

WC-Co

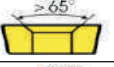
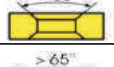
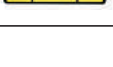
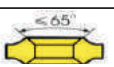
ТОКАРНЫЕ ПЛАСТИНЫ

WC-CO CUTTING TOOLS

► Naming Rules

C	N	M	G
1	2	3	4

1 Shape		
Insert Shape		
 A	 B	 C
 D	 E	 H
 K	 L	 M
 O	 P	 R
 S	 T	 T
 V	 W	其他 Z

4 Chip Breaker and Clamping Designation							
ISO Code							
Symbol	Center Hole	Chip Breaker	Insert Profile	Symbol	Center Hole	Chip Breaker	Insert Profile
B	Y	N		N	N	N	
H	Y	Single Face		R	N	Single Face	
C	Y	N		F	N	Double Face	
J	Y	Double Face		A	Y	N	
W	Y	N		M	Y	Single Face	
T	Y	Single Face		G	Y	Double Face	
Q	Y	N		X	...	...	special
U	Y	Double Face					

2 Clearance Angle			
Symbol	Angle	Symbol	Angle
A	 3°	B	 5°
C	 7°	D	 15°
E	 20°	F	 25°
G	 30°	N	 0°
P	 11°	O	Special

3 Tolerance, metric									
									
Symbol	m(mm)	d=I.C. (mm)	s (mm)	reference)M grade tolerance detail(according to shape, size.) Tolerance of insert nose height					
				Inscribed Circle	Regular Triangle	Square	80° Rhombus	55° Rhombus	35° Rhombus
				6.35	±0.08	±0.08	±0.08	±0.11	±0.16
				9.525	±0.08	±0.08	±0.08	±0.11	±0.16
A	±0.005	±0.025	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	...
F	±0.005	±0.013	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	...
C	±0.013	±0.025	±0.025	19.05	±0.15	±0.15	±0.15	±0.18	...
H	±0.013	±0.013	±0.013	25.4	...	±0.18			...
E	±0.025	±0.025	±0.025	• Tolerance of Inscribed Circle					
G	±0.025	±0.025	±0.13	Inscribed Circle	Regular Triangle	Square	80° Rhombus	55° Rhombus	35° Rhombus
J	±0.005	±0.05 ±0.13	±0.025	6.35	±0.05	±0.05	±0.05	±0.05	±0.05
K	±0.013	±0.05 ±0.13	±0.025	9.525	±0.05	±0.05	±0.05	±0.05	±0.08
L	±0.025	±0.05 ±0.13	±0.025	12.7	±0.08	±0.08	±0.08	±0.08	...
M	±0.08 ±0.18	±0.05 ±0.13	±0.13	15.875	±0.1	±0.1	±0.1	±0.1	...
N	±0.08 ±0.18	±0.05 ±0.13	±0.025	19.05	±0.1	±0.1	±0.1	±0.1	...
U	±0.13 ±0.38	±0.08 ±0.25	±0.13	25.4	...	±0.13	...	...	...

12**5****04****6****08****7****- PM****8**

5		Cutting Edge Length						
Inscribed Circle diameter (mm)	Insert Shape							
	C	D	R	S	T	V	W	K
								
3.97					06			
5			05					
5.56					09			
6			06					
6.35	06	07			11	11		
8			08					
9.525	09	11	09	09	16	16	06	16
10			10					
12			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16			19	16				
19.05	19		19	19	33			
20			20					
25	25	25	25					
25.4			25	25				
31.75			31					
32			32					

6 Thickness	
	The Height Between Insert Bottom And Nose
Symbol	Thickness (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.7

7 Nose Radius	
Symbol	Corner Radius (mm)
00	0
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2
24	2.4
32	3.2
X	Special
Diameter Dimension	Round Insert

8 Chip Breaker		
PF	PM	PR
		
VMF	MM	MR
		
NM	MF	YMF
		
SF	SM	UF
		
UM	UR	
		

► Chip Breaker

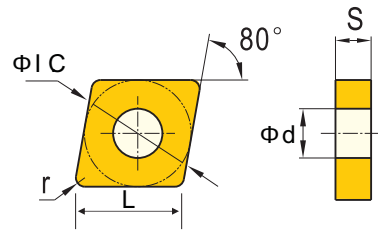
VMF	Finishing	ISO M material.
MM	Semi-finishing	ISO M material.
MR	Roughing	ISO M material .
YMF	Finishing	ISO M material
MF	Semi-finishing	ISO M material
UF	Finishing	ISO P and M material .
UM	Semi-finishing	ISO P and M material .
UR	Roughing	ISO P and M material .
PF	Finishing	ISO P material.
PM	Semi-finishing	ISO P material.
PR	Roughing	ISO P material .
SF	Finishing	Hi-Temp Alloy
SM	Semi-finishing	Hi-Temp Alloy
NM		aluminum and aluminum alloy

► Grade Overview

ISO usage		ISO Turning		
Code		Coating		
		CVD	PVD	
P steel	01			CP10 It is preferred in semi-finishing and finishing steel with low-medium speed. CP20 It is suitable for low-medium speed semi-finishing and finishing steel parts. CP15 It is the best option for semi-finishing and finishing ISO P material in high speed. CP25 It is the first choice in semi-finishing and finishing ISO P material. PP05 It is preferred in turning steel and milling stainless steel.
	10	CP10		
	20	CP20	CP15	
	30	CP25	PP05	
	40			
M Stainless steel	01			CM25 It is suitable for low-medium speed turning steel and milling stainless steel. PM15 It is preferred in interrupted turning and milling stainless steel. PM05 It is preferred in turning and milling stainless steel.
	10			
	20	CM25	PM15	
	30		PM05	
	40			
K Cast iron	01			CK05 It is suitable for high speed turning in gray iron. CK10 It is suitable for medium cutting in cast iron, besides slight interrupted turning. It also has good versatility in milling. CK15 The thickened coating has better wear resistance in processing cast iron.
	10	CK05	CK15	
	20	CK10		
	30			
	40			

TURNING INSERT (NEGATIVE)

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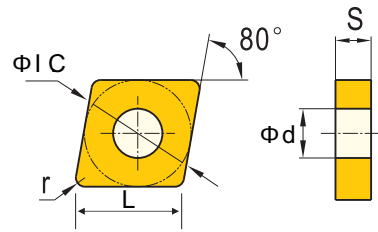


Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		CNMG090304-PF	9.7	9.525	3.18	3.81	0.4	●		▲								
		CNMG090308-PF	9.7	9.525	3.18	3.81	0.8	●		▲	○							
		CNMG120404-PF	12.9	12.7	4.76	5.16	0.4	●		▲								
		CNMG120408-PF	12.9	12.7	4.76	5.16	0.8	●		▲	○							
		CNMG120412-PF	12.9	12.7	4.76	5.16	1.2	○		●								
		CNMG090304-VMF	9.7	9.525	3.18	3.81	0.4				○			▲	●			
		CNMG090308-VMF	9.7	9.525	3.18	3.81	0.8				○			▲	●			
		CNMG120404-VMF	12.9	12.7	4.76	5.16	0.4				○			▲	●			
		CNMG120408-VMF	12.9	12.7	4.76	5.16	0.8				○			▲	●			
		CNMG120412-VMF	12.9	12.7	4.76	5.16	1.2						○	○				
		CNMG090304-YMF	9.7	9.525	3.18	3.81	0.4		▲		▲							
		CNMG120404-YMF	12.9	12.7	4.76	5.16	0.4				○			▲	●			
		CNEG120404-SF	12.9	12.7	4.76	5.16	0.4				○			▲	●			
		CNEG120408-SF	12.9	12.7	4.76	5.16	0.8				○			▲	●			
		CNEG120412-SF	12.9	12.7	4.76	5.16	1.2				○			▲	●			

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

CN

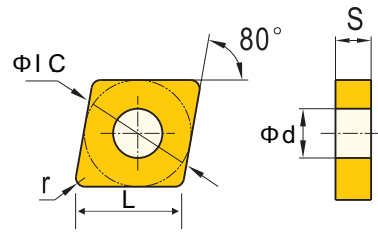


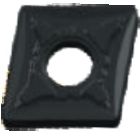
Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		CNMG090304-PM	9.7	9.525	3.18	3.81	0.4		•		▲							
		CNMG090308-PM	9.7	9.525	3.18	3.81	0.8		•		▲							
		CNMG120404-PM	12.9	12.7	4.76	5.16	0.4		•		▲							
		CNMG120408-PM	12.9	12.7	4.76	5.16	0.8		•		▲							
		CNMG120412-PM	12.9	12.7	4.76	5.16	1.2		•		▲							
		CNMG120416-PM	12.9	12.7	4.76	5.16	1.6		•		▲							
		CNMG160608-PM	16.1	15.875	6.35	6.35	0.8		•		▲							
		CNMG160612-PM	16.1	15.875	6.35	6.35	1.2		▲		▲							
		CNMG160616-PM	16.1	15.875	6.35	6.35	1.6		▲		▲							
		CNMG190608-PM	19.3	19.05	6.35	7.94	0.8		•		▲							
		CNMG190612-PM	19.3	19.05	6.35	7.94	1.2		▲		•							
		CNMG190616-PM	19.3	19.05	6.35	7.94	1.6		▲		•							
		CNMG120404-MM	12.9	12.7	4.76	5.16	0.4						○	▲	•			
		CNMG120408-MM	12.9	12.7	4.76	5.16	0.8						○	▲	•			
		CNMG120412-MM	12.9	12.7	4.76	5.16	1.2						○	▲	•			
		CNMG160608-MM	16.1	15.875	6.35	6.35	0.8						○	▲	•			
		CNMG160612-MM	16.1	15.875	6.35	6.35	1.2						○	○	○			
		CNMG160616-MM	16.1	15.875	6.35	6.35	1.6						○	○	○			
		CNMG090308-MF	9.7	9.525	3.18	3.81	0.8						○	▲	•			
		CNMG120408-MF	12.9	12.7	4.76	5.16	0.8						○	▲	•			
		CNMG120412-MF	12.9	12.7	4.76	5.16	1.2						○	▲	•			
		CNMG160612-MF	16.1	15.875	6.35	6.35	1.6						○	○	○			
		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						○	▲	•			

▲ : Stock item • : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

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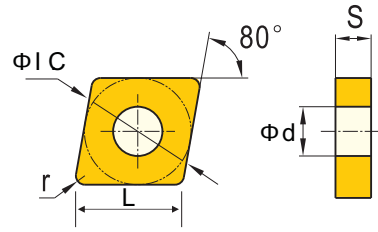


Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		CNMG120408-PR	12.9	12.7	4.76	5.16	0.8		●		▲						○	
		CNMG120412-PR	12.9	12.7	4.76	5.16	1.2		●		▲						○	
		CNMG120416-PR	12.9	12.7	4.76	5.16	1.6		▲		●						○	
		CNMG160608-PR	16.1	15.875	6.35	6.35	0.8		▲		▲						○	
		CNMG160612-PR	16.1	15.875	6.35	6.35	1.2		▲		▲						○	
		CNMG160616-PR	16.1	15.875	6.35	6.35	1.6		▲		●						○	
		CNMG190608-PR	19.3	19.05	6.35	7.94	0.8		●		▲						○	
		CNMG190612-PR	19.3	19.05	6.35	7.94	1.2		●		▲						○	
		CNMG190616-PR	19.3	19.05	6.35	7.94	1.6		▲		●						○	
		CNMG190624-PR	19.3	19.05	6.35	7.94	2.4		▲		●						○	
Heavy load machining		CNMM120412-PR	12.9	12.7	4.76	5.16	1.2											
		CNMM160612-PR	16.1	15.875	6.35	6.35	1.2											
		CNMM160616-PR	16.1	15.875	6.35	6.35	1.6											
		CNMM190612-PR	19.3	19.05	6.35	7.94	1.2		▲		●							
		CNMM190616-PR	19.3	19.05	6.35	7.94	1.6		▲		●							
		CNMM190624-PR	19.3	19.05	6.35	7.94	2.4		▲		●							
		CNMM250924-PR	25.79	25.4	9.525	9.12	2.4		▲		●							
Roughing		CNMG120408-MR	12.9	12.7	4.76	5.16	0.8						○					
		CNMG120412-MR	12.9	12.7	4.76	5.16	1.2						○					
		CNMG160612-MR	16.1	15.875	6.35	6.35	1.2						○					
		CNMG160616-MR	16.1	15.875	6.35	6.35	1.6						○					
		CNMG190612-MR	19.3	19.05	6.35	7.94	1.2						○					
		CNMG190616-MR	19.3	19.05	6.35	7.94	1.6						○					
		CNMM250724-MR	25.79	25.4	7.94	9.12	2.4						○					
		CNMM250732-MR	25.79	25.4	7.94	9.12	3.2						○					
		CNMM250924-MR	25.79	25.4	9.525	9.12	2.4						○					
		CNMM250932-MR	25.79	25.4	9.525	9.12	3.2						○					

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

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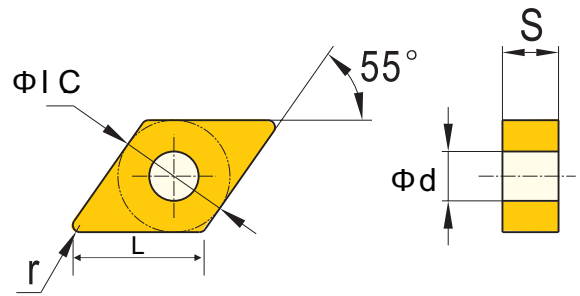


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I.C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		CNMG120404	12.9	12.7	4.76	5.16	0.4				○					▲	●	
		CNMG120408	12.9	12.7	4.76	5.16	0.8				○					▲	●	
		CNMG120412	12.9	12.7	4.76	5.16	1.2				○					▲	●	
		CNMG160608	16.1	15.875	6.35	6.35	0.8				○					▲	●	
		CNMG160612	16.1	15.875	6.35	6.35	1.2				○					▲	●	
		CNMG160616	16.1	15.875	6.35	6.35	1.6				○					▲	●	
		CNMG190608	19.3	19.05	6.35	7.94	0.8				○					▲	●	
		CNMG190612	19.3	19.05	6.35	7.94	1.2				○					▲	●	
		CNMG190616	19.3	19.05	6.35	7.94	1.6				○					▲	●	
Roughing		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										▲	●
		CNMA160608	16.1	15.875	6.35	6.35	0.8										▲	●
		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										▲	●
		CNMA160630	16.1	15.875	6.35	6.35	3.0										▲	●
		CNMA190612	19.3	19.05	6.35	7.94	1.2										▲	●
		CNMA190616	19.3	19.05	6.35	7.94	1.6										▲	●

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

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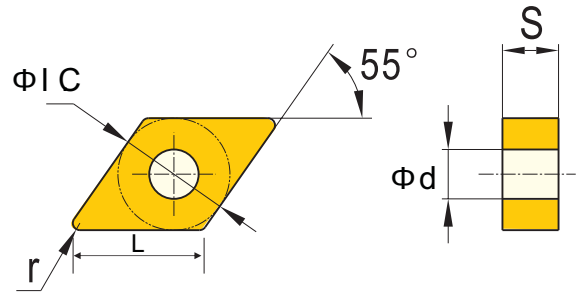


Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		DNMG110404-PF	11.6	9.525	4.76	3.81	0.4	●		▲								
		DNMG110408-PF	11.6	9.525	4.76	3.81	0.8	●		▲								
		DNMG110412-PF	11.6	9.525	4.76	3.81	1.2	○		○	○							
		DNMG150404-PF	15.5	12.7	4.76	5.16	0.4	●		▲								
		DNMG150408-PF	15.5	12.7	4.76	5.16	0.8	○		▲								
		DNMG150412-PF	15.5	12.7	4.76	5.16	1.2	●		▲	○							
		DNMG150604-PF	15.5	12.7	6.35	5.16	0.4	●		▲								
		DNMG150608-PF	15.5	12.7	6.35	5.16	0.8	●		▲								
		DNMG150612-PF	15.5	12.7	6.35	5.16	1.2	●		▲	○							
		DNMG110404-YMF	11.6	9.525	4.76	3.81	0.4		●	●	▲							
		DNMG150404-YMF	15.5	12.7	4.76	5.16	0.4		●	●	▲							

▲ : Stock item ● : Optional Stock ○ : Order production

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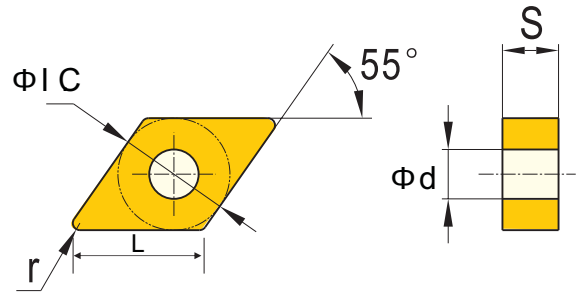


Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		DNMG110404-VMF	11.6	9.525	4.76	3.81	0.4							▲	●			
		DNMG110408-VMF	11.6	9.525	4.76	3.81	0.8							▲	●			
		DNMG110412-VMF	11.6	9.525	4.76	3.81	1.2							○	○			
		DNMG150404-VMF	15.5	12.7	4.76	5.16	0.4							▲	●			
		DNMG150408-VMF	15.5	12.7	4.76	5.16	0.8							▲	●			
		DNMG150412-VMF	15.5	12.7	4.76	5.16	1.2							○	○			
		DNMG150604-VMF	15.5	12.7	6.35	5.16	0.4							▲	●			
		DNMG150608-VMF	15.5	12.7	6.35	5.16	0.8							▲	●			
		DNMG150612-VMF	15.5	12.7	6.35	5.16	1.2							○	○			
		DNEG150404-SF	15.5	12.7	4.76	5.16	0.4		●		▲							
		DNEG150408-SF	15.5	12.7	4.76	5.16	0.8		●		▲							
		DNEG150604-SF	15.5	12.7	6.35	5.16	0.4		●		▲							
		DNEG150608-SF	15.5	12.7	6.35	5.16	0.8		●		▲							

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

DN

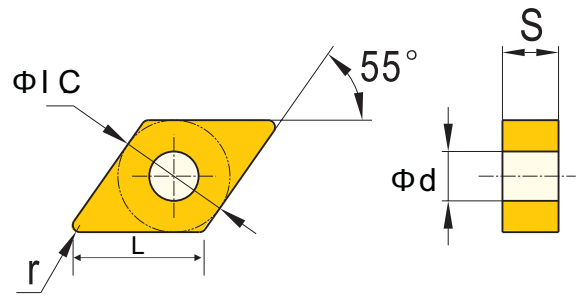


Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		DNMG110404-PM	11 6	9 525	4 76	3 81	0 4		●	●	▲							
		DNMG110408-PM	11 6	9 525	4 76	3 81	0 8		●		▲							
		DNMG110412-PM	11 6	9 525	4 76	3 81	1 2		●		▲							
		DNMG150404-PM	15 5	12 7	4 76	5 16	0 4		●	●	▲							
		DNMG150408-PM	15 5	12 7	4 76	5 16	0 8		●		▲							
		DNMG150412-PM	15 5	12 7	4 76	5 16	1 2		●		▲							
		DNMG150416-PM	15 5	12 7	4 76	5 16	1 6		●		▲							
		DNMG150604-PM	15 5	12 7	6 35	5 16	0 4		●		▲							
		DNMG150608-PM	15 5	12 7	6 35	5 16	0 8		●		▲							
		DNMG150612-PM	15 5	12 7	6 35	5 16	1 2		●		▲							
		DNMG150616-PM	15 5	12 7	6 35	5 16	1 6		●		▲							
		DNMG110404-MM	11 6	9 525	4 76	3 81	0 4							▲	●			
		DNMG110408-MM	11 6	9 525	4 76	3 81	0 8							▲	●			
		DNMG110412-MM	11 6	9 525	4 76	3 81	1 2							○	○			
		DNMG150404-MM	15 5	12 7	4 76	5 16	0 4							▲	●			
		DNMG150408-MM	15 5	12 7	4 76	5 16	0 8							▲	●			
		DNMG150604-MM	15 5	12 7	6 35	5 16	0 4							▲	●			
		DNMG150608-MM	15 5	12 7	6 35	5 16	0 8							▲	●			
		DNMG150612-MM	15 5	12 7	6 35	5 16	1 2							○	○			
		DNMG110408-MF	11 6	9 525	4 76	3 81	0 8							▲	●			
		DNMG150408-MF	15 5	12 7	4 76	5 16	0 8							▲	●			
		DNMG150608-MF	15 5	12 7	6 35	5 16	0 8							▲	●			
		DNMG150412-SM	15 5	12 7	4 76	5 16	1 2							▲	●			
		DNMG150612-SM	15 5	12 7	6 35	5 16	1 2							▲	●			

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

DN

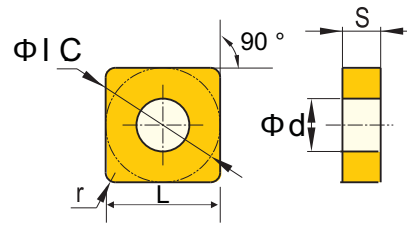


Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		DNMG150408-PR	15.5	12.7	4.76	5.16	0.8		●		▲						○	
		DNMG150412-PR	15.5	12.7	4.76	5.16	1.2		●		▲						○	
		DNMG150416-PR	15.5	12.7	4.76	5.16	1.6		●		▲						○	
		DNMG150608-PR	15.5	12.7	6.35	5.16	0.8		●		▲						○	
		DNMG150612-PR	15.5	12.7	6.35	5.16	1.2		●		▲						○	
		DNMG150616-PR	15.5	12.7	6.35	5.16	1.6		●		▲						○	
		DNMM150608-PR	15.5	12.7	6.35	5.16	0.8		○		○							
		DNMM150612-PR	15.5	12.7	6.35	5.16	1.2		○		○							
		DNMM150616-PR	15.5	12.7	6.35	5.16	1.6		○		○							
		DNMG150608-MR	15.5	12.7	6.35	5.16	0.8						○					
		DNMG150612-MR	15.5	12.7	6.35	5.16	1.2						○					
Semi finishing		DNMG150604	15.5	12.7	6.35	5.16	0.4									▲		
		DNMG150608	15.5	12.7	6.35	5.16	0.8									▲		
		DNMG150612	15.5	12.7	6.35	5.16	1.2									●	▲	
		DNMG150616	15.5	12.7	6.35	5.16	1.6									●	▲	
		DNMG190608	19.3	15.9	6.35	7.94	0.8									▲	●	
		DNMG190612	19.3	15.9	6.35	7.94	1.2									●	▲	
		DNMA110416	11.6	9.525	4.76	3.81	1.6										▲	●
		DNMA110424	11.6	9.525	4.76	3.81	2.4										▲	●
		DNMA150404	15.5	12.7	4.76	5.16	0.4										▲	●
		DNMA150408	15.5	12.7	4.76	5.16	0.8										▲	●
		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										▲	●
		DNMA150616	15.5	12.7	6.35	5.16	1.6										▲	●

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

SN

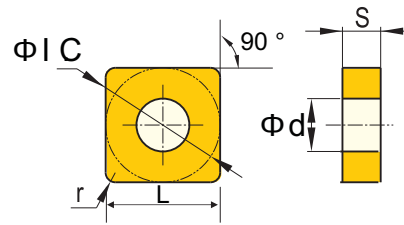


Insert Shape		Type	Dimension					P					M			K		
			L	Φ C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		SNMG090304-PF	9 525	9 525	3 18	3 81	0 4	●		▲								
		SNMG090308-PF	9 525	9 525	3 18	3 81	0 8	●		▲								
		SNMG120404-PF	12 7	12 7	4 76	5 16	0 4	●		▲								
		SNMG120408-PF	12 7	12 7	4 76	5 16	0 8	●		▲								
		SNMG120412-PF	12 7	12 7	4 76	5 16	1 2											

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

SN

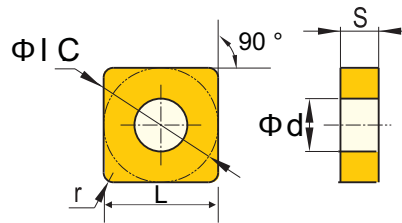


Insert Shape		Type	Dimension					P					M			K		
			L	$\phi I C$	S	ϕd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		SNMG090304-VMF	9 525	9 525	3 18	3 81	0 4							▲	●			
		SNMG090308-VMF	9 525	9 525	3 18	3 81	0 8							▲	●			
		SNMG090312-VMF	9 525	9 525	3 18	3 81	1 2							●				
		SNMG120404-VMF	12 7	12 7	4 76	5 16	0 4							▲	●			
		SNMG120408-VMF	12 7	12 7	4 76	5 16	0 8							▲	●			
		SNMG120412-VMF	12 7	12 7	4 76	5 16	1 2							●				
		SNMG150608-VMF	15 9	15 9	6 35	6 35	0 8							▲	●			
		SNMG150612-VMF	15 9	15 9	6 35	6 35	1 2							●				

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

SN

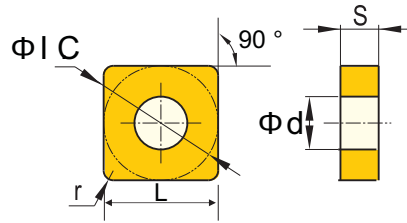


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		SNMG090304-PM	9 525	9 525	3 18	3 81	0 4		●		▲							
		SNMG090308-PM	9 525	9 525	3 18	3 81	0 8		●		▲							
		SNMG090312-PM	9 525	9 525	3 18	3 81	1 2		●		▲							
		SNMG120404-PM	12 7	12 7	4 76	5 16	0 4		●		▲							
		SNMG120408-PM	12 7	12 7	4 76	5 16	0 8		●		▲							
		SNMG120412-PM	12 7	12 7	4 76	5 16	1 2		●		▲							
		SNMG120416-PM	12 7	12 7	4 76	5 16	1 6		●		▲							
		SNMG150608-PM	15 9	15 9	6 35	6 35	0 8		●		▲							
		SNMG150612-PM	15 9	15 9	6 35	6 35	1 2		●		▲							
		SNMG150616-PM	15 9	15 9	6 35	6 35	1 6		●		▲							
		SNMG190612-PM	19 1	19 1	6 35	7 94	1 2		●		▲							
		SNMG190616-PM	19 1	19 1	6 35	7 94	1 6		●		▲							
		SNMG120404-MM	12 7	12 7	4 76	5 16	0 4							▲	●			
		SNMG120408-MM	12 7	12 7	4 76	5 16	0 8							▲	●			
		SNMG120412-MM	12 7	12 7	4 76	5 16	1 2							○				
		SNMG120416-MM	12 7	12 7	4 76	5 16	1 6							○				
		SNMG150612-MM	15 9	15 9	6 35	6 35	1 2							○				
		SNMG150616-MM	15 9	15 9	6 35	6 35	1 6							○				
		SNMG120408-MF	12 7	12 7	4 76	5 16	0 8							▲	●			
		SNMG120408-SM	12.7	12.7	4.76	5.16	0.8							○				
		SNMG120412-SM	12.7	12.7	4.76	5.16	1.2							○				

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

SN

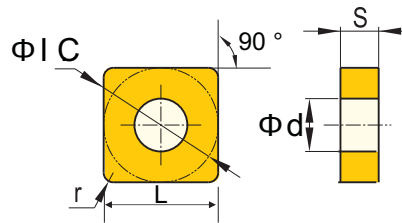


Insert Shape		Type	Dimension					P					M			K		
			L	$\Phi I C$	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		SNMG120408-PR	12.7	12.7	4.76	5.16	0.8		●		▲						○	
		SNMG120412-PR	12.7	12.7	4.76	5.16	1.2		▲		●						○	
		SNMG120416-PR	12.7	12.7	4.76	5.16	1.6		▲		●						○	
		SNMG150608-PR	15.9	15.9	6.35	6.35	0.8		●		▲						○	
		SNMG150612-PR	15.9	15.9	6.35	6.35	1.2		▲		●						○	
		SNMG150416-PR	15.9	15.9	6.35	6.35	1.6		▲		●						○	
		SNMG150624-PR	15.9	15.9	6.35	6.35	2.4		▲		●						○	
		SNMG190612-PR	19.1	19.1	6.35	7.94	1.2		▲		●						○	
		SNMG190616-PR	19.1	19.1	6.35	7.94	1.6		▲		●						○	
		SNMG190624-PR	19.1	19.1	6.35	7.94	2.4		▲		●						○	
		SNMM120408-PR	12.7	12.7	4.76	5.16	0.8											
		SNMM120412-PR	12.7	12.7	4.76	5.16	1.2											
		SNMM120416-PR	12.7	12.7	4.76	5.16	1.6											
		SNMM150608-PR	15.9	15.9	6.35	6.35	0.8		▲									
		SNMM150612-PR	15.9	15.9	6.35	6.35	1.2		▲									
		SNMM150616-PR	15.9	15.9	6.35	6.35	1.6		▲									
		SNMM190608-PR	19.1	19.1	6.35	7.94	0.8		▲									
		SNMM190612-PR	19.1	19.1	6.35	7.94	1.2		▲									
		SNMM190616-PR	19.1	19.1	6.35	7.94	1.6		▲									
		SNMM190624-PR	19.1	19.1	6.35	7.94	2.4		▲									
		SNMM250724-PR	25.4	25.4	7.94	9.12	2.4		▲									
		SNMM250924-PR	25.4	25.4	9.525	9.12	2.4		▲									
		SNMG120408-MR	12.7	12.7	4.76	5.16	0.8						○					
		SNMG120412-MR	12.7	12.7	4.76	5.16	1.2						○					
		SNMG150608-MR	15.9	15.9	6.35	6.35	0.8						○					
		SNMG150612-MR	15.9	15.9	6.35	6.35	1.2						○					
		SNMG190612-MR	19.1	19.1	6.35	7.94	1.2						○					
		SNMG190616-MR	19.1	19.1	6.35	7.94	1.6						○					

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

SN

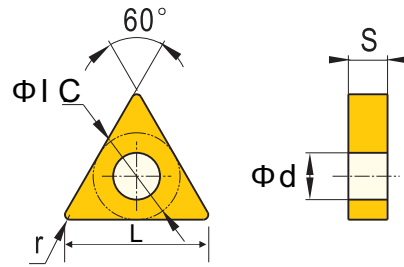


Insert Shape		Type	Dimension					P					M			K		
			L	$\Phi I C$	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		SNMM250724-MR	25.4	25.4	7.94	9.12	2.4						○					
		SNMM250732-MR	25.4	25.4	7.94	9.12	3.2						○					
		SNMM250924-MR	25.4	25.4	9.525	9.12	2.4						○					
		SNMM250932-MR	25.4	25.4	9.525	9.12	3.2						○					
Semi finishing		SNMG090304	9.525	9.525	3.18	3.81	0.4				○					▲	●	
		SNMG090308	9.525	9.525	3.18	3.81	0.8				○					▲	●	
		SNMG120404	12.7	12.7	4.76	5.16	0.4				○					▲	●	
		SNMG120408	12.7	12.7	4.76	5.16	0.8				○					▲	●	
		SNMG120412	12.7	12.7	4.76	5.16	1.2				○					▲	●	
		SNMG120416	12.7	12.7	4.76	5.16	1.6				○					▲	●	
		SNMG150608	15.9	15.9	6.35	6.35	0.8				○					▲	●	
		SNMG150612	15.9	15.9	6.35	6.35	1.2				○					▲	●	
		SNMG190612	19.1	19.1	6.35	7.94	1.2				○					▲	●	
		SNMG190616	19.1	19.1	6.35	7.94	1.6				○					▲	●	
		SNMG250724	25.4	25.4	7.94	9.12	2.4				○					▲	●	
		SNMG250924	25.4	25.4	9.525	9.12	2.4				○					▲	●	
		SNMA090304	9.525	9.525	3.18	3.81	0.4										▲	
		SNMA090308	9.525	9.525	3.18	3.81	0.8										▲	
		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										▲	●
		SNMA150608	15.9	15.9	6.35	6.35	0.8										▲	●
		SNMA150612	15.9	15.9	6.35	6.35	1.2										▲	●
		SNMA190612	19.1	19.1	6.35	7.94	1.2										▲	●
		SNMA190616	19.1	19.1	6.35	7.94	1.6										▲	●

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

TN

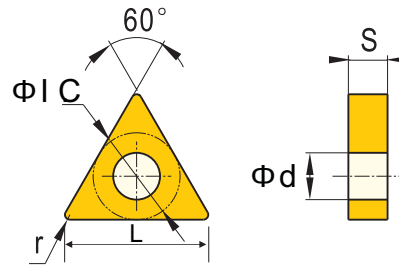


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I.C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		TNMG160404-PF	16.5	9.525	4.76	3.81	0.4	●		▲								
		TNMG160408-PF	16.5	9.525	4.76	3.81	0.8	●		▲								
		TNMG160412-PF	16.5	9.525	4.76	3.81	1.2	●		▲								
		TNMG220408-PF	22	12.7	4.76	5.16	0.8	●		▲								
		TNMG220412-PF	22	12.7	4.76	5.16	1.2	●		▲								
		TNMG110304-VMF	11	6.35	3.18	2.26	0.4							▲	●			
		TNMG110308-VMF	11	6.35	3.18	2.26	0.8							▲	●			
		TNMG160404-VMF	16.5	9.525	4.76	3.81	0.4							▲	●			
		TNMG160408-VMF	16.5	9.525	4.76	3.81	0.8							▲	●			
		TNMG160412-VMF	16.5	9.525	4.76	3.81	1.2											
		TNMG220404-VMF	22	12.7	4.76	5.16	0.4							▲	●			
		TNMG220408-VMF	22	12.7	4.76	5.16	0.8											
		TNMG220412-VMF	22	12.7	4.76	5.16	1.2											
		TNMG160404-YMF	16.5	9.525	4.76	3.81	0.4							▲	●			

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

TN□□

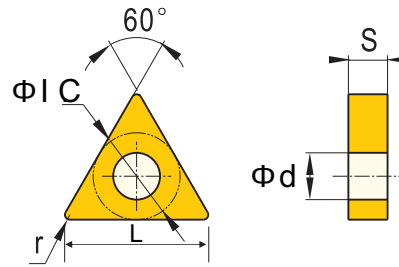


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I.C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		TNMG110304-PM	11	6.35	3.18	2.26	0.4		●		▲							
		TNMG110308-PM	11	6.35	3.18	2.26	0.8		●		▲							
		TNMG160404-PM	16.5	9.525	4.76	3.81	0.4		●		▲							
		TNMG160408-PM	16.5	9.525	4.76	3.81	0.8		●		▲							
		TNMG160412-PM	16.5	9.525	4.76	3.81	1.2		●		▲							
		TNMG220404-PM	22	12.7	4.76	5.16	0.4		●		▲							
		TNMG220408-PM	22	12.7	4.76	5.16	0.8		●		▲							
		TNMG220412-PM	22	12.7	4.76	5.16	1.2		●		▲							
		TNMG220416-PM	22	12.7	4.76	5.16	1.6		●		▲							
		TNMG160404-MM	16.5	9.525	4.76	3.81	0.4							▲			○	
		TNMG160408-MM	16.5	9.525	4.76	3.81	0.8							▲			○	
		TNMG160412-MM	16.5	9.525	4.76	3.81	1.2							▲			○	
		TNMG220408-MM	22	12.7	4.76	5.16	0.8							▲				
		TNMG220412-MM	22	12.7	4.76	5.16	1.2							▲			○	
		TNMG220416-MM	22	12.7	4.76	5.16	1.6							▲				
		TNMG160408-MF	16.5	9.525	4.76	3.81	0.8							▲			○	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

TN□□

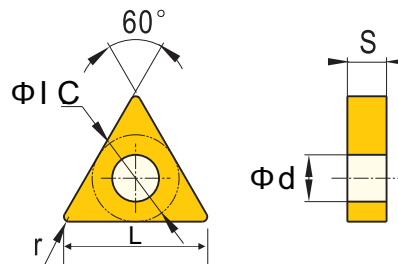


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		TNMG160404-PR	16 5	9 525	4 76	3 81	0 4		●		▲							
		TNMG160408-PR	16 5	9 525	4 76	3 81	0 8		●		▲							
		TNMG160412-PR	16 5	9 525	4 76	3 81	1 2		●		▲							
		TNMG220404-PR	22	12 7	4 76	5 16	0 4		●		▲							
		TNMG220408-PR	22	12 7	4 76	5 16	0 8		●		▲							
		TNMG220412-PR	22	12 7	4 76	5 16	1 2		●		▲							
		TNMG220416-PR	22	12 7	4 76	5 16	1 6		●		▲							
		TNMG270608-PR	27 5	15 9	6 35	6 35	0 8											
		TNMG270612-PR	27 5	15 9	6 35	6 35	1 2											
		TNMG270616-PR	27 5	15 9	6 35	6 35	1 6											
		TNMM160408-PR	16 5	9 525	4 76	3 81	0 8		○									
		TNMM160412-PR	16 5	9 525	4 76	3 81	1 2		○									
		TNMM220408-PR	22	12 7	4 76	5 16	0 8		○									
		TNMM220412-PR	22	12 7	4 76	5 16	1 2		○									
		TNMM220416-PR	22	12 7	4 76	5 16	1 6		○									
		TNMM270612-PR	27 5	15 9	6 35	6 35	1 2		○									
		TNMM270616-PR	27 5	15 9	6 35	6 35	1 6		○									
		TNMG160408-MR	16 5	9 525	4 76	3 81	0 8						○					
		TNMG160412-MR	16 5	9 525	4 76	3 81	1 2						○					
		TNMG220408-MR	22	12 7	4 76	5 16	0 8						○					
		TNMG220412-MR	22	12 7	4 76	5 16	1 2						○					
		TNMM160408-MR	16 5	9 525	4 76	3 81	0 8						○					
		TNMM160412-MR	16 5	9 525	4 76	3 81	1 2						○					
		TNMM220408-MR	22	12 7	4 76	5 16	0 8						○					
		TNMM220412-MR	22	12 7	4 76	5 16	1 2						○					
		TNMM220416-MR	22	12 7	4 76	5 16	1 6						○					

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

TN□□

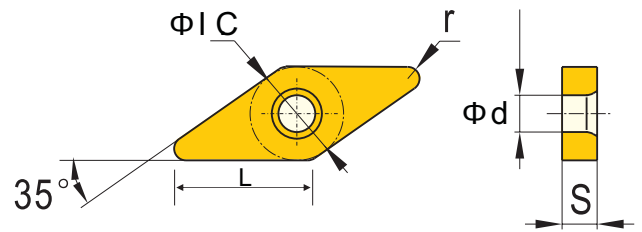


Insert Shape		Type	Dimension					P					M			K		
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Semi finishing		TNMG110308	11	6.35	3.18	2.26	0.8				○					▲	●	
		TNMG160404	16.5	9.525	4.76	3.81	0.4				○					▲	●	
		TNMG160408	16.5	9.525	4.76	3.81	0.8				○					▲	●	
		TNMG160412	16.5	9.525	4.76	3.81	1.2				○					▲	●	
		TNMG220404	22	12.7	4.76	5.16	0.4				○					▲	●	
		TNMG220408	22	12.7	4.76	5.16	0.8				○					▲	●	
		TNMG220412	22	12.7	4.76	5.16	1.2				○					▲	●	
		TNMG220416	22	12.7	4.76	5.16	1.6				○					▲	●	
		TNMG270612	27.5	15.9	6.35	6.35	1.2											
		TNMG270616	27.5	15.9	6.35	6.35	1.6											
		TNMG330924	33	19.1	9.525	7.94	1.6											
		TNMG330924	33	19.1	9.525	7.94	2.4											
		TNMG160404	16.5	9.525	4.76	3.81	0.4										▲	●
		TNMG160408	16.5	9.525	4.76	3.81	0.8										▲	●
		TNMG160412	16.5	9.525	4.76	3.81	1.2										▲	●
		TNMG160416	16.5	9.525	4.76	3.81	1.6										▲	●
		TNMG220404	22	12.7	4.76	5.16	0.4										▲	●
		TNMG220408	22	12.7	4.76	5.16	0.8										▲	●
		TNMG220412	22	12.7	4.76	5.16	1.2										▲	●
		TNMG220416	22	12.7	4.76	5.16	1.6										▲	●
		TNMG270616	27.5	15.9	6.35	6.35	1.6											

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

VN

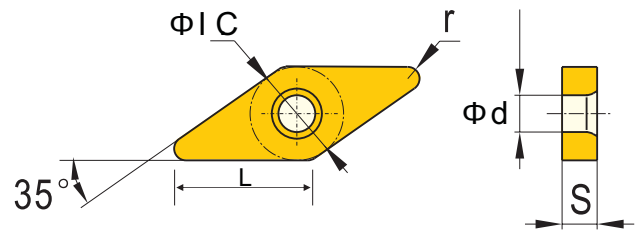


Insert Shape		Type	Dimension					P					M			K		
			L	$\Phi I C$	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		VNMG160404-PF	16.6	9.525	4.76	3.81	0.4	●		▲	○							
		VNMG160408-PF	16.6	9.525	4.76	3.81	0.8	●		▲	○							
		VNMG160404-VMF	16.6	9.525	4.76	3.81	0.4							▲	●			
		VNMG160408-VMF	16.6	9.525	4.76	3.81	0.8							▲	●			
		VNMG160412-OMF	16.6	9.525	4.76	3.81	1.2							▲	●			
		VNMG160404-YMF	16.6	9.525	4.76	3.81	0.4							▲	●			
		VNEG160404-SF	16.6	9.525	4.76	3.81	0.4							▲	●			
		VNEG160408-SF	16.6	9.525	4.76	3.81	0.8							▲	●			

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

VN

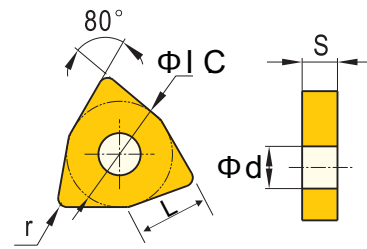


Insert Shape		Type	Dimension					P					M			K		
			L	$\Phi I C$	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		VNMG160404-PM	16.6	9.525	4.76	3.81	0.4	○	●		▲							
		VNMG160408-PM	16.6	9.525	4.76	3.81	0.8	○	●		▲							
		VNMG160412-PM	16.6	9.525	4.76	3.81	1.2		●		▲							
		VNMG160404-MM	16.6	9.525	4.76	3.81	0.4							▲	●			
		VNMG160408-MM	16.6	9.525	4.76	3.81	0.8							▲	●			
		VNMG160408-MF	16.6	9.525	4.76	3.81	0.8							▲	●			
		VNMG160412-SM	16.6	9.525	4.76	3.81	1.2							▲	●			
Roughing		VNMG160408-PR	16.6	9.525	4.76	3.81	0.4							▲	●			
		VNMG160412-PR	16.6	9.525	4.76	3.81	0.8							▲	●			
		VNMG160404	16.6	9.525	4.76	3.81	0.4		○							▲	●	
		VNMG160408	16.6	9.525	4.76	3.81	0.8		○							▲	●	
		VNMA160404	16.6	9.525	4.76	3.81	0.4										▲	●

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

WN

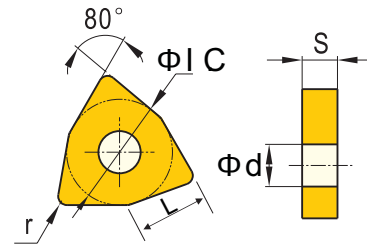


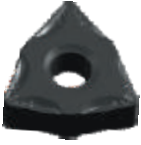
Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		WNMG06T304-PF	6.5	9.525	3.97	3.81	0.4	●		▲								
		WNMG06T308-PF	6.5	9.525	3.97	3.81	0.8	●		▲								
		WNMG06T312-PF	6.5	9.525	3.97	3.81	1.2	●		▲								
		WNMG060404-PF	6.5	9.525	4.76	3.81	0.4	●		▲								
		WNMG060408-PF	6.5	9.525	4.76	3.81	0.8	●		▲								
		WNMG060412-PF	6.5	9.525	4.76	3.81	1.2	●		▲								
		WNMG080404-PF	8.7	12.7	4.76	5.16	0.4	●		▲								
		WNMG080408-PF	8.7	12.7	4.76	5.16	0.8	●		▲								
		WNMG080412-PF	8.7	12.7	4.76	5.16	1.2	●		▲								

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

W N

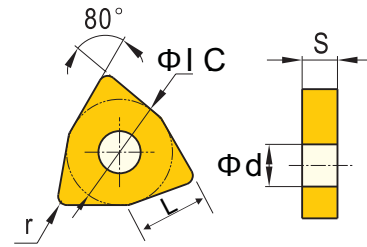


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		WNMG06T304-VMF	6.5	9.525	3.97	3.81	0.4							▲	●			
		WNMG06T308-VMF	6.5	9.525	3.97	3.81	0.8							▲	●			
		WNMG06T312-VMF	6.5	9.525	3.97	3.81	1.2							▲	●			
		WNMG060404-VMF	6.5	9.525	4.76	3.81	0.4							▲	●			
		WNMG060408-VMF	6.5	9.525	4.76	3.81	0.8							▲	●			
		WNMG080404-VMF	8.7	12.7	4.76	5.16	0.4							▲	●			
		WNMG080408-VMF	8.7	12.7	4.76	5.16	0.8							▲	●			
		WNMG060304-YMF	6.5	9.525	3.18	3.81	0.4							▲	●			
		WNMG060404-YMF	6.5	9.525	4.76	3.81	0.4							▲	●			
		WNMG080404-YMF	8.7	12.7	4.76	5.16	0.4							▲	●			
		WNEG080404-SF	8.7	12.7	4.76	5.16	0.4							▲	●			
		WNEG080408-SF	8.7	12.7	4.76	5.16	0.8							▲	●			

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

W N

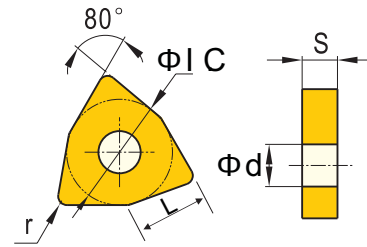


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		WNMG06T304-PM	6.5	9.525	3.97	3.81	0.4		●		▲							
		WNMG06T308-PM	6.5	9.525	3.97	3.81	0.8		●		▲							
		WNMG06T312-PM	6.5	9.525	3.97	3.81	1.2		●		▲							
		WNMG060408-PM	6.5	9.525	4.76	3.81	0.4		●		▲							
		WNMG060412-PM	6.5	9.525	4.76	3.81	0.8		●		▲							
		WNMG080404-PM	8.7	12.7	4.76	5.16	0.4		●		▲							
		WNMG080408-PM	8.7	12.7	4.76	5.16	0.8		●		▲							
		WNMG080412-PM	8.7	12.7	4.76	5.16	1.2		●		▲							
		WNMG080416-PM	8.7	12.7	4.76	5.16	1.6		●		▲							
		WNMG06T304-MM	6.5	9.525	3.97	3.81	0.4							▲	●			
		WNMG06T308-MM	6.5	9.525	3.97	3.81	0.8							▲	●			
		WNMG06T312-MM	6.5	9.525	3.97	3.81	1.2							▲	●			
		WNMG060404-MM	6.5	9.525	4.76	3.81	0.4							▲	●			
		WNMG060408-MM	6.5	9.525	4.76	3.81	0.8							▲	●			
		WNMG080404-MM	8.7	12.7	4.76	5.16	0.4							▲	●			
		WNMG080408-MM	8.7	12.7	4.76	5.16	0.8							▲	●			
		WNMG080412-MM	8.7	12.7	4.76	5.16	1.2							▲	●			
		WNMG060408-MF	6.5	9.525	4.76	3.81	0.8							▲	●			
		WNMG080408-MF	8.7	12.7	4.76	5.16	0.8							▲	●			
		WNMG080412-MF	8.7	12.7	4.76	5.16	1.2							▲	●			
		WNMG080408-SM	8.7	12.7	4.76	5.16	0.8							▲	●			
		WNMG080412-SM	8.7	12.7	4.76	5.16	1.2							▲	●			

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

W N

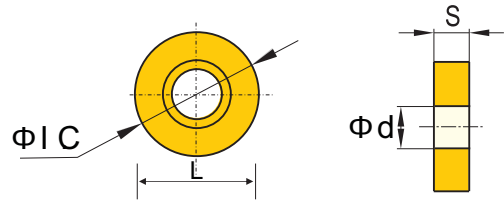


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		WNMG060408-PR	6.5	9.525	4.76	3.81	0.8		●		▲						○	
		WNMG060412-PR	6.5	9.525	4.76	3.81	1.2		●		▲						○	
		WNMG080408-PR	8.7	12.7	4.76	5.16	0.8		●		▲						○	
		WNMG080412-PR	8.7	12.7	4.76	5.16	1.2		●		▲						○	
		WNMG080416-PR	8.7	12.7	4.76	5.16	1.6		●		▲						○	
Semi finishing		WNMG06T308	6.5	9.525	3.97	3.81	0.8				○					▲	●	
		WNMG060408	6.5	9.525	4.76	3.81	0.8				○					▲	●	
		WNMG060412	6.5	9.525	4.76	3.81	1.2				○					▲	●	
		WNMG060416	6.5	9.525	4.76	3.81	1.6				○					▲	●	
		WNMG080404	8.7	12.7	4.76	5.16	0.4				○					▲	●	
		WNMG080408	8.7	12.7	4.76	5.16	0.8				○					▲	●	
		WNMG080412	8.7	12.7	4.76	5.16	1.2				○					▲	●	
		WNMA06T308	6.5	9.525	3.97	3.81	0.8										▲	●
		WNMA060404	6.5	9.525	4.76	3.81	0.4										▲	●
		WNMA060408	6.5	9.525	4.76	3.81	0.8										▲	●
		WNMA060412	6.5	9.525	4.76	3.81	1.2										▲	●
		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 item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

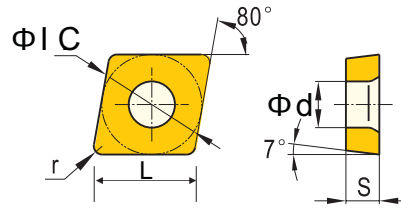
RN



Insert Shape		Type	Dimension					P					M			K		
			L	$\phi I C$	S	ϕd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		RNMG120400	12 7	12 7	4 76	5 16			●		▲							

▲ : Stock item ● : Optional Stock ○ : Order production

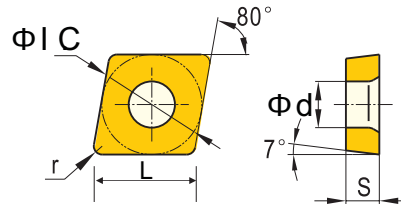
TURNING INSERT (POSITIVE)

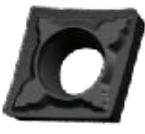


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		CCMT060202-UF	6.4	6.35	2.38	2.8	0.2					●		▲	●			
		CCMT060204-UF	6.4	6.35	2.38	2.8	0.4	●		▲		●		▲	●			
		CCMT09T302-UF	9.7	9.525	3.97	4.4	0.2					●						
		CCMT09T304-UF	9.7	9.525	3.97	4.4	0.4	●		▲		●		▲	●			
		CCMT09T308-UF	9.7	9.525	3.97	4.4	0.8	●		▲				▲	●			
		CCMT120404-UF	12.9	12.7	4.76	5.56	0.4	●		▲		●		▲	●			
		CCMT120408-UF	12.9	12.7	4.76	5.56	0.8	●		▲				▲	●			
Semi finishing		CCMT060204-UM	6.4	6.35	2.38	2.8	0.4	●		▲	●	○						
		CCMT060208-UM	6.4	6.35	2.38	2.8	0.8		●		▲							
		CCMT09T304-UM	9.7	9.525	3.97	4.4	0.4	●			▲	○						
		CCMT09T308-UM	9.7	9.525	3.97	4.4	0.8		●		▲							
		CCMT120404-UM	12.9	12.7	4.76	5.56	0.4	●			▲	○						
		CCMT120408-UM	12.9	12.7	4.76	5.56	0.8		●		▲							
		CCMT120412-UM	12.9	12.7	4.76	5.56	1.2		●		▲	○						

▲ : Stock item ● : Optional Stock ○ : Order production

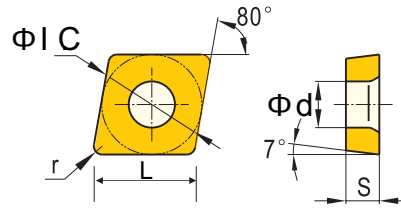
TURNING INSERT (POSITIVE)



Insert Shape		Type	Dimension					P					M			K		
			L	ΦIC	S	Φd	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		CCMT060202-YMF	6.4	6.35	2.38	2.8	0.4							▲	●			
		CCMT060204-YMF	9.7	9.525	3.97	4.4	0.4							▲	●			
		CCMT09T304-YMF	9.7	9.525	3.97	4.4	0.8							▲	●			
		CCMT09T308-YMF	12.9	12.7	4.76	5.56	0.4							▲	●			
		CCMT120404-YMF	12.9	12.7	4.76	5.56	0.8							▲	●			
		CCMT060204-UR	6.4	6.35	2.38	2.8	0.4		●		▲					▲		
Roughing		CCMT060208-UR	6.4	6.35	2.38	2.8	0.8		●		▲					▲	○	
		CCMT09T304-UR	9.7	9.525	3.97	4.4	0.4		●		▲					▲		
		CCMT09T308-UR	9.7	9.525	3.97	4.4	0.8		●		▲					▲	●	
		CCMT120408-UR	12.9	12.7	4.76	5.56	0.8		●		▲					▲	●	
		CCMT120412-UR	12.9	12.7	4.76	5.56	1.2		●		▲					▲	●	
		CCMW060204	6.4	6.35	2.38	2.8	0.4											
		CCMW09T304	9.7	9.525	3.97	4.4	0.4										○	
		CCMW09T308	9.7	9.525	3.97	4.4	0.8										○	
		CCMW120404	12.9	12.7	4.76	5.56	0.4										○	
		CCMW120408	12.9	12.7	4.76	5.56	0.8										○	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

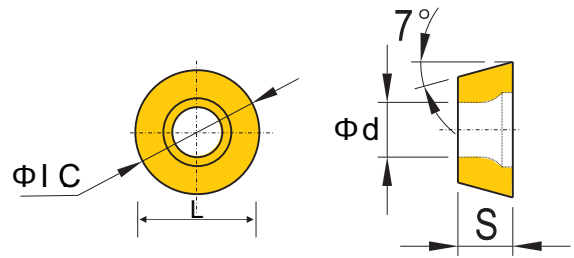


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		DCMT070202-UF	7.8	6.35	2.38	2.8	0.2			▲		●		▲	●			
		DCMT070204-UF	7.8	6.35	2.38	2.8	0.4	●		▲		●		▲	●			
		DCMT070208-UF	7.8	6.35	2.38	2.8	0.8	●		▲				▲	●			
		DCMT11T302-UF	11.6	9.525	3.97	4.4	0.2			▲		●		▲	●			
		DCMT11T304-UF	11.6	9.525	3.97	4.4	0.4	●		▲		●		▲	●			
		DCMT11T308-UF	11.6	9.525	3.97	4.4	0.8	●		▲				▲	●			
Semi finishing		DCMT070204-UM	7.8	6.35	2.38	2.8	0.4			▲				▲				
		DCMT070208-UM	7.8	6.35	2.38	2.8	0.8		●		▲			▲				
		DCMT11T304-UM	11.6	9.525	3.97	4.4	0.4			▲				▲				
		DCMT11T308-UM	11.6	9.525	3.97	4.4	0.8		●		▲			▲				
		DCMT11T312-UM	11.6	9.525	3.97	4.4	1.2		●		▲			▲				
Roughing		DCMT070208-UR	7.8	6.35	2.38	2.8	0.8		●		▲						▲	
		DCMT11T304-UR	11.6	9.525	3.97	4.4	0.4		●		▲						▲	
		DCMT11T308-UR	11.6	9.525	3.97	4.4	0.8		●		▲						▲	
		DCMT11T312-UR	11.6	9.525	3.97	4.4	1.2		●		▲						▲	
		DCMW070204	7.8	6.35	2.38	2.8	0.4										○	
		DCMW11T304	11.6	9.525	3.97	4.4	0.4										○	
		DCMW11T308	11.6	9.525	3.97	4.4	0.8										○	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

RC

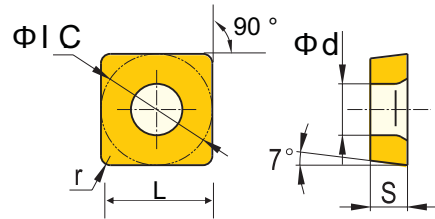


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Semi finishing		RCMT0803MO	8 0	8 0	3 18	3 36			●		▲						▲	
		RCMT1003MO	10	10	3 97	4 4			●		▲						▲	
		RCMT1204MO	12	12	4 76	4 4			●		▲						▲	
		RCMT1606MO	16	16	6 35	5 5			●		▲						▲	
Semi finishing - Roughing		RCMX0803MO	8 0	8 0	3 2	3 36			●		▲						▲	
		RCMX1003MO	10	10	3 18	3 6			●		▲						▲	
		RCMX1204MO	12	12	4 76	4 4			●		▲						▲	
		RCMX1606MO	16	16	6 35	5 5			●		▲						▲	
		RCMX2006MO	20	20	6 35	6 5			●		▲						▲	
		RCMX2507MO	25	25	7 94	7 2			▲		●						▲	
		RCMX3209MO	32	32	9 52	9 5			▲		●						▲	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

SC

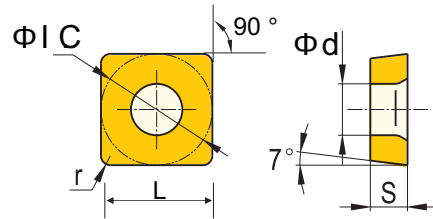


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		SCMT09T302-UF	9 525	9 525	3 97	4 4	0 2	●		▲		●	▲					
		SCMT09T304-UF	9 525	9 525	3 97	4 4	0 4	●		▲		●	▲					
		SCMT09T308-UF	9 525	9 525	3 97	4 4	0 8	●		▲			▲					
Semi finishing		SCMT09T304-UM	9 525	9 525	3 97	4 4	0 4	●		▲			▲					
		SCMT09T308-UM	9 525	9 525	3 97	4 4	0 8		●		▲		▲					
		SCMT120404-UM	12 7	12 7	4 76	5 56	0 4	●		▲			▲					
		SCMT120408-UM	12 7	12 7	4 76	5 56	0 8		●		▲		▲					
		SCMT120412-UM	12 7	12 7	4 76	5 56	1 2		●		▲		▲					
Roughing		SCMT09T304-OTR	9 525	9 525	3 97	4 4	0 4			●							▲	
		SCMT09T308-UR	9 525	9 525	3 97	4 4	0 8		●		▲						▲	
		SCMT09T312-UR	9 525	9 525	3 97	4 4	1 2		●		▲						▲	
		SCMT120404-UR	12 7	12 7	4 76	5 56	0 4			●							▲	
		SCMT120408-UR	12 7	12 7	4 76	5 56	0 8		●		▲						▲	
		SCMT120412-UR	12 7	12 7	4 76	5 56	1 2		●		▲						▲	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

SC

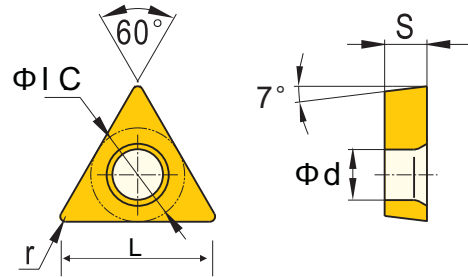


Insert Shape		Type	Dimension						P					M			K		
			L	$\Phi I C$	S	Φd	r		CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
		SCMT09T304	9 525	9 525	3 97	4 4	0 4										○	▲	
		SCMT120404	12 7	12 7	4 76	5 56	0 4										○	▲	
		SCMT120408	12 7	12 7	4 76	5 56	0 8										○	▲	
		SCMW060204	6 35	6 35	2 38	2 8	0 4											○	
		SCMW09T304	9 525	9 525	3 97	4 4	0 4											○	
		SCMW09T308	9 525	9 525	3 97	4 4	0 8											○	
		SCMW120408	12 7	12 7	4 76	5 56	0 8											○	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

TC

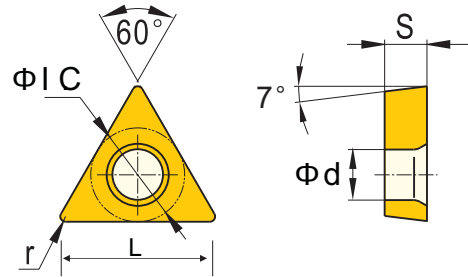


Insert Shape		Type	Dimension					P					M			K		
			L	φ I C	S	φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		TCMT06T104-UF	6.4	3.97	1.98	2.2	0.4	●		▲		●		▲				
		TCMT06T108-UF	6.4	3.97	1.98	2.2	0.8	●		▲		●		▲				
		TCMT090202-UF	9.6	5.56	2.38	2.5	0.2	●				●		▲				
		TCMT090204-UF	9.6	5.56	2.38	2.5	0.4	●		▲		●		▲				
		TCMT090208-UF	9.6	5.56	2.38	2.5	0.8	●		▲				▲				
		TCMT110202-UF	11	6.35	2.38	2.8	0.2	●				●		▲				
		TCMT110204-UF	11	6.35	2.38	2.8	0.4	●		▲		●		▲				
		TCMT110208-UF	11	6.35	2.38	2.8	0.8	●		▲				▲				
		TCMT16T302-UF	16.5	9.525	3.97	4.4	0.2	●		▲		●		▲				
		TCMT16T304-UF	16.5	9.525	3.97	4.4	0.4	●		▲		●		▲				
		TCMT16T308-UF	16.5	9.525	3.97	4.4	0.8	●		▲				▲				
Semi finishing		TCMT090204-UM	9.6	5.56	2.38	2.5	0.4	●		▲		○		▲				
		TCMT090208-UM	9.6	5.56	2.38	2.5	0.8		●		▲			▲				
		TCMT110204-UM	11	6.35	2.38	2.8	0.4	●		▲		○		▲				
		TCMT110208-UM	11	6.35	2.38	2.8	0.8		●		▲			▲				
		TCMT16T304-UM	16.5	9.525	3.97	4.4	0.4		●		▲	○		▲				
		TCMT16T308-UM	16.5	9.525	3.97	4.4	0.8		●		▲			▲				
		TCMT16T312-UM	16.5	9.525	3.97	4.4	1.2		●		▲			▲				

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

TC

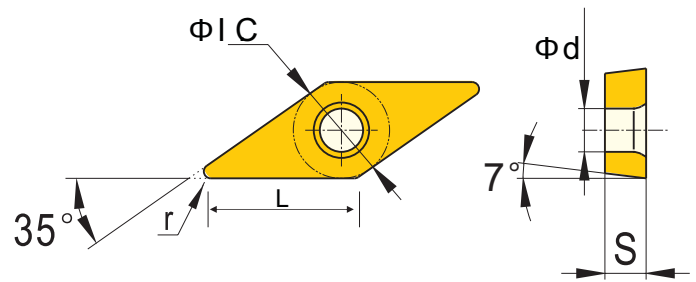


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Roughing		TCMT090204-UR	9.6	5.56	2.38	2.5	0.4		●		▲						▲	
		TCMT090208-UR	9.6	5.56	2.38	2.5	0.8		●		▲						▲	
		TCMT110204-UR	11	6.35	2.38	2.8	0.4		●		▲						▲	
		TCMT110208-UR	11	6.35	2.38	2.8	0.8		●		▲						▲	
		TCMT16T304-UR	16.5	9.525	3.97	4.4	0.4		●		▲						▲	
		TCMT16T308-UR	16.5	9.525	3.97	4.4	0.8		●		▲						▲	
		TCMT16T312-UR	16.5	9.525	3.97	4.4	1.2		●		▲						▲	
		TCMT220408-UR	22	12.7	4.76	5.5	0.8				▲						▲	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

VC

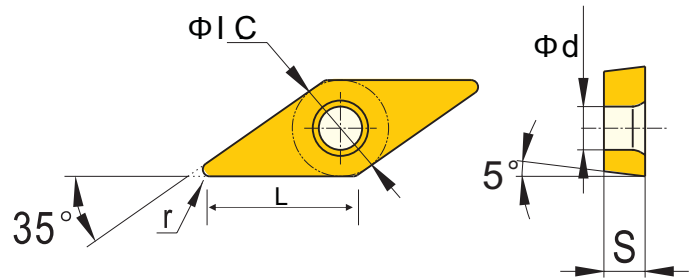


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I.C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		VCMT110302-UF	11	6.35	3.18	2.8	0.2	●		▲		●		▲				
		VCMT110304-UF	11	6.35	3.18	2.8	0.4	●		▲		●		▲				
		VCGT160408-SF	16.5	9.525	4.76	4.4	0.8	●		▲		●		▲				
Semi finishing		VCMT160408-UM	16.6	9.525	4.76	3.81	0.4	●		▲		●		▲				
		VCMT160408-UM	16.6	9.525	4.76	3.81	0.8	●		▲		●		▲				

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

VB

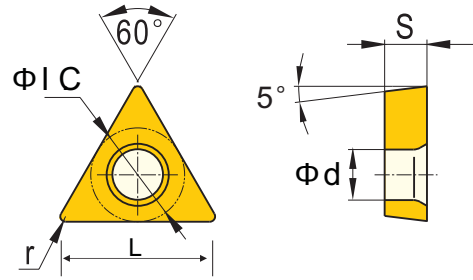


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
Finishing		VBMT110302-UF	11	6.35	3.18	2.8	0.2	●		▲		●		▲				
		VBMT110304-UF	11	6.35	3.18	2.8	0.4	●		▲		●		▲				
		VBMT110308-UF	11	6.35	3.18	2.8	0.8	●		▲				▲				
		VBMT160404-UF	16.5	9.525	4.76	4.4	0.4	●		▲		●		▲				
		VBMT160408-UF	16.5	9.525	4.76	4.4	0.8	●		▲				▲				
		VBET160404-SF	16.5	9.525	4.76	4.4	0.4	●		▲		●		▲				
		VBET160408-SF	16.5	9.525	4.76	4.4	0.8	●		▲				▲				
Semi finishing		VBMT110304-UM	11	6.35	3.18	2.8	0.4		●		▲			▲				
		VBMT110308-UM	11	6.35	3.18	2.8	0.8		●		▲			▲				
		VBMT160404-UM	16.5	9.525	4.76	4.4	0.4		●		▲			▲				
		VBMT160408-UM	16.5	9.525	4.76	4.4	0.8		●		▲			▲				
		VBMT160412-UM	16.5	9.525	4.76	4.4	1.2		●		▲			▲				
		VBET160404-SM	16.5	9.525	4.76	4.4	0.4		●		▲			▲				
		VBET160408-SM	16.5	9.525	4.76	4.4	0.8		●		▲			▲				
Roughing		VBMT160404-UR	16.5	9.525	4.76	4.4	0.4		●		▲						▲	
		VBMT160408-UR	16.5	9.525	4.76	4.4	0.8		●		▲						▲	
		VBMT160412-UR	16.5	9.525	4.76	4.4	1.2		●		▲						▲	

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

TB

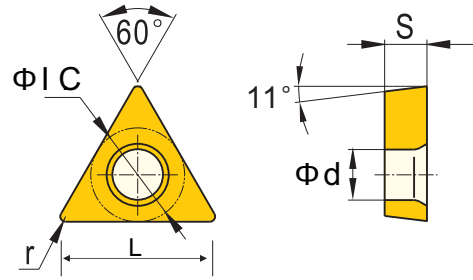


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I.C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
		TBGH060102L	6.4	3.97	1.59	2.2	0.2					▲						
		TBGH060104L	6.4	3.97	1.59	2.2	0.4					▲						
		TBGH060202L	6.4	3.97	2.38	2.2	0.2					▲						
		TBGH060202R	6.4	3.97	2.38	2.2	0.2					▲						

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (POSITIVE)

TP

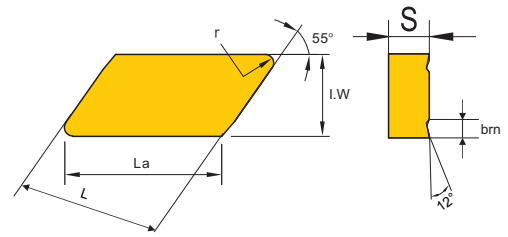


Insert Shape		Type	Dimension					P					M			K		
			L	Φ I.C	S	Φ d	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
		TPGH090202L	9.6	5.56	2.38	2.8	0.2					▲						
		TPGH090204L	9.6	5.56	2.38	2.8	0.4					▲						
		TPGH110302L	11	6.35	3.18	3.18	0.2					▲						
		TPGH110304L	11	6.35	3.18	3.18	0.4					▲						

▲ : Stock item ● : Optional Stock ○ : Order production

TURNING INSERT (NEGATIVE)

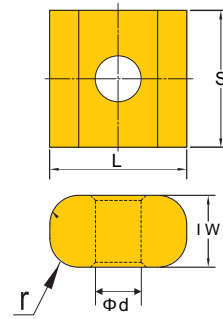
KN



Insert Shape	Type	Dimension							P					M			K		
		La	L	I W	S	brn	r		CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
	KNUX160405L11	16	16.2	9.525	4.76	2.2	0.5		●		▲								
	KNUX160410L11	16	16.2	9.525	4.76	2.2	1.0		●		▲								
	KNUX160405L12	16	16.2	9.525	4.76	2.2	0.5		●		▲								
	KNUX160410L12	16	16.2	9.525	4.76	2.2	1.0		○		○								
	KNUX160415L12	16	16.2	9.525	4.76	2.2	1.5												
	KNUX160404R11	16	16.2	9.525	4.76	2.2	0.5		●		▲								
	KNUX160410R11	16	16.2	9.525	4.76	2.2	1.0		●		▲								
	KNUX160405R12	16	16.2	9.525	4.76	2.2	0.5		●		▲								
	KNUX160410R12	16	16.2	9.525	4.76	2.2	1.0		○		○								
	KNUX160415R12	16	16.2	9.525	4.76	2.2	1.5												

▲ : Stock item ● : Optional Stock ○ : Order production

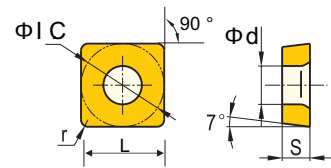
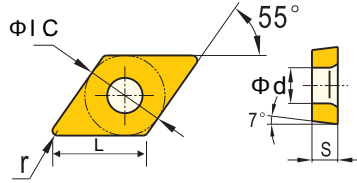
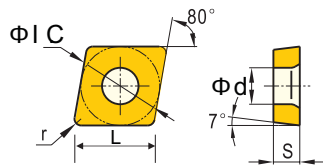
HEAVY DUTY TURNING

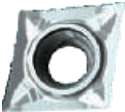


Insert Shape		Type	Dimension						P					M			K		
			La	L	I.W	S	brn	r	CP10	CP20	CP15	CP25	PP05	CM25	PM15	PM05	CK05	CK10	CK15
		175.32-191940-22		19.1	10	19.1	6.35	4.0		●		▲							
		175.32-191940-227		19.1	10	19.1	7.2	4.0		●		▲							
		175.32-191940-28		19.1	10	19.1	6.35	4.0		●		▲							

▲ : Stock item ● : Optional Stock ○ : Order production

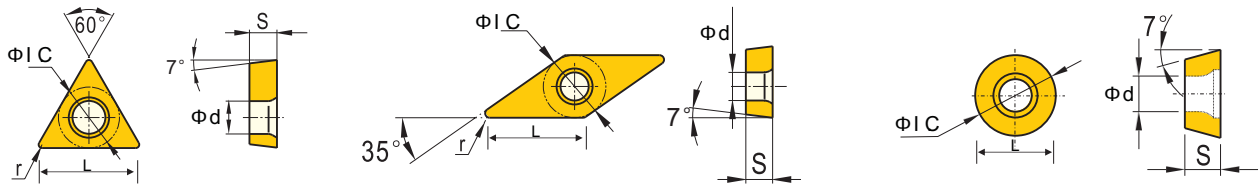
ALUMINUM INSERT CC□□ DC□□ SC□□



Insert Shape		Type	Dimension					Grade
			L	Φ I C	S	Φ d	r	
Finishing		CCGX060202-NM	6.4	6.35	2.38	2.8	0.2	WN40
		CCGX060204-NM	6.4	6.35	2.38	2.8	0.4	
		CCGX09T302-NM	9.7	9.525	3.97	4.4	0.2	
		CCGX09T304-NM	9.7	9.525	3.97	4.4	0.4	
		CCGX09T308-NM	9.7	9.525	3.97	4.4	0.8	
		CCGX120404-NM	12.9	12.7	4.76	5.56	0.4	
		CCGX120408-NM	12.9	12.7	4.76	5.56	0.8	
		DCGX070202-NM	7.8	6.35	2.38	2.8	0.2	WN40
		DCGX070204-NM	7.8	6.35	2.38	2.8	0.4	
		DCGX11T304-NM	11.6	9.525	3.97	4.4	0.4	
		DCGX11T308-NM	11.6	9.525	3.97	4.4	0.8	
		SCGX09T302-NM	9.525	9.525	3.97	4.4	0.2	WN40
		SCGX09T304-NM	9.525	9.525	3.97	4.4	0.4	
		SCGX09T308-NM	9.525	9.525	3.97	4.4	0.8	
		SCGX120404-NM	12.7	12.7	4.76	5.56	0.4	
		SCGX120408-NM	12.7	12.7	4.76	5.56	0.8	

▲ : Stock item ● : Optional Stock ○ : Order production

ALUMINUM INSERT TC□□ VC□□ RC□□



Insert Shape		Type	Dimension					Grade
			L	ΦIC	S	Φd	r	
Finishing		TCGX090202-NM	9.6	5.56	2.38	2.5	0.2	WN40
		TCGX090204-NM	9.6	5.56	2.38	2.5	0.4	
		TCGX110202-NM	11	6.35	2.38	2.8	0.2	
		TCGX110204-NM	11	6.35	2.38	2.8	0.4	
		TCGX110208-NM	11	6.35	2.38	2.8	0.8	
		TCGX16T304-NM	16.5	9.525	3.97	4.4	0.4	
		TCGX16T308-NM	16.5	9.525	3.97	4.4	0.8	
		VCGX110202-NM	11	6.35	2.38	2.8	0.2	WN40
		VCGX110204-NM	11	6.35	2.38	2.8	0.4	
		VCGX110302-NM	11	6.35	3.18	2.8	0.2	
		VCGX110304-NM	11	6.35	3.18	2.8	0.4	
		VCGX110308-NM	11	6.35	3.18	2.8	0.8	
		VCGX160402-NM	16.6	9.525	4.76	4.4	0.2	
		VCGX160404-NM	16.6	9.525	4.76	4.4	0.4	
		VCGX160408-NM	16.6	9.525	4.76	4.4	0.8	
		VCGX160412-NM	16.6	9.525	4.76	4.4	1.2	
		VCGX220530-NM	22	12.7	5.56	5.5	3	
		RCGX0803MO-NM	8.0	8.0	3.18	3.36		WN40

▲ : Stock item ● : Optional Stock ○ : Order production

