.001	
O	Octagon	135°		B	5°	±0.005	±0.025	±0.013	±0.0002	±0.001	±0.0005	
P	Pentagon	108°		C	7°	±0.013	±0.025	±0.025	±0.0005	±0.001	±0.001	
S	Square	90°		D	15°	±0.013	±0.025	±0.013	±0.0005	±0.001	±0.0005	
T	Triangle	60°		E	20°	±0.025	±0.025	±0.025	±0.001	±0.001	±0.001	
C	Rhombic	80°		F	25°	±0.025	±0.13	±0.025	±0.001	±0.005	±0.001	
D		55°		G	30°	±0.025	±0.13	±0.025	±0.001	±0.005	±0.001	
E		75°		N	0°	±0.005	±0.025	±0.05~±0.13	±0.0002	±0.001	±0.002~±0.005	
F		50°		P	11°	±0.013	±0.025	±0.05~±0.13	±0.0005	±0.001	±0.002~±0.005	
M		86°		O	其他	±0.013	±0.025	±0.05~±0.13	±0.0005	±0.001	±0.002~±0.005	
V		35°				±0.025	±0.025	±0.05~±0.13	±0.001	±0.001	±0.002~±0.005	
W	Trigon	80°		L		±0.08~±0.18	±0.13	±0.05~±0.13	±0.003~±0.007	±0.005	±0.002~±0.005	
L	Rectangle	90°		M		±0.08~±0.18	±0.025	±0.05~±0.13	±0.003~±0.007	±0.001	±0.002~±0.005	
A	Parallelogram	85°		N		±0.13~±0.38	±0.13	±0.08~±0.25	±0.005~±0.015	±0.005	±0.003~±0.01	
B		82°										
K		55°										
R	Round	—										



④ Hole/Chipbreaker Symbol					⑤ Edge Length Symbol (ISO) (mm)																				
Symbol	Hole	Hole Shape	Chpbreaker	Shape	P		S		C		W		T		D		V		K		I.C. Size (mm)				
Symbol	Hole	Hole Shape	Chpbreaker	Shape	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	I.C. Size (mm)		
N	Without	—	Without																						
R			Single-sided			03	3.97	03	4.0			06	6.9	4	4.8									3.97	
F			Double-sided			04	4.76	04	4.8			08	8.2	5	5.8										4.76
A	With Hole	With Hole	Without		05	5																	5		
M			Single-sided			05	5.56	05	5.6	03	3.8	09	9.6	6	6.8									5.56	
G			Double-sided			06	6																		6
W			Without			06	6.35	06	6.5	04	4.3	11	11	7	7.8	11	11.2								6.35
T			Single-sided			07	7.94	08	8.1	05	5.4	13	13.8	9	9.7										7.94
Q			Double-sided			08	8																		8
U	With Hole and Two Countersink 40-60°C	With Hole and One Countersink 40-60°C	Without		09	9.525	09	9.525	09	9.7	06	6.5	16	16.5	11	11.6	16	16.6	16	19.7				9.525	
B			Single-sided			10	10																		10
H			Double-sided			12	12																		12
J	With Hole and One Countersink 70-90°C	With Hole and Two Countersink 40-60°C	Without		12	12.7	12	12.9	08	8.7	22	22	15	15.5	22	22.1								12.7	
U			Double-sided			15	15.875	16	16.1	10	10.9	27	27.5	19	19.4										15.875
B			Without			16	16																		16
H	With Hole and One Countersink 70-90°C	With Hole and Two Countersink 40-60°C	Without		19	19.05	19	19.3	13	13	33	33	23	23.3										19.05	
C			Double-sided			20	20																		20
J	With Hole and Two Countersink 70-90°C	With Hole and One Countersink 40-60°C	Without			22	22.225	22	22.6			38	38.5	27	27.1									22.225	
C			Double-sided			25	25																		25
J			Double-sided			25	25.4	25	25.4	25	25.8			44	44	31	31								25.4
X	—	—	—		31	31.75	31	31.75	32	32.2			55	55	38	38.8							31.75		
					31	32																	32		

Insert Shape: H,O,P,S,T,C,E,M,W,R									
I. C. Size (mm)	Tolerance of I. C. Size(\varnothing d) (mm)		Tolerance of Corner Height (mm)		I. C. Size (inch)	Tolerance of I. C. Size(\varnothing d) (mm)		Tolerance of corner Height (mm)	
	J,K,L,M,N	U	M,N	U		Class J,K,L,M,N	Class U	Class J,K,L,M,N	Class U
6.35	±0.05	±0.08	±0.08	±0.13	0.250	±0.002	±0.003	±0.003	±0.005
9.525					0.375				
12.7	±0.08	±0.13	±0.13	±0.2	0.500	±0.003	±0.005	±0.005	±0.008
15.875					0.625				
19.05	±0.1	±0.18	±0.15	±0.27	0.750	±0.004	±0.007	±0.006	±0.011
25.4					1.000				
31.75	±0.15	±0.25	±0.18	±0.38	1.250	±0.005	±0.010	±0.007	±0.015
32					1.260				

Symbol	Thickness (mm)
01	1.59
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	9.52
ⒸThickness Symble	

Insert Shape: D					
Inscribed Circle Size		Tolerance of I. C. Size		Tolerance of Corner Height	
mm	in	mm	in	mm	in
6.35	0.250	±0.05	±0.002	±0.11	±0.004
9.525	0.375	±0.05	±0.002	±0.11	±0.004
12.7	0.500	±0.08	±0.003	±0.15	±0.006
15.875	0.625	±0.10	±0.004	±0.18	±0.007
19.05	0.750	±0.10	±0.004	±0.18	±0.007

Insert Shape: V					
Inscribed Circle Size		Tolerance of I. C. Size		Tolerance of Corner Height	
mm	in	mm	in	mm	in
6.35	0.250	±0.05	±0.002	±0.15	±0.006
9.525	0.375	±0.05	±0.002	±0.15	±0.006
12.7	0.500	±0.08	±0.003	±0.20	±0.008
15.875	0.625	±0.10	±0.004	±0.27	±0.011
19.05	0.750	±0.10	±0.004	±0.27	±0.011

⑥

04

04

⑥

⑦

08

08

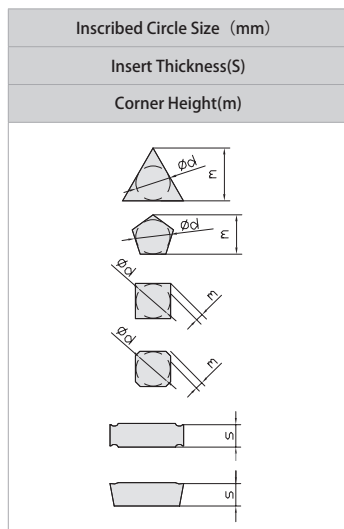
⑦

⑧

HK

HK

⑧



⑦Corner Ro Symbol	
Symbol	Corner-R (mm)
00	0.03
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
28	2.8
32	3.2

⑧Chipbreaker Symbol

Indicates the cutting properties and chipbreakers

Application Summary of Turning Grades

Workpiece	ISO	Coated		Uncoated
		CVD	PVD	
P Steel	01	A1105		
	10	A1115		
	20	A1120	A4230	
	30	A1225		
	40	A1135		
	50			
M Stainless Steel	01		S3115	
	10	M1115	M3215	
	20	M1125	S3125	
	30		M3225	
	40		A4230	
	50			
K Cast Iron	01			
	10	C1115		
	20	C1120	A4230	
	30	C1125		
	40	C1130		
	50			
N Non-ferrous metal	01			N9115
	10			
	20			N9120 <small>NEW</small>
	30			
	40			N9130 <small>NEW</small>
	50			
S HRSA	01			
	10		S3115	
	20		S3125	
	30			S9125
	40			
	50			
H Hardened Material	01			
	10			
	20			
	30			
	40			
	50			

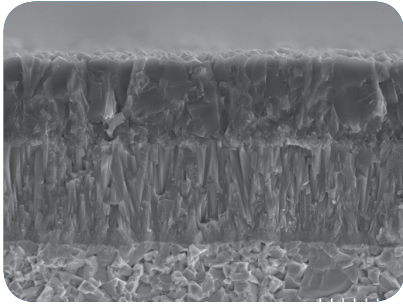
	Cermet	Coating Cermet	CBN	Coating CBN	PCD
	P91TF P91TM	P31TM <small>NEW</small>			
	P91TF P91TM	P31TM <small>NEW</small>			
	P91TF P91TM	P31TM <small>NEW</small>	BKN115P	BKC120P <small>NEW</small>	DNN105P DNN120P <small>NEW</small> DNN125P DNN130P DNN135P
			BSN115P		
				BHC115P <small>NEW</small> BHC125P <small>NEW</small> BHC135P <small>NEW</small>	

COATED CARBIDE(CVD)

- Fine grain Al₂O₃ coating improve wear-resistance and breakage failure resistance

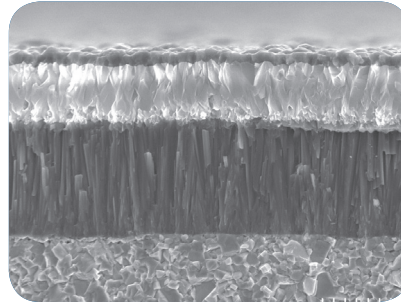
Workpiece	Cutting Mode	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
P Steel	Continuous Cutting	A1105	200-380	P01	
		A1115	150-360	P10	
		A1120	150-360	P20	
	Interrupted Cutting	A1225	120-280	P30	
		A1135	80-180	P40	
M Stainless Steel	Continuous Cutting	M1115	200-300	M01	
				M10	
				M20	
	Interrupted Cutting	M1125	180-280	M30	
				M40	
K Cast Iron	Continuous Cutting	C1115	200-400	K01	
				C1120	
	Interrupted Cutting	C1125	150-300	K10	
				K20	
				K30	
C1130	K40				

Extremely wear-resistance Steel Turning CVD Grade-A1105



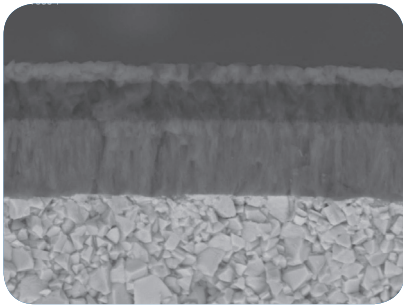
- Superfine Al₂O₃ and MT-TiCN coating on gradient carbide substrate provide excellent wear resistance.
- Suitable for finishing of steel & alloy steel under stable condition.

High versatility Steel Turning CVD Grade-A1120



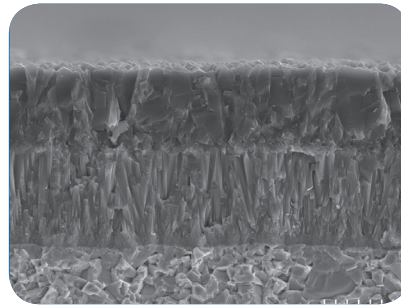
- Perfect combination with nano columnar MT-TiCN and Al₂O₃, TiN coating.
- Special edge treatment technology.
- Suitable for continuous to light interrupted cutting of steel & alloy steel.

High abrasive wear resistance Stainless Steel Turning CVD Grade-M1115



- New thinner Al₂O₃ and Nano MT-TiCN coating, including bright yellow TiN coating, on good toughness gradient carbide substrate, with good wear resistance, superior adhesion resistance and longer tool life.
- Application: Suitable for machining of stainless finishing Conditions.

High versatility Cast Iron Turning CVD Grade-C1120



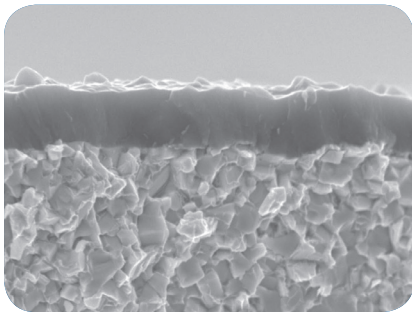
- MT-TiCN and thick Al₂O₃ coated on micrograin carbide substrate. Special postprocessing with excellent edge strength and ensure the stability of cutting.
- Application: Suitable for continuous and light interrupted cutting action of nodular cast iron.

COATED CARBIDE(PVD)

- Exclusive PVD nano-coating improve comprehensive properties of cutting insert.

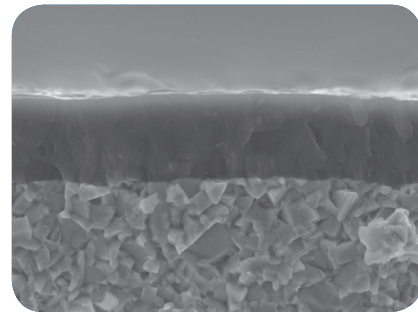
Workpiece	Cutting Mode	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
M Stainless Steel	Continuous Cutting	S3115	120-200	M01	
		M3215	120-200	M10	
	Interrupted Cutting	S3125	80-180	M20	
		M3225	80-180	M30	
S Heat Resistance Alloy	Continuous Cutting	S3115	40-70	S01	
				S10	
	Interrupted Cutting	S3125	45-65	S20	
				S30	

High abrasive wear resistance Stainless Steel Turning PVD Grade-M3215



- New TiAlN coating on submicron substrate with strong adhesion, superior wear resistance and good heat resistance.
- Application: Suitable for finishing stainless steel and high-temperature alloy on stable conditions.

High versatility Stainless Steel Turning PVD Grade-M3225



- Optimized combination of TiAlN coating and micro-grain carbide substrate with high Co content provide superior adhesion resistance and toughness.
- Application: Suitable for semi-finishing of stainless steels and threading of general materials.

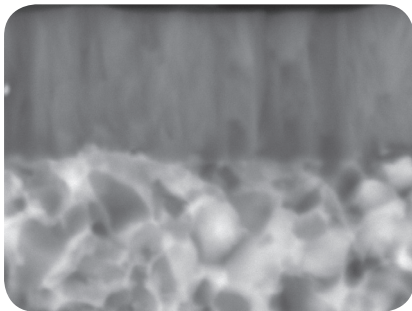
Cermet

- The specially optimized matrix largely improves wear resistance and anti-breakage property
- Great surface quality in high speed application.

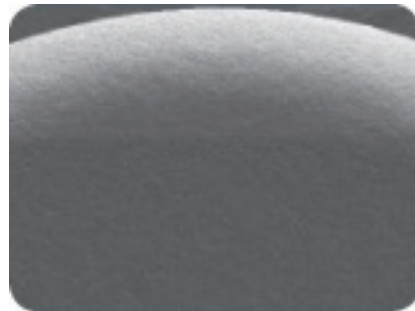
Workpiece	Cutting Mode	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
P Steel	Continuous Cutting	P91TF	180-380	P01	
		P31TM	180-380	P10	
		P91TM	150-350	P20	
M Stainless Steel	Continuous Cutting	P31TM	150-280	M01	
		P91TM	130-250	M10	
				M20	
K Cast Iron	Continuous Cutting	P31TM	130-330	K01	
		P91TM	100-300	K10	
				K20	

NEW

High wear-resistance coating
cermet grade P31TM



- Excellent PVD Coating
- High lubricant coating to promote its wear-resistance.



- Special Surface Leveling Technique
- Good control on chip breaker, realize good surface quality and extend tool life.

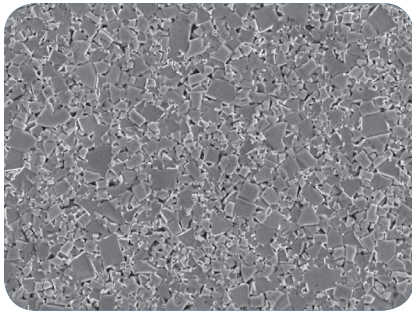
Cemented Carbide

- Cemented carbide substrate with special surface treatment suitable for cutting of copper, aluminum alloys and nonmetal materials

Workpiece	Cutting Mode	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
N Nonferrous Materials	Continuous Cutting	N9115	800-1600	N01	
		N9120	700-1500	N10	
	Interrupted Cutting	N9130	650-1400	N20	
			N30		

NEW

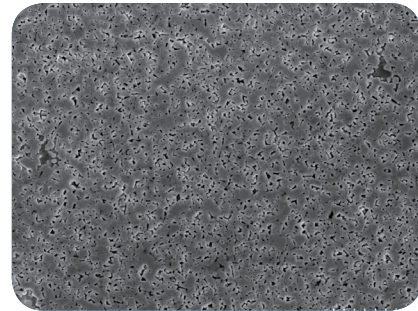
High versatility aluminum alloys Turning Grade-N9120



- Fine grain cemented carbide substrate with special surface treatment have superior wear resistance and adhesion resistance.
- Application: Suitable for cutting of copper, aluminum alloys and non-ferrous materials in high speed conditions.








NEW

High toughness aluminum alloys Turning Grade-N9130



- Micro-fine grain cemented carbide substrate have balance between superior wear resistance and toughness.
- Application: Suitable for semi-finishing of copper, aluminum alloys And non-metallic material.



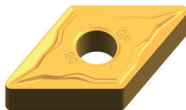



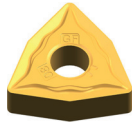

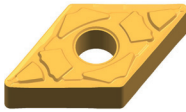





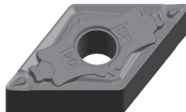
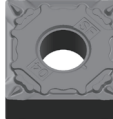
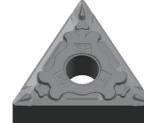
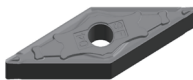
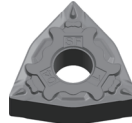


The Working Conditions of Turning Inserts

Workpiece	Geometry	Working Condition				
						
		Continuous	Light Interrupted	Interrupted		
	Negative	PS	P91TF			
		GF	A1115/P91TF	A1115/A1225	A1225	
		QF	A1105/A1115/P91TF/ P91TM/P31TM	A1115/A1120/A1225/P91TM	A1120/A1225	
		GM	A1115	A1115/A1225	A1225	
		QM	A1105/A1115/P91TF/ P91TM/P31TM	A1115/A1120/A1225/P91TM	A1120/A1225	
		TS	P91TM/P31TM	P91TM		
		TP	P91TM/P31TM	P91TM		
		SV	A1115/P91TF/P91TM/ P31TM	A1115//A1120/A1225/P91TM	A1120/A1225	
		QR	A1105/A1115	A1225	A1135	
		QH	A1105/A1115	A1225	A1135	
	Positive	PS	P91TF			
		GS	P91TF			
		MM	A1105/P91TF/P91TM/ P31TM	A1115/P91TM	A1225/A3125	
		GP	A1115/P91TF/P91TM/ P31TM	A1115/A1120/A1225/A3125/P91TM	A1120/A1225/A3125	
		TP	P91TM/P31TM	P91TM		
		KM	A1115	A1115/A1225	A1225	
		Negative	PS	S3115/S3125		
			SF	S3115		
			LF	M3215	M3225	M3225
			SM	M1115/M3215/P91TF/ P91TM	M1125/M3225/P91TM	M3225
LM			M1115/M3215	M1125/S3125/M3225	M3225	
LV			M3215	M3225	M3225	
LR		M1115/M3215	M1125/M3225	M3225		
Positive		PS	S3115/S3125			
		GS	S3125			
		MM	M1115/M3215	M1125/M3225	M3225	
	GP	M1115/M3215	M1125/M3225	M3225		
	Negative	UK	C1115	C1115/C1120	C1125/C1130	
		HK	C1115	C1115/C1120	C1125/C1130	
		FLAT	C1115	C1115/C1120	C1125/C1130	
	Positive	GP	C1115	C1115/C1125	C1125	
		KM	C1115	C1115/C1125	C1125	
	Positive	AL	N9115	N9120/N9130	N9120/N9130	

Chip-Breaker Profile

Turning Inserts (Negative)

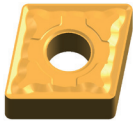


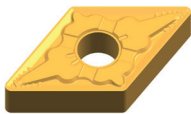
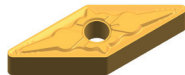
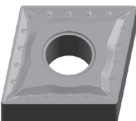
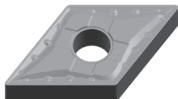




Geometry	Features	Application Range	Cross Section Geometry
PS	<ul style="list-style-type: none"> • PS for finishing of steel(mild steel) and stainless steel. • Sharp edge reduces cutting force, enables high quality surface. • Low feed,small cutting depth. 		
GF	<ul style="list-style-type: none"> • GF for finishing of general steel and alloy steel. • Sharp tool nose and strong cutting edge. Good chip control under small cutting depth. 		
QF	<ul style="list-style-type: none"> • QF for finishing of general steel and alloy steel. • Curved edge,sharp cutting edge,good chip control and fine surface finish due to curved edge. 		
SF	<ul style="list-style-type: none"> • SF for stainless steel and Heat Resistance Super Alloy (HRSA) • Sharp edge due to results in low cutting forces particularly for thin wall structures and extended shafts. 		
LF	<ul style="list-style-type: none"> • LF for Stainless Steel from finishing to semi-finishing. • Big cutting edge width and rake angle to promote its strength of nose. • Curve edge design to control chip removal direction well 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
				TNGG R/L-PS P574		
						
	CNMG-GF P562	DNMG-GF P566	SNMG-GF P570	TNMG-GF P574	VNMG-GF P578	WNMG-GF P580
						
	CNMG-QF P562	DNMG-QF P566	SNMG-QF P570	TNMG-QF P574	VNMG-QF P578	WNMG-QF P580
						
	CNMG-SF P562	DNMG-SF P566	SNMG-SF P570	TNMG-SF P574	VNMG-SF P578	WNMG-SF P580
						
				TNMG-LF P574		WNMG-LF P580

Chip-Breaker Profile

Turning Inserts (Negative)








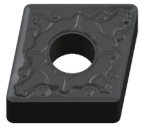
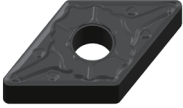
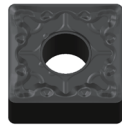
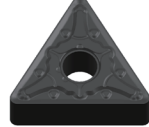
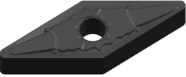
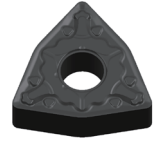
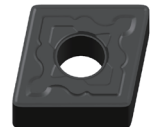
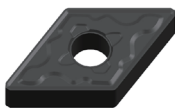

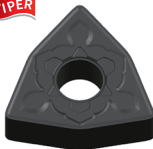

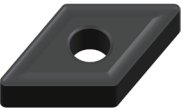


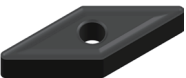

Geometry	Features	Application Range	Cross Section Geometry
GM	<ul style="list-style-type: none"> • GM for semi-finishing of general steel and alloy steel. • Strong flat cutting edge with good strength. 		
QM	<ul style="list-style-type: none"> • QM for semi-finishing of general steel and alloy steel. • Gradient and waved hump wide applicable geometry range. 		
TP	<ul style="list-style-type: none"> • TP for semi-finishing of general steel, alloy steel and cast iron • Dual rake angle and big cutting edge width design to promote its strength • Overall pattern design, table and reliable installation • Arrow chip breaker improves chip breaking performance during big cutting depth. 		
TS	<ul style="list-style-type: none"> • TS for semi-finishing of general steel and alloy steel. • Big rake angle lower cutting force • Variable groove depth design, with super chip removal. 		
SV	<ul style="list-style-type: none"> • SV for semi-finishing of general steel and alloy steel. • Throughout groove and wide chip groove make cutting available in unstable working conditions. • Long chip groove allows high depth of cuts. 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
	CNMG-GM P562	DNMG-GM P566	SNMG-GM P570	TNMG-GM P575	VNMG-GM P578	WNMG-GM P580
						
	CNMG-QM P563	DNMG-QM P567	SNMG-QM P571	TNMG-QM P575	VNMG-QM P578	WNMG-QM P580
						
	CNMG-TP P563	DNMG-TP P567	SNMG-TP P571	TNMG-TP P575	VNMG-TP P578	WNMG-TP P581
						
		DNMG R/L-TS P567		TNMG R/L-TS P575		
						
	CNMG R/L-SV P563	DNMG R/L-SV P567	SNMG R/L-SV P571	TNMG R/L-SV P576		WNMG R/L-SV P581

Chip-Breaker Profile

Turning Inserts (Negative)

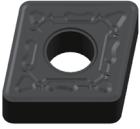
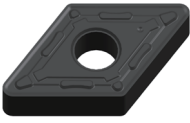


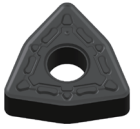

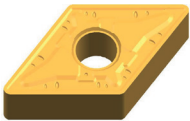



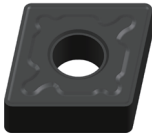
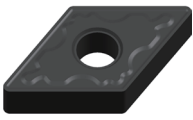


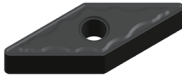

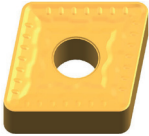


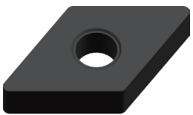



Geometry	Features	Application Range	Cross Section Geometry
LV	<ul style="list-style-type: none"> • LV for semi-finishing and roughing of stainless steel • No edge width and open chip breaker contribute to its sharp cutting edge and low cutting force. • Large chip breaker contribute to its big cutting depth and width. 		
SM	<ul style="list-style-type: none"> • SM for medium cutting of stainless steel and mild steel. • Sharp cutting edge. 		
LM	<ul style="list-style-type: none"> • LM for semi-finishing of stainless steel and high temperature alloy • Variable rake angle and cutting edge width to ensure its sharpness and strength • Heart-shaped chip breaker with good chip breaking. 		
WMV	<ul style="list-style-type: none"> • WMV for general steel, alloy steel and cast iron • Large chip breaker with low chip removal resistance. • Excellent sharp cutting edge and strength • Good surface quality 		
UK	<ul style="list-style-type: none"> • UK for machining cast iron. • Good Performance After Medium cutting for general conditions. 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
				TNMG R/L-LV P576		
						
	CNMG-SM P563	DNMG- SM P568	SNMG- SM P571	TNMG- SM P576	VNMG- SM P578	WNMG-SM P581
						
	CNMG-LM P564	DNMG- LM P568	SNMG- LM P572	TNMG- LM P576	VNMG- LM P579	WNMG-LM P581
						
	CNMG-WMV P564	DNMX-WMV P568		TNMX-WMV P576		WNMG-WMV P581
						
	CNMG-UK P564	DNMG-UK P568	SNMG-UK P572	TNMG-UK P576	VNMG-UK P579	WNMG-UK P582

Chip-Breaker Profile

Turning Inserts (Negative)

Geometry	Features	Application Range	Cross Section Geometry
LR	<ul style="list-style-type: none"> • LR for stainless steel of roughing • Small rake angle and big cutting edge width with strong corner. • Big chip breaker width and shallow chip breaker depth to ensure good chip removal. 		
QR	<ul style="list-style-type: none"> • QR for rough cutting action of carbon steel, cast steel and alloy steel. • Variable rake angle and land provides enough edge sharpness and strength at different depth of cut. 		
HK	<ul style="list-style-type: none"> • HK for cast iron heavy cutting. • Strong cutting edge, big chip pocket, good at big cutting depth and width. 		
QH	<ul style="list-style-type: none"> • QH for heavy cutting action of carbon steel, cast steel and alloy steel. • Variable land and progressive chip breaker space, generating lower cutting force. • Straight edge line with reinforcement balances strength and cutting action. 		
Flat	<ul style="list-style-type: none"> • Flat-top for cast iron used. • Stable placement. • Strong edge design for intermittent cutting conditions. 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
	CNMG-LR P564	DNMG-LR P569	SNMG-LR P572	TNMG-LR P577		WNMG-LR P582
						
	CNMG-QR P565	DNMG-QR P569	SNMG-QR P572	TNMG-QR P577		WNMG-QR P582
						
	CNMG-HK P565	DNMG-HK P569	SNMG-HK P573	TNMG-HK P577	VNMG-HK P579	WNMG-HK P582
						
	CNMM-QH P565		SNMM-QH P573			
						
	CNMA P565	DNMA P569	SNMA P573	TNMA P577		WNMA P582

Chip-Breaker Profile

Turning Inserts (Positive)
5° Clearance Angle


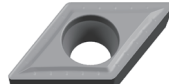

Geometry	Features	Application Range	Cross Section Geometry
PS	<ul style="list-style-type: none"> • PS for finishing of steels(mild steels) and stainless steel. • Sharp edge reduces cutting force, enables high quality surface. • Low feed, small cutting depth. 		
GS	<ul style="list-style-type: none"> • GS for finishing of steels(mild steels) and stainless steel. • Sharp edge reduces cutting force, enables high quality surface. • Low feed, large cutting depth 		
MM	<ul style="list-style-type: none"> • MM for light cutting of general steel, alloy steel and stainless steel. • Sharp cutting edge, enables high surface quality. 		
GP	<ul style="list-style-type: none"> • GP for light cutting of general steel, alloy steel, stainless steel and cast iron. • Strong tool nose due to flat cutting edge ☒ Sharp cutting edge due to double rake angle. 		
TP	<ul style="list-style-type: none"> • TP for light cutting of general steel, alloy steel and cast iron • Dual rake angle and big cutting edge width design to promote its strength • Overall pattern design, table and reliable installation • Arrow chip breaker improves chip breaking performance during big cutting depth. 		
KM	<ul style="list-style-type: none"> • KM for Semi-finishing and roughing of general steel, alloy steel and cast iron. • Variable land design, combine sharpness with fracture resistance. 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
					VBET _{R/L} -PS P594	
						
					VBET _{R/L} -GS P594	
						
					VBMT-MM P594	
						
					VBMT-GP P594	
						
					VBMT-TP P594	
						
					VBMT-KM P594	

Chip-Breaker Profile

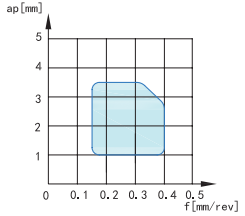
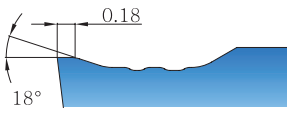
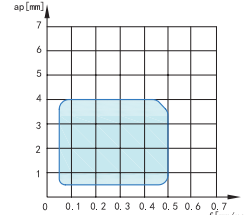
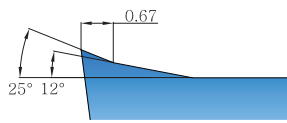
Turning Inserts (Positive)
7° Clearance Angle

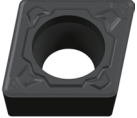


Geometry	Features	Application Range	Cross Section Geometry
PS	<ul style="list-style-type: none"> • PS for finishing of steels(mild steels) and stainless steel. • Sharp edge reduces cutting force, enables high quality surface. • Low feed, small cutting depth. 		
GS	<ul style="list-style-type: none"> • GS for finishing of steels(mild steels) and stainless steel. • Sharp edge reduces cutting force, enables high quality surface. • Low feed, large cutting depth. 		
MM	<ul style="list-style-type: none"> • MM for light cutting of general steel, alloy steel and stainless steel. • Sharp cutting edge, enables high surface quality. 		
GP	<ul style="list-style-type: none"> • GP for light cutting of general steel, alloy steel, stainless steel and cast iron. • Strong tool nose due to flat cutting edge and • Sharp cutting edge due to double rake angle. 		
TP	<ul style="list-style-type: none"> • TP for light cutting of general steel, alloy steel and cast iron • Dual rake angle and big cutting edge width design to promote its strength • Overall pattern design, table and reliable installation • Arrow chip breaker improves chip breaking performance during big cutting depth. 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
	CCET _{R/L} -PS P583	DCET _{R/L} -PS P586		TCET _{R/L} -PS P589	VCET _{R/L} -PS P595	
						
	CCET _{R/L} -GS P583	DCET _{R/L} -GS P586		TCET _{R/L} -GS P589	VCET _{R/L} -GS P595	
						
	CCMT-MM P584	DCMT-MM P587	SCMT-MM P588	TCMT-MM P590		
						
	CCMT-GP P584	DCMT-GP P587	SCMT-GP P588	TCMT-GP P590	VCMT-GP P595	WCMT-GP P597
						
	CCMT-TP P584	DCMT-TP P587	SCMT-TP P588	TCMT-TP P590		

Chip-Breaker Profile

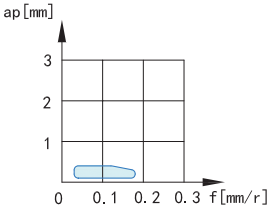
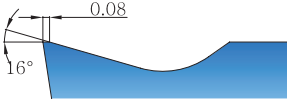
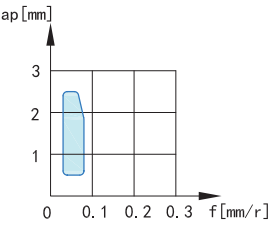
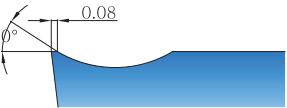
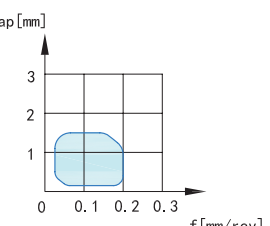

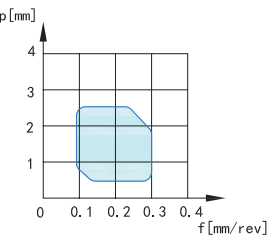
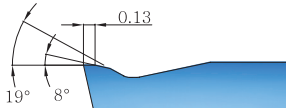
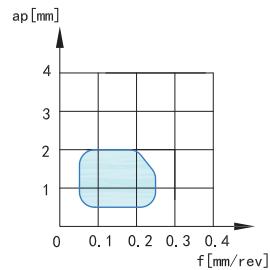
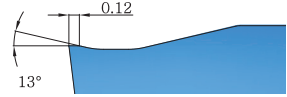
Turning Inserts (Positive)
7° Clearance Angle

Geometry	Features	Application Range	Cross Section Geometry	
<p>KM</p>	<ul style="list-style-type: none"> • KM for Semi-finishing and roughing of general steel, alloy steel and cast iron. • Variable land design, combine sharpness with fracture resistance. 			
<p>AL</p>	<ul style="list-style-type: none"> • AL for aluminum alloy cutting. • Sharp tool nose due to large rake angle. 			

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
	CCMT-KM P585	DCMT-KM P587	SCMT-KM P588	TCMT-KM P590	VCMT-KM P595	
						
	CCGX-AL P585	DCGX-AL P587	SCGX-AL P588	TCGX-AL P591	VCGX-AL P596	

Chip-Breaker Profile

Turning Inserts (Positive)
11° Clearance Angle

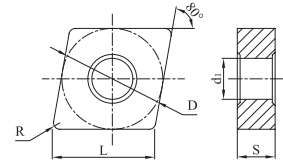
Geometry	Features	Application Range	Cross Section Geometry
PS	<ul style="list-style-type: none"> • PS for finishing of steels(mild steels) and stainless steel. • Sharp edge reduces cutting force,enables high quality surface. • Low feed,small cutting depth. 		
GS	<ul style="list-style-type: none"> • GS for finishing of steels(mild steels) and stainless steel. • Sharp edge reduces cutting force,enables high quality surface. • Low feed,large cutting depth 		
MM	<ul style="list-style-type: none"> • MM for light cutting of general steel, alloy steel and stainless steel. • Sharp cutting edge, enables high surface quality. 		
GP	<ul style="list-style-type: none"> • GP for light cutting of general steel, alloy steel, stainless steel and cast iron • Strong tool nose due to flat cutting edge and sharp cutting edge due to double rake angle. 		
TP	<ul style="list-style-type: none"> • TP for light cutting of general steel, alloy steel and cast iron • Dual rake angle and big cutting edge width design to promote its strength • Overall pattern design, table and reliable installation • Arrow chip breaker improves chip breaking performance during big cutting depth. 		

	80° Rhombic	55° Rhombic	90° Square	60° Regular Triangle	35° Rhombic	80° Trigon
						
				TPET <i>R/L</i> -PS TPEH <i>R/L</i> -PS P592	VPET <i>R/L</i> -PS P597	
						
				TPET <i>R/L</i> -GS TPEH <i>R/L</i> -GS P592	VPET <i>R/L</i> -GS P597	
						
				TPMT-MM P593		
						
	CPMT-GP CPGT-GP P585		SPMT-GP P588	TPMT-GP P593		
						
				TPMT-TP P593		

Turning Insert (Negative)

CN□□

Rhombic 80° with Hole



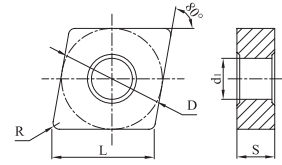
Ordering Code	Dimension					Coated										Uncoated		Cermets											
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	CNMG090308-GF	9.7	9.525	3.18	3.81	0.8	○																						
	CNMG120404-GF	12.9	12.7	4.76	5.16	0.4	○																						
	CNMG120408-GF	12.9	12.7	4.76	5.16	0.8	○																						
	CNMG120412-GF	12.9	12.7	4.76	5.16	1.2																							
	CNMG090304-QF	9.7	9.525	3.18	3.81	0.4				○																			
	CNMG090308-QF	9.7	9.525	3.18	3.81	0.8				○																			
	CNMG120404-QF	12.9	12.7	4.76	5.16	0.4	○	●	○	○								○							○	○			
	CNMG120408-QF	12.9	12.7	4.76	5.16	0.8	●	●	○	○							○								○	○			
	CNMG120404-SF	12.9	12.7	4.76	5.16	0.4									●														
CNMG120408-SF	12.9	12.7	4.76	5.16	0.8									●															
	CNMG090308-GM	9.7	9.525	3.18	3.81	0.8	○	○																					
	CNMG120404-GM	12.9	12.7	4.76	5.16	0.4	○	●																					
	CNMG120408-GM	12.9	12.7	4.76	5.16	0.8	●	●																					
	CNMG120412-GM	12.9	12.7	4.76	5.16	1.2	○	●																					
	CNMG120416-GM	12.9	12.7	4.76	5.16	1.6	○	○																					
	CNMG160608-GM	16.1	15.875	6.35	6.35	0.8	○																						
	CNMG160612-GM	16.1	15.875	6.35	6.35	1.2	○	○																					
	CNMG160616-GM	16.1	15.875	6.35	6.35	1.6	○	○																					
	CNMG190608-GM	19.3	19.05	6.35	7.94	0.8																					○		
	CNMG190612-GM	19.3	19.05	6.35	7.94	1.2	○	○																					
CNMG190616-GM	19.3	19.05	6.35	7.94	1.6	○	●																						

● Stock ○ Available Upon Order

Turning Insert (Negative)

CN□□

Rhombic 80° with Hole



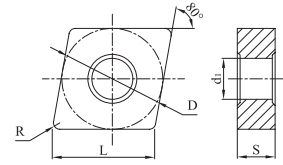
Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
CNMG090304-QM	9.7	9.525	3.18	3.81	0.4	○	○																					
CNMG090308-QM	9.7	9.525	3.18	3.81	0.8	○	○																					
CNMG120404-QM	12.9	12.7	4.76	5.16	0.4	●	●	●									○										○	
CNMG120408-QM	12.9	12.7	4.76	5.16	0.8	●	●	●	●								○										○	
CNMG120412-QM	12.9	12.7	4.76	5.16	1.2	●	●	●	●								○											
CNMG120416-QM	12.9	12.7	4.76	5.16	1.6	○	○																					
CNMG160608-QM	16.1	15.875	6.35	6.35	0.8	●	●																					
CNMG160612-QM	16.1	15.875	6.35	6.35	1.2	○	●	○																				
CNMG190608-QM	19.3	19.05	6.35	7.94	0.8	●	●																					
CNMG190612-QM	19.3	19.05	6.35	7.94	1.2	○		○																				
CNMG190616-QM	19.3	19.05	6.35	7.94	1.6	●	●																					
CNMG120404-TP	12.9	12.7	4.76	5.16	0.4																			●	●			
CNMG120408-TP	12.9	12.7	4.76	5.16	0.8																			○	●			
CNMG120408R-SV	12.9	12.7	4.76	5.16	0.8				●																		○	
CNMG120408L-SV	12.9	12.7	4.76	5.16	0.8				●																		○	
CNMG090304-SM	9.7	9.525	3.18	3.81	0.4						○	○	○	○														
CNMG09T304-SM	9.7	9.525	3.97	3.81	0.4						○	○	○	○														
CNMG090308-SM	9.7	9.525	3.18	3.81	0.8						○	○	○	○														
CNMG09T308-SM	9.7	9.525	3.97	3.81	0.8						○	○	○	○														
CNMG120404-SM	12.9	12.7	4.76	5.16	0.4						○	●	○	●	○												○	
CNMG120408-SM	12.9	12.7	4.76	5.16	0.8						○	●	●	●	●												○	
CNMG120412-SM	12.9	12.7	4.76	5.16	1.2						○	●	○	●	○													
CNMG120416-SM	12.9	12.7	4.76	5.16	1.6						○	○	○	○														
CNMG160608-SM	16.1	15.875	6.35	6.35	0.8						○	○	○	○														
CNMG160612-SM	16.1	15.875	6.35	6.35	1.2						○	○	○	●														
CNMG160616-SM	16.1	15.875	6.35	6.35	1.6						○	○	○	●														
CNMG190608-SM	19.3	19.05	6.35	7.94	0.8						○	○	○	●														
CNMG190612-SM	19.3	19.05	6.35	7.94	1.2						○	○	○	●														
CNMG190616-SM	19.3	19.05	6.35	7.94	1.6						○	○	○	●														

● Stock ○ Available Upon Order

Turning Insert (Negative)

CN□□

Rhombic 80° with Hole



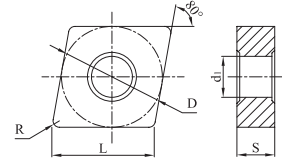
Ordering Code	Dimension					Coated										Uncoated			Cermets								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	CNMG120404-LM	12.9	12.7	4.76	5.16	0.4						○	●	○	●												
	CNMG120408-LM	12.9	12.7	4.76	5.16	0.8						○	●	○	●	●											
	CNMG120412-LM	12.9	12.7	4.76	5.16	1.2						○	○	●	●												
	CNMG120408-WMV	12.9	12.7	4.76	5.16	0.8	●			●							●	○	○								
	CNMG120412-WMV	12.9	12.7	4.76	5.16	1.2	●			●							●	○	○								
	CNMG120404-UK	12.9	12.7	4.76	5.16	0.4											●	●	●								
	CNMG120408-UK	12.9	12.7	4.76	5.16	0.8											●	●	●	○							
	CNMG120412-UK	12.9	12.7	4.76	5.16	1.2											●	○	●	○							
	CNMG120416-UK	12.9	12.7	4.76	5.16	1.6											●	○	○	○							
	CNMG160608-UK	16.1	15.875	6.35	6.35	0.8											●	○	○	○							
	CNMG160612-UK	16.1	15.875	6.35	6.35	1.2											●	○	○	○							
	CNMG160616-UK	16.1	15.875	6.35	6.35	1.6											○	○	○	○							
	CNMG190612-UK	19.3	19.05	6.35	7.94	1.2											○	○	○	○							
CNMG190616-UK	19.3	19.05	6.35	7.94	1.6											●	○	○	○								
	CNMG120408-LR	12.9	12.7	4.76	5.16	0.8						●	●	○	●												
	CNMG120412-LR	12.9	12.7	4.76	5.16	1.2						○	○	○	○												
	CNMG160608-LR	16.1	15.875	6.35	6.35	0.8						○	○	○	●												
	CNMG160612-LR	16.1	15.875	6.35	6.35	1.2						○	○	●	●												
	CNMG190612-LR	19.3	19.05	6.35	7.94	1.2						○	○	●	●												
CNMG190616-LR	19.3	19.05	6.35	7.94	1.6						○	○	○	●													

● Stock ○ Available Upon Order

Turning Insert (Negative)

CN□□

Rhombic 80° with Hole



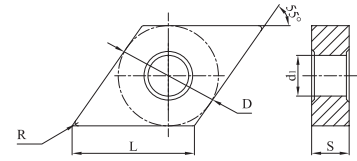
Ordering Code	Dimension					Coated											Uncoated			Cermet							
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
CNMG120408-QR	12.9	12.7	4.76	5.16	0.8	○	●	●	●	●																	
CNMG120412-QR	12.9	12.7	4.76	5.16	1.2	●	●	●	○																		
CNMG120416-QR	12.9	12.7	4.76	5.16	1.6				●																		
CNMG160608-QR	16.1	15.875	6.35	6.35	0.8				●																		
CNMG160612-QR	16.1	15.875	6.35	6.35	1.2	●	●	●	○																		
CNMG160616-QR	16.1	15.875	6.35	6.35	1.6	○			○	○																	
CNMG190608-QR	19.3	19.3	6.35	7.94	0.8				○	○																	
CNMG190612-QR	19.3	19.3	6.35	7.94	1.2	○			●	●																	
CNMG190616-QR	19.3	19.3	6.35	7.94	1.6	○			○	○																	
CNMG190624-QR	19.3	19.3	6.35	7.94	2.4		○		○																		
CNMG250924-QR	25.8	25.4	9.52	9.21	2.4				○																		
CNMG120408-HK	12.9	12.7	4.76	5.16	0.8												●	●	●	○							
CNMG120412-HK	12.9	12.7	4.76	5.16	1.2												●	●	●	○							
CNMG120416-HK	12.9	12.7	4.76	5.16	1.6												●	●	●	○							
CNMG160612-HK	16.1	15.875	6.35	6.35	1.2												●	○	○	○							
CNMG160616-HK	16.1	15.875	6.35	6.35	1.6												●	○	●	○							
CNMG190612-HK	19.3	19.05	6.35	7.94	1.2												●	○	○	○							
CNMG190616-HK	19.3	19.05	6.35	7.94	1.6												○	○	○	○							
CNMM190616-QH	19.3	19.05	6.35	7.94	1.6	○			○	○																	
CNMM190624-QH	19.3	19.05	6.35	7.94	2.4				○	○																	
CNMM250924-QH	25.8	25.4	9.52	9.12	2.4	○	●		●	○																	
CNMA120404	12.9	12.7	4.76	5.16	0.4												●		○								
CNMA120408	12.9	12.7	4.76	5.16	0.8												●	●	●	○							
CNMA120412	12.9	12.7	4.76	5.16	1.2												●	●	●	●							
CNMA120416	12.9	12.7	4.76	5.16	1.6												●	●	○	○							
CNMA160612	16.1	15.875	6.35	6.35	1.2												●	○	○	○							
CNMA160616	16.1	15.875	6.35	6.35	1.6												●	○	○	○							
CNMA160620	16.1	15.875	6.35	6.35	2.0												○	○	○	○							
CNMA190612	19.3	19.05	6.35	7.94	1.2												●	○	○	○							
CNMA190616	19.3	19.05	6.35	7.94	1.6												●	○	○	○							
CNMA190624	19.3	19.05	6.35	7.94	2.4												○	○	○	○							

● Stock ○ Available Upon Order

Turning Insert (Negative)

DN □ □

Rhombic 55° with Hole



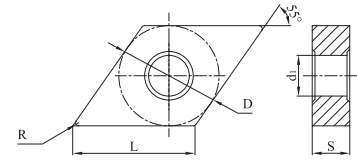
Ordering Code	Dimension					Coated										Uncoated			Cermet											
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM				
	DNMG110404-GF	11.6	9.525	4.76	3.81	0.4	○																							
	DNMG110408-GF	11.6	9.525	4.76	3.81	0.8	○	○																						
	DNMG150404-GF	15.5	12.7	4.76	5.16	0.4	○																							
	DNMG150408-GF	15.5	12.7	4.76	5.16	0.8	●																							
	DNMG150604-GF	15.5	12.7	6.35	5.16	0.4	○																							
	DNMG150608-GF	15.5	12.7	6.35	5.16	0.8	○																							
	DNMG110404-QF	11.6	9.525	4.76	3.81	0.4	○	○																						
	DNMG110408-QF	11.6	9.525	4.76	3.81	0.8	○	○																						
	DNMG150404-QF	15.5	12.7	4.76	5.16	0.4	○	○	○																					
	DNMG150408-QF	15.5	12.7	4.76	5.16	0.8	○	●	○																					
	DNMG150604-QF	15.5	12.7	6.35	5.16	0.4	○	○																						
	DNMG150608-QF	15.5	12.7	6.35	5.16	0.8	○	○	○																					
	DNMG110404-SF	11.6	9.525	4.76	3.81	0.4									●															
	DNMG110408-SF	11.6	9.525	4.76	3.81	0.8									○															
	DNMG150404-SF	15.5	12.7	4.76	5.16	0.4										●														
	DNMG150408-SF	15.5	12.7	4.76	5.16	0.8										●														
	DNMG150604-SF	15.5	12.7	6.35	5.16	0.4										●														
	DNMG150608-SF	15.5	12.7	6.35	5.16	0.8										○														
	DNMG110404-GM	11.6	9.525	4.76	3.81	0.4			●																					
	DNMG110408-GM	11.6	9.525	4.76	3.81	0.8	●	●																						
	DNMG150404-GM	15.5	12.7	4.76	5.16	0.4	○	○																						
	DNMG150408-GM	15.5	12.7	4.76	5.16	0.8			●																					
	DNMG150412-GM	15.5	12.7	4.76	5.16	1.2	●	●																						
	DNMG150604-GM	15.5	12.7	6.35	5.16	0.4																								
	DNMG150608-GM	15.5	12.7	6.35	5.16	0.8	○		●																					
	DNMG150612-GM	15.5	12.7	6.35	5.16	1.2	○	○																						
DNMG150616-GM	15.5	12.7	6.35	5.16	1.6																									

● Stock ○ Available Upon Order

Turning Insert (Negative)

DN □ □

Rhombic 55° with Hole



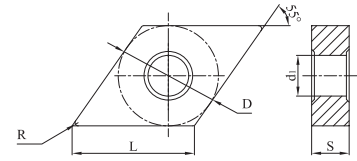
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
DNMG110404-QM	11.6	9.525	4.76	3.81	0.4	○	●																				
DNMG110408-QM	11.6	9.525	4.76	3.81	0.8	●	○	●																			
DNMG110412-QM	11.6	9.525	4.76	3.81	1.2	○																					
DNMG150404-QM	15.5	12.7	4.76	5.16	0.4				●																	○	
DNMG150408-QM	15.5	12.7	4.76	5.16	0.8	●	●	○	●								●										○
DNMG150412-QM	15.5	12.7	4.76	5.16	1.2		●	○	●																		
DNMG150604-QM	15.5	12.7	6.35	5.16	0.4	●			●																		○
DNMG150608-QM	15.5	12.7	6.35	5.16	0.8	●	●	●	●									○									○
DNMG150612-QM	15.5	12.7	6.35	5.16	1.2	●			●								●										
DNMG150404-TP	15.5	12.7	4.76	5.16	0.4																				●	●	
DNMG150408-TP	15.5	12.7	4.76	5.16	0.8																				○	○	
DNMG150604-TP	15.5	12.7	6.35	5.16	0.4																				○	○	
DNMG150608-TP	15.5	12.7	6.35	5.16	0.8																				○	○	
DNMG150404R -TS	15.5	12.7	6.35	5.16	0.4																				○	●	
DNMG150404L -TS	15.5	12.7	6.35	5.16	0.4																				○	○	
DNMG150408R -TS	15.5	12.7	6.35	5.16	0.8																				○	○	
DNMG150408L -TS	15.5	12.7	6.35	5.16	0.8																				○	○	
DNMG150604R-SV	15.5	12.7	6.35	5.16	0.4				●		○														○	○	
DNMG150604L-SV	15.5	12.7	6.35	5.16	0.4				○		○														○	○	
DNMG150608R-SV	15.5	12.7	6.35	5.16	0.8				●		○														○	○	
DNMG150608L-SV	15.5	12.7	6.35	5.16	0.8				○		○														○	○	

● Stock ○ Available Upon Order

Turning Insert (Negative)

DN □ □

Rhombic 55° with Hole



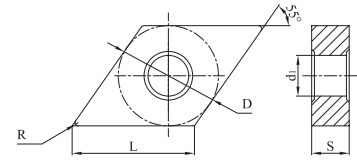
Ordering Code	Dimension					Coated										Uncoated			Cermets								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
DNMG110404-SM	11.6	9.525	4.76	3.81	0.4						○	●	○	●													
DNMG110408-SM	11.6	9.525	4.76	3.81	0.8						○	○	○	●													
DNMG110412-SM	11.6	9.525	4.76	3.81	1.2						○	○	○	○													
DNMG150404-SM	15.5	12.7	4.76	5.16	0.4						○	●	○	●													
DNMG150408-SM	15.5	12.7	4.76	5.16	0.8						○	●	○	●													
DNMG150412-SM	15.5	12.7	4.76	5.16	1.2						○	○	○	○													
DNMG150604-SM	15.5	12.7	6.35	5.16	0.4						○	○	○	●													
DNMG150608-SM	15.5	12.7	6.35	5.16	0.8						○	●	○	●													
DNMG150612-SM	15.5	12.7	6.35	5.16	1.2						○	○	○	●													
DNMG110404-LM	11.6	9.525	4.76	3.81	0.4						○	○	○	●													
DNMG110408-LM	11.6	9.525	4.76	3.81	0.8						○	○	○	○													
DNMG150404-LM	15.5	12.7	4.76	5.16	0.4						○	○	●	●													
DNMG150408-LM	15.5	12.7	4.76	5.16	0.8						○	○	○	●													
DNMG150412-LM	15.5	12.7	4.76	5.16	1.2						○	○	○	○													
DNMG150604-LM	15.5	12.7	6.35	5.16	0.4						○	○	○	●													
DNMG150608-LM	15.5	12.7	6.35	5.16	0.8						○	○	○	●													
DNMG150612-LM	15.5	12.7	6.35	5.16	1.2						○	○	○	○													
DNMX150408-WMV	15.5	12.7	4.76	5.16	0.8	●			●								●	○	○								
DNMX150412-WMV	15.5	12.7	4.76	5.16	1.2	●			●								●	○	○								
DNMX150608-WMV	15.5	12.7	6.35	5.16	0.8	●			●								●	○	○								
DNMX150612-WMV	15.5	12.7	6.35	5.16	1.2	●			●								●	○	○								
DNMG150404-UK	15.5	12.7	4.76	5.16	0.4												●	○									
DNMG150408-UK	15.5	12.7	4.76	5.16	0.8												●	○	○	○							
DNMG150412-UK	15.5	12.7	4.76	5.16	1.2												●	○	○	○							
DNMG150604-UK	15.5	12.7	6.35	5.16	0.4												●	○	○								
DNMG150608-UK	15.5	12.7	6.35	5.16	0.8												●	●	●	○							
DNMG150612-UK	15.5	12.7	6.35	5.16	1.2												●	○	○	○							
DNMG150616-UK	15.5	12.7	6.35	5.16	1.6												○	○									

● Stock ○ Available Upon Order

Turning Insert (Negative)

DN □ □

Rhombic 55° with Hole

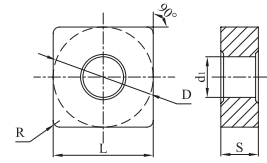


Ordering Code	Dimension					Coated										Uncoated			Cermets									
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
	DNMG150408-LR	15.5	12.7	4.76	5.16	0.8						○	○	○	○													
	DNMG150412-LR	15.5	12.7	4.76	5.16	1.2						○	○	○	○													
	DNMG150608-LR	15.5	12.7	6.35	6.35	0.8						○	○	○	●													
	DNMG150612-LR	15.5	12.7	6.35	6.35	1.2						○	○	○	○													
	DNMG150408-QR	15.5	12.7	4.76	5.16	0.8				○																		
	DNMG150412-QR	15.5	12.7	4.76	5.16	1.2				○																		
	DNMG150608-QR	15.5	12.7	6.35	6.35	0.8		○		○	○																	
	DNMG150612-QR	15.5	12.7	6.35	6.35	1.2	○	○		●	○																	
	DNMG150616-QR	15.5	12.7	6.35	6.35	1.6				○	○																	
	DNMG150408-HK	15.5	12.7	4.76	5.16	0.8											●	○	○	○								
	DNMG150412-HK	15.5	12.7	4.76	5.16	1.2											●	○	○	○								
	DNMG150608-HK	15.5	12.7	6.35	5.16	0.8											●	○	●	○								
	DNMG150612-HK	15.5	12.7	6.35	5.16	1.2											●	○	○	○								
	DNMA150404	15.5	12.7	4.76	5.16	0.4											●		○									
	DNMA150408	15.5	12.7	4.76	5.16	0.8											●	○	○	○								
	DNMA150412	15.5	12.7	4.76	5.16	1.2											○	○	○	○								
	DNMA150416	15.5	12.7	4.76	5.16	1.6											○	○	○	○								
	DNMA150604	15.5	12.7	6.35	5.16	0.4											○		○									
	DNMA150608	15.5	12.7	6.35	5.16	0.8											●	●	○	○								
DNMA150612	15.5	12.7	6.35	5.16	1.2											●	○	○	○									

● Stock ○ Available Upon Order

Turning Insert (Negative)

SN □ □
Square 90° with Hole



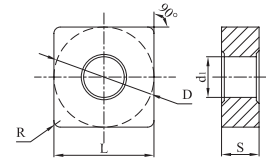
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	SNMG090304-GF	9.525	9.525	3.18	3.81	0.4	○																				
	SNMG090308-GF	9.525	9.525	3.18	3.81	0.8	○																				
	SNMG120404-GF	12.7	12.7	4.76	5.16	0.4	○																				
	SNMG120408-GF	12.7	12.7	4.76	5.16	0.8	○																				
	SNMG090304-QF	9.525	9.525	3.18	3.81	0.4	○	○																			
	SNMG090308-QF	9.525	9.525	3.18	3.81	0.8	○	○																			
	SNMG120404-QF	12.7	12.7	4.76	5.16	0.4	○	○																			○
	SNMG120408-QF	12.7	12.7	4.76	5.16	0.8	○	●	○								○										○
	SNMG120404-SF	12.7	12.7	4.76	5.16	0.4									○												
	SNMG120408-SF	12.7	12.7	4.76	5.16	0.8									●												
	SNMG090304-GM	9.525	9.525	3.18	3.81	0.4																					
	SNMG090308-GM	9.525	9.525	3.18	3.81	0.8			○																		
	SNMG120404-GM	12.7	12.7	4.76	5.16	0.4	○	○																			
	SNMG120408-GM	12.7	12.7	4.76	5.16	0.8			●																		
	SNMG120412-GM	12.7	12.7	4.76	5.16	1.2	○	○																			
	SNMG120416-GM	12.7	12.7	4.76	5.16	1.6			○																		
	SNMG150608-GM	15.875	15.875	6.35	6.35	0.8			○																		
	SNMG150612-GM	15.875	15.875	6.35	6.35	1.2			○																		
	SNMG150616-GM	15.875	15.875	6.35	6.35	1.6			○																		
	SNMG190612-GM	19.05	19.05	6.35	7.94	1.2				●																	
	SNMG190616-GM	19.05	19.05	6.35	7.94	1.6																					

● Stock ○ Available Upon Order

Turning Insert (Negative)

SN□□

Square 90° with Hole



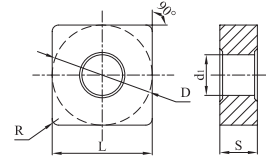
Ordering Code	Dimension					Coated										Uncoated			Cermets								
	L	D	S	d _i	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
SNMG090304-QM	9.525	9.525	3.18	3.81	0.4	○	○																				
SNMG090308-QM	9.525	9.525	3.18	3.81	0.8	○	○																				
SNMG120404-QM	12.7	12.7	4.76	5.16	0.4	○	○	○																			○
SNMG120408-QM	12.7	12.7	4.76	5.16	0.8	○	●	○	●								○										○
SNMG120412-QM	12.7	12.7	4.76	5.16	1.2	○		●																			
SNMG120416-QM	12.7	12.7	4.76	5.16	1.6			●																			
SNMG150608-QM	15.875	15.875	6.35	6.35	0.8	○	○																				
SNMG150612-QM	15.875	15.875	6.35	6.35	1.2	●																					
SNMG190612-QM	19.05	19.05	6.35	7.94	1.2	○																					
SNMG120404-TP	12.7	12.7	4.76	5.16	0.4																				○	○	
SNMG120408-TP	12.7	12.7	4.76	5.16	0.8																				○	○	
SNMG120404R-SV	12.7	12.7	4.76	5.16	0.4				●																		
SNMG120408R-SV	12.7	12.7	4.76	5.16	0.8				●																		
SNMG120408L-SV	12.7	12.7	4.76	5.16	0.8				●																		
SNMG090304-SM	9.525	9.525	3.18	3.81	0.4						○	○	○	○													
SNMG090308-SM	9.525	9.525	3.18	3.81	0.8						○	○	○	○													
SNMG120404-SM	12.7	12.7	4.76	5.16	0.4						○	●	○	●													
SNMG120408-SM	12.7	12.7	4.76	5.16	0.8						○	●	●	●	○												
SNMG120412-SM	12.7	12.7	4.76	5.16	1.2						○	○	○	●													
SNMG120416-SM	12.7	12.7	4.76	5.16	1.6						○	○	○	○													
SNMG150608-SM	15.875	15.875	6.35	6.35	0.8						○	○	○	○													
SNMG150612-SM	15.875	15.875	6.35	6.35	1.2						○	○	○	○	○												
SNMG150616-SM	15.875	15.875	6.35	6.35	1.6						○	○	○	○													
SNMG190612-SM	19.05	19.05	6.35	7.94	1.2						○	○	○	●													
SNMG190616-SM	19.05	19.05	6.35	7.94	1.6						○	○	○	●	○												

● Stock ○ Available Upon Order

Turning Insert (Negative)

SN□□

Square 90° with Hole



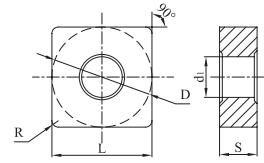
Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
	SNMG120404-LM	12.7	12.7	4.76	5.16	0.4								●														
	SNMG120408-LM	12.7	12.7	4.76	5.16	0.8								●	○													
	SNMG120412-LM	12.7	12.7	4.76	5.16	1.2								○	○													
	SNMG120408-UK	12.7	12.7	4.76	5.16	0.8											●	○	○	○								
	SNMG120412-UK	12.7	12.7	4.76	5.16	1.2											●	○	○	○								
	SNMG150412-UK	15.875	15.875	4.76	6.35	1.2												○	○	○	○							
	SNMG150612-UK	15.875	15.875	6.35	6.35	1.2												○	○	○	○							
	SNMG150616-UK	15.875	15.875	6.35	6.35	1.6												○	○	○	○							
	SNMG190612-UK	19.05	19.05	6.35	7.94	1.2												○	○	○	○							
	SNMG190616-UK	19.05	19.05	6.35	7.94	1.6												○	○	○	○							
	SNMG120408-LR	12.7	12.7	4.76	5.16	0.8							○	○	○	●	○											
	SNMG120412-LR	12.7	12.7	4.76	5.16	1.2							○	○	○	●	○											
	SNMG150608-LR	15.875	15.875	6.35	6.35	0.8							○	○	○	○												
	SNMG150612-LR	15.875	15.875	6.35	6.35	1.2							○	○	○	○												
	SNMG190612-LR	19.05	19.05	6.35	7.94	1.2							○	○	○	●												
	SNMG190616-LR	19.05	19.05	6.35	7.94	1.6							○	○	○	○												
	SNMG120408-QR	12.7	12.7	4.76	5.16	0.8											○	○										
	SNMG120412-QR	12.7	12.7	4.76	5.16	1.2											○	○										
	SNMG120416-QR	12.7	12.7	4.76	5.16	1.6											○											
	SNMG150608-QR	15.875	15.875	6.35	6.35	0.8												○										
	SNMG150612-QR	15.875	15.875	6.35	6.35	1.2												○	○									
	SNMG150616-QR	15.875	15.875	6.35	6.35	1.6											○	○	○									
	SNMG150624-QR	15.875	15.875	6.35	6.35	2.4												○										
	SNMG190608-QR	19.05	19.05	6.35	7.94	0.8												○										
	SNMG190612-QR	19.05	19.05	6.35	7.94	1.2												○	●									
	SNMG190616-QR	19.05	19.05	6.35	7.94	1.6												●	○									
	SNMG190624-QR	19.05	19.05	6.35	7.94	2.4												○										
SNMG250724-QR	25.4	25.4	7.94	9.21	2.4												○	○										
SNMG250924-QR	25.4	25.4	9.52	9.21	2.4												○											




● Stock ○ Available Upon Order

Turning Insert (Negative)

SN□□

Square 90° with Hole



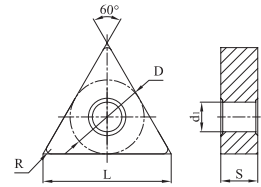
Ordering Code	Dimension					Coated										Uncoated			Cermets								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	SNMG120408-HK	12.7	12.7	4.76	5.16	0.8												●	●	○	○						
	SNMG120412-HK	12.7	12.7	4.76	5.16	1.2												●	●	○	○						
	SNMG120416-HK	12.7	12.7	4.76	5.16	1.6												○	○	●	○						
	SNMG150612-HK	15.875	15.875	6.35	6.35	1.2												○	○	○	○						
	SNMG150616-HK	15.875	15.875	6.35	6.35	1.6												●	○	○	○						
	SNMG190612-HK	19.05	19.05	6.35	7.94	1.2												○	○	○	○						
	SNMG190616-HK	19.05	19.05	6.35	7.94	1.6												○	○	○	○						
	SNMM150616-QH	15.875	19.05	6.35	7.94	1.6	○	○																			
	SNMM190612-QH	19.05	19.05	6.35	7.94	1.2																			○		
	SNMM190616-QH	19.05	19.05	6.35	7.94	1.6																			○		
	SNMM190624-QH	19.05	19.05	6.35	7.94	2.4																			○	○	
	SNMM250724-QH	25.4	25.4	7.94	9.12	2.4	○	●																			
	SNMM250732-QH	25.4	25.4	7.94	9.12	3.2																				○	
	SNMM250924-QH	25.4	25.4	9.52	9.12	2.4	○	○																	●	○	
SNMM250932-QH	25.4	25.4	9.52	9.12	3.2																			○	○		
	SNMA090304	9.525	9.525	3.18	3.81	0.4												○	○								
	SNMA090308	9.525	9.525	3.18	3.81	0.8													○	○							
	SNMA090312	9.525	9.525	3.18	3.81	1.2													○	○							
	SNMA120404	12.7	12.7	4.76	5.16	0.4															○	○					
	SNMA120408	12.7	12.7	4.76	5.16	0.8															●	○	○	○			
	SNMA120412	12.7	12.7	4.76	5.16	1.2															●	●	●	○			
	SNMA120416	12.7	12.7	4.76	5.16	1.6															●	○	●	●			
	SNMA190612	19.05	19.05	6.35	7.94	1.2															●	○	○	○			
	SNMA190616	19.05	19.05	6.35	7.94	1.6															○	○	○	○			
	SNMA190632	19.05	19.05	6.35	7.94	3.2															○	○	○	○			




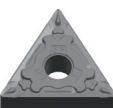

● Stock ○ Available Upon Order

Turning Insert (Negative)

TN□□

Triangle 60° with Hole



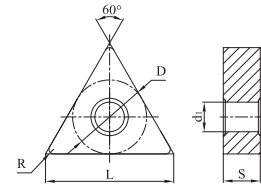
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
 TNGG160402R-PS	16.5	9.525	4.76	3.81	0.2										●	●											●
TNGG160402L-PS	16.5	9.525	4.76	3.81	0.2										○	○											○
TNGG160404R-PS	16.5	9.525	4.76	3.81	0.4										○	○											○
TNGG160404L-PS	16.5	9.525	4.76	3.81	0.4										○	○											○
TNGG160408R-PS	16.5	9.525	4.76	3.81	0.8										○	○											○
TNGG160408L-PS	16.5	9.525	4.76	3.81	0.8										○	○											○
 TNMG110304-GF	11	6.35	3.18	2.26	0.4	○																					
TNMG160304-GF	16.5	9.525	3.18	3.81	0.4	○																					
TNMG160308-GF	16.5	9.525	3.18	3.81	0.8	○																					
TNMG160404-GF	16.5	9.525	4.76	3.81	0.4	○			●																		
TNMG160408-GF	16.5	9.525	4.76	3.81	0.8	○																					
TNMG220404-GF	22	12.7	4.76	5.16	0.4	○																					
TNMG220408-GF	22	12.7	4.76	5.16	0.8	○																					
 TNMG160404-QF	16.5	9.525	4.76	3.81	0.4	○	●	○	○								○								○		○
TNMG160408-QF	16.5	9.525	4.76	3.81	0.8	○	○	○	●								○								○		○
TNMG220404-QF	22	12.7	4.76	5.16	0.4	○		○																			
TNMG220408-QF	22	12.7	4.76	5.16	0.8	○		○																			
 TNMG160404-SF	16.5	9.525	4.76	3.81	0.4																						
TNMG160408-SF	16.5	9.525	4.76	3.81	0.8																						
 TNMG160404-LF	16.5	9.525	4.76	3.81	0.4										○	●											
TNMG160408-LF	16.5	9.525	4.76	3.81	0.8										○	●											

● Stock ○ Available Upon Order

Turning Insert (Negative)

TN□□

Triangle 60° with Hole



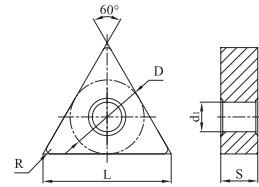
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
TNMG160304-GM	16.5	9.525	3.18	3.81	0.4	○	○																				
TNMG160308-GM	16.5	9.525	3.18	3.81	0.8			○																			
TNMG160312-GM	16.5	9.525	3.18	3.81	1.2			○																			
TNMG160404-GM	16.5	9.525	4.76	3.81	0.4	○	●																				
TNMG160408-GM	16.5	9.525	4.76	3.81	0.8	○	●																				
TNMG160412-GM	16.5	9.525	4.76	3.81	1.2	○	●																				
TNMG220404-GM	22	12.7	4.76	5.16	0.4			○																			
TNMG220408-GM	22	12.7	4.76	5.16	0.8	○	○																				
TNMG220412-GM	22	12.7	4.76	5.16	1.2	○	○																				
TNMG220416-GM	22	12.7	4.76	5.16	1.6			○																			
TNMG270608-GM	27.5	15.875	6.35	6.35	0.8			○																			
TNMG270612-GM	27.5	15.875	6.35	6.35	1.2			●																			
TNMG330608-GM	33	19.05	6.35	7.94	0.8			○																			
TNMG330612-GM	33	19.05	6.35	7.94	1.2			○																			
TNMG110304-QM	11	6.35	3.18	2.26	0.4	○	○																				
TNMG110308-QM	11	6.35	3.18	2.26	0.8	○	○																				
TNMG160404-QM	16.5	9.525	4.76	3.81	0.4	●	●	○	●								○										○
TNMG160408-QM	16.5	9.525	4.76	3.81	0.8	●	●	○	●								●										○
TNMG160412-QM	16.5	9.525	4.76	3.81	1.2	●	●	○	●								○										
TNMG220408-QM	22	12.7	4.76	5.16	0.8	○	●																				
TNMG220412-QM	22	12.7	4.76	5.16	1.2	○	○																				
TNMG220416-QM	22	12.7	4.76	5.16	1.6	○	○																				
TNMG160404-TP	16.5	9.525	4.76	3.81	0.4																			●	●		
TNMG160408-TP	16.5	9.525	4.76	3.81	0.8																			●	●		
TNMG160404R-TS	16.5	9.525	4.76	3.81	0.4																				●	●	
TNMG160404L-TS	16.5	9.525	4.76	3.81	0.4																			○	●		
TNMG160408R-TS	16.5	9.525	4.76	3.81	0.8																			○	●		
TNMG160408L-TS	16.5	9.525	4.76	3.81	0.8																			○	○		

● Stock ○ Available Upon Order

Turning Insert (Negative)

TN□□

Triangle 60° with Hole



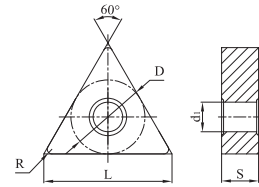
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	TNMG160404R-SV	16.5	9.525	4.76	3.81	0.4	●	●	●		○															○	○
	TNMG160404L-SV	16.5	9.525	4.76	3.81	0.4		○	●		○															○	○
	TNMG160408R-SV	16.5	9.525	4.76	3.81	0.8		○	●		○															○	○
	TNMG160408L-SV	16.5	9.525	4.76	3.81	0.8		○	●		○															○	○
	TNMG160404L-LV	16.5	9.525	4.76	3.81	0.4								○	●												
	TNMG160404R-LV	16.5	9.525	4.76	3.81	0.4								○	●												
	TNMG160408L-LV	16.5	9.525	4.76	3.81	0.8								○	○												
	TNMG160408R-LV	16.5	9.525	4.76	3.81	0.8								○	●												
	TNMG160404-SM	16.5	9.525	4.76	3.81	0.4					○	●	●	●	○												○
	TNMG160408-SM	16.5	9.525	4.76	3.81	0.8					○	●	○	●	○												○
	TNMG160412-SM	16.5	9.525	4.76	3.81	1.2					○	○	○	●													
	TNMG220408-SM	22	12.7	4.76	5.16	0.8					○	○	○	●													
	TNMG220412-SM	22	12.7	4.76	5.16	1.2					○	○	○	○													
	TNMG220416-SM	22	12.7	4.76	5.16	1.6					○	○	○	○													
	TNMG160404-LM	16.5	9.525	4.76	3.81	0.4					○	●	●	●													
	TNMG160408-LM	16.5	9.525	4.76	3.81	0.8					○	○	●	●													
	TNMG160412-LM	16.5	9.525	4.76	3.81	1.2					○	○	○	●													
	TNMX160408-WMV	16.5	9.525	4.76	3.81	0.8	●		●								●	○	○								
	TNMX160412-WMV	16.5	9.525	4.76	3.81	1.2	●		●								●	○	○								
	TNMG160404-UK	16.5	9.525	4.76	3.81	0.4											●	○	●								
	TNMG160408-UK	16.5	9.525	4.76	3.81	0.8											●	○	●								
	TNMG160412-UK	16.5	9.525	4.76	3.81	1.2											●	○	○								
	TNMG160416-UK	16.5	9.525	4.76	3.81	1.6											●	○	○								
	TNMG220408-UK	22	12.7	4.76	5.16	0.8											○	○	○	○							
	TNMG220412-UK	22	12.7	4.76	5.16	1.2											○	○	○	○							
	TNMG220416-UK	22	12.7	4.76	5.16	1.6											○	○	○	○							

● Stock ○ Available Upon Order

Turning Insert (Negative)

TN□□

Triangle 60° with Hole

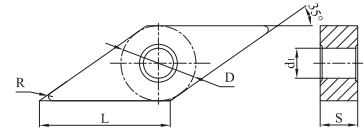




















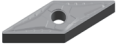
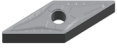


Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	TNMG160408-LR	16.5	9.525	4.76	3.81	0.8							○	○	○	○											
	TNMG160412-LR	16.5	9.525	4.76	3.81	1.2							○	○	○	●											
	TNMG220408-LR	22	12.7	4.76	5.16	0.8							○	○	○	○											
	TNMG160408-QR	16.5	9.525	4.76	3.81	0.8										○	○										
	TNMG160412-QR	16.5	9.525	4.76	3.81	1.2										○	○										
	TNMG220408-QR	22	12.7	4.76	5.16	0.8										○											
	TNMG220412-QR	22	12.7	4.76	5.16	1.2										○	○										
	TNMG220416-QR	22	12.7	4.76	5.16	1.6										○											
	TNMG270608-QR	27.5	15.875	6.35	6.35	0.8										○											
	TNMG270612-QR	27.5	15.875	6.35	6.35	1.2										○											
	TNMG270616-QR	27.5	15.875	6.35	6.35	1.6																					
	TNMG330716-QR	33	19.05	7.94	7.94	1.6											○										
	TNMG330924-QR	33	19.05	9.52	7.94	2.4											○										
	TNMG160408-HK	16.5	9.525	4.76	3.81	0.8											●	●	●								
	TNMG160412-HK	16.5	9.525	4.76	3.81	1.2											●	●	○								
	TNMG220408-HK	22	12.7	4.76	5.16	0.8											○	○	○								
	TNMG220412-HK	22	12.7	4.76	5.16	1.2												●	●	○	○						
	TNMG220416-HK	22	12.7	4.76	5.16	1.6												●	●	○	○						
	TNMG270612-HK	27.5	15.875	6.35	6.35	1.2											○	○									
	TNMG270616-HK	27.5	15.875	6.35	6.35	1.6											○	○									
	TNMA110304	11	6.35	3.18	2.26	0.4											○	○									
	TNMA110308	11	6.35	3.18	2.26	0.8											○	○									
	TNMA160308	16.5	9.525	3.18	3.81	0.8											○	○									
	TNMA160404	16.5	9.525	4.76	3.81	0.4											●	○									
	TNMA160408	16.5	9.525	4.76	3.81	0.8											●	○	○	○							
	TNMA160412	16.5	9.525	4.76	3.81	1.2											●	○	○	○							
	TNMA160416	16.5	9.525	4.76	3.81	1.6											●	○	○	○							
	TNMA220404	22	12.7	4.76	5.16	0.4											○	○									
	TNMA220408	22	12.7	4.76	5.16	0.8											●	○	○	○							
	TNMA220412	22	12.7	4.76	5.16	1.2											●	○	○	○							
TNMA220416	22	12.7	4.76	5.16	1.6											●	○	○	○								

● Stock ○ Available Upon Order

Turning Insert (Negative)

VN □ □
Rhombic 35° with Hole



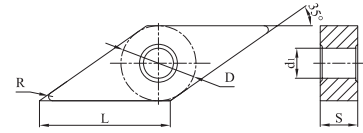
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
 VNMG160404-GF	16.6	9.525	4.76	3.81	0.4	○	○																				
 VNMG160408-GF	16.6	9.525	4.76	3.81	0.8	○																					
 VNMG220404-GF	22.1	12.7	4.76	5.16	0.4	○																					
 VNMG220408-GF	22.1	12.7	4.76	5.16	0.8	○																					
 VNMG160402-QF	16.6	9.525	4.76	3.81	0.2				●																		
 VNMG160404-QF	16.6	9.525	4.76	3.81	0.4	●	●	○	●								○							○	○		
 VNMG160408-QF	16.6	9.525	4.76	3.81	0.8	●	●	○	○								○							○	○		
 VNMG220404-QF	22.1	12.7	4.76	5.16	0.4		○	○																			
 VNMG220408-QF	22.1	12.7	4.76	5.16	0.8		○	○																			
 VNMG160404-SF	16.6	9.525	4.76	3.81	0.4									○	●												
 VNMG160408-SF	16.6	9.525	4.76	3.81	0.8										●												
 VNMG160404-GM	16.6	9.525	4.76	3.81	0.4	○	○																				
 VNMG160408-GM	16.6	9.525	4.76	3.81	0.8	○	●																				
 VNMG160412-GM	16.6	9.525	4.76	3.81	1.2	●	●																				
 VNMG220408-GM	22.1	12.7	4.76	5.16	0.8			○																			
 VNMG160404-QM	16.6	9.525	4.76	3.81	0.4	●	●	●									○									○	
 VNMG160408-QM	16.6	9.525	4.76	3.81	0.8	●	●	●	●								○									○	
 VNMG160412-QM	16.6	9.525	4.76	3.81	1.2	○	●										○										
 VNMG160404-TP	16.6	9.525	4.76	3.81	0.4																			●	●		
 VNMG160408-TP	16.6	9.525	4.76	3.81	0.8																			○	○		
 VNMG160404-SM	16.6	9.525	4.76	3.81	0.4						○	●	●	●												○	
 VNMG160408-SM	16.6	9.525	4.76	3.81	0.8						○	●	●	●												○	

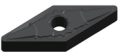
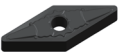





● Stock ○ Available Upon Order

Turning Insert (Negative)

VN□□

Rhombic 35° with Hole



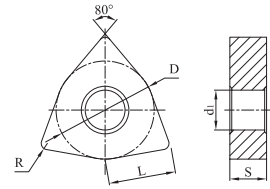
Ordering Code	Dimension					Coated										Uncoated			Cermets								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
 VNMG160404-LM	16.6	9.525	4.76	3.81	0.4								○	○	●	●											
 VNMG160408-LM	16.6	9.525	4.76	3.81	0.8								○	○	●	●											
 VNMG160404-UK	16.6	9.525	4.76	3.81	0.4														●	○	●						
 VNMG160408-UK	16.6	9.525	4.76	3.81	0.8														●	○	●	●					
 VNMG160412-UK	16.6	9.525	4.76	3.81	1.2														●	○	○	○					
 VNMG160408-HK	16.6	9.525	4.76	3.81	0.8														●	●	○	○					
 VNMG160412-HK	16.6	9.525	4.76	3.81	1.2														●	●	○	○					











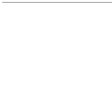

● Stock ○ Available Upon Order

Turning Insert (Negative)

WN □ □

Trigon 80° with Hole



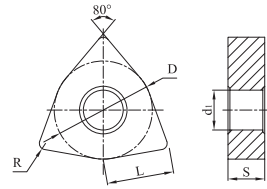
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
 WNMG06T304-GF	6.5	9.525	3.97	3.81	0.4	○																					
WNMG06T308-GF	6.5	9.525	3.97	3.81	0.8	○																					
 WNMG060404-GF	6.5	9.525	4.76	3.81	0.4	○																					
WNMG060408-GF	6.5	9.525	4.76	3.81	0.8	○																					
 WNMG080404-GF	8.7	12.7	4.76	5.16	0.4	●																					
WNMG080408-GF	8.7	12.7	4.76	5.16	0.8	○	●																				
 WNMG060404-QF	6.5	9.525	4.76	3.81	0.4	○	●																				
WNMG060408-QF	6.5	9.525	4.76	3.81	0.8	○	●																				
 WNMG080404-QF	8.7	12.7	4.76	5.16	0.4	●	●	○	○									○						○	○		
WNMG080408-QF	8.7	12.7	4.76	5.16	0.8	●	●	○	●									○						○	○		
 WNMG060404-SF	6.5	9.525	4.76	3.81	0.4										●												
WNMG060408-SF	6.5	9.525	4.76	3.81	0.8										●												
 WNMG080404-SF	8.7	12.7	4.76	5.16	0.4							○	○	●													
WNMG080408-SF	8.7	12.7	4.76	5.16	0.8									●													
 WNMG080404-LF	6.5	9.525	4.76	3.81	0.4							○	●														
WNMG080408-LF	6.5	9.525	4.76	3.81	0.8							●	●														
WNMG06T304-GM	6.5	9.525	3.97	3.81	0.4	○	○										●										
 WNMG06T308-GM	6.5	9.525	3.97	3.81	0.8	○	○											●		●							
WNMG06T312-GM	6.5	9.525	3.97	3.81	1.2	○	○											●		●							
 WNMG060404-GM	6.5	9.525	4.76	3.81	0.4	○	○																				
WNMG060408-GM	6.5	9.525	4.76	3.81	0.8	○	●																				
 WNMG080404-GM	8.7	12.7	4.76	5.16	0.4				●																		
WNMG080408-GM	8.7	12.7	4.76	5.16	0.8		●	●																			
WNMG080412-GM	8.7	12.7	4.76	5.16	1.2		●	●																			
WNMG080416-GM	8.7	12.7	4.76	5.16	1.6		○	●																			
 WNMG060404-QM	6.5	9.525	4.76	3.81	0.4	○	○											○									
WNMG060408-QM	6.5	9.525	4.76	3.81	0.8	●	○	○																			
WNMG060412-QM	6.5	9.525	4.76	3.81	1.2		●	○																			
WNMG080404-QM	8.7	12.7	4.76	5.16	0.4	●	●	●	●									○								○	
WNMG080408-QM	8.7	12.7	4.76	5.16	0.8	●	●	●	●									●								○	
WNMG080412-QM	8.7	12.7	4.76	5.16	1.2	●	●	●	●									○									
WNMG080416-QM	8.7	12.7	4.76	5.16	1.6	●		○																			

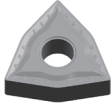


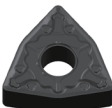

● Stock ○ Available Upon Order

Turning Insert (Negative)

WN □ □

Trigon 80° with Hole



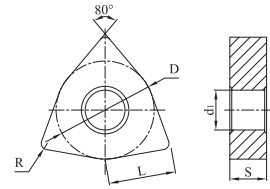
Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
	WNMG080404-TP	8.7	12.7	4.76	5.16	0.4																				●	●	
	WNMG080408-TP	8.7	12.7	4.76	5.16	0.8																					○	○
	WNMG080408R-SV	8.7	12.7	4.76	5.16	0.8	●			●																		
	WNMG080408L-SV	8.7	12.7	4.76	5.16	0.8	●			●																		
	WNMG06T304-SM	6.5	9.525	3.97	3.81	0.4						○	○	○	○													
	WNMG06T308-SM	6.5	9.525	3.97	3.81	0.8						○	○	○	●													
	WNMG06T312-SM	6.5	9.525	3.97	3.81	1.2						○	○	○	○													
	WNMG060404-SM	6.5	9.525	4.76	3.81	0.4						○	○	○	●													
	WNMG060408-SM	6.5	9.525	4.76	3.81	0.8						○	●	○	○													
	WNMG060412-SM	6.5	9.525	4.76	3.81	1.2						●	○	○	○	○												
	WNMG080404-SM	8.7	12.7	4.76	5.16	0.4						○	●	○	●													○
	WNMG080408-SM	8.7	12.7	4.76	5.16	0.8						○	●	●	●	○												○
	WNMG080412-SM	8.7	12.7	4.76	5.16	1.2						○	●	○	●													
	WNMG06T304-LM	6.5	9.525	3.97	3.81	0.4						○	○	○	○													
	WNMG06T308-LM	6.5	9.525	3.97	3.81	0.8						○	○	○	○													
	WNMG06T312-LM	6.5	9.525	3.97	3.81	1.2						○	○	○	○													
	WNMG060404-LM	6.5	9.525	4.76	3.81	0.4						○	○	○	●													
	WNMG060408-LM	6.5	9.525	4.76	3.81	0.8						○	○	○	●													
	WNMG060412-LM	6.5	9.525	4.76	3.81	1.2						○	○	○	○													
	WNMG080404-LM	8.7	12.7	4.76	5.16	0.4						○	●	○	●													
	WNMG080408-LM	8.7	12.7	4.76	5.16	0.8						○	●	●	●													
	WNMG080412-LM	8.7	12.7	4.76	5.16	1.2						○	○	○	●													
	WNMG080408-WMV	8.7	12.7	4.76	5.16	0.8	●			●							●	○	○									
	WNMG080412-WMV	8.7	12.7	4.76	5.16	1.2	●			●								●	○	○								

● Stock ○ Available Upon Order

Turning Insert (Negative)

WN □ □

Trigon 80° with Hole



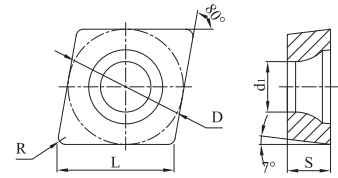
Ordering Code	Dimension					Coated								Uncoated			Cermet												
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM			
	WNMG080404-UK	8.7	12.7	4.76	5.16	0.4																							
	WNMG080408-UK	8.7	12.7	4.76	5.16	0.8																							
	WNMG080412-UK	8.7	12.7	4.76	5.16	1.2																							
	WNMG080408-LR	8.7	12.7	4.76	5.16	0.8																							
	WNMG080412-LR	8.7	12.7	4.76	5.16	1.2																							
	WNMG080408-QR	8.7	12.7	4.76	5.16	0.8	○	○			●	●																	
	WNMG080412-QR	8.7	12.7	4.76	5.16	1.2	○				●	○																	
	WNMG080416-QR	8.7	12.7	4.76	5.16	1.6	○	○																					
	WNMG06T308-HK	6.5	9.525	3.97	3.81	0.8																							
	WNMG060408-HK	6.5	9.525	4.76	3.81	0.8																							
	WNMG080408-HK	8.7	12.7	4.76	5.16	0.8																							
	WNMG080412-HK	8.7	12.7	4.76	5.16	1.2																							
	WNMA06T304	6.5	9.525	3.97	3.81	0.4																							
	WNMA060404	6.5	9.525	4.76	3.81	0.4																							
	WNMA060408	6.5	9.525	4.76	3.81	0.8																							
	WNMA080404	8.7	12.7	4.76	5.16	0.4																							
	WNMA080408	8.7	12.7	4.76	5.16	0.8																							
	WNMA080412	8.7	12.7	4.76	5.16	1.2																							
WNMA080416	8.7	12.7	4.76	5.16	1.6																								

● Stock ○ Available Upon Order

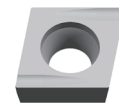
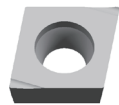
Turning Insert (Positive)



Rhombic 80° with Hole



Ordering Code	Dimension					Coated								Uncoated			Cermets												
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM			
CCET0602005R-PS	6.5	6.35	2.38	2.8	<0.05																								
CCET0602005L-PS	6.5	6.35	2.38	2.8	<0.05																								
CCET060201R-PS	6.5	6.35	2.38	2.8	0.1																								
CCET060201L-PS	6.5	6.35	2.38	2.8	0.1																								
CCET060202R-PS	6.5	6.35	2.38	2.8	0.2																								
CCET060202L-PS	6.5	6.35	2.38	2.8	0.2																								
CCET060204R-PS	6.5	6.35	2.38	2.8	0.4																								
CCET060204L-PS	6.5	6.35	2.38	2.8	0.4																								
CCET09T3005R-PS	9.7	9.525	3.97	4.4	<0.05																								
CCET09T3005L-PS	9.7	9.525	3.97	4.4	<0.05																								
CCET09T301R-PS	9.7	9.525	3.97	4.4	0.1																								
CCET09T301L-PS	9.7	9.525	3.97	4.4	0.1																								
CCET09T302R-PS	9.7	9.525	3.97	4.4	0.2																								
CCET09T302L-PS	9.7	9.525	3.97	4.4	0.2																								
CCET09T304R-PS	9.7	9.525	3.97	4.4	0.4																								
CCET09T304L-PS	9.7	9.525	3.97	4.4	0.4																								
CCET0602005R-GS	6.5	6.35	2.38	2.8	<0.05																								
CCET0602005L-GS	6.5	6.35	2.38	2.8	<0.05																								
CCET060201R-GS	6.5	6.35	2.38	2.8	0.1																								
CCET060201L-GS	6.5	6.35	2.38	2.8	0.1																								
CCET060202R-GS	6.5	6.35	2.38	2.8	0.2																								
CCET060202L-GS	6.5	6.35	2.38	2.8	0.2																								
CCET060204R-GS	6.5	6.35	2.38	2.8	0.4																								
CCET060204L-GS	6.5	6.35	2.38	2.8	0.4																								
CCET09T3005R-GS	9.7	9.525	3.97	4.4	<0.05																								
CCET09T3005L-GS	9.7	9.525	3.97	4.4	<0.05																								
CCET09T301R-GS	9.7	9.525	3.97	4.4	0.1																								
CCET09T301L-GS	9.7	9.525	3.97	4.4	0.1																								
CCET09T302R-GS	9.7	9.525	3.97	4.4	0.2																								
CCET09T302L-GS	9.7	9.525	3.97	4.4	0.2																								
CCET09T304R-GS	9.7	9.525	3.97	4.4	0.4																								
CCET09T304L-GS	9.7	9.525	3.97	4.4	0.4																								

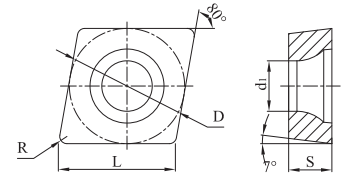


● Stock ○ Available Upon Order

Turning Insert (Positive)



Rhombic 80° with Hole



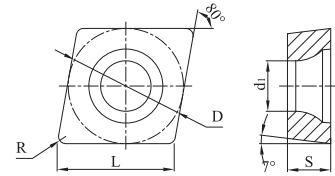
Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
	CCMT060202-MM	6.5	6.35	2.38	2.8	0.2	○	○			○	○	●	●	●											○	○	
	CCMT060204-MM	6.5	6.35	2.38	2.8	0.4	○	○	○		○	●	●	●	●		○	○	○	○						●	●	
	CCMT060208-MM	6.5	6.35	2.38	2.8	0.8					○	○	○	○	○		○	○	○	○								
	CCMT09T302-MM	9.7	9.525	3.97	4.4	0.2	○		○		○	○	○	○	●	●	○									○	○	
	CCMT09T304-MM	9.7	9.525	3.97	4.4	0.4	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○					●	●	
	CCMT09T308-MM	9.7	9.525	3.97	4.4	0.8	●	○		○	○	○	○	○	○	○	○	○	○	○					○	○		
	CCMT060202-GP	6.5	6.35	2.38	2.8	0.2	○				○	●					●	○							○	○		
	CCMT060204-GP	6.5	6.35	2.38	2.8	0.4	●	●	●		○	○	○	○			●	○	○	○					○	●		
	CCMT060208-GP	6.5	6.35	2.38	2.8	0.8	○	●			○	○	○	○			●	○	○	○					○	○		
	CCMT09T302-GP	9.7	9.525	3.97	4.4	0.2	●		○		○	○					○	○							○	○		
	CCMT09T304-GP	9.7	9.525	3.97	4.4	0.4	●	●	●		○	○	○	○	○	○	○	○	○	○					●	●		
	CCMT09T308-GP	9.7	9.525	3.97	4.4	0.8	●	○	●		○	○	○	○			●	○	○	○					○	○		
	CCMT120404-GP	12.9	12.7	4.76	5.56	0.4	●	●			○	○					●	○	○	○					○	○		
	CCMT120408-GP	12.9	12.7	4.76	5.56	0.8	●	●			○	○					●	○	○	○					○	○		
	CCMT120412-GP	12.9	12.7	4.76	5.56	1.2	○				○	○					●	○	○	○								
	CCGT060202-GP	6.5	6.35	2.38	2.8	0.2																						
	CCGT060204-GP	6.5	6.35	2.38	2.8	0.4																						
	CCGT060208-GP	6.5	6.35	2.38	2.8	0.8																						
	CCGT09T302-GP	9.7	9.525	3.97	4.4	0.2																						
	CCGT09T304-GP	9.7	9.525	3.97	4.4	0.4																						
	CCGT09T308-GP	9.7	9.525	3.97	4.4	0.8																						
	CCGT120404-GP	12.9	12.7	4.76	5.56	0.4																						
	CCGT120408-GP	12.9	12.7	4.76	5.56	0.8																						
	CCMT060202-TP	6.5	6.35	2.38	2.8	0.2																				○	○	
	CCMT060204-TP	6.5	6.35	2.38	2.8	0.4																				●	●	
	CCMT060208-TP	6.5	6.35	2.38	2.8	0.8																			○	○		
	CCMT09T302-TP	9.7	9.525	3.97	4.4	0.2																			○	○		
	CCMT09T304-TP	9.7	9.525	3.97	4.4	0.4																			●	●		
	CCMT09T308-TP	9.7	9.525	3.97	4.4	0.8																			○	○		
	CCMT120404-TP	12.9	12.7	4.76	5.56	0.4																				○	○	
	CCMT120408-TP	12.9	12.7	4.76	5.56	0.8																				○	○	

● Stock ○ Available Upon Order

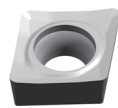
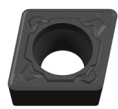
Turning Insert (Positive)



Rhombic 80° with Hole



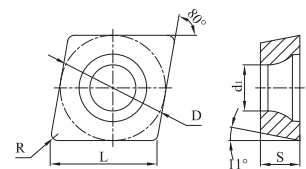
Ordering Code	Dimension					Coated										Uncoated			Cermets									
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
CCMT060204-KM	6.5	6.35	2.38	2.8	0.4																							
CCMT09T304-KM	9.7	9.525	3.97	4.4	0.4																							
CCMT09T308-KM	9.7	9.525	3.97	4.4	0.8																							
CCMT120404-KM	12.9	12.7	4.76	5.56	0.4																							
CCMT120408-KM	12.9	12.7	4.76	5.56	0.8																							
CCMT120412-KM	12.9	12.7	4.76	5.56	1.2																							
CCGX060202-AL	6.5	6.35	2.38	2.8	0.2																							
CCGX060204-AL	6.5	6.35	2.38	2.8	0.4																							
CCGX060208-AL	6.5	6.35	2.38	2.8	0.8																							
CCGX09T302-AL	9.7	9.525	3.97	4.4	0.2																							
CCGX09T304-AL	9.7	9.525	3.97	4.4	0.4																							
CCGX09T308-AL	9.7	9.525	3.97	4.4	0.8																							
CCGX120402-AL	12.9	12.7	4.76	5.5	0.2																							
CCGX120404-AL	12.9	12.7	4.76	5.5	0.4																							
CCGX120408-AL	12.9	12.7	4.76	5.5	0.8																							



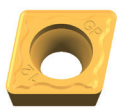
● Stock ○ Available Upon Order



Rhombic 80° with Hole



Ordering Code	Dimension					Coated										Uncoated			Cermets									
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
CPMT120412-GP	12.9	12.7	4.76	5.56	1.2																							
CPGT060204-GP	6.5	6.35	2.38	2.8	0.4																							
CPGT060208-GP	6.5	6.35	2.38	2.8	0.8																							
CPGT09T302-GP	9.7	9.525	3.97	4.4	0.2																							
CPGT09T304-GP	9.7	9.525	3.97	4.4	0.4																							
CPGT09T308-GP	9.7	9.525	3.97	4.4	0.8																							
CPGT120404-GP	12.9	12.7	4.76	5.56	0.4																							
CPGT120408-GP	12.9	12.7	4.76	5.56	0.8																							

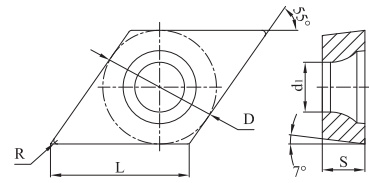


● Stock ○ Available Upon Order

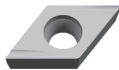
Turning Insert (Positive)

DC □ □

Rhombic 55° with Hole



Ordering Code	Dimension					Coated								Uncoated			Cermets										
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
DCET0702005R-PS	7.8	6.35	2.38	2.8	<0.05																						
DCET0702005L-PS	7.8	6.35	2.38	2.8	<0.05																						
DCET070201R-PS	7.8	6.35	2.38	2.8	0.1																						
DCET070201L-PS	7.8	6.35	2.38	2.8	0.1																						
DCET070202R-PS	7.8	6.35	2.38	2.8	0.2																						
DCET070202L-PS	7.8	6.35	2.38	2.8	0.2																						
DCET070204R-PS	7.8	6.35	2.38	2.8	0.4																						
DCET070204L-PS	7.8	6.35	2.38	2.8	0.4																						
DCET11T3005R-PS	11.6	9.525	3.97	4.4	<0.05																						
DCET11T3005L-PS	11.6	9.525	3.97	4.4	<0.05																						
DCET11T301R-PS	11.6	9.525	3.97	4.4	0.1																						
DCET11T301L-PS	11.6	9.525	3.97	4.4	0.1																						
DCET11T302R-PS	11.6	9.525	3.97	4.4	0.2																						
DCET11T302L-PS	11.6	9.525	3.97	4.4	0.2																						
DCET11T304R-PS	11.6	9.525	3.97	4.4	0.4																						
DCET11T304L-PS	11.6	9.525	3.97	4.4	0.4																						
DCET0702005R-GS	7.8	6.35	2.38	2.8	<0.05																						
DCET0702005L-GS	7.8	6.35	2.38	2.8	<0.05																						
DCET070201R-GS	7.8	6.35	2.38	2.8	0.1																						
DCET070201L-GS	7.8	6.35	2.38	2.8	0.1																						
DCET070202R-GS	7.8	6.35	2.38	2.8	0.2																						
DCET070202L-GS	7.8	6.35	2.38	2.8	0.2																						
DCET070204R-GS	7.8	6.35	2.38	2.8	0.4																						
DCET070204L-GS	7.8	6.35	2.38	2.8	0.4																						
DCET11T3005R-GS	11.6	9.525	3.97	4.4	<0.05																						
DCET11T3005L-GS	11.6	9.525	3.97	4.4	<0.05																						
DCET11T301R-GS	11.6	9.525	3.97	4.4	0.1																						
DCET11T301L-GS	11.6	9.525	3.97	4.4	0.1																						
DCET11T302R-GS	11.6	9.525	3.97	4.4	0.2																						
DCET11T302L-GS	11.6	9.525	3.97	4.4	0.2																						
DCET11T304R-GS	11.6	9.525	3.97	4.4	0.4																						
DCET11T304L-GS	11.6	9.525	3.97	4.4	0.4																						

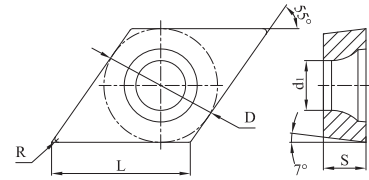


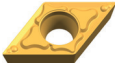

● Stock ○ Available Upon Order

Turning Insert (Postive)

DC □ □

Rhombic 55° with Hole



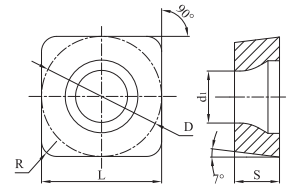
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
 DCMT070202-MM	7.8	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070204-MM	7.8	6.35	2.38	2.8	0.4	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070208-MM	7.8	6.35	2.38	2.8	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T302-MM	11.6	9.525	3.97	4.4	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T304-MM	11.6	9.525	3.97	4.4	0.4	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T308-MM	11.6	9.525	3.97	4.4	0.8	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070202-GP	7.8	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070204-GP	7.8	6.35	2.38	2.8	0.4	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070208-GP	7.8	6.35	2.38	2.8	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T302-GP	11.6	9.525	3.97	4.4	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T304-GP	11.6	9.525	3.97	4.4	0.4	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T308-GP	11.6	9.525	3.97	4.4	0.8	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T312-GP	11.6	9.525	3.97	4.4	1.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
 DCMT150404-GP	15.5	12.7	4.76	5.56	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT150408-GP	15.5	12.7	4.76	5.56	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT150412-GP	15.5	12.7	4.76	5.56	1.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGT070202-GP	7.8	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGT070204-GP	7.8	6.35	2.38	2.8	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGT070208-GP	7.8	6.35	2.38	2.8	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGT11T302-GP	11.6	9.525	3.97	4.4	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGT11T304-GP	11.6	9.525	3.97	4.4	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGT11T308-GP	11.6	9.525	3.97	4.4	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070202-TP	7.8	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070204-TP	7.8	6.35	2.38	2.8	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT070208-TP	7.8	6.35	2.38	2.8	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T302-TP	11.6	9.525	3.97	4.4	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T304-TP	11.6	9.525	3.97	4.4	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T308-TP	11.6	9.525	3.97	4.4	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T304-KM	11.6	9.525	3.97	4.4	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCMT11T308-KM	11.6	9.525	3.97	4.4	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGX070202-AL	7.8	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGX070204-AL	7.8	6.35	2.38	2.8	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGX070208-AL	7.8	6.35	2.38	2.8	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGX11T302-AL	11.6	9.525	3.97	4.4	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGX11T304-AL	11.6	9.525	3.97	4.4	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DCGX11T308-AL	11.6	9.525	3.97	4.4	0.8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○






● Stock ○ Available Upon Order

Turning Insert (Positive)

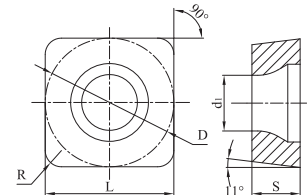
SC □ □

Square 90° with Hole




Ordering Code	Dimension					Coated								Uncoated			Cermets										
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	SCMT09T304-MM	9.525	9.525	3.97	4.4	0.8																					
	SCMT09T308-MM	9.525	9.525	3.97	4.4	0.8																					
	SCMT09T304-GP	9.525	9.525	3.97	4.4	0.4																					
	SCMT09T308-GP	9.525	9.525	3.97	4.4	0.8																					
	SCMT120404-GP	12.7	12.7	4.76	5.56	0.4																					
	SCMT120408-GP	12.7	12.7	4.76	5.56	0.8																					
	SCMT09T304-TP	9.525	9.525	3.97	4.4	0.4																					
	SCMT09T308-TP	9.525	9.525	3.97	4.4	0.8																					
	SCMT120404-TP	12.7	12.7	4.76	5.56	0.4																					
	SCMT120408-TP	12.7	12.7	4.76	5.56	0.8																					
	SCMT09T308-KM	9.525	9.525	3.97	4.4	0.8																					
	SCMT120408-KM	12.7	12.7	4.76	5.56	0.8																					
	SCMT120412-KM	12.7	12.7	4.76	5.56	1.2																					
	SCGX09T304-AL	9.525	9.525	3.97	4.4	0.4																					
	SCGX09T308-AL	9.525	9.525	3.97	4.4	0.8																					
	SCGX120404-AL	12.7	12.7	4.76	5.5	0.4																					
	SCGX120408-AL	12.7	12.7	4.76	5.5	0.8																					

● Stock ○ Available Upon Order



SP □ □

Square 90° with Hole

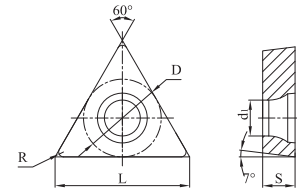
Ordering Code	Dimension					Coated								Uncoated			Cermets											
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
	SPMT090304-GP	9.525	9.525	3.18	4.4	0.4																						

● Stock ○ Available Upon Order

Turning Insert (Positive)

TC □ □

Triangle 60° with Hole



Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
TCET080201R-PS	8.2	4.76	2.38	2.3	0.1																							
TCET080201L-PS	8.2	4.76	2.38	2.3	0.1																							
TCET080202R-PS	8.2	4.76	2.38	2.3	0.2																							
TCET080202L-PS	8.2	4.76	2.38	2.3	0.2																							
TCET080204R-PS	8.2	4.76	2.38	2.3	0.4																							
TCET080204L-PS	8.2	4.76	2.38	2.3	0.4																							
TCET110201R-PS	11	6.35	2.38	2.8	0.1																							
TCET110201L-PS	11	6.35	2.38	2.8	0.1																							
TCET110202R-PS	11	6.35	2.38	2.8	0.2																							
TCET110202L-PS	11	6.35	2.38	2.8	0.2																							
TCET110204R-PS	11	6.35	2.38	2.8	0.4																							
TCET110204L-PS	11	6.35	2.38	2.8	0.4																							
TCET080201R-GS	8.2	4.76	2.38	2.3	0.1																							
TCET080201L-GS	8.2	4.76	2.38	2.3	0.1																							
TCET080202R-GS	8.2	4.76	2.38	2.3	0.2																							
TCET080202L-GS	8.2	4.76	2.38	2.3	0.2																							
TCET080204R-GS	8.2	4.76	2.38	2.3	0.4																							
TCET080204L-GS	8.2	4.76	2.38	2.3	0.4																							
TCET110201R-GS	11	6.35	2.38	2.8	0.1																							
TCET110201L-GS	11	6.35	2.38	2.8	0.1																							
TCET110202R-GS	11	6.35	2.38	2.8	0.2																							
TCET110202L-GS	11	6.35	2.38	2.8	0.2																							
TCET110204R-GS	11	6.35	2.38	2.8	0.4																							
TCET110204L-GS	11	6.35	2.38	2.8	0.4																							

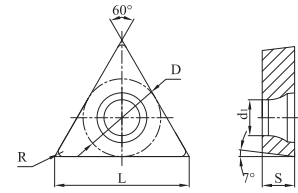
● Stock ○ Available Upon Order



Turning Insert (Positive)

TC □ □

Triangle 60° with Hole



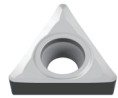
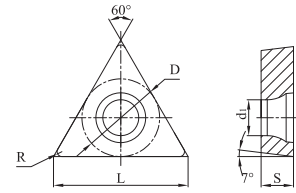
Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
	TCMT110202-MM	11	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	TCMT110204-MM	11	6.35	2.38	2.8	0.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	TCMT16T304-MM	16.5	9.525	3.97	4.4	0.4					○	○	○	○														
	TCMT16T308-MM	16.5	9.525	3.97	4.4	0.8					○	○	○	○	●													
	TCMT090204-GP	9.6	5.56	2.38	2.5	0.4	○	●	○	●							●	○							○	○		
	TCMT110202-GP	11	6.35	2.38	2.8	0.2		○	○	○							○								○	○		
	TCMT110204-GP	11	6.35	2.38	2.8	0.4	●	●	○	●	○	●					●								○	○		
	TCMT110208-GP	11	6.35	2.38	2.8	0.8	○	●	○	●							●	●							○	○		
	TCMT16T304-GP	16.5	9.525	3.97	4.4	0.4	●	●	○	●	●	●					●	○							○	○		
	TCMT16T308-GP	16.5	9.525	3.97	4.4	0.8	○	●	○	●	○	●					●	●							○	○		
	TCMT16T312-GP	16.5	9.525	3.97	4.4	1.2					○	○					○	○										
	TCMT220408-GP	22	12.7	4.76	5.56	0.8	●	●	○	○							●	○										
	TCGT090204-GP	9.6	5.56	2.38	2.5	0.4								○	●													
	TCGT110202-GP	11	6.35	2.38	2.8	0.2								○	○													
	TCGT110204-GP	11	6.35	2.38	2.8	0.4								○	○													
	TCGT110208-GP	11	6.35	2.38	2.8	0.8								○	●													
	TCGT16T304-GP	16.5	9.525	3.97	4.4	0.4								○	○													
	TCGT16T308-GP	16.5	9.525	3.97	4.4	0.8								○	○													
TCGT220408-GP	22	12.7	4.76	5.16	0.8					○	○	○	○															
	TCMT090202-TP	9.6	5.56	2.38	2.5	0.4																			○	○		
	TCMT090204-TP	9.6	5.56	2.38	2.5	0.4																			●	●		
	TCMT090208-TP	9.6	5.56	2.38	2.5	0.8																			○	○		
	TCMT110204-TP	11	6.35	2.38	2.8	0.4																			○	●		
	TCMT110208-TP	11	6.35	2.38	2.8	0.8																			○	○		
	TCMT16T304-TP	16.5	9.525	3.97	4.4	0.4																			○	○		
	TCMT16T308-TP	16.5	9.525	3.97	4.4	0.8																			○	○		
	TCMT110204-KM	11	6.35	2.38	2.8	0.4			○									○										
	TCMT16T304-KM	16.5	9.525	3.97	4.4	0.4			○									○										
	TCMT16T308-KM	16.5	9.525	3.97	4.4	0.8			○									●										

● Stock ○ Available Upon Order

Turning Insert (Positive)

TC □ □

Triangle 60° with Hole



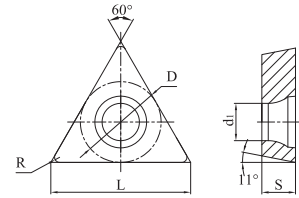
Ordering Code	Dimension					Coated										Uncoated			Cermets								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
TCGX090204-AL	9.6	5.56	2.38	2.5	0.4																	○	○	○			
TCGX110202-AL	11	6.35	2.38	2.8	0.2																	○	○				
TCGX110204-AL	11	6.35	2.38	2.8	0.4																	○	○	○			
TCGX110208-AL	11	6.35	2.38	2.8	0.8																	○	○	○			
TCGX16T302-AL	16.5	9.525	3.97	4.4	0.2																	○	○				
TCGX16T304-AL	16.5	9.525	3.97	4.4	0.4																	○	○	○			
TCGX16T308-AL	16.5	9.525	3.97	4.4	0.8																	○	○	○			

● Stock ○ Available Upon Order

Turning Insert (Positive)

TP □ □

Triangle 60° with Hole



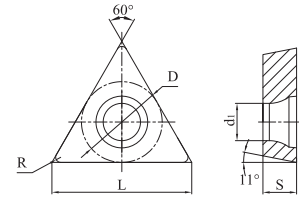
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
	TPET080201R-PS	8.2	4.76	2.38	2.3	0r.1																					
	TPET080201L-PS	8.2	4.76	2.38	2.3	0.1																					
	TPET080202R-PS	8.2	4.76	2.38	2.3	0.2																					
	TPET080202L-PS	8.2	4.76	2.38	2.3	0.2																					
	TPET080204R-PS	8.2	4.76	2.38	2.3	0.4																					
	TPET080204L-PS	8.2	4.76	2.38	2.3	0.4										●										●	
	TPET080201R-GS	8.2	4.76	2.38	2.3	0.1																					
	TPET080201L-GS	8.2	4.76	2.38	2.3	0.1																					
	TPET080202R-GS	8.2	4.76	2.38	2.3	0.2																					
	TPET080202L-GS	8.2	4.76	2.38	2.3	0.2																					
	TPET080204R-GS	8.2	4.76	2.38	2.3	0.4																					
	TPET080204L-GS	8.2	4.76	2.38	2.3	0.4																					
	TPEH090201R-PS	9.6	5.56	2.38	3.0	0.1																					
	TPEH090201L-PS	9.6	5.56	2.38	3.0	0.1																					
	TPEH090202R-PS	9.6	5.56	2.38	3.0	0.2																					
	TPEH090202L-PS	9.6	5.56	2.38	3.0	0.2																					
	TPEH090204R-PS	9.6	5.56	2.38	3.0	0.4																					
	TPEH090204L-PS	9.6	5.56	2.38	3.0	0.4											●								●		
	TPEH110301R-PS	11	6.35	3.18	3.4	0.1																					
	TPEH110301L-PS	11	6.35	3.18	3.4	0.1																					
	TPEH110302R-PS	11	6.35	3.18	3.4	0.2																					
	TPEH110302L-PS	11	6.35	3.18	3.4	0.2																					
	TPEH110304R-PS	11	6.35	3.18	3.4	0.4																					
	TPEH110304L-PS	11	6.35	3.18	3.4	0.4												●							●		
	TPEH090202R-GS	9.6	5.56	2.38	3.0	0.2																					
	TPEH090202L-GS	9.6	5.56	2.38	3.0	0.2																					
	TPEH090204R-GS	9.6	5.56	2.38	3.0	0.4																					
	TPEH090204L-GS	9.6	5.56	2.38	3.0	0.4																					
	TPEH110302R-GS	11	6.35	3.18	3.4	0.2																					
	TPEH110302L-GS	11	6.35	3.18	3.4	0.2																					
	TPEH110304R-GS	11	6.35	3.18	3.4	0.4																					
	TPEH110304L-GS	11	6.35	3.18	3.4	0.4																					




● Stock ○ Available Upon Order

Turning Insert (Positive)

TP □ □

Triangle 60° with Hole



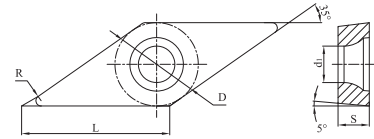
Ordering Code	Dimension					Coated										Uncoated			Cermet											
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM				
	TPMT110202-MM	11	6.35	2.38	2.8	0.2	○	○	○	○	○	○	○	○																
	TPMT110204-MM	11	6.35	2.38	2.8	0.4	○	○	○	●	○	○	○																	
	TPMT110304-MM	11	6.35	3.18	3.4	0.4					○	○													○		○			
	TPGT110204-GP	11	6.35	2.38	2.8	0.4							○	○																
	TPGT110208-GP	11	6.35	2.38	2.8	0.8							○	○																
	TPGT16T304-GP	16.5	9.525	3.97	4.4	0.4							○	○																
	TPGT16T308-GP	16.5	9.525	3.97	4.4	0.8							○	○																
	TPMT090202-TP	9.6	5.56	2.38	2.5	0.2																				○		○		
	TPMT090204-TP	9.6	5.56	2.38	2.5	0.4																				○		●		
	TPMT090208-TP	9.6	5.56	2.38	2.5	0.8																				○		○		
	TPMT110302-TP	11	6.35	3.18	3.4	0.2																					○		○	
	TPMT110304-TP	11	6.35	3.18	3.4	0.4																					○		●	
	TPMT110308-TP	11	6.35	3.18	3.4	0.8																					○		○	
	TPMT160302-TP	16.5	9.525	3.18	4.4	0.2																					○		○	
	TPMT160304-TP	16.5	9.525	3.18	4.4	0.4																					○		○	
TPMT160308-TP	16.5	9.525	3.18	4.4	0.8																					○		○		







● Stock ○ Available Upon Order

Turning Insert (Postive)

VB □ □

Rhombic 35° with Hole



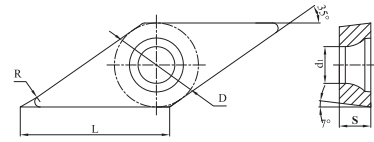
Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
 VBET1103005R-PS	11.2	6.35	3.18	2.8	<0.05																							
VBET1103005L-PS	11.2	6.35	3.18	2.8	<0.05																							
VBET110301R-PS	11.2	6.35	3.18	2.8	0.1																							
VBET110301L-PS	11.2	6.35	3.18	2.8	0.1																							
VBET110302R-PS	11.2	6.35	3.18	2.8	0.2																							
VBET110302L-PS	11.2	6.35	3.18	2.8	0.2																							
VBET110304R-PS	11.2	6.35	3.18	2.8	0.4																							
VBET110304L-PS	11.2	6.35	3.18	2.8	0.4																							
 VBET1103005R-GS	11.2	6.35	3.18	2.8	<0.05																							
VBET1103005L-GS	11.2	6.35	3.18	2.8	<0.05																							
VBET110301R-GS	11.2	6.35	3.18	2.8	0.1																							
VBET110301L-GS	11.2	6.35	3.18	2.8	0.1																							
VBET110302R-GS	11.2	6.35	3.18	2.8	0.2																							
VBET110302L-GS	11.2	6.35	3.18	2.8	0.2																							
VBET110304R-GS	11.2	6.35	3.18	2.8	0.4																							
VBET110304L-GS	11.2	6.35	3.18	2.8	0.4																							
 VBMT110304-MM	11.2	6.35	3.18	2.8	0.4	●	○	○	●	●	●	●	●	○											○	○		
VBMT110308-MM	11.2	6.35	3.18	2.8	0.8							○	○															
VBMT160402-MM	16.6	9.525	4.76	4.4	0.2						○	○	○	●	○											○	○	
VBMT160404-MM	16.6	9.525	4.76	4.4	0.4	●	●	○		○	●	●	●	●												●	●	
VBMT160408-MM	16.6	9.525	4.76	4.4	0.8	●	●	○		○	●	○	●	●												○	○	
 VBMT160404-GP	16.6	9.525	4.76	4.4	0.4	●	●	○		○	●	○	●			●	○									○	○	
VBMT160408-GP	16.6	9.525	4.76	4.4	0.8	○	●	○		○	●	○	●			●	○									○	○	
VBMT160412-GP	16.6	9.525	4.76	4.4	1.2	○	○	○	○							○												
 VBMT110304-TP	11.2	6.35	3.18	2.8	0.4																					●	●	
VBMT110308-TP	11.2	6.35	3.18	2.8	0.8																					○	○	
VBMT160402-TP	16.6	9.525	4.76	4.4	0.2																					○	○	
VBMT160404-TP	16.6	9.525	4.76	4.4	0.4																					●	●	
VBMT160408-TP	16.6	9.525	4.76	4.4	0.8																					○	○	
 VBMT160408-KM	16.6	9.525	4.76	4.4	0.8				○							●	●											

● Stock ○ Available Upon Order

Turning Insert (Positive)

VC □ □

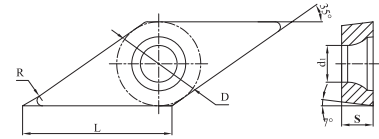
Rhombic 35° with Hole



Ordering Code	Dimension					Coated										Uncoated			Cermet									
	L	D	S	d1	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM		
VCET1103005R-PS	11.2	6.35	3.18	2.8	<0.05																							
VCET1103005L-PS	11.2	6.35	3.18	2.8	<0.05																							
VCET110301R-PS	11.2	6.35	3.18	2.8	0.1																							
VCET110301L-PS	11.2	6.35	3.18	2.8	0.1																							
VCET110302R-PS	11.2	6.35	3.18	2.8	0.2																							
VCET110302L-PS	11.2	6.35	3.18	2.8	0.2																							
VCET110304R-PS	11.2	6.35	3.18	2.8	0.4																							
VCET110304L-PS	11.2	6.35	3.18	2.8	0.4																							
VCET1103005R-GS	11.2	6.35	3.18	2.8	<0.05																							
VCET1103005L-GS	11.2	6.35	3.18	2.8	<0.05																							
VCET110301R-GS	11.2	6.35	3.18	2.8	0.1																							
VCET110301L-GS	11.2	6.35	3.18	2.8	0.1																							
VCET110302R-GS	11.2	6.35	3.18	2.8	0.2																							
VCET110302L-GS	11.2	6.35	3.18	2.8	0.2																							
VCET110304R-GS	11.2	6.35	3.18	2.8	0.4																							
VCET110304L-GS	11.2	6.35	3.18	2.8	0.4																							
VCMT110304-GP	11.2	6.35	3.18	2.8	0.4				●		○	●					○								○		○	
VCMT110308-GP	11.2	6.35	3.18	2.8	0.8						○	○					○								○		○	
VCMT160404-GP	16.6	9.525	4.76	4.4	0.4		●	●		○	●						●								○		○	
VCMT160408-GP	16.6	9.525	4.76	4.4	0.8		●	●		○	●						●								○		○	
VCGT110302-GP	11.2	6.35	3.18	2.8	0.2																							
VCGT110304-GP	11.2	6.35	3.18	2.8	0.4																							
VCGT160404-GP	16.6	9.525	4.76	4.4	0.4																							
VCGT160408-GP	16.6	9.525	4.76	4.4	0.8																							
VCMT160404-KM	16.6	9.525	4.76	4.4	0.4					○											○							
VCMT160408-KM	16.6	9.525	4.76	4.4	0.8					○											○							

● Stock ○ Available Upon Order

Turning Insert (Positive)

VC □ □
 Rhombic 35° with Hole


Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
VCGX110302-AL	11.2	6.35	3.18	2.8	0.2																		○				
VCGX110304-AL	11.2	6.35	3.18	2.8	0.4																	○	○	○			
VCGX110308-AL	11.2	6.35	3.18	2.8	0.8																	○	○	○			
VCGX160402-AL	16.6	9.525	4.76	4.4	0.2																	○	○				
VCGX160404-AL	16.6	9.525	4.76	4.4	0.4																	○	●	○			
VCGX160408-AL	16.6	9.525	4.76	4.4	0.8																	○	○	○			
VCGX160412-AL	16.6	9.525	4.76	4.4	1.2																	○	●	○			
VCGX220512-AL	22.1	12.7	5.56	5.6	1.2																	○	○	○			
VCGX220516-AL	22.1	12.7	5.56	5.6	1.6																	○	○	○			
VCGX220530-AL	22.1	12.7	5.56	5.6	3																	○	○	○			

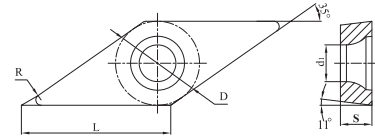


● Stock ○ Available Upon Order

Turning Insert (Positive)

VP □ □

Rhombic 35° with Hole



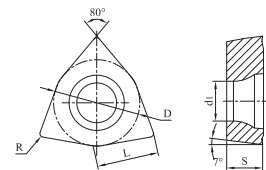
Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
VPET1103005R-PS	11.2	6.35	3.18	2.8	<0.05																						
VPET1103005L-PS	11.2	6.35	3.18	2.8	<0.05																						
VPET110301R-PS	11.2	6.35	3.18	2.8	0.1																						
VPET110301L-PS	11.2	6.35	3.18	2.8	0.1																						
VPET110302R-PS	11.2	6.35	3.18	2.8	0.2																						
VPET110302L-PS	11.2	6.35	3.18	2.8	0.2																						
VPET1103005R-GS	11.2	6.35	3.18	2.8	<0.05																						
VPET1103005L-GS	11.2	6.35	3.18	2.8	<0.05																						
VPET110301R-GS	11.2	6.35	3.18	2.8	0.1																						
VPET110301L-GS	11.2	6.35	3.18	2.8	0.1																						
VPET110302R-GS	11.2	6.35	3.18	2.8	0.2																						
VPET110302L-GS	11.2	6.35	3.18	2.8	0.2																						



● Stock ○ Available Upon Order

WC □ □

Trigon 80° with Hole



Ordering Code	Dimension					Coated										Uncoated			Cermet								
	L	D	S	d ₁	R	A1105	A1115	A1120	A1225	A1135	M1115	M1125	M3215	M3225	S3115	S3125	C1115	C1120	C1125	C1130	N9115	N9120	N9130	P31TM	P91TF	P91TM	
WCMT06T304-GP	6.5	9.525	3.97	4.4	0.4																						
WCMT06T308-GP	6.5	9.525	3.97	4.4	0.8																						



● Stock ○ Available Upon Order

Recommended Cutting Data

Negative

ISO	Workpiece materials	Hardness	Cutting Range	Application	Geometries	Grade	Min-Optimum-Max					
							Cutting Speed Vc(m/min)	Depth of Cut ap(mm)	Feed rate f(mm)			
P	Low Carbon Steel	≤ HB180	superfinishing & Finishing	Continuous	PS	P91TF	220-300-380	0.08-0.15-0.30	0.03-0.08-0.15			
			Finishing	Continuous	QF	P31TM	220-300-380	0.40-0.80-1.50	0.04-0.12-0.22			
						P91TM	200-280-350	0.40-1.00-2.00	0.08-0.20-0.30			
						A1105	220-280-380	0.40-0.80-2.00	0.08-0.15-0.35			
						A1115	200-260-360	0.40-0.80-2.00	0.08-0.15-0.35			
						A1120	200-260-360	0.40-0.80-2.00	0.08-0.15-0.35			
						A1225	180-240-320	0.40-0.80-2.00	0.08-0.15-0.35			
			Semi-finishing	Continuous	QM	P91TM	200-260-330	0.50-1.50-3.00	0.15-0.22-0.35			
						A1105	200-260-360	0.80-2.00-4.00	0.15-0.20-0.40			
						A1115	180-230-320	0.80-2.00-4.00	0.15-0.20-0.40			
						A1120	180-230-320	0.80-2.00-4.00	0.15-0.20-0.40			
						A1225	160-210-300	0.80-2.00-4.00	0.15-0.20-0.40			
						Semi-finishing	Continuous	TP	P31TM	220-300-380	0.30-1.00-3.00	0.05-0.12-0.28
			P91TM	200-280-350	0.30-1.20-3.00				0.05-0.15-0.28			
			Continuous	TS	P31TM				200-280-350	0.50-1.00-3.00	0.10-0.15-0.35	
					P91TM		200-260-330	0.50-1.20-3.00	0.10-0.20-0.35			
					Continuous		SV	P31TM	180-240-330	1.00-1.50-3.50	0.18-0.20-0.35	
			P91TM	180-230-320				1.00-1.50-3.50	0.18-0.25-0.40			
			A1120	180-220-320		1.00-2.50-4.50		0.18-0.25-0.45				
			Semi-finishing	Interruption	SV	A1225	160-200-300	1.00-2.50-4.50	0.18-0.25-0.45			
						Roughing	Continuous	QR	A1105	130-190-270	1.50-3.50-6.00	0.20-0.30-0.60
									A1225	120-170-250	1.50-3.50-6.00	0.20-0.30-0.60
			Roughing	Interruption	QR	A1135	110-150-230	1.50-3.50-6.00	0.20-0.30-0.60			
						Heavy Cutting	Continuous	QH	A1105	100-150-240	3.00-6.00-12.0	0.35-0.60-1.10
	A1225	90-140-210	3.00-6.00-12.0	0.35-0.60-1.10								
	A1135	80-130-190	3.00-6.00-12.0	0.35-0.60-1.10								
	Carbon Steel & Alloy Steel	HB180-280	superfinishing & Finishing	Continuous	PS	P91TF	200-270-350	0.08-0.15-0.30	0.03-0.08-0.15			
			Finishing	Continuous	QF	P31TM	200-270-350	0.40-0.80-1.50	0.04-0.12-0.22			
						P91TM	180-250-330	0.40-1.00-2.00	0.08-0.20-0.30			
						A1105	200-250-340	0.40-0.80-2.00	0.08-0.15-0.35			
						A1115	180-230-320	0.40-0.80-2.00	0.08-0.15-0.35			
						A1120	180-230-320	0.40-0.80-2.00	0.08-0.15-0.35			
						A1225	160-200-300	0.40-0.80-2.00	0.08-0.15-0.35			
			Semi-finishing	Continuous	QM	P91TM	180-230-310	0.50-1.50-3.00	0.15-0.20-0.35			
						A1105	160-230-320	0.80-2.00-4.00	0.15-0.22-0.40			
						A1115	140-210-300	0.80-2.00-4.00	0.15-0.20-0.40			
A1120						140-210-300	0.80-2.00-4.00	0.15-0.20-0.40				
A1225						120-190-280	0.80-2.00-4.00	0.15-0.20-0.40				
Semi-finishing						Continuous	TP	P31TM	200-270-350	0.30-1.00-2.50	0.05-0.12-0.28	
			P91TM	180-250-330	0.30-1.20-2.50			0.05-0.15-0.28				
			Continuous	TS	P31TM			180-250-330	0.50-1.00-3.00	0.10-0.15-0.35		
					P91TM	180-230-310	0.50-1.20-3.00	0.10-0.20-0.35				

Recommended Cutting Data

Negative

ISO	Workpiece materials	Hardness	Cutting Range	Application	Geometries	Grade	Min-Optimum-Max					
							Cutting Speed Vc(m/min)	Depth of Cut ap(mm)	Feed rate f(mm)			
P	Carbon Steel & Alloy Steel	HB180-280	Semi-finishing	Continuous	SV	P31TM	160-220-310	1.00-1.50-3.50	0.18-0.20-0.35			
						P91TM	160-210-300	1.00-1.50-3.50	0.18-0.25-0.40			
				A1120		140-200-300	1.00-2.50-4.50	0.18-0.25-0.45				
				A1225		120-180-280	1.00-2.50-4.50	0.18-0.25-0.45				
			Finishing	Continuous	QR	A1105	120-180-260	1.50-3.50-6.00	0.20-0.30-0.60			
						A1225	110-160-240	1.50-3.50-6.00	0.20-0.30-0.60			
				Interruption		A1135	100-140-220	1.50-3.50-6.00	0.20-0.30-0.60			
						A1105	90-140-230	3.00-6.00-12.0	0.35-0.60-1.10			
			Heavy Cutting	Continuous	QH	A1225	80-130-200	3.00-6.00-12.0	0.35-0.60-1.10			
						A1135	70-120-180	3.00-6.00-12.0	0.35-0.60-1.10			
				Interruption		A1105	90-140-230	3.00-6.00-12.0	0.35-0.60-1.10			
						A1225	80-130-200	3.00-6.00-12.0	0.35-0.60-1.10			
		HB280-350	Finishing	Continuous	QF	P31TM	180-250-320	0.40-0.80-1.50	0.04-0.12-0.22			
						P91TM	170-230-300	0.40-1.00-2.00	0.08-0.20-0.30			
						A1105	160-200-270	0.40-0.80-2.00	0.08-0.15-0.35			
						A1115	150-180-250	0.40-0.80-2.00	0.08-0.15-0.35			
						A1120	150-180-250	0.40-0.80-2.00	0.08-0.15-0.35			
						A1225	130-150-230	0.40-0.80-2.00	0.08-0.15-0.35			
						Semi-finishing	Continuous	QM	P91TM	160-210-300	0.50-1.50-3.00	0.15-0.22-0.35
									A1105	120-180-250	0.80-2.00-4.00	0.15-0.20-0.40
			A1115	110-170-240	0.80-2.00-4.00				0.15-0.20-0.40			
			A1120	110-170-240	0.80-2.00-4.00				0.15-0.20-0.40			
			Interruption	A1225	100-150-220		0.80-2.00-4.00		0.15-0.20-0.40			
				Continuous	TP		P31TM		180-250-320	0.30-1.00-2.50	0.05-0.12-0.28	
							P91TM		170-230-300	0.30-1.20-2.50	0.05-0.15-0.28	
				Continuous			TS		P31TM	170-230-300	0.50-1.00-3.00	0.10-0.15-0.35
			P91TM			150-210-280		0.50-1.20-3.00	0.10-0.20-0.35			
			Interruption	SV	P31TM	140-190-270		1.00-1.50-3.50	0.18-0.20-0.35			
					P91TM	140-180-260		1.00-1.50-3.50	0.18-0.25-0.40			
					A1120	110-160-240	1.00-2.50-4.50	0.18-0.25-0.45				
					A1225	100-140-220	1.00-2.50-4.50	0.18-0.25-0.45				
			Roughing	Continuous	QR	A1105	100-150-210	2.00-3.50-6.50	0.20-0.30-0.60			
						A1225	90-140-200	2.00-3.50-6.50	0.20-0.30-0.60			
						A1135	80-120-180	2.00-3.50-6.50	0.20-0.30-0.60			
				Interruption		QH	A1105	80-110-190	3.00-6.00-12.0	0.35-0.60-1.10		
							A1225	70-100-170	3.00-6.00-12.0	0.35-0.60-1.10		
		A1135					60-90-150	3.00-6.00-12.0	0.35-0.60-1.10			

Recommended Cutting Data

Negative

ISO	Workpiece materials	Hardness	Cutting Range	Application	Geometries	Grade	Min-Optimum-Max					
							Cutting Speed Vc(m/min)	Depth of Cut ap(mm)	Feed rate f(mm)			
M	stainless steel 303,304 and 316, etc.	≤ HB300	superfinishing &Finishing	Continuous	PS	S3115	120-190-250	0.08-0.15-0.30	0.03-0.08-0.15			
						S3125	100-170-230	0.08-0.15-0.30	0.03-0.08-0.15			
			Finishing	Continuous	SF	S3115	120-190-250	0.10-0.80-1.50	0.08-0.10-0.30			
						M3215	120-160-200	0.40-0.90-1.50	0.05-0.24-0.20			
				Interruption	LF	M3225	80-130-180	0.40-0.90-1.50	0.05-0.12-0.20			
						Semi-finishing	Continuous	SM	M1115	200-250-300	1.00-2.00-3.00	0.15-0.20-0.35
			M3215	120-160-200	1.00-2.00-3.00				0.15-0.20-0.35			
			M1125	180-230-280	1.00-2.00-3.00				0.15-0.20-0.35			
			Interruption	LV	M3215		120-160-200	0.80-2.20-4.50	0.15-0.24-0.32			
					M3225		80-130-180	0.80-2.20-4.50	0.15-0.24-0.32			
					Roughing		Continuous	LM	M1115	200-250-300	0.80-1.80-3.50	0.08-0.18-0.40
			M3215	120-160-200		0.80-1.80-3.50			0.08-0.18-0.40			
			Interruption	LM		M1125	180-230-280	0.80-1.80-3.50	0.08-0.18-0.40			
						M3225	80-130-180	0.80-1.80-3.50	0.08-0.18-0.40			
			Roughing	Continuous	LR	M1115	200-250-300	1.50-3.00-5.00	0.15-0.30-0.50			
						M3215	120-160-200	1.50-3.00-5.00	0.15-0.30-0.50			
				Interruption	LR	M1125	180-230-280	1.50-3.00-5.00	0.15-0.30-0.50			
						M3225	80-130-180	1.50-3.00-5.00	0.15-0.30-0.50			
			K	Gray cast iron FC200, FC250, FC300 etc.	≤ HB300	Finishing &Semi- finishing	Continuous	UK	C1115	230-350-500	0.50-1.50-3.00	0.10-0.20-0.40
									C1125	220-320-480	0.50-1.50-3.00	0.10-0.20-0.40
Roughing	Continuous	HK				C1115	220-320-480	0.50-2.00-4.00	0.10-0.25-0.50			
						C1125	210-300-450	0.50-2.00-4.00	0.10-0.25-0.50			
Heavy Cutting	Continuous	Flat				C1115	210-300-450	1.00-2.50-6.00	0.20-0.30-0.60			
						C1125	200-280-430	1.00-2.50-6.00	0.20-0.30-0.60			
Ductile cast iron FCD450,FCD600 etc.	≤ HB300	Finishing &Semi- finishing		Continuous	UK	C1120	180-260-380	0.50-1.50-3.00	0.10-0.20-0.40			
						C1130	160-230-350	0.50-1.50-3.00	0.10-0.20-0.40			
		Roughing		Continuous	HK	C1120	180-240-360	0.50-2.00-4.00	0.10-0.25-0.50			
						C1130	160-210-340	0.50-2.00-4.00	0.10-0.25-0.50			
		Heavy Cutting		Continuous	Flat	C1120	180-220-350	1.00-2.50-6.00	0.20-0.30-0.60			
						C1130	160-200-330	1.00-2.50-6.00	0.20-0.30-0.60			

Recommended Cutting Data

Positive

ISO	Workpiece materials	Hardness	Cutting Range	Application	Geometries	Grade	Min-Optimum-Max		
							Cutting Speed Vc(m/min)	Depth of Cut ap(mm)	Feed rate f(mm)
P	Low Carbon Steel	≤ HB180	superfinishing & Finishing	Continuous	PS	P91TF	220-300-380	0.08-0.15-0.30	0.03-0.08-0.15
				Continuous	GS	P91TF	220-300-380	0.20-0.30-1.50	0.02-0.05-0.08
			Finishing	Continuous	MM	P31TM	220-280-340	0.10-0.50-1.00	0.03-0.10-0.20
						P91TM	200-250-310	0.10-0.60-1.50	0.03-0.12-0.20
						A1105	190-240-320	0.10-0.60-1.50	0.05-0.10-0.20
						A1115	180-220-300	0.10-0.60-1.50	0.05-0.10-0.20
						A1225	170-200-280	0.10-0.60-1.50	0.05-0.10-0.20
			Finishing & Semi-finishing	Continuous	GP	P31TM	200-250-300	0.30-0.80-1.50	0.05-0.12-0.22
						P91TM	180-230-300	0.30-1.00-1.80	0.05-0.15-0.22
						A1115	170-200-280	0.40-1.00-2.50	0.07-0.12-0.30
						A1120	170-200-280	0.40-1.00-2.50	0.07-0.12-0.30
			Finishing & Semi-finishing	Interruption	TP	P31TM	200-250-300	0.30-1.00-3.00	0.05-0.12-0.25
						P91TM	180-230-300	0.30-1.20-3.00	0.05-0.15-0.25
			Roughing	Continuous	KM	A1225	140-160-240	1.00-2.00-3.50	0.13-0.20-0.40
	A1225	130-150-230				1.00-2.00-3.50	0.13-0.20-0.40		
	Roughing	Interruption	KM	A1225	140-160-240	1.00-2.00-3.50	0.13-0.20-0.40		
				A1225	130-150-230	1.00-2.00-3.50	0.13-0.20-0.40		
	Carbon Steel & Alloy Steel	HB180-280	superfinishing & Finishing	Continuous	PS	P91TF	200-250-330	0.08-0.15-0.30	0.03-0.08-0.15
				Continuous	GS	P91TF	200-250-330	0.20-0.30-1.50	0.02-0.05-0.08
			Finishing	Continuous	MM	S3115	120-160-200	0.50-0.70-1.50	0.05-0.10-0.20
						M3215	120-160-200	0.50-0.70-1.50	0.05-0.10-0.20
						M1115	200-250-300	0.50-0.70-1.50	0.05-0.10-0.20
						M1125	180-230-280	0.50-0.70-1.50	0.05-0.10-0.20
						M3225	80-130-180	0.50-0.70-1.50	0.05-0.10-0.20
			Finishing & Semi-finishing	Continuous	GP	M1115	200-250-300	0.40-1.00-2.50	0.07-0.12-0.30
						M3215	120-160-200	0.40-1.00-2.50	0.07-0.12-0.30
						M1125	180-230-280	0.40-1.00-2.50	0.07-0.12-0.30
			Finishing & Semi-finishing	Interruption	TP	M3225	80-130-180	0.40-1.00-2.50	0.07-0.12-0.30
P31TM						180-210-280	0.30-1.00-3.00	0.05-0.12-0.25	
Finishing & Semi-finishing			Continuous	TP	P91TM	160-190-270	0.30-1.20-3.00	0.05-0.15-0.25	
					P91TM	160-190-270	0.30-1.20-3.00	0.05-0.15-0.25	
Roughing Cutting	Continuous	KM	A1225	110-130-200	1.00-2.00-3.50	0.13-0.20-0.40			
			A1225	100-120-190	1.00-2.00-3.50	0.13-0.20-0.40			
Roughing Cutting	Interruption	KM	A1225	110-130-200	1.00-2.00-3.50	0.13-0.20-0.40			
			A1225	100-120-190	1.00-2.00-3.50	0.13-0.20-0.40			

Recommended Cutting Data

Positive

ISO	Workpiece materials	Hardness	Cutting Range	Application	Geometries	Grade	Min-Optimum-Max		
							Cutting Speed Vc(m/min)	Depth of Cut ap(mm)	Feed rate f(mm)
P	Carbon Steel & Alloy Steel	HB280-350	Finishing	Continuous	MM	P31TM	160-220-300	0.10-0.50-1.00	0.03-0.10-0.20
						P91TM	140-200-280	0.10-0.60-1.50	0.03-0.12-0.20
						A1105	140-180-240	0.10-0.60-1.50	0.05-0.10-0.20
				A1115		130-160-230	0.10-0.60-1.50	0.05-0.10-0.20	
				A1225		120-140-210	0.10-0.60-1.50	0.05-0.10-0.20	
				A1225		120-140-210	0.10-0.60-1.50	0.05-0.10-0.20	
			Finishing & Semi-finishing	Continuous	GP	P31TM	160-200-270	0.30-0.80-1.50	0.05-0.12-0.22
						P91TM	130-160-250	0.30-1.00-1.80	0.05-0.15-0.22
						A1115	120-160-210	0.40-1.00-2.50	0.07-0.12-0.30
				A1120		120-160-210	0.40-1.00-2.50	0.07-0.12-0.30	
				A1225		100-140-220	0.40-1.00-2.50	0.07-0.12-0.30	
				A1225		100-140-220	0.40-1.00-2.50	0.07-0.12-0.30	
Finishing & Semi-finishing	Continuous	TP	P31TM	160-200-270	0.30-1.00-3.00	0.05-0.12-0.25			
			P91TM	130-160-250	0.30-1.20-3.00	0.05-0.15-0.25			
Roughing	Continuous	KM	A1225	90-110-180	1.00-2.00-3.50	0.13-0.20-0.40			
			A1225	80-100-170	1.00-2.00-3.50	0.13-0.20-0.40			
M	stainless steel 303, 304 and 316, etc.	≤ HB300	superfinishing & Finishing	Continuous	PS	S3125	100-170-230	0.08-0.15-0.30	0.03-0.08-0.15
						GS	S3125	100-170-230	0.20-0.30-1.50
			Finishing	Continuous	MM	S3115	120-160-200	0.50-0.70-1.50	0.05-0.10-0.20
						M3215	120-160-200	0.50-0.70-1.50	0.05-0.10-0.20
						M1115	200-250-300	0.50-0.70-1.50	0.05-0.10-0.20
						M1125	180-230-280	0.50-0.70-1.50	0.05-0.10-0.20
						M3225	80-130-180	0.50-0.70-1.50	0.05-0.10-0.20
						M3225	80-130-180	0.50-0.70-1.50	0.05-0.10-0.20
			Semi-finishing	Continuous	GP	M1115	200-250-300	0.40-1.00-2.50	0.07-0.12-0.30
						M3215	120-160-200	0.40-1.00-2.50	0.07-0.12-0.30
						M1125	180-230-280	0.40-1.00-2.50	0.07-0.12-0.30
				Interruption		M3225	80-130-180	0.40-1.00-2.50	0.07-0.12-0.30
M1115	200-250-300	0.40-1.00-2.50				0.07-0.12-0.30			
M3215	120-160-200	0.40-1.00-2.50				0.07-0.12-0.30			
K	Gray cast iron FC200, FC250, FC300 etc.	≤ HB250	Finishing & Semi-finishing	Continuous	GP	C1115	180-280-380	0.30-0.80-2.00	0.05-0.12-0.25
						C1125	160-250-350	0.30-0.80-2.00	0.05-0.12-0.25
			Roughing	Continuous		KM	C1115	180-260-360	1.00-2.00-4.00
	C1125	160-230-340			1.00-2.00-4.00		0.13-0.20-0.40		
	Ductile cast iron FCD450, FCD600 etc.	≤ HB270	Finishing & Semi-finishing	Continuous	GP	C1115	160-250-350	0.30-0.80-2.00	0.05-0.12-0.25
						C1125	140-230-330	0.30-0.80-2.00	0.05-0.12-0.25
Roughing			Continuous	KM		C1115	160-230-330	1.00-2.00-4.00	0.13-0.20-0.40
	C1125	140-200-310			1.00-2.00-4.00	0.13-0.20-0.40			
N	Titanium Alloy	HB90-100	Finishing & Semi-finishing	Continuous	AL	N9115	250-700-970	0.50-1.20-3.00	0.05-0.10-0.30
						N9120	250-680-960	0.50-1.20-3.50	0.05-0.10-0.30
						N9130	250-650-950	0.50-1.20-4.00	0.05-0.10-0.30
		Interruption		AL	N9115	1000-1400-2100	0.50-1.20-3.00	0.05-0.10-0.30	
					N9120	950-1300-2000	0.50-1.20-3.50	0.05-0.10-0.30	
					N9130	950-1200-1950	0.50-1.20-4.00	0.05-0.10-0.30	