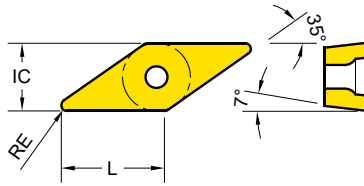


Turning Inserts - Positive VCMT / VCGT (35° Positive)



Series	L	IC	S
VC** 1604	15.8	9.53	4.76




TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

VCMT VCMT	Designation	RE	Fn (mm/rev.)	Ap (mm)	EDP 2200..											
					YG1001	YG3010	YG3020	YG3030	YG801	YG211	YG213	YG214	YG100	YG10		
-AL  Aluminum	VCMT 160402 - AL	0.2	0.02 ~ 0.05	0.5 ~ 1											●	●
	VCMT 160404 - AL	0.4	0.05 ~ 0.25	0.5 ~ 2											●	●
	VCMT 160408 - AL	0.8	0.1 ~ 0.35	1 ~ 3											●	●
-UF  Finishing	VCMT 160404 - UF	0.4	0.05 ~ 0.25	0.5 ~ 3		●	●									
	VCMT 160404 - UG	0.4	0.15 ~ 0.30	0.5 ~ 2.5						●						
-UG  General	VCMT 160408 - UG	0.8	0.15 ~ 0.30	1 ~ 3			●			●						

Cutting Speed			Vc (m/min.)																			
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG211		YG213		YG214		YG100		YG10	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	220	480	170	450	180	380	150	350	120	200	-	-	-	-	-	-	-	-	-	-
	6~9	Low-Alloyed Steel	220	420	180	380	110	350	90	300	70	200	-	-	-	-	-	-	-	-	-	-
	10~11	High-Alloyed Steel	-	-	100	330	60	300	70	250	-	-	-	-	-	-	-	-	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	230	-	-	130	230	110	180	80	150	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	80	200	-	-	100	200	40	130	30	120	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350	1200	250	800	-
S	31~37	Superalloys & Titanium	-	-	-	-	-	-	35	80	-	-	30	90	20	40	20	40	-	-	-	-
H	38~41	Hard Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Product Overview Turning Grades

TURNING

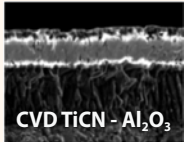
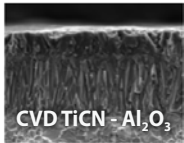
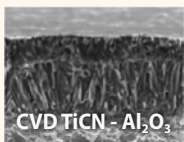
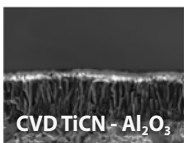
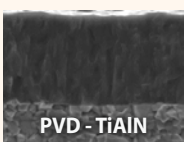
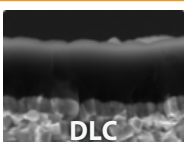

PARTING & GROOVING

MILLING

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TECHNICAL INFORMATION

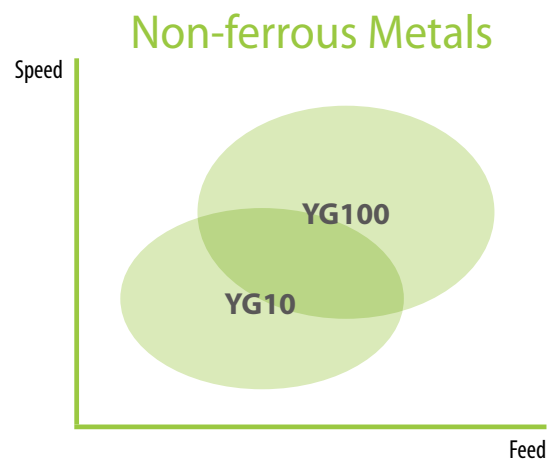
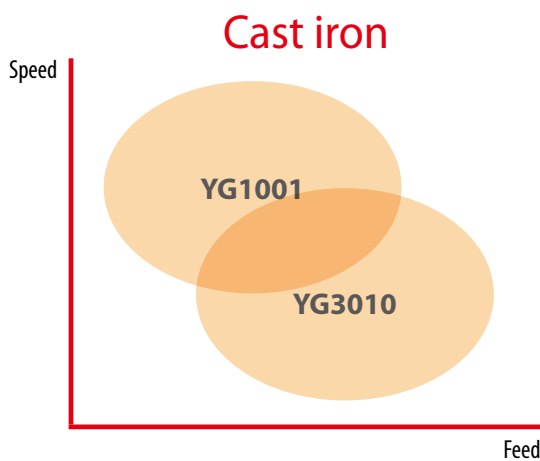
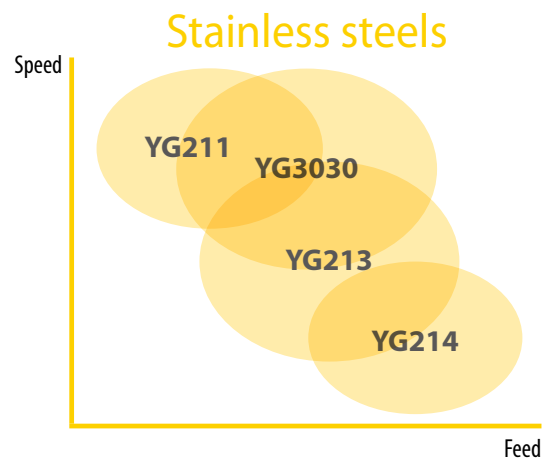
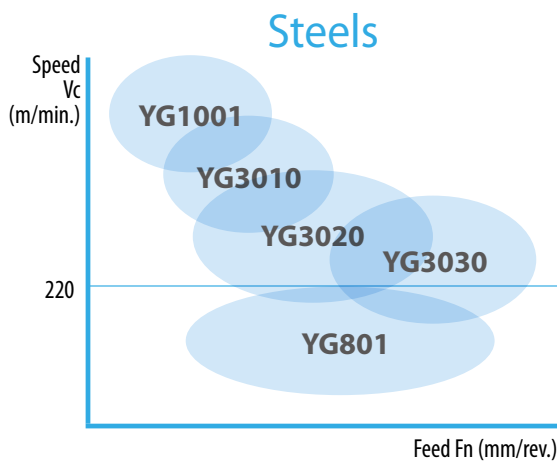
Turning Grades	P Steel				M Stainless steel			K Cast iron			N Non-ferrous		S Superalloys	
	P10	P20	P30	P40	M10	M20	M30	K10	K20	K30	N10	N20	S10	S20
CVD	YG1001	1001							1001					
	YG3010		3010						3010					
	YG3020			3020										
	YG3030				3030									
PVD	YG801	801												
	YG211				211								211	
	YG213					213								213
	YG214						214							214
DLC	YG100										100			
-	YG10										10			

YG1001 P01 - P10 K10 - K25	 <p>CVD TiCN - Al₂O₃</p>	First choice for stable machining of Cast iron <ul style="list-style-type: none"> • Substrate especially designed for high wear resistance • Thick Al₂O₃ layer ensures good wear resistance at high cutting speeds including dry machining
YG3010 P05 - P20 K15 - K35	 <p>CVD TiCN - Al₂O₃</p>	First choice for Finishing Steels, and Ductile Cast iron <ul style="list-style-type: none"> • Finishing and light machining of steel under in stable condition • New Al₂O₃ coating technology and excellent surface smoothness increase wear resistance and chipping resistance
YG3020 P15 - P30	 <p>CVD TiCN - Al₂O₃</p>	First Choice grade for general Steel application <ul style="list-style-type: none"> • Substrate especially designed for good toughness • Excellent surface smoothness increases wear resistance and reliability
YG3030 P20 - P35 M10 - M30	 <p>CVD TiCN - Al₂O₃</p>	Interrupted cut of Steel and Stainless steel <ul style="list-style-type: none"> • Heavy interrupted cut for Steel • High cutting speed for Stainless steel
YG801 P10 - P30	 <p>PVD - TiAlN</p>	for Carbon Steel with Low cutting speed <ul style="list-style-type: none"> • Recommended for mild steel and boring application • Substrate and special PVD coating for excellent wear resistance
YG100 N05 - N25	 <p>DLC</p>	First Choice grade for aluminum with DLC coating <ul style="list-style-type: none"> • Submicron carbide for high wear resistance • DLC coating minimizes Built Up Edge tendency. • Improve tool life in sticky non-ferrous alloy
YG10 N05 - N25	 <p>Uncoated</p>	Uncoated Grade for General Aluminum <ul style="list-style-type: none"> • Substrate consisted of submicron carbide for high wear resistance • Shining surface to prevent built up edge

Product Overview

Turning Grade Map

<p>YG211 M05 - M25 S05 - S20</p>		<p>High wear resistance grade for Super alloys and Stainless steel</p> <ul style="list-style-type: none"> • Finishing Stainless steel • Finishing Super alloys and Titanium
<p>YG213 M20 - M35 S15 - S25</p>		<p>First Choice Grade on low cutting speed of Stainless steel</p> <ul style="list-style-type: none"> • First choice on Stainless steel for Low cutting speed • For Medium to low cutting speed
<p>YG214 M30 - M40 S25 - S30</p>		<p>Heavy Interrupted cut for Stainless steel</p> <ul style="list-style-type: none"> • For Heavy Interrupted cut on Stainless steel • Minimize risk of Mechanical fracture or Chipping



Turning Chipbreakers - Positive

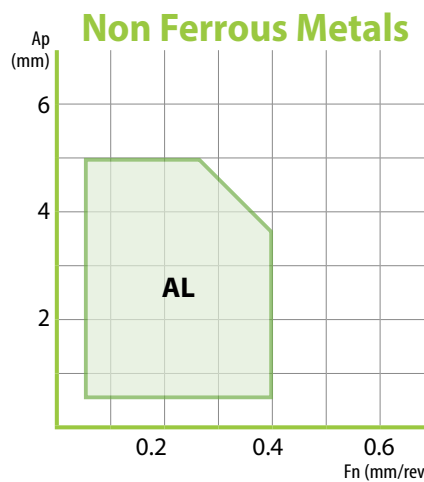
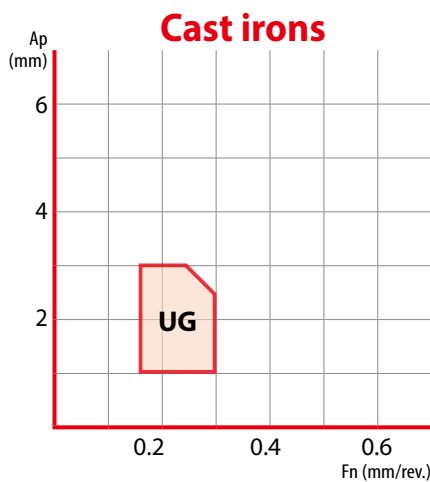
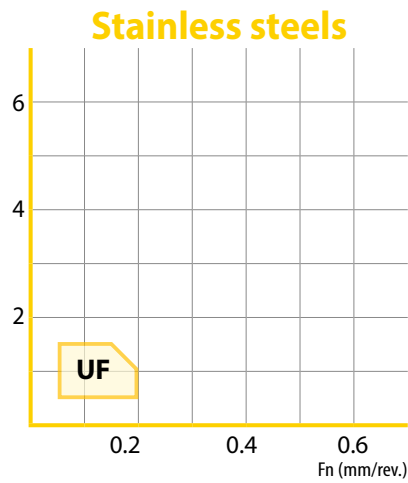
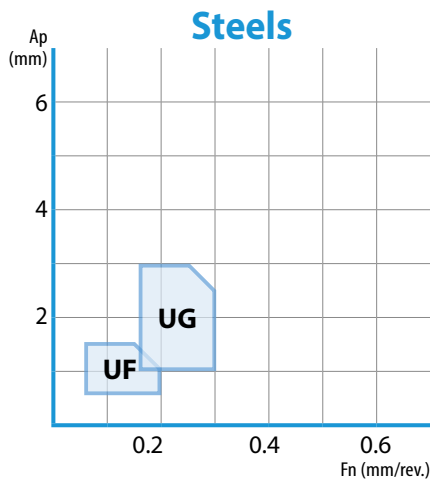
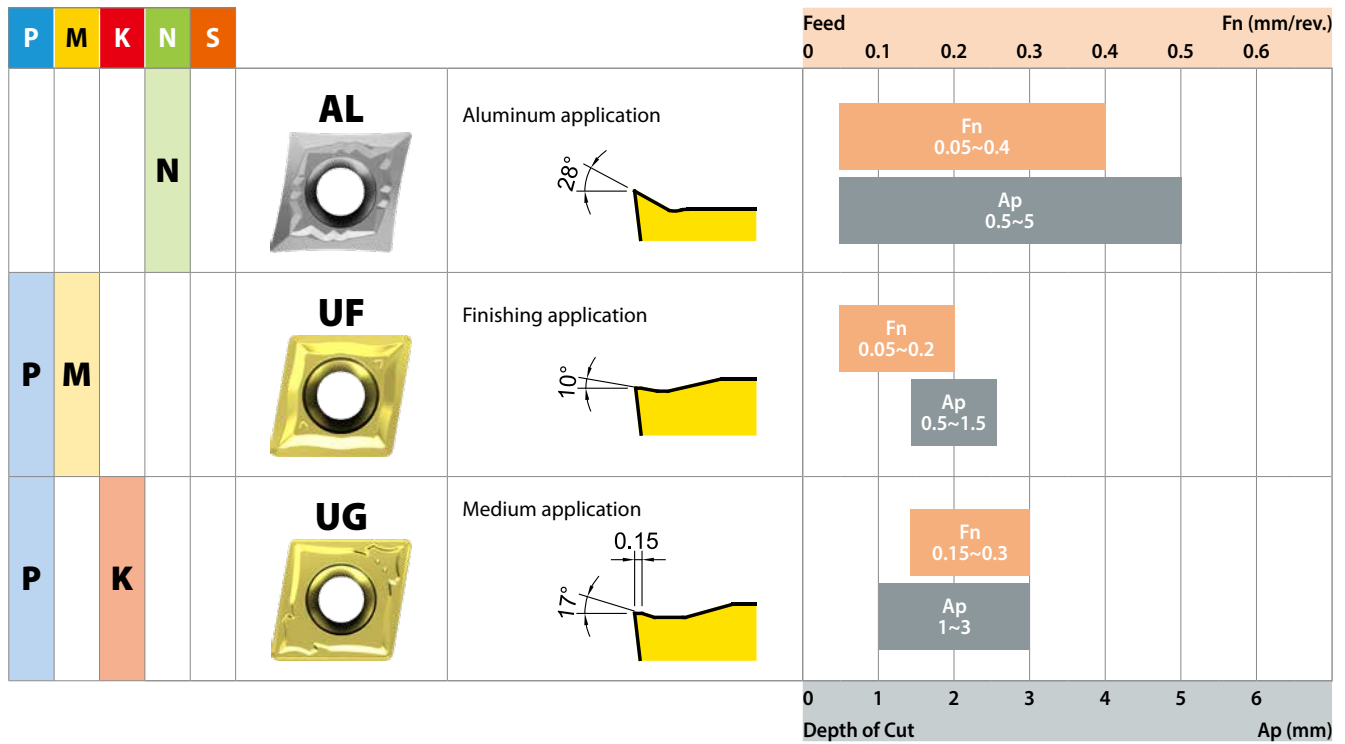
TURNING

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MILLING

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TECHNICAL INFORMATION



Insert ISO Code System













*Metric : According to ISO 1832

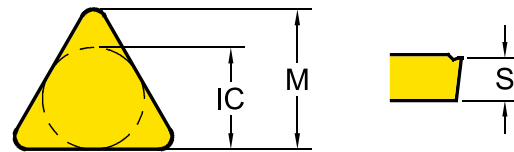
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1	2	3	4	5	6	7	8	9
C	N	M	G	12	04	08	-UG	YG3020
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

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	

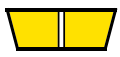









3 - Tolerance Class



Symbol	Inner Circle IC (mm)	Nose Height M (mm)	Thickness S (mm)
C	± 0.025	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
G	± 0.025	± 0.025	± 0.13
H	± 0.013	± 0.013	± 0.025
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

*Tolerance is different by insert IC size. Please see ISO 1832

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	

2 - Relief Angle (AN)

Symbol	Relief Angle (AN)	
N	No Relief Angle	
B	Relief 5°	
C	Relief 7°	
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	

Insert ISO Code System

*Inch

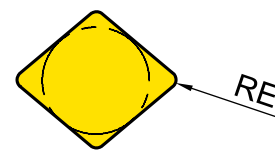
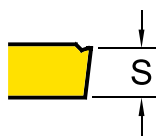
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1	2	3	4	5	6	7	8	9
C	N	M	G	4	3	2	-UG	YG3020
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

5 - Insert Size

Metric							Inner Circle IC (mm)	Inch
S	T	C	D	V	W	R		
06	11	06	07	11			6.35	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
19		19					19.05	6
25		25					25.4	8
						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
09	9.525	6

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