YE-UL18

METRIC

Registered
ISO 9001:2008 / ISO 14001:2004

kotra GLOBAL BRAND 2012

INDEXABLE CUTTING TOOLS

YG-1 CO., LTD.

INDEX

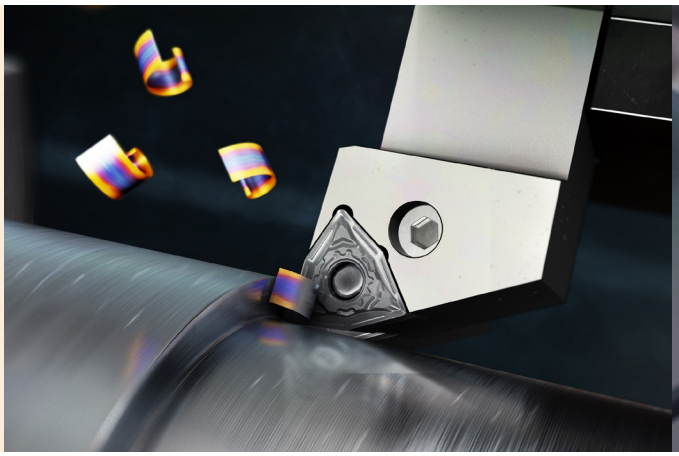
Turning

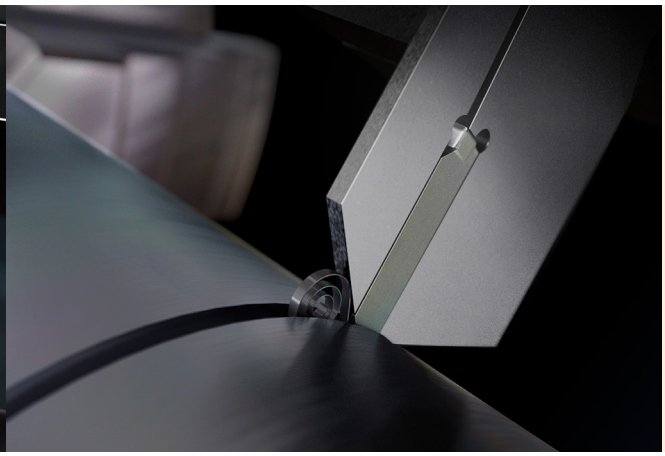
Parting & Groove Turn

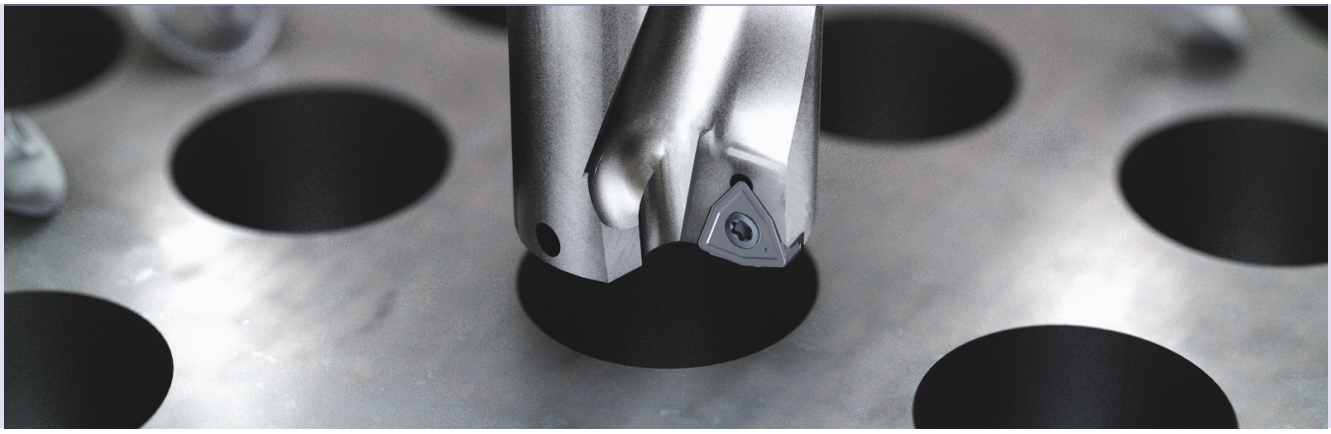
Milling

Drilling

Comparison Chart



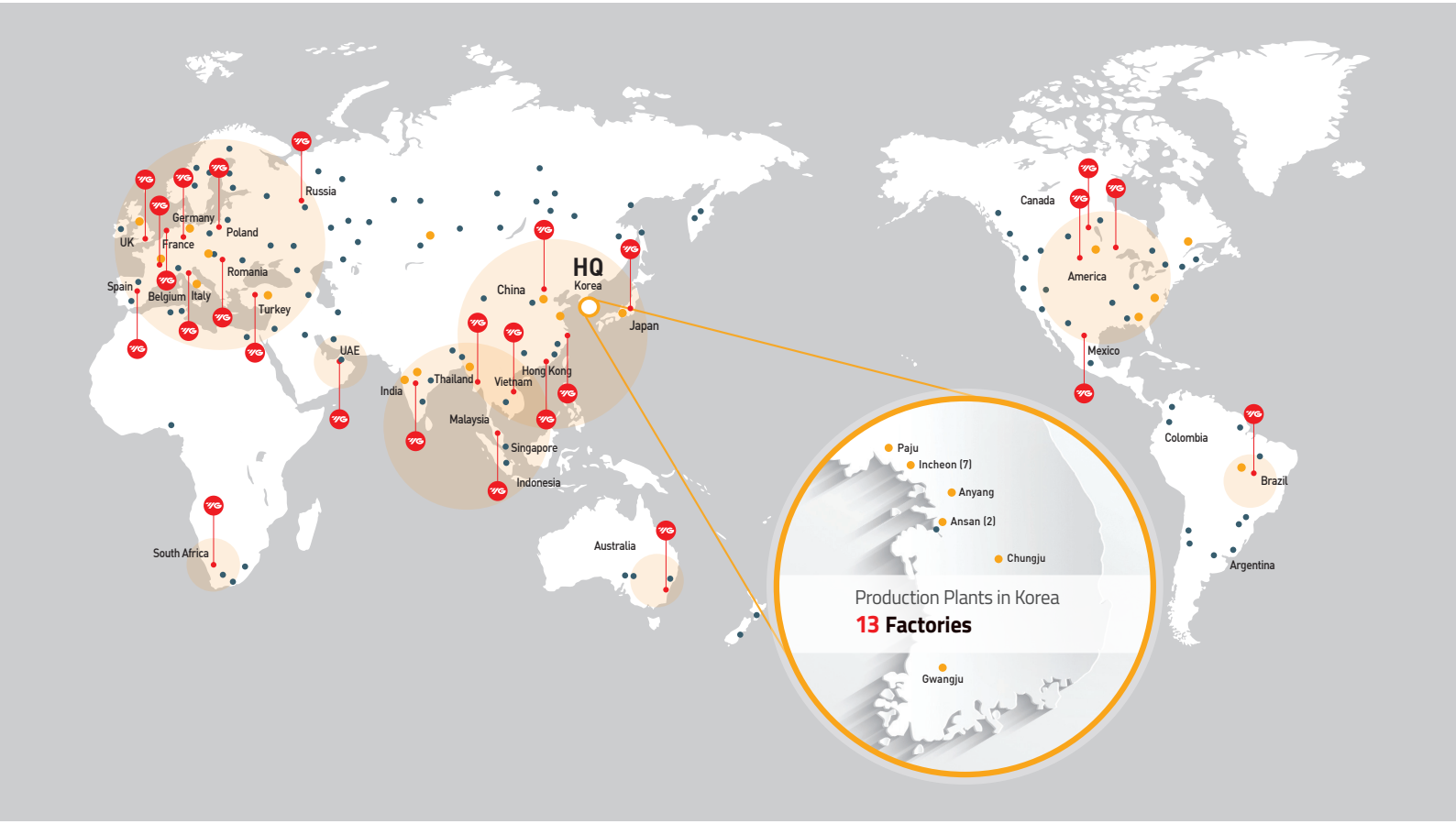




YG-1 SALES & PRODUCTION NETWORK

Our products are sold in over 75 countries and we have 28 production facilities worldwide in total, with 4,100 machines and almost 5,000 employees.

26 Branches offices Sales (Exporting to 75 countries) 28 Production facilities



YG-1 R&D CENTER

- The Chungju R&D Center is equipped with high tech facilities to produce new materials and products.
- It focuses on internalizing and upgrading YG-1's key technologies while working on R&D and production.

TURNING

Turning - Name Code System

Insert ISO Code System

*Metric

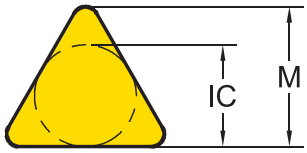
							page 10	page 8
1	2	3	4	5	6	7	8	9
C	N	M	G	12	04	08	-UG	YG3020
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

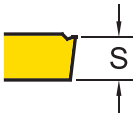
1 - Shape

Symbol	Shape	
H	Hexagonal	
O	Octagonal	
P	Pentagonal	
S	Square	
T	Triangular	
C	Rhombic 80°	
D	Rhombic 55°	
V	Rhombic 35°	
W	Trigon	
L	Rectangular	
K	Parallelogram 55°	
R	Round	

2 - Relief Angle (AN)

Symbol	Relief Angle (AN)	
N	No Relief Angle	
C	Relief 7°	
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	





3 - Tolerance Class

Symbol	Inner Circle IC (mm)	Nose Height M (mm)	Thickness S (mm)
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
K	±0.05~0.15	±0.013	±0.025
M	±0.05~0.15	±0.08~0.2	±0.13
U	±0.08~0.25	±0.13~0.38	±0.13

4 - Clamping & Chipbreaker

Symbol	Clamping	Chipbreaker	Figure
N	No clamping hole	X	
R		One Face	
A	Cylindrical Clamping hole	X	
M		One Face	
G		Both Faces	
W	Screw Hole	X	
T		One Face	
U		Both Faces	
X	Special		

*Inch

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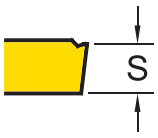
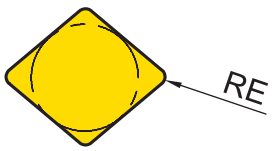
1	2	3	4	5	6	7	8	9
C	**N**	**M**	**G**	**4**	**3**	**2**	**-UG**	**YG3020**
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

5 - Insert Size

Metric							Inner Circle IC (mm)	Inch
S	T	C	D	V	W	R		
06	**11**	**06**	**07**	**11**			6.53	**2**
07							7.94	**2.5**
09	**16**	**09**	**11**	**16**	**06**	**09** (00)	9.525	**3**
12	**22**	**12**	**15**	**22**	**08**	**12** (00)	12.7	**4**
15		**16**					15.875	**5**
						06 (M0)	6	
						08 (M0)	8	
						10 (M0)	10	
						12 (M0)	12	
						16 (M0)	16	





6 - Insert Thickness (S)

Metric	Thickness - S (mm)	Inch
T1	1.98	**1.2**
02	2.38	**1.5**
03	3.18	**2**
T3	3.97	**2.5**
04	4.76	**3**
05	5.56	**3.5**
06	6.35	**4**
07	7.94	**5**

7 - Corner Radius (RE)

Metric	Corner Radius - RE (mm)	Inch
01	0.1	**0**
02	0.2	**0.5**
04	0.4	**1**
08	0.8	**2**
12	1.2	**3**
16	1.6	**4**
20	2.0	**5**
24	2.4	**6**

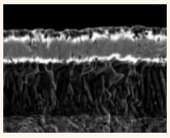
Turning Grades

Turning Grades		P Steel				M Stainless Steel				K Cast Iron				N Non Ferrous			
		P05	P15	P25	P35	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35
CVD	YG1001	1001									1001						
	YG3010		3010									3010					
	YG3020			3020													
	YG3030			3030				3030									
PVD	YG801		801				801										
DLC	YG100														100		
Uncoated	YG10														10		

YG1001

K10 - K25

CVD TiCN - Al_2O_3



First choice for stable machining of cast iron

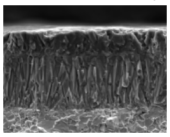
- Substrate especially designed for high wear resistance
- Thick Al_2O_3 layer ensures good wear resistance at high cutting speeds including dry machining

YG3010

P05 - P20

K15 - K35

CVD TiCN - Al_2O_3



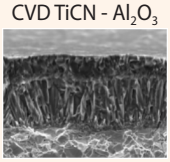
First choice for Finishing Steels, and Ductile Cast iron

- Finishing and light machining of steel under in stable condition
- New Al_2O_3 coating technology and excellent surface smoothness increases wear resistance and chipping resistance

YG3020

P15 - P30

CVD TiCN - Al_2O_3



First Choice grade for general Steel application

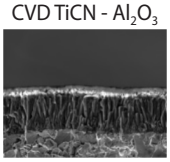
- Substrate especially designed for good toughness
- Excellent surface smoothness increases wear resistance and reliability

YG3030

P20 - P35

M20 - M35

CVD TiCN - Al_2O_3



Interrupted cutting of steel and stainless steel

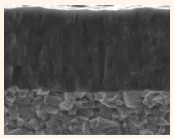
- Substrate for heavy roughing in mild steel and low carbon alloy steel
- New Al_2O_3 technology and optimized surface treatment achieves a good balance between wear resistance and chipping resistance

YG801

P10 - P30 M05 - M25

S05 - S25 H20 - H40

PVD - TiAlN



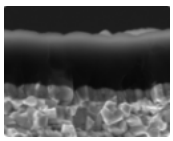
Universal Grade for mid and low cutting conditions

- Recommended for mild steel, stainless steel, and boring application
- Substrate and special PVD coating for excellent wear resistance

YG100

N05 - N35

DLC



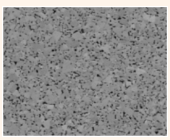
First Choice grade for aluminum with DLC coating

- Submicron carbide for high wear resistance
- DLC coating minimizes Built Up Edge tendency.
- Improves tool life in sticky non-ferrous alloy

YG10

N05 - N35

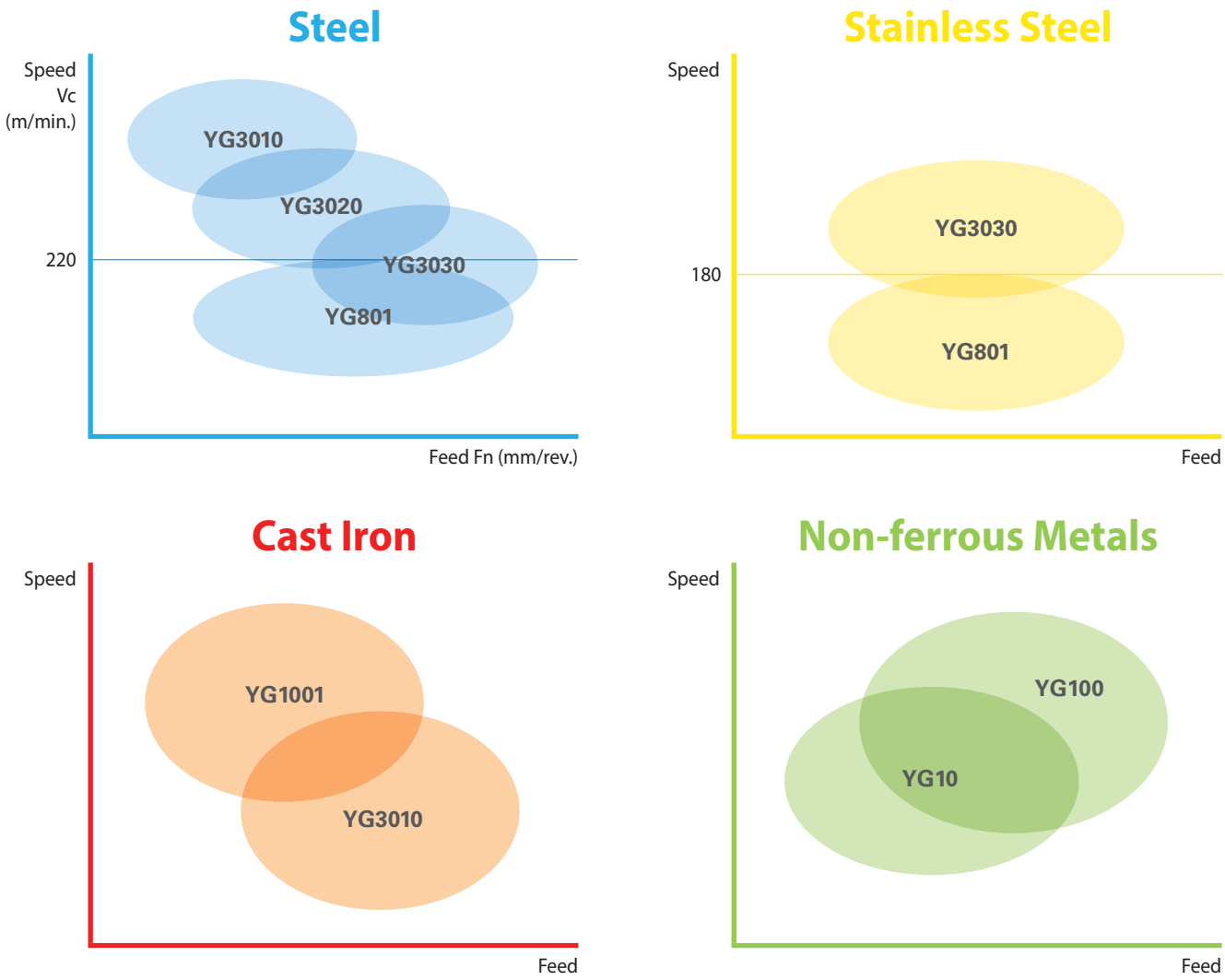
Uncoated



Uncoated Grade for General Aluminum

- Substrate consisted of submicron carbide for high wear resistance
- Shining surface to prevent built up edge

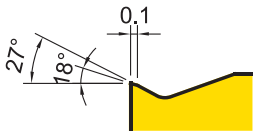
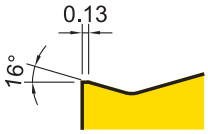
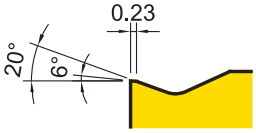
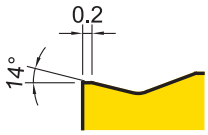
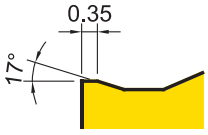
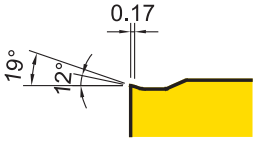
Turning Grade Map



Recommended Cutting Conditions

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

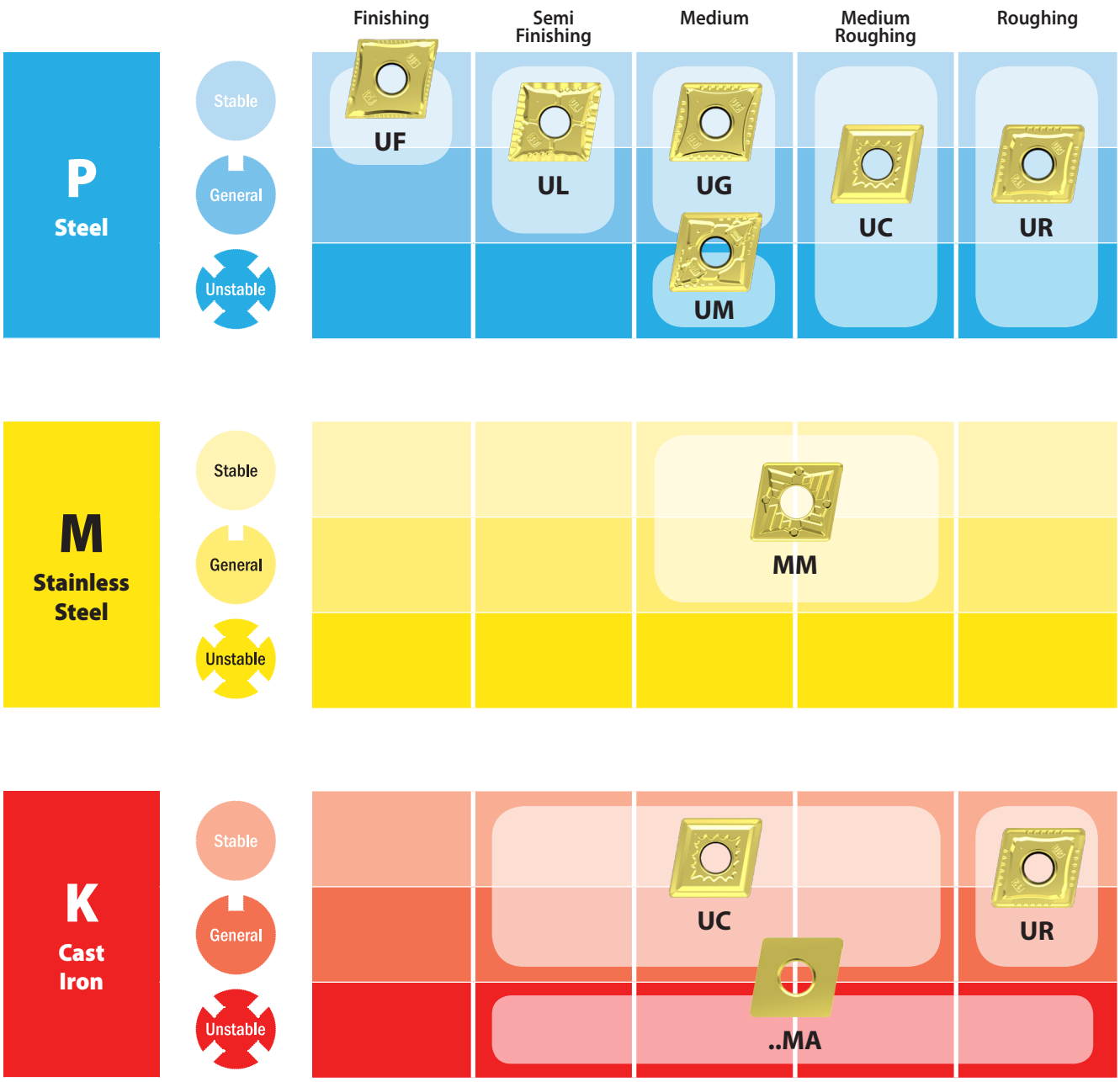
Turning Chipbreakers - Negative

P	M	K	N			
P				**UF** 	Finishing 	Fn 0.05~0.2 Ap 0.5~1.5
P				**UL** 	Semi Finishing and sticky materials 	Fn 0.05~0.3 Ap 1~3
P				**UM** 	For Medium & Unstable conditions 	Fn 0.15~0.35 Ap 1~3
P				**UG** 	First Choice for Medium (Stable application) 	Fn 0.25~0.4 Ap 1.5~4
P		K		**UC** 	Medium Roughing and First choice for Cast Iron 	Fn 0.25~0.5 Ap 1.5~4
P		K		**UR** 	Roughing and Heavy interrupted cut 	Fn 0.3~0.6 Ap 2~6
	M			**MM** 	Stainless Steel Medium 	Fn 0.15~0.35 Ap 1~3.5
		K		**..MA** 	Cast Iron Heavy roughing 	Fn 0.2~0.6 Ap 1~7

Feed Fn (mm/rev.)
0 0.1 0.2 0.3 0.4 0.5 0.6

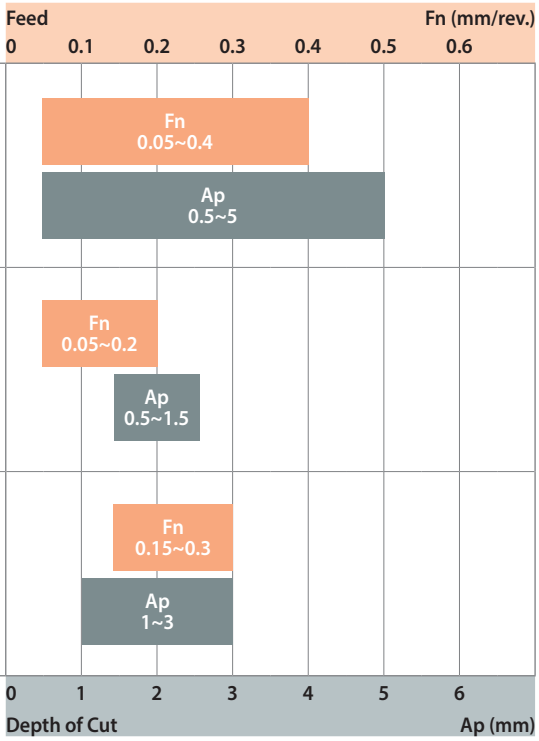
0 1 2 3 4 5 6
Depth of Cut Ap (mm)

Turning Chipbreakers - Negative

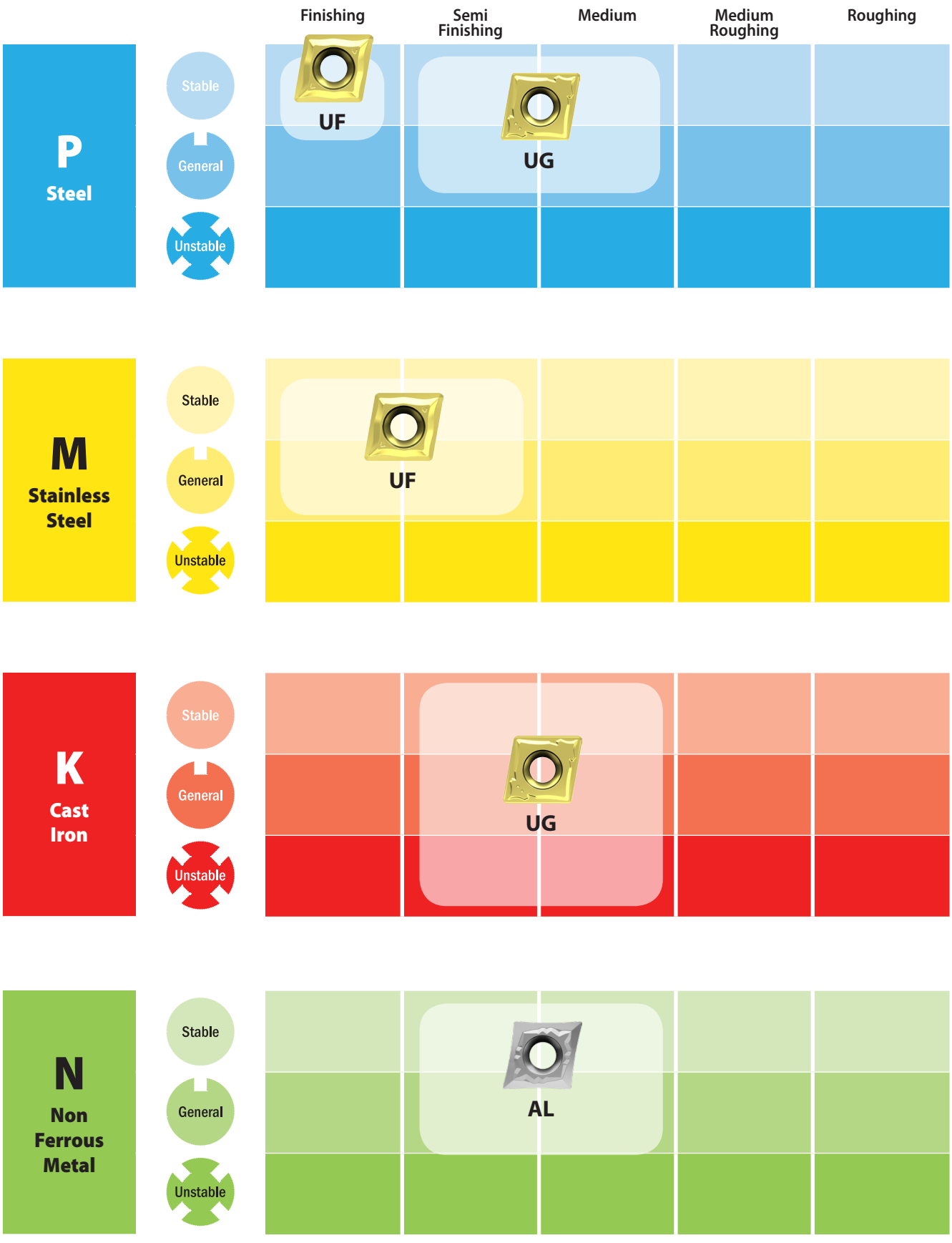


Turning Chipbreakers - Positive

P	M	K	N			
			N	AL	Aluminum application	
P	M			UF	Finishing application	
P		K		UG	Medium application	



Turning Chipbreakers - Positive



Turning Inserts Overview

Negative Inserts

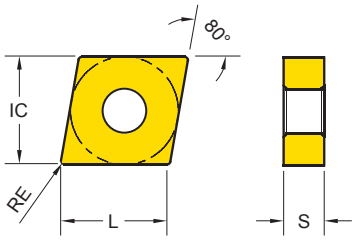
C		CNMA	12	1606			p. 15
		CNMG	12				
D		DNMA		1506			p. 17
		DNMG	1504	1506			
K		KNUX	16				p. 19
S		SNMA	12				p. 20
		SNMG	12				
T		TNMA	16				p. 22
		TNMG	16	22			
		TNUX	16				p. 24
V		VNMG	16				p. 25
W		WNMA		08			p. 26
		WNMG	06	08			

Positive Inserts

C		CCGT		09			p. 28
		CCMT	06	09	12		
D		DCGT		11			p. 29
		DCMT	07	11			
R		RCMT	06	08	10	12	p. 30
S		SCMT	09	12			p. 31
T		TCGT		16			p. 32
		TCMT	11	16			
V		VBMT	16				p. 33
		VCGT / VCMT	16				p. 34

Turning - Inserts - Negative

CNMG / CNMA (80° Negative)



Series	L	IC	S
CNM□ 1204	12	12.7	4.76
CNM□ 1606	16	15.88	6.35

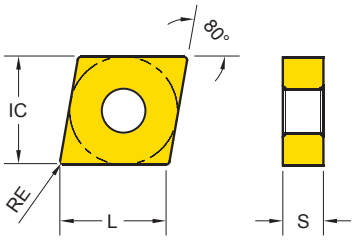
● : Stock item ○ : Order made item

CNMA CNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..MA	 Cast Iron	CNMA 120404	0.4	0.15~0.35	0.5~2.5	●	○					
		CNMA 120408	0.8	0.2~0.4	1~3.5	●	○					
		CNMA 120412	1.2	0.2~0.5	1.5~5	●	○					
		CNMA 160612	1.2	0.3~0.5	1.5~5	●	○					
-UF	 Finishing	CNMG 120404 - UF	0.4	0.05~0.2	0.5~1.5		●	●	●	●		
		CNMG 120408 - UF	0.8	0.1~0.25	1~2.5		●	●	●	○		
-UL	 Light Machining and Sticky Material	CNMG 120404 - UL	0.4	0.05~0.25	0.5~2		●	●				
		CNMG 120408 - UL	0.8	0.1~0.3	1~3		●	●	●	●		
		CNMG 120412 - UL	1.2	0.1~0.3	1.5~3.5		○	○	○			
-UM	 Medium Machining Unstable condition	CNMG 120404 - UM	0.4	0.15~0.25	0.5~1.5		●	●	●			
		CNMG 120408 - UM	0.8	0.15~0.3	0.5~2		●	●	●			

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

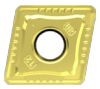
Turning - Inserts - Negative

CNMG / CNMA (80° Negative)



Series	L	IC	S
CNM□ 1204	12	12.7	4.76
CNM□ 1606	16	15.88	6.35

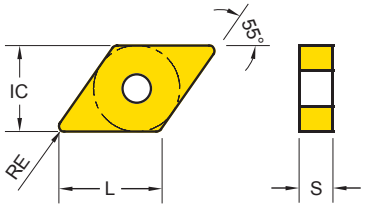
● : Stock item ○ : Order made item

CNMA CNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UG	 Medium Machining at stable condition	CNMG 120404 - UG	0.4	0.2~0.3	0.5~2		●	●	●			
		CNMG 120408 - UG	0.8	0.2~0.4	1~3		●	●	●	●		
		CNMG 120412 - UG	1.2	0.2~0.45	1.5~4		●	●	●			
-UC	 Cast Iron and Medium roughing	CNMG 120404 - UC	0.4	0.25~0.35	0.5~2.5	●	●	●	●			
		CNMG 120408 - UC	0.8	0.25~0.45	1~4	●	●	●	●			
		CNMG 120412 - UC	1.2	0.3~0.55	1.5~4.5	●	●	●	●			
-UR	 Roughing	CNMG 120408 - UR	0.8	0.25~0.55	1~4		●	●	●	○		
		CNMG 120412 - UR	1.2	0.3~0.6	1.5~5		●	●	●	●		
-MM	 Stainless Steel Medium	CNMG 120408 - MM	0.8	0.2~0.35	1~3.5			○	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

DNMG / DNMA (55° Negative)



Series	L	IC	S
DNM□ 1504	14	12.7	4.76
DNM□ 1506	14	12.7	6.35

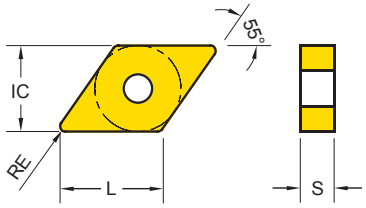
● : Stock item ○ : Order made item

DNMA DNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..MA	 Cast Iron	DNMA 150608	0.8	0.15~0.35	1~3	●						
		DNMA 150612	1.2	0.25~0.45	1.5~4	●						
-UF	 Finishing	DNMG 150404 - UF	0.4	0.05~0.15	0.5~1.5		●	●	●	●		
		DNMG 150604 - UF	0.4	0.05~0.2	1~2		●	●	●	●		
		DNMG 150608 - UF	0.8	0.1~0.25	1.5~3.5		●	●	●			
-UL	 Light Machining and Sticky Material	DNMG 150408 - UL	0.8	0.1~0.25	1~2.5					●		
		DNMG 150604 - UL	0.4	0.05~0.25	0.5~2		●	●				
		DNMG 150608 - UL	0.8	0.15~0.3	1.5~3		●	●	●	●		
-UM	 Medium Machining Unstable condition	DNMG 150608 - UM	0.8	0.15~0.35	0.5~2		●	●	●			

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

DNMG / DNMA (55° Negative)



Series	L	IC	S
DNM□ 1504	14	12.7	4.76
DNM□ 1506	14	12.7	6.35

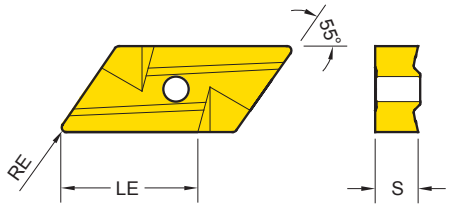
● : Stock item ○ : Order made item

	DNMA DNMG	Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UG	 Medium Machining at stable condition	DNMG 150408 - UG	0.8	0.2~0.35	1~2.5		●	●	●	●		
		DNMG 150604 - UG	0.4	0.2~0.3	0.5~2		●	●	●			
		DNMG 150608 - UG	0.8	0.2~0.35	1~3		●	●	●	●		
		DNMG 150612 - UG	1.2	0.2~0.4	1.5~3.5		●	●	●			
-UC	 Cast Iron and Medium roughing	DNMG 150608 - UC	0.8	0.25~0.4	1~3	●	●	●	●			
		DNMG 150612 - UC	1.2	0.25~0.45	1.5~3.5	●	●	●	●			
-UR	 Roughing	DNMG 150612 - UR	1.2	0.3~0.5	1.5~4		●	●	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

KNUX (55° - 2 Corners Single Side)



Series	LE	S
KNUX 1604	15	4.76

● : Stock item ○ : Order made item

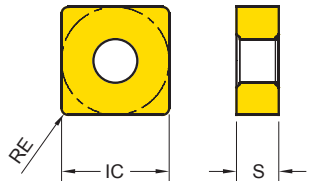
KNUX		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..UX Left		KNUX 160405 L	0.5	0.1~0.4	0.5~6		○	●	●	●		
..UX Right		KNUX 160405 R	0.5	0.1~0.4	0.5~6		○	●	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

SNMG / SNMA (90° Negative)

Series	IC	S
SNM□ 1204	12.7	4.76



● : Stock item ○ : Order made item

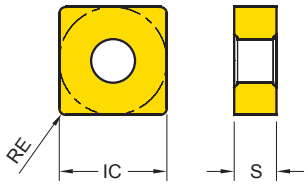
SNMA SNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..MA	 Cast Iron	SNMA 120408	0.8	0.2~0.4	1~3.5	●						
		SNMA 120412	1.2	0.2~0.5	1.5~5	●						
-UF	 Finishing	SNMG 120404 - UF	0.4	0.05~0.2	0.5~1.5					●		
-UL	 Light Machining and sticky material	SNMG 120408 - UL	0.8	0.1~0.3	1~3		●	●	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

SNMG / SNMA (90° Negative)

Series	IC	S
SNM□ 1204	12.7	4.76



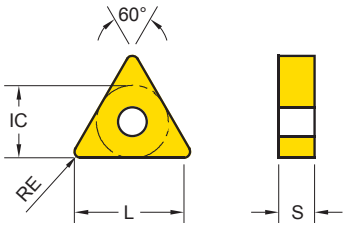
● : Stock item ○ : Order made item

	SNMA SNMG	Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UG	 Medium Machining at stable condition	SNMG 120408 - UG	0.8	0.2~0.4	1~3		●	●	●	●		
		SNMG 120412 - UG	1.2	0.2~0.45	1.5~4		●	●	●			
-UC	 Cast Iron and Medium roughing	SNMG 120408 - UC	0.8	0.25~0.45	1~4	●	●	●	●			
		SNMG 120412 - UC	1.2	0.3~0.55	1.5~4.5	●						
-UR	 Roughing	SNMG 120408 - UR	0.8	0.3~0.55	1~4.5		●	●	●			
		SNMG 120412 - UR	1.2	0.3~0.6	1.5~5			○	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

TNMG / TNMA (60° Negative)



Series	L	IC	S
TN□□ 1604	15.7	9.53	4.76
TN□□ 2204	21	12.7	4.76

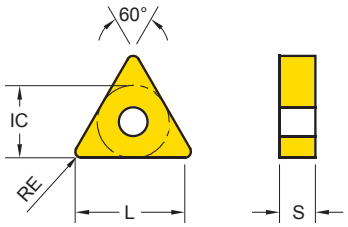
● : Stock item ○ : Order made item

TNMA TNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..MA	 Cast Iron	TNMA 160408	0.8	0.15~0.35	1~3	●						
		TNMA 160412	1.2	0.25~0.45	1.5~4	●						
-UF	 Finishing	TNMG 160404 - UF	0.4	0.05~0.2	1~2		●	●	●	●		
		TNMG 160408 - UF	0.8	0.1~0.25	1.5~3.5		●	●	●	○		
		TNMG 220404 - UF	0.4	0.05~0.2	1~4		●			●		
-UL	 Light Machining and sticky material	TNMG 160408 - UL	0.8	0.1~0.25	1.5~3.5		●	●	●	●		
-UM	 Medium Machining Unstable condition	TNMG 160408 - UM	0.8	0.15~0.35	0.5~2		●	●	●			

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

TNMG / TNMA (60˚ Negative)



Series	L	IC	S
TN□□ 1604	15.7	9.53	4.76
TN□□ 2204	21	12.7	4.76

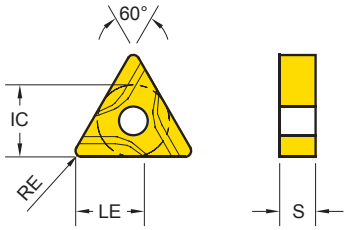
● : Stock item ○ : Order made item

	TNMA TNMG	Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UG	 Medium Machining at Stable condition	TNMG 160404 - UG	0.4	0.2~0.3	0.5~2		●	●	●			
		TNMG 160408 - UG	0.8	0.2~0.35	1~3		●	●	●	●		
		TNMG 220408 - UG	0.8	0.2~0.3	1~4		●	●	●	●		
-UC	 Cast Iron and Medium roughing	TNMG 160404 - UC	0.4	0.25~0.4	0.5~2.5		●	●	●			
		TNMG 160408 - UC	0.8	0.25~0.4	1~3	●	●	●	●			
		TNMG 160412 - UC	1.2	0.25~0.45	1.5~3.5	●						
-UR	 Roughing	TNMG 160412 - UR	1.2	0.3~0.5	1.5~3		○	○	●	●		
		TNMG 220412 - UR	1.2	0.3~0.5	1.5~4	●	○	○	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

TNUX (60° Negative)



Series	LE	IC	S
TNUX 1604	9.4	9.53	4.76

● : Stock item ○ : Order made item

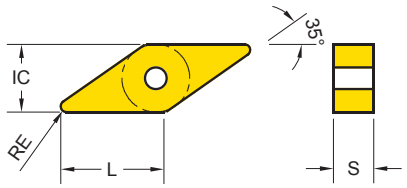
TNUX		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..UX Left		TNUX 160404 L	0.4	0.1~0.3	0.5~4		○	●		●		
		TNUX 160408 L	0.8	0.1~0.4	0.5~6		○	●		●		
..UX Right		TNUX 160404 R	0.4	0.1~0.3	0.5~4		○	●		●		
		TNUX 160408 R	0.8	0.1~0.4	0.5~6		○	●		●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

VNMG (35° Negative)

Series	L	IC	S
VNM□ 1604	15.8	9.53	4.76



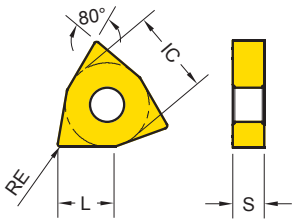
● : Stock item ○ : Order made item

VNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..MA	 Cast Iron	VNMA 160408	0.8	0.15~0.35	1~3	●						
-UF	 Finishing	VNMG 160404 - UF	0.4	0.05~0.15	0.5~2		●	●	●	●		
		VNMG 160408 - UF	0.8	0.05~0.25	1~2.5		●	●	●	○		
-UL	 Medium Machining and sticky material	VNMG 160408 - UL	0.8	0.1~0.25	1~2.5		○	●		●		
-UG	 Medium Machining at stable condition	VNMG 160408 - UG	0.8	0.2~0.3	1~3		●	●	●	●		
-UC	 Cast Iron and Medium roughing	VNMG 160404 - UC	0.4	0.25~0.4	0.5~2.5		●					
		VNMG 160408 - UC	0.8	0.25~0.4	1~3	●	●	●	●			
-UR	 Roughing	VNMG 160412 - UR	1.2	0.25~0.35	1.2~3		○	○	●	●		

Cutting Speed			Vc (m/min.)											
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

WNMG / WNMA (80° Trigonal Negative)



Series	L	IC	S
WNM□0604	5.7	9.53	4.76
WNM□0804	7.8	12.7	4.76

● : Stock item ○ : Order made item

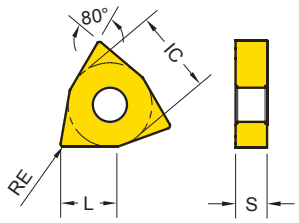
WNMA WNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
..MA	 Cast Iron	WNMA 080404	0.4	0.15~0.35	0.5~2.5	●						
		WNMA 080408	0.8	0.2~0.4	1~3.5	●	○					
		WNMA 080412	1.2	0.2~0.5	1.5~5	●	○					
-UF	 Finishing	WNMG 060404 - UF	0.4	0.05~0.2	0.5~1.5		●	●	○	●		
		WNMG 080404 - UF	0.4	0.05~0.2	0.5~2		●	●	●	●		
		WNMG 080408 - UF	0.8	0.1~0.25	1~2.5		●	●	●			
-UL	 Light Machining and sticky material	WNMG 060408 - UL	0.8	0.1~0.3	1~2.5		●	●	○	●		
		WNMG 080408 - UL	0.8	0.1~0.3	1~3		●	●	●	○		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Negative

WNMG / WNMA (80˚ Trigonal Negative)

Series	L	IC	S
WNM□0604	5.7	9.53	4.76
WNM□0804	7.8	12.7	4.76



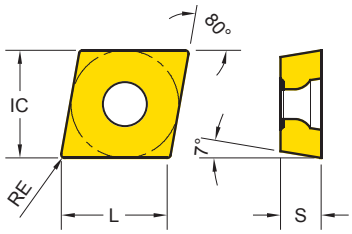
● : Stock item ○ : Order made item

WNMA WNMG		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UM	 Medium Machining at unstable condition	WNMG 080408 - UM	0.8	0.15~0.3	0.5~2		●	●	●			
-UG	 Medium Machining at stable condition	WNMG 060408 - UG	0.8	0.2~0.4	1~2.5			●		●		
		WNMG 080404 - UG	0.4	0.2~0.3	1.5~2.5		●	●	●			
		WNMG 080408 - UG	0.8	0.2~0.4	1~3.5		●	●	●	●		
-UC	 Cast Iron and Medium roughing	WNMG 080404 - UC	0.4	0.25~0.4	0.5~3.5	●	●	●	●			
		WNMG 080408 - UC	0.8	0.25~0.45	1~4	●	●	●	●			
		WNMG 080412 - UC	1.2	0.3~0.55	1.5~4.5	●	●	●	●			
-UR	 Roughing	WNMG 080412 - UR	1.2	0.3~0.6	1.5~5		○	○	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

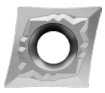
Turning - Inserts - Positive

CCMT / CCGT (80° Positive)



Series	L	IC	S
CC□T 0602	6.2	6.35	2.38
CC□T 09T3	9.2	9.53	3.97
CC□T 1204	12.4	12.7	4.76

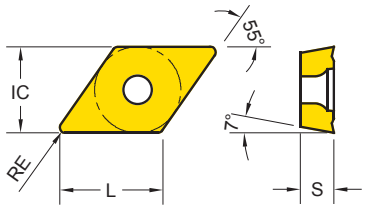
● : Stock item ○ : Order made item

CCGT CCMT		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-AL	 Aluminum	CCGT 09T302 - AL	0.2	0.02~0.08	0.5~1						●	●
		CCGT 09T304 - AL	0.4	0.05~0.25	0.5~2						●	●
		CCGT 09T308 - AL	0.8	0.1~0.35	1~3						●	●
-UF	 Finishing	CCMT 060204 - UF	0.4	0.05~0.15	0.5~1.5		●	●		●		
		CCMT 09T304 - UF	0.4	0.05~0.2	0.5~2		●	●		●		
-UG	 General	CCMT 060208 - UG	0.8	0.15~0.25	0.8~2					●		
		CCMT 09T304 - UG	0.4	0.15~0.2	0.5~2		●	●		●		
		CCMT 09T308 - UG	0.8	0.15~0.3	0.8~2.5		●	●		●		
		CCMT 120404 - UG	0.4	0.2~0.25	0.5~2.5		●	●				
		CCMT 120408 - UG	0.8	0.2~0.35	0.8~3.5		●	●	●	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Positive

DCMT / DCGT (55˚ Positive)



Series	L	IC	S
DC□T 0702	7.5	6.35	2.38
DC□T 11T3	11.2	9.53	3.97

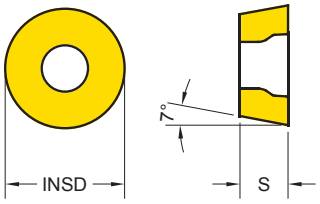
● : Stock item ○ : Order made item

DCGT DCMT		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-AL	 Aluminum	DCGT 11T302 - AL	0.2	0.02~0.08	0.5~1						●	●
		DCGT 11T304 - AL	0.4	0.05~0.25	0.5~2						●	●
		DCGT 11T308 - AL	0.8	0.1~0.3	1~2.5						●	●
-UF	 Finishing	DCMT 070204 - UF	0.4	0.05~0.15	0.5~1.5		●	●		●		
		DCMT 11T304 - UF	0.4	0.05~0.2	0.5~2		●	●		●		
		DCMT 11T308 - UF	0.8	0.05~0.25	1~2.5		●	●				
-UG	 General	DCMT 070204 - UG	0.4	0.15~0.25	0.5~1.5		●	●		○		
		DCMT 11T304 - UG	0.4	0.15~0.25	0.5~2		●	●		●		
		DCMT 11T308 - UG	0.8	0.2~0.35	0.8~2.5		●	●	○	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Positive

RCMT (Round Positive)



Series	INSD	S
RCMT 0602	6	2.38
RCMT 0803	8	3.18
RCMT 10T3	10	3.97
RCMT 1204	12	4.76

● : Stock item ○ : Order made item

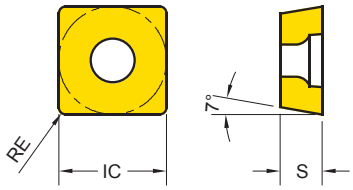
RCMT	Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
 General	RCMT 0602M0	3	0.05~0.25	0.2~1.2	○	○	●		●		
	RCMT 0803M0	4	0.05~0.3	0.5~1.5	○	○	●		●		
	RCMT 10T3M0	5	0.1~0.35	0.5~2.5	○	○	●		●		
	RCMT 1204M0	6	0.15~0.45	0.5~3	○	○	●		●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Positive

SCMT (Square Positive)

Series	IC	S
SCMT 09T3	9.53	3.97
SCMT 1204	12.7	4.76



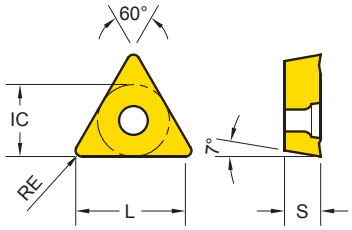
● : Stock item ○ : Order made item

SCMT		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UF	 Finishing	SCMT 09T304 - UF	0.4	0.1~0.25	0.5~2		○	●		●		
-UG	 General	SCMT 09T304 - UG	0.4	0.2~0.35	1~2.5					●		
		SCMT 09T308 - UG	0.8	0.2~0.35	1~2.5		●	●		●		
		SCMT 120408 - UG	0.8	0.2~0.4	1~3.5		●	●	○	○		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Positive

TCMT / TCGT (Triangle Positive)



Series	L	IC	S
TC□T 1102	10.3	6.35	2.38
TC□T 16T3	15.6	9.53	3.97

● : Stock item ○ : Order made item

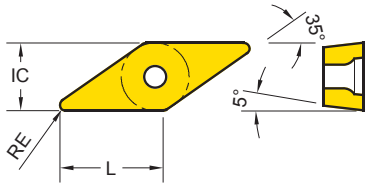
TCGT TCMT		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-AL	 Aluminum	TCGT 16T302 - AL	0.2	0.02~0.05	0.5~1						●	●
		TCGT 16T304 - AL	0.4	0.05~0.25	0.5~2						●	●
		TCGT 16T308 - AL	0.8	0.1~0.35	1~3						●	●
-UF	 Finishing	TCMT 110204 - UF	0.4	0.05~0.2	0.5~2		●	●		●		
		TCMT 16T304 - UF	0.4	0.05~0.25	0.5~3		●	●		●		
-UG	 General	TCMT 16T304 - UG	0.4	0.15~0.25	0.5~2		●	●		●		
		TCMT 16T308 - UG	0.8	0.2~0.35	0.8~3		●	●	○	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Positive

VBMT (35˚ Positive)

Series	L	IC	S
VB□T 1604	15.8	9.53	4.76



● : Stock item ○ : Order made item

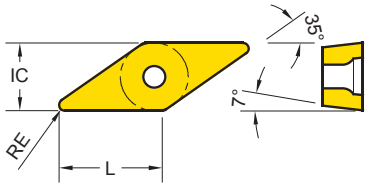
VBMT		Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-UF	 Finishing	VBMT 160404 - UF	0.4	0.05~0.2	0.5~2		●	●		●		
		VBMT 160408 - UF	0.8	0.05~0.25	0.5~3		●	●		○		
-UG	 General	VBMT 160404 - UG	0.4	0.15~0.25	0.5~2.5		●	●		●		
		VBMT 160408 - UG	0.8	0.2~0.4	1~3		●	●	○	●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

Turning - Inserts - Positive

VCMT / VCGT (35° Positive)

Series	L	IC	S
VC□T 1604	15.8	9.53	4.76



● : Stock item ○ : Order made item

	VCGT VCMT	Designation	RE	Fn (mm/rev.)	Ap (mm)	YG1001	YG3010	YG3020	YG3030	YG801	YG100	YG10
-AL	 Aluminum	VCGT 160402 - AL	0.2	0.02~0.05	0.5~1						●	●
		VCGT 160404 - AL	0.4	0.05~0.25	0.5~2						●	●
		VCGT 160408 - AL	0.8	0.1~0.35	1~3						●	●
-UF	 Finishing	VCMT 160404 - UF	0.4	0.05~0.25	0.5~3			●		●		
-UG	 General	VCMT 160408 - UG	0.8	0.2~0.4	1~3			●		●		

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG100		YG10	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
P	1~5	Non Alloy Steel	220	480	170	450	180	380	150	350	120	250	-	-	-	-
	6~9	Low Alloy Steel	220	420	180	380	110	350	90	300	70	230	-	-	-	-
	10~11	High Alloy Steel	-	-	100	330	60	300	70	250	70	180	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	220	60	180	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	50	180	60	150	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	60	160	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	60	120	-	-	-	-
N	21~30	Aluminum	-	-	-	-	-	-	-	-	-	-	350	1200	250	800
S	31~37	Heat Resistant Super Alloy	-	-	-	-	-	-	35	80	35	60	-	-	-	-
H	38~41	Hardened Material	-	-	-	-	-	-	-	-	40	80	-	-	-	-

PARTING & GROOVE TURN

Parting & Groove Turn Overview

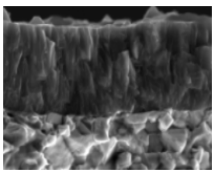
Parting & Groove Turn Grades

Parting and Grooving Grades		P Steel				M Stainless Steel				K Cast Iron				S Super Alloy			
		P05	P15	P25	P35	M05	M15	M25	M35	K05	K15	K25	K35	S05	S15	S25	S35
PVD	YG602			602				602				602				602	

YG602

P20 - P35 | M20 - M40 | K20 - K40 | S15 - S25

PVD - TiAlN



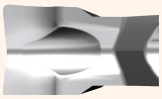
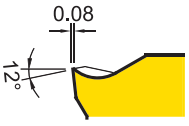
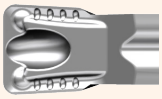
Universal grade for Parting & Groove Turn

- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application

Parting & Groove Turn Inserts

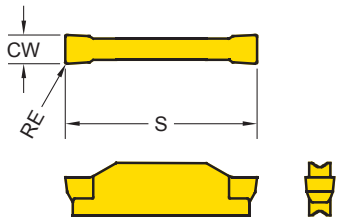
	Inserts	
TD. Series	TDN TDP TDY	2, 3, 4

Parting & Groove Turn Chipbreakers

TDP			• Parting & Grooving (Positive)
TDN			• Parting & Grooving (General)
TDY			• Groove Turn

Parting & Groove Turn - Inserts

Parting & Groove Turn Inserts (TD.)



Series	CW
TD□2	2
TD□3	3
TD□4	4

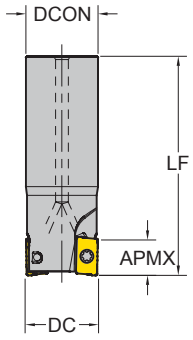
● : Stock item ○ : Order made item

TD.		Designation	RE	Parting & Grooving		Groove Turn		YG602
				Fn (mm/rev.)	Tmax (mm)	Fn (mm/rev.)	Ap (mm)	
TDP	 Parting & Grooving (Positive)	TDP 2002	0.2	0.04~0.12	19	-	-	●
		TDP 3002	0.2	0.05~0.16	19	-	-	●
		TDP 4004	0.4	0.06~0.18	19	-	-	●
TDN	 Parting & Grooving (General)	TDN 2002	0.2	0.06~0.18	19	-	-	●
		TDN 3002	0.2	0.07~0.22	19	-	-	●
		TDN 4004	0.4	0.08~0.25	19	-	-	●
TDY	 Groove Turn	TDY 3 E - 0.4	0.4	0.10~0.20	19	0.10~0.38	0.5~2.2	●
		TDY 4 E - 0.4	0.4	0.15~0.26	19	0.10~0.40	0.5~2.8	●

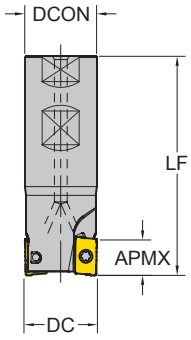
Cutting Speed			Vc (m/min.)	
ISO	VDI	Sub Group	YG602 Min.	Max.
P	1~5	Non Alloy Steel	90	180
	6~9	Low Alloy Steel	80	120
	10~11	High Alloy Steel	80	110
M	12~13	Ferritic & Martensitic	70	160
	14	Austenitic Stainless Steel	55	140
K	15~16	Grey Cast Iron	110	185
	17~18	Nodular Cast Iron	110	140
N	21~30	Aluminum	250	440
S	31~37	Heat Resistant Super Alloy	25	45
H	38~41	Hardened Material	25	50

MILLING

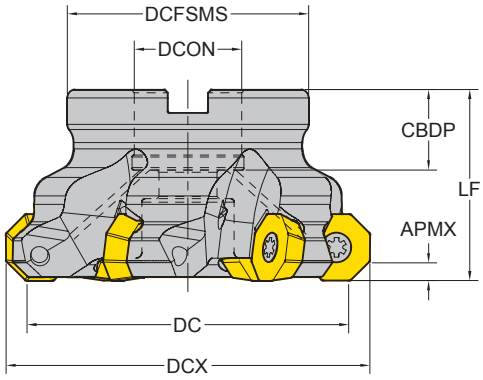
Code Keys - Milling Cutters



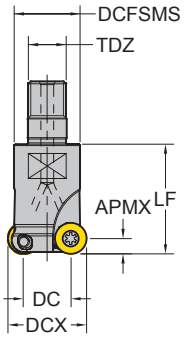
<C> Cylindrical



<W> Weldon



<S> Shell Mill



<M> Modular

Cutting Angle
(90°)

Cutter Diameter
(Φ16)

Connection Type and Size
C - Cylindrical
S - Shell Mill
(Cylindrical Φ16)
W - Weldon
M - Modular

* Shank Type Only

E	90	-	APKT10	-	D16	Z2	C16	-	L100
	KAPR				DC or DCX*	ZEFP	DCON or TDZ		LF*

* DCX for Round insert

Cutter Type
E - Endmill Type
F - Facemill Type
M - Modular Type

Insert Series
(APKT 10)

Number of Teeth
(Z=2)

Functional Length
(100mm)

Milling - Code System

Insert Code System

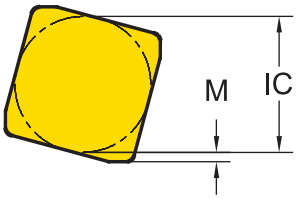
1	2	3	4	5	6	7
A	**P**	**K**	**T**	**16**	**04**	**08**
Shape	Relief Angle (AN)	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness (S)	CornerRadius

1 - Shape

Symbol	Shape	
H	Hexagonal	
O	Octagonal	
P	Pentagonal	
S	Square	
T	Triangular	
V	Rhombic 35°	
W	Trigon	
L	Rectangular	
A	Parallelogram 80°	
R	Round	

2 - Relief Angle (AN)

Symbol	Relief Angle (AN)	
N	No Relief Angle	
C	Relief 7°	 AN
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	



3 - Tolerance Class

Symbol	Inner Circle IC (mm)	Nose Height M (mm)	Thickness S (mm)
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
K	±0.05~0.15	±0.013	±0.025
M	±0.05~0.15	±0.08~0.2	±0.13
U	±0.08~0.25	±0.13~0.38	±0.13

4 - Clamping & Chipbreaker

Symbol	Clamping	Chipbreaker	Figure
N	No clamping hole	X	
R		One Face	
W	Screw Hole	X	
T		One Face	
U		Both Faces	
X	Special		

5 - Insert Size

* No Standard for milling insert size

6 - Insert Thickness

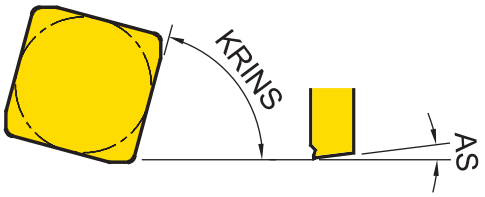
* No Standard for milling insert thickness

	page 45		page 45	
(	8 **PDTR** Corner Geometry	9 **-TR** Chipbreaker	)	10 **YG602** Grade

7 - Corner Radius (RE)

Symbol	Corner Radius - RE (mm)	Symbol	Corner Radius - RE (mm)
04	0.4	**16**	1.6
08	0.8	**20**	2.0
12	1.2	**24**	2.4

8 - Corner Geometry



8-1	8-2	8-3	8-4
P	**D**	**T**	**R**
Cutting Edge Angle (KRINS)	Wiper Edge Clearance (AS)	Edge Condition	Feed Direction

*Refer to page. 45 for -AL, -ST, -TR… types

8-1 - Cutting Edge Angle (KRINS)

Symbol	Cutting Edge Angle (KRINS)
P	90°
A	45°
D	60°
E	75°
F	85°
Z	Special

8-3 - Edge Condition

Symbol	Edge Condition	
F	Sharp	
E	Rounded	
T	Chamfered	
S	Chamfered and Rounded	

8-2 - Wiper Edge Clearance (AS)

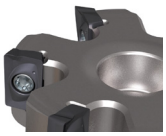
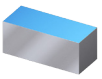
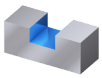
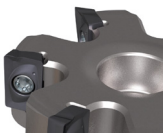
Symbol	Wiper Edge Clearance (AS)
N	0°
P	11°
D	15°
E	20°
F	25°
Z	Special

8-4 - Feed Direction

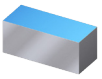
Symbol	Feed Direction	
R	Right-hand Insert	
N	Neutral Insert	
L	Left-hand Insert	

Milling Cutters Overview

Shoulder Mill

		Type	Diameter 16	20	25	32	40	50	63	80	100	125	160	Application
 **APKT** 2 Corner 90° Positive (p. 47)	APKT 1003 (APMX 9mm) 	CYL	●	●										
		WEL	●	●										
		SHL					●	●						
	APKT 1604 (APMX 15mm) 	CYL			●	●								
		WEL			●	●								
		SHL						●	●	●				
 **APMT** 2 Corner 90° Positive (p. 49)	APMT 1135 (APMX 9mm) 	CYL	●	●	●									
		WEL				●								
	APMT 1604 (APMX 16mm) 	CYL			●									
		WEL				●								
		SHL						●	●	●				

Face Mill

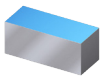
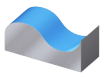
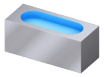
		Type	Diameter 16	20	25	32	40	50	63	80	100	125	160	Application
 **ODMT** 8 Corner 43° Positive (p. 53)	ODMT 0605 ODMW 0605 (APMX 3.5mm) 	SHL							●	●	●	●		
 **SEKT** 4 Corner 45° Positive (p. 65)	SEKT 1204 (APMX 3.5mm) 	SHL					●	●	●	●	●	●	●	

CYL : Cylindrical
WEL : Weldon Shank
SHL : Shell Mill
MOD : Modular

Copy Mill

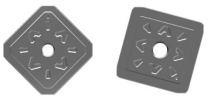
RDKT

Round Positive
(p. 57)

	Type	Diameter 16	20	25	32	40	50	63	80	100	125	160	Application
RDKT 0802 RDKW 0802 (APMX 4mm) 	CYL	●	●	●									
	MOD	●	●	●									
RDKT 10T3 RDKW 10T3 (APMX 5mm) 	CYL		●	●									
	SHL					●	●						
	MOD		●	●									
RDKT 1204 RDKW 1204 (APMX 6mm) 	CYL			●	●								
	SHL					●	●	●					
	MOD		●	●									

CYL : Cylindrical
WEL : Weldon Shank
SHL : Shell Mill
MOD : Modular

Milling Inserts Overview

A 2 Corner	 Positive	APKT +Cutters	APKT 1003, 1604	p. 46
		APMT +Cutters	APMT 1135, 1604	p. 48
		ADKT	ADKT 1505	p. 50
		AOMT	AOMT 1236	p. 51
O Octagon	 Positive	ODMT +Cutters	ODMT 0605 ODMW 0605	p. 52
		OFER	OFER 0704	p. 54
		OFMT	OFMT 05T3	
	 Negative	ONMU	ONMU 0806	p. 55
R Round	 Positive	RDKT +Cutters	RDKT 0802, 10T3, 1204 RDKW 0802, 10T3, 1204	p. 56
		RDKW	RDKW 0501, 0702	
		RPMT	RPMT 08T2, 10T3, 1204 RPMW 1003, 1204	p. 58
S Square	 High Feed	SDMT / SDMW	SDMT 1204, SDMW 1204	p. 61
	 Positive	SDKN (45°)	SDKN 1203, 1504	p. 60
		SEKN / SEKR (45°)	SEKN / SEKR (45°)	p. 62
		SEKT 12T3	SEKT 12T3	p. 63
		SEKT +Cutters	SEKT 1204	p. 64
	 ISO	SPKN/SPKR (75°)	SPKN 1203, 1504 SPKR 1203	p. 66
		SPUN	SPUN 1203	
	 Negative	SNMX	SNMX1206	p. 67
T Triangle	 ISO	TPKN / TPKR (90°)	TPKN 1603, 2204 TPKR 1603, 2204	p. 68
		TPUN	TPUN 160308	

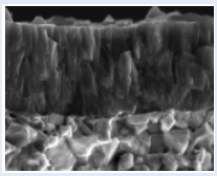
Milling Grade and Chipbreakers

Milling Grades

Milling Grades		P Steel				M Stainless Steel				K Cast Iron				N Non Ferrous				S Super Alloy			
		P05	P15	P25	P35	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35	S05	S15	S25	S35
PVD	YG602			602				602				602								602	
	YG200														200						

YG602
P20 - P35 | M20 - M40 | K20 - K40 | S15 - S25

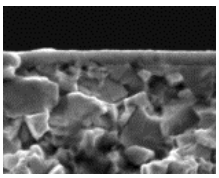
PVD - TiAlN



Universal grade for General Milling Application
- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application

YG200
N05 - N35

PVD - CrN



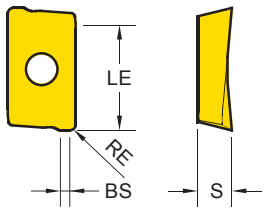
Optimized grade for Aluminum
- Sub-Micron substrate designed for Aluminum application
- With unique PVD coating

Milling Chipbreakers

P	M	K	N	S	H			
			N			–AL		• For Aluminum • Very Sharp Geometry
	M			S		–ST		• For Stainless Steel, Super Alloy • Sharp Geometry
P	M	K				**General Inserts** **(No Description)**		• First Choice for General Application
P		K				–TR		• For Hardened Steels • Reinforced Geometry
P		K			H	...W / ...N		• For Hardened Material and Cast Irons

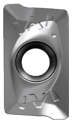
Milling - Inserts

APKT 10, 16 - 2 Corner Positive



Series	LE	IC	S
APKT 1003	9.9	6.7	3.6
APKT 1604	15.2	9.4	5.3

● : Stock item ○ : Order made item

APKT		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
APKT General		APKT 100305 PDTR	0.5	0.15~0.24	0.86	●	
		APKT 100308 PDTR	0.8	0.15~0.24	0.9	●	
		APKT 160404 PDTR	0.4	0.15~0.25	1.11	●	
		APKT 160408 PDTR	0.8	0.15~0.30	1.32	●	
		APKT 160412 PDTR	1.2	0.15~0.32	1.13	●	
		APKT 160416 PDTR	1.6	0.15~0.34	1.13	●	
		APKT 160424 PDTR	2.4	0.15~0.28	-	●	
-AL Aluminum		APKT 100305 - AL	0.5	0.07~0.50	0.86		●
		APKT 160408 - AL	0.8	0.07~0.50	1.32		●
-ST Stainless Steel Super Alloy		APKT 100305 - ST	0.5	0.08~0.22	0.86	●	
		APKT 160408 - ST	0.8	0.08~0.25	1.32	●	
-TR Hardened Steel		APKT 160408 - TR	0.8	0.26~0.40	1.32	●	

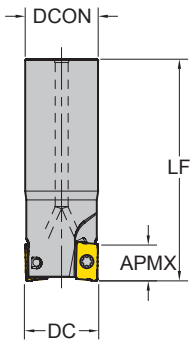
Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Cutter - Shouldermilling

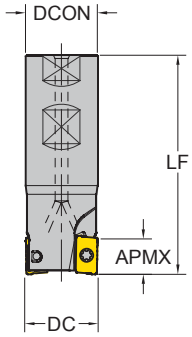
APKT 10, 16 Shoulder Mill

2 Corner Positive Inserts
Cutting Angle : 90˚

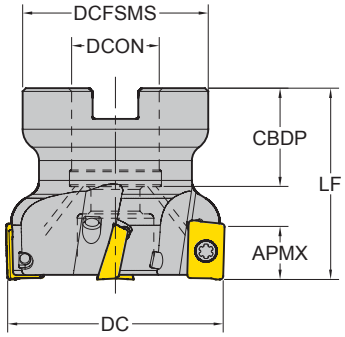
<C> Cylindrical



<W> Weldon



<S> Shell Mill



Cutters - APKT 10

(mm)

EDP	Designation	Type	Z	DC	LF	DCON	CBDP	DCFSMS	APMX	
17000083	E90 - APKT10 - D16Z2C16 - L100	C	2	16	100	16	-	-	10	●
17000085	E90 - APKT10 - D20Z3C20 - L120	C	3	20	120	20	-	-	10	●
17000082	E90 - APKT10 - D16Z2W16 - L85	W	2	16	85	16	-	-	10	●
17000084	E90 - APKT10 - D20Z3W20 - L90	W	3	20	90	20	-	-	10	●
17000087	F90 - APKT10 - D40Z4S16	S	4	40	40	16	18	32	10	●
17000088	F90 - APKT10 - D50Z7S22	S	7	50	40	22	20	42	10	●

Screw : TP072505 Wrench : TPWFTP07

Cutters - APKT 16

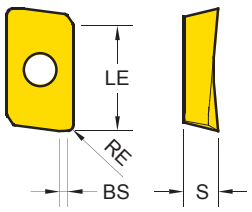
(mm)

EDP	Designation	Type	Z	DC	LF	DCON	CBDP	DCFSMS	APMX	
17000091	E90 - APKT16 - D25Z2C20 - L100	C	2	25	100	20	-	-	16	●
17000094	E90 - APKT16 - D32Z3C25 - L110	C	3	32	110	25	-	-	16	●
17000092	E90 - APKT16 - D25Z2W25 - L110	W	2	25	110	25	-	-	16	●
17000093	E90 - APKT16 - D32Z3W25 - L110	W	3	32	110	25	-	-	16	●
17000095	F90 - APKT16 - D50Z5S22	S	5	50	40	22	20	45	16	●
17000096	F90 - APKT16 - D63Z6S22	S	6	63	40	22	20	45	16	●
17000097	F90 - APKT16 - D80Z7S27	S	7	80	50	27	23	56	16	●

Screw : TP154010 Wrench : TPWFTP15

Milling - Inserts

APMT 11, 16 - 2 Corner Positive



Series	LE	IC	S
APMT 1135	9.5	6.2	3.5
APMT 1604	14.6	9.2	4.76

● : Stock item ○ : Order made item

APMT		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
APMT General		APMT 113504 PDTR	0.4	0.15~0.22	1.26	●	
		APMT 113508 PDTR	0.8	0.15~0.25	1.07	●	
		APMT 160408 PDTR	0.8	0.16~0.30	1.11	●	

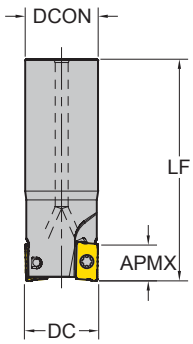
Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Cutter - Shouldermilling

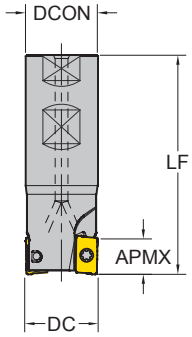
APMT 11, 16 Shoulder Mill

2 Corner Positive Inserts
Cutting Angle : 90˚

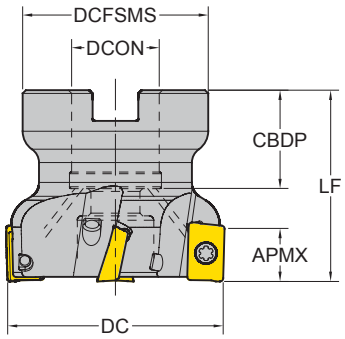
<C> Cylindrical



<W> Weldon



<S> Shell Mill



Cutters - APMT 11

(mm)

EDP	Designation	Type	Z	DC	LF	DCON	CBDP	DCFSMS	APMX	
17000102	E90 - APMT11 - D16Z2C16 - L120	C	2	16	120	16	-	-	10	●
17000103	E90 - APMT11 - D20Z2C20 - L120	C	2	20	120	20	-	-	10	●
17000104	E90 - APMT11 - D25Z4C25 - L150	C	4	25	150	25	-	-	10	●
17000105	E90 - APMT11 - D32Z4W25 - L110	W	4	32	110	25	-	-	10	●

Screw : TP072505 Wrench : TPWFTP07

Cutters - APMT 16

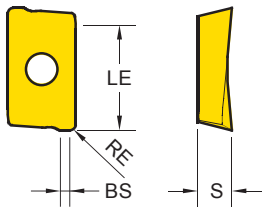
(mm)

EDP	Designation	Type	Z	DC	LF	DCON	CBDP	DCFSMS	APMX	
17000107	E90 - APMT16 - D25Z2C25 - L120	C	2	25	120	25	-	-	16	●
17000108	E90 - APMT16 - D32Z3W32 - L110	W	3	32	110	32	-	-	16	●
17000109	F90 - APMT16 - D50Z5S22	S	5	50	40	22	20	45	16	●
17000110	F90 - APMT16 - D63Z6S22	S	6	63	40	22	20	45	16	●
17000111	F90 - APMT16 - D80Z7S27	S	7	80	50	27	23	56	16	●

Screw : TP154010 Wrench : TPWFTP15

Milling - Inserts

ADKT - 2 Corner Positive



Series	LE	IC	S
ADKT 1505	13.7	9.7	5.8

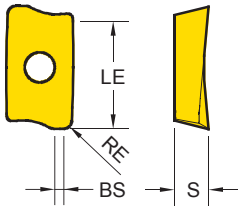
● : Stock item ○ : Order made item

ADKT		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
ADKT General		ADKT 150508 PDTR	0.8	0.16~0.30	1.87	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

AOMT - 2 Corner Positive



Series	LE	IC	S
AOMT 1236	10.5	6.6	3.6

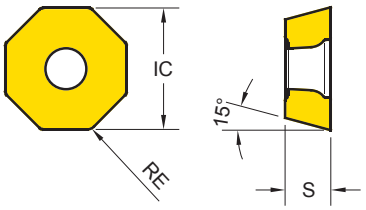
● : Stock item ○ : Order made item

AOMT		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
AOMT General		AOMT 123604 PDTR	0.4	0.08~0.22	1.07	●	
		AOMT 123608 PDTR	0.8	0.08~0.24	0.91	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

ODMT / ODMW - 8 Corner Positive



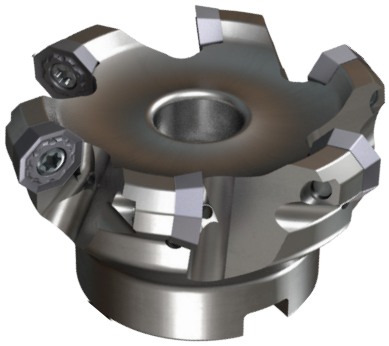
Series	IC	S
ODM□0605	15.9	5.6

● : Stock item ○ : Order made item

ODMT ODMW		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
ODMT General		ODMT 060508	0.8	0.21~0.35	–	●	
ODMW Hard Materials		ODMW 060508	0.8	0.26~0.40	–	●	

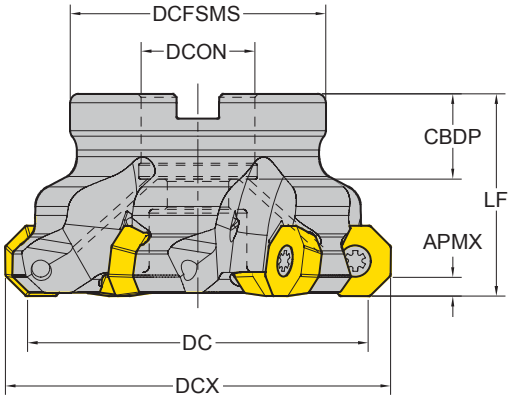
Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

ODMT 06 Facemill



8 Corner Positive Inserts
APMX 3.5mm
Cutting Angle : 43˚

<S> Shell Mill



Cutters - ODMT 06

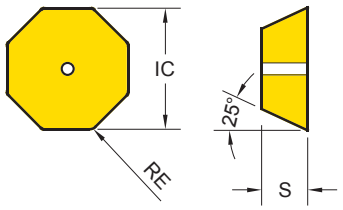
(mm)

EDP	Designation	Type	Z	DC	DCX	LF	DCON	CBDP	DCFSMS	APMX	
17000001	F43 - ODMT06 - D63Z5S22	S	5	63	73	40	22	20	50	3.5	●
17000002	F43 - ODMT06 - D80Z6S27	S	6	80	90	50	27	22	58	3.5	●
17000003	F43 - ODMT06 - D100Z7S32	S	7	100	110	50	32	25	78	3.5	●
17000004	F43 - ODMT06 - D125Z8S40	S	8	125	135	63	40	29	90	3.5	●

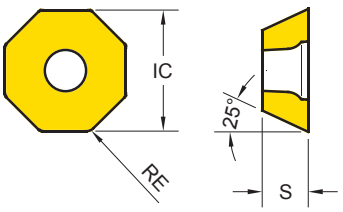
Screw : TP205013 Wrench : TPWFTP20

Milling - Inserts

OFER, OFMT - 8 Corner Positive



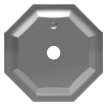
<OFER>



<OFMT>

Series	IC	S
OFER 0704	18.05	4.78
OFMT 05T3	12.73	4.06

● : Stock item ○ : Order made item

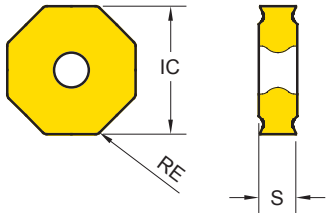
OFER	Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
OFER General 	OFER 070405	0.5	0.22~0.50	-	●	

OFMT	Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
OFMT General 	OFMT 05T308	0.8	0.15~0.25	-	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

ONMU - 16 Corner Negative



Series	IC	S
ONMU 0806	20.2	5.8

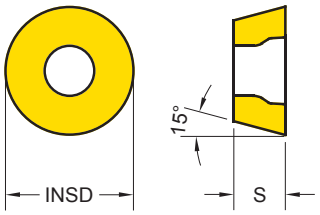
● : Stock item ○ : Order made item

ONMU		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
ONMU General		ONMU 080608	0.8	0.22~0.50	-	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

RDKT - Round Inserts



Series	INSD	S
RDK□0501	5	1.4
RDK□0702	7	2.4
RDK□0802	8	2.4
RDK□10T3	10	4.0
RDK□1204	12	4.8

● : Stock item ○ : Order made item

RDKT		Designation	Fz (mm/tooth)	YG602	YG200
RDKT General		RDKT 0802M0	0.15~0.25	●	
		RDKT 10T3M0	0.15~0.28	●	
		RDKT 1204M0	0.20~0.30	●	
-ST Stainless Steel Super Alloy		RDKT 0802M0 - ST	0.08~0.25	●	
		RDKT 10T3M0 - ST	0.08~0.28	●	
		RDKT 1204M0 - ST	0.10~0.30	●	
-TR Hardened Steel		RDKT 0802M0 - TR	0.18~0.35	●	
		RDKT 10T3M0 - TR	0.22~0.40	●	
		RDKT 1204M0 - TR	0.22~0.40	●	
RDKW Hard Materials		RDKW 0501M0	0.10~0.20	●	
		RDKW 0702M0	0.12~0.25	●	
		RDKW 0802M0	0.13~0.25	●	
		RDKW 10T3M0	0.16~0.30	●	
		RDKW 1204M0	0.16~0.35	●	

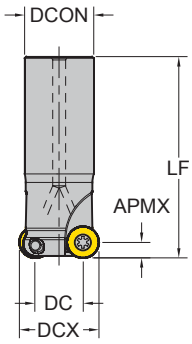
Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Cutter - Copymilling

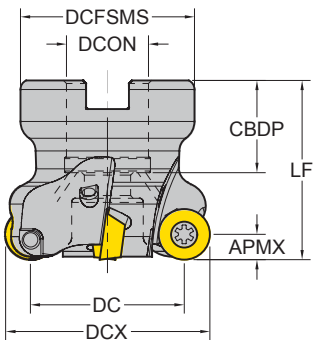
RDKT 08, 10, 12 Copymill

Round Positive Inserts

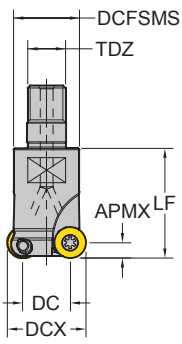
<C> Cylindrical



<S> Shell Mill



<M> Modular



Cutters - RDKT 08

(mm)

EDP	Designation	Type	Z	DC	DCX	LF	DCON	CBDP	DCFSMS	APMX	
17000005	E - RDKT08 - D16Z2C16 - L160	C	2	8	16	160	16	-	-	4	●
17000007	E - RDKT08 - D20Z2C20 - L180	C	2	12	20	180	20	-	-	4	●
17000009	E - RDKT08 - D25Z3C20 - L180	C	3	17	25	180	20	-	-	4	●
17000010	M - RDKT08 - D16Z2M08	M	2	8	16	23	M08	-	13	4	●
17000011	M - RDKT08 - D20Z2M10	M	2	12	20	30	M10	-	18	4	●
17000012	M - RDKT08 - D25Z3M12	M	3	17	25	35	M12	-	21	4	●

Screw : TP082505 Wrench : TPWFTP08

Cutters - RDKT 10

(mm)

EDP	Designation	Type	Z	DC	DCX	LF	DCON	CBDP	DCFSMS	APMX	
17000013	E - RDKT10 - D20Z2C20 - L180	C	2	10	20	180	20	-	-	5	●
17000015	E - RDKT10 - D25Z2C25 - L180	C	2	15	25	180	25	-	-	5	●
17000019	F - RDKT10 - D40Z5S16	S	5	30	40	40	16	18	32	5	●
17000020	F - RDKT10 - D50Z6S22	S	6	40	50	50	22	20	40	5	●
17000017	M - RDKT10 - D20Z2M10	M	2	10	20	30	M10	-	18	5	●
17000018	M - RDKT10 - D25Z3M12	M	3	15	25	35	M12	-	21	5	●

Screw : TP154008 Wrench : TPWFTP15

Cutters - RDKT 12

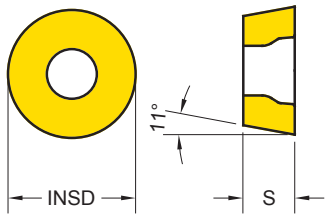
(mm)

EDP	Designation	Type	Z	DC	DCX	LF	DCON	CBDP	DCFSMS	APMX	
17000021	E - RDKT12 - D25Z2C25 - L180	C	2	13	25	180	25	-	-	6	●
17000023	E - RDKT12 - D32Z2C32 - L200	C	2	20	32	200	32	-	-	6	●
17000024	E - RDKT12 - D32Z3C32 - L160	C	3	20	32	160	32	-	-	6	●
17000028	F - RDKT12 - D40Z4S16	S	4	28	40	40	16	18	32	6	●
17000029	F - RDKT12 - D50Z5S22	S	5	38	50	50	22	20	40	6	●
17000030	F - RDKT12 - D63Z6S22	S	6	51	63	50	22	20	48	6	●
17000026	M - RDKT12 - D25Z2M12	M	2	13	25	35	M12	-	21	6	●
17000027	M - RDKT12 - D32Z3M16	M	3	20	32	42	M16	-	29	6	●

Screw : TP154009 Clamp : TP153507 Wrench : TPWFTP15

Milling - Inserts

RPMT - Round Inserts



Series	INSD	S
RPMT 08T2	8	2.78
RPMT 10T3	10	3.97
RPMT 1204	12	4.76

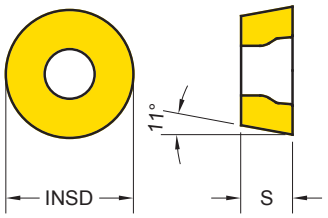
● : Stock item ○ : Order made item

RPMT		Designation	Fz (mm/tooth)	YG602	YG200
RPMT General		RPMT 08T2M0	0.10~0.24	●	
		RPMT 10T3M0	0.16~0.30	●	
		RPMT 1204M0	0.20~0.35	●	
-ST Stainless Steel Super Alloy		RPMT 1204M0 - ST	0.10~0.30	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

RPMW - Round Inserts



Series	INSD	S
RPMW 1003	10	3.18
RPMW 1204	12	4.76

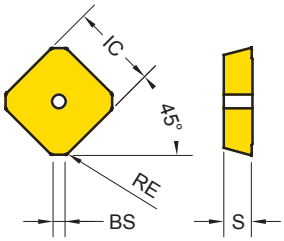
● : Stock item ○ : Order made item

RPMW		Designation	Fz (mm/tooth)	YG602	YG200
RPMW Hard Materials		RPMW 1003M0	0.16~0.30	●	
		RPMW 1204M0	0.16~0.35	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

SDKN - 4 Corner Square ISO



Series	AS	IC	S
SDK□1203	15°	12.7	3.1
SDK□1504	15°	15.88	4.7
SEK□1203	20°	12.7	3.2

● : Stock item ○ : Order made item

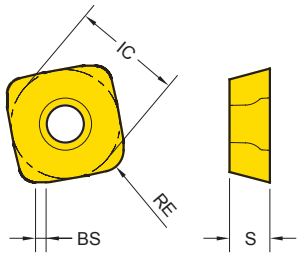
SDKN	Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SDKN Hard Materials 	SDKN 1203 AETN	0.5	0.22~0.35	1.85	●	
	SDKN 1203 AETN -PW	0.4	0.22~0.35	1.98	●	
	SDKN 1504 AETN	0.45	0.22~0.40	2	●	
	SDKN 1504 AETN - PW	0.4	0.22~0.40	1.95	●	

- PW : for improved surface roughness

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

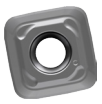
Milling - Inserts

SDMT / W - 4 Corner Square High Feed



Series	IC	S
SDM□1204	12.7	4.7

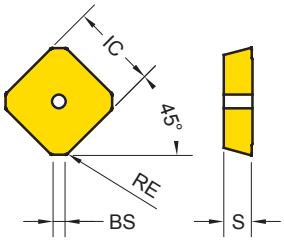
● : Stock item ○ : Order made item

SDMT SDMW		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
-ST Stainless Steel Super Alloy		SDMT 120420 -ST	1.9	0.60~1.20	1.45	○	
SDMW Hard Materials		SDMW 120420	1.9	0.60~1.40	1.4	○	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

SEKR / N - 4 Corner Square ISO



Series	AS	IC	S
SDK□1203	15°	12.7	3.1
SDK□1504	15°	15.88	4.7
SEK□1203	20°	12.7	3.2

● : Stock item ○ : Order made item

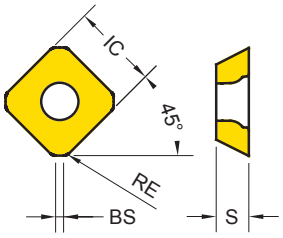
	SEKR SEKN	Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SEKR General		SEKR 1203 AFTN	0.4	0.14~0.30	1.4	●	
		SEKR 1203 AFTN - PW	0.4	0.14~0.30	1.4	●	
SEKN Hard Materials		SEKN 1203 AFTN	0.4	0.22~0.35	1.4	●	
		SEKN 1203 AFTN - PW	0.4	0.23~0.35	1.4	●	

- PW : for improved surface roughness

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

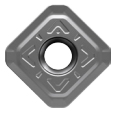
Milling - Inserts

SEKT 12T3 - 4 Corner Positive



Series	IC	S
SEKT 12T3	13.4	4

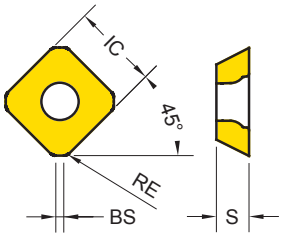
● : Stock item ○ : Order made item

SEKT 12T3		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SEKT 12T3 General		SEKT 12T3 AGTN	1.5	0.15~0.30	1.3	●	
-AL Aluminum		SEKT 12T3 - AL	1.5	0.07~0.55	1.3		●
-ST Stainless Steel Super Alloy		SEKT 12T3 - ST	1.5	0.08~0.30	1.3	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

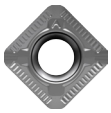
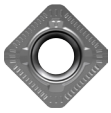
Milling - Inserts

SEKT 1204 - 4 Corner Positive



Series	IC	S
SEKT 1204	12.7	4.9

● : Stock item ○ : Order made item

SEKT 1204		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SEKT 1204 General		SEKT 1204 AFTN	1.1	0.20~0.35	1.18	●	
-AL Aluminum		SEKT 1204 - AL	1.1	0.07~0.55	1.18		●
-ST Stainless Steel Super Alloy		SEKT 1204 - ST	1.1	0.08~0.30	1.18	●	

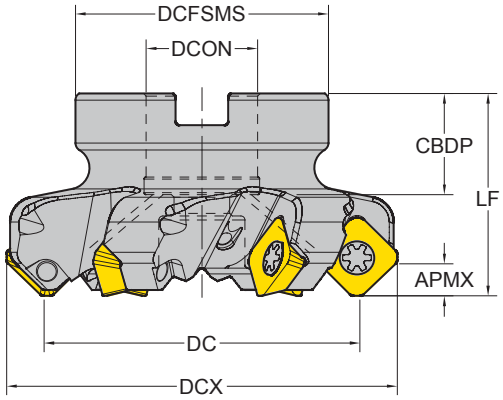
Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Cutter - Facemilling

SEKT 1204 Facemill

4 Corner Positive Inserts
APMX 6mm
Cutting Angle : 45˚

<S> Shell Mill



Cutters - SEKT 1204

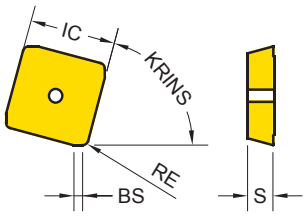
(mm)

EDP	Designation	Type	Z	DC	DCX	LF	DCON	CBDP	DCFSMS	APMX	
17000031	F45 - SEKT12 - D40Z4S16	S	4	40	54	40	16	18	32	6	●
17000032	F45 - SEKT12 - D50Z5S22	S	5	50	64	40	22	20	48	6	●
17000033	F45 - SEKT12 - D63Z4S22	S	4	63	77	40	22	20	50	6	●
17000034	F45 - SEKT12 - D63Z6S22	S	6	63	77	40	22	20	50	6	●
17000035	F45 - SEKT12 - D80Z4S27	S	4	80	94	50	27	22	56	6	●
17000036	F45 - SEKT12 - D80Z7S27	S	7	80	94	50	27	22	56	6	●
17000037	F45 - SEKT12 - D100Z8S32	S	8	100	114	50	32	25	78	6	●
17000038	F45 - SEKT12 - D125Z10S40	S	10	125	139	63	40	29	90	6	●
17000039	F45 - SEKT12 - D160Z12S40	S	12	160	174	63	40	30	114	6	X

Screw : TP072505 Wrench : TPWFTP07

Milling - Inserts

SPKN / R, SPUN - 4 Corner Square ISO



Series	KRINS	AS	IC	S
SPK□ 1203	75°	11°	12.7	3.2
SPK□ 1504	75°	11°	15.88	4.8
SPUN 1203	-	11°	12.7	3.2

● : Stock item ○ : Order made item

SPKR SPKN		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SPKR General		SPKR 1203 EDTR	0.8	0.15~0.35	1.4	●	
		SPKR 1203 EDTR - PW	0.8	0.15~0.35	1.4	●	
SPKN Hard Materials		SPKN 1203 EDTR	0.8	0.16~0.34	1.4	●	
		SPKN 1203 EDTR - PW	0.8	0.20~0.35	1.4	●	
		SPKN 1504 EDTR	-	0.15~0.34	1.3	●	
		SPKN 1504 EDTR - PW	-	0.25~0.40	1.3	●	

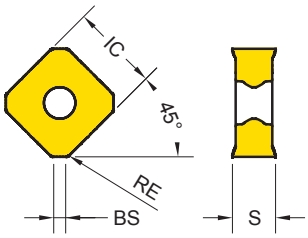
- PW : for improved surface roughness

SPUN		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SPUN		SPUN 120308	0.8	-	-	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

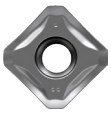
Milling - Inserts

SNMX - 8 Corner Negative



Series	IC	S
SNMX 1206	12.7	6.25

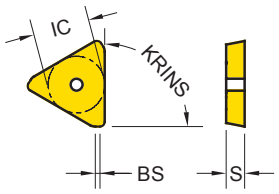
● : Stock item ○ : Order made item

SNMX		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
SNMX General		SNMX 1206 ANN	0.8	0.16~0.34	1.7	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-

Milling - Inserts

TPKR / N, TPUN - 3 Corner ISO



Series	KRINS	IC	S
TPK□1603	90°	9.53	3.18
TPK□2204	90°	12.7	4.76
TPUN 1603	-	9.53	3.18

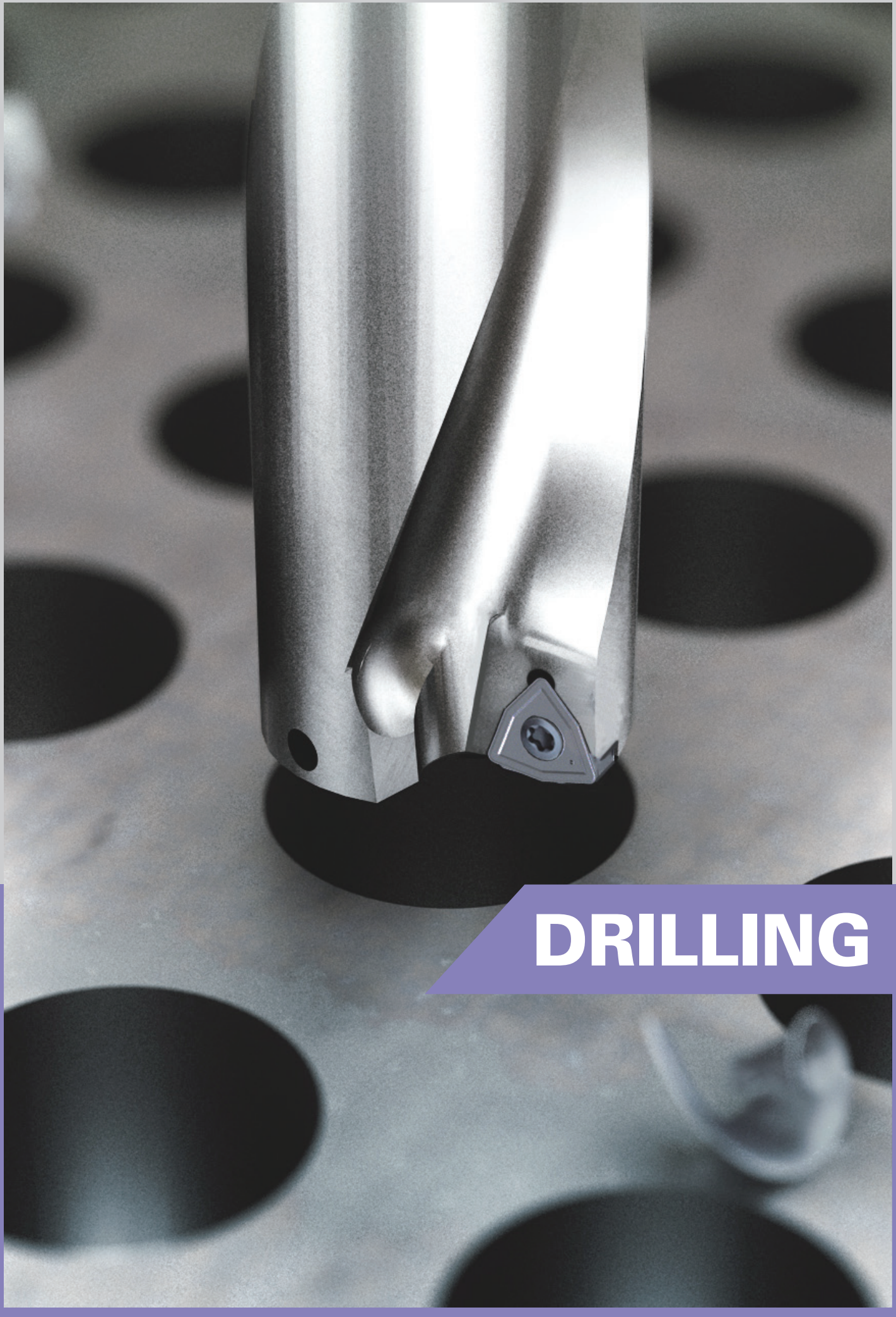
● : Stock item ○ : Order made item

TPKR TPKN		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
TPKR General		TPKR 1603 PDTR	-	0.15~0.28	1.2	●	
		TPKR 1603 PDTR - PW	-	0.15~0.28	1.2	●	
		TPKR 2204 PDTR	-	0.18~0.35	1.7	●	
		TPKR 2204 PDTR - PW	-	0.18~0.35	1.7	●	
TPKN Hard Materials		TPKN 1603 PDTR	-	0.15~0.30	1.2	●	
		TPKN 1603 PDTR - PW	-	0.20~0.35	1.2	●	
		TPKN 2204 PDTR	-	0.17~0.30	1.7	●	
		TPKN 2204 PDTR - PW	-	0.24~0.40	1.7	●	

- PW : for improved surface roughness

TPUN		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG200
TPUN		TPUN 160308	0.8	-	-	●	

Cutting Speed			Vc (m/min.)			
ISO	VDI	Sub Group	YG602 Min.	YG602 Max.	YG200 Min.	YG200 Max.
P	1~5	Non Alloy Steel	140	240	-	-
	6~9	Low Alloy Steel	120	220	-	-
	10~11	High Alloy Steel	70	150	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-
	14	Austenitic Stainless Steel	140	250	-	-
K	15~16	Grey Cast Iron	140	220	-	-
	17~18	Nodular Cast Iron	150	240	-	-
N	21~30	Aluminum	-	-	300	800
S	31~37	Heat Resistant Super Alloy	25	45	-	-
H	38~41	Hardened Material	40	80	-	-



DRILLING

Drilling Overview

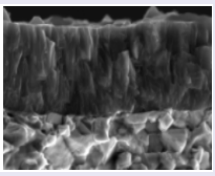
Drilling Grades

Drilling Grades		P Steel				M Stainless Steel				K Cast Iron			
		P05	P15	P25	P35	M05	M15	M25	M35	K05	K15	K25	K35
PVD	YG602			602				602				602	

YG602

P20 - P35 | M20 - M40 | K20 - K40 | S15 - S25

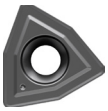
PVD - TiAlN



Universal grade for General Drilling Application

- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application

Universal Drilling Inserts

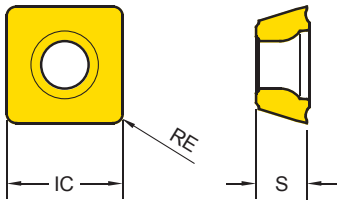
	4 Corner	SPMX Series	SPMX	05, 06, 07, 09, 11, 14
	ISO 3 Corner	WCMX Series	WCMX	04, 05, 06, 08

Drilling Chipbreakers

P	M	K			
	M		–ST		• Sharp Geometry • Sticky Material, Stainless Steel
P	M	K	**General Inserts** **(No Description)**		• First Choice for General Application

Drilling - Inserts

Drilling Inserts (SPMX)



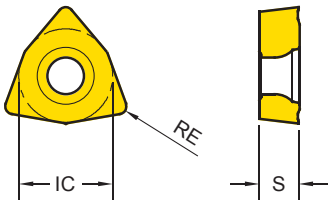
Series	IC	S
SPMX 050204	5.00	2.38
SPMX 060204	6.00	2.41
SPMX 07T308	7.94	3.97
SPMX 090408	9.80	4.30
SPMX 110408	11.50	4.90
SPMX 140512	14.30	5.30

SPMX		Designation	Fn (mm/rev.)	YG602
SPMX General		SPMX 050204	0.07~0.14	●
		SPMX 060204	0.08~0.14	●
		SPMX 07T308	0.08~0.16	●
		SPMX 090408	0.08~0.16	●
		SPMX 110408	0.1~0.18	●
		SPMX 140512	0.1~0.2	●
-ST Stainless Steel		SPMX 050204 - ST	0.03~0.1	●
		SPMX 060204 - ST	0.04~0.11	●
		SPMX 07T308 - ST	0.04~0.11	●
		SPMX 090408 - ST	0.05~0.12	●

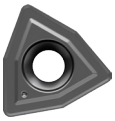
Cutting Speed			Vc (m/min.)	
ISO	VDI	Sub Group	YG602 Min.	Max.
P	1~5	Non Alloy Steel	140	240
	6~9	Low Alloy Steel	120	220
	10~11	High Alloy Steel	70	150
M	12~13	Ferritic & Martensitic	120	200
	14	Austenitic Stainless Steel	140	250
K	15~16	Grey Cast Iron	140	220
	17~18	Nodular Cast Iron	150	240

Drilling - Inserts

Drilling Inserts (WCMX)



Series	IC	S
WCMX 040208	6.35	2.38
WCMX 050308	7.94	3.18
WCMX 06T308	9.53	3.97
WCMX 080412	12.70	4.76

WCMX		Designation	Fn (mm/rev.)	YG602
WCMX General		WCMX 040208	0.05~0.11	●
		WCMX 050308	0.06~0.14	●
		WCMX 06T308	0.08~0.14	●
		WCMX 080412	0.08~0.14	●

Compatible Screw for WCMX

Insert	Thread	Length	Head Diameter	Head Angle	Torx Screw
WCMX 06	M3.5	7.4	4.8	60	Torx Plus 15
WCMX 08	M4	9.4	5.6	60	Torx Plus 15

Cutting Speed			Vc (m/min.)	
ISO	VDI	Sub Group	YG602 Min.	Max.
P	1~5	Non Alloy Steel	140	240
	6~9	Low Alloy Steel	120	220
	10~11	High Alloy Steel	70	150
M	12~13	Ferritic & Martensitic	120	200
	14	Austenitic Stainless Steel	140	250
K	15~16	Grey Cast Iron	140	220
	17~18	Nodular Cast Iron	150	240

TECHNICAL INFORMATION

Comparison Chart - Turning Grades

ISO	YG	Sandvik	Iscar	Kenna metal	Seco	Walter	Mitsu bishi	Kyocera	Tungaloy	Sumi tomo	Taegutec	Korloy	Duracarb
P10	YG3010	GC4305 GC4205 GC4315 GC4215	IC8005 IC428 IC8150 IC9015	KCP05 KC9105 KCP10 KC9110	TP0501 TP0500 TP1501 TP1500	WPP01 WPP05S WPP10S	UE6105 MC6015 UE6110	CA5505 CA510 CA515 CA5515	T9105 T9115	AC8015P AC810P	TT8115	NC3010 NC3215	DC9015
P20	YG3020 YG801	GC4325 GC4225	IC8250 IC9015	KCP25 KC9125	TP2501 TP2500	WPP20S	MC6025 UE6020	CA525 CA5525	T9125	AC8025P AC820P	TT8125	NC3220 NC3225 NC3120	DC9025
P30	YG801 YG3030	GC4335 GC4235	IC8350 IC8025	KCP30 KC9140	TP3501 TP3500	WPP30S	MC6035 UE6035 VP15TF	CA530 CA5535 CR9025	T9135	AC8035P AC830P AC630M	TT5100 TT8135	NC3030 NC5330 PC3545	DC9025 DC8035
M10	YG801	GC2015 GC1105 GC1115	IC807 IC8025 IC907	KCM15 KC5510 KCU10	TS2000	WSM10S	US7020 US905 VP05RT VP10RT	CA6515 PR915 PR1025 PR1215	T6120	AC610M AC6020M AC510U	TT9215 TT5080	NC9020 PC8110	DC610
M20	YG801	GC2025 GC1115	IC808 IC8080 IC908	KCM25 KC5525 KCU25 KC5020	TT2501 TP2000 TM2000 TS2500	WMP20S WSM20S WSM21	US7020 VP20MF UP20M	CA6525 PR915 PR1125 PR1225	T6130	AC6020M AC6030M AC520U	TT9225 TT9080	PC5300 PC8115	
M30	YG3030	GC2035	IC830 IC928	KCM35 KC9240	TP3500 TM4000	WSM30S	UC735 VP15TF VP20MF	PR1125 PR1535	T6130	AC6030M AC6040M AC630M AC530U	TT9235 TT8020	NC9025 PC9030	DC8035
K05	YG1001	GC3205	IC5005	KCK05	TK1001 TK1000	WKK10S	MC5005 UC5105	CA4505 CA4010	T5105	AC405K	TT7005	NC6205	DC820 DC610
K10	YG1001	GC3210	IC5010 IC5100	KCK15	TK1001 TK1000	WKK10S	MC5015 UC5115	CA4515 CA4115	T515	AC415K	TT7310 TT7015	NC6210	
K15	YG3010	GC3215	IC8150	KCK20	TK2001 TK2000	WKK20S WKP30S	UE6110 VP15TF	CA4120	T5125	AC420K	TT6300	NC6215	

Comparison Chart - Turning Chipbreakers

Negative Inserts

Material	YG	Sandvik	Iscar	Kenna metal	Seco	Walter	Mitsu bishi	Kyocera	Tungaloy	Sumi tomo	Taegutec	Korloy	Duracarb
STEEL	UF	PF	F3P NF	FF FN	F1 MF2	FP5	FH LP	GP PP	TF	FL SP	FG FA	VF HU	41
	UL		PP NF			FP5	FY SY	CQ VF	TSF	LU	FC FT	HC	43
	UM		TF	MN	M3	MP3	MP	HS	TM	GU UX	MC PC	VM GM	46
	UG	PM	GN M3P	MN	M3 MR3	MP5	MP,MA	PS	TM	UG	MT PC	GR HR	45
	UC	PR	NR	MP RP	MR4	RP5	Standard	Standard	TH	UZ	MG-	B25	53
	UR	PR	NR R3P	UN RN MG-	MR3 MR6	RP7	RP MH RK	PT PH	THS	ME MU	RT	GR	
STAINLESS STEEL	MM	MM	M3M	MG-MP	MR3	NM4	MM	MS	SM	GU	EM ET	GS	42
CAST IRON	UC	PR	NR	MP RP	MR4	MK5	Standard	Standard	All Round	UZ	MG-	B25	53
	UR	PR	NR R3P	UN RN MG-	MR3 MR6	RK5 RK7	RP MH RK	PT PH	CH	ME MU	RT	GR	
	..MA			RP	MR7	..MA	MG-	C	CH	GZ	..MA		53

Positive Inserts

Material	YG	Sandvik	Iscar	Kenna metal	Seco	Walter	Mitsu bishi	Kyocera	Tungaloy	Sumi tomo	Taegutec	Korloy	Duracarb
STEEL	UF	PF	PF	LF UF	MF2	PF2 FP4	FM LM LP	GQ PP	01 PSF	FP	FG	HFP	41
	UG	PM		MF	MF3	MP4 FP6	MP Standard MM MV	HQ	PS PM	MU	MT	C25	51
STAINLESS STEEL	UF	PF	PF	LF	MF2	MM4 PS5	FM LM LP	GQ PP	PM	FP	FG	HFP	41
CAST IRON	UG	PM		UF	MF3	MK4 RK4	MP Standard MM MV	HQ	CM	MU	MT	C25	51
ALUMINUM	AL		AS	MF	AL	PF2 PM2	AZ	CF CK	AL	AG	FL	AK	AU

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