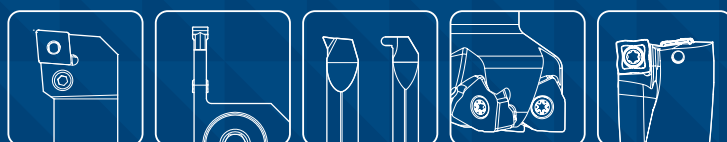


**YU-IT26
AMERICA
2026**



CUTTING TOOLS

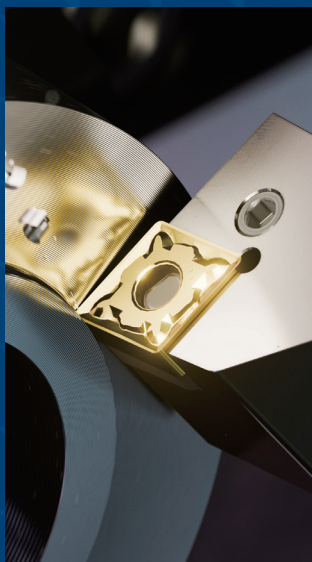


INDEXABLE INSERTS

YG-1 CO., LTD.



INDEXABLE INSERTS



TURNING



**PARTING
GROOVING**



MILLING

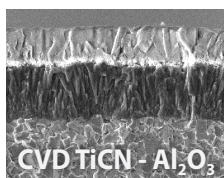


DRILLING

YG TURN YG1020

NEW

First choice for ductile cast iron



CVD TiCN - Al₂O₃

YG1020

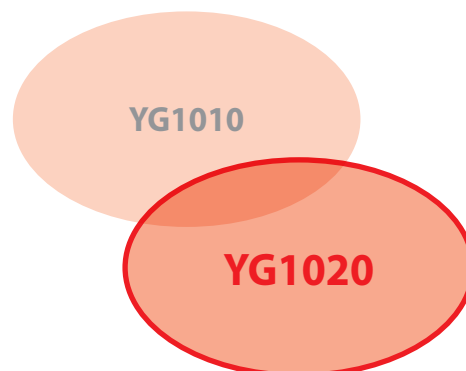
K15 - K25

Optimized grade for machining various ductile cast iron

- Stability and wear resistance optimized for interrupted and continuous machining.
- A customized CVD coating structure was applied to the machining of ductile cast iron.
- Applying post-treatment improved the reliability of cutting edge and ensured stable tool life.

Cutting
Speed

Cast iron



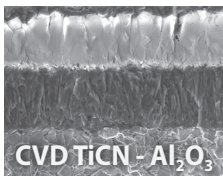
Feed

Turning
New Product

YG TURN **YG3125**

NEW

Recommended first grade for steel



YG3125

P20 - P30

Recommended first grade for steel

- New substrates with a unique combination of good toughness and plastic deformation resistance
- General Machining on steel

Cutting
Speed

Steel

YG3115

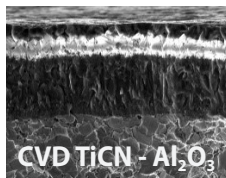
YG3125

Feed

YG TURN YG2035

NEW

CVD Coated Grade for stainless steel at Low Cutting Speed



YG2035

M30~M40

CVD Grade with enhanced stability for stainless steel

- The substrate is suitable for interrupt and continuous machining conditions.
- Prevent build-up edge with a controlled surface finish, even at low cutting speeds.
- Specialized for irregular surface machining, providing predictable tool life.

Cutting
Speed

Stainless steel

YG2025

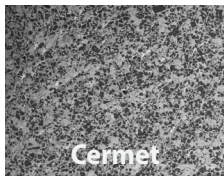
YG2035

Feed

Turning
New Product

YG TURN **YT100G**

PVD-coated Cermet grade for turning

NEW

Cermet

YT100G

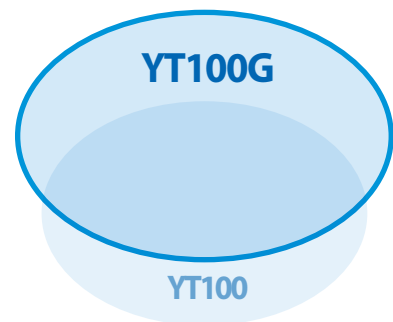
P5 - P20**M5 - M20****K5 - K20**

PVD-Coated Cermet Grade for Turning

- Excellent wear resistance and low friction during machining provide better surface finishing
- For steels, stainless steels, and cast irons machining
- PVD-coated cermet provides better wear resistance and higher productivity.

Cutting
Speed

Steel - Cermet

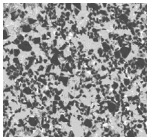
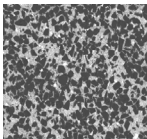
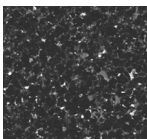
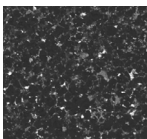


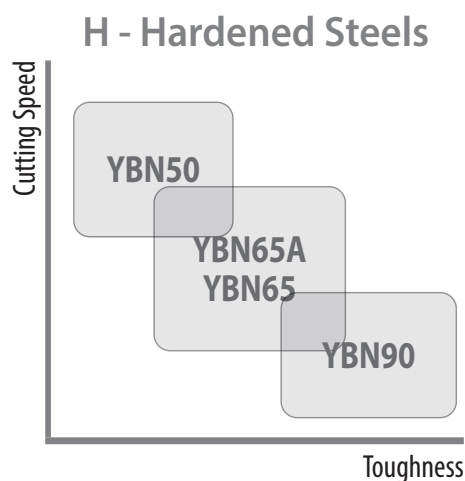
Feed

YG TURN PCBN GRADE

NEW

PCBN Turning Grades for Hardened Steel

YBN50 H5 - H15		Uncoated PCBN grade for Continuous to light interrupted turning of hardened steels
YBN65A H10 - H25		Coated PCBN Grade for Continuous to Medium interrupted turning with higher cutting Speed of hardened steels
YBN65 H10 - H25		Uncoated PCBN grade for Continuous to Medium interrupted turning of hardened steels
YBN90 H20 - H35 K05 - K20		Uncoated PCBN grade of Severe interrupted turning of hardened steels, and the Stable machining of Gray Cast iron, Sintered alloy steel

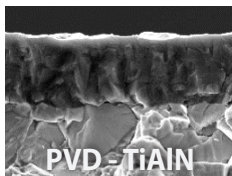
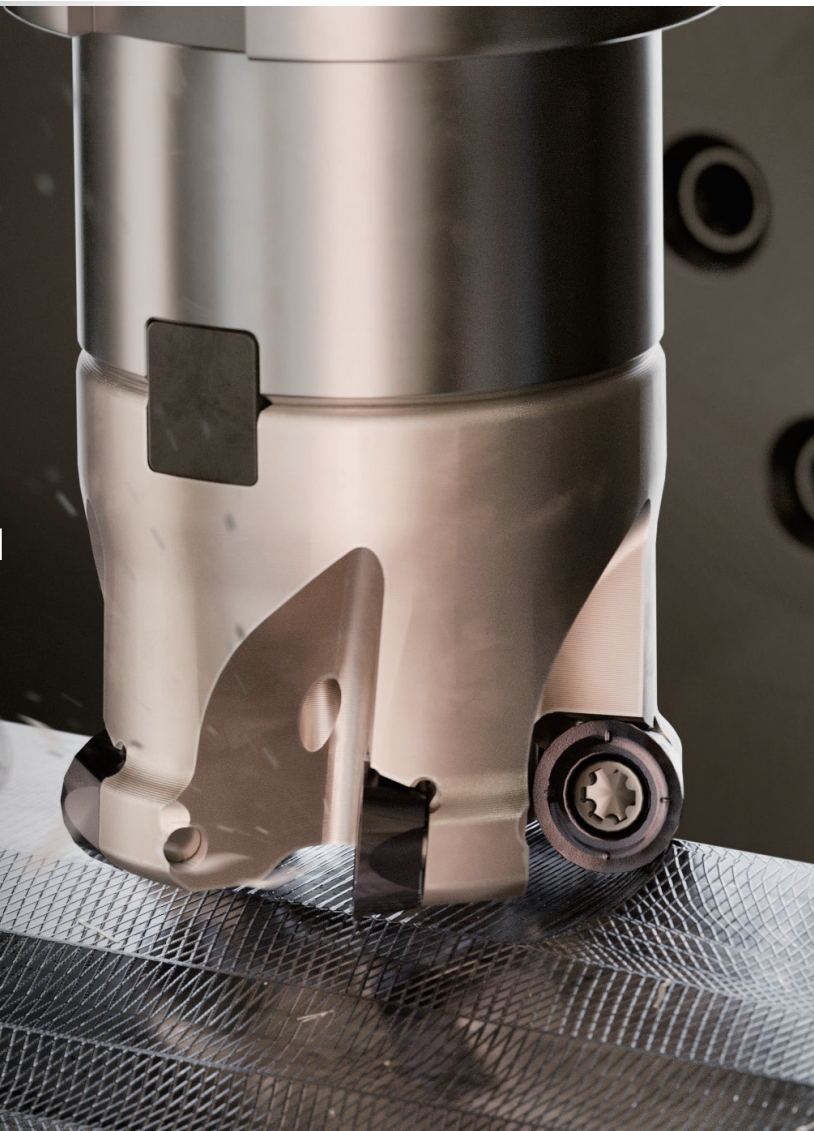


Milling
New Product

NEW

YG MILL YG904

First choice for difficult-to-cut materials with high reliability.



YG904

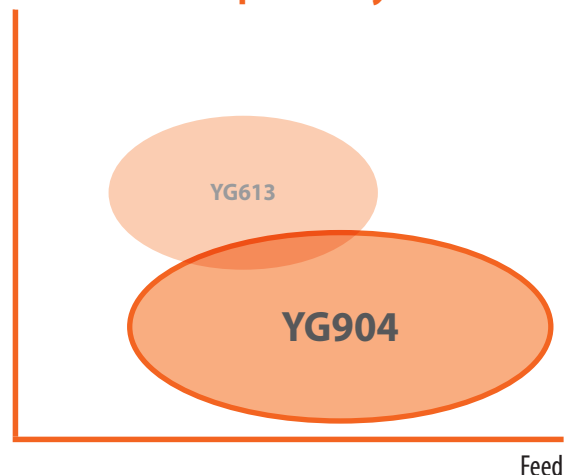
S30 - S45

First choice for difficult-to-cut materials with high reliability.

- Special substrates provide excellent reliability by heat resistance and chipping resistance.
- To prevent accidental breakage caused by chip flow, an anti-weld coating is applied.
- Surface treatment enhanced the stability of cutting performance.

Cutting Speed

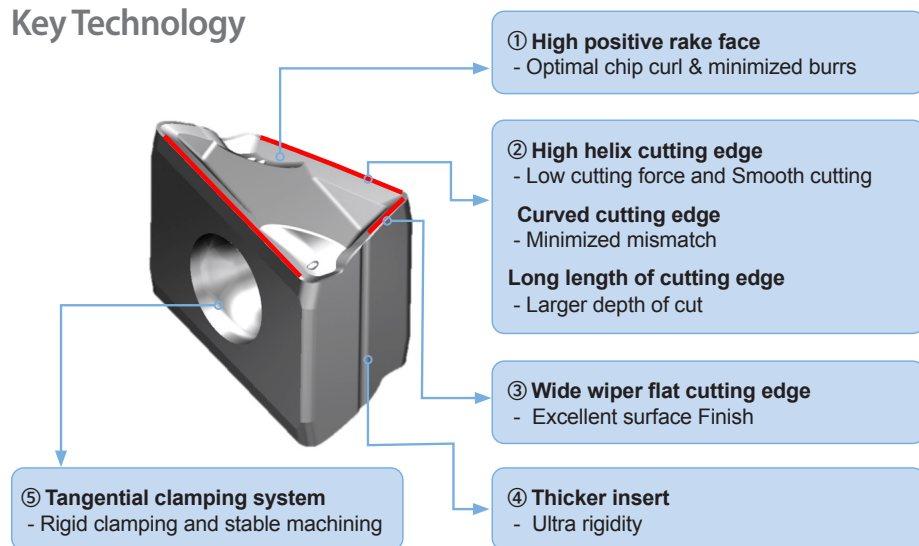
Superalloy



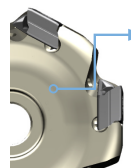
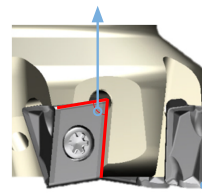
TM4 **NEW** YG MILL LN KU

4 cutting edges High Productivity
Tangential Insert

Key Technology

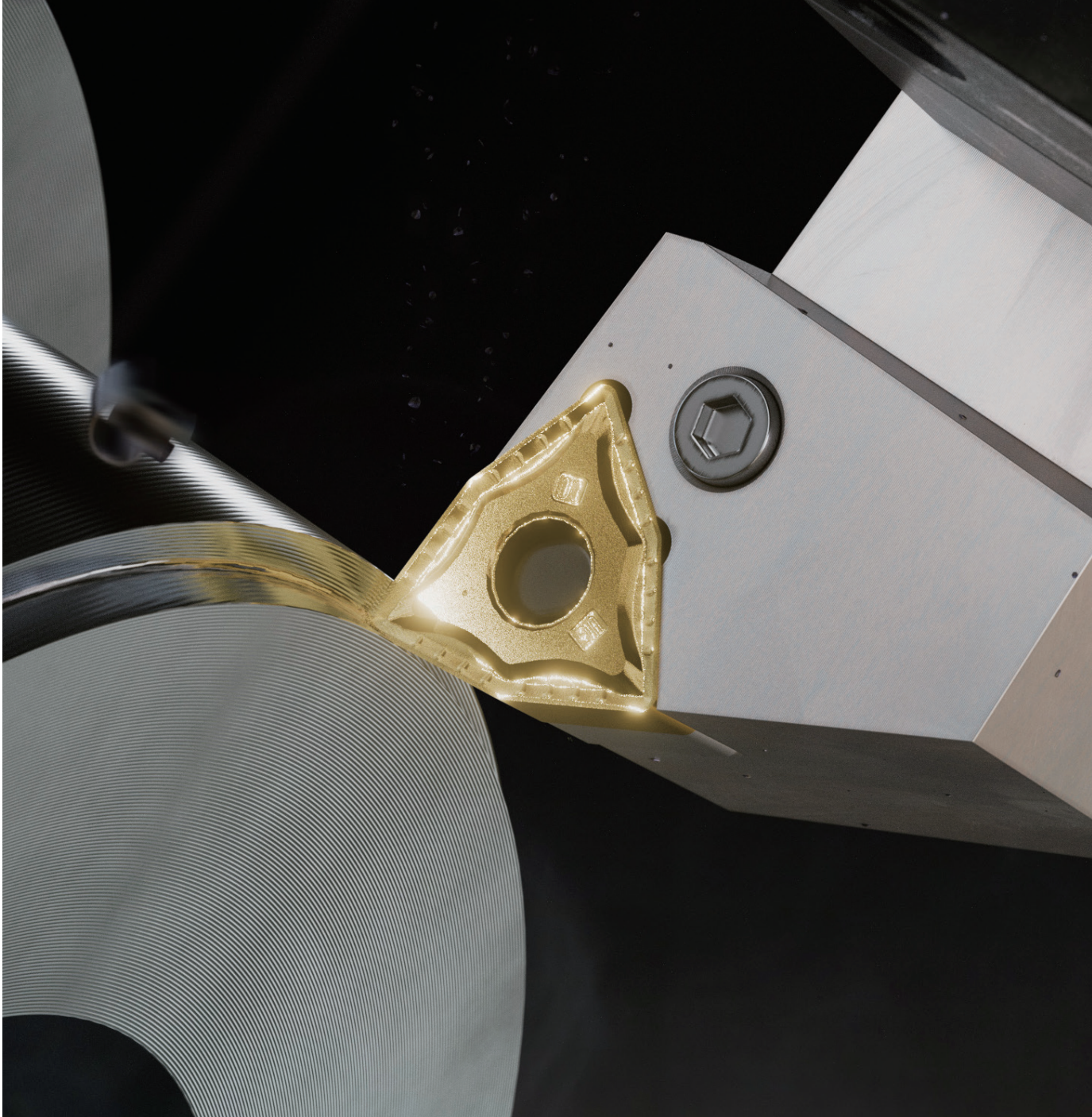


Higher clamping stability
with wedge shaped pocket



	Contents	Page
	External Turning Holder Code	14
	Code System	
	Insert ISO Code System	16
	Grade Naming System	18
Turning Inserts	Turning Grades Map	19
	Grades & Chipbreakers	
	Turning Grades	20
	Turning Chipbreakers	22
	Inserts Overview	
	Inserts Overview	25
	Inserts Product	
	Negative Inserts	26
	Positive Inserts	55
PCBN Turning Inserts	PCBN - Turning Grades	70
	Inserts Overview	
	PCBN - Turning Insert Code System	71
	PCBN - Turning Inserts Overview	72
	Inserts Product	
	PCBN - Turning Inserts	73
Turning Holders	Holders Overview	
	External Holders Overview	86
	Holders Product	
	External Holders	87
Parting & Grooving	Overview	
	Parting & Grooving Overview	94
	Inserts & Holders Product	
	Parting & Grooving Inserts	95
	Parting & Grooving Holders	97

	Contents	Page
 Nanocut	Code System	Code Keys - Boring Tool & Holder 101
	Overview	Boring Tool Insert & Holders Overview 102
		Boring Tool Series & Index 103
	Product	Boring Tool Inserts 104
		Boring Tool Holders 113
Milling 	Code System	Milling Cutters Code Keys 115
		Insert ISO Code System 116
	Grades & Chipbreakers	Milling Grades and Chipbreakers 118
	Inserts	Milling Inserts Overview 120
		Milling Inserts 121
	Cutters	Milling Cutters Overview 152
		Milling Cutters 154
Drilling 	Overview	Drilling Grades and Chipbreakers 171
	Product	Drilling Inserts 172
		Drilling Holders 175
TECHNICAL INFORMATION		Recommended Cutting Conditions 191
		ISO 13399 Terms / Hardness Conversion Table 193
		Formulas / Application Guide / Comparison Chart 195
		Material Groups 209
		X-Drill(SYMX) Offset Value / Hole Tolerance 226
		ISO ↔ ANSI 227
		Search 229



ISO TURNING

Product Overview

Application Guide

Turning Inserts Overview

Turning Inserts

Turning Holders Overview

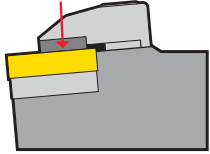
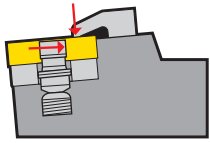
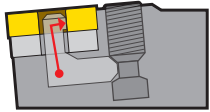
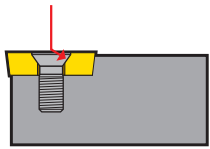
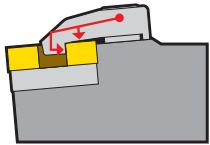
Turning Holders

External Turning Holder Code (Inch)

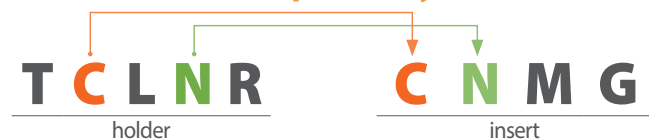
*Inch

1	2	3	4	5	6	7	8
M	C	L	N	R	12	4	B
Clamping System	Insert Shape (1st Letter of Insert)	Tool Style	Insert Clearance (2nd Letter of Insert)	Tool Hand	Shank Width(B) & Height(H)	Insert Size	Length (LF)

1 - Clamping System

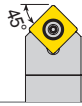
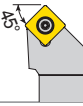
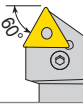
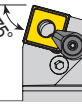
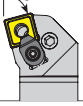
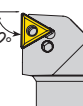
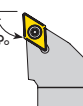
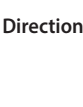
Symbol	System
C	 Top Clamp (No Clamping Hole Insert)
M	 Multi lock (Straight Clamping Hole Insert)
P	 Lever Lock (Straight Clamping Hole Insert)
S	 Screw Clamp (Screw Clamping Hole Insert)
D	 Double Clamp (Straight Clamping Hole Insert)

2, 4 — Insert Compatibility *



* Related to Insert Designation to check compatibility

3 - Tool Style

Approach Angle (KAPR)	Side Direction		End Direction
	Straight Shank	Offset Shank	
45°	D 	S 	
60°		T 	
62.5°	N 		
72.5°	V 		
75°	B 		K 
90°	A 	G 	F 
93°		J 	U 
95°		L (Both Directions) 	
107.5°		H 	

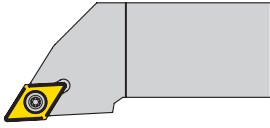
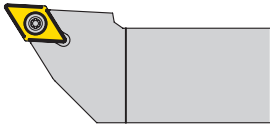
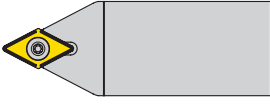
Turning - Name Code System

External Turning Holder Code (Inch)

*Inch

1	2	3	4	5	6	7	8
M	W	L	N	R	16	3	D
Clamping System	Insert Shape (1st Letter of Insert)	Tool Style	Insert Clearance (2nd Letter of Insert)	Tool Hand	Shank Width(B) & Height(H)	Insert Size	Length (LF)

5 - Hand Direction

Symbol	Hand Direction
R	Right Hand 
L	Left Hand 
N	Neutral 

7 - Insert Size *

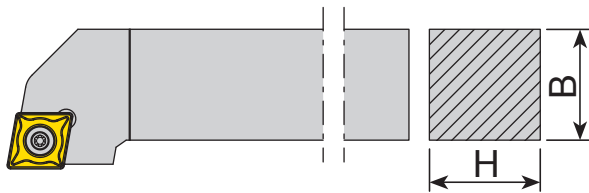
Example	is Compatible with...
MCLNR 12 4B	CNMG432
MTJNR 16 3B	TNMG331

* Related to Insert Designation to check compatibility

8 - Length (LF)

Symbol	Length (Inch)	Symbol	Length (Inch)
A	4.000	M	4.000
B	4.500	N	4.500
C	5.000	P	5.000
D	6.000	R	6.000
E	7.000	S	7.000
F	8.000	T	8.000
G	5.500	U	5.500
H	5.625	V	3.500
J	5.300	W	3.500
K	14.000	Y	3.750
L	6.800	X	Special

6 - Shank Height (H) Shank Width (B)



Number	Hight (H)	Width (B)	Number	Hight (H)	Width (B)
05	.3125	.3125	24	1.500	1.500
06	.375	.375	32	2.000	2.000
08	.500	.500	64	1.000	.750
10	.625	.625	66	1.500	1.750
12	.750	.750	85	1.250	1.000
16	1.000	1.000	86	1.500	1.000
20	1.250	1.250	91	1.500	1.250

Insert ISO Code System

*Metric : According to ISO 1832

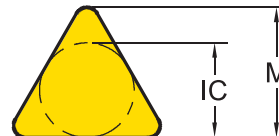
1	2	3	4	5	6	7	8	9
C	N	M	G	12	04	08	-UG	YG3115
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

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	
B	Relief 5°	
C	Relief 7°	
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	



3 - Tolerance Class

Symbol	Inner Circle IC (inch)	Nose Height M (inch)	Thickness S (inch)
C	±.0010	±.0005	±.0010
E	±.001	±.0010	±.001
G	±.001	±.0010	±.005
H	±.0005	±.0005	±.0010
K*	±.002~.006*	±.0005	±.005
M*	±.002~.006*	±.003~.010*	±.005
U*	±.003~.010*	±.005~.015*	±.005

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

4 - Clamping & Chip breaker

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		

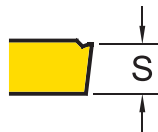
Insert ISO Code System

*Inch

1 C Shape	2 N Clearance	3 M Tolerance	4 G Clamping & Chipbreaker	5 4 Insert Size	6 3 Insert Thickness	7 2 Corner Radius	8 -UG Chipbreaker Geometry	9 YG3115 Grade
-------------------------------	-----------------------------------	-----------------------------------	--	-------------------------------------	--	---------------------------------------	--	------------------------------------

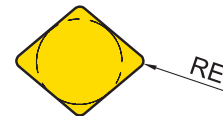
5 - Insert Size

Metric							Inner Circle IC (inch)	Inch
06	11	06	07	11			1/4	2
07	13	08	09	13	15		5/16	2.5
09	16	09	11	16	06	09 (00)	3/8	3
12	22	12	15	22	08	12 (00)	1/2	4
15	27	16	19	27	10		5/8	5
19	33	19	23	33	13		3/4	6
25		25					1	8
						06 (M0)	.236	
						08 (M0)	.315	
						10 (M0)	.394	
						12 (M0)	.472	
						16 (M0)	.630	



6 - Insert Thickness (S)

Metric	Thickness - S (inch)	Inch
T1	5/64	1.2
02	3/32	1.5
03	1/8	2
T3	5/32	2.5
04	3/16	3
05	7/32	3.5
06	1/4	4
07	5/16	5
09	3/8	6



7 - Corner Radius (RE)

Metric	Corner Radius - RE (inch)	Inch
01	.004	0
02	.008	.5
04	1/64	1
08	1/32	2
12	3/64	3
16	1/16	4
20	5/64	5
24	3/32	6

Grade Naming System

1	2	3	4	5	(6)
YG	3	1	1	5	(G)
YG Brand	Workpiece Material	Grade Version	Application Range (1st Digit)	Application Range (2nd Digit)	Minor Variation
Carbide CVD (4 Digits)	●	●	●	●	YG3115
Carbide PVD (3 Digits)	●	●	●		YG211
Carbide Uncoated (2 Digits)	●	●			YG10

1 - YG Brand

2 - Workpiece Material

Symbol	Workpiece Material	Turning	Milling	Drilling	Parting
1	K Cast Iron or N Non-Ferrous	●			
2	M Stainless Steel	●			
3	P Steel	●			
4	S Superalloys	●			
5	K Cast Iron or N Non-Ferrous		●	●	●
6	M Stainless Steel or Universal		●	●	●
7	P Steel		●	●	●
8	Universal	●			
9	Exotic Material		●		
0	Hardened Steel		●		

3 - Grade Version

4 & 5 - Application Range

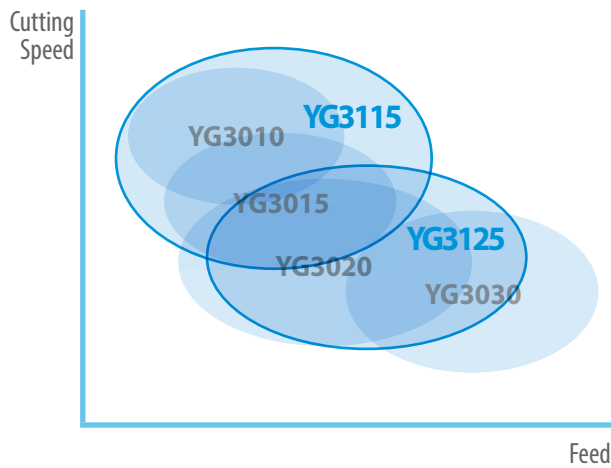
Symbol	
05	Stable Wear Resistant Grade Stable Application Continuous Cut Finishing
10	
15	
20	
25	General Balanced Grade High Versatility General Application
30	
35	
40	
45	Unstable Tougher Grade Unstable Application Interrupted Cut Chipping Resistance Roughing

(6) - (Minor Variation)

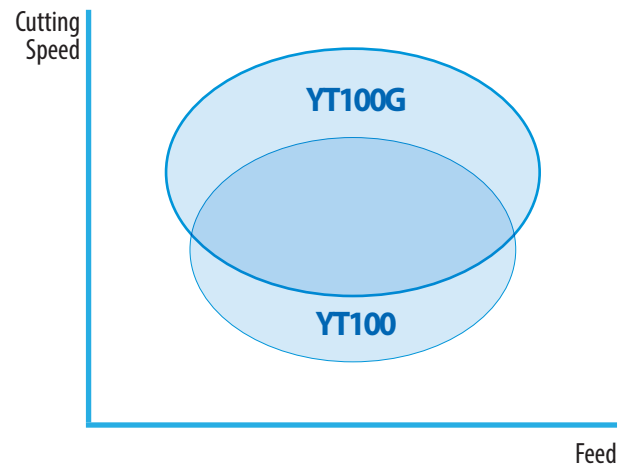
G - Gold Coated Version

Turning Grades Map

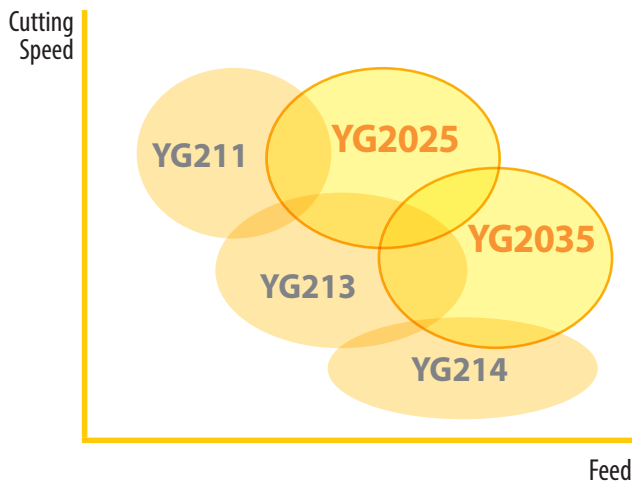
Steel



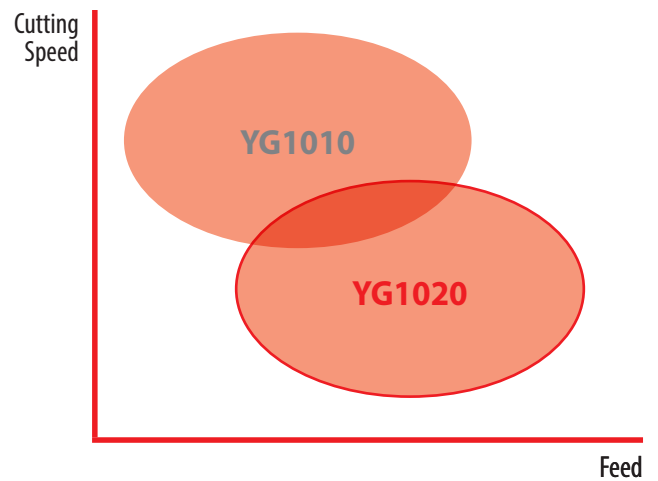
Steel - Cermet



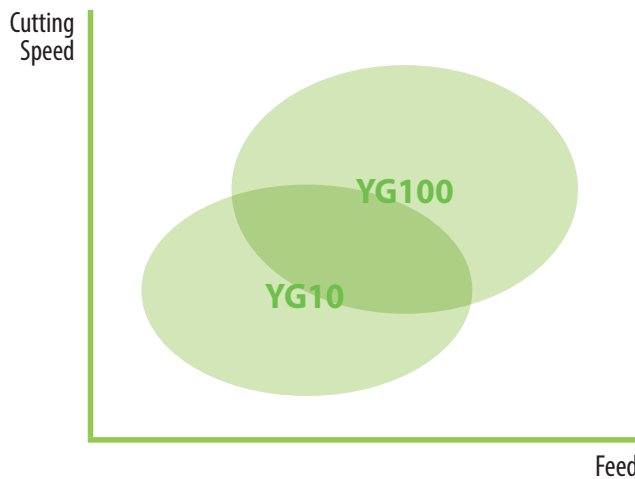
Stainless steel



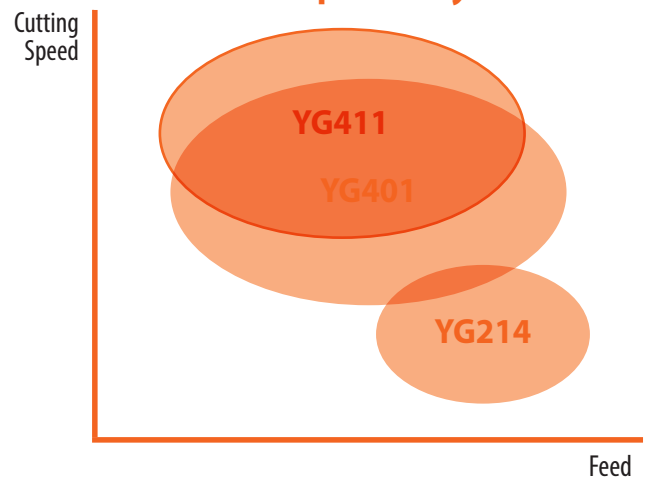
Cast iron



Non-ferrous Metal



Superalloy

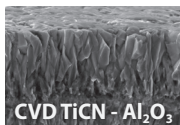


Turning Grades

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	YG1010								1010						
	YG1001	1001							1001						
	YG1020								1020						
	YG3010	3010							3010						
	YG3015	3015													
	YG3115	3115													
	YG3125		3125												
	YG3020		3020												
	YG3030		3030												
	YG2025					2025									
	YG2035						2035								
PVD	YG801	801													
	YG211					211									
	YG213						213								
	YG214						214								214
	YG401													401	
Cermet	YT100	YT100				YT100			YT100					411	
	YT100G	YT100G				YT100G			YT100G						
DLC	YG100											100			
-	YG10											10			

YG1010

K05 - K15



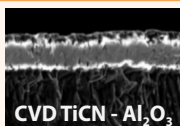
First Choice for Cast Iron

- Effective coating structure enables high speed machining
- Special post treatment for improved chipping resistance

YG1001

P01 - P10

K10 - K25

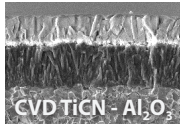


Stable Machining of Cast Iron

- Substrate especially designed for high wear resistance
- Thick Al₂O₃ layer ensures good wear resistance at high cutting speeds including dry machining

NEW YG1020

K15 - K25



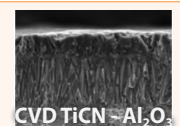
First choice for ductile cast iron

- Excellent wear and fracture resistance when machining ductile cast iron
- New coating ensures outstanding resistance to abrasion wear

YG3010

P05 - P20

K15 - K35

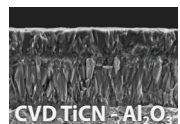


First choice for Finishing Steels, and Ductile Cast iron

- Finishing and light machining of steel under in stable condition
- New Al₂O₃ coating technology and excellent surface smoothness increase wear resistance and chipping resistance

YG3015

P10 - P25

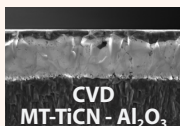


Balanced Productivity for Continuous cut

- High wear resistance and improved toughness ensures high productivity with less trouble

YG3115

P15 - P25

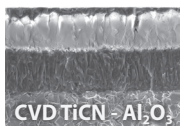


First choice grade for high cutting speed in Steels

- Suitable for mass production due to stable and predictable tool life
- Minimizing built up edge due to new post surface treatment in mild steels, low carbon steel and low carbon alloy steel.
- Best choice for both continuous as well as interrupted cuts

NEW YG3125

P20 - P30

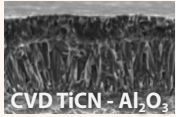
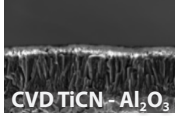
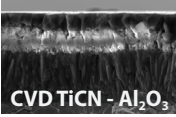
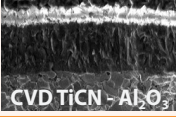
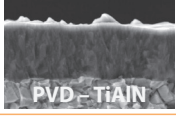
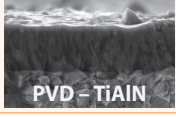
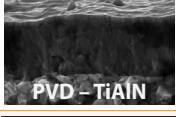
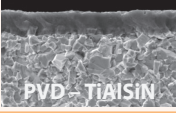
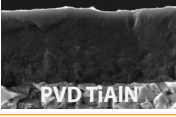
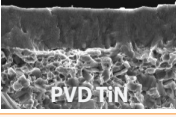


Recommended first grade for steel

- New substrates with a unique combination of good toughness and plastic deformation resistance
- General Machining on steel

Product Overview

Turning Grades

TURNING	YG3020 P15 - P30		First Choice Grade for General Steel Application • Substrate especially designed for good toughness • Excellent surface smoothness increases wear resistance and reliability
	YG3030 P20 - P35		Interrupted Cutting of Steel and Stainless steel • Substrate for heavy roughing in mild steel and low carbon alloy steel • New Al₂O₃ technology and optimized surface treatment achieves a good balance between wear resistance and chipping resistance
	YG801 P10 - P30		for Carbon Steel with Low Cutting Speed • Recommended for mild steel and boring application • Substrate and special PVD coating for excellent wear resistance
	YG2025 M15 - M35		CVD grade for High Cutting Speed for Stainless steel • Utilizing a new carbide substrate and new coating • Excellent combination of wear resistance and chipping resistance • Minimized built up edge due to post surface treatment
	NEW YG2035 M30 - M40		CVD Coated Grade for stainless steel at Low Cutting Speed • Substrate withstands heavy interruption, while the coating provides the wear resistance needed for a long tool life • Smooth surface resists build-up edge, even at low cutting speeds
	YG211 M05 - M25		High wear Resistance Grade for Stainless steel • Finishing Stainless steel
	YG213 M20 - M35		First Choice Grade on Low Cutting Speed of Stainless steel • First choice on Stainless steel for Low cutting speed • For Medium to low cutting speed
	YG214 M30 - M40 S25 - S30		Heavy Interrupted cut for Stainless steel • For Heavy Interrupted cut on Stainless steel • Minimize risk of Mechanical fracture or Chipping
	YG401 S10 - S20		PVD Turning Grade for HRSA • Highly heat-resistant TiAlSiN structure for excellent wear resistance • Greatly improved film coating realizes excellent boundary defect resistance • Top coating layer provides a smooth surface and lubricant effect
	NEW YG411 S05 - S15		PVD Turning Grade on High Cutting Speed for HRSA • Specialized cemented carbide substrate with excellent resistance to plastic deformation • Strong edge stability provides reliable tool life when machining heat-resistant alloys at high speeds • High-Al content coating provides superior oxidation resistance when machining heat-resistant alloys
MILLING	YT100 P10 - P20 M10 - M20 K10 - K20		New Generation Cermet Grade • Enhanced wear resistance & chipping resistance • Excellent fracture resistance • Superior surface finish with special edge preparation
	NEW YT100G P5 - P20 M5 - M20 K5 - K20		PVD-coated Cermet grade for turning • Outstanding wear resistance and a low coefficient of friction enable high-speed turning of steels, stainless steels, and cast irons with extended tool life
	YG100 N05 - N25		First Choice Grade for Aluminum with DLC Coating • Submicron carbide for high wear resistance • DLC coating minimizes Built Up Edge tendency. • Improve tool life in sticky non-ferrous alloy
	YG10 N05 - N25		Uncoated Grade for General Aluminum • Substrate consisted of submicron carbide for high wear resistance • Shining surface to prevent built up edge
DRILLING			
TECHNICAL INFORMATION			

Turning Chipbreakers - Negative

TURNING

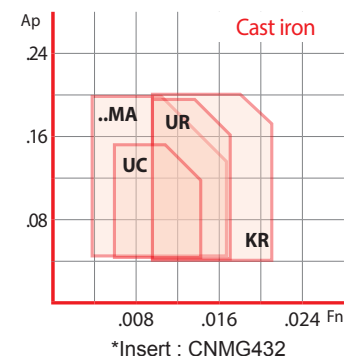
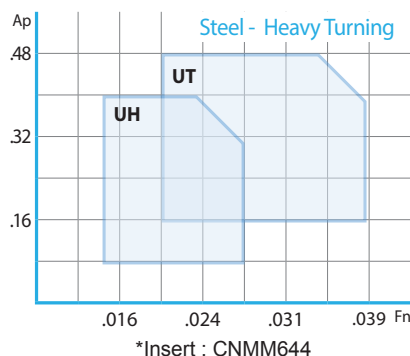
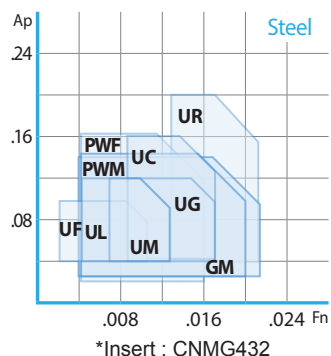
PARTING & GROOVING

MILLING

DRILLING

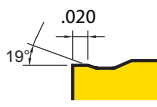
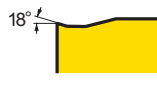
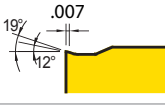
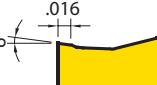
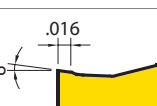
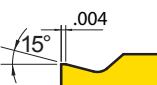
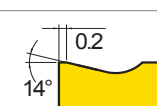
TECHNICAL INFORMATION

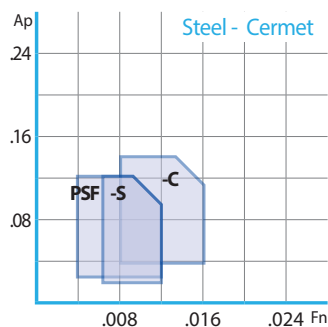
P	M	K	N	S			Feed	Fn (inch/rev.)						
							0	.004	.008	.012	.016	.020	.024	
P					UF	Finishing		Fn .002 ~ .010	Ap .039 ~ .098					
P					NEW PWF	Wiper-Finishing		Fn .004 ~ .016	Ap .020 ~ .157					
P					UL	Semi Finishing and sticky materials		Fn .004 ~ .012	Ap .039 ~ .118					
P					UM	Medium & Unstable conditions		Fn .006 ~ .012	Ap .039 ~ .118					
P					NEW GM	Medium machining for steel & Stainless steel		Fn .007 ~ .020	Ap .031 ~ .197					
P					UG	First Choice for Medium (Stable conditions)		Fn .008 ~ .016	Ap .039 ~ .118					
P					PWM	Wiper-Medium		Fn .004 ~ .020	Ap .031 ~ .138					
P					UH	Low cutting force		Fn .014 ~ .028	Ap .079 ~ .354					
P					UT	Heavy roughing		Fn .020 ~ .039	Ap .157 ~ .472					
P		K			UC	Medium Roughing and First choice for Cast iron		Fn .008 ~ .016	Ap .039 ~ .157					
P		K			UR	Roughing and Heavy interrupted cut		Fn .012 ~ .020	Ap .039 ~ .197					
		K			..MA	Cast iron Heavy Roughing		Fn .006 ~ .020	Ap .039 ~ .197					
							0	.04	.08	.12	.16	.20	.24	
							Depth of Cut							Ap (inch)



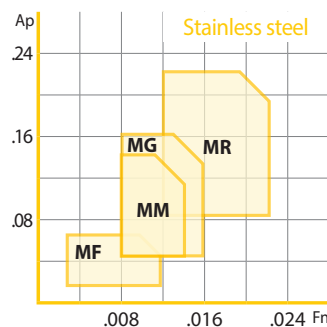
Product Overview

Turning Chipbreakers - Negative

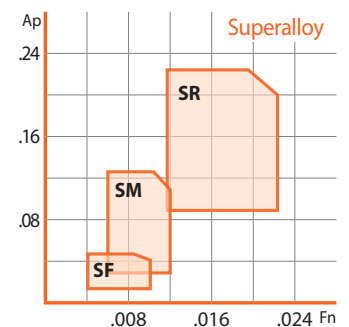
P	M	K	N	S			Feed	Fn (inch/rev.)					
							0	.004	.008	.012	.016	.020	.024
		K			KR	Cast Iron Heavy Roughing						Fn .012 ~ .024	
	M			S	MF	Stainless steel Finishing		Ap .008 ~ .059	Fn .003 ~ .012				
P	M			S	MM	Stainless steel Medium and Low Carbon Steel		Ap .039 ~ .138	Fn .008 ~ .014				
	M			S	MG	Stainless steel General		Ap .039 ~ .157	Fn .008 ~ .016				
	M			S	MR	Stainless steel Roughing		Ap .079 ~ .217	Fn .012 ~ .022				
				S	SF	HRSA Finishing		Ap .008 ~ .039	Fn .004 ~ .010				
				S	SM	HRSA Medium		Ap .020 ~ .118	Fn .006 ~ .012				
				S	SR	Roughing for HRSA		Ap .079 ~ .217	Fn .012 ~ .022				
P	M	K			PSF	Cermet Finishing to Semi medium		Ap .024 ~ .118	Fn .004 ~ .012				
P	M	K			NEW -S	Cermet Finishing		Ap .016 ~ .079	Fn .004 ~ .008				
P	M	K			-C	Cermet Medium		Ap .039 ~ .138	Fn .008 ~ .016				
							0	.04	.08	.12	.16	.20	.24
							Depth of Cut		Ap (inch)				



*Insert : CNMG432 / TNGG332



*Insert : CNMG432

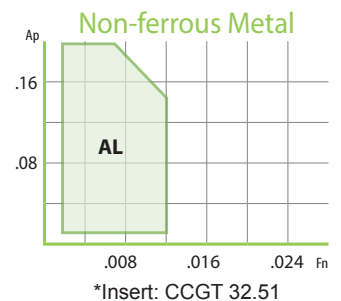
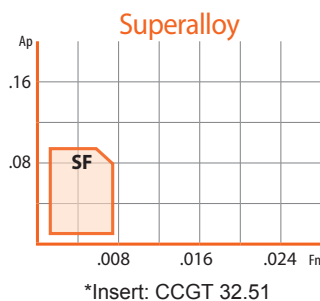
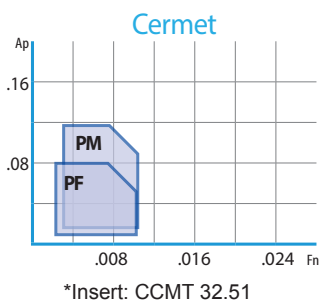
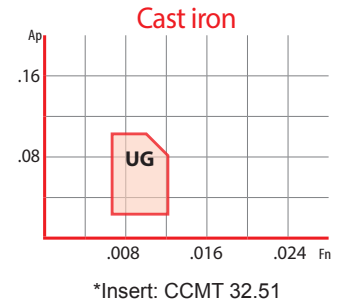
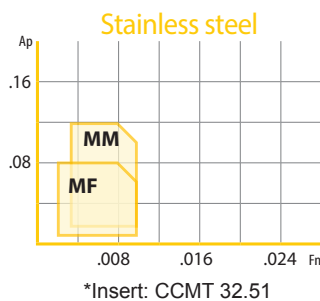
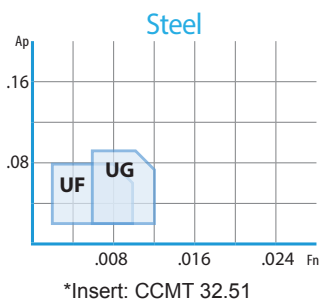


*Insert : CNMG432

Product Overview

Turning Chipbreakers - Positive

	P	M	K	N	S			Feed						Fn (inch/rev.)
								0	.004	.008	.012	.016	.020	.024
TURNING				N		AL	Aluminum application 	Fn .001 ~ .012 Ap .004 ~ .197						
	P	M				UF	Finishing application 	Fn .002 ~ .010 Ap .020 ~ .079						
	P		K			UG	Medium application 	Fn .006 ~ .012 Ap .020 ~ .098						
		M				MF	Stainless steel Finishing 	Fn .002 ~ .012 Ap .004 ~ .079						
		M				MM	Stainless steel Medium 	Fn .002 ~ .014 Ap .010 ~ .118						
					S	SF	HRSA Finishing 	Fn .001 ~ .008 Ap .004 ~ .098						
PARTING & GROOVING	P	M	K			PF	Finishing 	Fn .002 ~ .010 Ap .004 ~ .079						
	P	M	K			PM	Medium 	Fn .003 ~ .010 Ap .010 ~ .118						
								0 .04 .08 .12 .16 .20 .24						Depth of Cut
														Ap (inch)



Turning Inserts Overview

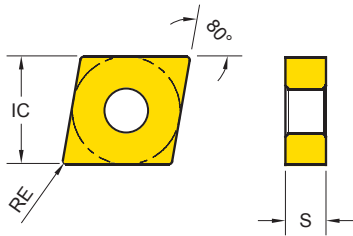
Negative Inserts

Recommended Cutting Conditions : p.190

Shape	Series	Size & Thickness								Page
C		CNMA			43	54	64			26
		CNMG	32	33	43	54	64		86	
		CNGG			43					
		CNMM			43	54	64	85	86	
D		DNMA			43	44				31
		DNMG		33	43	44				
		DNGG			43	44				
		DNMM				44				
		DNUX			43	44				36
K		KNUX				1604 (mm)				37
S		SNMA			43	54	64			38
		SNMG	32		43	54	64		86	
		SNMM				54	64	85	86	
T		TNMA		33						42
		TNMG		33	43					
		TNGG		33						
		TNMM		33	43					
		TNUX		33						48
V		VNMA		33						49
		VNMG		33						
		VNGG		33						
W		WNMA		33	43					51
		WNMG		33	43					
		WNGG			43					

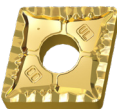
Positive Inserts

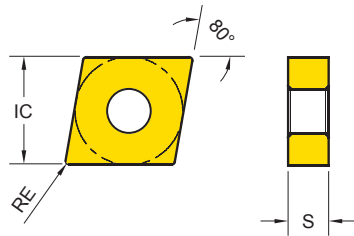
Shape	Series	Size & Thickness								Page
C		CCGT	21.5		32.5			43		55
		CCMT	21.5		32.5			43		
D		DCGT	21.5		32.5					58
		DCMT	21.5		32.5					
R		RCMT	0602	0803		10T3	1204	1606		60
		RCMX				1606	2006	2507	3209	61
S		SCGT			32.5					62
		SCMT			32.5			43		
T		TCGT	21.5		32.5					64
		TCMT	1.81	21.5	32.5					
V		VBGT / VBMT		22		33				66
		VCMT / VCMT		22		33				67



Series	IC	S	Series	IC	S
CN.. 32	.375	.125	CN.. 54	.625	.250
CN.. 33	.375	.187	CN.. 64	.750	.250
CN.. 43	.500	.187			

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20
					K20		K30												S30			M15	M10		
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
CNMA CNMG	Designation	RE	Fn (In/rev.)	Ap (In)	● 0894	○ 0089	● 3435	○ 0354																	
..MA  Cast iron	CNMA431	.016	.006 ~ .020	.020 ~ .197	● 1484	○ 0010	● 3473	○ 0355																	
	CNMA432	.031	.006 ~ .020	.039 ~ .197	● 0766	○ 0011	● 3426	○ 0356																	
	CNMA433	.047	.006 ~ .020	.059 ~ .197	● 1207	○ 1188	● 3461	○ 1314																	
	CNMA434	.063	.006 ~ .020	.079 ~ .197	● 0881	○ 0012	● 3433	○ 0357																	
	CNMA543	.047	.006 ~ .020	.059 ~ .197	● 0937	○ 0446	● 3452	○ 0447																	
	CNMA544	.063	.006 ~ .020	.079 ~ .197	● 1617	○ 0989	● 3506	○ 0990																	
	CNMA643	.047	.006 ~ .020	.059 ~ .354	● 1015	○ 0448	● 3456	○ 0449																	
	CNMA644	.063	.006 ~ .039	.118 ~ .394																					
-UF  Finishing	CNMG431-UF	.016	.002 ~ .010	.020 ~ .098			○ 0178		● 2370	● 3200	● 0179	● 0180	○ 0003				○ 2222								
	CNMG432-UF	.031	.002 ~ .010	.039 ~ .098			○ 0189	○ 1027	● 2204	● 3203	● 0190	● 0191													
	CNMG433-UF	.047	.002 ~ .010	.059 ~ .098			○ 1349		● 2598	● 3362	● 1360	● 1350													
NEW -PWF  Wiper-Finishing	CNMG431-PWF	.016	.003 ~ .012	.012 ~ .157	● 3848					● 3855	● 3859		● 3866												
	CNMG432-PWF	.031	.004 ~ .016	.020 ~ .157	● 3849					● 3856	● 3860		● 3867												
-UL  Light Machining and Sticky Material	CNMG322-UL	.031	.004 ~ .012	.039 ~ .098			○ 1211		● 2589	● 3358	● 1328	● 1212													
	CNMG323-UL	.047	.004 ~ .012	.059 ~ .098			○ 1274		● 2590	● 3355	● 1270	● 1704													
	CNMG332-UL	.031	.004 ~ .012	.039 ~ .098			○ 1338		● 2591	● 3359	● 1335	● 1705													
	CNMG333-UL	.047	.004 ~ .012	.059 ~ .098			○ 1339		● 2592	● 3360	● 1336	● 1706													
	CNMG431-UL	.016	.004 ~ .012	.020 ~ .118			○ 0358		● 2381	● 3250	● 0359	● 0524													
	CNMG432-UL	.031	.004 ~ .012	.039 ~ .118			○ 0192		● 2315	● 3204	● 0193	● 0194													
	CNMG433-UL	.047	.004 ~ .012	.059 ~ .118			○ 0201		● 2396	● 3207	● 0202	● 0203													
	CNMG431-UM	.016	.006 ~ .012	.020 ~ .118		● 1074	○ 0184		● 2387	● 3202	● 0185	● 0186													
-UM  Medium Machining Unstable condition	CNMG432-UM	.031	.006 ~ .012	.039 ~ .118	● 0897	○ 0338	○ 0114	○ 0843	● 2174	● 3175	● 0100	● 0140													
	CNMG433-UM	.047	.006 ~ .012	.059 ~ .118		● 1075	○ 0525		● 2218	● 3280	● 0486	● 0526													
	CNMG431-GM	.016	.004 ~ .016	.000 ~ .000						● 3630	● 3651						● 3690								
NEW -GM  Medium machining for steel & Stainless steel	CNMG432-GM	.031	.004 ~ .020	.000 ~ .000						● 3631	● 3652					● 3695									
	CNMG433-GM	.047	.008 ~ .022	.039 ~ .000						● 3632	● 3653						● 3700								

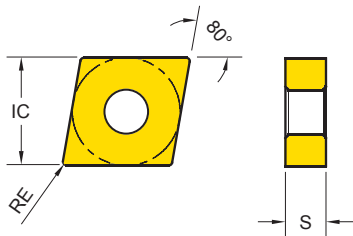


Series	IC	S	Series	IC	S
CN.. 43	.500	.187	CN.. 64	.750	.250
CN.. 54	.625	.250	CN.. 86	1.000	.375

K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10				
	K20		K30											S30			M15	M10	N20	N20		
																	K15	K10				

Turning Inserts - Negative CNMG (80° Rhombic)

Refer to
Turning holder
p. 87



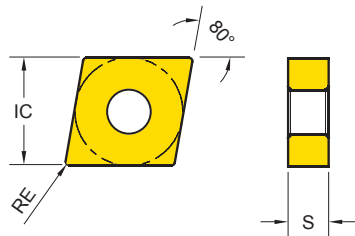
Series	IC	S
CN.. 43	.500	.187
CN.. 54	.625	.250
CN.. 64	.750	.250

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 K15	P10 K10	N20	N20	
CNMG						YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10	
-MF		Stainless steel Finishing	CNMG431-MF	.016	.003 ~ .012	.008 ~ .059					○	○	○	○		●	●	●	●	○							
			CNMG432-MF	.031	.003 ~ .012	.008 ~ .059					●			○		●	●	●	●	○							
			CNMG433-MF	.047	.003 ~ .012	.008 ~ .059					●			○		●	●		●	●	○						
										2727	3347	1185	1237		2451	3688	0609	0613	1708	2271							
										2865			0652		2452	3691	0538	0539	0627	2272							
										2866				1025		2453	3696			1139							
-MM		Stainless steel Medium	CNMG431-MM	.016	.008 ~ .014	.020 ~ .138												●	●	●	○						
			CNMG432-MM	.031	.008 ~ .014	.039 ~ .138						○	○	○				●	●	●	○						
			CNMG433-MM	.047	.008 ~ .014	.059 ~ .138												○	●	●	○						
			CNMG642-MM	.031	.008 ~ .020	.079 ~ .217													●	●	●						
			CNMG643-MM	.047	.008 ~ .022	.079 ~ .217														●	●	●					
																	0547	0548	1709	2286							
											3251	0360	0188				0494	0495	0607	2287							
														0521		3004	3698	0549	0550	0626	2288						
-MG		Stainless steel General	CNMG431-MG	.016	.008 ~ .016	.020 ~ .157								○		●	●										
			CNMG432-MG	.031	.008 ~ .016	.039 ~ .157									○		●	●									
			CNMG433-MG	.047	.008 ~ .016	.059 ~ .157												●	●	●	●						
			CNMG542-MG	.031	.008 ~ .018	.039 ~ .157													●	●	●	●					
			CNMG543-MG	.047	.008 ~ .020	.079 ~ .157													●	●	●	●					
			CNMG544-MG	.063	.008 ~ .020	.079 ~ .157													●	●	●	●					
			CNMG644-MG	.063	.008 ~ .020	.079 ~ .197													●	●	●	●					
																	1921	1917	1919	1812							
																	1922	1918	1920	1813							
																	1929	1930	1535	1540							
																	1931	1932	1534	1541							
-MR		Stainless steel Roughing	CNMG432-MR	.031	.012 ~ .022	.079 ~ .217								○		●	●	●	●	○							
			CNMG433-MR	.047	.012 ~ .022	.079 ~ .217							○	○	○		●	●	●	●	○						
			CNMG434-MR	.063	.012 ~ .022	.079 ~ .217							3323	0839	0840			2480	3699	0610	0614	0628					
			CNMG544-MR	.063	.012 ~ .022	.079 ~ .000													●	●							
																	1893	1894	1895								
																	2838	3702									

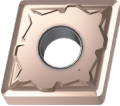
Turning Inserts - Negative

CNMG / CNMG (80° Rhombic)

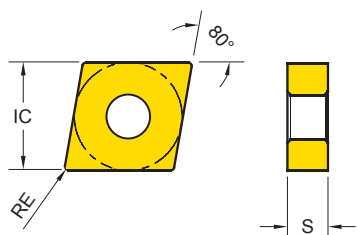


Series	IC	S
CN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

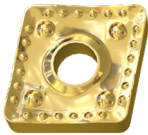
					→		S	←																				
					K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S30	S10	S10	P15	P10	M15	M10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10			
- SF		HRSA Finishing	Designation	RE	Fn (In/rev.)	Ap (In)																						
			CNMG430-SF	.004	.004 ~ .010	.004 ~ .039																						
			CNMG430.5-SF	.008	.004 ~ .010	.004 ~ .039																						
			CNMG431-SF	.016	.004 ~ .010	.008 ~ .039																						
- SF		HRSA Finishing	CNMG432-SF	.031	.004 ~ .010	.008 ~ .039																						
			CNMG431-SF	.016	.004 ~ .010	.008 ~ .039																						
			CNMG432-SF	.031	.004 ~ .010	.016 ~ .039																						
- SM		HRSA Medium	CNMG431-SM	.016	.006 ~ .012	.020 ~ .118																						
			CNMG432-SM	.031	.006 ~ .012	.020 ~ .118																						
			CNMG433-SM	.047	.006 ~ .012	.020 ~ .118																						
- SR		HRSA Roughing	CNMG432-SR	.031	.012 ~ .022	.079 ~ .217																						
			CNMG433-SR	.047	.012 ~ .022	.079 ~ .217																						
			CNMG434-SR	.063	.012 ~ .022	.079 ~ .217																						
- PSF		Cermet Finishing	CNMG431-PSF	.016	.003 ~ .012	.016 ~ .118																						
			CNMG432-PSF	.031	.004 ~ .014	.024 ~ .118																						

CNMM - Heavy Turning (80° Rhombic)


Refer to
Turning holder
p.87


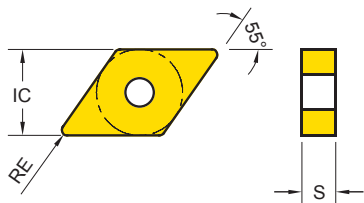
Series	IC	S	Series	IC	S
CN.. 43	.500	.187	CN.. 64	.750	.250
CN.. 54	.625	.250	CN.. 85	1.000	.313
			CN.. 86	1.000	.375

EDP 2200.. ● : Stock item ○ : Order made item

					RE S																					
					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20	
CNMM	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10	
- UH  Low cutting force	CNMM432-UH	.031	.012 ~ .020	.059 ~ .197						●	●	●	●		●											
	CNMM433-UH	.047	.012 ~ .022	.063 ~ .197						●					●											
	CNMM434-UH	.063	.012 ~ .024	.079 ~ .197						●					●											
	CNMM543-UH	.047	.014 ~ .024	.079 ~ .217						●	●	●	●		●											
	CNMM544-UH	.063	.014 ~ .024	.098 ~ .217						●	●	●	●		●											
	CNMM643-UH	.047	.014 ~ .028	.059 ~ .354	● 2107			● 2108		●	●	●	●	●		●										
	CNMM644-UH	.063	.014 ~ .028	.079 ~ .354	● 2115			● 2116		●	●	●	●	●		●										
	CNMM646-UH	.094	.014 ~ .028	.118 ~ .354	● 2109			● 2110		●	●	●	●	●		●										
	CNMM856-UH	.094	.016 ~ .031	.118 ~ .394						●	●	●	●		●											
	CNMM866-UH	.094	.016 ~ .031	.118 ~ .394	● 2119			● 2120		●	●	●	●	●		●										
- UT  Heavy Roughing	CNMM432-UT	.031	.016 ~ .028	.059 ~ .236						●	●	●	●													
	CNMM543-UT	.047	.018 ~ .028	.079 ~ .236						●	●	●	●													
	CNMM544-UT	.063	.018 ~ .028	.098 ~ .236						●	●	●	●													
	CNMM643-UT	.047	.020 ~ .039	.118 ~ .472	● 2139	○ 3552	● 2140		●	●	●	●	●													
	CNMM644-UT	.063	.020 ~ .039	.157 ~ .472	● 2143	○ 3553	● 2144		●	●	●	●	●													
	CNMM646-UT	.094	.020 ~ .039	.236 ~ .472	● 2147	○ 3554	● 2148		●	●	●	●	●													
	CNMM856-UT	.094	.016 ~ .031	.118 ~ .394						●	●	●	●													
	CNMM866-UT	.094	.022 ~ .047	.236 ~ .512	● 2151	○ 3555	● 2152		●	●	●	●	●													

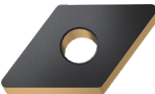
Turning Inserts - Negative DNMA / DNMG (55° Rhombic)

Refer to
Turning holder
p. 88



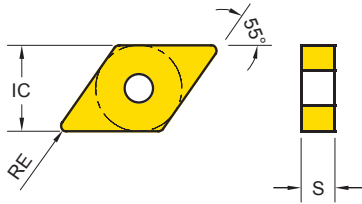
Series	IC	S
DN.. 33	.375	.187
DN.. 43	.500	.187
DN.. 44	.500	.250

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
DNMA DNMG	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
..MA  Cast iron	DNMA431	.016	.004 ~ .020	.020 ~ .197	● 1558	○ 1505	○ 3489	○ 1506																	
	DNMA432	.031	.006 ~ .020	.039 ~ .197	● 1559	○ 0573	○ 3490	○ 0574																	
	DNMA433	.047	.006 ~ .020	.059 ~ .197	● 1421	○ 0575	○ 3467	○ 0576																	
	DNMA441	.016	.004 ~ .020	.020 ~ .197	● 1581	○ 1445	○ 3495	○ 1447																	
	DNMA442	.031	.006 ~ .020	.039 ~ .197	● 1557	○ 0091	○ 3488	○ 1129																	
	DNMA443	.047	.006 ~ .020	.059 ~ .197	● 1422	○ 0092	○ 3468	○ 1130																	
-UF  Finishing	DNMG431-UF	.016	.002 ~ .010	.020 ~ .098			○ 0363			● 2220	● 3252	● 0364	● 0365	○ 0016				○ 2226							
	DNMG432-UF	.031	.002 ~ .010	.039 ~ .098			○ 0856	○ 1030		● 2221	● 3317	● 0774	● 0857												
	DNMG433-UF	.047	.002 ~ .010	.059 ~ .098			○ 1450			● 2584	● 3364	● 1368	● 1383												
	DNMG441-UF	.016	.002 ~ .010	.020 ~ .098			○ 0225			● 2398	● 3215	● 0226	● 0227	○ 0018				○ 2228							
	DNMG442-UF	.031	.002 ~ .010	.039 ~ .098			○ 0231			● 2419	● 3217	● 0232	● 0233												
	DNMG443-UF	.047	.002 ~ .010	.059 ~ .098			○ 1385			● 2610	● 3365	● 1369	● 1386												
NEW -PWF  Wiper-Finishing	DNMG331-PWF	.016	.003 ~ .012	.012 ~ .098	● 3850					● 3566	● 3861	● 3868													
	DNMG332-PWF	.031	.004 ~ .016	.020 ~ .098	● 3851					● 3561	● 3862	● 3869													
	DNMG432-PWF	.031	.004 ~ .016	.020 ~ .138	● 3852					● 3857	● 3863	● 3870													
	DNMG442-PWF	.031	.004 ~ .016	.020 ~ .138	● 3853					● 3143	● 3864	● 3871													
-UL  Light Machining and Sticky Material	DNMG331-UL	.016	.004 ~ .012	.020 ~ .098			○ 1239			● 2606	● 3352	● 1240	● 1241												
	DNMG332-UL	.031	.004 ~ .012	.039 ~ .098			○ 1242			● 2607	● 3353	● 1243	● 1244												
	DNMG431-UL	.016	.004 ~ .012	.020 ~ .118			○ 0686			● 2444	● 3302	● 0687	● 0708												
	DNMG432-UL	.031	.004 ~ .012	.039 ~ .118			○ 0489	○ 1028		● 2337	● 3284	● 0504	● 0505												
	DNMG433-UL	.047	.004 ~ .012	.059 ~ .118			○ 0709	○ 1029		● 2314	● 3342	● 1108	● 1109												
	DNMG441-UL	.016	.004 ~ .012	.020 ~ .118			○ 0369			● 2404	● 3254	● 0370	● 1110												
	DNMG442-UL	.031	.004 ~ .012	.039 ~ .118			○ 0237			● 2214	● 3219	● 0238	● 0239												
	DNMG443-UL	.047	.004 ~ .012	.059 ~ .118			○ 0246			● 2611	● 3222	● 0247	● 0248												

Turning Inserts - Negative DNMG (55° Rhombic)

Refer to
Turning holder
p. 88

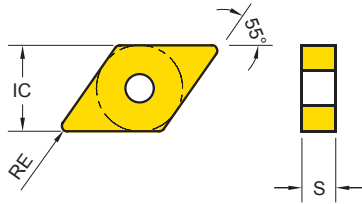


Series	IC	S
DN.. 33	.375	.187
DN.. 43	.500	.187
DN.. 44	.500	.250

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	M15	M10	N20	N20
					K20	K30												S30			K15	K10					
DNMG	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10		
Medium Machining Unstable condition	DNMG431-UM	.016	.006 ~ .012	.020 ~ .118	○	○		○		●	●	●	●														
	DNMG432-UM	.031	.006 ~ .012	.039 ~ .118	1672	1472		1702		2608	3383	1703	1707														
	DNMG433-UM	.047	.006 ~ .012	.059 ~ .118		1106	0688			2360	3303	0689	0701														
	DNMG441-UM	.016	.006 ~ .012	.020 ~ .118		0604	0512			2203	3282	0488	0705														
	DNMG442-UM	.031	.006 ~ .012	.039 ~ .118		1408	1436			2609	3368	1409	1425														
	DNMG443-UM	.047	.006 ~ .012	.059 ~ .118		1128	0240			2201	3220	0241	0242														
Medium machining for steel & Stainless steel	DNMG431-GM	.016	.006 ~ .016	.020 ~ .157						●	●					●											
	DNMG432-GM	.031	.007 ~ .020	.031 ~ .157						3633	3654						3717										
	DNMG433-GM	.047	.008 ~ .022	.039 ~ .157						3634	3655						3721										
	DNMG442-GM	.031	.007 ~ .020	.031 ~ .157						3636	3656						3730										
	DNMG443-GM	.047	.008 ~ .022	.039 ~ .157						3635	3656						3730										
	DNMG444-GM	.047	.008 ~ .022	.039 ~ .157						3637	3658						3733										
Medium Machining at stable condition	DNMG332-UG	.031	.008 ~ .016	.039 ~ .098						●																	
	DNMG333-UG	.047	.008 ~ .016	.059 ~ .098						2780																	
	DNMG431-UG	.016	.008 ~ .016	.020 ~ .118	●	○	●	○		2781																	
	DNMG432-UG	.031	.008 ~ .016	.039 ~ .118	1618	1544	3507	1131		2443	3316	0772	1137														
	DNMG433-UG	.047	.008 ~ .016	.059 ~ .118	1608	0452	3499	0366		2368	3253	0367	0368	0017				○									
	DNMG441-UG	.016	.008 ~ .016	.020 ~ .118	1514	0703	3484	1107		2442	3281	0487	0704														
	DNMG442-UG	.031	.008 ~ .016	.039 ~ .118	1619	1545	3508	0228		2375	3216	0229	0230														
	DNMG443-UG	.047	.008 ~ .016	.059 ~ .118	1609	0453	3500	0234		2212	3218	0235	0236	0019				○									
	DNMG444-UG	.047	.008 ~ .016	.059 ~ .118	1511	0454	3481	0243		2356	3221	0244	0245														
	DNMG444-UG	.063	.008 ~ .016	.071 ~ .118						2720																	
Cast iron and Medium roughing	DNMG431-UC	.016	.008 ~ .016	.020 ~ .157	●		●			●	●		●														
	DNMG432-UC	.031	.008 ~ .016	.039 ~ .157	3827		3625			3829	3830		3828														
	DNMG433-UC	.047	.008 ~ .016	.059 ~ .157	●	○		○	○	1611	0577	3502	0578	1273	2388	3348	1193	0700									
	DNMG441-UC	.016	.008 ~ .016	.020 ~ .157	●	○	●	○		1512	0579	3482	0580		2373	3345	1168	0702									
	DNMG442-UC	.031	.008 ~ .016	.039 ~ .157	3570		3831			●	●		●		3571	3572		3832									
	DNMG443-UC	.047	.008 ~ .016	.059 ~ .157	●	○	●	○	○	1621	1095	3510	0585		2446	3341	1096	1097									
Roughing	DNMG432-UR	.031	.012 ~ .020	.039 ~ .197	1512	0579	3482	0580		2373	3345	1168	0702														
	DNMG433-UR	.047	.012 ~ .020	.059 ~ .197	●	○	●	○		1513	1127	3483	0581		2400	3343	1134	1101									
	DNMG442-UR	.031	.012 ~ .020	.039 ~ .197	●	○	●	○		1622	0691	3511	0692		2447	3304	0693	0854									
	DNMG443-UR	.047	.012 ~ .020	.059 ~ .197	●	○	●	○		1510	1258	3480	0371		2416	3255	0372	0373	0020								
	DNMG444-UR	.063	.012 ~ .020	.071 ~ .197	3833		3834			3626	3836		3835														

Turning Inserts - Negative DNMG (55° Rhombic)



Series	IC	S
DN.. 33	.375	.187
DN.. 43	.500	.187
DN.. 44	.500	.250

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30 S30	M40 S30	S10	S10	P15 K15	P10 K10	N20	N20
DNMG	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
 Stainless steel Finishing	DNMG431-MF	.016	.003 ~ .012	.008 ~ .059						● 2867					● 2454	● 3715	● 0848	● 0771	● 1815	○ 2273		● 3140	○ 3620		
	DNMG432-MF	.031	.003 ~ .012	.008 ~ .059						● 2869			○ 0807		● 2456	● 3718	● 0849	● 0773	● 1816	○ 2274					
	DNMG441-MF	.016	.003 ~ .012	.008 ~ .059						○ 2728						● 2455	● 3725	● 0811	● 0850	● 1819	● 1945				
	DNMG442-MF	.031	.003 ~ .012	.008 ~ .059						○ 2729	○ 3349	○ 1202	○ 0813			● 2457	● 3727	● 0812	● 0859	● 1820	○ 2275				
 Stainless steel Medium	DNMG431-MM	.016	.008 ~ .014	.020 ~ .138									○ 0527				● 0551	● 0552	● 1710	○ 2289					
	DNMG432-MM	.031	.008 ~ .014	.039 ~ .138									○ 0506				● 0513	● 0514	● 1788	○ 2290					
	DNMG433-MM	.047	.008 ~ .014	.059 ~ .138									○ 0529				● 0561	● 0562	● 1711	○ 2291					
	DNMG441-MM	.016	.008 ~ .014	.020 ~ .138									○ 0528				● 0553	● 0554	● 1712	○ 2292					
	DNMG442-MM	.031	.008 ~ .014	.039 ~ .138									○ 0507				● 0515	● 0516	● 0690	○ 2293					
	DNMG443-MM	.047	.008 ~ .014	.059 ~ .138									○ 0496				● 0563	● 0564	● 0694	○ 2294					
 Stainless steel General	DNMG331-MG	.016	.008 ~ .016	.020 ~ .118											● 2839	● 3713									
	DNMG332-MG	.031	.008 ~ .016	.031 ~ .118												● 2840	● 3714								
	DNMG431-MG	.016	.008 ~ .016	.020 ~ .157												● 2466	● 3716								
	DNMG432-MG	.031	.008 ~ .016	.039 ~ .157						○ 3149						● 2470	● 3719	● 1561	● 1562	● 1563	● 1560				
	DNMG433-MG	.047	.008 ~ .016	.059 ~ .157												● 2483	● 3722								
	DNMG441-MG	.016	.008 ~ .016	.020 ~ .157												● 2467	● 3726								
	DNMG442-MG	.031	.008 ~ .016	.039 ~ .157						● 2717						● 2471	● 3728	● 1565	● 1566	● 1567	● 1564				
	DNMG443-MG	.047	.008 ~ .016	.059 ~ .157												● 2484	● 3731								
 Stainless steel Roughing	DNMG432-MR	.031	.012 ~ .022	.079 ~ .217									○ 1036		● 2492	● 3720	● 0914	● 0808	● 0809						
	DNMG433-MR	.047	.012 ~ .022	.079 ~ .217												● 2791	● 3723	● 0929	● 0930	● 0810					
	DNMG442-MR	.031	.012 ~ .022	.079 ~ .217										○ 1037		● 2481	● 3729	● 0860	● 0814	● 0815					
	DNMG443-MR	.047	.012 ~ .022	.079 ~ .217												● 2792	● 3732	● 0861	● 0862	● 0816					

TURNING

PARTING & GROOVING

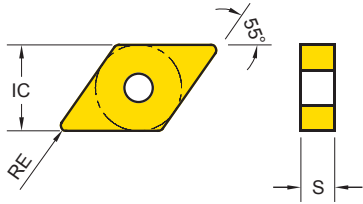
MILLING

DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative DNMG / DNMG (55° Rhombic)

Refer to
Turning holder
p. 88



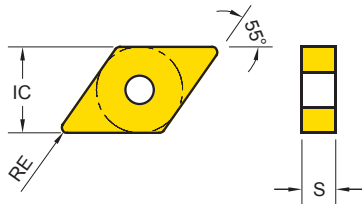
Series	IC	S
DN.. 43	.500	.187
DN.. 44	.500	.250

EDP 2200.. ● : Stock item ○ : Order made item

						K10		P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20				
						K20	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30				
DNMG		Designation		RE		Fn (In/rev.)		Ap (In)		YG1010		YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-SF	 HRSA Finishing	DNMG431-SF	.016	.004 ~ .010	.008 ~ .039																										
		DNMG432-SF	.031	.004 ~ .010	.008 ~ .039																										
		DNMG441-SF	.016	.004 ~ .010	.008 ~ .039																										
		DNMG442-SF	.031	.004 ~ .010	.008 ~ .039																										
-SF	 HRSA Finishing	DNMG431-SF	.016	.004 ~ .010	.008 ~ .039																										
		DNMG432-SF	.031	.004 ~ .010	.016 ~ .039																										
		DNMG441-SF	.016	.004 ~ .010	.008 ~ .039																										
		DNMG442-SF	.031	.004 ~ .010	.016 ~ .039																										
-SM	 HRSA Medium	DNMG432-SM	.031	.006 ~ .012	.020 ~ .118																										
		DNMG433-SM	.047	.006 ~ .012	.020 ~ .118																										
		DNMG442-SM	.031	.006 ~ .012	.020 ~ .118																										
		DNMG443-SM	.047	.006 ~ .012	.020 ~ .118																										
-SR	 HRSA Roughing	DNMG432-SR	.031	.012 ~ .022	.079 ~ .217																										
		DNMG433-SR	.047	.012 ~ .022	.079 ~ .217																										
		DNMG442-SR	.031	.012 ~ .022	.079 ~ .217																										
		DNMG443-SR	.047	.012 ~ .022	.079 ~ .217																										
-PSF	 Cermet Finishing	DNMG431-PSF	.016	.003 ~ .012	.016 ~ .118																										
		DNMG432-PSF	.031	.004 ~ .014	.024 ~ .118																										
		DNMG441-PSF	.016	.003 ~ .012	.016 ~ .118																										
		DNMG442-PSF	.031	.004 ~ .014	.024 ~ .118																										

Turning Inserts - Negative

DNMM - Heavy Turning (55° Rhombic)



Series	IC	S
DN.. 44	.500	.250

EDP 2200.. ● : Stock item ○ : Order made item

DNMM	Designation	RE	Fn (In/rev.)	Ap (In)																					
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-UH	DNMM443-UH	.047	.012 ~ .020	.079 ~ .276						●	●	●	●		●										
										2731	3414	2327	2328		2769										
-UT	DNMM443-UT	.047	.016 ~ .028	.079 ~ .315						●	●	●	●												
										2732	3415	2329	2330												



Low cutting force



Heavy
Roughing

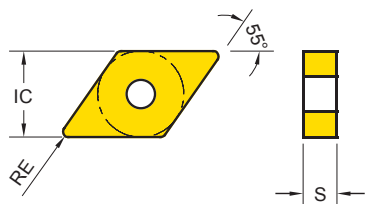
TURNING

PARTING & GROOVING

MILLING

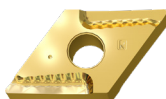
DRILLING

TECHNICAL INFORMATION



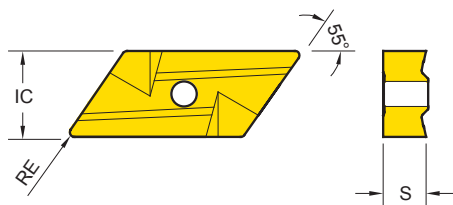
Series	IC	S
DNUX.. 43	.500	.187
DNUX.. 44	.500	.250

EDP 2200.. ●: Stock item ○: Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30 S30	M40	S10	S10	P15 K15	P10 K10	M10	N20	N20
DNUX	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10	
 Left Hand Shown	DNUX431L	.016	.004 ~ .014	.028 ~ .157				○	●	●	●	●	●													
	DNUX432L	.031	.004 ~ .014	.039 ~ .157				○	●	●	●	●	●													
	DNUX441L	.016	.004 ~ .014	.028 ~ .157				○	●	●	●	●	●					●								
								○	●	●	●	●	●					●								
	DNUX442L	.031	.004 ~ .014	.039 ~ .157				○	●	●	●	●	●					●								
 Right Hand Shown	DNUX431R	.016	.004 ~ .014	.028 ~ .157				○	●	●	●	●	●								●	○				
	DNUX432R	.031	.004 ~ .014	.039 ~ .157				○	●	●	●	●	●									●	○			
	DNUX441R	.016	.004 ~ .014	.028 ~ .157				○	●	●	●	●	●					●	●	●						
								○	●	●	●	●	●					●	●	●						
	DNUX442R	.031	.004 ~ .014	.039 ~ .157				○	●	●	●	●	●					●	●	●						

Turning Inserts - Negative

KNUX (2 Corners 55° Parallelogram)



Series	IC	S
KN.. 1604	.375	.187

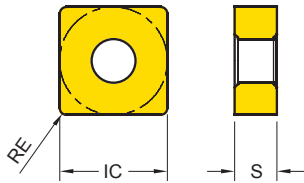
EDP 2200.. ● : Stock item ○ : Order made item

KNUX	Designation	RE	Fn (In/rev.)	Ap (In)																					
					K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	M15	P10	N20	N20
..UX Left Hand Shown	KNUX160405L	.020	.004 ~ .016	.020 ~ .236	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
								○	●	●	●	●	○												
								0249		2621	3223	0250	0251	0079											
	KNUX160410L	.039	.012 ~ .024	.039 ~ .236				○		●	●	●	●												
..UX Right Hand Shown	KNUX160405R	.020	.004 ~ .016	.020 ~ .236				○	●	●	●	●	○												
								0252		2408	3224	0253	0254	0080											
								○		●	●	●	●												
	KNUX160410R	.039	.012 ~ .024	.039 ~ .236				1358		2623	3344	1155	1156												

Turning Inserts - Negative SNMA / SNMG (90° Square)



Refer to
Turning holder
p. 89

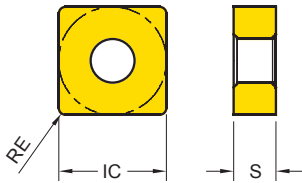


Series	IC	S	Series	IC	S
SN.. 32	.375	.125	SN.. 54	.625	.250
SN.. 43	.500	.187	SN.. 64	.750	.250

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 K15	P10 K10	N20	N20
SNMA SNMG	Designation	RE	Fn (In/rev.)	Ap (In)		YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
..MA  Cast iron	SNMA432	.031	.006 ~ .020	.039 ~ .197		●	○	●	○																	
	SNMA433	.047	.006 ~ .020	.059 ~ .197		●	○	●	○																	
	SNMA434	.063	.006 ~ .020	.071 ~ .197		●																				
	SNMA543	.047	.006 ~ .020	.059 ~ .197		●	○	●	○																	
	SNMA644	.063	.006 ~ .020	.079 ~ .354		●	○	●	○																	
-UF  Finishing	SNMG322-UF	.031	.002 ~ .008	.039 ~ .079							●	●	●													
	SNMG431-UF	.016	.002 ~ .010	.020 ~ .098				○			●	●	●	●	○				○							
	SNMG432-UF	.031	.002 ~ .010	.039 ~ .098				○			●	●	●	●												
-UL  Light Machining and Sticky Material	SNMG431-UL	.016	.004 ~ .012	.020 ~ .118			○			●	●	●	●													
	SNMG432-UL	.031	.004 ~ .012	.039 ~ .118			○			●	●	●	●													
-UM  Medium Machining Unstable condition	SNMG432-UM	.031	.006 ~ .012	.039 ~ .118		○	○			●	●	●	●													

Turning Inserts - Negative SNMG (90° Square)



Series	IC	S	Series	IC	S
SN.. 43	.500	.187	SN.. 64	.750	.250
SN.. 54	.625	.250	SN.. 86	1.000	.375

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 K15	P10 K10	N20	N20
SNMG	Designation	RE	Fn (In/rev.)	Ap (In)		YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-UG  Medium Machining at stable condition	SNMG432-UG	.031	.008 ~ .016	.039 ~ .118		●	○	●	○		●	●	●	●	○			○				○				
	SNMG433-UG	.047	.008 ~ .016	.059 ~ .118		1610	1190	3501	0141		2361	3188	0142	0143	0030				2238			3150				
	SNMG434-UG	.063	.008 ~ .016	.079 ~ .118		●	○			○	●	●	●	●												
-UC  Cast iron and Medium roughing	SNMG431-UC	.016	.008 ~ .016	.020 ~ .157		●					●															
	SNMG432-UC	.031	.008 ~ .016	.039 ~ .157		1610	1190	3501	0141		2361	3188	0142	0143	0030											
	SNMG433-UC	.047	.008 ~ .016	.059 ~ .157		1640	1164	3517	0258		2411	3226	0259	0260												
-UR  Roughing	SNMG432-UR	.031	.012 ~ .020	.039 ~ .197		●	○	●	○		●	●	●	●												
	SNMG433-UR	.047	.012 ~ .020	.059 ~ .197		1623	1163	3512	0392		2401	3262	0393	0394												
	SNMG434-UR	.063	.012 ~ .020	.079 ~ .197		●	○	●	○		●	●	●	●	○					○						
	SNMG544-UR	.063	.012 ~ .024	.079 ~ .276		1624	1052	3513	0261		2585	3227	0262	0263	0031					2239						
	SNMG643-UR	.047	.012 ~ .031	.118 ~ .354		1837	0988		○	○	2639	3336	0971	0977				●	●							
	SNMG644-UR	.063	.012 ~ .031	.118 ~ .354							3156							3157	3753							
	SNMG866-UR	.094	.016 ~ .039	.197 ~ .472							2640	3338	1018	1026												
-KR  Cast Iron Heavy Roughing	SNMG433-KR	.047	.012 ~ .024	.059 ~ .197		●	○	●	○		●															
	SNMG434-KR	.063	.012 ~ .024	.079 ~ .197		1064	1063	3457	1065		2636															

TURNING

PARTING & GROOVING

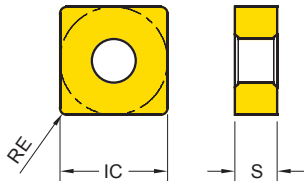
MILLING

DRILLING

TECHNICAL INFORMATION

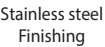
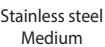
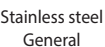
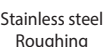
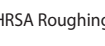
Turning Inserts - Negative SNMG (90° Square)

Refer to
Turning holder
p. 89



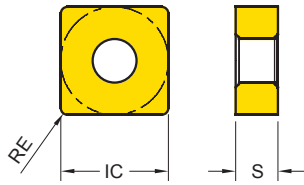
Series	IC	S
SN.. 32	.375	.125
SN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
SNMG						YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-MF		SNMG431-MF	.016	.003 ~ .012	.008 ~ .059														0978	0979	0981	2276				
		SNMG432-MF	.031	.003 ~ .012	.008 ~ .059						2872			0818		2459	3746	0653	0654	0817	2277					
		SNMG433-MF	.047	.003 ~ .012	.008 ~ .059					2873				0821		2460	3749	0655	0656	0820	2278					
-MM		SNMG432-MM	.031	.008 ~ .014	.039 ~ .138														0555	0556	1014	2295				
		SNMG433-MM	.047	.008 ~ .014	.059 ~ .138														0565	0566	1789	2296				
-MG		SNMG431-MG	.016	.008 ~ .016	.020 ~ .157												2485	3745								
		SNMG432-MG	.031	.008 ~ .016	.039 ~ .157												2475	3747	1804	1805	1806	1695				
		SNMG433-MG	.047	.008 ~ .016	.059 ~ .157												2486	3750								
-MR		SNMG432-MR	.031	.012 ~ .022	.079 ~ .217									1059		2495	3748	0657	0658	0819						
		SNMG433-MR	.047	.012 ~ .022	.079 ~ .217									0823		2496	3751	0659	0660	0822						
		SNMG434-MR	.063	.012 ~ .022	.079 ~ .217												2497	3752								
-SM		SNMG321-SM	.016	.006 ~ .012	.020 ~ .118														2434			2435	4018			
		SNMG432-SM	.031	.006 ~ .012	.020 ~ .118														1801	1802	1803	1696	4019			
-SR		SNMG432-SR	.031	.012 ~ .022	.079 ~ .217																	1305	4020			
		SNMG433-SR	.047	.012 ~ .022	.079 ~ .217																	1304	4021			

Turning Inserts - Negative

SNMM - Heavy Turning (90° Square)



Series	IC	S	Series	IC	S
SN.. 54	.625	.250	SN.. 85	1.000	.313
SN.. 64	.750	.250	SN.. 86	1.000	.375

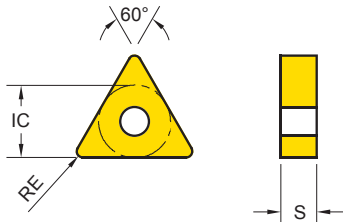
EDP 2200.. ● : Stock item ○ : Order made item

K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20
K20		K30												S30			M15	M10	K15	K10

SNMM	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-UH  Low cutting force	SNMM543-UH	.047	.014 ~ .024	.079 ~ .217						●	●	●	●	●	●										
	SNMM643-UH	.047	.014 ~ .028	.059 ~ .354	●			●		●	●	●	●	●	●										
	SNMM644-UH	.063	.014 ~ .028	.079 ~ .354	●			●		●	●	●	●	●	●										
	SNMM646-UH	.094	.014 ~ .028	.118 ~ .354	●			●		●	●	●	●	●	●										
	SNMM856-UH	.094	.016 ~ .031	.118 ~ .394	●			●		●	●	●	●	●	●										
	SNMM866-UH	.094	.016 ~ .031	.118 ~ .394	●			●		●	●	●	●	●	●										
-UT  Heavy Roughing	SNMM543-UT	.047	.018 ~ .028	.079 ~ .236						●	●	●	●	●	●										
	SNMM643-UT	.047	.020 ~ .039	.118 ~ .472	●	○	●			●	●	●	●	●	●										
	SNMM644-UT	.063	.020 ~ .039	.157 ~ .472	●	○	●			●	●	●	●	●	●										
	SNMM646-UT	.094	.020 ~ .039	.236 ~ .472	●	○	●			●	●	●	●	●	●										
	SNMM856-UT	.094	.022 ~ .047	.236 ~ .512	●	●	●	●		●	●	●	●	●	●										
	SNMM866-UT	.094	.022 ~ .047	.236 ~ .512	●	●	●	●		●	●	●	●	●	●										

Turning Inserts - Negative TNMA / TNMG (60° Triangle)

Refer to
Turning holder
p. 90

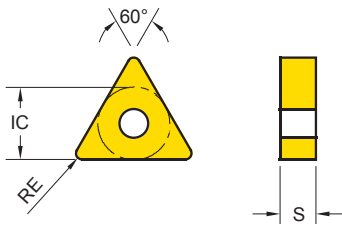


Series	IC	S
TN.. 33	.375	.187
TN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20
						K20	K30													S30			K15	K10		
TNMA TNMG						YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
..MA  Cast iron	TNMA331	.016	.006 ~ .020	.020 ~ .197	●	○	●	○																		
	TNMA332	.031	.006 ~ .020	.039 ~ .197	●	○	●	○																		
	TNMA333	.047	.006 ~ .020	.059 ~ .197	●	○	●	○																		
-UF  Finishing	TNMG331-UF	.016	.002 ~ .010	.020 ~ .098				○	0270		●	●	●	●	○											
	TNMG332-UF	.031	.002 ~ .010	.039 ~ .098				○	0276		●	●	●	●												
	TNMG333-UF	.047	.002 ~ .010	.059 ~ .098				○	0721		●	●	●	●												
	TNMG431-UF	.016	.004 ~ .014	.020 ~ .157				○	0407		●	●	●	●	○											
NEW -PWF  Wiper-Finishing	TNMG331-PWF	.016	.003 ~ .010	.012 ~ .098	●						●	●		●									○			
					3854						3858	3865		3872										3873		
-UL  Light Machining and Sticky Material	TNMG331-UL	.016	.004 ~ .012	.020 ~ .118				○	1605		●	●	●	●												
	TNMG332-UL	.031	.004 ~ .012	.039 ~ .118				○	0279	0752	●	●	●	●												
	TNMG333-UL	.047	.004 ~ .012	.059 ~ .118				○	0884	0868	●	●	●	●	○											
-UM  Medium Machining Unstable condition	TNMG331-UM	.016	.006 ~ .012	.020 ~ .118	○	○		○	0948	0844	●	●	●	●												
	TNMG332-UM	.031	.006 ~ .012	.039 ~ .118	○	○		○	1141	1053	●	●	●	●												
	TNMG333-UM	.047	.006 ~ .012	.059 ~ .118	○	○		○	1143	0596	●	●	●	●	○											
NEW -GM  Medium machining for steel & Stainless steel	TNMG331-GM	.016	.006 ~ .016	.020 ~ .177							●	●					●									
	TNMG332-GM	.031	.007 ~ .020	.031 ~ .177							●	●					●									
	TNMG333-GM	.047	.008 ~ .022	.039 ~ .177							●	●					●									

Turning Inserts - Negative TNMG (60° Triangle)



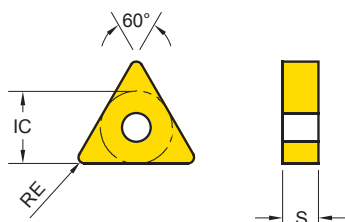
Series	IC	S
TN.. 33	.375	.187
TN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

TNMG	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-UG  Medium Machining at stable condition	TNMG331-UG	.016	.008 ~ .016	.020 ~ .118	●	○	●	○	●	●	●	●	●	●											
	TNMG332-UG	.031	.008 ~ .016	.039 ~ .118	●	○	●	○	●	●	●	●	○	○				○							
	TNMG333-UG	.047	.008 ~ .016	.059 ~ .118	●	○	●	○	●	●	●	●	○	○											
	TNMG432-UG	.031	.010 ~ .024	.039 ~ .236	●	○	●	○	●	●	●	●	○	○											
	TNMG433-UG	.047	.010 ~ .024	.059 ~ .236	●	○	●	○	●	●	●	●	○	○											
	TNMG434-UG	.063	.010 ~ .024	.079 ~ .236	●	○	●	○	●	●	●	●	○	○											
-UC  Cast iron and Medium roughing	TNMG331-UC	.016	.008 ~ .016	.020 ~ .157	●	○	●	○	●	●	●	●	●	●											
	TNMG332-UC	.031	.008 ~ .016	.039 ~ .157	●	○	●	○	●	●	●	●	○	○											
	TNMG333-UC	.047	.008 ~ .016	.059 ~ .157	●	○	●	○	●	●	●	●	○	○											
	TNMG434-UC	.063	.008 ~ .016	.079 ~ .157	●	○	●	○	●	●	●	●	○	○											
-UR  Roughing	TNMG332-UR	.031	.012 ~ .020	.039 ~ .197	●	○	●	○	●	●	●	●	○	○											
	TNMG333-UR	.047	.012 ~ .020	.059 ~ .197	●	○	●	○	●	●	●	●	○	○											
	TNMG433-UR	.047	.012 ~ .026	.059 ~ .276	●	○	●	○	●	●	●	●	○	○											
	TNMG434-UR	.063	.012 ~ .026	.079 ~ .276	●	○	●	○	●	●	●	●	○	○											

Turning Inserts - Negative TNMG (60° Triangle)

Refer to
Turning holder
p. 90



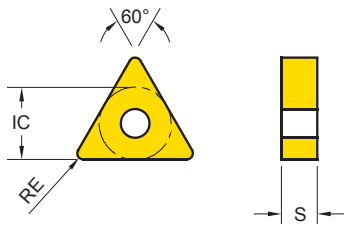
Series	IC	S
TN.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
TNMG	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
 -MF Stainless steel Finishing	TNMG331-MF	.016	.003 ~ .012	.008 ~ .059						●			●		●	●	●	●	○		●	○			
	TNMG332-MF	.031	.003 ~ .012	.008 ~ .059						●	○	○			●	●	●	●	●	○					
										2889	2871	3335	0963	2952		2788	3765	0824	0775	1457	1343		3141	3621	
 -MM Stainless steel Medium	TNMG331-MM	.016	.008 ~ .014	.020 ~ .138													●	●	●	○					
	TNMG332-MM	.031	.008 ~ .014	.039 ~ .138														0567	0568	1790	2297				
	TNMG333-MM	.047	.008 ~ .014	.059 ~ .138														0569	0570	0913	1281				
 -MG Stainless steel General	TNMG331-MG	.016	.008 ~ .016	.020 ~ .157											●	●	●	●	●	●					
	TNMG332-MG	.031	.008 ~ .016	.039 ~ .157												2472	3766	1455	1456	1219	1515				
	TNMG333-MG	.047	.008 ~ .020	.079 ~ .157												2473	3769	1568	1569	1713	1660				
 -MR Stainless steel Roughing	TNMG332-MR	.031	.012 ~ .022	.079 ~ .217								○		0727	●	●	●	●	●						
	TNMG333-MR	.047	.012 ~ .022	.079 ~ .217									○		1062	●	●	●	●	●					
																2493	3770	0826	0985	0726					

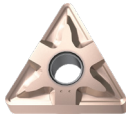
Turning Inserts - Negative

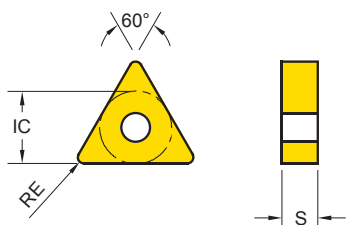
TNMG / TNMG (60° Triangle)



Series	IC	S
TN.. 33	.375	.187
TN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

						RE																				
						S																				
						K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30 S30	M40	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
TNMG						YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-SF		TNMG332-SF	.031	.004 ~ .010	.008 ~ .039																●	●				
																								1427 4022		
-SM		TNMG332-SM	.031	.006 ~ .012	.020 ~ .118													○	○	○	●	●				
		TNMG333-SM	.047	.006 ~ .012	.020 ~ .118														○	○	○	●	●			
		TNMG433-SM	.047	.007 ~ .013	.039 ~ .236																	●	●			
																					3161 4043					
-SR		TNMG332-SR	.031	.012 ~ .022	.079 ~ .217																●	●				
		TNMG333-SR	.047	.012 ~ .022	.079 ~ .217																●	●				
																						1306 4026				



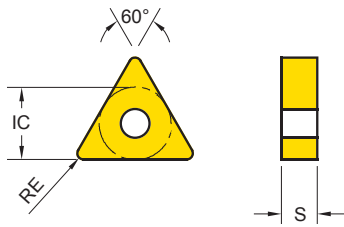
Series	IC	S
TN.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

					RE		S																		
					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 K15	P10 M10 K10	N20	N20
TNGG TNMG					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-PSF  Cermet Finishing	TNMG331-PSF	.016	.003 ~ .012	.016 ~ .098																		●	○		
	TNMG332-PSF	.031	.004 ~ .014	.024 ~ .098																		2535	3580		
																						2536	3581		
-S NEW  Cermet Finishing Left Hand Shown	TNGG330.5L-S	.008	.004 ~ .008	.012 ~ .079																		●			
	TNGG331L-S	.016	.004 ~ .008	.016 ~ .079																		2859			
	TNGG332L-S	.031	.005 ~ .009	.024 ~ .079																		2860			
																						2861			
-S NEW  Cermet Finishing Right Hand Shown	TNGG330.5R-S	.008	.004 ~ .008	.012 ~ .079																		●			
	TNGG331R-S	.016	.004 ~ .008	.016 ~ .079																		2856			
	TNGG332R-S	.031	.005 ~ .009	.024 ~ .079																		2857			
																						2858			
-C  Cermet Medium Left Hand Shown	TNGG330.5L-C	.008	.008 ~ .016	.012 ~ .138																		○			
	TNGG331L-C	.016	.008 ~ .016	.020 ~ .138																		2524			
	TNGG332L-C	.031	.008 ~ .016	.039 ~ .138																		2526			
																						2528			
-C  Cermet Medium Right Hand Shown	TNGG330.5R-C	.008	.008 ~ .016	.012 ~ .138																		○			
	TNGG331R-C	.016	.008 ~ .016	.020 ~ .138																		2525			
	TNGG332R-C	.031	.008 ~ .016	.039 ~ .138																		2527			
																						2529			

Turning Inserts - Negative

TNMM - Heavy Turning (60° Triangle)



Series	IC	S
TN.. 33	.375	.187
TN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

TNMM	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
	TNMM333-UH	.047	.012 ~ .020	.079 ~ .197						●															
	TNMM433-UH	.047	.012 ~ .020	.079 ~ .276						●															

-UH



Low cutting force

TURNING

PARTING & GROOVING

MILLING

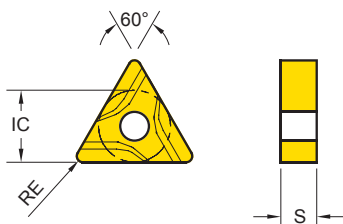
DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative TNUX (60° Triangle)



Refer to
Turning holder
p. 90



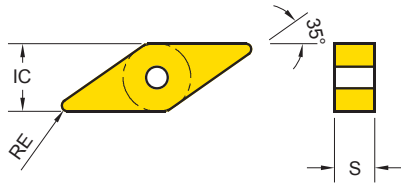
Series	IC	S
TNUX 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N2	
TNUX					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10	
..UX		Left Hand Shown	TNUX331L	.016	.004 ~ .012	.020 ~ .157			○ 0412	● 2425	● 3268	● 0413	● 1264	○ 0043			● 2248									
			TNUX332L	.031	.004 ~ .016	.039 ~ .197			○ 0414		● 2198	● 3269	● 0415	● 0675	○ 0045			○ 0731								
..UX		Right Hand Shown	TNUX331R	.016	.004 ~ .012	.020 ~ .157			○ 0288	● 2390	● 3236	● 0289	● 0290	● 0044			● 2249		● 3144		● 2733	○ 3611				
			TNUX332R	.031	.004 ~ .016	.039 ~ .197			○ 0291		● 2354	● 3237	● 0292	● 0293	○ 0046			● 2250		● 3145						

Turning Inserts - Negative

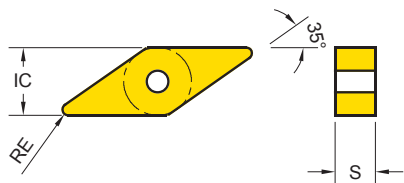
VNMA / VNMG (35° Rhombic)



Series	IC	S
VN.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	M15	M10	N20	N20
						K20	K30													S30			K15	K10				
VNMA VNMG	Designation	RE	Fn (In/rev.)	Ap (In)		YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10		
..MA		VNMA332	.031	.006 ~ .016	.039 ~ .197	●	○	●	○																			
	Cast iron					1573	0162	3491	1275																			
-UF		VNMG331-UF	.016	.002 ~ .010	.020 ~ .098				○		●	●	●	●	○													
	Finishing	VNMG332-UF	.031	.002 ~ .010	.039 ~ .098			○	○		●	●	●	●														
-UL		VNMG331-UL	.016	.004 ~ .012	.020 ~ .118				○		●	●	●	●														
	Light Machining and Sticky Material	VNMG332-UL	.031	.004 ~ .012	.039 ~ .118			○	○		●	●	●	●														
		VNMG333-UL	.047	.004 ~ .012	.059 ~ .118					●																		
-UM		VNMG331-UM	.031	.006 ~ .012	.039 ~ .118		○		○		●	●	●	●														
	Medium Machining Unstable condition	VNMG333-UM	.047	.006 ~ .012	.059 ~ .118		○	○	○		●	●	●	●														
NEW -GM		VNMG331-GM	.016	.004 ~ .014	.000 ~ .000						●	●						●										
	Medium machining for steel & Stainless steel	VNMG332-GM	.031	.004 ~ .014	.000 ~ .000						●	●						●										
		VNMG333-GM	.047	.008 ~ .016	.039 ~ .000						●	●						●										
-UG		VNMG331-UG	.016	.008 ~ .016	.020 ~ .118	●	○	●	○		●	●	●	●														
	Medium Machining at stable condition	VNMG332-UG	.031	.008 ~ .016	.039 ~ .118	●	○	●	○		●	●	●	●	○													
		VNMG333-UG	.047	.008 ~ .016	.059 ~ .118	●	○	●	○		●	●	●	●														
-UC		VNMG331-UC	.016	.008 ~ .016	.020 ~ .138	●	○	○	○		●	●	●	●														
	Cast iron and Medium roughing	VNMG332-UC	.031	.008 ~ .016	.039 ~ .138	●	○	○	○		●	●	●	●														
		VNMG333-UC	.047	.008 ~ .016	.059 ~ .138	●	○	●	○		●	●	●	●														
-UR		VNMG331-UR	.047	.012 ~ .018	.059 ~ .157	●	○	○	○	○	●	●	●	●	○													
	Roughing					1638	1231	3515	0430	0871	2380	3274	0431	0432	0051													



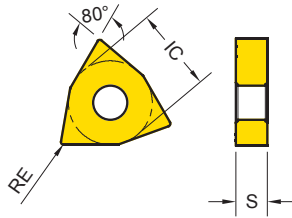
Series	IC	S
VN.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

VNGG VNMG	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-MF  Stainless steel Finishing	VNMG331-MF	.016	.003 ~ .012	.008 ~ .059					●	2891			●	2954	●	●	●	●	●	●	○				
	VNMG332-MF	.031	.003 ~ .012	.008 ~ .059					○	2841			○	0830	●	●	●	●	●	○					
-MM  Stainless steel Medium	VNMG331-MM	.016	.008 ~ .014	.020 ~ .138														●	●	○					
	VNMG332-MM	.031	.008 ~ .014	.039 ~ .138														●	●	○					
-MG  Stainless steel General	VNMG331-MG	.016	.008 ~ .016	.020 ~ .157											●	●									
	VNMG332-MG	.031	.008 ~ .016	.039 ~ .157											●	●									
	VNMG333-MG	.047	.008 ~ .016	.059 ~ .157											●	●									
-MR  Stainless steel Roughing	VNMG332-MR	.031	.012 ~ .022	.079 ~ .217								○			●	●	●	●	●						
	VNMG333-MR	.047	.012 ~ .022	.079 ~ .217									0832		●	●	●	●	●						
-SF  HRSA Finishing	VNMG333-SF	.047	.004 ~ .010	.016 ~ .059																●	●				
																					3158	4027			
-SR  HRSA Medium	VNMG332-SR	.031	.012 ~ .022	.079 ~ .217																●	●				
																					1449	4044			
-PSF  Cermet Finishing	VNMG331-PSF	.016	.003 ~ .012	.012 ~ .079																	●	○			
	VNMG332-PSF	.031	.004 ~ .014	.020 ~ .079																		●	○		
																						2537	3582		
																						●	○		
																							2538	3583	

Turning Inserts - Negative

WNMA / WNMG (80° Trigon)



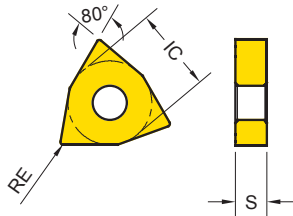
Series	IC	S
WN.. 33	.375	.187
WN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

WNMA WNMG	Designation	RE	Fn (In/rev.)	Ap (In)																					
					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15	P10 M10	N20	N20
..MA  Cast iron	WNMA333	.047	.006 ~ .020	.059 ~ .157	●																				
	WNMA431	.016	.006 ~ .020	.020 ~ .197	●	○	●	○																	
	WNMA432	.031	.006 ~ .020	.039 ~ .197	●	○	●	○																	
	WNMA433	.047	.006 ~ .020	.059 ~ .197	●	○	●	○																	
-UF  Finishing	WNMG331-UF	.016	.002 ~ .008	.020 ~ .079				○			●	●	●	○											
	WNMG431-UF	.016	.002 ~ .010	.020 ~ .098				○			●	●	●	○											
	WNMG432-UF	.031	.002 ~ .010	.039 ~ .098				○			●	●	●	○											
	WNMG433-UF	.047	.002 ~ .010	.059 ~ .098				○			●	●	●	○											
-UL  Light Machining and Sticky Material	WNMG332-UL	.031	.004 ~ .012	.039 ~ .098				○			●	●	●	○											
	WNMG431-UL	.016	.004 ~ .012	.020 ~ .118				○			●	●	●	○											
	WNMG432-UL	.031	.004 ~ .012	.039 ~ .118				○			●	●	●	○											
	WNMG433-UL	.047	.004 ~ .012	.059 ~ .118				○			●	●	●	○											
-UM  Medium Machining Unstable condition	WNMG331-UM	.016	.006 ~ .012	.020 ~ .098	○	○		○			●	●	●	○											
	WNMG332-UM	.031	.006 ~ .012	.039 ~ .098	○	○		○			●	●	●	○											
	WNMG431-UM	.016	.006 ~ .012	.020 ~ .118	○	○		○			●	●	●	○											
	WNMG432-UM	.031	.006 ~ .012	.039 ~ .118	○	○		○			●	●	●	○											
	WNMG433-UM	.047	.006 ~ .012	.059 ~ .118	○	○		○			●	●	●	○											
	WNMG434-UM	.063	.006 ~ .012	.079 ~ .118	○	○		○			●	●	●	○											
NEW -GM  Medium machining for steel & Stainless steel	WNMG331-GM	.016	.004 ~ .016	.000 ~ .000							●	●						●							
	WNMG332-GM	.031	.004 ~ .020	.000 ~ .000							●	●						●							
	WNMG333-GM	.047	.008 ~ .022	.039 ~ .000							●	●						●							
	WNMG431-GM	.016	.004 ~ .016	.000 ~ .000							●	●						●							
	WNMG432-GM	.031	.004 ~ .020	.000 ~ .000							●	●						●							
	WNMG433-GM	.047	.008 ~ .022	.039 ~ .000							●	●						●							
	WNMG434-GM	.063	.008 ~ .022	.039 ~ .000							●	●						●							
											●	●						●							

Turning Inserts - Negative WNMG (80° Trigon)

Refer to
Turning holder
p. 92



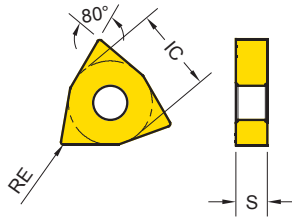
Series	IC	S
WN.. 33	.375	.187
WN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20
					K20	K30												S30				M15	M10		
WWMG					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
Medium Machining at stable condition	WWMG332-UG	.031	.008 ~ .016	.039 ~ .098	●	○	●	○		●	●	●	○	○											
	WWMG431-UG	.016	.008 ~ .016	.020 ~ .118	●	○	●	○		●	●	●	○												
	WWMG432-UG	.031	.008 ~ .016	.039 ~ .118	●	○	●	○	○	●	●	●	○	○			○	○							
	WWMG433-UG	.047	.008 ~ .016	.059 ~ .118	●	○	●	○	○	●	●	●	○												
	WWMG434-UG	.063	.008 ~ .016	.079 ~ .118	●	○	●	○	○	●	●	●	○												
Wiper-Medium	WWMG332-PWM	.031	.004 ~ .016	.031 ~ .098									●												
	WWMG432-PWM	.031	.004 ~ .020	.031 ~ .138						●				●											
	WWMG433-PWM	.047	.004 ~ .020	.039 ~ .138	●					●				●											
Cast iron and Medium roughing	WWMG332-UC	.031	.008 ~ .016	.039 ~ .118	●	○	●	○		●	●	●	●												
	WWMG431-UC	.016	.008 ~ .016	.020 ~ .157	●	○	●	○		●	●	●	●												
	WWMG432-UC	.031	.008 ~ .016	.039 ~ .157	●	○	●	○	○	●	●	●	○	○											
	WWMG433-UC	.047	.008 ~ .016	.059 ~ .157	●	○	●	○	○	●	●	●	●	●											
	WWMG434-UC	.063	.008 ~ .016	.079 ~ .157	●	○	●	○		●	●	●	○	○											
Roughing	WWMG333-UR	.047	.012 ~ .020	.059 ~ .157	●	○		○		●	●	●	●												
	WWMG333-UR	.047	.012 ~ .020	.059 ~ .157			●			●															
	WWMG432-UR	.031	.012 ~ .020	.039 ~ .197	●	○	●	○		●	●	●	●												
	WWMG433-UR	.047	.012 ~ .020	.059 ~ .197	●	○	●	○	○	●	●	●	○	○											
	WWMG434-UR	.063	.012 ~ .020	.079 ~ .197	●	○	●	○	○	●	●	●	●	○											
Cast Iron Heavy Roughing	WWMG333-KR	.047	.012 ~ .024	.059 ~ .157	●																				
	WWMG432-KR	.031	.012 ~ .024	.039 ~ .197	●	○	●	○		●				●											
	WWMG433-KR	.047	.012 ~ .024	.059 ~ .197	●	○	●	○		●				●											

Turning Inserts - Negative WNMG (80° Trigon)

Refer to
Turning holder
p. 92



Series	IC	S
WN.. 33	.375	.187
WN.. 43	.500	.187

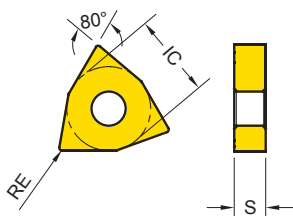
EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
WNGM	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-MF  Stainless steel Finishing	WNMG331-MF	.016	.003 ~ .012	.016 ~ .079				○ 0833	● 2874				○ 0996		● 2461	● 3800	● 1215	● 1217	● 2284	○ 2279					
	WNMG332-MF	.031	.003 ~ .012	.031 ~ .079					● 2890				● 2953		● 2789	● 3803	● 1216	● 1218	● 2285	○ 2280					
	WNMG431-MF	.016	.003 ~ .012	.016 ~ .098					● 2875				○ 0834		● 2462	● 3810	● 0667	● 0668	○ 0970	○ 2281					
	WNMG432-MF	.031	.003 ~ .012	.031 ~ .098					● 2876				○ 1098		● 2463	● 3813	● 0617	● 0618	○ 2268	○ 2282					
-MM  Stainless steel Medium	WNMG431-MM	.016	.008 ~ .014	.020 ~ .138													● 0571	● 0572	○ 2300	○ 2301					
	WNMG432-MM	.031	.008 ~ .014	.039 ~ .138									○ 0491				● 0497	● 0498	○ 0633	○ 2302					
	WNMG433-MM	.047	.008 ~ .014	.059 ~ .138													● 0612	● 0615	○ 1926	○ 2303					
-MG  Stainless steel General	WNMG331-MG	.016	.008 ~ .016	.020 ~ .118											● 2487	● 3801									
	WNMG332-MG	.031	.008 ~ .016	.039 ~ .118											● 2476	● 3804									
	WNMG333-MG	.047	.008 ~ .016	.059 ~ .118											● 2477	● 3807									
	WNMG431-MG	.016	.008 ~ .016	.020 ~ .157											● 2488	● 3811									
	WNMG432-MG	.031	.008 ~ .016	.039 ~ .157											● 2478	● 3814	● 1496	● 1497	● 1160	● 1498					
	WNMG433-MG	.047	.008 ~ .016	.059 ~ .157											● 2479	● 3817	● 1499	● 1500	● 1161	● 1501					
-MR  Stainless steel Roughing	WNMG332-MR	.031	.012 ~ .022	.047 ~ .157											● 2793	● 3805									
	WNMG333-MR	.047	.012 ~ .022	.047 ~ .157									○ 1154		● 2498	● 3808	● 0616	● 1787	● 1896						
	WNMG432-MR	.031	.012 ~ .022	.079 ~ .217									○ 1099		● 2499	● 3815	● 0619	● 0620	● 0835						
	WNMG433-MR	.047	.012 ~ .022	.079 ~ .217									○ 0837		● 2482	● 3818	● 0665	● 0666	● 0836						

Turning Inserts - Negative

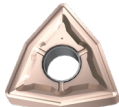
WNGG / WNMG (80° Trigon)

Refer to
Turning holder
p. 92

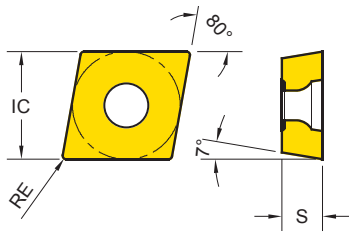


Series	IC	S
WN.. 33	.375	.187
WN.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

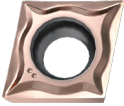
	WNGG WNMG	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20
						K20	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	K30	S30	K15	K10	K10	K10	K10
TURNING		WNGG432-SF	.031	.004 ~ .010	.008 ~ .039	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
																					●	●				
																					1308	4028				
PARTING & GROOVING																										
MILLING		WNMG431-SF	.016	.004 ~ .010	.008 ~ .039																	●				
		WNMG432-SF	.031	.004 ~ .010	.016 ~ .039																	4041				
																						4042				
DRILLING		WNMG432-SM	.031	.006 ~ .012	.020 ~ .118																○	○	○	●	●	
		WNMG433-SM	.047	.006 ~ .012	.020 ~ .118																1199	1206	1859	1311	4030	
																					○	○	○	●	●	
TECHNICAL INFORMATION		WNMG432-SR	.031	.012 ~ .022	.079 ~ .217																					
		WNMG433-SR	.047	.012 ~ .022	.079 ~ .217																					
		WNMG434-SR	.063	.012 ~ .022	.079 ~ .217																					
TECHNICAL INFORMATION		WNMG431-PSF	.016	.003 ~ .012	.016 ~ .098																					
		WNMG432-PSF	.031	.004 ~ .014	.024 ~ .098																					

CCGT / CCMT (80° Rhombic)



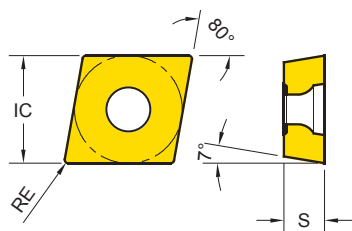
Series	IC	S
CC.. 21.5	.250	.094
CC.. 32.5	.375	.156
CC.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

CCGT CCMT	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	M15	M10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10		
-SF  HRSA Finishing	CCGT21.50-SF	.004	.001 ~ .006	.004 ~ .059																●	●	●					
	CCGT21.50.5-SF	.008	.001 ~ .006	.004 ~ .059																●	●	●					
	CCGT21.51-SF	.016	.001 ~ .008	.004 ~ .094																●	●	●					
	CCGT32.50-SF	.004	.001 ~ .006	.004 ~ .098																●	●	●					
	CCGT32.50.5-SF	.008	.001 ~ .006	.004 ~ .098																●	●	●					
	CCGT32.51-SF	.016	.001 ~ .008	.004 ~ .098																●	●	●					
	CCGT32.52-SF	.031	.001 ~ .010	.004 ~ .098																●	●	●					
-MF  Stainless steel Finishing	CCMT21.50.5-MF	.008	.002 ~ .006	.003 ~ .079											●	●	●	●	●	●	●						
	CCMT21.51-MF	.016	.002 ~ .010	.004 ~ .079											●	●	●	●	●	●	●						
	CCMT21.52-MF	.031	.003 ~ .011	.005 ~ .079											●	●	●	●	●	●	●						
	CCMT32.50.5-MF	.008	.002 ~ .006	.003 ~ .079											●	●	●	●	●	●	●						
	CCMT32.51-MF	.016	.002 ~ .010	.004 ~ .079											●	●	●	●	●	●	●						
	CCMT32.52-MF	.031	.003 ~ .012	.006 ~ .079						○					●	●	●	●	●	●	●						
	CCMT32.53-MF	.047	.004 ~ .013	.008 ~ .079											●	●	●	●	●	●	●						
	CCMT431-MF	.016	.003 ~ .010	.008 ~ .094											●	●											
	CCMT432-MF	.031	.003 ~ .012	.020 ~ .094											●	●											
-MM  Stainless steel Medium	CCMT21.51-MM	.016	.002 ~ .007	.012 ~ .094											●	●					●						
	CCMT21.52-MM	.031	.003 ~ .009	.031 ~ .094											●	●											
	CCMT32.51-MM	.016	.003 ~ .010	.010 ~ .118											●	●	●	●	●	●	●						
	CCMT32.52-MM	.031	.004 ~ .012	.020 ~ .118											●	●	●	●	●	●	●						
	CCMT32.53-MM	.047	.005 ~ .014	.039 ~ .118											●	●	●	●	●	●	●						
	CCMT431-MM	.016	.004 ~ .011	.016 ~ .165											●	●											
	CCMT432-MM	.031	.005 ~ .014	.031 ~ .165											●	●											
	CCMT433-MM	.047	.006 ~ .017	.047 ~ .165											●	●											

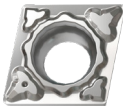
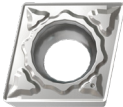
Turning Inserts - Positive

CCMT (80° Rhombic)

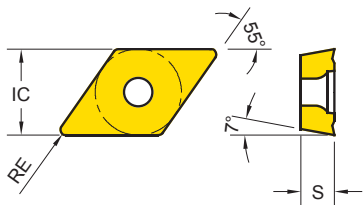


Series	IC	S
CC.. 21.5	.250	.094
CC.. 32.5	.375	.156
CC.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

					S																					
					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20	
CCMT	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG401	YT100	YT100G	YG100	YG10	
- PF  Finishing	CCMT21.50.5-PF	.008	.002 ~ .006	.003 ~ .079						●			●									●	○			
	CCMT21.51-PF	.016	.002 ~ .010	.004 ~ .079						2892			2955									2782	3613			
	CCMT32.50.5-PF	.008	.002 ~ .006	.003 ~ .079						2892			2955									2782	3613			
	CCMT32.51-PF	.016	.002 ~ .010	.004 ~ .079						2893			2956									2710	3607			
	CCMT32.52-PF	.031	.003 ~ .012	.006 ~ .079						2878			2939									2541	3586			
	CCMT32.53-PF	.047	.004 ~ .013	.008 ~ .079						2879			2940									2542	3587			
	CCMT431-PF	.016	.003 ~ .010	.008 ~ .094						2880			2941									2543	3588			
	CCMT432-PF	.031	.003 ~ .012	.020 ~ .094																		3142	3622			
- PM  Medium	CCMT21.51-PM	.016	.002 ~ .007	.010 ~ .094						2917		2981									2784	3615				
	CCMT21.52-PM	.031	.003 ~ .009	.031 ~ .094						2918			2982									2785	3616			
	CCMT32.51-PM	.016	.003 ~ .010	.010 ~ .118						2908			2971									2554	3598			
	CCMT32.52-PM	.031	.004 ~ .012	.020 ~ .118						2909			2972									2555	3599			
	CCMT32.53-PM	.047	.005 ~ .014	.039 ~ .118						2919			2983													
	CCMT431-PM	.016	.004 ~ .011	.016 ~ .165						2920			2984													
	CCMT432-PM	.031	.005 ~ .014	.031 ~ .165						2921			2985													
	CCMT433-PM	.047	.006 ~ .017	.047 ~ .165						2922			2986													

DCGT / DCMT (55° Rhombic)



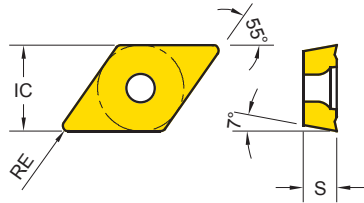
Series	IC	S
DC.. 21.5	.250	.094
DC.. 32.5	.375	.156

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
DCGT DCMT	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-AL  Aluminum	DCGT21.50.5-AL	.008	.000 ~ .008	.002 ~ .118																					● 1399
	DCGT21.51-AL	.016	.001 ~ .012	.004 ~ .157																					● 1400
	DCGT32.50-AL	.004	.000 ~ .012	.002 ~ .157																					● 2101
	DCGT32.50.5-AL	.008	.001 ~ .012	.002 ~ .157																					● 0342
	DCGT32.51-AL	.016	.001 ~ .020	.004 ~ .197																					● 0332
	DCGT32.52-AL	.031	.001 ~ .020	.004 ~ .197																					● 0333
-UF  Finishing	DCMT21.51-UF	.016	.002 ~ .008	.020 ~ .079				○ 0207		● 2397	● 3209	● 0208	● 0209				○ 1909		○ 1903						
	DCMT32.51-UF	.016	.002 ~ .010	.020 ~ .079		○ 1533		○ 0213		● 2208	● 3211	● 0214	● 0215				○ 1044	○ 1043	○ 1910						
	DCMT32.52-UF	.031	.002 ~ .010	.039 ~ .079	● 2053			○ 0219		● 1897	● 3213	● 0220	● 0221												
-UG  General	DCMT21.51-UG	.016	.004 ~ .010	.020 ~ .079	● 1849	○ 3545	○ 0210			● 2391	● 3210	● 0211	● 0212	○ 0013											
	DCMT21.52-UG	.031	.004 ~ .010	.031 ~ .079	● 1850		○ 3546	○ 0484		● 2386	● 3309	● 0717	● 1136												
	DCMT32.51-UG	.016	.006 ~ .012	.020 ~ .098	● 1831	○ 0677	● 3529	○ 0216		● 2209	● 3212	● 0217	● 0218	○ 0014				○ 1520	○ 1522	○ 1521					
	DCMT32.52-UG	.031	.006 ~ .012	.031 ~ .098	● 1832	○ 0678	● 3530	○ 0222		● 2215	● 3214	● 0223	● 0224	○ 0015											
	DCMT32.53-UG	.047	.006 ~ .014	.059 ~ .118							● 2605	● 3393	● 2056												

Turning Inserts - Positive

DCGT / DCMT (55° Rhombic)



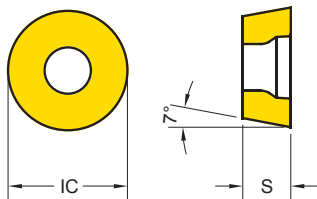
Series	IC	S
DC.. 21.5	.250	.094
DC.. 32.5	.375	.156

EDP 2200.. ● : Stock item ○ : Order made item

DCGT DCMT	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 K15	P10 M10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-SF  HRSA Finishing	DCGT21.50-SF	.004	.001 ~ .006	.004 ~ .059															●	●	●				
	DCGT21.50.5-SF	.008	.001 ~ .006	.004 ~ .059															●	●	●				
	DCGT21.51-SF	.016	.001 ~ .008	.004 ~ .059														○	●	●	●				
	DCGT32.50-SF	.004	.000 ~ .002	.004 ~ .098															●	●	●				
	DCGT32.50.5-SF	.008	.001 ~ .006	.004 ~ .098														○	○	●	●				
	DCGT32.51-SF	.016	.001 ~ .008	.004 ~ .098														○	○	●	●				
	DCGT32.52-SF	.031	.001 ~ .008	.004 ~ .098															1460	1473	1479	1463	4060		
-MF  Stainless steel Finishing	DCMT21.50.5-MF	.008	.002 ~ .006	.002 ~ .059											●	●					●				
	DCMT21.51-MF	.016	.002 ~ .007	.003 ~ .059											2799	3703					4093				
	DCMT32.50.5-MF	.008	.002 ~ .006	.003 ~ .079											2504	3704	1978	1979	1980	2030	4094				
	DCMT32.51-MF	.016	.002 ~ .010	.004 ~ .079											2505	3707	2005	2006	2007	2031	4095				
	DCMT32.52-MF	.031	.003 ~ .012	.006 ~ .079											2506	3708	1885	1886	1927	2032	4096				
															2507	3710	1963	1964	1965	2033	4097				
-MM  Stainless steel Medium	DCMT21.51-MM	.016	.002 ~ .007	.008 ~ .091											2516	3705	1999	2000	2001	2040	4062				
	DCMT21.52-MM	.031	.003 ~ .010	.020 ~ .091								○	1868		2817	3706									
	DCMT32.51-MM	.016	.002 ~ .007	.010 ~ .118											2517	3709	1990	1991	1992	2041	4063				
	DCMT32.52-MM	.031	.003 ~ .010	.020 ~ .118											2518	3711	1984	1985	1986	2042	4064				
	DCMT32.53-MM	.047	.005 ~ .014	.047 ~ .118											2818	3712									
-PF  Finishing	DCMT21.50.5-PF	.008	.002 ~ .006	.002 ~ .059					●				●									●	○		
	DCMT21.51-PF	.016	.002 ~ .007	.003 ~ .059					2896				2959									2783	3614		
	DCMT32.50.5-PF	.008	.002 ~ .006	.003 ~ .079					2881				2942									2544	3589		
	DCMT32.51-PF	.016	.002 ~ .010	.004 ~ .079					2882				2943									2545	3005		
	DCMT32.52-PF	.031	.003 ~ .008	.006 ~ .079					2862				2944									2546	3590		
-PM  Medium	DCMT21.51-PM	.016	.003 ~ .012	.008 ~ .091					2883				2945									2547	3591		
	DCMT21.52-PM	.031	.003 ~ .010	.020 ~ .091					2910				2973									2556	3600		
	DCMT32.51-PM	.016	.002 ~ .007	.010 ~ .118					2923	3385			2987												
	DCMT32.52-PM	.031	.003 ~ .010	.020 ~ .118					2911				2974									2557	3601		
	DCMT32.53-PM	.047	.005 ~ .014	.047 ~ .118					2851				2975									2558	3602		
									2924				2988												

Turning Inserts - Positive

RCMT (Round)

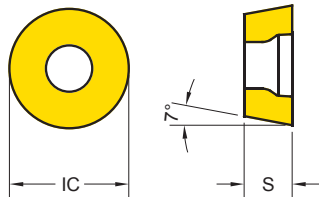


Series	IC	S	Series	IC	S
RC** 0602	.236	.094	RC** 10T3	.394	.156
RC** 0803	.315	.125	RC** 1204	.472	.187
			RC.. 1606	.630	.250

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30 S30	M40	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
RCMT	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
 General	RCMT0602M0	.118	.002 ~ .010	.008 ~ .047	●	○	3549	○	○	2624	3256	0376	1151	0023			○								
	RCMT0803M0	.157	.002 ~ .012	.020 ~ .059	●	○	3550	○	○	2625	3257	0379	1152	0024			○								
	RCMT10T3M0	.197	.004 ~ .014	.020 ~ .098	●	○	3551	○	○	2626	3258	0382	1153	0021			○								
	RCMT1204M0	.236	.006 ~ .018	.020 ~ .118	●	○	3531	○	○	2627	3259	0385	1170	0022			○								
 General	RCMT0602M0-SM	.118	.005 ~ .013	.012 ~ .063																●	●				
	RCMT0803M0-SM	.157	.006 ~ .016	.012 ~ .079																●	●				
	RCMT10T3M0-SM	.197	.007 ~ .018	.016 ~ .098																●	●				
	RCMT1204M0-SM	.236	.008 ~ .022	.020 ~ .118	●					●					●					●	●				
	RCMT1606M0-SM	.315	.010 ~ .030	.028 ~ .157																●	●				

RCMX - Heavy Turning (Round)

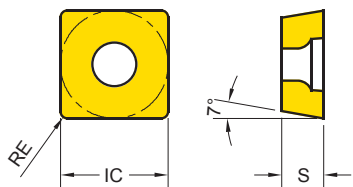


Series	IC	S	Series	IC	S
RC** 1606	.630	.250	RC.. 2507	.984	.313
RC** 2006	.787	.250	RC.. 3209	1.260	.375

EDP 2200.. ● : Stock item ○ : Order made item

[illegible][illegible]

SCGT / SCMT (Square)



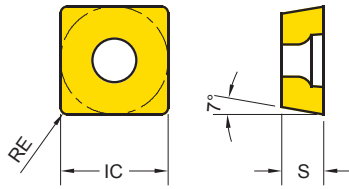
Series	IC	S
SC.. 32.5	.375	.156
SC.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	M15	M10	N20	N20
						K20	K30												S30				K15	K10				
SCGT SCMT	Designation	RE	Fn (In/rev.)	Ap (In)		YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10		
-AL  Aluminium	SCGT32.51-AL	.016	.001 ~ .016	.004 ~ .197																							●	1516
	SCGT32.52-AL	.031	.002 ~ .016	.004 ~ .197																							●	1517
-UF  Finishing	SCMT32.51-UF	.016	.002 ~ .010	.020 ~ .079					○		●	●	●	●														
	SCMT32.52-UF	.031	.002 ~ .010	.039 ~ .079	●				○		●	●	●	●														
						2083			1021		2629	3339	1022	0997														
-UG  General	SCMT32.51-UG	.016	.006 ~ .012	.020 ~ .098	●	○	●	○		●	●	●	●	○				○										
	SCMT32.52-UG	.031	.006 ~ .012	.031 ~ .098	●	○	●	○		●	●	●	●	○				○			○							
	SCMT432-UG	.031	.006 ~ .014	.031 ~ .118	●	○	●	○		●	●	●	●								○							
	SCMT433-UG	.047	.006 ~ .014	.059 ~ .118	●						●	●	●	●														
-MF  Stainless steel Finishing	SCMT32.51-MF	.016	.002 ~ .009	.004 ~ .079												●	●											
	SCMT32.52-MF	.031	.004 ~ .012	.012 ~ .079													●	●				●	●					
	SCMT431-MF	.016	.004 ~ .011	.012 ~ .165													●	●										
	SCMT432-MF	.031	.004 ~ .012	.024 ~ .165													●	●										
-MM  Stainless steel Medium	SCMT32.51-MM	.016	.003 ~ .009	.016 ~ .126												●	●											
	SCMT32.52-MM	.031	.004 ~ .012	.031 ~ .126													●	●								●		
	SCMT32.53-MM	.047	.005 ~ .014	.035 ~ .126													●	●										
	SCMT431-MM	.016	.004 ~ .011	.012 ~ .165													●	●										
	SCMT432-MM	.031	.004 ~ .012	.024 ~ .165													●	●	●	●	●	●	●					
	SCMT433-MM	.047	.006 ~ .018	.047 ~ .165													●	●										

Turning Inserts - Positive

SCMT (Square)

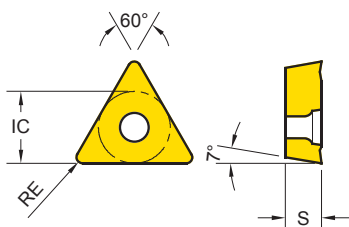


Series	IC	S
SC.. 32.5	.375	.156
SC.. 43	.500	.187

EDP 2200.. ● : Stock item ○ : Order made item

SCMT	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-PF  Finishing	SCMT32.51-PF	.016	.002 ~ .009	.004 ~ .079						●			●												
	SCMT32.52-PF	.031	.004 ~ .012	.012 ~ .079						●			●												
	SCMT431-PF	.016	.004 ~ .011	.012 ~ .165						●			●												
	SCMT432-PF	.031	.004 ~ .012	.024 ~ .165						●			●												
-PM  Medium	SCMT32.51-PM	.016	.003 ~ .009	.016 ~ .126						●			●												
	SCMT32.52-PM	.031	.004 ~ .012	.031 ~ .126						●			●									●	○		
	SCMT32.53-PM	.047	.005 ~ .014	.035 ~ .126						●			●									2853	3617		
	SCMT431-PM	.016	.004 ~ .011	.012 ~ .165						●			●												
	SCMT432-PM	.031	.004 ~ .012	.024 ~ .165						●			●									●	○		
	SCMT433-PM	.047	.006 ~ .018	.047 ~ .165						●			●									2530	3575		
										2925			2989												

TCGT / TCMT (Triangle)



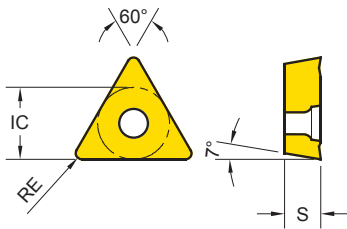
Series	IC	S
TC.. 1.81.5	.219	.094
TC.. 21.5	.250	.094
TC.. 32.5	.375	.156

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20	
TCGT TCMT	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10	
 Aluminum -AL	TCGT21.51-AL	.016	.001 ~ .012	.004 ~ .157																					● 1333	
	TCGT32.50.5-AL	.008	.001 ~ .012	.002 ~ .197																					● 0344	● 0343
	TCGT32.51-AL	.016	.001 ~ .016	.004 ~ .217																					● 0334	● 0085
	TCGT32.52-AL	.031	.001 ~ .020	.004 ~ .217																					● 0335	● 0086
 Finishing -UF	TCMT1.81.51-UF	.016	.002 ~ .008	.020 ~ .059	● 3163					● 3162			● 3164													
	TCMT21.51-UF	.016	.002 ~ .008	.020 ~ .079				○ 0395		● 2384	● 3263	● 0396	● 1196					○ 1033	○ 1034	○ 1645						
	TCMT32.51-UF	.016	.002 ~ .010	.020 ~ .079				○ 0397		● 2377	● 3264	● 0398	● 1046	○ 0033				○ 1906		○ 1905						
	TCMT32.52-UF	.031	.002 ~ .010	.031 ~ .079				○ 0624		● 2369	● 3299	● 0625	● 1045													
 General -UG	TCMT1.81.51-UG	.016	.004 ~ .010	.020 ~ .059	● 3166					● 3165			● 3167													
	TCMT1.81.52-UG	.031	.004 ~ .010	.031 ~ .059	● 3169					● 3168			● 3170													
	TCMT21.51-UG	.016	.004 ~ .010	.020 ~ .079	● 1839	○ 0728	● 3536	○ 0264		● 2642	● 3228	● 0265	● 0266	○ 0032				○ 2240								
	TCMT21.52-UG	.031	.004 ~ .010	.031 ~ .079	● 1851	○ 1814	● 3547	○ 0485		● 2362	● 3308	● 0715	● 1204													
	TCMT32.51-UG	.016	.006 ~ .012	.020 ~ .098	● 1840	○ 0679	● 3537	○ 0267		● 2379	● 3229	● 0268	● 0269													
	TCMT32.52-UG	.031	.006 ~ .012	.031 ~ .098	● 1841	○ 0457	● 3538	○ 0156		● 2175	● 3193	● 0157	○ 0158	○ 0034				○ 2241	○ 1907							

Turning Inserts - Positive

TCMT (Triangle)



Series	IC	S
TC.. 21.5	.250	.094
TC.. 32.5	.375	.156

EDP 2200.. ● : Stock item ○ : Order made item

TCMT	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15	P10 M10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-MF Stainless steel Finishing	TCMT21.50.5-MF	.008	.002 ~ .006	.004 ~ .067											●	●									
	TCMT21.51-MF	.016	.003 ~ .008	.008 ~ .067											●	●				●	●				
	TCMT21.52-MF	.031	.003 ~ .010	.012 ~ .067											●	●				●	●				
	TCMT32.51-MF	.016	.002 ~ .010	.004 ~ .079											●	●	●	●	●	●	●				
	TCMT32.52-MF	.031	.003 ~ .012	.006 ~ .079											●	●	●	●	●	●	●				
-MM Stainless steel Medium	TCMT21.51-MM	.016	.002 ~ .007	.010 ~ .087											●	●									
	TCMT21.52-MM	.031	.004 ~ .010	.020 ~ .087											●	●									
	TCMT32.51-MM	.016	.003 ~ .010	.010 ~ .118											●	●	●	●	●	●	●				
	TCMT32.52-MM	.031	.004 ~ .012	.020 ~ .118											●	●	●	●	●	●	●				
	TCMT32.53-MM	.047	.005 ~ .014	.035 ~ .118											●	●									
-PF Medium	TCMT21.50.5-PF	.008	.002 ~ .006	.004 ~ .067						●			●												
	TCMT21.51-PF	.016	.003 ~ .008	.008 ~ .067						●			●									●	○		
	TCMT21.52-PF	.031	.003 ~ .010	.012 ~ .067						●			●												
	TCMT32.51-PF	.016	.002 ~ .010	.004 ~ .079						●			●									●	○		
	TCMT32.52-PF	.031	.003 ~ .012	.006 ~ .079						●			●									●	○		
-PM Medium	TCMT21.51-PM	.016	.002 ~ .007	.010 ~ .087						●			●												
	TCMT21.52-PM	.031	.004 ~ .010	.020 ~ .087						●			●												
	TCMT32.51-PM	.016	.003 ~ .010	.010 ~ .118						●			●									●	○		
	TCMT32.52-PM	.031	.004 ~ .012	.020 ~ .118						●			●									●	○		
	TCMT32.53-PM	.047	.005 ~ .014	.035 ~ .118						●			●												

TURNING

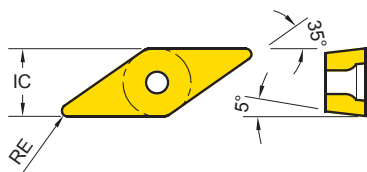
PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

VBGT / VBMT (35° Rhombic)



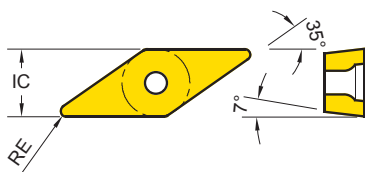
Series	IC	S
VB.. 22	.250	.125
VB.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

						K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	M15	M10	K15	K10	N20	N20		
VBGT VBMT		Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10						
-SF	 HRSA Finishing	VBGT220-SF	.004	.000 ~ .008	.004 ~ .059																2432	4074										
		VBGT220.5-SF	.008	.001 ~ .008	.004 ~ .059																	2433	4075									
		VBGT221-SF	.016	.002 ~ .008	.008 ~ .059																	2358	4076									
		VBGT331-SF	.016	.002 ~ .008	.008 ~ .079																		2350	4077								
		VBGT332-SF	.031	.002 ~ .008	.016 ~ .079																		3172	4078								
-UF	 Finishing	VBMT221-UF	.016	.002 ~ .006	.004 ~ .031						2697																					
		VBMT222-UF	.016	.002 ~ .006	.016 ~ .039						2698																					
		VBMT331-UF	.016	.002 ~ .010	.020 ~ .079			0294			2364	3238	0295	0296																		
		VBMT332-UF	.031	.002 ~ .010	.031 ~ .079			0300			2216	3240	0301	0302																		
-UG	 General	VBMT331-UG	.016	.006 ~ .012	.020 ~ .098	1842	0682	3539	0297		2181	3239	0298	0299	0047																	
		VBMT332-UG	.031	.006 ~ .012	.031 ~ .098	1843	0681	3540	0303		2211	3241	0304	0305	0048																	
-MF	 Stainless steel Finishing	VBMT221-MF	.016	.002 ~ .008	.004 ~ .067											2807	3775					4103										
		VBMT222-MF	.031	.003 ~ .009	.012 ~ .067												2808	3777														
		VBMT330.5-MF	.008	.002 ~ .006	.004 ~ .079												2510	3779	2008	2009	2010	2036	4104									
		VBMT331-MF	.016	.002 ~ .008	.008 ~ .079					2842							2511	3780	1960	1961	1962	2037	4105									
		VBMT332-MF	.031	.003 ~ .011	.012 ~ .079												2512	3782	2011	2012	2013	2038	4106									
-MM	 Stainless steel Medium	VBMT221-MM	.016	.002 ~ .007	.010 ~ .087											2827	3776															
		VBMT222-MM	.031	.003 ~ .009	.020 ~ .087												2828	3778					4079									
		VBMT331-MM	.016	.003 ~ .008	.010 ~ .106												2522	3781	1996	1997	1998	2044	4080									
		VBMT332-MM	.031	.003 ~ .011	.020 ~ .106												2523	3783	1987	1988	1989	2045	4081									
-PF	 Cermet Medium	VBMT221-PF	.016	.002 ~ .008	.004 ~ .067						2904			2967									2854	3618								
		VBMT222-PF	.031	.003 ~ .009	.012 ~ .067						2905			2968																		
		VBMT330.5-PF	.008	.002 ~ .006	.004 ~ .079						2886			2948										2550	3594							
		VBMT331-PF	.016	.002 ~ .008	.008 ~ .079						2863			2949										2551	3595							
		VBMT332-PF	.031	.003 ~ .011	.012 ~ .079						2887			2950										2552	3596							
-PM	 Cermet Medium	VBMT211-PM	.016	.002 ~ .007	.010 ~ .087						2934			2998																		
		VBMT222-PM	.031	.003 ~ .009	.020 ~ .087						2935			2999									2855	3619								
		VBMT331-PM	.016	.003 ~ .008	.010 ~ .106						2915			2979									2561	3605								
		VBMT332-PM	.031	.003 ~ .011	.020 ~ .106						2916			2980									2562	3606								

Turning Inserts - Positive

VCGT / VCMT (35° Rhombic)

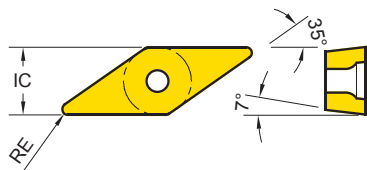


Series	IC	S
VC.. 22	.250	.125
VC.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

					K10	P05 K20	K20	P10 K30	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40 S30	S10	S10	P15 M15 K15	P10 M10 K10	N20	N20
VCGT VCMT	Designation	RE	Fn (In/rev.)	Ap (In)	YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-AL  Aluminum	VCGT220-AL	.004	.001 ~ .006	.002 ~ .118																				●	●
	VCGT220.5-AL	.008	.001 ~ .008	.002 ~ .118																				●	●
	VCGT221-AL	.016	.001 ~ .010	.004 ~ .157																				●	●
	VCGT330.5-AL	.008	.001 ~ .012	.002 ~ .197																				●	●
	VCGT331-AL	.016	.001 ~ .016	.004 ~ .197																				●	●
	VCGT332-AL	.031	.001 ~ .020	.004 ~ .197																				●	●
	VCGT333-AL	.047	.001 ~ .020	.004 ~ .197																				●	●
-SF  HRSA Finishing	VCGT220-SF	.004	.000 ~ .008	.004 ~ .059														●	●	●					
	VCGT220.5-SF	.008	.001 ~ .008	.004 ~ .059														○	○	●	●	●			
	VCGT221-SF	.016	.002 ~ .008	.008 ~ .059																●	●	●			
	VCGT222-SF	.031	.002 ~ .008	.016 ~ .059																●	●	●			
-UF  Finishing	VCMT331-UF	.016	.002 ~ .010	.020 ~ .079				○ 0716		●	●	●	●												
	VCMT332-UF	.031	.002 ~ .010	.039 ~ .079				○ 0557			●	●	●												
-UG  General	VCMT331-UG	.016	.004 ~ .008	.012 ~ .098										○ 0060											
	VCMT332-UG	.031	.006 ~ .012	.031 ~ .098	● 1853	● 3548	○ 0946			●	●	●	●	○ 0061											

Turning Inserts - Positive VCMT (35° Rhombic)



Series	IC	S
VC.. 22	.250	.125
VC.. 33	.375	.187

EDP 2200.. ● : Stock item ○ : Order made item

VCMT	Designation	RE	Fn (In/rev.)	Ap (In)	K10	P05	K20	P10	P15	P10	P25	P20	P30	P20	M25	M35	M15	M30	M40	S10	S10	P15	P10	N20	N20
					YG1010	YG1001	YG1020	YG3010	YG3015	YG3115	YG3125	YG3020	YG3030	YG801	YG2025	YG2035	YG211	YG213	YG214	YG401	YG411	YT100	YT100G	YG100	YG10
-MF  Stainless steel Finishing	VCMT221-MF	.016	.002 ~ .008	.004 ~ .067											●	●	●	●	●	●	●				
	VCMT331-MF	.016	.002 ~ .008	.008 ~ .079											●	●									
	VCMT332-MF	.031	.003 ~ .011	.012 ~ .079											●	●									
-MM  Stainless steel Medium	VCMT221-MM	.016	.002 ~ .007	.010 ~ .087											●	●									
	VCMT331-MM	.016	.003 ~ .008	.010 ~ .106											●	●									
	VCMT332-MM	.031	.003 ~ .011	.020 ~ .106											●	●									
-PF  Finishing	VCMT221-PF	.016	.002 ~ .008	.004 ~ .067					●				●									●	○		
	VCMT331-PF	.016	.002 ~ .008	.008 ~ .079					●				●												
	VCMT332-PF	.031	.003 ~ .011	.012 ~ .079					●				●												
-PM  Medium	VCMT221-PM	.016	.002 ~ .007	.010 ~ .087					●				●												
	VCMT331-PM	.016	.003 ~ .008	.010 ~ .106					●				●												
	VCMT332-PM	.031	.003 ~ .011	.020 ~ .106					●				●												



PCBN TURNING

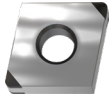
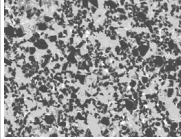
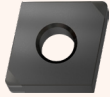
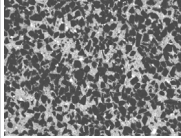
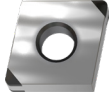
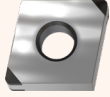
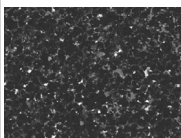
Product Overview

PCBN - Turning Inserts Overview

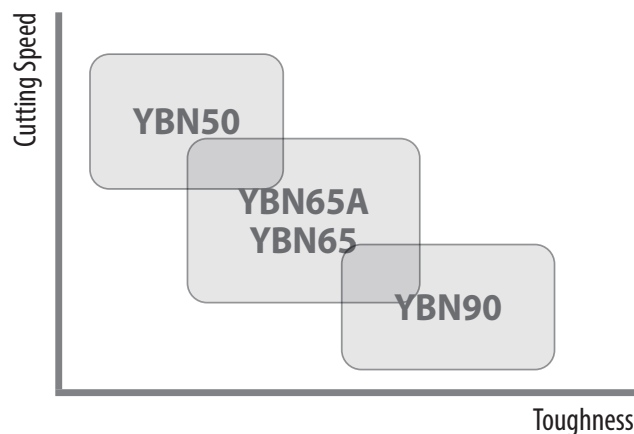
PCBN Turning Inserts

PCBN - Turning Grades

Turning Grades		K Cast iron				H Hardened Steel			
		K10	K20	K30		H10	H20	H30	
PCBN	YBN50					YBN50			
	YBN65						YBN65		
	YBN65A						YBN65A		
	YBN90		YBN90					YBN90	

NEW YBN50 H5 - H15			Uncoated PCBN grade for Continuous to light interrupted turning of hardened steels • Low content PCBN with excellent chemical wear resistance
NEW YBN65A H10 - H25			Coated PCBN Grade for Continuous to Medium interrupted turning of hardened steels • A coated(AlTiSiN Multi layer) PCBN grade for higher cutting speed • Medium content PCBN with superior edge toughness, Good flank and crater wear resistance • Suitable for both roughing and finishing
NEW YBN65 H10 - H25			Uncoated PCBN grade for Continuous to Medium interrupted turning of hardened steels • Medium content PCBN with superior edge toughness, good flank and crater wear resistance • Suitable for both roughing and finishing
NEW YBN90 H20 - H35 K05 - K20			Uncoated PCBN grade of Severe interrupted turning of hardened steels, and the Stable machining of Gray Cast iron, Sintered alloy steel • High content PCBN with high wear resistance, superior impact strength • Excellent edge quality and retention

H - Hardened Steels



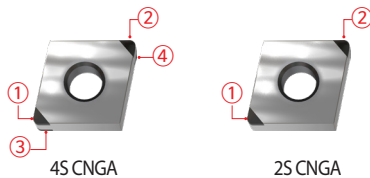
Product Overview

PCBN - Turning Insert Code System

1	2	3	4	5	6
2	S	CNGA432	S	004 20	WG
Number of PCBN corner	PCBN Length	Insert ISO Code System	Edge preparation	① Chamfer width ② Chamfer angel	Special shape

1 - Number of PCBN corner

1	One corner PCBN
2	Two corner PCBN



3 - Insert ISO Code System

Refer to Page. 16

6 - Special shape

WG	Wiper
None	No Wiper

4 - Edge preparation

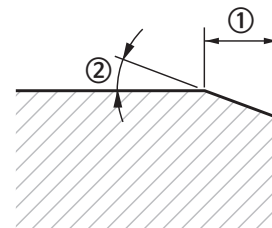
T	T-Land, None Honing
S	T-Land with Honed
X	Special land shape

2 - PCBN Length

N	Normal PCBN tip length, Regrindable
S	Small PCBN tip length One time use
SD	Solid PCBN
FT	Full Top PCBN

5 - Chamfer

①	Chamfer width (004 means .004inch)
②	Chamfer angle (20 means 20°)



Grade Name Code System

1	2	3	4
Y	BN	65	A
Company Name	Materials	Contents of PCBN	Kind of Coating

1 - Company Name

Y	YG-1
----------	------

2 - Materials

BN	PCBN
-----------	------

3 - Contents of PCBN

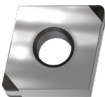
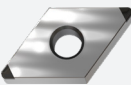
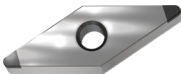
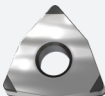
50	50%
65	65%
90	90%

4 - Kind of Coating

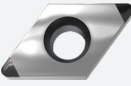
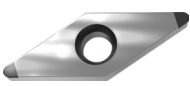
None	Uncoated
A	AlTiSiN multi-layer
B	TiAlN-TiN

PCBN - Turning Inserts Overview

Negative Inserts

Shape	Series	No. of PCBN Eege	Size & Thickness								Page
C		CNGA	2						43		73
			4						43		
D		DNGA	2						43	44	74
			4						43		
S		SNGA	4						43		75
T		TNGA	3					33			76
			6					33			
V		VNGA	2					33			77
W		WNGA	3						43		78
			6						43		

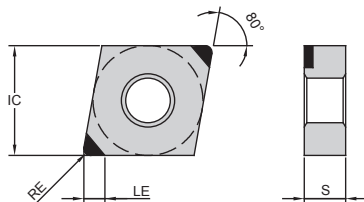
Positive Inserts

Shape	Series	No. of PCBN Eege	Size & Thickness								Page
C		CCGW	2		21.5		32.5				79
D		DCGW	2		21.5		32.5				80
S		SCGW	2				32.5				81
T		TCGW	3	1.81.5	21.5		32.5				82
		TPGW	3	1.81.5		22		33			83
V		VBGW	2			22		33			84
		VCGW	2			22		33			85

Turning Inserts - Negative

CNGA - PCBN (80° Rhombic)

Refer to
Turning holder
p.87



Series	IC	S
CN.. 43	.500	.187

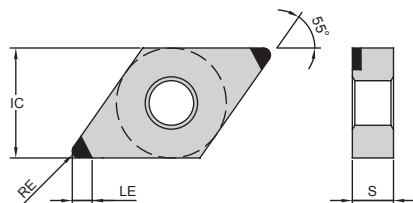
EDP 2200..

● : Stock item ○ : Order made item

H05 - H15	H10 - H25	H10 - H25	H20 - H35
YBN50	YBN65	YBN65A	YBN90
●	●	●	●
3009	3010	3011	3065
●	●	●	●
3012	3013	3014	3015
●	●	●	●
3016	3017	3018	3066
●	●	●	●
3019	3020	3021	3067
●	●	●	●
3022			



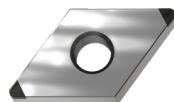
CNGA	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge
	2S CNGA431 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2
	2S CNGA432 S00525	.031	.094	.001 ~ .008	.002 ~ .012	2
	2S CNGA432 T00420	.031	.094	.001 ~ .008	.002 ~ .012	2
	4S CNGA432 S00525	.031	.094	.001 ~ .008	.002 ~ .012	4
	2S CNGA433 S00525	.047	.091	.001 ~ .008	.002 ~ .012	2
	2S CNGA431 S00515WG	.016	.098	.001 ~ .008	.002 ~ .012	2
	2S CNGA432 S00515WG	.031	.094	.001 ~ .008	.002 ~ .012	2
	2S CNGA432 T00420 WG	.031	.094	.001 ~ .008	.002 ~ .012	2
	4S CNGA432 S00515 WG	.031	.094	.001 ~ .008	.002 ~ .012	4
	4S CNGA432 T00420 WG	.031	.094	.001 ~ .008	.002 ~ .012	4
	2S CNGA433 S00515 WG	.047	.091	.001 ~ .008	.002 ~ .012	2



Series	IC	S
DN.. 43	.500	.187
DN.. 44	.500	.250

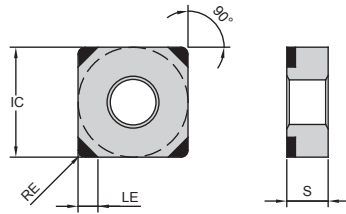
H05 - H15	H10 - H25	H10 - H25	H20 - H35
YBN50	YBN65	YBN65A	YBN90
	● 3023		
● 3024	● 3025	● 3026	
			● 3068
	● 3027	● 3028	
	● 3029		
	● 3030		
● 3031	● 3032	● 3033	
			● 3069
	● 3034		

DNGA	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge
	2S DNGA431 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2
	2S DNGA432 S00525	.031	.091	.001 ~ .008	.002 ~ .012	2
	2S DNGA432 T00420	.031	.091	.001 ~ .008	.002 ~ .012	2
	4S DNGA432 S00525	.031	.091	.001 ~ .008	.002 ~ .012	4
	2S DNGA433 S00525	.047	.079	.001 ~ .008	.002 ~ .012	2
	2S DNGA441 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2
	2S DNGA442 S00525	.031	.091	.001 ~ .008	.002 ~ .012	2
	2S DNGA442 T00420	.031	.091	.001 ~ .008	.002 ~ .012	2
	2S DNGA443 S00525	.047	.079	.001 ~ .008	.002 ~ .012	2



Turning Inserts - Negative SNGA - PCBN (Square)

Refer to
Turning holder
p. 89



Series	IC	S
SN.. 43	.500	.187

SNGA	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	4S SNGA431 S00525	.016	.091	.001 ~ .008	.002 ~ .012	4		● 3035		
	4S SNGA432 S00525	.031	.091	.001 ~ .008	.002 ~ .012	4	● 3036	● 3037	● 3038	
	4S SNGA432 T00420	.031	.091	.001 ~ .008	.002 ~ .012	4				● 3070
	4S SNGA433 S00525	.047	.091	.001 ~ .008	.002 ~ .012	4		● 3039		

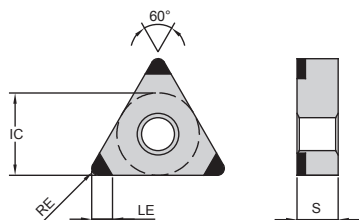
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



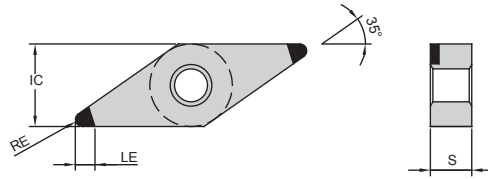
Series	IC	S
TN.. 33	.375	.187

TNGA	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	3S TNGA331 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3040		
	3S TNGA332 S00525	.031	.091	.001 ~ .008	.002 ~ .012	3	● 3041	● 3042	● 3043	
	3S TNGA332 T00420	.031	.091	.001 ~ .008	.002 ~ .012	3				● 3071
	6S TNGA332 S00525	.031	.091	.001 ~ .008	.002 ~ .012	6		● 3044	● 3045	
	3S TNGA333 S00525	.047	.079	.001 ~ .008	.002 ~ .012	3		● 3046		

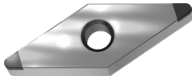
Turning Inserts - Negative

VNGA - PCBN (35° Rhombic)

Refer to
Turning holder
p. 91



Series	IC	S
VN.. 33	.375	.187

VNGA	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	2S VNGA331 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3047		
	2S VNGA332 S00525	.031	.079	.001 ~ .008	.002 ~ .012	2	● 3048	● 3049	● 3050	
	2S VNGA332 T00420	.031	.079	.001 ~ .008	.002 ~ .012	2				● 3072

TURNING

PARTING & GROOVING

MILLING

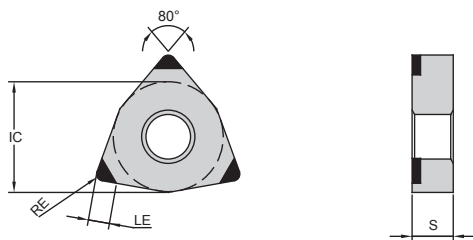
DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative

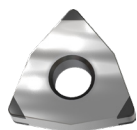
WNGA - PCBN (80° Trigon)

Refer to
Turning holder
p.92



Series	IC	S
WN.. 43	.500	.187

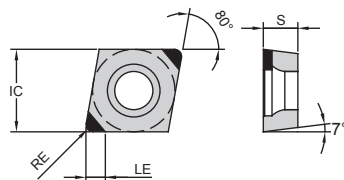
H05 - H15	H10 - H25	H10 - H25	H20 - H35
YBN50	YBN65	YBN65A	YBN90
	●		
3052	3053	3054	
			●
	3055	3056	
	3057		
	3058		
3059	3060	3061	
			●
	3062	3063	
	3064		



WNGA	Designation	RE	LE	Fn (in/rev.)	Ap (in)	No. of PCBN Edge
	3S WNGA431 S00525	.016	.098	.001 ~ .008	.002 ~ .012	3
	3S WNGA432 S00525	.031	.094	.001 ~ .008	.002 ~ .012	3
	3S WNGA432 T00420	.031	.094	.001 ~ .008	.002 ~ .012	3
	6S WNGA432 S00525	.031	.094	.001 ~ .008	.002 ~ .012	6
	3S WNGA433 S00525	.047	.091	.001 ~ .008	.002 ~ .012	3
	3S WNGA431 S00515 WG	.016	.098	.001 ~ .008	.002 ~ .012	3
	3S WNGA432 S00515 WG	.031	.094	.001 ~ .008	.002 ~ .012	3
	3S WNGA432 T00420 WG	.031	.094	.001 ~ .008	.002 ~ .012	3
	6S WNGA432 S00515 WG	.031	.094	.001 ~ .008	.002 ~ .012	6
	3S WNGA433 S00515 WG	.047	.091	.001 ~ .008	.002 ~ .012	3

Turning Inserts - Positive

CCGW - PCBN (80° Rhombic)

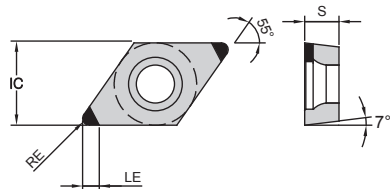


Series	IC	S
CC.. 21.5	.250	.094
CC.. 32.5	.375	.156

CCGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	2S CCGW21.50.5 S00525	.008	.102	.001 ~ .008	.002 ~ .012	2		● 3075		
	2S CCGW21.51 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2	● 3076	● 3077	● 3078	
	2S CCGW21.51 T00420	.016	.098	.001 ~ .008	.002 ~ .012	2				● 3133
	2S CCGW21.52 S00525	.031	.094	.001 ~ .008	.002 ~ .012	2		● 3079	● 3080	
	2S CCGW32.50.5 S00525	.008	.102	.001 ~ .008	.002 ~ .012	2		● 3081		
	2S CCGW32.51 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3082	● 3083	
	2S CCGW32.52 S00525	.031	.094	.001 ~ .008	.002 ~ .012	2	● 3084	● 3085	● 3086	
	2S CCGW32.52 T00420	.031	.094	.001 ~ .008	.002 ~ .012	2				● 3134
	2S CCGW32.51 S00515 WG	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3087	● 3088	
	2S CCGW32.52 S00515 WG	.031	.094	.001 ~ .008	.002 ~ .012	2		● 3089	● 3090	



DCGW - PCBN (55° Rhombic)

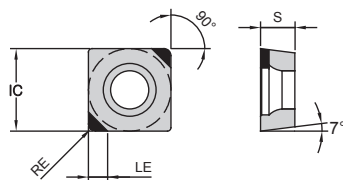


Series	IC	S
DC.. 21.5	.250	.094
DC.. 32.5	.375	.156

DCGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	2S DCGW21.50.5 S00525	.008	.106	.001 ~ .008	.002 ~ .012	2		● 3091		
	2S DCGW21.51 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3092	● 3093	
	2S DCGW21.52 S00525	.031	.091	.001 ~ .008	.002 ~ .012	2	● 3094	● 3095	● 3096	
	2S DCGW21.52 T00420	.031	.091	.001 ~ .008	.002 ~ .012	2				● 3135
	2S DCGW32.50.5 S00525	.008	.106	.001 ~ .008	.002 ~ .012	2		● 3097	● 3098	
	2S DCGW32.51 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3099	● 3100	
	2S DCGW32.52 S00525	.031	.091	.001 ~ .008	.002 ~ .012	2	● 3101	● 3102	● 3103	
	2S DCGW32.52 T00420	.031	.091	.001 ~ .008	.002 ~ .012	2				● 3136

Turning Inserts - Positive

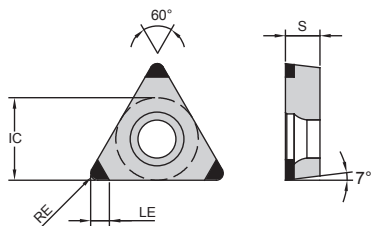
SCGW - PCBN (Square)



Series	IC	S
SC.. 32.5	.375	.156

SCGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	2S SCGW32.51 S00525	.016	.091	.001 ~ .008	.002 ~ .012	2		● 3104		
	2S SCGW32.52 S00525	.031	.091	.001 ~ .008	.002 ~ .012	2		● 3105		

TCGW - PCBN (Triangle)

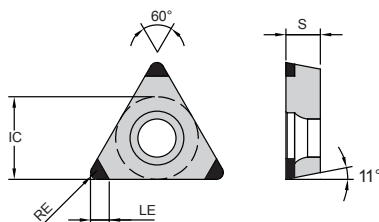


Series	IC	S
TC.. 1.81.5	.219	.094
TC.. 21.5	.250	.094
TC.. 32.5	.375	.156

TCGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	3STCGW1.81.51 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3106		
	3STCGW21.51 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3107	● 3108	
	3STCGW21.52 S00525	.031	.091	.001 ~ .008	.002 ~ .012	3		● 3109	● 3110	
	3STCGW32.51 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3111	● 3112	
	3STCGW32.52 S00525	.031	.091	.001 ~ .008	.002 ~ .012	3	● 3113	● 3114	● 3115	
	3STCGW32.52 T00420	.031	.091	.001 ~ .008	.002 ~ .012	3				● 3137

Turning Inserts - Positive

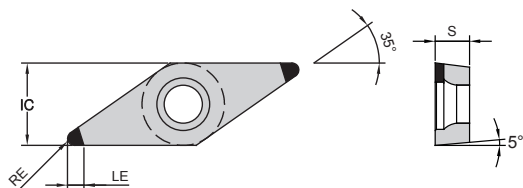
TPGW - PCBN (Triangle)



Series	IC	S
TP.. 1.81.5	.219	.094
TP.. 22	.250	.125
TP.. 33	.375	.187

TPGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	3S TPGW1.81.51 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3116		
	3S TPGW1.81.52 S00525	.031	.091	.001 ~ .008	.002 ~ .012	3		● 3117		
	3S TPGW221 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3118		
	3S TPGW222 S00525	.031	.091	.001 ~ .008	.002 ~ .012	3		● 3119		
	3S TPGW331 S00525	.016	.102	.001 ~ .008	.002 ~ .012	3		● 3120		
	3S TPGW332 S00525	.031	.091	.001 ~ .008	.002 ~ .012	3		● 3121		

VBGW - PCBN (35° Rhombic)

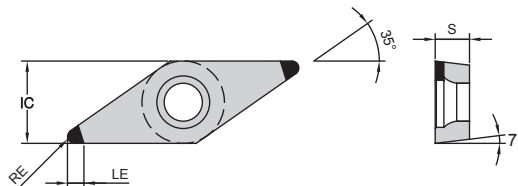


Series	IC	S
VB.. 22	.250	.125
VB.. 33	.375	.187

VBGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	2S VBGW221 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3122		
	2S VBGW222 S00525	.031	.079	.001 ~ .008	.002 ~ .012	2		● 3123		
	2S VBGW331 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3124	● 3125	
	2S VBGW332 S00525	.031	.079	.001 ~ .008	.002 ~ .012	2	● 3126	● 3127	● 3128	
	2S VBGW332 T00420	.031	.079	.001 ~ .008	.002 ~ .012	2				● 3138

Turning Inserts - Positive

VCGW - PCBN (35° Rhombic)



Series	IC	S
VC.. 22	.250	.125
VC.. 33	.375	.187

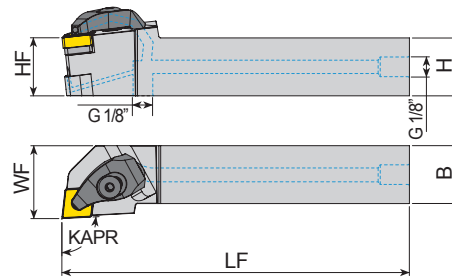
VCGW	Designation	RE	LE	Fn (In/rev.)	Ap (In)	No. of PCBN Edge	H05 - H15	H10 - H25	H10 - H25	H20 - H35 K05 - K20
							YBN50	YBN65	YBN65A	YBN90
	2S VCGW221 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3129		
	2S VCGW222 S00525	.031	.079	.001 ~ .008	.002 ~ .012	2		● 3130		
	2S VCGW331 S00525	.016	.098	.001 ~ .008	.002 ~ .012	2		● 3131		
	2S VCGW332 S00525	.031	.079	.001 ~ .008	.002 ~ .012	2		● 3132		

External Holders Overview

Series		Turning Holder		
	CNMA CNMG CNGG CNMM			
	p. 26	p. 87	p. 87	p. 87
	DNMA DNMG DNGG DNMM DNUX			
	p. 31	p. 88	p. 88	
	SNMA SNMG SNMM			
	p. 38	p. 89	p. 89	p. 89
	TNMA TNMG TNGG TNMM TNUX			
	p. 42	p. 90		
	VNMA VNMG VNGG			
	p. 49	p. 91	p. 91	
	WNMA WNMG WNGG			
	p. 51	p. 92		

Turning - Holder - External

Double Clamp with Internal coolant type for CN** Insert



* 'C' Letter at Last : Optional Clamp Included

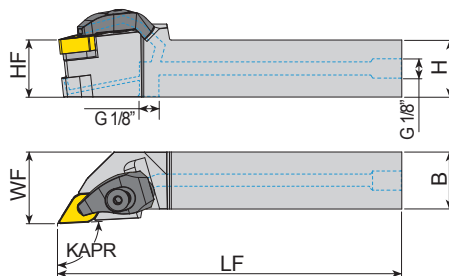
: p. 26

Unit: inch

Series	Designation	EDP 2700.. R L	H (= HF)	B	WF	LF	Insert
 DCBNR/L Approach angle 75°	● DCBNR/L 124B - C	2337 2336	.75	.75	.79	4.5	CNMG43
	● DCBNR/L 164D - C	1520 1521	1	1	.79	6	
	● DCBNR/L 204D - C	1522 1523	1.25	1.25	.99	6	
 DCKNR/L Approach angle 75°	● DCKNR/L 124B - C	2339 2338	.75	.75	1	4.5	
	● DCKNR/L 164D - C	1516 1517	1	1	1.25	6	
	● DCKNR/L 204D - C	1518 1519	1.25	1.25	1.5	6	
 DCLNR/L Approach angle 95°	● DCLNR/L 164D - C	1502 1503	1	1	1.25	6	CNMG54
	● DCLNR/L 165D - C	1506 1507	1	1	1.25	6	
	● DCLNR/L 204D - C	1504 1505	1.25	1.25	1.5	6	CNMG43
	● DCLNR/L 205D - C	1508 1509	1.25	1.25	1.5	6	CNMG54
	● DCLNR/L 206D - C	1512 1513	1.25	1.25	1.5	6	CNMG64
	● DCLNR/L 245E - C	2342 2340	1.5	1.5	2	7	CNMG54
	● DCLNR/L 246E - C	2343 2341	1.5	1.5	2	7	CNMG64
	● DCLNR/L 124B - C	1500 1501	.75	.75	1	4.5	CNMG43

Series	Information	Clamp		Clamp Screw	Shim	Shim Screw	Spring	O-RING	Allen Key
		R	L						
DC.4	Description	YATKH-01-R	YATKH-02-L	YAKV-33-M6X22	YAACN-3-0001	YAAV-13-M5x8	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220	18000221	18000222	18000137	18000163	28000044	18000223	18000061
DC.5	Description	YATKH-07-R	YATKH-08-L	YAKV-39-M7X21	YAACN-3-0002	YAAV-05-M6x15	YAKY-01 YAKY-02	YAXR-01	YAAL-05-4
	EDP	28000051	28000052	28000056	18000138	28000046	28000044 18000164	18000223	18000062
DC.6	Description	YATKH-09-R	YATKH-10-L	YAKV-39-M7x21	YAACN-3-0003	YAAV-17-M6X14	YAKY-01 YAKY-02	YAXR-01	YAAL-05-4
	EDP	28000053	28000054	28000056	18000139	28000057	28000044 18000164	18000223	18000062

Double Clamp with Internal coolant type for DN** Insert



* 'C' Letter at Last : Optional Clamp Included

: p.31

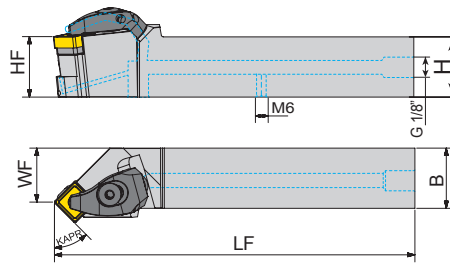
Unit: inch

Series		Designation	EDP 2700.. R L	H (= HF)	B	WF	LF	Insert
DDJNR/L Approach angle 93°	●	DDJNR/L 124B - C	1524 1525	.75	.75	1	4.5	DNMG43
		DDJNR/L 164D - C	1526 1527	1	1	1.25	6	
		DDJNR/L 204D - C	1528 1529	1.25	1.25	1.5	6	
DDNNN Approach angle 62.5°	●	DDNNN 164D - C	1530	1	1	.5	6	
		DDNNN 204D - C	1531	1.25	1.25	.625	6	

Series	Information	Clamp		Clamp Screw	Shim	Shim Screw	Spring	O-RING	Allen Key
		R	L						
DDJ..4	Description	YATKH-01-R	YATKH-02-L	YAKV-33-M6X22	YAADN-2-0003	YAAV-02-M5X12	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220	18000221	18000222	18000139	18000156	28000044	18000223	18000061
DDN..4	Description	YATKH-01-R		YAKV-33-M6X22	YAADN-2-0003	YAAV-02-M5X12	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220		18000222	18000139	18000156	28000044	18000223	18000061

Turning - Holder - External

Double Clamp with Internal coolant type for SN** Insert



* 'C' Letter at Last : Optional Clamp Included

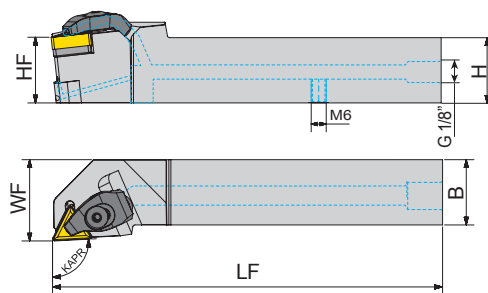
: p. 38

Unit: inch

Series	Designation	EDP 2700.. R L	H (= HF)	B	WF	LF	Insert
 DSBNR/L Approach angle 75°	DSBNR/L 164D - C	1532 1533	1	1	.79	6	SNMG43
	DSBNR/L 165D - C	1536 1537	1	1	.79	6	SNMG54
	DSBNR/L 204D - C	1534 1535	1.25	1.25	.99	6	SNMG43
	DSBNR/L 205D - C	1538 1539	1.25	1.25	.99	6	SNMG54
 DSDNN Approach angle 45°	DSDNN 164D - C	1550	1	1	.5	6	SNMG43
	DSDNN 165D - C	1552	1	1	.5	6	SNMG54
	DSDNN 204D - C	1551	1.25	1.25	.625	6	SNMG43
	DSDNN 205D - C	1553	1.25	1.25	.625	6	SNMG54
	DSDNN 245E - C	2344	1.5	1.5	.75	7	SNMG54
 DSSNR/L Approach angle 45°	DSSNR/L 164D - C	1540 1541	1	1	1.25	6	SNMG43
	DSSNR/L 165D - C	1544 1545	1	1	1.25	6	SNMG54
	DSSNR/L 204D - C	1542 1543	1.25	1.25	1.5	6	SNMG43
	DSSNR/L 205D - C	1546 1547	1.25	1.25	1.5	6	SNMG54
	DSSNR/L 245E - C	2346 2345	1.5	1.5	2	5	SNMG54

Series	Information	Clamp		Clamp Screw	Shim	Shim Screw	Spring	O-RING	Allen Key
		R	L						
DSB.4	Description	YATKH-01-R	YATKH-02-L	YAKV-33-M6X22	YAASN-3-0004	YAAV-13-M5X8	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220	18000221	18000222	18000145	18000163	28000044	18000223	18000061
DSB.5	Description	YATKH-07-R	YATKH-08-L	YAKV-39-M7x21	YAASN-3-0023	YAAV-05-M6X10	YAKY-01	YAXR-01	YAAL-05-4
	EDP	28000051	28000052	28000056	18000219	28000046	28000044	18000223	18000062
DSD.4	Description	YATKH-01-R		YAKV-33-M6X22	YAASN-3-0004	YAAV-13-M5X8	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220		18000222	18000145	18000163	28000044	18000223	18000061
DSD.5	Description	YATKH-07-R		YAKV-39-M7x21	YAASN-3-0023	YAAV-05-M6X10	YAKY-01 YAKY-02	YAXR-01	YAAL-05-4
	EDP	28000051		28000056	18000219	28000046	28000044 18000164	18000223	18000062
DSS.4	Description	YATKH-02-L	YATKH-01-R	YAKV-33-M6X22	YAASN-3-0004	YAAV-13-M5X8	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000221	18000220	18000222	18000145	18000163	28000044	18000223	18000061
DSS.5	Description	YATKH-08-L	YATKH-07-R	YAKV-39-M7x21	YAASN-3-0023	YAAV-05-M6X10	YAKY-01 YAKY-02	YAXR-01	YAAL-05-4
	EDP	28000052	28000051	28000056	18000219	28000046	28000044 18000164	18000223	18000061

Double Clamp with Internal coolant type for TN** Insert



* 'C' Letter at Last : Optional Clamp Included

: p. 42

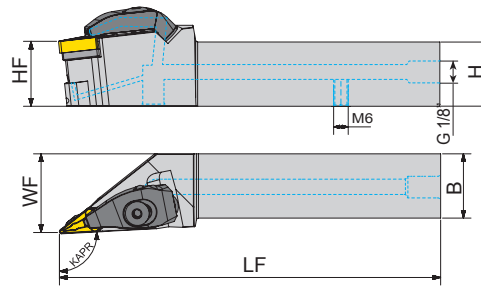
Unit: inch

Series	Designation	EDP 2700.. R L	H (= HF)	B	WF	LF	Insert
 DTJNR/L Approach angle 93°	DTJNR/L 163D - C	1555 2347	1	1	1.25	6	TNMG33
	DTJNR/L 164D - C	1559 2348	1	1	1.25	6	TNMG43
	DTJNR/L 203D - C	1557 2349	1.25	1.25	1.5	6	TNMG33
	DTJNR/L 204D - C	1561 2350	1.25	1.25	1.5	6	TNMG43

Series	Information	Clamp		Clamp Screw	Shim	Shim Screw	Spring	O-RING	Allen Key
		R	L						
DTJ..3	Description	YATKH-03-R	YATKH-04-L	YAKV-37-MSX18	YAATN-2-0002	YAAV-03-MSX12	YAKY-03	YAXR-02	YAAL-02-2.5
	EDP	28000047	28000048	28000055	18000147	18000157	28000045	28000078	18000060
DTJ..4	Description	YATKH-01-R	YATKH-02-L	YAKV-33-M6X22	YAATN-3-0015	YAAV-13-M5X8	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220	18000221	18000222	18000148	18000163	28000044	18000223	18000061

Turning - Holder - External

Double Clamp with Internal coolant type for VN** Insert



* 'C' Letter at Last : Optional Clamp Included

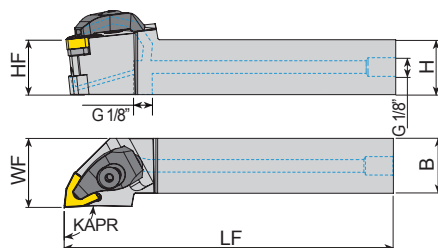
□ : p.49

Unit: inch

Series	Designation	EDP 2700.. R L	H (= HF)	B	WF	LF	Insert
DVJNR/L Approach angle 93°	DVJNR/L 123B - C	1563 1564	.75	.75	1	4	VNMG33
	DVJNR/L 163D - C	1565 1566	1	1	1.25	6	
	DVJNR/L 203D - C	1567 1568	1.25	1.25	1.25	6	
DVVNN Approach angle 72.5°	DVVNN 123B - C	1569	.75	.75	.375	4	
	DVVNN 163D - C	1570	1	1	.5	6	

Series	Information	Clamp		Clamp Screw	Shim	Shim Screw	Spring	O-RING	Allen Key
		R	L						
DVJ.3	Description	YATKH-05-R	YATKH-06-L	YAKV-33-M6X22	YAAVN-2-0002	YAAV-04-M5x12	YAKY-01	YAXR-01	YAAL-03-3
	EDP	28000049	28000050	18000222	18000150	18000158	28000044	18000223	18000061
DVV.3	Description	YATKH-05-R		YAKV-33-M6X22	YAAVN-2-0002	YAAV-04-M5x12	YAKY-01	YAXR-01	YAAL-03-3
	EDP	28000049		18000222	18000150	18000158	28000044	18000223	18000061

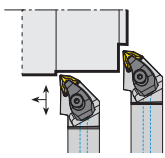
Double Clamp with Internal coolant type for WN** Insert



* 'C' Letter at Last : Optional Clamp Included

 : p. 51

Unit: inch

Series		Designation	EDP 2700.. R L	H (= HF)	B	WF	LF	Insert
 DWLNR/L Approach angle 95°		DWLNR/L 123B - C	1571 1572	.75	.75	1	4.5	WNMG33
		DWLNR/L 124B - C	1575 1576	.75	.75	1	4.5	WNMG43
	●	DWLNR/L 163D - C	1573 1574	1	1	1.25	6	WNMG33
		DWLNR/L 164D - C	1577 1578	1	1	1.25	6	WNMG43
		DWLNR/L 204D - C	1579 1580	1.25	1.25	1.5	6	

Series	Information	Clamp		Clamp Screw	Shim	Shim Screw	Spring	O-RING	Allen Key
		R	L						
DWL.3	Description	YATKH-03-R	YATKH-04-L	YAKV-37-M5X18	YAAWN-SW317	YAAV-01-M3X10	YAKY-03	YAXR-02	YAAL-02-2.5
	EDP	28000047	28000048	28000055	18000152	18000155	28000045	28000078	18000060
DWL.4	Description	YATKH-01-R	YATKH-02-L	YAKV-33-M6X22	YAAWN-3-0001	YAAV-13-M5X8	YAKY-01	YAXR-01	YAAL-03-3
	EDP	18000220	18000221	18000222	18000151	18000163	28000044	18000223	18000061



PARTING & GROOVING

Parting & Grooving Inserts Overview

Parting & Grooving Inserts

Parting & Grooving Holders

Parting & Grooving Overview

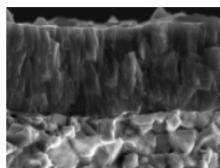
Parting & Groove Turn Grades

Parting and Grooving Grades		P Steel				M Stainless steel				K Cast iron			N Non Ferrous		S Super Alloy	
		P10	P20	P30	P40	M10	M20	M30	M40	K10	K20	K30	N10	N20	S10	S20
PVD	YG602G (YG602)			602G				602G				602G				602G
	YG603							603								

YG602G (YG602)

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

PVD - TiAlN



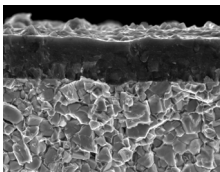
Universal grade for Parting & Groove Turn

- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application
- YG602G : First Choice for Low Cutting Speed, Soft and Sticky Material with Low Hardness (Gold Color)
- YG602 : First Choice for General Application (Violet Color)

YG603

M30 - M50

PVD - TiAlN



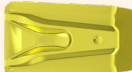
PVD Parting & Grooving Grade for Stainless Steel

- Ultra high toughness substrate and strong adhesion
- Excellent cutting edge strength and chipping resistance
- Stable machinability and tool life for stainless steel

Parting & Grooving Inserts

	TD. Series	Inserts	2, 3, 4, 5, 6, 8
		TDN, TDP, TDY	

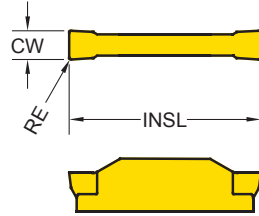
Parting & Grooving Chipbreakers

Parting & Grooving	-P			• For Parting & Grooving • For Low Feed Rate and Difficult to Cut Materials
	-N			• For External Parting And Grooving • For General Use
Turning & Grooving	-Y			• For External Turning & Grooving • For Medium feed rate
	GL			• For External, Internal turning and Grooving • Face grooving and Face turning • For low feed rate
	GM			• For External, Internal turning and Grooving • First choice Face Grooving and Face turning • For Medium feed rate
	RG			• For External, Internal turning and Grooving • Full radius Insert for Profiling

Parting & Grooving

Parting & Grooving Inserts

Recommended Cutting Conditions : p.190



Series	INSL	CW	Series	INSL	CW
TD * 2	.787	.079	TD * 5	.984	.197
TD * 3	.787	.118	TD * 6	.984	.236
TD * 4	.787	.157	TD * 8	1.181	.315

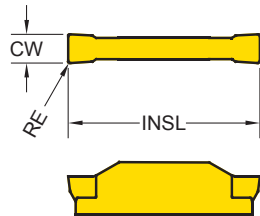
* CDX : Cutting Depth Maximum

● : Stock item ○ : Order made item

TD.	Designation	RE (In)	Parting & Grooving		Turning		EDP 5200..			
			Fn (In/rev.)	CDX (In)	Fn (In/rev.)	Ap	YG602	YG602G	YG603	
-P	 Parting & Grooving (Sharp edge)	TDP 2002	.008	.002 ~ .005	.748	-	-	● 0012	○ 0036	● 0078
		TDP 3002	.008	.002 ~ .006	.748	-	-	● 0029	○ 0030	● 0076
		TDP 4003	.012	.002 ~ .007	.748	-	-	● 0023	○ 0038	● 0080
		TDP5003	.012	.002 ~ .008	.945	-	-	● 0142	○ 0143	● 0144
		TDP6003	.012	.002 ~ .009	.945	-	-	● 0145	○ 0146	● 0147
	 Parting & Grooving Right Hand Shown (Sharp edge)  6° Angled Parting	*TDPR 2002 - 6	.008	.001 ~ .003	.748	-	-	● 0045		● 0085
		*TDPR 3002 - 6	.008	.002 ~ .005	.748	-	-	● 0048		● 0089
		*TDPL 2002 - 6	.008	.001 ~ .003	.748	-	-	● 0046		● 0086
		*TDPL 3002 - 6	.008	.002 ~ .005	.748	-	-	● 0049		● 0090
-N	 Parting & Grooving (General)	TDN 2002	.008	.002 ~ .007	.748	-	-	● 0010	○ 0035	● 0077
		TDN 3002	.008	.003 ~ .009	.748	-	-	● 0024	○ 0025	● 0075
		TDN 4003	.012	.003 ~ .011	.748	-	-	● 0022	○ 0037	● 0079
		TDN 5003	.012	.004 ~ .014	.945	-	-	● 0042	○ 0136	● 0130
		TDN6003	.012	.004 ~ .014	.945	-	-	● 0132	○ 0137	● 0133
	 Parting & Grooving Right Hand Shown (General)  6° Angled Parting	TDN8004	.016	.005 ~ .016	1.142	-	-	● 0138	○ 0139	● 0140
		*TDNR 2002 - 6	.008	.002 ~ .006	.748	-	-	● 0043		● 0083
		*TDNR 3002 - 6	.008	.002 ~ .007	.748	-	-	● 0040		● 0087
		*TDNL 2002 - 6	.008	.002 ~ .006	.748	-	-	● 0044		● 0084
		*TDNL 3002 - 6	.008	.002 ~ .007	.748	-	-	● 0047		● 0088
*TDNL 4003 - 6	.012	.002 ~ .009	.748	-	-	● 0096				

Parting & Grooving Inserts

Recommended Cutting Conditions : p.190



Series	INSL	CW	Series	INSL	CW
TD * 2	.787	.079	TD * 5	.984	.197
TD * 3	.787	.118	TD * 6	.984	.236
TD * 4	.787	.157	TD * 8	1.181	.315

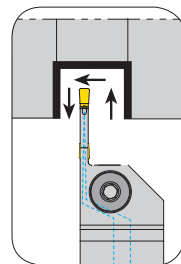
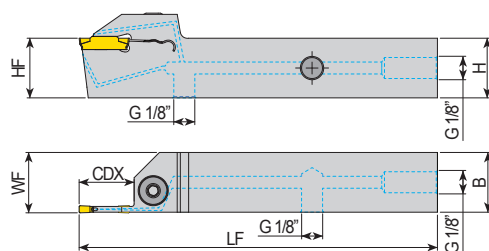
* CDX : Cutting Depth Maximum

● : Stock item ○ : Order made item

TD.	Designation	RE (In)	Parting & Grooving		Turning		EDP 5200..		
			Fn (In/rev.)	CDX (In)	Fn (In/rev.)	Ap	YG602	YG602G	YG603
 Turn Groove	TDY3E - 0.4	.016	.002 ~ .009	.394	.005 ~ .009	.020 ~ .094		● 0027	
	TDY4E - 0.4	.016	.003 ~ .011	.394	.006 ~ .012	.020 ~ .110		● 0020	
	TDY5E - 0.4	.016	.003 ~ .009	.394	.006 ~ .012	.020 ~ .126		● 0082	
 GL	TDY2E - 0.3 - GL	.012	.002 ~ .008	.394	.002 ~ .007	.016 ~ .059		● 0123	● 0124
	TDY3E - 0.3 - GL	.012	.002 ~ .009	.394	.003 ~ .008	.016 ~ .079		● 0125	● 0126
	TDY4E - 0.4 - GL	.016	.002 ~ .010	.394	.004 ~ .010	.020 ~ .091		● 0112	● 0127
	TDY5E - 0.4 - GL	.016	.003 ~ .012	.492	.004 ~ .012	.020 ~ .118		● 0157	● 0158
	TDY6E - 0.4 - GL	.016	.005 ~ .014	.492	.006 ~ .014	.020 ~ .138		● 0159	● 0160
	TDY8E - 0.8 - GL	.031	.006 ~ .020	.591	.008 ~ .020	.039 ~ .177		● 0164	● 0165
 GM	TDY3E - 0.4 - GM	.016	.002 ~ .009	.394	.005 ~ .009	.020 ~ .094		● 0118	● 0119
	TDY4E - 0.4 - GM	.016	.003 ~ .011	.394	.006 ~ .012	.020 ~ .110		● 0113	● 0120
	TDY4E - 0.8 - GM	.031	.004 ~ .011	.394	.007 ~ .013	.031 ~ .110		● 0114	● 0122
	TDY5E - 0.4 - GM	.016	.003 ~ .011	.492	.007 ~ .014	.020 ~ .118		● 0134	● 0135
	TDY5E - 0.8 - GM	.031	.004 ~ .011	.492	.007 ~ .015	.031 ~ .118		● 0148	● 0149
	TDY6E - 0.4 - GM	.016	.005 ~ .012	.492	.007 ~ .016	.031 ~ .142		● 0150	● 0153
	TDY6E - 0.8 - GM	.031	.005 ~ .014	.492	.007 ~ .017	.039 ~ .142		● 0129	● 0154
	TDY8E - 0.8 - GM	.031	.004 ~ .010	.591	.008 ~ .020	.039 ~ .177		● 0155	● 0156
 RG	TDY2E - 1.0 - RG	.039	.002 ~ .006	.394	.004 ~ .012	.004 ~ .031		● 0111	● 0115
	TDY3E - 1.5 - RG	.059	.003 ~ .007	.394	.006 ~ .014	.004 ~ .047		● 0108	● 0116
	TDY4E - 2.0 - RG	.079	.004 ~ .008	.394	.007 ~ .018	.004 ~ .063		● 0109	● 0117
	TDY5E - 2.5 - RG	.098	.005 ~ .009	.492	.008 ~ .020	.004 ~ .079		● 0166	● 0167
	TDY6E - 3.0 - RG	.118	.006 ~ .011	.492	.010 ~ .024	.004 ~ .094		● 0168	● 0169
	TDY8E - 4.0 - RG	.157	.007 ~ .012	.591	.010 ~ .028	.004 ~ .126		● 0170	● 0171

Parting & Grooving - Holder - External

External holders with Internal coolant type



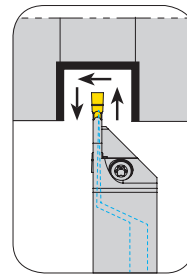
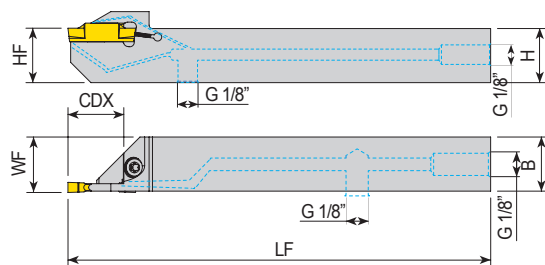
⌋ : p. 95~96

Unit : inch

Designation		EDP 5700.. R L	CW	CDX	H (= HF)	B	LF	Insert
YTER/L 08 - 2T059 - C	●	0261 0238	.079	.591	.500	0.500	3.937	TD.2..
YTER/L 10 - 2T059 - C	●	0264 0241	.079	.591	.625	0.625	4.921	
YTER/L 12 - 2T035 - C	●	0271 0247	.079	.354	.750	0.750	4.921	
YTER/L 12 - 2T059 - C	●	0268 -	.079	.591	.750	0.750	4.921	
YTER/L 12 - 2T066 - C	●	0269 -	.079	.669	.750	0.750	4.921	
YTER/L 12 - 2T078 - C	●	0270 0246	.079	.787	.750	0.750	4.921	
YTER/L 16 - 2T066 - C	●	0275 0251	.079	.669	1.000	1.000	5.906	TD.3..
YTER/L 08 - 3T059 - C	●	0263 0240	.118	.591	.500	0.500	3.937	
YTER/L 10 - 3T059 - C	●	0266 0243	.118	.591	.625	0.625	4.921	
YTER/L 12 - 3T059 - C	●	- 0245	.118	.591	.750	0.750	4.921	
YTER/L 12 - 3T078 - C	●	0272 0248	.118	.787	.750	0.750	4.921	
YTER/L 12 - 3T098 - C	●	0273 0249	.118	.984	.750	0.750	4.921	
YTER/L 12 - 3T118 - C	●	0274 0250	.118	1.181	.750	0.750	4.921	
YTER/L 16 - 3T035 - C	●	0279 0255	.118	.354	1.000	1.000	5.906	
YTER/L 16 - 3T086 - C	●	0276 0252	.118	.866	1.000	1.000	5.906	
YTER/L 16 - 3T098 - C	●	0277 0253	.118	.984	1.000	1.000	5.906	
YTER/L 16 - 3T118 - C	●	0278 0254	.118	1.181	1.000	1.000	5.906	TD.4..
YTER/L 20 - 3T098 - C	●	0284 0259	.118	.984	1.250	1.250	6.693	
YTER/L 16 - 4T086 - C	●	0280 0256	.157	.866	1.000	1.000	5.906	
YTER/L 16 - 4T098 - C	●	0281 -	.157	.984	1.000	1.000	5.906	TD.5..
YTER/L 16 - 4T118 - C	●	0282 0257	.157	1.181	1.000	1.000	5.906	
YTER/L 16 - 5T098 - C	●	0283 0258	.197	.984	1.000	1.000	5.906	

Series	Designation	Information	Screw	Ring	Wrench
YTER/L	.. - 2..	Description	Y2505 - M6x30	YABPL - 01	YAAL - 03 - 3
		EDP	18000199	18000058	18000061
	.. - 3..	Description	Y2004 - M8x1x20	-	YAAL - 05 - 4 18000062
		EDP	18000196	-	
	.. - 4..	Description	Y2004 - M8x1x20	-	
		EDP	18000196	-	
	.. - 5..	Description	Y2004 - M8x1x20	-	
		EDP	18000196	-	

External holders with Internal coolant type for Swiss Lathe



 : p. 95~96

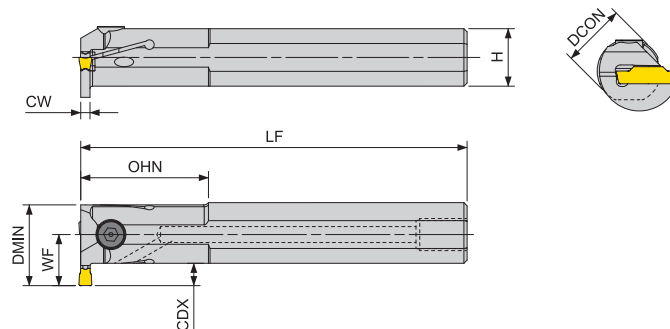
Unit : inch

Designation		EDP 5700.. R L	CW	CDX	H (= HF)	B	LF	Insert
YTER/L 08 - 2T047 - S - C	●	0260 0237	.079	.472	.500	.500	4.921	TD.2..
YTER/L 08 - 3T047 - S - C	●	0262 0239	.118	.472	.500	.500	4.921	TD.3..
YTER/L 10 - 2T063 - S - C	●	0265 0242	.079	.630	.625	.625	4.921	TD.2..
YTER/L 10 - 3T063 - S - C	●	0267 0244	.118	.630	.625	.625	4.921	TD.3..

Series	Designation	Infomation	Screw	Ring	Wrench
YTER/L	.. - 2.. / .. - 3..	Description	Y4015-M4x11	-	Y80-T15
		EDP	18000119	-	18000167

Parting & Grooving - Holder - Internal

Internal holders

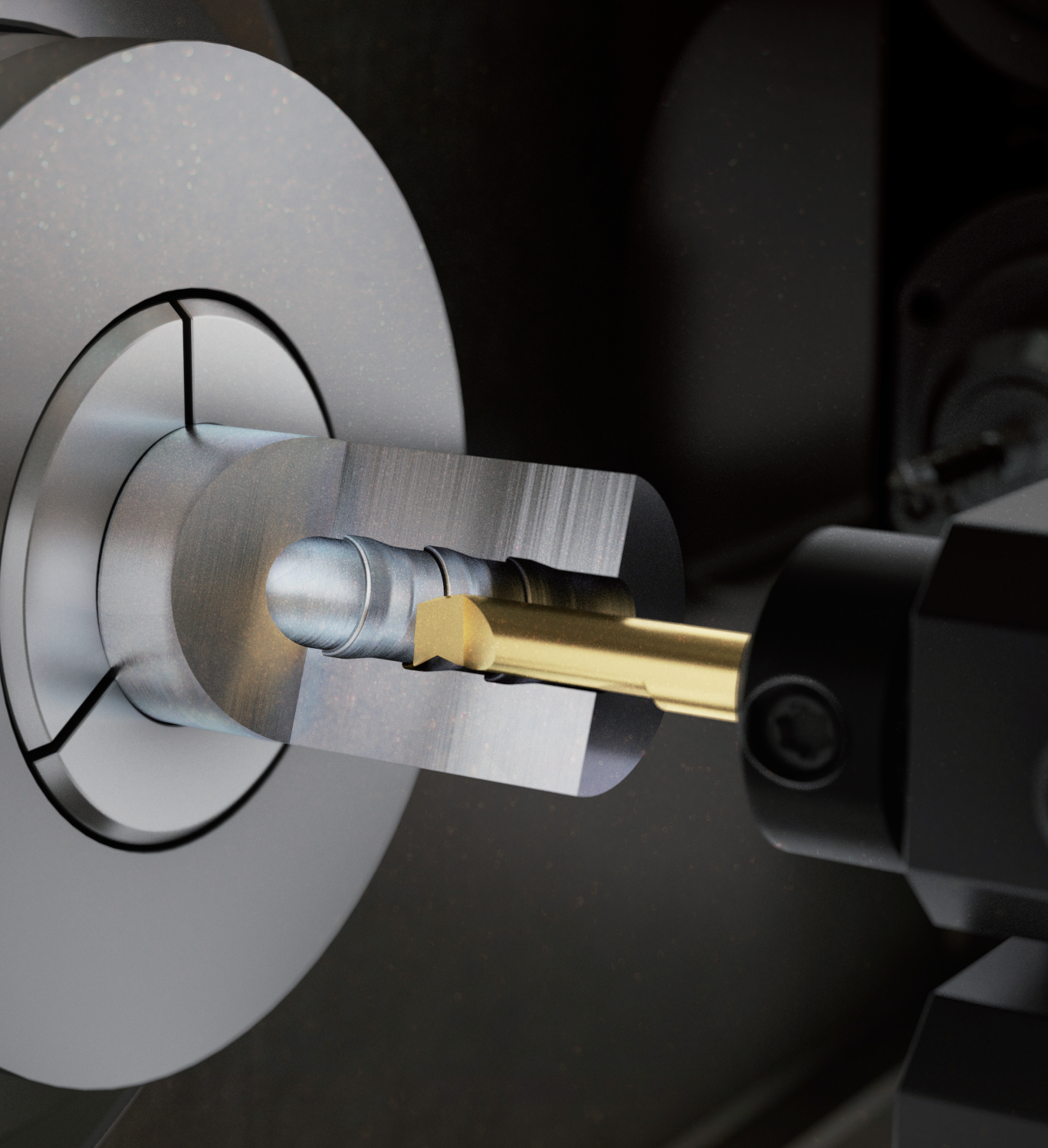


: p. 95~96

Unit : inch

Designation		EDP 5700..		CW	DMIN	CDX	DCON	H	OHN	LF	Insert
		R	L								
YTIR/L 10 - 2T033 - C	●	0289	0285	.079	.984	.335	.625	.583	1.102	5.906	TD.2..
YTIR/L 12 - 3T023 - C	●	0290	0286	.118	.984	.236	.750	.720	1.575	6.693	TD.3..
YTIR/L 16 - 3T023 - C	●	0291	0287	.118	.984	.236	1.000	.906	1.575	7.874	
YTIR/L 20 - 3T019 - C	●	0292	0288	.118	1.220	.197	1.250	1.181	2.362	9.843	

Series	Designation	Information	Screw	Ring	Wrench
YTIR/L	10 - 2T..	Description	2503-M4x10	-	HL-05 58000041
		EDP	18000197	-	
	12 - 3T.. / 16 - 3T..	Description	Y2504-M5X12	-	
		EDP	18000198	-	
	20 - 3T..	Description	Y2004-M8x1x20	-	
		EDP	18000196	-	



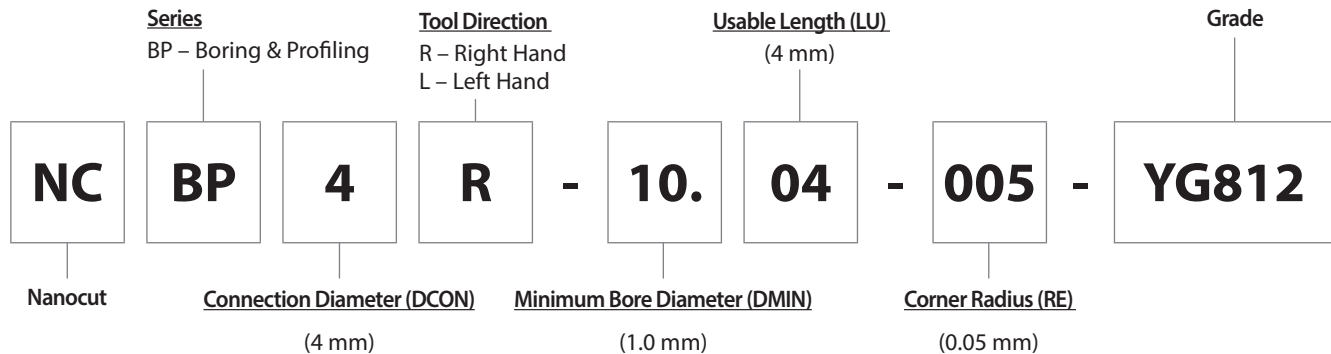
SOLID MINIATURE TURNING for SMALL BORE



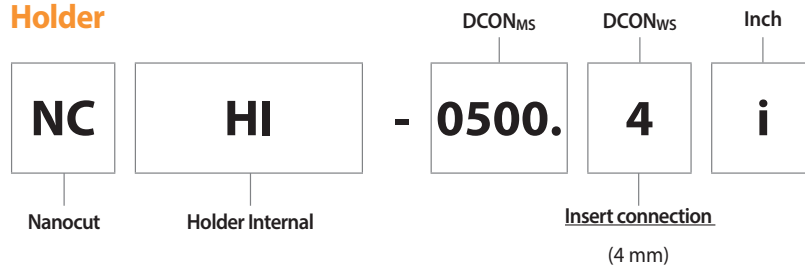
Scan this QR code
to see our
Nanocut
at work.

Code Keys - Boring Tool & Holder

Boring Tool



Holder



Success Story

Cutting Conditions

Size	Ø.236", R.008"
Work Material	4140 (Alloy Steel) (HRc 20)
Vc	328 ft/min
N (RPM)	637 rev/min
Fn	.004 in/rev
Ap	Axial: .390" Radial: .006"
Coolant	Wet Cut
Operation	Boring
Machine	Turn Mill

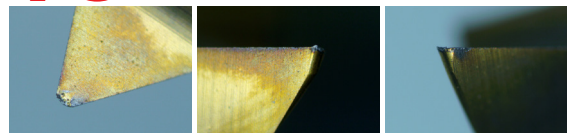
Less is better

YG
43 µm

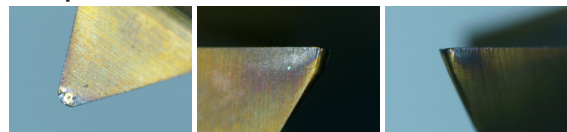
55 µm

Edge wear (after 30 min.)

YG



Competitor



Overview

At present, as demand for small parts (camera lens, mobile phone parts) and medical instruments (implants) increases, demand for small-diameter products capable of high-precision processing is increasing.

Application

- Turning of Small Bore Components
- Internal Turning(Boring), Grooving and Threading

Features

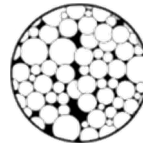
- Minimum Diameter(Boring & Profiling series) : $\varnothing$ 1 mm (.039")
- Internal Coolant for Longer Tool life and Enhanced Chip Evacuation
- Secure Connection Design: Pin + Slant Positioning
- 10 Geometries for Various Applications

Benefits

- Reduced Machine Down Time
- Lower Machining Cost

YG812 - Micro Grain Carbide Grade

P10 - P20 **M20 - M30** Submicron Grade Carbide Substrate Material for high toughness
K20 - K30 **S10 - S25** and wear resistance realizes high precision machining



Advantages of Nanocut

Easy Clamping

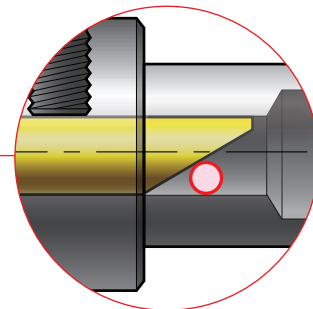
Secure and Simple system for fast change and fast locking

Internal Coolant

Helps chip evacuation and improves tool life

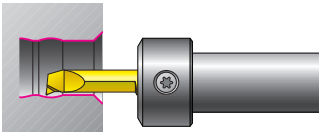
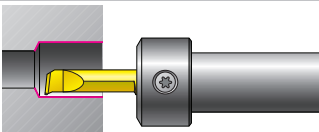
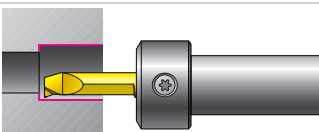
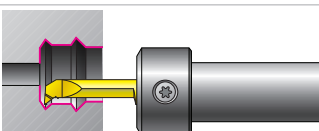
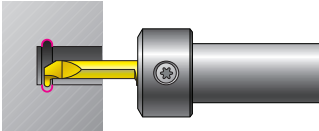
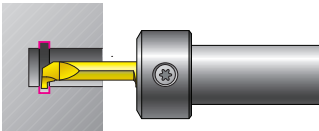
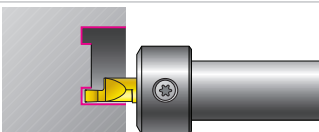
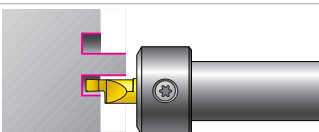
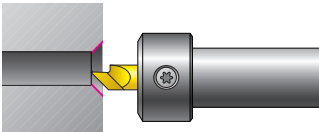
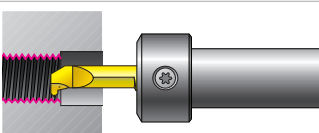
Secure Slant Connection

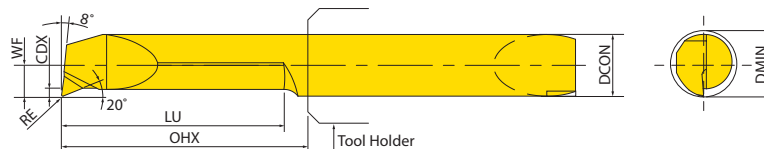
Ensures High repeatability for height and axial position



Overview

Recommended Cutting Conditions : p.191

Series		KAPR (°)	DCON mm(inch)	Page
BP Boring & Profiling BO Boring with Chipbreaker BF 90° Boring PR Profiling		98	4 (.157) 6 (.236)	104
		98		105
		90		106
		98		107
Series		CW (inch)	DCON mm(inch)	Page
GR Grooving Round GS Grooving Square FI Face Grooving Internal FE Face Grooving External		.039-.079	4 (.157) 6 (.236)	108
		.031-.079		109
		.039-.118		110
		.039-.118		110
Series		WF (inch)	DCON mm(inch)	Page
CH Chamfering TH Threading		.020-.043	4 (.157) 6 (.236)	111
		.079-.116		112
Series		DCON _{WS} (inch)	DCON _{MS} (inch)	Page
Holder 		4 (.157) 6 (.236)	.500-1.000	113

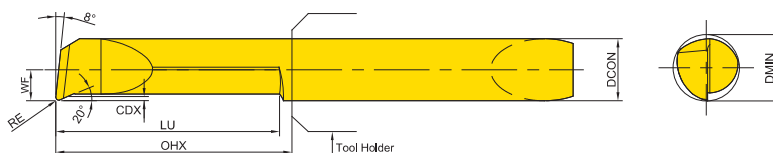


●: Stock item
○: Order made item

KAPR	DCON mm(inch)	Designation	EDP	Inch(in)							YG812
				DMIN	LU	RE	CDX	WF	OHX	OAL	
98°	4 (.157)	NCBP4R - 10.04 - 005 - YG812	NCBP04R1004005T	.039	.16	.002	.004	.018	.51	1.10	●
		NCBP4R - 10.04 - 010 - YG812	NCBP04R1004010T	.039	.16	.004	.004	.018	.51	1.10	●
		NCBP4R - 10.06 - 005 - YG812	NCBP04R1006005T	.039	.24	.002	.004	.018	.51	1.10	●
		NCBP4R - 10.06 - 010 - YG812	NCBP04R1006010T	.039	.24	.004	.004	.018	.51	1.10	●
		NCBP4R - 17.06 - 005 - YG812	NCBP04R1706005T	.067	.24	.002	.008	.028	.51	1.10	○
		NCBP4R - 17.06 - 010 - YG812	NCBP04R1706010T	.067	.24	.004	.008	.028	.51	1.10	●
		NCBP4R - 17.09 - 005 - YG812	NCBP04R1709005T	.067	.35	.002	.008	.028	.51	1.10	○
		NCBP4R - 17.09 - 010 - YG812	NCBP04R1709010T	.067	.35	.004	.008	.028	.51	1.10	●
		NCBP4R - 22.06 - 005 - YG812	NCBP04R2206005T	.087	.24	.002	.008	.037	.51	1.10	○
		NCBP4R - 22.06 - 010 - YG812	NCBP04R2206010T	.087	.24	.004	.008	.037	.51	1.10	●
		NCBP4R - 22.09 - 005 - YG812	NCBP04R2209005T	.087	.35	.002	.008	.037	.51	1.10	○
		NCBP4R - 22.09 - 010 - YG812	NCBP04R2209010T	.087	.35	.004	.008	.037	.51	1.10	●
		NCBP4R - 22.13 - 010 - YG812	NCBP04R2213010T	.087	.51	.004	.008	.037	.71	1.30	●
		NCBP4R - 27.10 - 005 - YG812	NCBP04R2710005T	.106	.39	.002	.008	.047	.51	1.10	○
		NCBP4R - 27.10 - 015 - YG812	NCBP04R2710015T	.106	.39	.006	.008	.047	.51	1.10	●
		NCBP4R - 27.15 - 005 - YG812	NCBP04R2715005T	.106	.59	.002	.008	.047	.71	1.30	○
		NCBP4R - 27.15 - 015 - YG812	NCBP04R2715015T	.106	.59	.006	.008	.047	.71	1.30	●
		NCBP4R - 32.10 - 015 - YG812	NCBP04R3210015T	.126	.39	.006	.008	.057	.51	1.10	●
		NCBP4R - 32.15 - 015 - YG812	NCBP04R3215015T	.126	.59	.006	.008	.057	.71	1.30	●
		NCBP4R - 32.20 - 005 - YG812	NCBP04R3220005T	.126	.79	.002	.008	.057	.91	1.50	○
		NCBP4R - 32.20 - 015 - YG812	NCBP04R3220015T	.126	.79	.006	.008	.057	.91	1.50	●
		NCBP4R - 42.10 - 015 - YG812	NCBP04R4210015T	.165	.39	.006	.012	.077	.51	1.10	●
		NCBP4R - 42.15 - 005 - YG812	NCBP04R4215005T	.165	.59	.002	.012	.077	.71	1.30	○
		NCBP4R - 42.15 - 015 - YG812	NCBP04R4215015T	.165	.59	.006	.012	.077	.71	1.30	●
		NCBP4R - 42.20 - 005 - YG812	NCBP04R4220005T	.165	.79	.002	.012	.077	.91	1.50	○
		NCBP4R - 42.20 - 015 - YG812	NCBP04R4220015T	.165	.79	.006	.012	.077	.91	1.50	●
	NCBP4R - 42.25 - 005 - YG812	NCBP04R4225005T	.165	.98	.002	.012	.077	1.10	1.69	○	
	NCBP4R - 42.25 - 015 - YG812	NCBP04R4225015T	.165	.98	.006	.012	.077	1.10	1.69	●	
	6 (.236)	NCBP6R - 62.15 - 020 - YG812	NCBP06R6215020T	.244	.59	.008	.020	.116	.71	1.69	●
		NCBP6R - 62.20 - 020 - YG812	NCBP06R6220020T	.244	.79	.008	.020	.116	.91	1.89	●
		NCBP6R - 62.25 - 020 - YG812	NCBP06R6225020T	.244	.98	.008	.020	.116	1.10	2.09	●
		NCBP6R - 62.30 - 020 - YG812	NCBP06R6230020T	.244	1.18	.008	.020	.116	1.30	2.28	●
		NCBP6R - 62.35 - 020 - YG812	NCBP06R6235020T	.244	1.38	.008	.020	.116	1.50	2.48	●
		NCBP6R - 62.40 - 020 - YG812	NCBP06R6240020T	.244	1.57	.008	.020	.116	1.69	2.68	●

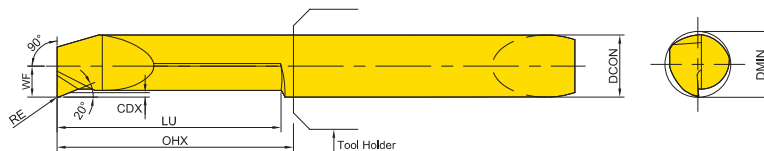
Boring Tool

BO - Boring with Chip Breaker



●: Stock item
○: Order made item

KAPR	DCON mm(inch)	Designation	EDP	Inch(in)							YG812
				DMIN	LU	RE	CDX	WF	OHX	OAL	
98°	4 (.157)	NCBO4R - 10.06 - 005 - YG812	NCBO04R1006005T	.039	.24	.002	.004	.018	.51	1.10	○
		NCBO4R - 10.06 - 010 - YG812	NCBO04R1006010T	.039	.24	.004	.004	.018	.51	1.10	●
		NCBO4R - 17.09 - 005 - YG812	NCBO04R1709005T	.067	.35	.002	.008	.028	.51	1.10	○
		NCBO4R - 17.09 - 010 - YG812	NCBO04R1709010T	.067	.35	.004	.008	.028	.51	1.10	○
		NCBO4R - 22.09 - 005 - YG812	NCBO04R2209005T	.087	.35	.002	.008	.037	.51	1.10	○
		NCBO4R - 22.09 - 010 - YG812	NCBO04R2209010T	.087	.35	.004	.008	.037	.51	1.10	●
		NCBO4R - 22.13 - 010 - YG812	NCBO04R2213010T	.087	.51	.004	.008	.037	.71	1.30	○
		NCBO4R - 27.15 - 005 - YG812	NCBO04R2715005T	.106	.59	.002	.008	.047	.71	1.30	○
		NCBO4R - 27.15 - 015 - YG812	NCBO04R2715015T	.106	.59	.006	.008	.047	.71	1.30	○
		NCBO4R - 32.15 - 015 - YG812	NCBO04R3215015T	.126	.59	.006	.008	.057	.71	1.30	●
		NCBO4R - 32.20 - 005 - YG812	NCBO04R3220005T	.126	.79	.002	.008	.057	.91	1.50	○
		NCBO4R - 32.20 - 015 - YG812	NCBO04R3220015T	.126	.79	.006	.008	.057	.91	1.50	●
		NCBO4R - 42.20 - 005 - YG812	NCBO04R4220005T	.165	.79	.002	.012	.077	.91	1.50	○
		NCBO4R - 42.20 - 015 - YG812	NCBO04R4220015T	.165	.79	.006	.012	.077	.91	1.50	●
		NCBO4R - 42.25 - 005 - YG812	NCBO04R4225005T	.165	.98	.002	.012	.077	1.10	1.69	○
		NCBO4R - 42.25 - 015 - YG812	NCBO04R4225015T	.165	.98	.006	.012	.077	1.10	1.69	●
	6 (.236)	NCBO6R - 62.15 - 020 - YG812	NCBO06R6215020T	.244	.59	.008	.020	.116	.81	1.69	●
		NCBO6R - 62.25 - 020 - YG812	NCBO06R6225020T	.244	.98	.008	.020	.116	1.10	2.09	●
		NCBO6R - 62.30 - 020 - YG812	NCBO06R6230020T	.244	1.18	.008	.020	.116	1.30	2.28	●
		NCBO6R - 62.35 - 020 - YG812	NCBO06R6235020T	.244	1.38	.008	.020	.116	1.50	2.48	●
		NCBO6R - 62.40 - 020 - YG812	NCBO06R6240020T	.244	1.57	.008	.020	.116	1.69	2.68	○

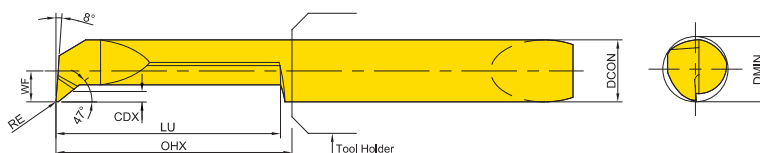


●: Stock item
○: Order made item

KAPR	DCON mm(inch)	Designation	EDP	Inch(in)							YG812
				DMIN	LU	RE	CDX	WF	OHX	OAL	
90°	4 (.157)	NCBF4R - 10.04 - 010 - YG812	NCBF04R1004010T	.039	.16	.004	.004	.018	.51	1.10	○
		NCBF4R - 10.06 - 010 - YG812	NCBF04R1006010T	.039	.24	.004	.004	.018	.51	1.10	○
		NCBF4R - 17.06 - 010 - YG812	NCBF04R1706010T	.067	.24	.004	.008	.028	.51	1.10	○
		NCBF4R - 17.09 - 010 - YG812	NCBF04R1709010T	.067	.35	.004	.008	.028	.51	1.10	○
		NCBF4R - 22.06 - 010 - YG812	NCBF04R2206010T	.087	.24	.004	.008	.037	.51	1.10	○
		NCBF4R - 22.09 - 010 - YG812	NCBF04R2209010T	.087	.35	.004	.008	.037	.51	1.10	○
		NCBF4R - 22.13 - 010 - YG812	NCBF04R2213010T	.087	.51	.004	.008	.037	.71	1.30	○
		NCBF4R - 27.10 - 015 - YG812	NCBF04R2710015T	.106	.39	.006	.008	.047	.51	1.10	○
		NCBF4R - 27.15 - 015 - YG812	NCBF04R2715015T	.106	.59	.006	.008	.047	.71	1.30	○
		NCBF4R - 32.10 - 015 - YG812	NCBF04R3210015T	.126	.39	.006	.008	.057	.51	1.10	○
		NCBF4R - 32.15 - 015 - YG812	NCBF04R3215015T	.126	.59	.006	.008	.057	.71	1.30	○
		NCBF4R - 32.20 - 015 - YG812	NCBF04R3220015T	.126	.79	.006	.008	.057	.91	1.50	○
		NCBF4R - 42.10 - 015 - YG812	NCBF04R4210015T	.165	.39	.006	.012	.077	.51	1.10	○
		NCBF4R - 42.15 - 015 - YG812	NCBF04R4215015T	.165	.59	.006	.012	.077	.71	1.30	○
		NCBF4R - 42.20 - 015 - YG812	NCBF04R4220015T	.165	.79	.006	.012	.077	.91	1.50	○
		NCBF4R - 42.25 - 015 - YG812	NCBF04R4225015T	.165	.98	.006	.012	.077	1.10	1.69	○
	6 (.236)	NCBF6R - 62.15 - 020 - YG812	NCBF06R6215020T	.244	.59	.008	.020	.116	.71	1.69	○
		NCBF6R - 62.20 - 020 - YG812	NCBF06R6220020T	.244	.79	.008	.020	.116	.91	1.89	○
		NCBF6R - 62.25 - 020 - YG812	NCBF06R6225020T	.244	.98	.008	.020	.116	1.10	2.09	○
		NCBF6R - 62.30 - 020 - YG812	NCBF06R6230020T	.244	1.18	.008	.020	.116	1.30	2.28	○
		NCBF6R - 62.35 - 020 - YG812	NCBF06R6235020T	.244	1.38	.008	.020	.116	1.50	2.48	○
		NCBF6R - 62.40 - 020 - YG812	NCBF06R6240020T	.244	1.57	.008	.020	.116	1.69	2.68	○

Boring Tool

PR - Profiling

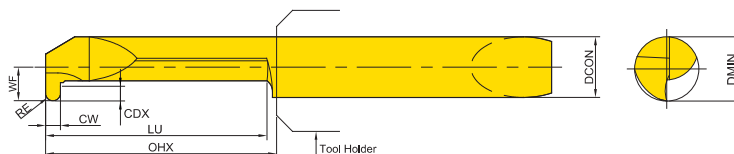


●: Stock item
○: Order made item

KAPR	DCON mm(inch)	Designation	EDP	Inch(in)							YG812
				DMIN	LU	RE	CDX	WF	OHX	OAL	
98°	4 (.157)	NCPR4R - 10.04 - 010 - YG812	NCPR04R1004010T	.039	.16	.004	.004	.018	.51	1.10	○
		NCPR4R - 10.06 - 010 - YG812	NCPR04R1006010T	.039	.24	.004	.004	.018	.51	1.10	○
		NCPR4R - 17.06 - 010 - YG812	NCPR04R1706010T	.067	.24	.004	.008	.028	.51	1.10	○
		NCPR4R - 17.09 - 010 - YG812	NCPR04R1709010T	.067	.35	.004	.008	.028	.51	1.10	○
		NCPR4R - 22.06 - 010 - YG812	NCPR04R2206010T	.087	.24	.004	.016	.037	.51	1.10	○
		NCPR4R - 22.09 - 010 - YG812	NCPR04R2209010T	.087	.35	.004	.016	.037	.51	1.10	○
		NCPR4R - 22.13 - 010 - YG812	NCPR04R2213010T	.087	.51	.004	.016	.037	.71	1.30	○
		NCPR4R - 27.10 - 015 - YG812	NCPR04R2710015T	.106	.39	.006	.020	.047	.51	1.10	○
		NCPR4R - 27.15 - 015 - YG812	NCPR04R2715015T	.106	.59	.006	.020	.047	.71	1.30	○
		NCPR4R - 32.10 - 015 - YG812	NCPR04R3210015T	.126	.39	.006	.024	.057	.51	1.10	○
		NCPR4R - 32.15 - 015 - YG812	NCPR04R3215015T	.126	.59	.006	.024	.057	.71	1.30	○
		NCPR4R - 32.20 - 015 - YG812	NCPR04R3220015T	.126	.79	.006	.024	.057	.91	1.50	○
		NCPR4R - 42.10 - 015 - YG812	NCPR04R4210015T	.165	.39	.006	.031	.077	.51	1.10	●
		NCPR4R - 42.15 - 015 - YG812	NCPR04R4215015T	.165	.59	.006	.031	.077	.71	1.30	●
		NCPR4R - 42.20 - 015 - YG812	NCPR04R4220015T	.165	.79	.006	.031	.077	.91	1.50	●
		NCPR4R - 42.25 - 015 - YG812	NCPR04R4225015T	.165	.98	.006	.031	.077	1.10	1.69	○
	6 (.236)	NCPR6R - 62.15 - 020 - YG812	NCPR06R6215020T	.244	.59	.008	.071	.116	.71	1.69	●
		NCPR6R - 62.20 - 020 - YG812	NCPR06R6220020T	.244	.79	.008	.071	.116	.91	1.89	●
		NCPR6R - 62.25 - 020 - YG812	NCPR06R6225020T	.244	.98	.008	.071	.116	1.10	2.09	○
		NCPR6R - 62.30 - 015 - YG812	NCPR06R6230015T	.244	1.18	.006	.071	.116	1.30	2.28	●
		NCPR6R - 62.30 - 020 - YG812	NCPR06R6230020T	.244	1.18	.008	.071	.116	1.30	2.28	○
		NCPR6R - 62.35 - 020 - YG812	NCPR06R6235020T	.244	1.38	.008	.071	.116	1.50	2.48	○
		NCPR6R - 62.40 - 020 - YG812	NCPR06R6240020T	.244	1.57	.008	.071	.116	1.69	2.68	○

Boring Tool

GR - Grooving Round

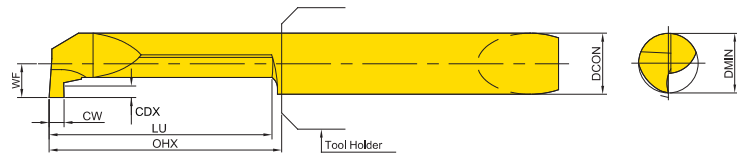


●: Stock item
○: Order made item

DCON (mm)	Designation	EDP	Inch(in)								YG812
			DMIN	LU	RE	CW	CDX	WF	OHX	OAL	
4 (.157)	NCGR4R - 42.15 - 10x08 - YG812	NCGR04R4215100T	.165	.59	.020	.039	.031	.077	.71	1.30	○
	NCGR4R - 42.15 - 12x08 - YG812	NCGR04R4215120T	.165	.59	.023	.046	.031	.077	.71	1.30	○
	NCGR4R - 42.15 - 15x08 - YG812	NCGR04R4215150T	.165	.59	.030	.059	.039	.077	.71	1.30	○
	NCGR4R - 42.15 - 16x08 - YG812	NCGR04R4215160T	.165	.59	.032	.064	.039	.077	.71	1.30	○
6 (.236)	NCGR6R - 62.25 - 10x18 - YG812	NCGR06R6225100T	.244	.98	.020	.039	.071	.116	1.10	2.09	○
	NCGR6R - 62.25 - 15x18 - YG812	NCGR06R6225150T	.244	.98	.030	.059	.071	.116	1.10	2.09	○
	NCGR6R - 62.25 - 16x18 - YG812	NCGR06R6225160T	.244	.98	.030	.064	.031	.116	1.10	2.09	○
	NCGR6R - 62.25 - 20x18 - YG812	NCGR06R6225200T	.244	.98	.039	.079	.071	.116	1.10	2.09	○

Boring Tool

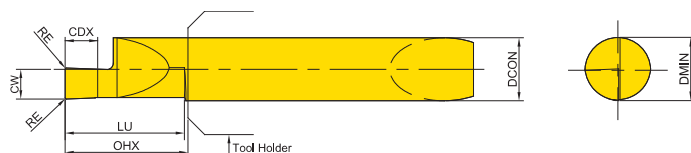
GS - Grooving Square



●: Stock item
○: Order made item

DCON (mm)	Designation	EDP	Inch(in)							YG812
			DMIN	LU	CW	CDX	WF	OHX	OAL	
4 (.157)	NCGS4R - 42.10 - 079x08 - YG812	NCGS04R4210079T	.165	.39	.031	.031	.077	.51	1.50	○
	NCGS4R - 42.15 - 079x08 - YG812	NCGS04R4215079T	.165	.59	.031	.031	.077	.71	1.69	○
	NCGS4R - 42.20 - 079x08 - YG812	NCGS04R4220079T	.165	.79	.031	.031	.077	.91	1.89	○
	NCGS4R - 42.10 - 100x08 - YG812	NCGS04R4210100T	.165	.39	.039	.031	.077	.51	1.50	●
	NCGS4R - 42.15 - 100x08 - YG812	NCGS04R4215100T	.165	.59	.039	.031	.077	.71	1.69	●
	NCGS4R - 42.20 - 100x08 - YG812	NCGS04R4220100T	.165	.79	.039	.031	.077	.91	1.89	○
6 (.236)	NCGS6R - 62.10 - 079x18 - YG812	NCGS06R6210079T	.244	.39	.031	.071	.116	.51	1.50	○
	NCGS6R - 62.15 - 079x18 - YG812	NCGS06R6215079T	.244	.59	.031	.071	.116	.71	1.69	○
	NCGS6R - 62.25 - 079x18 - YG812	NCGS06R6225079T	.244	.98	.031	.071	.116	1.10	2.09	○
	NCGS6R - 62.35 - 079x18 - YG812	NCGS06R6235079T	.244	1.38	.031	.071	.116	1.50	2.48	○
	NCGS6R - 62.10 - 100x18 - YG812	NCGS06R6210100T	.244	.39	.039	.071	.116	.51	1.50	○
	NCGS6R - 62.15 - 100x18 - YG812	NCGS06R6215100T	.244	.59	.039	.071	.116	.71	1.69	●
	NCGS6R - 62.25 - 100x18 - YG812	NCGS06R6225100T	.244	.98	.039	.071	.116	1.10	2.09	●
	NCGS6R - 62.35 - 100x18 - YG812	NCGS06R6235100T	.244	1.38	.039	.071	.116	1.50	2.48	○
	NCGS6R - 62.10 - 117x18 - YG812	NCGS06R6210117T	.244	.39	.046	.071	.116	.51	1.50	○
	NCGS6R - 62.15 - 117x18 - YG812	NCGS06R6215117T	.244	.59	.046	.071	.116	.71	1.69	○
	NCGS6R - 62.25 - 117x18 - YG812	NCGS06R6225117T	.244	.98	.046	.071	.116	1.10	2.09	○
	NCGS6R - 62.35 - 117x18 - YG812	NCGS06R6235117T	.244	1.38	.046	.071	.116	1.50	2.48	○
	NCGS6R - 62.10 - 150x18 - YG812	NCGS06R6210150T	.244	.39	.059	.071	.116	.51	1.50	●
	NCGS6R - 62.15 - 150x18 - YG812	NCGS06R6215150T	.244	.59	.059	.071	.116	.71	1.69	●
	NCGS6R - 62.25 - 150x18 - YG812	NCGS06R6225150T	.244	.98	.059	.071	.116	1.10	2.09	●
	NCGS6R - 62.35 - 150x18 - YG812	NCGS06R6235150T	.244	1.38	.059	.071	.116	1.50	2.48	○
	NCGS6R - 62.10 - 157x18 - YG812	NCGS06R6210157T	.244	.39	.062	.071	.116	.51	1.50	○
	NCGS6R - 62.15 - 157x18 - YG812	NCGS06R6215157T	.244	.59	.062	.071	.116	.71	1.69	○
	NCGS6R - 62.25 - 157x18 - YG812	NCGS06R6225157T	.244	.98	.062	.071	.116	1.10	2.09	○
	NCGS6R - 62.35 - 157x18 - YG812	NCGS06R6235157T	.244	1.38	.062	.071	.116	1.50	2.48	○
	NCGS6R - 62.10 - 198x18 - YG812	NCGS06R6210198T	.244	.39	.078	.071	.116	.51	1.50	○
	NCGS6R - 62.15 - 198x18 - YG812	NCGS06R6215198T	.244	.59	.078	.071	.116	.71	1.69	○
	NCGS6R - 62.25 - 198x18 - YG812	NCGS06R6225198T	.244	.98	.078	.071	.116	1.10	2.09	○
	NCGS6R - 62.30 - 198x18 - YG812	NCGS06R6230198T	.244	1.18	.078	.071	.116	1.30	2.28	○
	NCGS6R - 62.10 - 200x18 - YG812	NCGS06R6210200T	.244	.39	.079	.071	.116	.51	1.50	●
	NCGS6R - 62.15 - 200x18 - YG812	NCGS06R6215200T	.244	.59	.079	.071	.116	.71	1.69	●
	NCGS6R - 62.25 - 200x18 - YG812	NCGS06R6225200T	.244	.98	.079	.071	.116	1.10	2.09	●

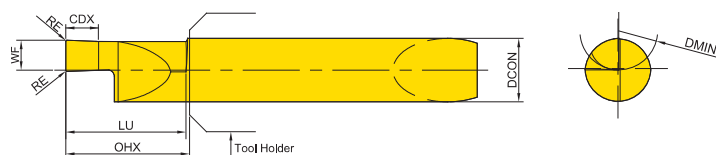
FI - Face Grooving Internal



●: Stock item
○: Order made item

DCON (mm)	Designation	EDP	Inch(in)								YG812
			DMIN	LU	RE	CW	CDX	WF	OHX	OAL	
6 (.236)	NCFI6R - 62.15 - 10x20 - YG812	NCFI06R6215010T	.244	.59	.004	.039	.079	.116	.71	1.69	●
	NCFI6R - 62.15 - 15x30 - YG812	NCFI06R6215015T	.244	.59	.004	.059	.118	.116	.71	1.69	●
	NCFI6R - 62.15 - 20x40 - YG812	NCFI06R6215020T	.244	.59	.004	.079	.157	.116	.71	1.69	●
	NCFI6R - 62.15 - 25x50 - YG812	NCFI06R6215025T	.244	.59	.004	.098	.197	.116	.71	1.69	●
	NCFI6R - 62.15 - 30x60 - YG812	NCFI06R6215030T	.244	.59	.004	.118	.236	.116	.71	1.69	●

FE - Face Grooving External

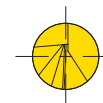
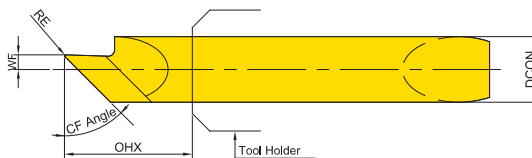


●: Stock item
○: Order made item

DCON (mm)	Designation	EDP	Inch(in)								YG812
			DMIN	LU	RE	CW	CDX	WF	OHX	OAL	
6 (.236)	NCFE6R - 62.15 - 10x20 - YG812	NCFE06R6215010T	.244	.59	.004	.039	.079	.116	.71	1.69	●
	NCFE6R - 62.15 - 15x30 - YG812	NCFE06R6215015T	.244	.59	.004	.059	.118	.116	.71	1.69	●
	NCFE6R - 62.15 - 20x40 - YG812	NCFE06R6215020T	.244	.59	.004	.079	.157	.116	.71	1.69	●
	NCFE6R - 62.15 - 25x50 - YG812	NCFE06R6215025T	.244	.59	.004	.098	.197	.116	.71	1.69	●
	NCFE6R - 62.15 - 30x60 - YG812	NCFE06R6215030T	.244	.59	.004	.118	.236	.116	.71	1.69	●

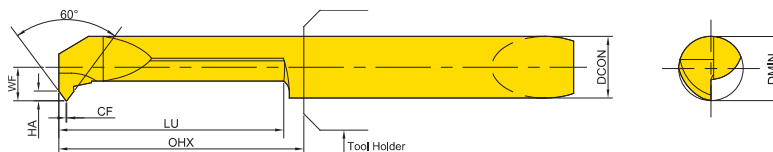
Boring Tool

CH - Chamfering



●: Stock item
○: Order made item

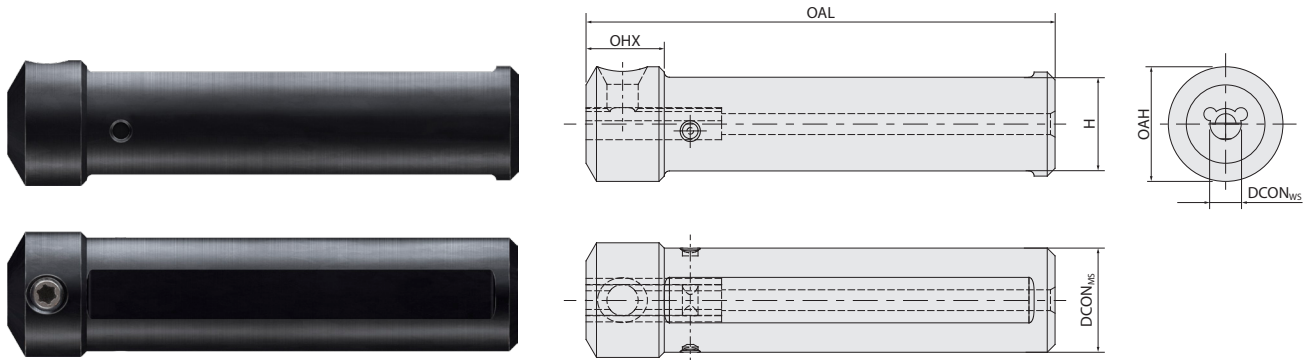
KAPR	DCON mm(inch)	Designation	EDP	Inch(in)						YG812
				DMIN	RE	CDX	WF	OHX	OAL	
45°	6	NCCH6R - 10.03 - 45 - YG812	NCCH06R103045T	.039	.008	.14	.043	.51	1.50	○
60°	(.236)	NCCH6R - 10.04 - 60 - YG812	NCCH06R103060T	.039	.008	.16	.020	.51	1.50	○



* P-60 : Partial Profile, 60°

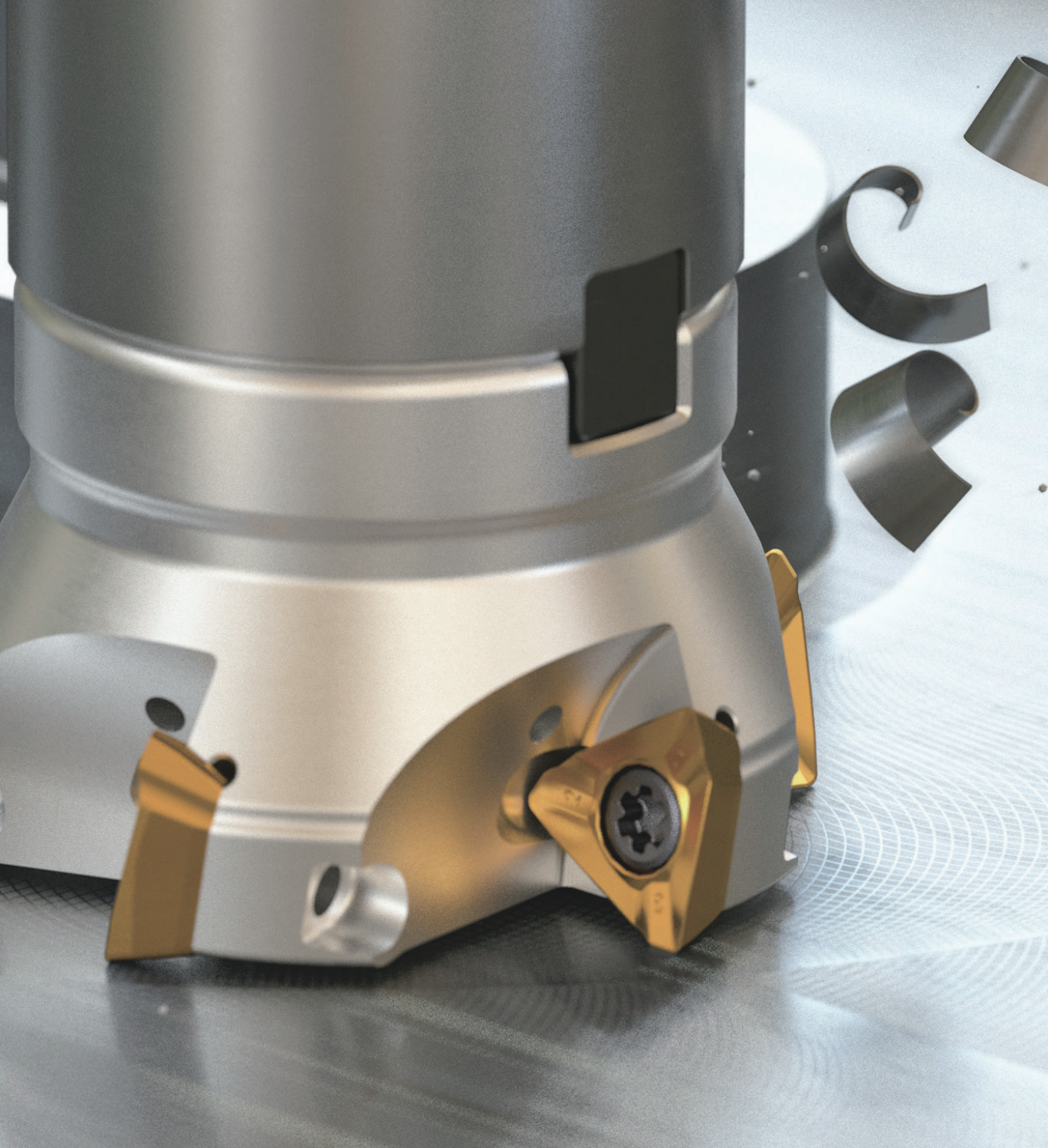
DCON mm(inch)	Designation	EDP	Inch(in)									YG812
			DMIN	LU	TPIN	TPIX	WF	HA	CF	OHX	OAL	
4 (.157)	NCTH04R-42.15-050-P-60-YG812	NCTV04R4215050T	.165	.591	36.0	48.0	.079	.018	.002	.709	1.299	○
	NCTH04R-42.15-075-P-60-YG812	NCTV04R4215075T	.165	.591	24.0	36.0	.093	.026	.003	.709	1.299	○
	NCTH04R-42.15-100-P-60-YG812	NCTV04R4215100T	.165	.591	20.0	24.0	.089	.031	.004	.709	1.299	○
6 (.236)	NCTH06R-62.15-100-P-60-YG812	NCTV06R6215100T	.244	.591	20.0	24.0	.116	.031	.004	.807	1.693	○
	NCTH06R-62.15-125-P-60-YG812	NCTV06R6215125T	.244	.591	16.0	20.0	.091	.038	.005	.807	1.693	○
	NCTH06R-62.15-150-P-60-YG812	NCTV06R6215150T	.244	.591	14.0	16.0	.116	.045	.006	.807	1.693	○

Boring ToolHolder Holder



Scale	Insert Size (DCON _{MS})	Designation	EDP	DCON _{MS}	OAL	H	OAH	OHX
Metric / Inch	4 (.157)	NCHI-0500.4i	ZBR0400500	.500	2.756	.421	.624	.551
		NCHI-0625.4i	ZBR0400625	.625	2.953	.546	.687	
		NCHI-0750.4i	ZBR0400750	.750	4.331	.671	.750	
		NCHI-1000.4i	ZBR0401000	1.000	4.331	.906	1.000	
	6 (.236)	NCHI-0500.6i	ZBR0600500	.500	2.756	.421	.663	
		NCHI-0625.6i	ZBR0600625	.625	2.953	.546	.726	
		NCHI-0750.6i	ZBR0600750	.750	4.331	.671	.827	
		NCHI-1000.6i	ZBR0601000	1.000	4.331	.906	1.000	

Information	Screw	Wrench
Description	-	TPWFTP15
EDP	TP156075	18000003



MILLING

Product Overview

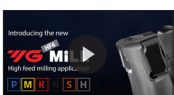
Application Guide

Milling Inserts Overview

Milling Cutter Overview

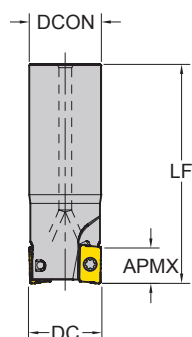


Scan this QR code
to see our
YG SM3 Mill
at work.

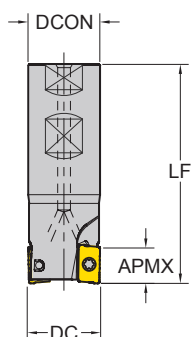


Scan this QR code
to see our
YG HF4 Mill
at work.

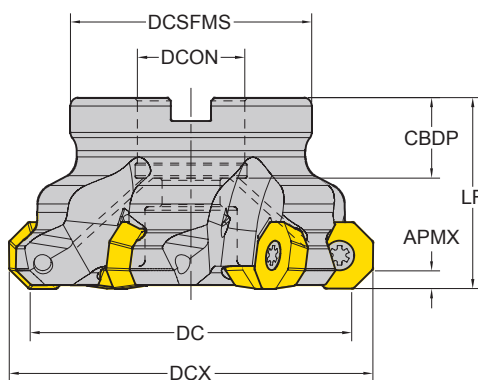
Code Keys - Milling Cutters



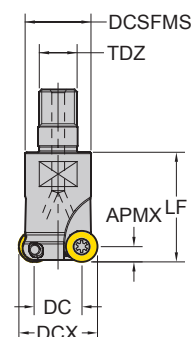
<C> Cylindrical



<W> Weldon



<S> Shell Mill



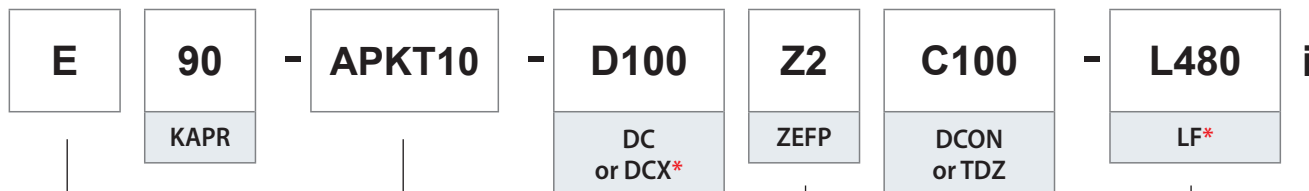
<M> Modular

Cutting Angle
(90°)

Cutter Diameter
(Ø1.00")

Connection Type and Size
C - Cylindrical
S - Shell Mill
(Cylindrical Ø1.00")

Inch



* Shank Type Only

* 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
(4.80 inch)

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

Insert ISO Code System

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

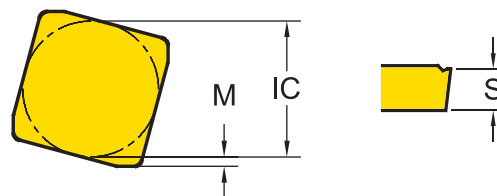
1	2	3	4	5	6	7
A	P	K	T	16	04	08
Shape	Relief Angle (AN)	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness (S)	Corner Radius

1 - Shape

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

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	



3 - Tolerance Class

Symbol	Inner Circle IC (in)	Nose Height M (in)	Thickness S (in)
C	±.0010	±.0005	±.0010
E	±.001	±.0010	±.001
G	±.001	±.0010	±.005
H	±.0005	±.0005	±.0010
K*	±.002~.006*	±.0005	±.005
M*	±.002~.006*	±.003~.010*	±.005
U*	±.003~.010*	±.005~.015*	±.005

* 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	
W	Screw Hole	X	
T		One Face	
U		Both Faces	
X		Special	

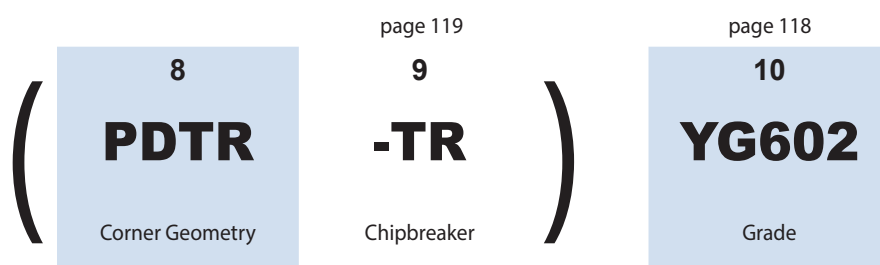
5 - Insert Size

* No Standard for milling insert size

6 - Insert Thickness

* No Standard for milling insert thickness

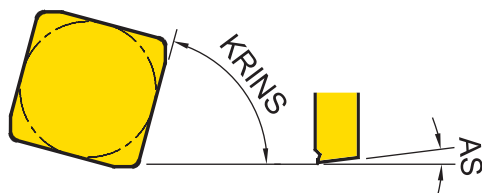
Insert ISO Code System



7 - Corner Radius (RE)

Symbol	Thickness - S (in)	Symbol	Thickness - S (in)
04	.016	16	.063
08	.031	20	.079
12	.047	24	.094

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. 119 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	Round
T	Chamfer
S	Chamfer and Round

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 Grades and Chipbreakers

Milling Grades

Milling Grades	P Steel					M Stainless steel				K Cast iron				N Non-ferrous				S Super alloys				H Hardened Steel			
	P05	P15	P25	P35	P45	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35	S05	S15	S25	S35	H05	H15	H25	H35
PVD	YG012	012																				012			
	YG712	712																							
	YG713	713																							
	YG612	612						612											612						
	YG622	622								622															
	YG602	602						602		602									602						
	YG613		613					613																	
	YG614							614												614					
	YG501									501															
	YG904																			904					
CVD	YG5020									5020															
Uncoated	YG50													50											

YG012 H10 - H30 P10 - P30	 PVD - TiAlN	Optimized Milling Grade for Pre-Hardened & Hardened steel - Applied Extreme Oxidation PVD layer and Crack-free Substrate - Excellent Cutting performance for Die & Mold application
YG712 P10 - P30	 PVD - TiAlCrN	Milling Grade for Medium of Steel Application - Superior wear resistance and excellent toughness in high speed machining - Coating layer with high hardness and oxidation resistance
YG713 P15 - P25	 PVD - TiAlN	Milling Grade for General Steel Application - Multi-layer TiAlN structure realizes stronger crater and flank wear resistance - Fine-grained carbide and balanced substrate
YG622 P20 - P35 K20 - K40	 PVD - AlCrN	Optimized Grade for High Alloyed or Prehardened Steel Excellent for High Temperature Hardness and Oxidation Resistance at High Speed
YG612 P20 - P40 M20 - M40 S20 - S40	 PVD - TiAlN	Specialized Multi-Nano Coated Grade with high wear resistance and chipping resistance - Special Multi-Nano coating prevent crack and providing predictable tool life - Special universal Grade can achieve stable tool life in any workpiece
YG602 P20 - P35 K20 - K40 M20 - M40 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

Milling Grades and Chipbreakers

Milling Grades

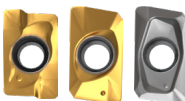
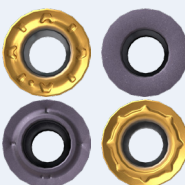
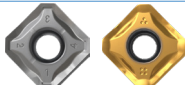
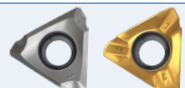
YG613 P30 - P50 M30 - M40		Milling Grade for Stainless Steel Application • New coating layer with lubrication preventing built-up edge on ultra fine grain substrate with high toughness. • The toughest substrate provides excellent cutting performance in stainless steel
NEW YG614 M35 - M45 S35 - S45		Milling grade for stainless steel in wet-cutting applications • The substrate offers excellent chipping resistance under wet-cutting conditions • The coating provides a lubricating effect that prevent built-up edge formation
YG501 K05 - K25		Hard Milling grade for Cast Iron • Substrate especially designed for high wear resistance • Excellent wear resistance in cast iron milling application
YG5020 K01 - K30		CVD Milling grade for Cast Iron • CVD coating for Excellent wear resistance • Improved Toughness for chipping resistance
NEW YG904 S30 - S45		Excellent performance for machining HRSA(Heat resistant super alloys) • Newly developed substrate improves resistance to chipping and breakage • High-performance PVD coating technology ensures excellent wear resistance for machining HRSA
YG50 N05 - N20		Uncoated Milling Grade for Aluminium • Submicron carbide substrate for high wear resistance • Preventing built up edge with shining surface

Milling Chipbreakers

-AL		• For Aluminum • Very Sharp Geometry
-ST		• For Stainless Steel, Super Alloy • Sharp Geometry
-GN (General Type)		• First Choice for General Application
-TR		• For Hardened Steels • Reinforced Geometry
...W / ...N		• For Hardened Material and Cast Irons

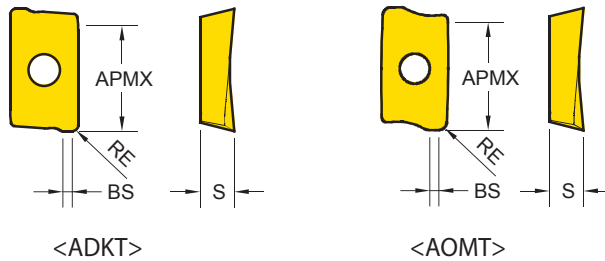
Milling Inserts Overview

Recommended Cutting Conditions : p.191

A 2 Corners	Positive		ADKT	ADKT 1505	p. 121
			AOMT	AOMT 1236	p. 121
			APGT	APGT 1003, 1604	p. 122
			APKT	APKT 1003, 1604	p. 123
			APMT	APMT 1135, 1504, 1604	p. 124
E 4 Corners	Negative		ENMX	ENMX 0402 NEW ENMX 0604 ENMX 0905	p. 125
L 4 Corners	Tangential Milling Negative		LNHU / LNKU NEW	LNHU 1306 LNKU 1306	p. 127
O Octagon	Positive		ODMT / ODMW	ODMT / ODMW 0605	p. 128
			OFER	OFER 0704	p. 129
			OFMT	OFMT 05T3	
O Octagon	Negative		ONMU / ONHU	ONMU / ONHU 0806	p. 130
	P 10 Corners	Negative		PNMU	PNMU1206
R Round	Positive Round		RDKT / RDKW	RDKT 0802, 10T3, 1204, 1604 RDKW 0501, 0702, 0802, 10T3, 1204	p. 132
			RDMT / RDMW	RDMT 0802, 0803, 10T3, 1204 RDMW 0802, 10T3, 1204	p. 133
			RPMX / ROHX NEW	RPMX 0803, 10T3, 1204 ROHX 1204	p. 134
			RPMT / RPMW	RPMT 08T2, 10T3, 1204 RPMW 1003, 1204	p. 135
S Square	High Feed		SDMT / SDMW	SDMT 1204, SDMW 1204	p. 137
	Positive		SDCN (45°) / SDKN	SDKN, SDCN 1203, 1504	p. 136
			SEGT	SEGT12T3, 1204	p. 138
			SEKR (45°) / SEKN	SEKR, SEKN 1203	p. 141
			SEKT	SEKT 12T3, 1204	p. 139
			SEMT	SEMT1204, 13T3	p. 140
			SPMT	SPMT 1204	p. 145
	Negative		SNGX NEW	SNGX1206	p. 142
			SNMX	SNMX1206	p. 143
	ISO		SPCN(75°) / SPKN / SPKR'	SPKN 1203, 1504 SPKR 1203 SPCN 1203, 1504	p. 144
			SPUN	SPUN 1203	p. 146
T Triangle	Positive 3 Corners		TPCT NEW	TPCT 0703, 1104, 1605	p. 147
			TPKT	TPKT 0703, 1104, TPKT 1605	p. 148
	ISO		TPCN(90°) / TPKN / TPKR	TPKN 1603, 2204 TPKR 1603, 2204 TPCN 2204	p. 149
			TPUN	TPUN 1603	p. 150
W Trigon	Negative 6 Corners		WNEX	WNEX 0403, 0806 NEW	p. 151

Milling - Shoulder Milling - Inserts

ADKT / AOMT - Shoulder Milling Positive (2 Corners)

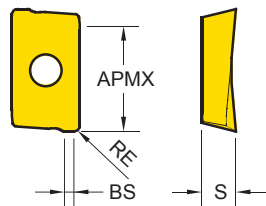


Series	APMX	IC	S
ADKT 1505	.551	.382	.228
AOMT 1236	.433	.260	.142

EDP 1200.. ●: Stock item ○: Order made item

	ADKT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
							P20			K30	M30 S30	M30	M40 S40	S40			
ADKT General 		ADKT 150508 PDTR	.031	.002 ~ .009	.074	.551	● 0913					● 1053	● 0220				
		ADKT 150516 PDTR	.063	.002 ~ .009	.068	.551	● 0916						● 0755				
		ADKT 150524 PDTR	.094	.002 ~ .009	.047	.551	● 0917						● 0756				
		ADKT 150532 PDTR	.126	.002 ~ .009	.012	.551	● 0918						● 0757				
AOMT General 		AOMT 123604 PDTR	.016	.002 ~ .006	.042	.433							● 0217				
		AOMT 123608 PDTR	.031	.002 ~ .006	.036	.433	○ 0912						● 0218	● 0613			

APGT - Shoulder Milling Positive (2 Corners)



Series	APMX	IC	S
APGT 1003	.354	.264	.142
APGT 1604	.551	.370	.209

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	N15
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG50
										● 0730
										● 0428
										● 0798

APGT

Designation

RE
(in)

Fz
(in/tooth)

BS
(in)

APMX
(in)

APGT 100305 - AL

.020

.002 ~ .010

.055

.354

APGT 160408 - AL

.031

.002 ~ .010

.067

.551

APGT 160430 - AL

.118

.002 ~ .010

.008

.551

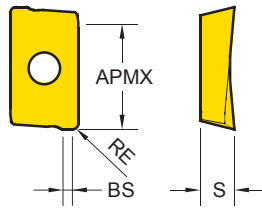
-AL

Aluminium



Milling - Shoulder Milling - Inserts

APKT - Shoulder Milling Positive (2 Corners)

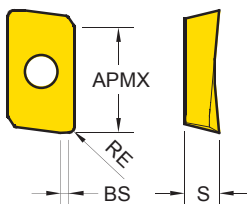


Series	APMX	IC	S
APKT 1003	.354	.264	.142
APKT 1604	.551	.370	.209

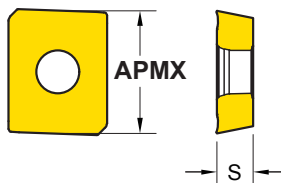
EDP 1200.. ●: Stock item ○: Order made item

APKT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
						P20			K30	M30 S30	M30	M40 S40	S40			
APKT General						YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
	APKT 100305 PDTR	.020	.002 ~ .009	.034	.354	● 0749		○ 0638	○ 0429	● 0818	● 0005	● 0672	● 1254			● 1183
	APKT 100308 PDTR	.031	.002 ~ .009	.035	.354	● 0750		○ 0632	○ 0430	● 0819	● 0004	● 0610	● 1256			
	APKT 100316 PDTR	.063	.002 ~ .009	.041	.354					● 0975	● 0713	● 0714				
	APKT 160404 PDTR	.016	.002 ~ .010	.044	.551			○ 0656		● 0828	● 0003	● 0673				
	APKT 160408 PDTR	.031	.002 ~ .010	.052	.551	● 0797		○ 0633	○ 0767	● 0820	● 0001	● 0607	● 1257		● 0796	● 1180
	APKT 160412 PDTR	.047	.002 ~ .010	.044	.551			○ 0649		● 0980	● 0002					
	APKT 160416 PDTR	.063	.002 ~ .010	.044	.551			○ 0661		● 0979	● 0006	● 1013				
	APKT 160424 PDTR	.094	.002 ~ .010	.047	.551			○ 0653		● 0836	● 0255	● 1014				
	APKT 160432 PDTR	.126	.002 ~ .010	.016	.551	● 0870				● 0977	● 0738					
-ST Stainless Steel Super Alloy										● 0834	● 0278	● 0618	● 1255			● 1182
	APKT 100305 - ST	.02	.002 ~ .005	.034	.354					● 0981		● 0776				
	APKT 100312 - ST	.047	.002 ~ .005	.052	.354					● 0982		● 0719				
	APKT 160408 - ST	.031	.002 ~ .005	.052	.551					● 0835	● 0270	● 0617	● 1258			● 1181
-TR Hardened Steel										○ 0505	● 0970	● 0492				
	APKT 160404 - TR	.016	.002 ~ .016	.083	.551				○ 0505	● 0970	● 0492					
	APKT 160408 - TR	.031	.002 ~ .016	.052	.551	● 0746	● 0471	○ 0637	○ 0337	● 0821	● 0256					
	APKT 160412 - TR	.047	.002 ~ .016	.094	.551	● 0914			○ 0523	● 0829	● 0493					
	APKT 160416 - TR	.063	.002 ~ .016	.094	.551	● 0747			○ 0524	● 0969	● 0472					
	APKT 160424 - TR	.094	.002 ~ .016	.059	.551	● 0748			○ 0520	● 0971	● 0494					

APMT - Shoulder Milling Positive (2 Corners)



<APMT>



<APMT 1504>

Series	APMX	IC	S
APMT 1135	.354	.224	.138
APMT 1604	.551	.362	.187
APMT 1504	-	.500	.187

EDP 1200.. ●: Stock item ○: Order made item

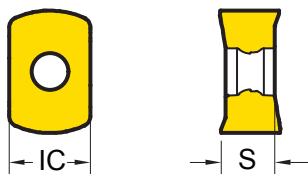
H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
●	○	○	○	●	●	●				
0752		0655	0400	0940	0009	0669				
		○		●	●	●				
		0654		0941	0010	0668				
●	●	○	○	●	●	●	●		●	
0751	0423	0642	0399	0939	0008	0663	1259		0464	
			○	●	●	●				
			0445	0838	0276	0777				

APMT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
APMT General 	APMT 113504 PDTR	.016	.002 ~ .009	.050	.354
	APMT 113508 PDTR	.031	.002 ~ .009	.042	.354
	APMT 160408 PDTR	.031	.002 ~ .009	.044	.551
APMT 1504 General 	APMT 1504	-	.002 ~ .009	-	



Milling - High Feed Milling - Inserts

ENMX - High Feed Negative (4 Corners)



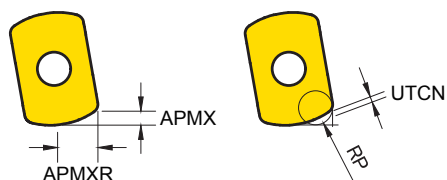
Series	IC	S
ENMX 0402	.157	.093
ENMX 0604	.248	.166
ENMX 0905	.354	.213

EDP 1200.. ●: Stock item ○: Order made item

ENMX	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	Material											
						H20	P15	P25	P30	P30	P40	M40	K10	K15	S40	YG012	YG712
General	ENMX 0604	.031	.012 ~ .079	-	.039	●										0734	
	ENMX 0905	.039	.012 ~ .098	-	.059	●										0736	
- ST Stainless Steel	ENMX 0402 - ST	.020	.008 ~ .031	-	.020												
	ENMX 0604 - ST	.031	.004 ~ .031	-	.039												
	ENMX 0905 - ST	.039	.008 ~ .047	-	.059												
- TR Hardened Steel	ENMX 0402 - TR	.020	.008 ~ .051	-	.020	●	●									1060	1062
	ENMX 0604 - TR	.031	.012 ~ .098	-	.039	●	●	○								0733	0504
	ENMX 0905 - TR	.039	.012 ~ .118	-	.059	●										0735	

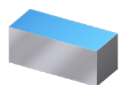
ENMX - High Feed Negative (4 Corners) Technical Information

ENMX 0402



APMXR Radial AP Max
.094

RP Programmed Corner R	Overcut	UTCN Uncut Thickness
.031	.010	0
.035	.009	0
.039	.007	.0004



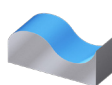
General



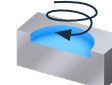
Plunging



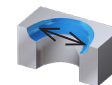
Ramping



Profiling



Helical Interpolation

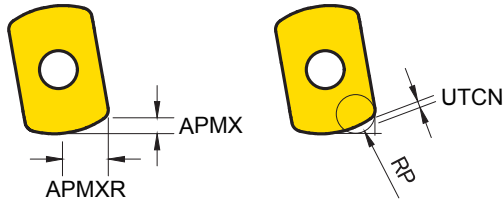


Enlarge Hole

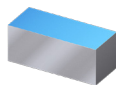
DCX External Cutter Diameter	APMX Maximum Depth of Cut	APMXR Maximum Radial Depth of Cut	RMPX Maximum Ramping Angle(°)	RP Programmed Corner Radius	UTCN Uncut Thickness	Diameter Maximum Cutting Diameter	Pitch Helical Interpolation Pitch	Diameter Minimum Cutting Diameter	Pitch Helical Interpolation Pitch	Ae Enlarge Width
.375	.020	.094	0.8°	.035	.009	.750	.016	.553	.008	.281
.455	.020	.094	0.7°	.035	.009	.910	.017	.705	.009	.361
.500	.020	.094	0.7°	.035	.009	1.000	.020	.764	.017	.406
.580	.020	.094	0.9°	.035	.009	1.160	.020	.916	.020	.486
.625	.020	.094	1.2°	.035	.009	1.250	.020	1.002	.020	.531
.705	.020	.094	1.0°	.035	.009	1.410	.020	1.158	.020	.611
.730	.020	.094	0.8°	.035	.009	1.460	.020	1.208	.020	.636
.750	.020	.094	1.0°	.035	.009	1.500	.020	1.248	.020	.656
1.000	.020	.094	0.7°	.035	.009	2.000	.020	1.740	.020	.906
1.125	.020	.094	0.6°	.035	.009	2.250	.020	1.990	.020	1.031
1.250	.020	.094	0.5°	.035	.009	2.500	.020	2.240	.020	1.156
1.375	.020	.094	0.4°	.035	.009	2.750	.020	2.490	.020	1.281

ENMX 0604

Unit: inch



RP Programmed Corner R	Overcut	UTCN Uncut Thickness
.079	.000	.012
.098	.007	.007
.118	.014	.003



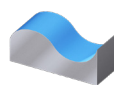
General



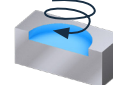
Plunging



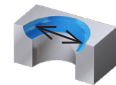
Ramping



Profiling



Helical Interpolation

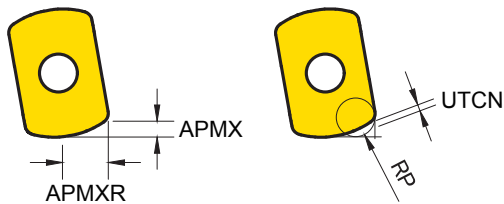


Enlarge Hole

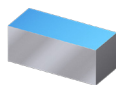
DCX External Cutter Diameter	APMX Maximum Depth of Cut	APMXR Maximum Radial Depth of Cut	RMPX Maximum Ramping Angle(°)	RP Programmed Corner Radius	UTCN Uncut Thickness	Diameter Minimum Cutting Diameter	Diameter Maximum Cutting Diameter	Pitch Helical Interpolation Pitch	Ae Enlarge Width
.625	.035	.137	3.4°	R.079	.011	.817	1.171	.035	.487
.750	.039	.145	2.0°	R.079	.012	1.067	1.421	.039	.612
1.00	.039	.145	1.2°	R.079	.012	1.567	1.921	.039	.862
1.25	.039	.145	0.9°	R.079	.012	2.067	2.421	.039	1.112
1.50	.039	.145	0.7°	R.079	.012	2.567	2.921	.039	1.362
2.00	.039	.145	0.5°	R.079	.012	3.567	3.921	.039	1.862
3.00	.039	.145	0.3°	R.079	.012	5.567	5.922	.039	2.862

ENMX 0905

Unit: inch



RP Programmed Corner R	Overcut	UTCN Uncut Thickness
.098	.000	.022
.118	.004	.015
.137	.010	.009
.157	.016	.004
.177	.019	.000



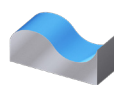
General



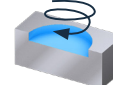
Plunging



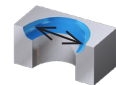
Ramping



Profiling



Helical Interpolation



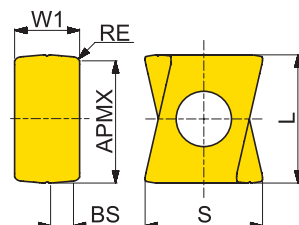
Enlarge Hole

DCX External Cutter Diameter	APMX Maximum Depth of Cut	APMXR Maximum Radial Depth of Cut	RMPX Maximum Ramping Angle(°)	RP Programmed Corner Radius	UTCN Uncut Thickness	Diameter Minimum Cutting Diameter	Diameter Maximum Cutting Diameter	Pitch Helical Interpolation Pitch	Ae Enlarge Width
1.0	.059	.185	3.8°	R.098	.022	1.685	1.921	.059	.803
1.25	.059	.185	2.4°	R.098	.022	2.185	2.421	.059	1.053
1.5	.059	.185	1.7°	R.098	.022	2.685	2.921	.059	1.303
2.0	.059	.185	1.1°	R.098	.022	3.685	3.921	.059	1.803
2.5	.059	.185	0.8°	R.098	.022	4.685	4.921	.059	2.303
3.0	.059	.185	0.7°	R.098	.022	5.685	5.921	.059	2.803
4.0	.059	.185	0.4°	R.098	.022	7.685	7.921	.059	3.803
6.0	.059	.185	0.3°	R.098	.022	11.685	11.921	.059	5.803



Milling - Shoulder Milling - Inserts

LNHU, LNKU - Tangential Milling Negative (4 Corners)



Series	APMX	IC	S
LNHU1306	.472	.264	.476

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
● 0905				● 0723	○ 0640	● 0724		● 0725		

LNHU	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
NEW LNHU General	LNHU130608R	.031	.002 ~ .012	.082	.472



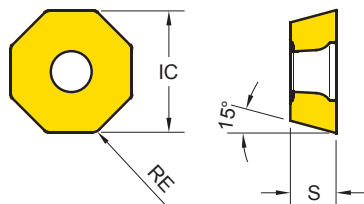
LNKU	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
NEW LNKU General	LNKU130604R	.016	.002 ~ .012	.094	.472
	LNKU130608R	.031	.002 ~ .012	.082	.472
	LNKU130612R	.047	.002 ~ .012	.068	.472
	LNKU130616R	.063	.002 ~ .012	.063	.472



YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
							● 1264			
● 0906				● 0740		● 0741	● 1265	● 0742	● 0935	
● 0907				● 0764		● 0765	● 1266	● 0766	● 0936	
● 0919				● 1052			● 1267	● 0782		



Series	IC	S
ODM* 0605	.626	.220



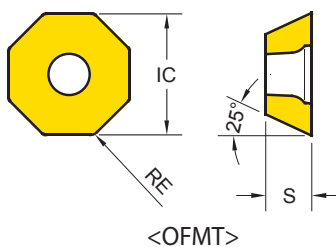
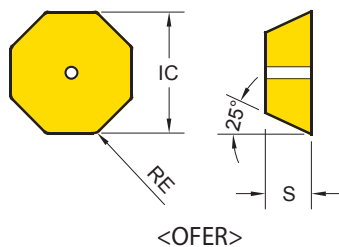
EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30 S30	M30	M40 S40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
● 1056	● 0513	○ 0659		● 0830	● 0030	● 0675	● 1268			
				● 0942	● 0031					

ODMT ODMW	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
ODMT General 	ODMT 060508	.031	.002 ~ .012	-	.138
ODMW Hard Materials 	ODMW 060508	.031	.002 ~ .012	-	.138

Milling - Face Milling - Inserts

OFER, OFMT - Face Milling Positive (8 Corners)



Series	IC	S
OFER 0704	.771	.188
OFMT 05T3	.501	.160

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
					● 0209					

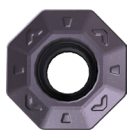
OFER	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
	OFER 070405	.020	.002 ~ .012	-	.197

OFER
General



OFMT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
	OFMT 05T308	.031	.002 ~ .008	-	.130

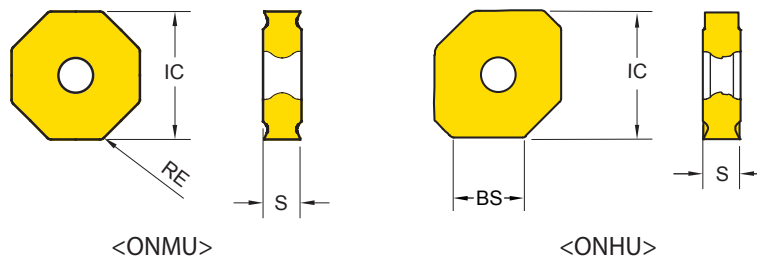
OFMT
General



YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
					● 0032		● 1269			

ONHU / ONMU - Face Milling Negative (16 Corners)

Series	IC	S
ON*U 0806	.795	.228



EDP 1200.. ●: Stock item ○: Order made item

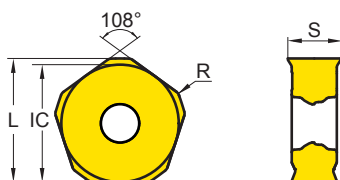
H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20	M30	M30	M30	M30	M30	M30	M30	M30	M30	M30
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
				●				●	●	
				0899				0482	0496	
●	●	○	●	●	●	●	●	●		
0904	0609	0657	0960	0233	0670	1270	0414			
			●		●	●	●	●	●	
			0898		0615	1271	0542	0871		
						1272	0707			

ONMU ONHU	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
ONHU Wiper Insert 	ONHU 080612	.047	.003 ~ .010	.417	.217
ONMU General 	ONMU 080608	.031	.002 ~ .014	-	.217
	ONMU 080612	.047	.002 ~ .014	-	.217
	ONMU 080620	.079	.002 ~ .014	-	.217

* Wiper Insert can use 4 corners for right handed cutter and 4 corners for left handed cutter



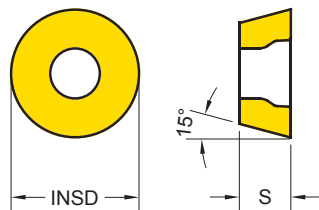
Milling - Face Milling - Inserts

PNMU - Face Milling Negative (10 Corners)


Series	KRINS	IC	S
PNMU 1206	36°	.551	.230

EDP 1200.. ●: Stock item ○: Order made item

	PNMU	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
							P20			K30	M30 S30	M30	M40 S40	S40			
							YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
		PNMU 1206ZNN	.031	.002~.020	.083	.157	● 0753	● 0596	○ 0645		● 0826	● 0535	● 0671	● 1273	● 0534	● 0538	
	PNMU General																
		PNMU 1206-ST	.031	.002~.012	.083	.157					● 0978	● 0761	● 0760				
	-ST Stainless Steel Super Alloy																



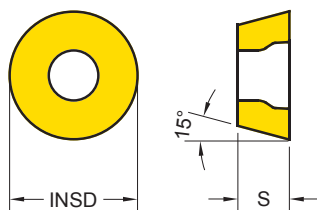
Series	INSD	S	Series	INSD	S
RDK* 0501	.197	.055	RDK* 10T3	.394	.157
RDK* 0702	.276	.094	RDK* 1204	.472	.189
RDK* 0802	.315	.094	RDK*1604	.630	.187

EDP 1200.. ●: Stock item ○: Order made item

	RDKT RDKW	Designation	Fz (in/tooth)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
					P20			K30	M30	M30	M40	S40			
					YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
RDKT General		RDKT 0802M0	.002 ~ .010	.157					●	●					
		RDKT 10T3M0	.002 ~ .012	.197			○		●	●					
		RDKT 1204M0	.002 ~ .020	.236			○		●	●	●				
		RDKT 1604M0	.002 ~ .020	.315	●				●	●					
-ST Stainless Steel Super Alloy		RDKT 0802M0 - ST	.002 ~ .006	.157	0915				●	●					
		RDKT 10T3M0 - ST	.002 ~ .008	.197					●	●	●				
		RDKT 1204M0 - ST	.002 ~ .012	.236					●	●	●				
									●	●	●				
-TR Hardened Steel		RDKT 0802M0 - TR	.002 ~ .014	.157	●			○	●	●					
		RDKT 10T3M0 - TR	.002 ~ .016	.197	●			○	●	●					
		RDKT 1204M0 - TR	.002 ~ .024	.236	●		○	○	●	●					
					0743		0650	0340	0842	0272					
RDKW Hard Materials		RDKW 0501M0	.002 ~ .008	.098				○	●	●		●			
		RDKW 0702M0	.002 ~ .010	.138			○	○	●	●		●			
		RDKW 0802M0	.002 ~ .012	.157	●			○	●	●					
		RDKW 10T3M0	.002 ~ .016	.197	●			○	●	●					
		RDKW 1204M0	.002 ~ .024	.236			○	○	●	●					
		RDKW 1604M0	.002 ~ .024	.315	●			○	●	●					

Milling - Profiling - Inserts

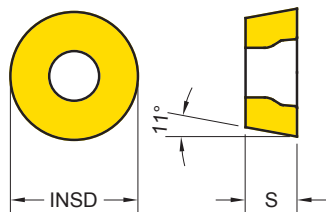
RDMT / W- Profiling Positive (Round)



Series	INSD	S	Series	INSD	S
RDM* 0602	.236	.094	RDM* 10T3	.394	.156
RDM* 0802	.315	.094	RDM* 1204	.472	.187
RDM* 0803	.315	.125			

EDP 1200.. ●: Stock item ○: Order made item

	RDMT RDMW	Designation	Fz (in/tooth)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
					P20			K30	M30 S30	M30	M40 S40	S40			
RDMT General		RDMT 0602M0	.002 ~ .008	.118	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
		RDMT 0802M0	.002 ~ .010	.157						● 0693		● 1276			
		RDMT 0803M0	.002 ~ .010	.157						● 0245					
		RDMT 10T3M0	.002 ~ .012	.197						● 0225		● 1277			
		RDMT 1204M0	.002 ~ .020	.236					● 0845	● 0226					
RDMW Hard Materials		RDMW 0802M0	.002 ~ .012	.157						● 0227		● 1278			
		RDMW 10T3M0	.002 ~ .016	.197						● 0228		● 1279			
		RDMW 1204M0	.002 ~ .024	.236						● 0229					



Series	INSD	S	Series	INSD	S
RPM* 0803	.315	.125	RPM* 1204	.472	.187
RPM* 10T3	.394	.156	ROHX 1204	.472	.187

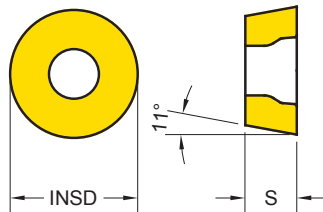
EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
										●
										1192
										●
										1191
										●
										1189
										●
										1193
										●
										1190
										●
										1188
							○			
							1280			

RPMX ROHX	Designation	Fz (in/tooth)	APMX (in)
NEW -XSF	RPMX 0803M0 - XSF	.002 ~ .004	.157
	RPMX 10T3M0 - XSF	.002 ~ .004	.197
	RPMX 1204M0 - XSF	.002 ~ .004	.236
NEW -XSM	RPMX 0803M0 - XSM	.002 ~ .005	.157
	RPMX 10T3M0 - XSM	.002 ~ .005	.197
	RPMX 1204M0 - XSM	.002 ~ .005	.236
NEW ROHX General	ROHX 1204M0	.002 ~ .006	.236

Milling - Profiling - Inserts

RPMT / W - Profiling Positive (Round)

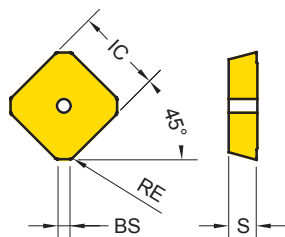


Series	INSD	S	Series	INSD	S
RPM* 08T2	.315	.109	RPM* 10T3	.394	.156
RPM* 1003	.394	.125	RPM* 1204	.472	.187
			RPM* 1606	.630	.250

EDP 1200.. ●: Stock item ○: Order made item

RPMT RPMW	Designation	Fz (in/tooth)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
				P20			K30	M30 S30	M30	M40 S40	S40			
RPMT General	RPMT 08T2M0	.002 ~ .010	.157	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
						○		●	●	●				
						0660		0945	0038	0676				
						0644		0944	0036	0665				
-ST Stainless Steel Super Alloy	RPMT 10T3M0	.002 ~ .012	.197			○		●	●	●				
						0644		0944	0036	0665				
	RPMT 1204M0	.002 ~ .020	.236		●	○	○	●	●	●	●		●	
					0415	0643	0401	0831	0037	0664	1281		0462	
-TR Hardened Steel	RPMT 1606M0	.002 ~ .024	.315							●				
										0923				
	RPMT 1204M0 - ST	.002 ~ .012	.236					●	●	●				
								0958	0230	0667	1282			
RPMW Hard Materials	RPMT 1204M0 - TR	.002 ~ .022	.236					●						
								0968						
	RPMW 1003M0	.002 ~ .016	.197	●	○	○	●	●						
				0911	0646	0402	0957	0204						
	RPMW 1204M0	.002 ~ .024	.236		○		●	●						
					0648		0946	0039						

SDCN, SDKN - Face Milling Positive (4 Corners ISO)



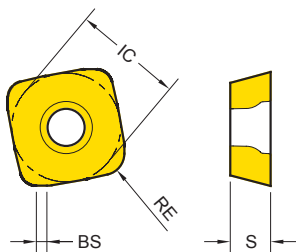
Series	AS	IC	S
SD** 42	15°	.500	.125
SD** 53	15°	.625	.187

EDP 1200.. ●: Stock item ○: Order made item

	SDCN SDKN	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
							P20			K30	M30	M30	M40	S40			
							YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
SDCN Ground insert		SDCN 42 AESN - M	.039	.002 ~ .008	.080	.236		● 0135									
		SDCN 53 AESN - M	.039	.002 ~ .008	.086	.315		● 0150									
		SDCN 53 AESN - MR	.039	.002 ~ .008	.086	.315		● 0201									
SDKN Hard Materials		SDKN 42 AETN	.020	.002 ~ .012	.073	.236					● 0954	● 0058					
		SDKN 42 AETN - PW	.016	.002 ~ .012	.078	.236						● 0253					
		SDKN 42 AETN - GW	.051	.002 ~ .012	.073	.236					● 0961	● 0251					
		SDKN 42 AESN - GW	.051	.002 ~ .012	.073	.236	● 0762										
		SDKN 53 AETN	.018	.002 ~ .012	.079	.315					● 0846	● 0059					
		SDKN 53 AETN - PW	.016	.002 ~ .012	.077	.315						● 0288					
		SDKN 53 AETN - GW	.051	.002 ~ .012	.081	.315					● 0937	● 0286					

- PW : For Improved Surface Roughness
- GW : Ground Wiper
- M : For Mold & Die
- MR : For Mold & Die Roughing

SDMT / W - High Feed Positive (4 Corners)

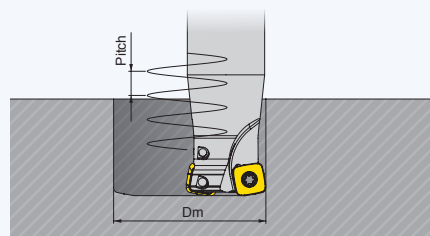


Series	IC	S
SDM* 1204	.500	.185

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30 S30	M30	M40 S40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
				● 0964	● 0274	● 0666				
● 0737		○ 0634	○ 0341	● 0827	● 0273	● 0691				

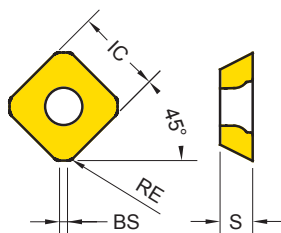
[illegible]

APMXR Radial AP Max	RP Programmed Corner R	UTCN Uncut Thickness
.339	.138	.94



	Linear Ramping Data			
	D	α°	APMX	L (cutting length)
Metric	32	2.1	1.8	49
	33	2.0	1.8	52
	35	1.6	1.8	64
	40	2.7	1.8	38
	50	2.0	1.8	52
	63	1.4	1.8	74
	80	1.0	1.8	103
	100	0.8	1.8	129
	125	0.6	1.8	172
	160	0.4	1.8	258
Inch	1.25	2.4	.071	.067
	1.5	3.1	.071	.052
	2.0	2.0	.071	.080
	2.5	1.4	.071	.114
	3.0	1.1	.071	.145
	4.0	0.8	.071	.200
	5.0	0.6	.071	.266
	6.0	0.5	.071	.320

	Helical Interpolation Data				
	D	Dm (max)	Pitch	Dm (minimum)	Pitch
Metric	32	64	1.8	54	1.8
	33	66	1.8	56	1.8
	35	70	1.8	59	1.8
	40	80	1.8	69	1.8
	50	100	1.8	89	1.8
	63	126	1.8	115	1.8
	80	160	1.8	149	1.8
	100	200	1.8	189	1.8
	125	250	1.8	239	1.8
160	320	1.8	309	1.8	
Inch	1.25	2.5	.071	2.1	.071
	1.5	3	.071	2.6	.071
	2.0	4	.071	3.6	.071
	2.5	5	.071	4.6	.071
	3.0	6	.071	5.6	.071
	4.0	8	.071	7.6	.071
	5.0	10	.071	9.6	.071
	6.0	12	.071	11.6	.071



Series	IC	S
SEGT 1204	.502	.193
SEGT 12T3	.528	.159

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	N15
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG50
										● 0467

SEGT 1204

Designation

RE
(in)

Fz
(in/tooth)

BS
(in)

APMX
(in)

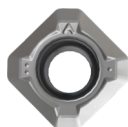
SEGT 1204 - AL

.047

.002 ~ .012

.079

.236

-AL
Aluminium


SEGT 12T3

Designation

RE
(in)

Fz
(in/tooth)

BS
(in)

APMX
(in)

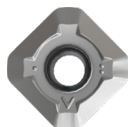
SEGT 12T3 - AL

.047

.002 ~ .012

.076

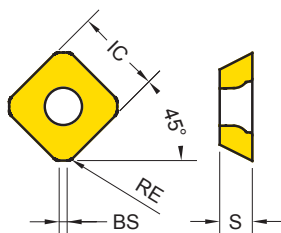
.236

-AL
Aluminium


YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG50
										● 0468

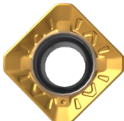
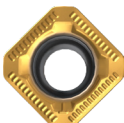
Milling - Face Milling - Inserts

SEKT - Face Milling Positive (4 Corners)



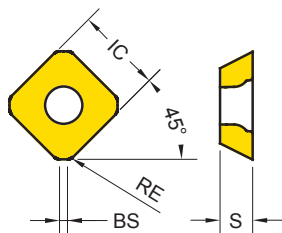
Series	IC	S
SEKT 1204	.500	.193
SEKT 12T3	.528	.157

EDP 1200.. ●: Stock item ○: Order made item

						H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
						P20			K30	M30 S30	M30	M40 S40	S40			
SEKT 1204	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
SEKT 1204 General 	SEKT 1204 AFTN	.043	.008 ~ .014	.046	.236				○ 0416	○ 0833	● 0055					
-ST Stainless Steel Super Alloy 	SEKT 1204 - ST	.043	.003 ~ .012	.079	.236					● 0962	● 0257	● 0722				

	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
SEKT 12T3																
SEKT 12T3 General 	SEKT 12T3 AGTN	.059	.002 ~ .009	.051	.236					● 0953	● 0056					
-ST Stainless Steel Super Alloy 	SEKT 12T3 - ST	.059	.002 ~ .005	.079	.236					● 0963	● 0271	● 0689				

SEMT - Face Milling Positive (4 Corners)

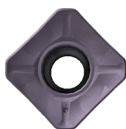


Series	IC	S
SEMT1204	.509	.201
SEMT13T3	.528	.157

EDP 1200.. ●: Stock item ○: Order made item

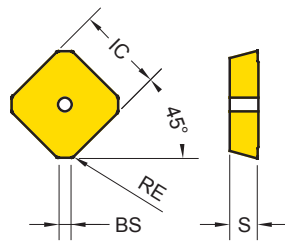
H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
					● 0052					
					● 0203					

SEMT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
SEMT 1204 General	SEMT 1204 AFTN	.047	.002 ~ .009	.049	.236
SEMT 13T3 General	SEMT 13T3 AGSN	.059	.002 ~ .009	.052	.236



Milling - Face Milling - Inserts

SEKR / N - Face Milling Positive (4 Corners ISO)



Series	AS	IC	S
SEK* 42	20°	.500	.126

EDP 1200.. ●: Stock item ○: Order made item

	SEKR SEKN	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
							P20			K30	M30 S30	M30	M40 S40				
SEKR General		SEKR 42 AFTN	.016	.002 ~ .009	.055	.236	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
		SEKR 42 AFTN - PW	.016	.002 ~ .009	.079	.236					○ 0832	● 0051					
												● 0296					
SEKN Hard Materials		SEKN 42 AFTN	.016	.002 ~ .012	.055	.236					● 0952	● 0054					
		SEKN 42 AFTN - GW	.016	.002 ~ .013	.079	.236	● 0774					● 0304					
		SEKN 42 AFTN - PW	.016	.002 ~ .013	.079	.236						● 0297					

- PW : For Improved Surface Roughness

- GW : Ground Wiper

SNGX - Face Milling Negative (8 Corners)

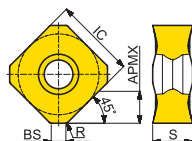
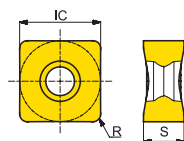
TURNING

PARTING & GROOVING

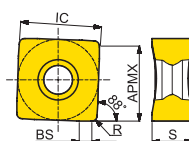
MILLING

DRILLING

TECHNICAL INFORMATION



<ANN>



<QNN>

Series	KRINS	IC	S
SN** 1206 ANN	45°	.500	.246
SN** 1206 QNN	88°	.500	.246
SN** 1206 ENN	75°	.500	.246
SN** 1206**	-	.500	.246

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
●				●		●				
1021				1023		1024				
							●			
							1291			
●	●			●		●	●	●	●	
1079	1081			1078		1080	1285	1082	1083	
●	●			●		●	●	●	●	
1016	1121			1015		1120	1288	1122	1019	

SNGX

Designation

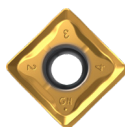
RE
(in)

Fz
(in/tooth)

BS
(in)

APMX
(in)

NEW

SNGX
General


SNGX 120612 - GN

.047

.002 ~ .014

-

.413

SNGX 120620 - GN

.079

.002 ~ .014

-

.394

SNGX 1206 ANN - GN

.016

.002 ~ .014

.091

.236

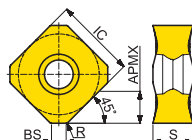
SNGX 1206 QNN - GN

.031

.002 ~ .014

.079

.386



<ANN>

SNGX

Designation

RE
(in)

Fz
(in/tooth)

BS
(in)

APMX
(in)

NEW

-ST

Stainless Steel
Super Alloy

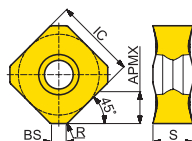

SNGX 1206 ANN - ST

.016

.002 ~ .010

.091

.236



<ANN>

SNGX

Designation

RE
(in)

Fz
(in/tooth)

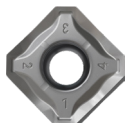
BS
(in)

APMX
(in)

NEW

-AL

Aluminium



SNGX 1206 ANN - AL

.016

.002 ~ .014

.091

.236

EDP 1200.. ●: Stock item ○: Order made item

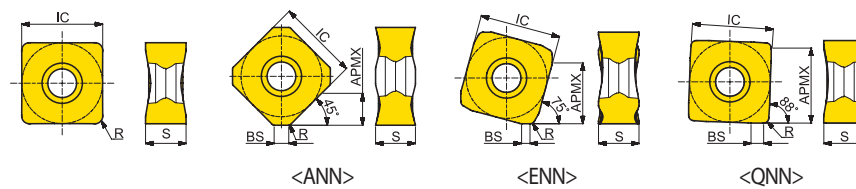
H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	N15
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG50
							●			
							1286			

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	N15
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG50
										●
										1086

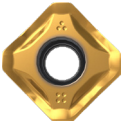
Milling - Face Milling - Inserts

SNMX - Face Milling Negative (8 Corners)

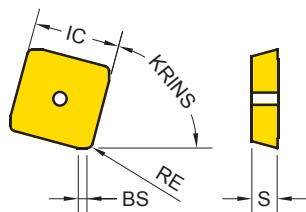


Series	KRINS	IC	S
SN** 1206 ANN	45°	.500	.246
SN** 1206 QNN	88°	.500	.246
SN** 1206 ENN	75°	.500	.246
SN** 1206**	-	.500	.246

EDP 1200.. ●: Stock item ○: Order made item

SNMX		Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
SNMX General		SNMX 1206 ANN	.031	.002 ~ .009	.067	.236	● 0754		○ 0658		● 0959	● 0231	● 0674		● 0460	● 0461	
		SNMX 1206 QNN	.031	.002 ~ .009	.078	.386	● 0901	● 0732							● 0731	● 0686	
		SNMX 120612 - GN	.047	.002 ~ .014	-	.413	● 1018	● 1139			● 1054		● 1138	● 1290	● 1140	● 1141	
		SNMX 1206 ANN - GN	.016	.002 ~ .014	.091	.236	● 1071	● 1073			● 1070		● 1072	● 1283	● 1074	● 1075	
		SNMX 1206 ENN - GN	.031	.002 ~ .014	.051	.374	● 1093	● 1095			● 1092		● 1094	● 1289	● 1096	● 1097	
		SNMX 1206 QNN - GN	.031	.002 ~ .014	.079	.386	● 1017	● 1113			● 1111		● 1112	● 1287	● 1114	● 1115	
-ST Stainless Steel Super Alloy		SNMX 1206 ANN - ST	.016	.002 ~ .010	.091	.236					● 1076		● 1077	● 1284			
		SNMX 1206 QNN - ST	.031	.002 ~ .010	.079	.386					● 1116		● 1117				

SPCN, SPKN / R - Face Milling Positive (4 Corners ISO)



Series	KRINS	AS	IC	S
SP** 42	75°	11°	.500	.125
SP** 53	75°	11°	.625	.187

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20	P30	P30	M30	M30	M40	S40	S40	K10	K15	S40
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
● 0081										
● 0198										
● 0098										
● 0199										
○ 0910			● 0848	● 0048						
			● 0847	● 0280						
				● 0279						
○ 0900			● 0850	● 0049						
			● 0849	● 0305						
				● 0299						
			● 0951	● 0050						
				● 0298						

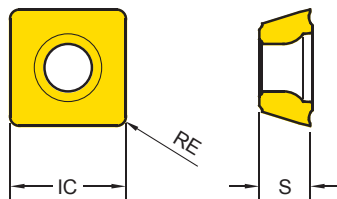
SPCN SPKN SPKR	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
SPCN Ground insert	SPCN 42 EDSR - M	.031	.004 ~ .008	.072	.315
	SPCN 42 EDSR - MR	.031	.004 ~ .008	.070	.315
	SPCN 53 EDSR - M	.031	.004 ~ .008	.076	.472
	SPCN 53 EDSR - MR	.031	.004 ~ .008	.073	.472
SPKN Hard Materials	SPKN 42 EDTR	.031	.002 ~ .012	.055	.315
	SPKN 42 EDTR - GW	.024	.002 ~ .015	.059	.315
	SPKN 42 EDTR - PW	.031	.002 ~ .015	.059	.315
	SPKN 53 EDTR	.031	.002 ~ .009	.051	.472
	SPKN 53 EDTR - GW	.031	.002 ~ .015	.087	.472
	SPKN 53 EDTR - PW	.031	.002 ~ .015	.084	.472
SPKR General	SPKR 42 EDTR	.031	.002 ~ .009	.055	.315
	SPKR 42 EDTR - PW	.031	.002 ~ .004	.061	.315

- PW : For Improved Surface Roughness
- GW : Ground Wiper
- M : For Mold & Die
- MR : For Mold & Die Roughing

Milling - Face Milling - Inserts

SPMT - Universal Positive (4 Corners)

Series	AS	IC	S
SPMT 1204	11°	.500	.189



EDP 1200.. ●: Stock item ○: Order made item

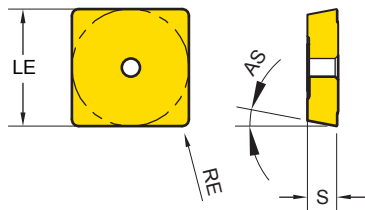
H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30 S30	M30	M40 S40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
● 0903				● 0851	● 0223	● 0778				

SPMT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
	SPMT 120408	.031	.002 ~ .009	-	.394

SPMT
General



SPUN - Universal Positive (4 Corners ISO)



Series	AS	IC	S
SPUN 42	11°	.500	.126

EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
					● 0224					

SPUN

Designation

RE
(in)

Fz
(in/tooth)

BS
(in)

APMX
(in)

SPUN 422

.031

.002 ~ .011

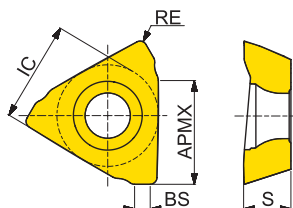
SPUN
General





Milling - Shoulder Milling - Inserts

TPCT - Shoulder Milling Positive (3 Corners)



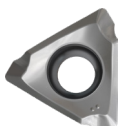
Series	APMX	IC	S
TPCT 0703	.177	.217	.115
TPCT 1104	.276	.297	.169
TPCT 1605	.433	.459	.212

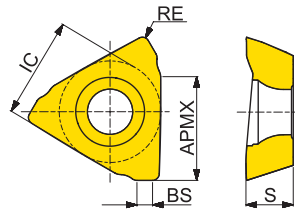
EDP 1200.. ●: Stock item ○: Order made item

TPCT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	N15
						P20			K30	M30 S30	M30	M40 S40	S40			
	TPCT 070302R - AL	.008	.002 ~ .008	.053	.177	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG50
	TPCT 070304R - AL	.016	.002 ~ .008	.045	.177											● 1008
	TPCT 070308R - AL	.031	.002 ~ .008	.030	.177											● 1009
	TPCT 110404R - AL	.016	.002 ~ .010	.059	.276											● 1011
	TPCT 110408R - AL	.031	.002 ~ .010	.043	.276											● 0894
	TPCT 160504R - AL	.016	.002 ~ .020	.094	.433											● 0895
	TPCT 160508R - AL	.031	.002 ~ .020	.075	.433											● 0896
																● 0897

NEW

-AL
Aluminium

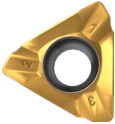
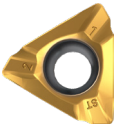




Series	APMX	IC	S
TPKT 0703	.177	.217	.115
TPKT 1104	.276	.297	.169
TPKT 1605	.433	.459	.212

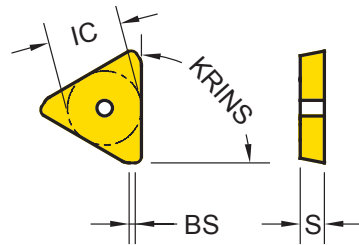
EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			

TPKT	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
TPKT General 	TPKT 070302R - GN	.008	.002 ~ .008	.039	.177	●	●			●		●	●			
	TPKT 070304R - GN	.016	.002 ~ .008	.035	.177	●	●			●		●	●			
	TPKT 070308R - GN	.031	.002 ~ .008	.020	.177	●	●			●		●	●			
	TPKT 110404R - GN	.016	.002 ~ .009	.063	.276	●	●			●		●	●			
	TPKT 110408R - GN	.031	.002 ~ .009	.045	.276	●	●			●		●	●			
	TPKT 110412R - GN	.047	.002 ~ .009	.031	.276	●	●			●		●	●			
	TPKT 110416R - GN	.063	.002 ~ .009	.024	.256	●	●			●		●	●			
	TPKT 110420R - GN	.079	.002 ~ .009	.005	.256	●	●			●		●	●			
	TPKT 160504R - GN	.016	.002 ~ .011	.087	.433	●	●			●		●	●			
	TPKT 160508R - GN	.031	.002 ~ .011	.070	.433	●	●			●		●	●			
	TPKT 160512R - GN	.047	.002 ~ .011	.050	.433	●	●			●		●	●			
	TPKT 160516R - GN	.063	.002 ~ .011	.047	.433	●	●			●		●	●			
	TPKT 160520R - GN	.079	.002 ~ .011	.031	.433	●	●			●		●	●			
	TPKT 160524R - GN	.094	.002 ~ .011	.028	.433	●	●			●		●	●			
-ST Stainless Steel Super Alloy 	TPKT 070302R - ST	.008	.002 ~ .005	.039	.177					●		●				
	TPKT 070304R - ST	.016	.002 ~ .005	.035	.177					●		●	●			
	TPKT 070308R - ST	.031	.002 ~ .005	.020	.177					●		●	●			
	TPKT 110404R - ST	.016	.002 ~ .006	.063	.276					●		●	●			
	TPKT 110408R - ST	.031	.002 ~ .006	.045	.276					●		●	●			
	TPKT 110412R - ST	.047	.002 ~ .006	.031	.276					●		●	●			
	TPKT 160504R - ST	.016	.002 ~ .006	.087	.433					●		●	●			
	TPKT 160508R - ST	.031	.002 ~ .006	.070	.433					●		●	●			
	TPKT 160512R - ST	.047	.002 ~ .006	.051	.433					●		●	●			
										●		●	●			

Milling - Shoulder Milling - Inserts

TPCN /TPKN /TPKR - Shoulder Milling Positive (3 Corners ISO)



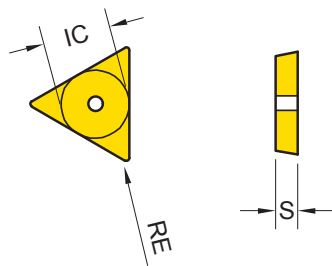
Series	KRINS	IC	S
TP** 32	90	.375	.125
TP** 43	90	.500	.187

EDP 1200.. ●: Stock item ○: Order made item

	TPCN TPKN TPKR	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	EDP 1200..											
							H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40	
							P20			K30	M30	M30	M40	S40				
							YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904	
TPCN Ground insert		TPCN 43 PDSR - M		.002 ~ .008	.069	.709		●										
		TPCN 43 PDSR - MR		.002 ~ .008	.069	.709		○										
TPKN Hard Materials		TPKN 32 PDTR		.002 ~ .008	.047	.472					●	●	●					
		TPKN 32 PDTR - GW		.002 ~ .006	.063	.472						●	●					
		TPKN 32 PDTR - PW		.002 ~ .012	.047	.472						●	●					
		TPKN 43 PDTR		.002 ~ .009	.067	.709	●				●	●						
		TPKN 43 PDTR - GW		.002 ~ .018	.098	.709						●	●					
		TPKN 43 PDTR - PW		.002 ~ .011	.067	.709						●	●					
TPKR General		TPKR 32 PDTR		.006 ~ .011	.047	.472					●	●	●					
		TPKR 32 PDTR - PW		.004 ~ .008	.047	.472						●	●					
		TPKR 43 PDTR		.007 ~ .014	.067	.709					●	●	●					
		TPKR 43 PDTR - PW		.007 ~ .014	.067	.709						●	●					

- PW : For Improved Surface Roughness
- GW : Ground Wiper
- M : For Mold & Die
- MR : For Mold & Die Roughing

Series	IC	S
TPUN 32	.375	.125



EDP 1200.. ●: Stock item ○: Order made item

H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
P20			K30	M30	M30	M40	S40			
YG012	YG712	YG713	YG622	YG612	YG602	YG613	YG614	YG5020	YG501	YG904
					● 0064					

TPUN	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)
------	-------------	------------	------------------	------------	--------------

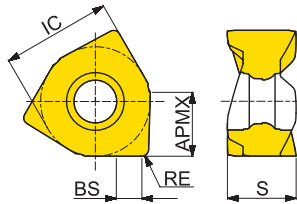
TPUN 322 .031 .003 ~ .006

TPUN




Milling - Shoulder Milling - Inserts

WNEX - Shoulder Milling Negative (6 Corners)



Series	IC	S
WNE* 0403	.276	.142
WNE* 0806	.508	.246

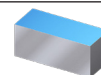
EDP 1200.. ●: Stock item ○: Order made item

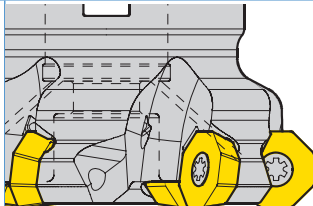
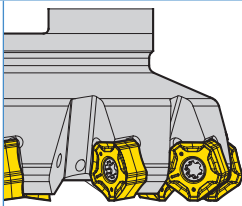
WNEX	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	S40
						P20			K30	M30 S30	M30	M40 S40	S40			
WNEX General 	WNEX 040304R -GN	.016	.002 ~ .009	.079	.157	YG012 1029	YG712 1031	YG713	YG622	YG612 1028	YG602	YG613 1030	YG614 1309	YG5020 1032	YG501 1033	YG904
	WNEX 040308R -GN	.031	.002 ~ .009	.065	.157	1037	1039			1036		1038	1310	1040	1041	
	WNEX 040312R -GN	.047	.002 ~ .009	.051	.157	1045	1047			1044		1046	1311	1048	1049	
	WNEX 080604R -GN	.016	.002 ~ .010	.126	.276	0856	0857			0855			1312	0858	0924	
	WNEX 080608R -GN	.031	.002 ~ .010	.110	.276	0859	0792			0854		0793	1313	0794	0795	
	WNEX 080612R -GN	.047	.002 ~ .010	.094	.276	0877	0878			0885			1315	0879	0925	
	WNEX 080616R -GN	.063	.002 ~ .010	.079	.276	0861	0862			0860			1316	0863	0926	
	WNEX 080620R -GN	.079	.002 ~ .010	.063	.276	0882	0883			0886			1317	0884	0927	
-ST Stainless Steel Super Alloy 	WNEX 040304R -ST	.016	.002 ~ .006	.079	.157					1034		1035				
	WNEX 040308R -ST	.031	.002 ~ .006	.065	.157					1042		1043				
	WNEX 040312R -ST	.047	.002 ~ .006	.051	.157					1050		1051				
	WNEX 080604R -ST	.016	.002 ~ .007	.142	.276					0864		0865				
	WNEX 080608R -ST	.031	.002 ~ .007	.130	.276					0866		0867	1314			
	WNEX 080612R -ST	.047	.002 ~ .007	.110	.276					0875		0876				
	WNEX 080616R -ST	.063	.002 ~ .007	.094	.276					0868		0869				
	WNEX 080620R -ST	.079	.002 ~ .007	.079	.276					0880		0881				

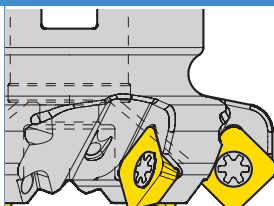
WNEX	Designation	RE (in)	Fz (in/tooth)	BS (in)	APMX (in)	H20	P15	P25	P30	P30	P30	P40	M40	K10	K15	N15
						P20			K30	M30 S30	M30	M40 S40	S40			
-AL Aluminium 	WNEX 080604R -AL	.016	.002 ~ .016	.157	.276											1025
	WNEX 080608R -AL	.031	.002 ~ .016	.134	.276											1026

Milling Cutters Overview

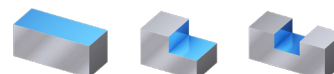
Face Milling

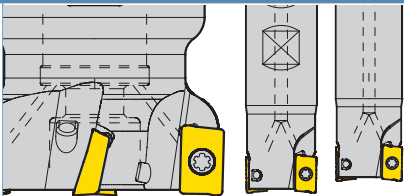


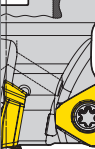
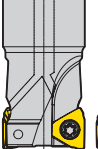
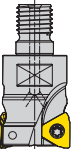
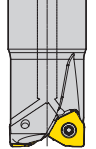
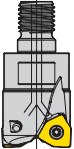
Positive Octagonal		10 Corner Negative	
Cutter			
	ODMT/ODMW 0605		PNMU 1206
	APMX .157		.157
	DC Ø2.5~5.0		Ø2.0 ~ 6.0
page	p. 159		p. 160

4 Corner Positive			
Cutter			
		SEKT 1204	SEGT 1204
	APMX .236	.236	
	DC Ø1.5~6	Ø15~6	
page		p. 163	

Shoulder Milling

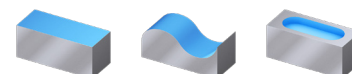


2 Corner Positive			4 Corner Negative	
Cutter		 APKT 1003	 APKT 1604	 LNHU/LNKH 1306
				NEW
	APMX .350	.630		.433
	DC Ø.625~2.0	Ø1.0~4.0		Ø2.0~10.0
page	p. 154			p. 158

3 Corner Positive				6 Corner Negative								
Cutter				 NEW TPKT 0703	 TPKT 1104	 TPKT 1605					 NEW WNEX 0403	 WNEX 0806
	APMX			.177	.276	.433					.157	.276
	DC			Ø.50~2.0	Ø1.25~5.0	Ø1.25~6.0					Ø.75~3.0	Ø1.25~5.0
	page			p. 164 - 167							p. 168	p. 169

Milling Cutters Overview

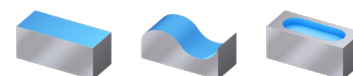
Profiling



Round Positive

Cutter						
APMX				.157	.197	.236
DCX				Ø.75~1.0	Ø1.0~2.0	Ø1.0~2.5
page	p. 161					

High Feed Milling



4 Corner Negative

4 Corner Positive

Cutter								
APMX				.020	.035	.040	.059	.059
DCX				Ø.375~1.375	Ø.625	Ø.625~1.5	Ø1.0~6.0	Ø1.25~6.0
page	p. 155 - 157						p. 162	

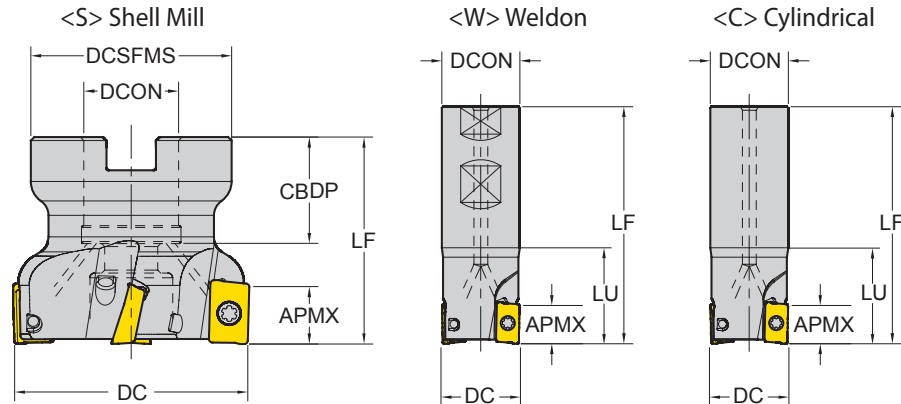
Mounting Bolt

DCON	Description	EDP
Ø0.5" (Ø12.7)	YHBU250-L25.4	18000244
Ø0.75" (Ø19.05)	YHBU375-L25.4	18000245
Ø0.75" (Ø19.05) HF	YHBU375-L31.75	18000246
Ø1.0" (Ø25.4)	YHBU500-L38.1	18000247
Ø1.25" (Ø31.75)	YMBU625-L52	18000248
Ø1.5" (Ø38.1)	YMBU750-L60	18000249
Ø2.0" (Ø50.8)	YMBU1000-L70	18000250

Milling - Shoulder Milling - Cutter

Cutters for APKT

Entry Angle : 90°
2 Corner Positive



ZEFP : Effective Number of Cutting Edges
CICT : Number of Inserts
CDBP : Connection Bore Depth

□ : p. 123 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LH	LF	TYPE	DCON	CDBP	DCSFMS	PCD1	PCD2	
APKT 1003	.35	E90 - APKT10 - D100Z4C075 - L350I	0149	1.000	4	1.250	3.500	Cylindrical	.750	-	-	-	-	●
		E90 - APKT10 - D0625Z2W0625 - L325I	0144	.625	2	1.340	3.250	Weldon	.625	-	-	-	-	●
		E90 - APKT10 - D075Z3W075 - L320I	0146	.750	3	1.170	3.200		.750	-	-	-	-	●
		E90 - APKT10 - D100Z4W100 - L350I	0148	1.000	4	-	3.500		.100	-	-	-	-	●
		F90 - APKT10 - D150Z4S075I	0150	1.500	4	-	1.575	Shellmill	.750	.750	1.340	-	-	●
		F90 - APKT10 - D200Z7S075I	0151	2.000	7	-	1.750		.750	.750	1.750	-	-	●
APKT 1604	.63	E90 - APKT16 - D100Z2C0875 - L378I	0089	1.000	2	1.220	3.780	Cylindrical	.875	-	-	-	-	●
		E90 - APKT16 - D125Z3C100 - L428I	0090	1.250	3	1.500	4.280		.100	-	-	-	-	●
		E90 - APKT16 - D100Z2W100 - L400I	0158	1.000	2	1.720	4.000	Weldon	.100	-	-	-	-	●
		E90 - APKT16 - D100Z2W100 - L1000I	0208	1.000	2	1.500	10.000		.100	-	-	-	-	●
		E90 - APKT16 - D125Z3W100 - L400I	0159	1.250	3	1.720	4.000		.100	-	-	-	-	●
		E90 - APKT16 - D125Z3W125 - L1000I	0205	1.250	3	1.500	10.000		1.250	-	-	-	-	●
		E90 - APKT16 - D125Z4W125 - L1000I	0206	1.250	4	1.500	10.000		1.250	-	-	-	-	●
		F90 - APKT16 - D200Z5S075I	0160	2.000	5	-	1.750	Shellmill	.750	.750	1.750	-	-	●
		F90 - APKT16 - D250Z6S075I	0161	2.500	6	-	1.750		.750	.750	1.750	-	-	●
		F90 - APKT16 - D300Z7S100I	0162	3.000	7	-	2.000		1.000	.945	2.190	-	-	●
		F90 - APKT16 - D400Z8S150I	0207	4.000	8	-	2.500		1.500	1.570	3.500	-	-	●

* Clamping Torque (Nm) 1.2Nm

APKT10	Screw (Cutter D16~D20)	Screw (Cutter D20~)	Wrench
Description	TP072505	TP072506	TPWFTP07
EDP	18000016	18000013	18000001

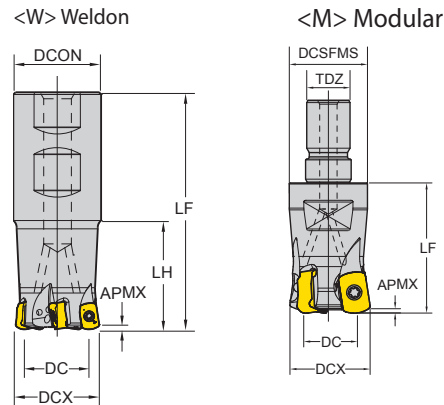
* Clamping Torque (Nm) 3.0Nm

APKT16	Screw	Wrench
Description	TP154008	TPWFTP15
EDP	18000006	18000003

Milling - High Feed Milling - Cutter

Cutters for ENMX

Entry Angle : 10°
4 Corner Negative



ZEFP : Effective Number of Cutting Edges
CBDP : Connection Bore Depth

□ : p. 125 Unit : inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LF	TYPE	DCON	LH	CBDP	DCSFMS	
NEW ENMX 0402	.02	EHF-EN04-D0375Z1W0500-L400I	1304D	.185	.375	1	4.000	Weldon	.020	1.500	-	-	●
		EHF-EN04-D0500Z3W0625-L450I	1305D	.310	.500	3	4.500		.025	1.500	-	-	●
		EHF-EN04-D0625Z4W0625-L600I	1306D	.435	.625	4	6.000		.025	1.000	-	-	●
		EHF-EN04-D075Z4W075-L750I	1307D	.560	.750	4	7.500		.030	1.000	-	-	●
		EHF-EN04-D100Z6W100-L800I	1308D	.810	1.000	6	8.000		.039	1.000	-	-	●
		EHF-EN04-D125Z8W125-L800I	1309D	1.060	1.250	8	8.000		.049	1.000	-	-	●
	.02	MHF-EN04-D0375Z1M06I	1310D	.185	.375	1	.670	Modular	M06	-	-	.360	●
		MHF-EN04-D0455Z1M06I	1311D	.265	.455	1	.670		M06	-	-	.374	●
		MHF-EN04-D0500Z3M06I	1312D	.310	.500	3	.670		M06	-	-	.374	●
		MHF-EN04-D0580Z3M06I	1313D	.390	.580	3	.670		M06	-	-	.374	●
		MHF-EN04-D0625Z4M08I	1314D	.435	.625	4	.980		M08	-	-	.512	●
		MHF-EN04-D0705Z4M08I	1315D	.515	.705	4	.980		M08	-	-	.512	●
		MHF-EN04-D075Z4M10I	1316D	.560	.750	4	1.180		M10	-	-	.709	●
		MHF-EN04-D073Z4M10I	1317D	.540	.730	4	1.180		M10	-	-	.709	●
		MHF-EN04-D100Z6M12I	1318D	.810	1.000	6	1.370		M12	-	-	.827	●
		MHF-EN04-D1125Z6M12I	1319D	.935	1.125	6	1.370		M12	-	-	.827	●
		MHF-EN04-D125Z8M16I	1387D	1.060	1.250	8	1.570		M16	-	-	1.142	●
		MHF-EN04-D1375Z8M16I	1388D	1.185	1.375	8	1.570		M16	-	-	1.142	●

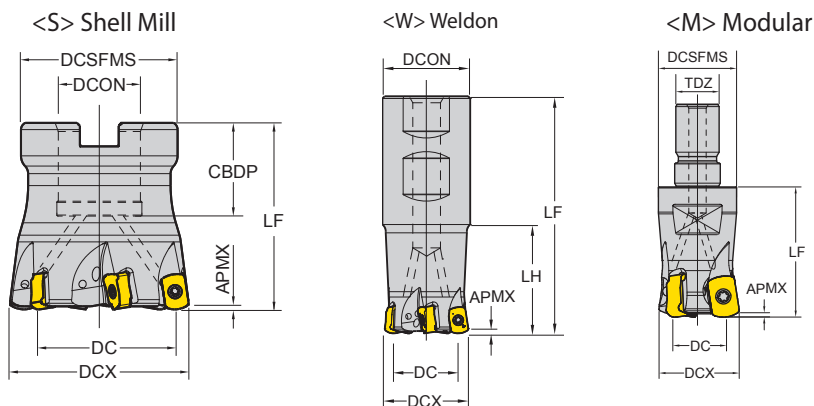
* Clamping Torque (Nm) 0.5Nm

ENMX04	Screw	Wrench	Handle	BIT
Description	TP061804-GS	TPWBTP06	DH-H4	DB-TP06
EDP	18000272	18000277	18000189	18000274

Milling - High Feed Milling - Cutter

Cutters for ENMX

Entry Angle : 10°
4 Corner Negative



ZEFP : Effective Number of Cutting Edges
CDBP : Connection Bore Depth

□ : p. 125 Unit : inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LF	TYPE	DCON	LH	CDBP	DCSFMS	
ENMX 0604	.035	EHF - ENMX06 - D0625Z2W0625 - L500I	0759	.349	.625	2	5.000	Weldon	.625	1.250	-	-	●
		EHF - ENMX06 - D075Z3W075 - L500I	0669	.459	.750	3	5.000		.750	2.000	-	-	●
		EHF - ENMX06 - D100Z4W100 - L550I	0670	.709	1.000	4	5.500		1.000	2.500	-	-	●
		EHF - ENMX06 - D125Z5W125 - L600I	0671	.959	1.250	5	6.000		1.250	3.000	-	-	●
	.04	FHF - ENMX06 - D150Z6S050I	0672	1.209	1.500	6	1.575	Shellmill	.500	-	.750	1.340	●
		FHF - ENMX06 - D200Z6S075I	0673	1.709	2.000	6	1.969		.750	-	.750	1.570	●
		FHF - ENMX06 - D300Z10S100I	0760	2.709	3.000	10	2.480		1.000	-	1.049	2.835	●
		MHF - ENMX06 - D0625Z2M08I	0761	.349	.625	2	1.000	Modular	M08	1.000	-	.512	●
		MHF - ENMX06 - D0705Z2M08I	0762	.429	.705	2	1.000		M08	1.000	-	.512	●
		MHF - ENMX06 - D075Z3M10I	0763	.459	.750	3	1.250		M10	1.250	-	.709	●
		MHF - ENMX06 - D083Z3M10I	0764	.539	.830	3	1.250		M10	1.250	-	.709	●
		MHF - ENMX06 - D100Z4M12I	0765	.709	1.000	4	1.500		M12	1.500	-	.827	●
		MHF - ENMX06 - D1125Z4M12I	0766	.834	1.125	4	1.500		M12	1.500	-	.827	●
		MHF - ENMX06 - D125Z5M16I	0767	.959	1.250	5	1.750		M16	1.750	-	1.142	●
		MHF - ENMX06 - D1375Z5M16I	0768	1.084	1.375	5	1.750		M16	1.750	-	1.142	●
		MHF - ENMX06 - D150Z6M16I	0769	1.209	1.500	6	1.750		M16	1.750	-	1.142	●

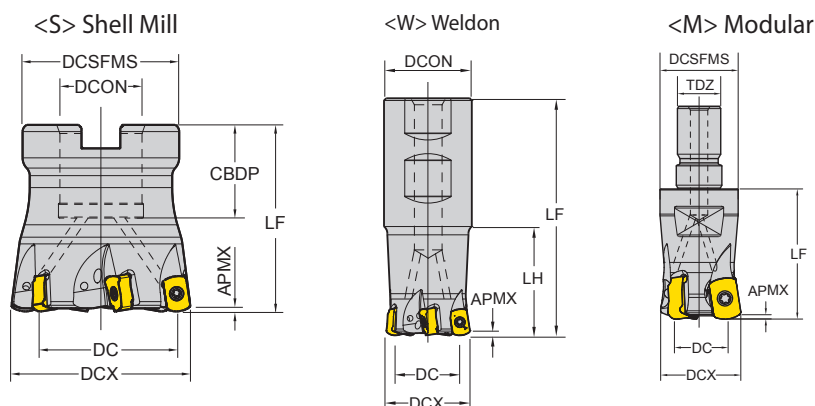
* Clamping Torque (Nm) 1.2Nm

ENMX06	Screw	Wrench	Handle	BIT
Description	TP082507 - GS	TPWBTP08	DH - H4	DB - TP08
EDP	18000206	18000218	18000189	18000190

Milling - High Feed Milling - Cutter

Cutters for ENMX

Entry Angle : 10°
4 Corner Negative



ZEFP : Effective Number of Cutting Edges
CDBP : Connection Bore Depth

□ : p. 125 Unit : inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LF	TYPE	DCON	LH	CDBP	DCSFMS	
ENMX 0905	.059	EHF - ENMX09 - D100Z2W100 - L550I	0777	.606	1.000	2	5.500	Weldon	1.000	2.500	-	-	●
		EHF - ENMX09 - D125Z3W125 - L600I	0778	.856	1.250	3	6.000		1.250	3.000	-	-	●
		EHF - ENMX09 - D150Z4W125 - L600I	0779	1.106	1.500	4	6.000		1.250	1.500	-	-	●
		FHF - ENMX09 - D200Z5S075I	0780	1.606	2.000	5	1.969	Shellmill	.750	-	.750	1.750	●
		FHF - ENMX09 - D250Z6S075I	0781	2.106	2.500	6	1.969		.750	-	.750	2.204	●
		FHF - ENMX09 - D300Z8S100I	0782	2.606	3.000	8	2.480		1.000	-	1.049	2.204	●
		FHF - ENMX09 - D400Z10S125I	0783	3.606	4.000	10	2.480		1.250	-	1.260	3.000	●
		FHF - ENMX09 - D500Z12S150I	0882	4.606	5.000	12	2.460		1.500	-	1.381	3.811	●
		FHF - ENMX09 - D600Z14S200I	0784	5.606	6.000	14	2.480		2.000	-	1.496	4.700	●
		MHF - ENMX09 - D100Z2M12I	0852	.606	1.000	2	1.500	Modular	M12	-	-	.827	●
		MHF - ENMX09 - D1125Z2M12I	0853	.731	1.125	2	1.500		M12	-	-	.827	●
		MHF - ENMX09 - D125Z3M16I	0854	.856	1.250	3	1.750		M16	-	-	1.142	●
		MHF - ENMX09 - D1375Z3M16I	0855	.981	1.375	3	1.750		M16	-	-	1.142	●
		MHF - ENMX09 - D150Z4M16I	0856	1.106	1.500	4	1.750		M16	-	-	1.142	●

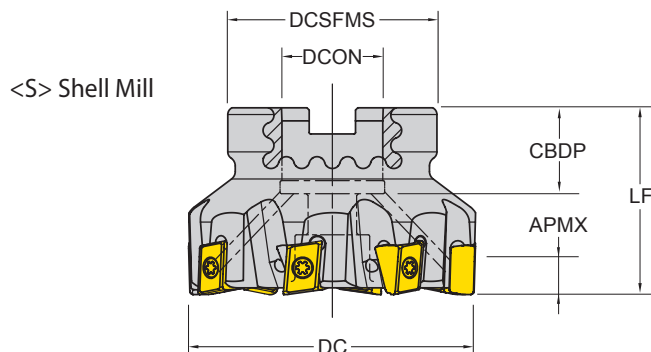
* Clamping Torque (Nm) 2.0Nm

ENMX09	Screw	Wrench	Handle	BIT
Description	TP093510 - GS	TPWBTP09	DH - H4	DB - TP09
EDP	18000214	18000216	18000189	18000209

Milling - Shoulder Milling - Cutter

Cutters for LNHU, LNKU

Entry Angle : 90°
4 Corner Negative



ZEFP : Effective Number of Cutting Edges
CDBP : Connection Bore Depth

□: p. 127 Unit : inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CDBP	DCSFMS	
LNHU LNKU 1306	.433	F90 - LNHU13R - D200Z4S075I	0891	2.000	4	1.575	Shellmill	.750	-	.748	1.750	●
		F90 - LNHU13R - D200Z5S075I	0892	2.000	5	1.575		.750	-	.748	1.750	●
		F90 - LNHU13R - D250Z7S075I	0893	2.500	7	1.969		.750	-	.748	1.750	●
		F90 - LNHU13R - D300Z6S100I	0894	3.000	6	1.969		1.000	-	.945	2.190	●
		F90 - LNHU13R - D300Z8S100I	0895	3.000	8	1.969		1.000	-	.945	2.190	●
		F90 - LNHU13R - D400Z8S125I	0896	4.000	8	1.969		1.250	-	1.260	2.880	●
		F90 - LNHU13R - D400Z12S125I	0897	4.000	12	1.969		1.250	-	1.260	2.880	●
		F90 - LNHU13R - D500Z10S150I	0898	5.000	10	2.480		1.500	-	1.417	3.810	●
		F90 - LNHU13R - D600Z12S200I	0899	6.000	12	2.480		2.000	-	1.496	4.882	●
		F90 - LNHU13R - D600Z18S200I	0900	6.000	18	2.480		2.000	-	1.496	4.882	●
		F90 - LNHU13R - D800Z16S250I - WOC	0901	8.000	16	2.480		2.500	-	1.378	6.890	X
		F90 - LNHU13R - D1000Z20S250I - WOC	0902	10.000	20	2.480		2.500	-	1.378	8.660	X

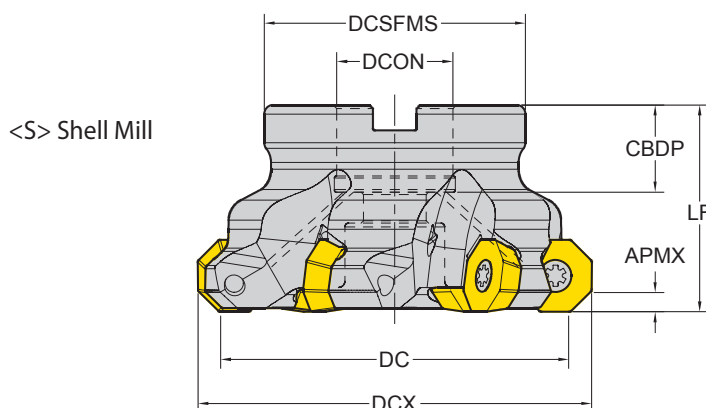
** Clamping Torque (Nm) 3.0Nm

LNKU13	Screw	Wrench	Handle	BIT
Description	TP150412 - GS	TPWBTP15	DH - H6	DB - TP15
EDP	18000225	18000217	18000210	18000208

Milling - Face Milling - Cutter

Cutters for ODMT, ODMW

Entry Angle : 45°
8 Corner Positive



ZEFP : Effective Number of Cutting Edges
CICT : Number of Inserts
CDBP : Connection Bore Depth

: p. 128 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LF	TYPE	DCON	CDBP	DCSFMS	PCD1	PCD2	
ODMT ODMW 0605	.157	F43 - ODMT06 - D250Z5S075I	0040	2.500	2.880	5	1.575	Shellmill	.750	.790	2.000	-	-	●
		F43 - ODMT06 - D300Z6S100I	0041	3.000	3.550	6	1.750		1.000	.944	2.500	-	-	●
		F43 - ODMT06 - D400Z7S125I	0042	4.000	4.340	7	2.000		1.250	.980	3.000	-	-	●
		F43 - ODMT06 - D500Z8S150I	0043	5.000	5.320	8	2.380		1.500	1.378	3.650	-	-	●

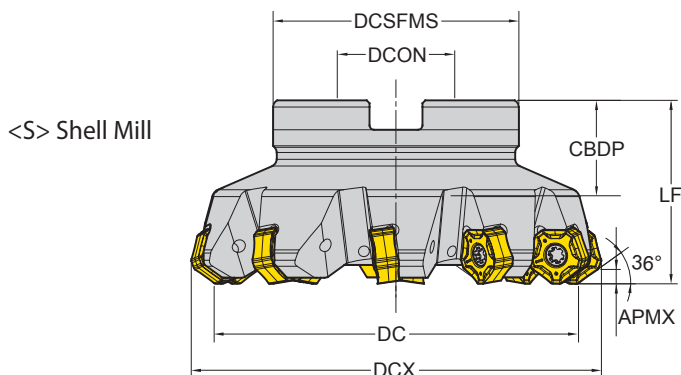
* Clamping Torque (Nm) 5.3Nm

ODMT06	Screw	Wrench
Description	TP205013	TPWFTP20
EDP	18000007	18000004

Milling - Face Milling - Cutter

Cutters for PNMU

Entry Angle: 36°
10 Corner Negative



ZEFP : Effective Number of Cutting Edges
CICT : Number of Inserts
CDBP : Connection Bore Depth

□ : p. 131 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LF	TYPE	DCON	CDBP	DCSFMS	PCD1	PCD2	
PNMU 1206	.157	F36 - PNMU12 - D200Z4S075I	0468	2.000	2.530	4	1.575	Shell Mill	.750	.750	1.750	-	-	●
		F36 - PNMU12 - D250Z5S075I	0788	2.500	3.030	5	1.575		.750	.750	2.000	-	-	●
		F36 - PNMU12 - D300Z8S100I	0469	3.000	3.530	8	2.000		1.000	1.049	2.500	-	-	●
		F36 - PNMU12 - D400Z10S125I	0470	4.000	4.530	10	2.000		1.250	1.269	3.000	-	-	●
		F36 - PNMU12 - D500Z12S150I	0881	5.000	5.530	12	2.480		1.500	1.390	3.810	-	-	●
		F36 - PNMU12 - D600Z14S200I	0863	6.000	6.530	14	2.480		2.000	1.500	4.700	-	-	●
		F36-PNMU12R-D800Z18S250I-WOC	1018	8.000	8.530	18	2.500		2.5	1.378	6.890	-	-	X
		F36-PNMU12R-D1000Z20S250I-WOC	1020	10.000	10.530	20	2.500		2.5	1.378	8.660	-	-	X

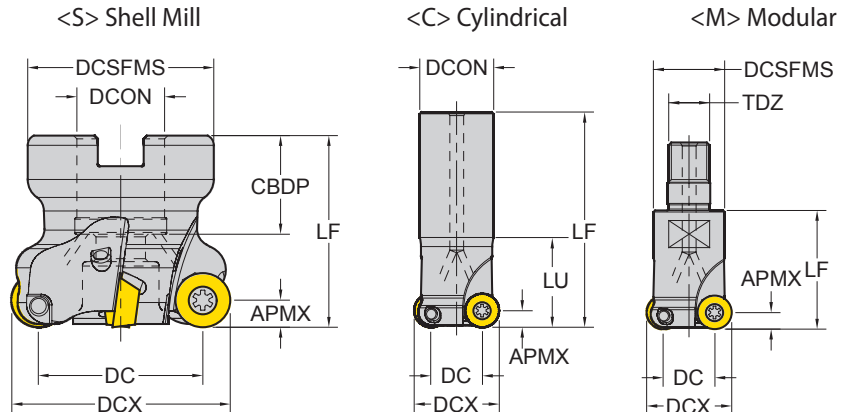
* Clamping Torque (Nm) 3.0Nm

PNMU12	Screw	Wrench	Handle	BIT
Description	TP154008	TPWBTP15	DH - H4	DB - TP15
EDP	18000006	18000217	18000189	18000208

Milling - Profiling - Cutter

Cutters for RDKT, RDKW

Round Positive



ZEFP : Effective Number of Cutting Edges
CBDP : Connection Bore Depth

□ : p. 132 Unit : inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LU	LF	TYPE	DCON	CBDP	DCSFMS	
RDKT, RDKW 0802	.157	E - RDKT08 - D075Z2C075 - L700I	0044	.435	.750	2	1.500	7.000	Cylindrical	.750	-	-	●
		E - RDKT08 - D100Z3C075 - L700I	0045	.685	1.000	3	1.500	7.000		.750	-	-	●
		M - RDKT08 - D075Z2M10I	0046	.435	.750	2	-	1.250	Modular	M10	-	-	●
		M - RDKT08 - D100Z3M12I	0047	.685	1.000	3	-	1.500		M12	-	-	●
RDKT, RDKW 10T3	.197	E - RDKT10 - D100Z2C100 - L700I	0048	.606	1.000	2	1.500	7.000	Cylindrical	1.000	-	-	●
		F - RDKT10 - D150Z5S050I	0050	1.106	1.500	5	-	1.575	Shellmill	.500	.630	1.250	●
		F - RDKT10 - D200Z6S075I	0051	1.606	2.000	6	-	1.750		.750	.750	1.575	●
		M - RDKT10 - D100Z3M12I	0049	.606	1.000	3	-	1.500	Modular	M12	-	.827	●
RDKT, RDKW 1204	.236	E - RDKT12 - D100Z2C100 - L700I	0052	.528	1.000	2	1.500	7.000	Cylindrical	1.000	-	-	●
		E - RDKT12 - D125Z2C125 - L800I	0053	.778	1.250	2	1.500	8.000		1.250	-	-	●
		E - RDKT12 - D125Z3C125 - L600I	0054	.778	1.250	3	1.500	6.000		1.250	-	-	●
		F - RDKT12 - D150Z4S050I	0057	1.027	1.500	4	-	1.575	Shellmill	.500	.630	1.250	X
		F - RDKT12 - D200Z5S075I	0058	1.527	2.000	5	-	1.750		.750	.750	1.575	X
		F - RDKT12 - D250Z6S075I	0059	2.027	2.500	6	-	1.750		.750	.790	1.750	X
		M - RDKT12 - D100Z2M12I	0055	.527	1.000	2	-	1.500	Modular	M12	-	.827	●
		M - RDKT12 - D125Z3M16I	0056	.777	1.250	3	-	1.750		M16	-	1.142	●

* Clamping Torque (Nm) 1.2Nm

RDKT08	Screw	Wrench
Description	TP082505	TPWFTP08
EDP	18000008	18000002

* Clamping Torque (Nm) 3.0Nm

RDKT10	Screw	Wrench
Description	TP154008RD	TPWFTP15
EDP	18000017	18000003

* Clamping Torque (Nm) 3.0Nm

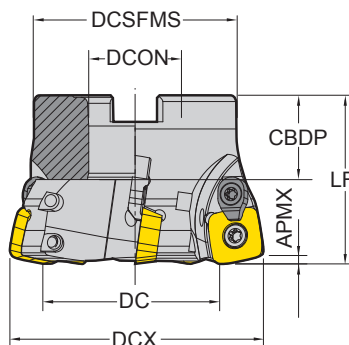
RDKT12	Screw	Wrench	Wedge Clamp
Description	TP154009	TPWFTP15	MTCA - 130813P
EDP	18000010	18000003	18000037

Milling - High Feed Milling - Cutter

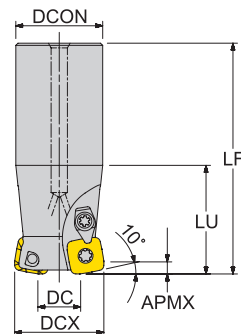
Cutters for SDMT, SDMW

Entry Angle : 10°
4 Corner Positive

<S> Shell Mill



<C> Cylindrical



ZEFP : Effective Number of Cutting Edges
CDBP : Connection Bore Depth

□ : p. 137

Unit : inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LU	LF	TYPE	DCON	CDBP	DCSFMS	
SDMT SDMW 1204	.059	EHF - SDMW12 - D125Z2C125 - L800I	0386	.559	1.250	2	3.500	8.000	Cylindrical	1.250	-	-	●
		EHF - SDMW12 - D150Z3C150 - L800I	0387	.807	1.500	3	3.500	8.000		1.500	-	-	●
		FHF - SDMW12 - D200Z5S075I	0388	1.307	2.000	5	-	2.000	Shellmill	.750	.789	1.750	●
		FHF - SDMW12 - D250Z5S100I	0389	1.807	2.500	5	-	2.000		1.000	.945	2.130	●
		FHF - SDMW12 - D300Z5S100I	0436	2.307	3.000	5	-	2.000		1.000	.945	2.130	●
		FHF - SDMW12 - D300Z6S100I	0390	2.307	3.000	6	-	2.000		1.000	.945	1.750	●
		FHF - SDMW12 - D300Z6S125I	0391	2.307	3.000	6	-	2.000		1.250	.945	2.130	●
		FHF - SDMW12 - D300Z7S100I	0437	2.307	3.000	7	-	2.000		1.000	.945	2.130	●
		FHF - SDMW12 - D400Z7S150I	0438	3.307	4.000	7	-	2.550		1.500	1.181	3.810	●
		FHF - SDMW12 - D400Z8S150I	0392	3.307	4.000	8	-	2.550		1.500	1.181	3.810	●
		FHF - SDMW12 - D400Z9S150I	0439	3.307	4.000	9	-	2.550		1.500	1.181	3.810	●
		FHF - SDMW12 - D500Z9S150I	0880	4.307	5.000	9	-	2.550		1.500	1.181	3.810	●
		FHF - SDMW12 - D600Z12S200I	1025	5.307	6.000	12	-	2.480		2.000	1.023	4.700	●

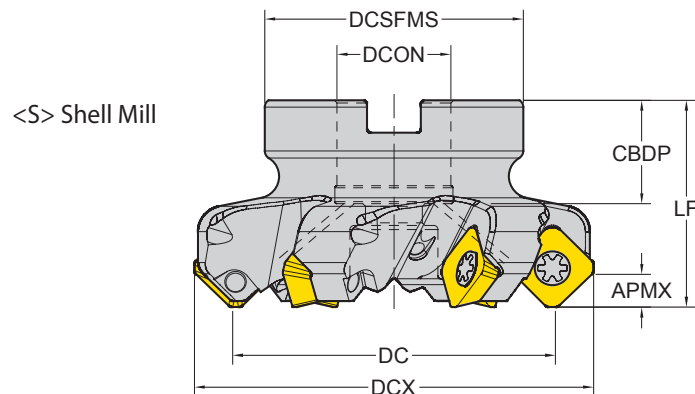
* Clamping Torque (Nm) 3.0Nm

SDMT12	Screw	Wrench	Handle	Wedge Clamp
Description	Y4015 - M4x11	Y80 - T15	18000167	YACK - 15
EDP	18000119	18000167	-	18000069

Milling - Face Milling - Cutter

Cutters for SEGT, SEKT

Entry Angle : 45°
4 Corner Positive



ZEFP : Effective Number of Cutting Edges
CICT : Number of Inserts
CBDP : Connection Bore Depth

□ : p. 138 Unit : inch

Series	APMX	Designation	EDP 1700..	DC	DCX	CICT	LU	LF	TYPE	DCON	CBDP	DCSFMS	
SEGT, SEKT 1204	.236	F45-SEKT12-D150Z4S050I	0060	1.500	2.060	4	-	1.575	Shellmill	.500	.710	1.250	●
		F45-SEKT12-D200Z5S075I	0061	2.000	2.560	5	-	1.575		.750	.790	1.750	●
		F45-SEKT12-D250Z4S075I	0062	2.500	3.060	4	-	1.575		.750	.790	2.000	●
		F45-SEKT12-D250Z6S075I	0063	2.500	3.060	6	-	1.575		.750	.790	2.000	●
		F45-SEKT12-D300Z4S100I	0064	3.000	3.560	4	-	1.75		1.000	.870	2.250	●
		F45-SEKT12-D300Z7S100I	0065	3.000	3.560	7	-	1.75		1.000	.870	2.250	●
		F45-SEKT12-D400Z8S125I	0066	4.000	4.560	8	-	2.000		1.250	.980	3.000	●
		F45-SEKT12-D500Z10S150I	0067	5.000	5.560	10	-	2.380		1.500	1.140	3.650	●
		F45-SEKT12-D600Z12S200I	0068	6.000	6.560	12	-	2.380		2.000	1.180	4.700	●

* Clamping Torque (Nm) 2.4Nm

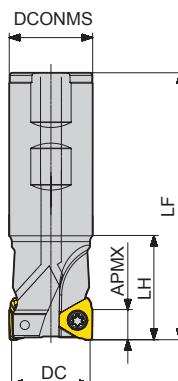
SEKT1204	Screw	Wrench
Description	TP204510	TPWFTP20
EDP	18000011	18000004

Milling - Shoulder Milling - Cutter

Cutters for TPKT

Entering Angle : 90°
3 Corner Positive

<W> Weldon



CICT : Number of Inserts
CBDP : Connection Bore Depth

□ : p. 148 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CBDP	DCSFMS	
NEW TPKT 0703	.177	E90-TP07-D0500Z1W0625-L325I	1164	.500	1	3.250	Weldon	.625	1.378	-	-	●
		E90-TP07-D0625Z2W0625-L325I	1165	.625	2	3.250		.625	.984	-	-	●
		E90-TP07-D0750Z2W0750-L400I	1166	.750	2	4.000		.750	.984	-	-	●
		E90-TP07-D100Z3W0750-L400I	1167	1.000	3	4.000		.750	.984	-	-	●
		E90-TP07-D100Z3W100-L400I	1168	1.000	3	4.000		1.000	.984	-	-	●
		E90-TP07-D100Z3W100-L600I	1169	1.000	3	6.000		1.000	1.378	-	-	●
		E90-TP07-D100Z3W100-L1000I	1170	1.000	3	10.000		1.000	2.165	-	-	●
		E90-TP07-D125Z3W125-L450I	1171	1.250	3	4.500		1.250	1.181	-	-	●
		E90-TP07-D125Z3W125-L650I	1172	1.250	3	6.500		1.250	1.575	-	-	●
		E90-TP07-D125Z3W125-L1000I	1173	1.250	3	10.000		1.250	2.362	-	-	●
		E90-TP07-D150Z4W125-L450I	1174	1.500	4	4.500		1.250	1.181	-	-	●
		E90-TP07-D150Z4W125-L650I	1175	1.500	4	6.500		1.250	1.575	-	-	●
		E90-TP07-D150Z4W125-L1000I	1176	1.500	4	10.000		1.250	2.362	-	-	●
		E90-TP07-D150Z6W125-L450I	1177	1.500	6	4.500		1.250	1.181	-	-	●
		E90-TP07-D150Z6W125-L650I	1178	1.500	6	6.500		1.250	1.575	-	-	●

► NEXT PAGE

* Clamping Torque (Nm) 0.6Nm

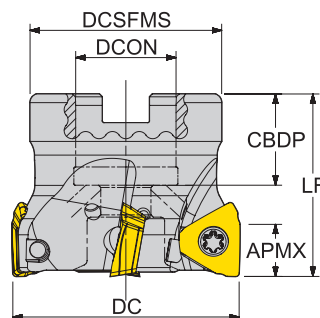
TPKT0703	Screw	Wrench	Handle	BIT
Description	TP062004-GS	TPWBTP06	DH-H4	DB-TP06
EDP	18000252	18000277	18000189	18000274

Milling - Shoulder Milling - Cutter

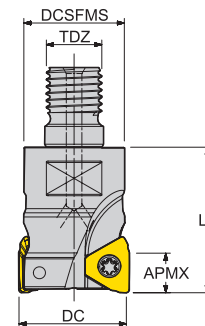
Cutters for TPKT

Entering Angle : 90°
3 Corner Positive

<S> Shellmill



<M> Modular



CICT : Number of Inserts
CDBP : Connection Bore Depth

□ : p. 148 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CDBP	DCSFMS	
NEW TPKT 0703	.177	F90-TP07-D150Z5S075I	1179	1.500	5	1.570	Shellmill	.750	-	-	-	●
		F90-TP07-D150Z8S075I	1180	1.500	8	1.570		.750	-	-	-	●
		F90-TP07-D200Z7S075I	1181	2.000	7	1.570		.750	-	-	-	●
		F90-TP07-D200Z9S075I	1182	2.000	9	1.570		.750	-	-	-	●
		M90-TP07-D0625Z2M08I	1183	.625	2	1.575	Modular	M08	.905	-	.512	●
		M90-TP07-D0705Z2M08I	1184	.705	2	1.575		M08	.905	-	.512	●
		M90-TP07-D075Z2M10I	1185	.750	2	2.287		M10	1.500	-	.689	●
		M90-TP07-D083Z2M10I	1186	.830	2	2.287		M10	1.500	-	.709	●
		M90-TP07-D100Z3M12I	1187	1.000	3	2.366		M12	1.500	-	.827	●
		M90-TP07-D1125Z3M12I	1188	1.125	3	2.366		M12	1.500	-	.827	●
		M90-TP07-D125Z5M16I	1189	1.250	5	2.773		M16	1.750	-	1.142	●
		M90-TP07-D1375Z5M16I	1190	1.375	5	2.773		M16	1.750	-	1.142	●
		M90-TP07-D150Z5M16I	1191	1.500	5	2.773		M16	1.750	-	1.142	●

* Clamping Torque (Nm) 0.6Nm

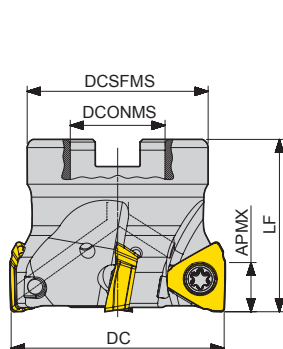
TPKT0703	Screw	Wrench	Handle	BIT
Description	TP062004-GS	TPWBTP06	DH-H4	DB-TP06
EDP	18000252	18000277	18000189	18000274

Milling - Shoulder Milling - Cutter

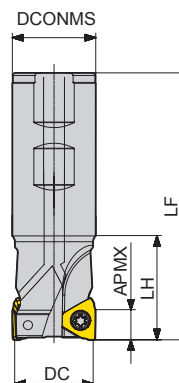
Cutters for TPKT

Entering Angle : 90°
3 Corner Positive

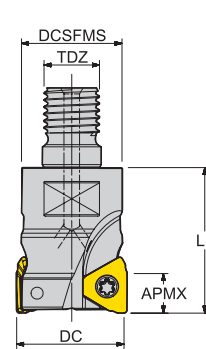
<S> Shellmill



<C> Weldon



<M> Modular



CICT : Number of Inserts
CBDP : Connection Bore Depth

□ : p. 148 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CBDP	DCSFMS	
TPKT 1104	.276	E90 - TP11 - D125Z3W125 - L450I	1054	1.250	3	4.500	Weldon	1.250	1.500	-	-	●
		E90 - TP11 - D125Z3W125 - L650I	1055	1.250	3	6.500		1.250	2.500	-	-	●
		E90 - TP11 - D150Z3W125 - L450I	1056	1.500	3	4.500		1.250	2.250	-	-	●
		E90 - TP11 - D150Z4W125 - L450I	1057	1.500	4	4.500		1.250	2.250	-	-	●
		E90 - TP11 - D200Z5W125 - L450I	1058	2.000	5	4.500		1.250	2.250	-	-	●
		F90 - TP11 - D150Z4S050I	1059	1.500	4	1.375	Shellmill	.500	-	.640	1.378	●
		F90 - TP11 - D200Z5S075I	1060	2.000	5	1.750		.750	-	.750	1.750	●
		F90 - TP11 - D250Z6S075I	1061	2.500	6	1.750		.750	-	.750	1.750	●
		F90 - TP11 - D300Z5S100I	1062	3.000	5	1.750		1.000	-	.750	2.189	●
		F90 - TP11 - D300Z8S100I	1063	3.000	8	1.750		1.000	-	.750	2.189	●
		F90 - TP11 - D400Z10S150I	1064	4.000	10	2.375		1.500	-	1.060	2.874	●
		F90 - TP11 - D400Z8S150I	1065	4.000	8	2.375		1.500	-	1.060	2.874	●
		F90 - TP11 - D500Z11S150I	1066	5.000	11	2.375		1.500	-	1.060	3.807	●
		M90 - TP11 - D125Z3M16I	1067	1.250	3	2.410	Modular	M16	1.500	-	1.130	●
		M90 - TP11 - D150Z4M16I	1068	1.500	4	2.410		M16	1.500	-	1.130	●

* Clamping Torque (Nm) 1.2Nm

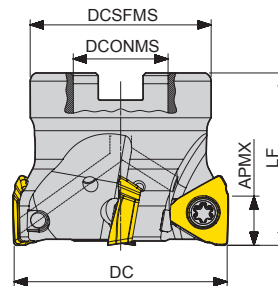
TPKT1104	Screw	Wrench	Handle	BIT
Description	TP082506 - GS	TPWBTP08	DH - H4	DB - TP08
EDP	18000259	18000218	18000189	18000190

Milling - Shoulder Milling - Cutter

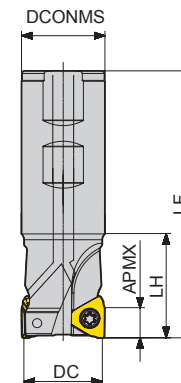
Cutters for TPKT

Entering Angle : 90°
3 Corner Positive

<S> Shellmill



<C> Weldon



CICT : Number of Inserts
CBDP : Connection Bore Depth

□: p. 148 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CBDP	DCSFMS	
TPKT 1605	.433	E90-TP16-D125Z2W125-L450I	1198	1.250	2	4.500	Weldon	1.250	1.500	-	-	●
		E90-TP16-D150Z3W125-L450I	1199	1.500	3	4.500		1.250	1.500	-	-	●
		E90-TP16-D200Z4W125-L450I	0957	2.000	4	4.500		1.250	1.500	-	-	●
		F90-TP16-D200Z4S075I	0959	2.000	4	1.750	Shellmill	.750	-	.750	1.750	●
		F90-TP16-D200Z5S075I	0960	2.000	5	1.750		.750	-	.750	1.750	●
		F90-TP16-D250Z6S075I	0961	2.500	6	1.750		.750	-	.750	1.750	●
		F90-TP16-D300Z6S100I	0962	3.000	6	1.750		1.000	-	.750	2.189	●
		F90-TP16-D300Z7S100I	0963	3.000	7	1.750		1.000	-	.750	2.189	●
		F90-TP16-D400Z6S150I	0964	4.000	6	2.375		1.500	-	1.417	2.874	●
		F90-TP16-D400Z8S150I	0965	4.000	8	2.375		1.500	-	1.417	2.874	●
		F90-TP16-D500Z9S150I	0966	5.000	9	2.375		1.500	-	1.417	3.807	●
		F90-TP16-D600Z12S150I	0967	6.000	12	2.375		1.500	-	1.417	4.882	●
		F90-TP16-D600Z8S150I	0968	6.000	8	2.375		1.500	-	1.417	4.882	●

* Clamping Torque (Nm) 5.3Nm

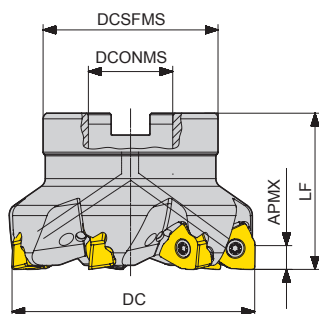
TPKT1605	Screw	Wrench	Handle	BIT
Description	TP2045105	TPWBTP20	DH - H6	DB - TP20
EDP	18000264	18000256	18000210	18000257

Milling - Shoulder Milling - Cutter

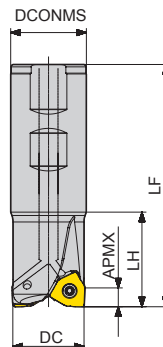
Cutters for WNEX

Entering Angle : 90°
6 Corner Negative

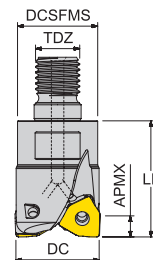
<S> Shellmill



<W> Weldon



<M> Modular



CICT : Number of Inserts
CBDP : Connection Bore Depth

Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CBDP	DCSFMS	
NEW WNEX 0403	.157	E90-WN04-D075Z3W075-L400I	1247	.750	3	4.000	Weldon	.750	1.500	-	-	●
		E90-WN04-D075Z3W075-L600I	1259	.750	3	6.000		.750	2.000	-	-	●
		E90-WN04-D100Z4W100-L400I	1248	1.000	4	4.000		1.000	1.500	-	-	●
		E90-WN04-D100Z4W100-L600I	1260	1.000	4	6.000		1.000	2.000	-	-	●
		E90-WN04-D125Z5W125-L450I	1249	1.250	5	4.500		1.250	1.500	-	-	●
		E90-WN04-D125Z5W125-L650I	1261	1.250	5	6.500		1.250	2.500	-	-	●
		E90-WN04-D150Z6W125-L450I	1250	1.500	6	4.500		1.250	2.250	-	-	●
		E90-WN04-D150Z6W125-L650I	1262	1.500	6	6.500		1.250	2.500	-	-	●
		F90-WN04-D200Z7S075I	1263	2.000	7	1.570	Shellmill	.750	-	.787	1.693	●
		F90-WN04-D200Z9S075I	1264	2.000	9	1.570		.750	-	.787	1.693	●
		F90-WN04-D250Z9S075I	1252	2.500	9	1.570		.750	-	.787	1.693	●
		F90-WN04-D250Z11S075I	1265	2.500	11	1.570		.750	-	.787	1.693	●
		F90-WN04-D300Z9S100I	1266	3.000	9	1.750		1.000	-	.787	2.205	●
		F90-WN04-D300Z13S100I	1267	3.000	13	1.750		1.000	-	.787	2.205	●
		M90-WN04-D075Z3M10I	1268	.750	3	2.165	Modular	M10	1.378	-	.709	●
		M90-WN04-D100Z4M12I	1269	1.000	4	2.244		M12	1.378	-	.827	●
		M90-WN04-D125Z5M16I	1270	1.250	5	2.677		M16	1.693	-	1.142	●
		M90-WN04-D150Z6M16I	1271	1.500	6	2.677		M16	1.693	-	1.142	●

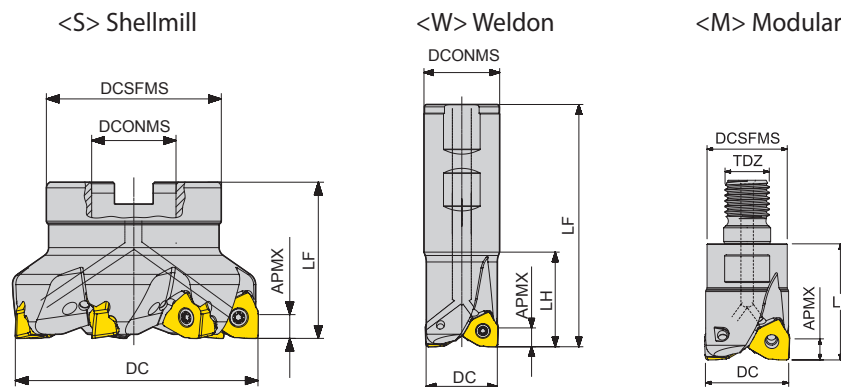
* Clamping Torque (Nm) 0.7Nm

WNEX0403	Screw	Wrench	Handle	BIT
Description	TP072557-GS	TPWBTP07	DH-H4	DB-TP07
EDP	18000275	18000289	18000189	18000278

Milling - Shoulder Milling - Cutter

Cutters for WNEX

Entering Angle : 90°
6 Corner Negative



CICT : Number of Inserts
CBDP : Connection Bore Depth

□ : p. 151 Unit: inch

Series	APMX	Designation	EDP 1700..	DC	CICT	LF	TYPE	DCON	LH	CBDP	DCSFMS	
WNEX 0806	.276	E90 - WN08 - D125Z2W125 - L450I	0913	1.250	2	4.500	Weldon	1.250	2.250	-	-	●
		E90 - WN08 - D125Z2W125 - L750I	1077	1.250	2	7.500		1.250	2.500	-	-	●
		E90 - WN08 - D150Z4W125 - L450I	0914	1.500	4	4.500		1.250	1.500	-	-	●
		E90 - WN08 - D150Z4W125 - L750I	1078	1.500	4	7.500		1.250	2.500	-	-	●
		F90 - WN08 - D200Z4S075I	0915	2.000	4	1.575	Shellmill	.750	-	.750	1.732	●
		F90 - WN08 - D200Z5S075I	1079	2.000	5	1.575		.750	-	.750	1.732	●
		F90 - WN08 - D250Z5S075I	0916	2.500	5	1.575		.750	-	.750	1.732	●
		F90 - WN08 - D300Z7S100I	0917	3.000	7	2.000		1.000	-	.750	2.189	●
		F90 - WN08 - D300Z9S100I	1080	3.000	9	2.000		1.000	-	.750	2.189	●
		F90 - WN08 - D400Z9S150I	0918	4.000	9	2.500		1.500	-	1.060	3.503	●
		F90 - WN08 - D400Z11S150I	1081	4.000	11	2.500		1.500	-	1.060	3.503	●
		F90 - WN08 - D500Z11S150I	1082	5.000	11	2.50		1.500	-	1.060	3.503	●
		F90 - WN08 - D500Z14S150I	1083	5.000	14	2.50		1.500	-	1.060	3.503	●
		M90 - WN08 - D125Z2M16I	1084	1.250	2	2.410	Modular	M16	1.500	-	1.130	●
		M90 - WN08 - D150Z3M16I	1085	1.500	3	2.410		M16	1.500	-	1.130	●

* Clamping Torque (Nm) 3.0Nm

WNEX0806	Screw	Wrench	Handle	BIT
Description	TP154011 - GS	TPWBTP15	DH - H4	DB - TP15
EDP	18000251	18000217	18000189	18000208



DRILLING

Drilling Overview

Drill Holder

X-Drill Inserts (SYMx)

Square Drill Inserts (SPMX)

Triagonal Drilling Inserts (WCMX)



Scan this QR code
to see our
X-Drill
at work.

Drilling Overview

Drilling Grades

Drilling Grades		P Steel					M Stainless steel					K Cast iron				
		P05	P15	P25	P35	P45	M05	M15	M25	M35	M45	K05	K15	K25	K35	K45
PVD	YG713			713					713					713		
	YG602			602					602					602		
	YG613				613					613						

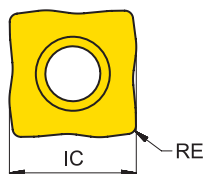
YG713 P15 - P30 M15 - M30 K15 - K30 H20 - H30	PVD - TiAlN 	Drilling Grade for General Steel Application - Multi-layer TiAlN structure realizes stronger crater and flank wear resistance - Fine-grained carbide and balanced substrate
YG602 P20 - P35 M20 - M40 K20 - K40 S15 - S25	PVD - TiAlN 	Universal grade for General Drilling Application - Ultra Dense PVD Coating with optimal thermal resistance & strength - Sub-Micron substrate designed for demanding application
YG613 P30 - P50 M30 - M50	PVD - TiAlN 	Drilling Grade for Stainless Steel Application - New coating layer with lubrication preventing built-up edge on ultra fine grain substrate with high toughness. - The toughest substrate provides excellent cutting performance in stainless steel

Universal Drilling Inserts

	4 Corner	SYMX Series	SYMX	05, 06, 07, 08 NEW 10, 11, 13, 15
	4 Corner	SPMX Series	SPMX	05, 06, 07, 09, 11, 14
	ISO 3 Corner	WCMX Series	WCMX	03, 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		



Series	IC	S	Series	IC	S
SYMX 0502	.196	.093	SYMX 10T3	.393	.156
SYMX 0602	.236	.093	SYMX 1104	.448	.157
SYMX 07T2	.276	.110	SYMX 1304	.512	.187
SYMX 0803	.327	.126	SYMX 1505	.610	.197

EDP 3200..

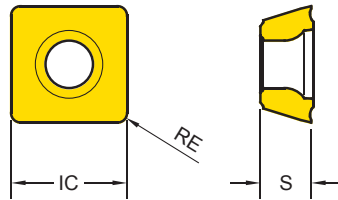
SYMX	Designation	RE (inch)	Fn (inch/rev.)	P25 M25 K30	P20 M20 K20	P40 M40
				YG602	YG713	YG613
SYMX General 	SYMX 050204	.016	.002~.005		● 0097	● 0098
	SYMX 060204	.016	.002~.005		● 0093	● 0095
	SYMX 07T206	.024	.002~.005		● 0099	● 0100
	SYMX 080306	.024	.003~.008		● 0101	● 0102
	SYMX 10T308	.031	.003~.008		● 0107	● 0108
	SYMX 110408	.031	.003~.008		● 0109	● 0110
	SYMX 130410	.039	.003~.008		● 0111	● 0112
	SYMX 150512	.047	.003~.009		● 0113	● 0114

● : Stock item ○ : Order made item

Drilling - Inserts

Square Drill Inserts (SPMX)

Recommended Cutting Conditions : p.191



Series	IC	S	Series	IC	S
SPMX 0502	.197	.094	SPMX 0904	.386	.169
SPMX 0602	.236	.095	SPMX 1104	.453	.189
SPMX 07T3	.313	.156	SPMX 1405	.563	.205

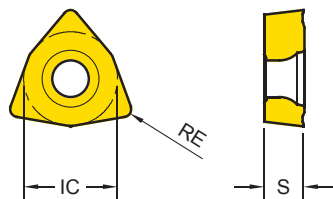
EDP 3200..

SPMX		Designation	RE (inch)	Fn (inch/rev.)	P25 M25 K30 YG602	P20 M20 K20 YG713	P40 M40 YG613
SPMX General		SPMX 050204	.016	.003~.006	●	●	●
		SPMX 060204	.016	.003~.006	●	●	●
		SPMX 07T308	.031	.003~.006	●	●	●
		SPMX 090408	.031	.003~.006	●	●	●
		SPMX 110408	.031	.004~.007	●	●	●
		SPMX 140512	.047	.004~.008	●	●	●
-ST Stainless Steel		SPMX 050204 - ST	.016	.001~.004	●		●
		SPMX 060204 - ST	.016	.002~.004	●		●
		SPMX 07T308 - ST	.031	.002~.004	●		●
		SPMX 090408 - ST	.031	.002~.005	●		●
		SPMX 110408 - ST	.031	.002~.005			●
		SPMX 140512 - ST	.047	.002~.006			●

● : Stock item ○ : Order made item

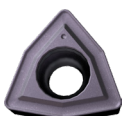
Triagonal Drill Inserts (WCMX)

Recommended Cutting Conditions : p.191



Series	IC	S
WCMX 0302	.219	.094
WCMX 0402	.250	.094
WCMX 0503	.313	.125
WCMX 06T3	.375	.156
WCMX 0804	.500	.187

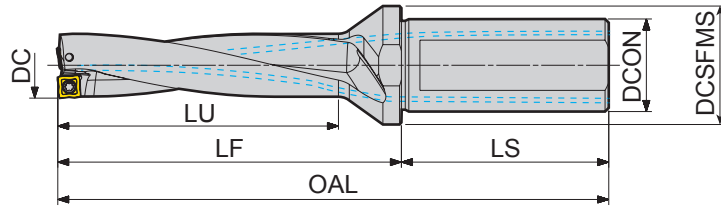
EDP 3200..

WCMX	Designation	RE (inch)	Fn (inch/rev.)	P25 M25 K30	P20 M20 K20	P40 M40
				YG602	YG713	YG613
WCMX General 	WCMX 030208	.031	.002~.005	● 0031	● 0086	
	WCMX 040208	.031	.002~.005	● 0003	● 0087	
	WCMX 050308	.031	.002~.006	● 0001	● 0088	
	WCMX 06T308	.031	.003~.006	● 0002	● 0089	
	WCMX 080412	.047	.003~.006	● 0004	● 0090	● 0091

● : Stock item ○ : Order made item

Drilling - Drill Holder

X - Drill Holder (SYMXX05) (DC .563 ~ .656)

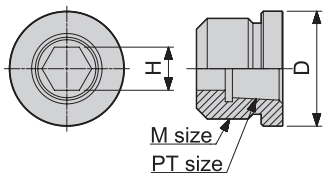


☐: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
SYMXX 050204	.563	1.126	YGSY2 - 0.563S0.75 - 05I	1067	1.835	3.835	.75	1.125	2.00
		1.689	YGSY3 - 0.563S0.75 - 05I	1083	2.398	4.398			
		2.252	YGSY4 - 0.563S0.75 - 05I	1099	2.961	4.961			
		2.815	YGSY5 - 0.563S0.75 - 05I	1115	3.524	5.524			
	.591	1.182	YGSY2 - 0.591S0.75 - 05I	1068	1.935	3.935			
		1.773	YGSY3 - 0.591S0.75 - 05I	1084	2.529	4.529			
		2.364	YGSY4 - 0.591S0.75 - 05I	1100	3.123	5.123			
		2.955	YGSY5 - 0.591S0.75 - 05I	1116	3.717	5.717			
	.626	1.252	YGSY2 - 0.626S0.75 - 05I	1069	2.037	4.037			
		1.878	YGSY3 - 0.626S0.75 - 05I	1085	2.663	4.663			
		2.504	YGSY4 - 0.626S0.75 - 05I	1101	3.287	5.287			
		3.13	YGSY5 - 0.626S0.75 - 05I	1117	3.913	5.913			
	.656	1.312	YGSY2 - 0.656S0.75 - 05I	1070	2.099	4.099			
		1.968	YGSY3 - 0.656S0.75 - 05I	1086	2.756	4.756			
		2.624	YGSY4 - 0.656S0.75 - 05I	1102	3.411	5.411			
		3.28	YGSY5 - 0.656S0.75 - 05I	1118	4.067	6.067			

PLUG (DCON .75)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M12 - 1/8	38000001	.75	.55	M12x1.0	PT 1/8	.236

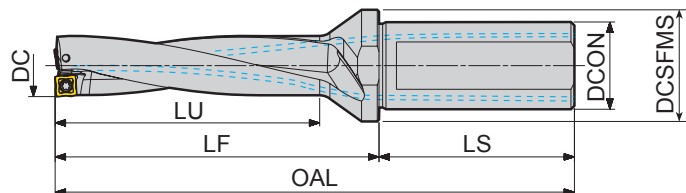
* Plug for turning lathe should be ordered separately.

* Clamping Torque (Nm) 0.6Nm

SYMXX05	Screw	Wrench
Description	TP062004 - GS	TPWFTP06
EDP	18000252	18000262

Plug	DCON	.75	1.00	1.25
Description	PLUG M12 - 1/8	PLUG M14 - 1/8	PLUG M22 - 1/4	
EDP	38000001	38000002	38000003	

X - Drill Holder (SYM06) (DC .689 ~ .813)

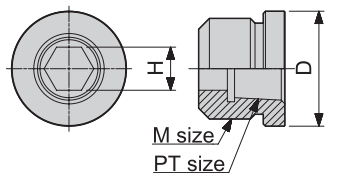


Ⓢ: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
SYM06 060204	.689	1.378	YGSY2 - 0.689S1.00 - 06I	0870	2.165	5.165	1.00	1.375	3.00
		2.067	YGSY3 - 0.689S1.00 - 06I	0875	2.854	5.854			
		2.756	YGSY4 - 0.689S1.00 - 06I	0880	3.543	6.543			
		3.445	YGSY5 - 0.689S1.00 - 06I	0885	4.232	7.232			
	.719	1.438	YGSY2 - 0.719S1.00 - 06I	0871	2.265	5.265			
		2.157	YGSY3 - 0.719S1.00 - 06I	0876	2.984	5.984			
		2.876	YGSY4 - 0.719S1.00 - 06I	0881	3.703	6.703			
		3.595	YGSY5 - 0.719S1.00 - 06I	0886	4.422	7.422			
	.75	1.5	YGSY2 - 0.750S1.00 - 06I	0872	2.327	5.327			
		2.157	YGSY3 - 0.750S1.00 - 06I	0877	3.077	6.077			
		2.876	YGSY4 - 0.750S1.00 - 06I	0882	3.827	6.827			
		3.595	YGSY5 - 0.750S1.00 - 06I	0887	4.577	7.577			
	.781	1.562	YGSY2 - 0.781S1.00 - 06I	0873	2.467	5.467			
		2.343	YGSY3 - 0.781S1.00 - 06I	0878	3.248	6.248			
		3.124	YGSY4 - 0.781S1.00 - 06I	0883	4.030	7.030			
		3.905	YGSY5 - 0.781S1.00 - 06I	0888	4.811	7.811			
	.813	1.626	YGSY2 - 0.813S1.00 - 06I	0874	2.531	5.531			
		2.439	YGSY3 - 0.813S1.00 - 06I	0879	3.344	6.344			
		3.252	YGSY4 - 0.813S1.00 - 06I	0884	4.157	7.157			
		4.065	YGSY5 - 0.813S1.00 - 06I	0889	4.970	7.970			

PLUG (DCON1.0)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M14 - 1/8	38000002	1.0	.630	M14x1.0	PT 1/8	.236

* Plug for turning lathe should be ordered separately.

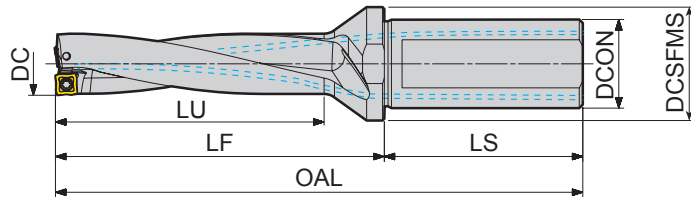
* Clamping Torque (Nm) 0.7Nm

SYM06	Screw	Wrench
Description	TP072205 - GS	TPWFTP07
EDP	18000253	18000001

Plug	DCON	.75	1.00	1.25
Description	PLUG M12 - 1/8	PLUG M14 - 1/8	PLUG M22 - 1/4	
EDP	38000001	38000002	38000003	

Drilling - Drill Holder

X - Drill Holder (SYM07) (DC .843 ~ .906)

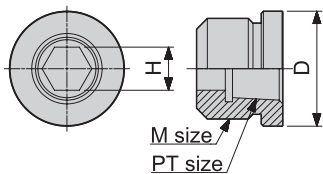


□: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
SYM07T206	.843	1.686	YGSY2 - 0.843S1.00 - 07I	1071	2.591	5.591	1.00	1.375	3.00
		2.529	YGSY3 - 0.843S1.00 - 07I	1087	3.435	6.435			
		3.372	YGSY4 - 0.843S1.00 - 07I	1103	4.278	7.278			
		4.215	YGSY5 - 0.843S1.00 - 07I	1119	5.120	8.120			
	.875	1.75	YGSY2 - 0.875S1.00 - 07I	1072	2.656	5.656			
		2.625	YGSY3 - 0.875S1.00 - 07I	1088	3.531	6.531			
		3.5	YGSY4 - 0.875S1.00 - 07I	1104	4.406	7.406			
		4.375	YGSY5 - 0.875S1.00 - 07I	1120	5.281	8.281			
	.906	1.812	YGSY2 - 0.906S1.00 - 07I	1073	2.678	5.678			
		2.718	YGSY3 - 0.906S1.00 - 07I	1089	3.584	6.584			
		3.624	YGSY4 - 0.906S1.00 - 07I	1105	4.490	7.490			
		4.53	YGSY5 - 0.906S1.00 - 07I	1121	5.396	8.396			

PLUG (DCON1.0)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M14 - 1/8	38000002	1.0	.630	M14x1.0	PT 1/8	.236

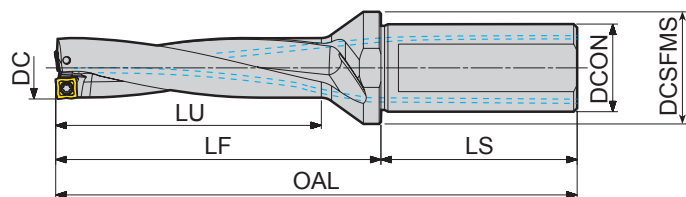
* Plug for turning lathe should be ordered separately.

* Clamping Torque (Nm) 0.7Nm

SYM07	Screw	Wrench
Description	TP072205 - GS	TPWFTP07
EDP	18000253	18000001

Plug	DCON	.75	1.00	1.25
Description	PLUG M12 - 1/8	PLUG M14 - 1/8	PLUG M22 - 1/4	
EDP	38000001	38000002	38000003	

X - Drill Holder (SYM08) (DC .937 ~ 1.063)

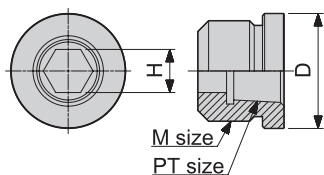


②: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
SYM080306	.937	1.874	YGSY2 - 0.937S1.25 - 08I	1074	2.740	5.990	1.25	1.625	3.25
		2.811	YGSY3 - 0.937S1.25 - 08I	1090	3.677	6.927			
		3.748	YGSY4 - 0.937S1.25 - 08I	1106	4.614	7.864			
		4.685	YGSY5 - 0.937S1.25 - 08I	1122	5.551	8.801			
	.969	1.938	YGSY2 - 0.969S1.25 - 08I	1075	2.804	6.054			
		2.907	YGSY3 - 0.969S1.25 - 08I	1091	3.773	7.023			
		3.876	YGSY4 - 0.969S1.25 - 08I	1107	4.742	7.992			
		4.845	YGSY5 - 0.969S1.25 - 08I	1123	5.711	8.961			
	.984	1.968	YGSY2 - 0.984S1.25 - 08I	1076	2.834	6.084			
		2.952	YGSY3 - 0.984S1.25 - 08I	1092	3.818	7.068			
		3.936	YGSY4 - 0.984S1.25 - 08I	1108	4.802	8.052			
		4.92	YGSY5 - 0.984S1.25 - 08I	1124	5.786	9.036			
	1.000	2.000	YGSY2 - 1.000S1.25 - 08I	1077	2.866	6.116			
		3.000	YGSY3 - 1.000S1.25 - 08I	1093	3.866	7.116			
		4.000	YGSY4 - 1.000S1.25 - 08I	1109	4.866	8.116			
		5.000	YGSY5 - 1.000S1.25 - 08I	1125	5.866	9.116			
	1.031	2.062	YGSY2 - 1.031S1.25 - 08I	1078	2.928	6.178			
		3.093	YGSY3 - 1.031S1.25 - 08I	1094	3.920	7.170			
		4.124	YGSY4 - 1.031S1.25 - 08I	1110	4.990	8.240			
		5.155	YGSY5 - 1.031S1.25 - 08I	1126	6.021	9.271			
	1.063	2.126	YGSY2 - 1.063S1.25 - 08I	1079	2.992	6.242			
		3.189	YGSY3 - 1.063S1.25 - 08I	1095	4.094	7.344			
		4.252	YGSY4 - 1.063S1.25 - 08I	1111	5.118	8.368			
		5.315	YGSY5 - 1.063S1.25 - 08I	1127	6.181	9.431			

PLUG (DCON1.25)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M22 - 1/4	38000003	1.25	.945	M22x1.25	PT 1/4	.394

* Plug for turning lathe should be ordered separately.

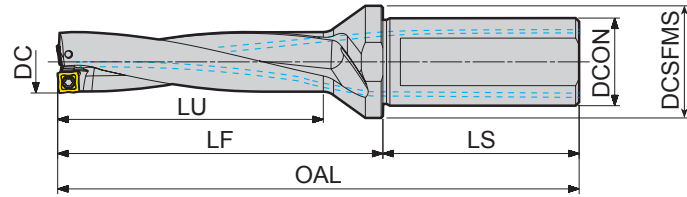
* Clamping Torque (Nm) 1.2Nm

SYM08	Screw	Wrench
Description	TP072506 - GS	TPWFTP07
EDP	18000261	18000001

Plug	DCON	.75	1.00	1.25
Description	PLUG M12 - 1/8	PLUG M14 - 1/8	PLUG M22 - 1/4	
EDP	38000001	38000002	38000003	

Drilling - Drill Holder

X - Drill Holder (SYMXX08) (DC 1.094~1.125)

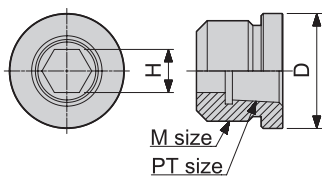


②: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
SYMXX080306	1.094	2.188	YGSY2-1.094S1.25-08I	1080	3.091	6.341	1.25	1.625	3.25
		3.282	YGSY3-1.094S1.25-08I	1096	4.193	7.443			
		4.376	YGSY4-1.094S1.25-08I	1112	5.295	8.545			
		5.470	YGSY5-1.094S1.25-08I	1128	6.398	9.648			
	1.125	2.250	YGSY2-1.125S1.25-08I	1081	3.169	6.419			
		3.375	YGSY3-1.125S1.25-08I	1097	4.311	7.561			
		4.500	YGSY4-1.125S1.25-08I	1113	5.453	8.703			
		5.625	YGSY5-1.125S1.25-08I	1129	6.594	9.844			

PLUG (DCON1.25)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M22 - 1/4	38000003	1.25	.945	M22x1.25	PT 1/4	.394

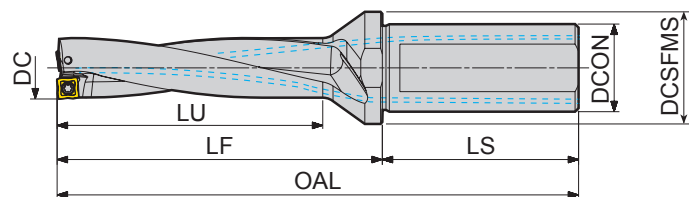
* Plug for turning lathe should be ordered separately.

* Clamping Torque (Nm) 1.2Nm

SYMXX08	Screw	Wrench
Description	TP072506 - GS	TPWFTP07
EDP	18000261	18000001

Plug	DCON	.75	1.00	1.25
Description	PLUG M12 - 1/8	PLUG M14 - 1/8	PLUG M22 - 1/4	
EDP	38000001	38000002	38000003	

X-Drill Holder (SYMX10) (DC 1.156~1.312)



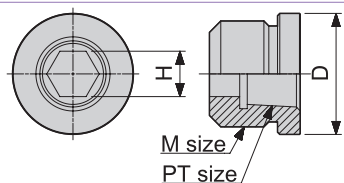
☐: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
1.156	2.312		YGSY2-1.156S1.25-10I	1272	3.257	6.507	1.25	1.625	3.25
	3.468		YGSY3-1.156S1.25-10I	1278	4.413	7.663			
	4.624		YGSY4-1.156S1.25-10I	1284	5.569	8.819			
	5.78		YGSY5-1.156S1.25-10I	1290	6.725	9.975			
1.187	2.374		YGSY2-1.187S1.25-10I	1273	3.319	6.569			
	3.561		YGSY3-1.187S1.25-10I	1279	4.506	7.756			
	4.748		YGSY4-1.187S1.25-10I	1285	5.693	8.943			
	5.935		YGSY5-1.187S1.25-10I	1291	6.880	10.130			
1.219	2.438		YGSY2-1.219S1.25-10I	1274	3.383	6.633			
	3.657		YGSY3-1.219S1.25-10I	1280	4.602	7.852			
	4.876		YGSY4-1.219S1.25-10I	1286	5.821	9.071			
	6.095		YGSY5-1.219S1.25-10I	1292	7.040	10.290			
1.25	2.5		YGSY2-1.250S1.25-10I	1275	3.445	6.695			
	3.75		YGSY3-1.250S1.25-10I	1281	4.695	7.945			
	5.000		YGSY4-1.250S1.25-10I	1287	5.945	9.195			
	6.25		YGSY5-1.250S1.25-10I	1293	7.195	10.445			
1.281	2.562		YGSY2-1.281S1.25-10I	1276	3.468	6.718			
	3.843		YGSY3-1.281S1.25-10I	1282	4.749	7.999			
	5.124		YGSY4-1.281S1.25-10I	1288	6.030	9.280			
	6.405		YGSY5-1.281S1.25-10I	1294	7.311	10.561			
1.312	2.624		YGSY2-1.312S1.25-10I	1277	3.490	6.740			
	3.936		YGSY3-1.312S1.25-10I	1283	4.802	8.052			
	5.248		YGSY4-1.312S1.25-10I	1289	6.114	9.364			
	6.56		YGSY5-1.312S1.25-10I	1295	7.426	10.676			

NEW
SYM X
10T308

PLUG (DCON1.25)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M22-1/4	38000003	1.25	.945	M22x1.25	PT 1/4	.394

* Plug for turning lathe should be ordered separately.

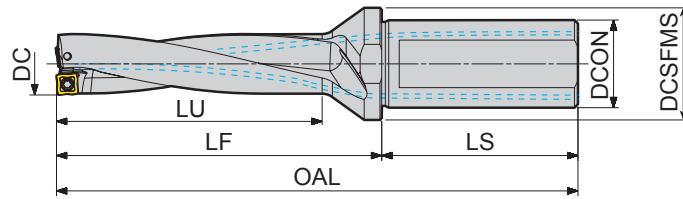
* Clamping Torque (Nm) 1.2Nm

SYM X10	Screw	Wrench
Description	TP072506-GS	TPWFTP07
EDP	18000261	18000001

Plug	DCON	.75	1.00	1.25
Description	PLUG M12-1/8	PLUG M14-1/8	PLUG M22-1/4	
EDP	38000001	38000002	38000003	

Drilling - Drill Holder

X-Drill Holder (SYMX11) (DC 1.343~1.513)



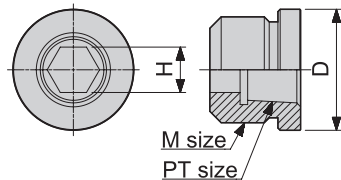
□: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
NEW SYMX 110408	1.343	2.686	YGSY2-1.343S1.50-11I	1296	3.710	7.460	1.50	1.875	3.75
		4.029	YGSY3-1.343S1.50-11I	1302	5.053	8.803			
		5.372	YGSY4-1.343S1.50-11I	1308	6.396	10.146			
		6.715	YGSY5-1.343S1.50-11I	1314	7.739	11.489			
	1.375	2.75	YGSY2-1.375S1.50-11I	1297	3.774	7.524			
		4.125	YGSY3-1.375S1.50-11I	1303	5.149	8.899			
		5.5	YGSY4-1.375S1.50-11I	1309	6.524	10.274			
		6.875	YGSY5-1.375S1.50-11I	1315	7.899	11.649			
	1.406	2.92	YGSY2-1.406S1.50-11I	1301	3.836	7.586			
		4.38	YGSY3-1.406S1.50-11I	1307	5.242	8.992			
		5.84	YGSY4-1.406S1.50-11I	1313	6.648	10.398			
		7.3	YGSY5-1.406S1.50-11I	1319	8.054	11.804			
	1.437	2.874	YGSY2-1.437S1.50-11I	1298	3.898	7.648			
		4.311	YGSY3-1.437S1.50-11I	1304	5.335	9.085			
		5.748	YGSY4-1.437S1.50-11I	1310	6.772	10.522			
		7.185	YGSY5-1.437S1.50-11I	1316	8.209	11.959			

► NEXT PAGE

PLUG (DCON1.5)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M26-1/4	38000004	1.5	1.102	M26x1.25	PT 1/4	.393

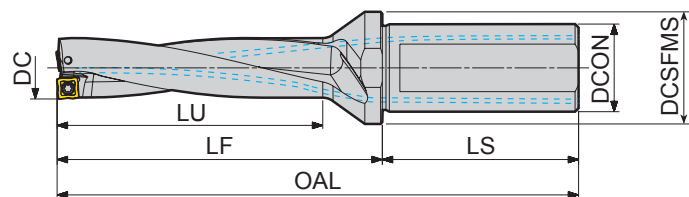
* Plug for turning lathe should be ordered separately.

* Clamping Torque (Nm) 2.0Nm

SYM11	Screw	Wrench
Description	TP103509-GS	TPWFTP10
EDP	18000266	18000284

Plug	DCON	.75	1.0	1.25	1.5
	Description	PLUG M12-1/8	PLUG M14-1/8	PLUG M22-1/4	PLUG M26-1/4
	EDP	38000001	38000002	38000003	38000004

X-Drill Holder (SYMXX11) (DC 1.343~1.513)

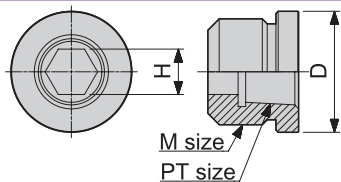


☐: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
NEW SYMXX 110408	1.469	2.938	YGSY2-1.469S1.50-11I	1299	3.922	7.672	1.50	1.875	3.75
		4.407	YGSY3-1.469S1.50-11I	1305	5.391	9.141			
		5.876	YGSY4-1.469S1.50-11I	1311	6.860	10.610			
		7.345	YGSY5-1.469S1.50-11I	1317	8.329	12.079			
	1.5	3.000	YGSY2-1.500S1.50-11I	1300	3.984	7.734			
		4.5	YGSY3-1.500S1.50-11I	1306	5.484	9.234			
		6.000	YGSY4-1.500S1.50-11I	1312	6.984	10.734			
		7.5	YGSY5-1.500S1.50-11I	1318	8.484	12.234			
	1.513	3.026	YGSY2-1.513S1.50-11I	1321	4.010	7.760			
		4.539	YGSY3-1.513S1.50-11I	1322	5.523	9.273			
		6.052	YGSY4-1.513S1.50-11I	1323	7.036	10.786			
		7.565	YGSY5-1.513S1.50-11I	1325	8.549	12.299			

PLUG (DCON1.5)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M26-1/4	38000004	1.5	1.102	M26x1.25	PT 1/4	.393

* Plug for turning lathe should be ordered separately.

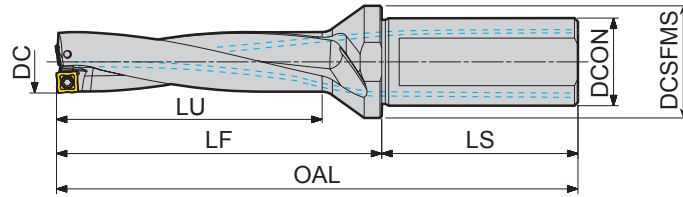
* Clamping Torque (Nm) 2.0Nm

SYMXX11	Screw	Wrench
Description	TP103509-GS	TPWFTP10
EDP	18000266	18000284

Plug	DCON	.75	1.0	1.25	1.5
	Description	PLUG M12-1/8	PLUG M14-1/8	PLUG M22-1/4	PLUG M26-1/4
	EDP	38000001	38000002	38000003	38000004

Drilling - Drill Holder

X-Drill Holder (SYMX13) (DC 1.531~1.75)



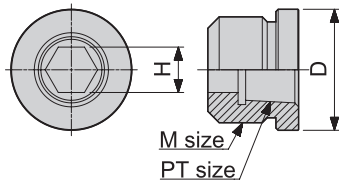
□: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
NEW SYMX 130410	1.531	3.062	YGSY2-1.531S1.50-13I	1374	4.086	7.836	1.50	1.875	3.75
		4.593	YGSY3-1.531S1.50-13I	1381	5.617	9.367			
		6.124	YGSY4-1.531S1.50-13I	1388	7.148	10.898			
		7.655	YGSY5-1.531S1.50-13I	1395	8.679	12.429			
	1.562	3.124	YGSY2-1.562S1.50-13I	1375	4.148	7.898			
		4.686	YGSY3-1.562S1.50-13I	1382	5.710	9.460			
		6.248	YGSY4-1.562S1.50-13I	1389	7.272	11.022			
		7.81	YGSY5-1.562S1.50-13I	1396	8.834	12.584			
	1.594	3.188	YGSY2-1.594S1.50-13I	1376	4.212	7.962			
		4.782	YGSY3-1.594S1.50-13I	1383	5.806	9.556			
		6.376	YGSY4-1.594S1.50-13I	1390	7.400	11.150			
		7.97	YGSY5-1.594S1.50-13I	1397	8.994	12.744			
	1.625	3.25	YGSY2-1.625S1.50-13I	1377	4.274	8.024			
		4.875	YGSY3-1.625S1.50-13I	1384	5.899	9.649			
		6.5	YGSY4-1.625S1.50-13I	1391	7.524	11.274			
		8.125	YGSY5-1.625S1.50-13I	1398	9.149	12.899			

► NEXT PAGE

PLUG (DCON1.5)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M28-1/4	38000006	1.5	1.181	M28x1.5	PT 1/4	.393

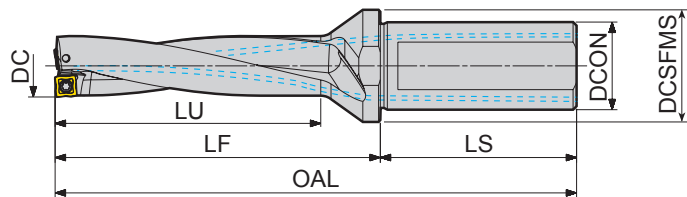
* Plug for turning lathe should be ordered separately.

* Clamping Torque (Nm) 3.0Nm

SYM13	Screw	Wrench
Description	TP154010-HS	TPWFTP15
EDP	18000232	18000003

Plug	DCON	1.5
	Description	PLUG M28-1/4
	EDP	38000006

X-Drill Holder (SYMX13) (DC 1.531~1.75)

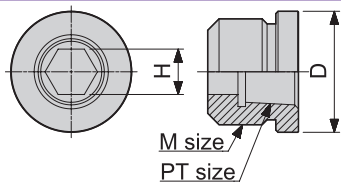


⊞: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
NEW SYMX 130410	1.687	3.374	YGSY2-1.687S1.50-13I	1378	4.398	8.148	1.50	1.875	3.75
		5.061	YGSY3-1.687S1.50-13I	1385	6.085	9.835			
		6.748	YGSY4-1.687S1.50-13I	1392	7.772	11.522			
		8.435	YGSY5-1.687S1.50-13I	1399	9.459	13.209			
	1.719	3.438	YGSY2-1.719S1.50-13I	1379	4.462	8.212			
		5.157	YGSY3-1.719S1.50-13I	1386	6.181	9.931			
		6.876	YGSY4-1.719S1.50-13I	1393	7.900	11.650			
		8.595	YGSY5-1.719S1.50-13I	1400	9.619	13.369			
	1.75	3.5	YGSY2-1.750S1.50-13I	1380	4.524	8.274			
		5.25	YGSY3-1.750S1.50-13I	1387	6.274	10.024			
		7.000	YGSY4-1.750S1.50-13I	1394	8.024	11.774			
		8.75	YGSY5-1.750S1.50-13I	1401	9.774	13.524			

PLUG (DCON1.5)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M28-1/4	38000006	1.5	1.181	M28x1.5	PT 1/4	.393

* Plug for turning lathe should be ordered separately.

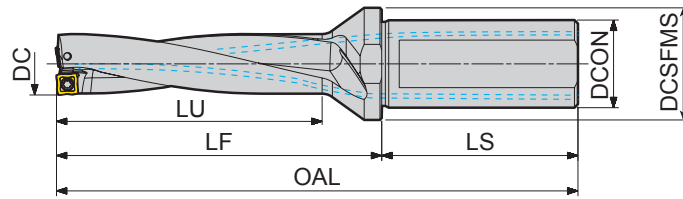
* Clamping Torque (Nm) 3.0Nm

SYMX13	Screw	Wrench
Description	TP154010-HS	TPWFTP15
EDP	18000232	18000003

Plug	DCON	1.5
Description	PLUG M28-1/4	
EDP	38000006	

Drilling - Drill Holder

X-Drill Holder (SYMX15) (DC 1.781~2.000)

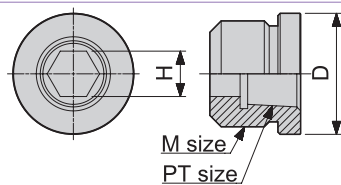


□: p. 172

Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
NEW SYMX 150512	1.781	3.562	YGSY2-1.781S1.50-15I	1402	4.940	8.690	1.50	2.375	3.75
		5.343	YGSY3-1.781S1.50-15I	1408	6.721	10.471			
		7.124	YGSY4-1.781S1.50-15I	1414	8.502	12.252			
		8.905	YGSY5-1.781S1.50-15I	1420	10.283	14.033			
	1.813	3.626	YGSY2-1.813S1.50-15I	1403	5.004	8.754			
		5.439	YGSY3-1.813S1.50-15I	1409	6.817	10.567			
		7.252	YGSY4-1.813S1.50-15I	1415	8.630	12.380			
		9.065	YGSY5-1.813S1.50-15I	1421	10.443	14.193			
	1.875	3.75	YGSY2-1.875S1.50-15I	1404	5.128	8.878			
		5.625	YGSY3-1.875S1.50-15I	1410	7.003	10.753			
		7.5	YGSY4-1.875S1.50-15I	1416	8.878	12.628			
		9.375	YGSY5-1.875S1.50-15I	1422	10.753	14.503			
	1.937	3.874	YGSY2-1.937S1.50-15I	1405	5.252	9.002			
		5.811	YGSY3-1.937S1.50-15I	1411	7.189	10.939			
		7.748	YGSY4-1.937S1.50-15I	1417	9.126	12.876			
		9.685	YGSY5-1.937S1.50-15I	1423	11.063	14.813			
	1.969	3.938	YGSY2-1.969S1.50-15I	1406	5.316	9.066			
		5.907	YGSY3-1.969S1.50-15I	1412	7.285	11.035			
		7.876	YGSY4-1.969S1.50-15I	1418	9.254	13.004			
		9.845	YGSY5-1.969S1.50-15I	1424	11.223	14.973			
	2.000	4.000	YGSY2-2.000S1.50-15I	1407	5.378	9.128			
		6.000	YGSY3-2.000S1.50-15I	1413	7.378	11.128			
		8.000	YGSY4-2.000S1.50-15I	1419	9.378	13.128			
		10.000	YGSY5-2.000S1.50-15I	1425	11.378	15.128			

PLUG (DCON1.5)



Designation	EDP No.	DCON	ØD	M size	PT size	H
PLUG M28-1/4	38000006	1.5	1.181	M28x1.5	PT 1/4	.393

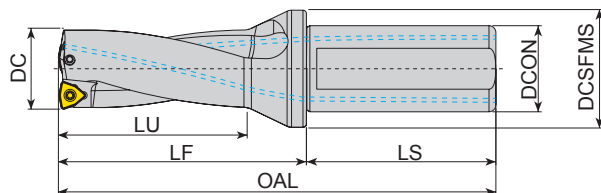
* Plug for turning lathe should be ordered separately.

* Clamping Torque (Nm) 3.5Nm

SYM15	Screw	Wrench
Description	T20590D	TWFT20
EDP	18000182	18000036

Plug	DCON	1.5
Description	PLUG M28-1/4	
EDP	38000006	

Trigonal Drill Holder (WCMX03) (DC .750)



⚠: p. 174

Unit: inch

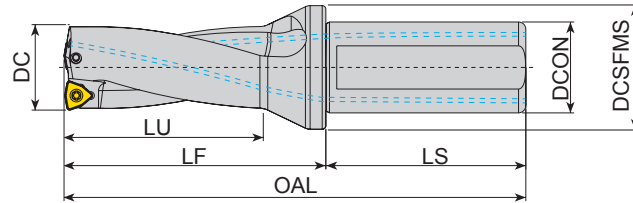
Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
WCMX 030208	.750	2.250	YGWC3 - 0750S100F2250 - 03	0811	3.110	5.315	1.00	1.260	2.205
		3.750	YGWC5 - 0750S100F3750 - 03	0823	4.606	6.811			

* Clamping Torque (Nm) 0.6Nm

WCMX03	Screw	Wrench
Description	T0622557	TWFT06
EDP	18000183	18000031

Drilling - Drill Holder

Trigonal Drill Holder (WCMX04) (DC .8125 ~ .875)



⊙: p. 174

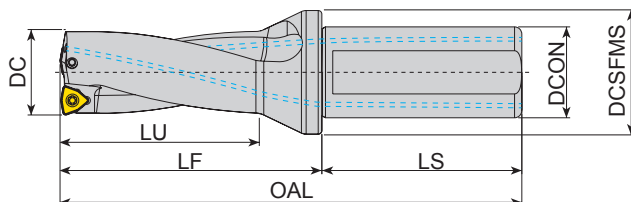
Unit: inch

Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
WCMX 040208	.8125	2.433	YGWC3 - 0812S100F2433 - 04	0812	3.228	5.433	1.00	1.260	2.205
		4.055	YGWC5 - 0812S100F4055 - 04	0824	5.000	7.205			
	.875	2.624	YGWC3 - 0875S100F2624 - 04	0813	3.465	5.669			
		4.374	YGWC5 - 0875S100F4374 - 04	0825	5.197	7.402			

* Clamping Torque (Nm) 1.2Nm

WCMX04	Screw	Wrench
Description	T072565D	TWFT07
EDP	18000184	18000032

Trigonal Drill Holder (WCMX05) (DC .937 ~ 1.125)



⚠:p.174

Unit:inch

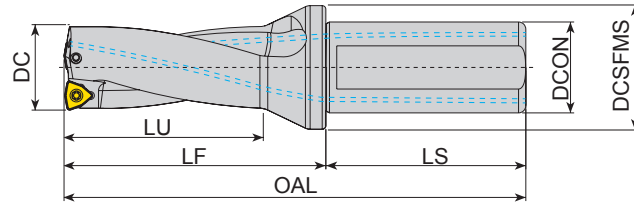
Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
WCMX 050308	.937	2.811	YGWC3 - 0937S100F2811 - 05	0814	3.701	5.906	1.00	1.260	2.205
		4.685	YGWC5 - 0937S100F4685 - 05	0826	5.591	7.795			
	1.000	3.000	YGWC3 - 1000S100F3000 - 05	0815	3.819	6.024			
		5.000	YGWC5 - 1000S100F5000 - 05	0827	5.787	7.992			
	1.063	3.189	YGWC3 - 1063S100F3189 - 05	0816	4.055	6.260			
		5.315	YGWC5 - 1063S100F5135 - 05	0828	6.181	8.386			
	1.125	3.366	YGWC3 - 1125S100F3366 - 05	0817	4.173	6.378			
		5.610	YGWC5 - 1125S100F5610 - 05	0829	6.476	8.681			

* Clamping Torque (Nm) 1.6Nm

WCMX05	Screw	Wrench
Description	T693072D	TWFT08
EDP	18000185	18000033

Drilling - Drill Holder

Trigonal Drill Holder (WCMX06, 08) (DC 1.250 ~ 2.000)



⊙: p. 174

Unit: inch

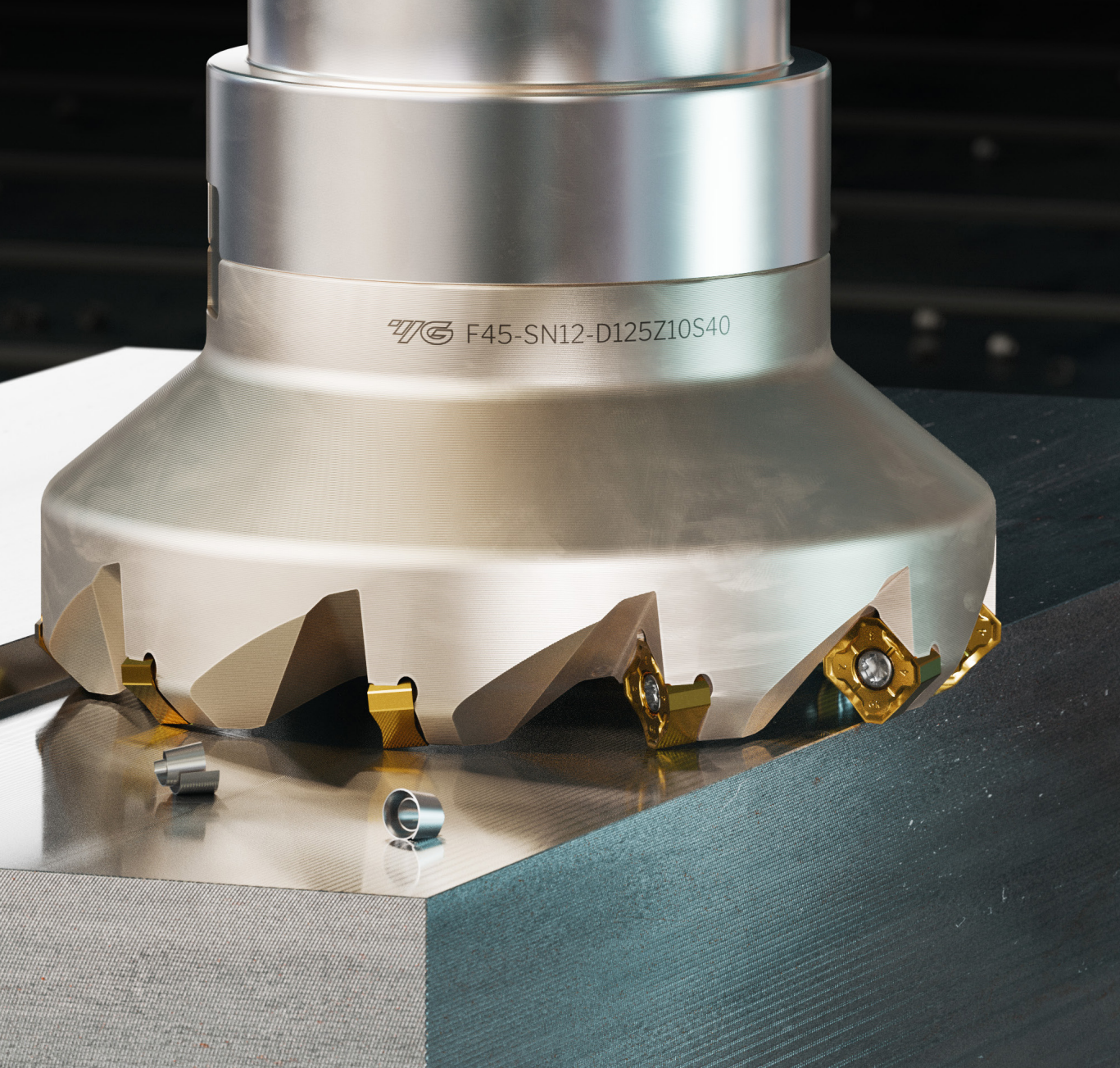
Series	DC	LU	Designation	EDP 3700..	LF	OAL	DCON	DCSFMS	LS
WCMX 06T308	1.250	3.750	YGWC3 - 1250S125F3750 - 06	0818	4.843	7.205	1.25	1.575	2.362
		6.250	YGWC5 - 1250S125F6250 - 06	0830	7.313	9.675			
	1.375	4.122	YGWC3 - 1375S125F4122 - 06	0819	5.197	7.559			
		6.870	YGWC5 - 1375S125F6870 - 06	0831	7.953	1.315			
	1.500	4.500	YGWC3 - 1500S125F4500 - 06	0820	5.551	7.913			
		7.500	YGWC5 - 1500S125F7500 - 06	0832	8.543	1.906			
	1.750	5.250	YGWC3 - 1750S125F5250 - 06	0821	6.260	8.622			
		8.750	YGWC5 - 1750S125F8750 - 06	0833	9.969	12.331			
WCMX 080412	2.000	6.000	YGWC3 - 2000S150F6000 - 08	0822	7.283	1.039	1.50	1.969	2.756
		10.000	YGWC5 - 2000S150F10000 - 08	0834	11.299	14.055			

* Clamping Torque (Nm) 2.4Nm

WCMX06	Screw	Wrench
Description	T103588D	TWFT10
EDP	18000180	18000034

* Clamping Torque (Nm) 3.0Nm

WCMX08	Screw	Wrench
Description	T154011D	TWFT15
EDP	18000186	18000035



TECHNICAL INFORMATION

Recommended Cutting Conditions

ISO 13399 Terms

Hardness Conversion Table

Formulas

Comparison Chart

Material Groups

X-Drill(SYMX) Offset Value & Hole Tolerance

ISO ↔ ANSI

Search

Technical Information

Recommended cutting conditions

Turning

Cutting Speed			Vc (SFM)																			
ISO	VDI	Sub Group	YG1010		YG1001		YG1020		YG3010		YG3015		YG3115		YG3125		YG3020		YG3030		YG801	
			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	-	-	722	1575	-	-	755	1476	656	1411	591	1640	492	1312	525	1247	427	1148	394	656
	6~9	Low-Alloyed Steel	-	-	722	1378	-	-	591	1247	492	1148	558	1476	427	1148	459	1050	427	919	230	656
	10~11	High-Alloyed Steel	-	-	-	-	-	-	197	656	295	591	197	984	197	919	197	427	230	361	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	15~16	Grey Cast Iron	984	1476	820	1378	591	1148	394	984	-	-	-	-	-	-	-	-	-	-	-	-
	17~18	Nodular Cast Iron	394	1148	394	984	328	919	394	919	-	-	-	-	-	-	-	-	-	-	-	-
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31~37	Superalloys & Titanium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	38~41	Hard Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Turning

Cutting Speed			Vc (SFM)																							
ISO	VDI	Sub Group	YG2025		YG2035		YG211		YG213		YG214		YG401		YG411		YT100		YT100G		YG100		YG10			
			Min	Max	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	492	1575	558	1640	-	-	-	-	
	6~9	Low-Alloyed Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	525	1575	591	1640	-	-	-	-	
	10~11	High-Alloyed Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230	591	328	755	-	-	-	-	
M	12~13	Ferritic & Martensitic	558	722	328	656	558	886	394	591	328	492	-	-	-	-	-	492	919	558	984	-	-	-	-	
	14	Austenitic Stainless Steel	492	656	328	591	492	755	131	525	328	492	-	-	-	-	-	427	853	492	919	-	-	-	-	
K	15~16	Grey Cast Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	427	1476	492	1509	-	-	-	-	
	17~18	Nodular Cast Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	328	1312	427	1378	-	-	-	-	
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	820	3937	820	2625	
S	31~37	Superalloys & Titanium	-	-	-	-	98	328	98	230	98	164	98	295	98	328	-	-	-	-	-	-	-	-		
H	38~41	Hard Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Turning

Cutting Speed			Vc (SFM)							
ISO	VDI	Sub Group	YBN50		YBN65		YBN65A		YBN90	
			Min	Max	Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel								
	6~9	Low-Alloyed Steel								
	10~11	High-Alloyed Steel								
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	-	-
K	15~16	Grey Cast Iron	-	-	-	-	-	-	984	3937
	17~18	Nodular Cast Iron	-	-	-	-	-	-	-	-
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-
S	31~37	Superalloys & Titanium	-	-	-	-	-	-	-	-
H	38~41	Hard Materials	328	722	262	591	328	656	262	525

Parting & Grooving

Cutting Speed			Vc (SFM)			
ISO	VDI		YG602G (YG602)		YG603	
			Min	Max	Min	Max
P	1~5		394	591	-	-
	6~9		328	459	-	-
	10~11		262	361	-	-
M	12~13		230	525	164	295
	14		180	459	131	262
K	15~16		361	607	-	-
	17~18		361	459	-	-
N	21~30		820	1444	-	-
S	31~37		82	148	-	-
H	38~41		82	164	-	-

Technical Information

Recommended cutting conditions

Nanocut

YG812 GRADE			Cutting Speed		Feed per Revolution (Fn)	
ISO	VDI	Sub Group	Vc (SFM)		Fn (inch/rev.)	
			Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	558	656	.0006	.0010
	6~9	Low-Alloyed Steel	312	525	.0006	.0010
	10~11	High-Alloyed Steel	279	312	.0006	.0010
M	12~13	Ferritic & Martensitic	344	459	.0006	.0010
	14	Austenitic Stainless Steel	312	427	.0006	.0010
K	15~16	Grey Cast Iron	459	623	.0006	.0010
	17~18	Nodular Cast Iron	459	623	.0006	.0010
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-
S	31~37	Superalloys & Titanium	33	246	.0006	.0010
H	38~41	Hard Materials	-	-	-	-

Milling

Cutting Speed			Vc (SFM)																							
ISO	VDI	Sub Group	YG012		YG712		YG713		YG622		YG612		YG602		YG613		YG614		YG501(G)		YG5020		YG904		YG50	
			Min	Max	Min	Max	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	591	919	558	984	656	984	459	1312	591	919	591	886	328	689	-	-	-	-	-	-	-	-	-	-
	6~9	Low-Alloyed Steel	492	820	591	820	558	886	394	1050	492	820	492	787	230	591	-	-	-	-	-	-	-	-	-	-
	10~11	High-Alloyed Steel	262	492	328	459	279	476	230	558	230	459	230	427	131	295	-	-	-	-	-	-	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	-	-	394	656	394	591	230	591	200	460	-	-	-	-	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	-	-	427	820	98	755	230	656	200	560	-	-	-	-	-	-	-	-
K	15~16	Grey Cast Iron	-	-	-	-	-	-	394	886	-	-	394	820	-	-	-	-	525	984	656	1148	-	-	-	-
	17~18	Nodular Cast Iron	-	-	-	-	-	-	427	787	-	-	394	722	-	-	-	-	427	689	492	984	-	-	-	-
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	984	2625
S	31~37	Superalloys & Titanium	-	-	-	-	-	-	-	-	82	148	16	148	-	-	65	160	-	-	-	-	66	197	-	-
H	38~41	Hard Materials	230	394	-	-	-	-	131	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Drilling

Cutting Speed			Vc (SFM)					
ISO	VDI	Sub Group	YG602		YG713		YG613	
			Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	591	1247	656	984	328	689
	6~9	Low-Alloyed Steel	394	984	558	886	230	591
	10~11	High-Alloyed Steel	230	492	279	476	131	295
M	12~13	Ferritic & Martensitic	394	656	427	755	230	591
	14	Austenitic Stainless Steel	427	820	427	755	230	656
K	15~16	Grey Cast Iron	394	820	-	-	-	-
	17~18	Nodular Cast Iron	427	722	-	-	-	-
H	38~41	Hard Materials	-	-	-	-	-	-

Technical Information

ISO 13399 Terms

AN	Clearance angle major	INS	Insert diameter
APMX	Maximum depth of cut	KAPR	Tool cutting edge angle
AS	Clearance angle wiper edge	KRINS	Cutting edge angle major
B	Shank width	KWW	Keyway width
BS	Wiper edge length	L	Cutting edge length
CBDP	Connection bore depth	LE	Cutting edge effective length
CDX	Cutting depth maximum	LF	Functional length
CICT	Number of Inserts	LH	Head length
CW	Cutting width	LS	Shank length
CZC	Connection size code	LU	Usable length
DC	Cutting diameter	LUX	Usable length maximum
DCON	Connection diameter	M	Nose (or Wiper) Height
DCSFMS	Contact surface diameter machine side	OAL	Overall length
DCX	Cutting diameter maximum	RE	Corner radius
DMIN	Minimum bore diameter	RMPX	Maximum ramping angle
DMM	Shank diameter	RPMX	Rotational speed maximum
EPSR	Insert included angle	S	Insert thickness
H	Shank height	TDZ	Thread diameter size
HAND	Hand	WF	Functional width
IC	Inscribed circle diameter		

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

Technical Information

Hardness Conversion Table

	HB	HRc	HRB	HV	N/mm ²
TURNING	199	15	93	199	667
	203	16	94	201	680
	208	17	95	210	696
	212	18	95	218	706
	216	19	96	222	716
	223	20	97	227	755
PARTING & GROOVING	229	21	98	235	775
	233	22	99	241	794
	240	23	100	247	824
	245	24	100	252	838
	250	25	101	255	853
	255	26	102	258	870
	262	27	103	262	880
	264	28	103	271	892
	271	29	104	277	941
	277	30	105	285	971
MILLING	290	31	106	292	990
	300	32	107	303	1020
	308	33	107	311	1035
	314	34	108	320	1049
	322	35	108	332	1089
	331	36	109	342	1118
	341	37	109	351	1157
	348	38	110	361	1187
	360	39	111	376	1236
	373	40	111	388	1265
DRILLING	375	41	112	393	1314
	388	42	113	406	1363
	402	43	114	424	1390
	415	44	114	438	1422
	419	45	114	448	1447
	430	46	115	458	1471
	445	47	115	474	1520
	456	48	116	490	1569
	468	49	117	497	
	469	50	117	505	
TECHNICAL INFORMATION	486	51	118	531	
	504	52	118	549	
	513	53	119	567	
	534	54	120	589	
	552	55		649	
	572	56		694	
	592	57		727	
	601	58		746	
	613	59			
	627	60			
	642	61			
	658	62			
	681	63			
	695	64			
	HB	HRc	HRB	HV	N/mm ²

Technical Information

Formulas

Cutting Speed (Vc)	Metric $Vc = D \times RPM \times 0.0031 \text{ (m/min.)}$	Inch $Vc = D \times RPM \times .262 \text{ (ft/min.)}$
	Metric Vc to Inch Vc $\text{Inch Vc} = \text{Metric Vc} \times 3.28 \text{ (ft/min.)}$	
	Inch Vc to Metric Vc $\text{Metric Vc} = \text{Inch Vc} \times .305 \text{ (m/min.)}$	

Turning Formulas

Spindle Speed (RPM)	Metric $RPM = Vc \times 318.3 \div D \text{ (rev./min.)}$	Inch $RPM = Vc \times 3.82 \div D \text{ (rev./min.)}$
Feed Rate (Vf = Table Feed)	$Vf = Fn \times RPM \text{ (mm/min. or in/min.)}$	
Feed per Revolution (Fn)	$Fn = Vf \div RPM \text{ (mm/rev. or in/rev.)}$	
Metal Removal Rate (Q)	Metric $Q = Vc \times Fn \times Ap \text{ (cm}^3\text{/min.)}$	Inch $Q = Vc \times Fn \times Ap \times 12 \text{ (in}^3\text{/min.)}$
Cutting Time	$T = L \div Vf \text{ (min.)}$	

Milling Formulas

Feed per Revolution (Fn)	$Fn = Vf \div RPM \text{ (mm/rev. or in/rev.)}$ $= Fz \times \text{Number of tooth} \text{ (mm/rev. or in/rev.)}$	
Feed per Tooth (Fz)	$Fz = Vf \div RPM \div \text{Number of tooth} \text{ (mm/rev. or in/rev.)}$ $= Fn \div \text{Number of tooth} \text{ (mm/rev. or in/rev.)}$	
Metal Removal Rate (Q)	Metric $Q = Ap \times Ae \times Vf \div 1000 \text{ (cm}^3\text{/min.)}$	Inch $Q = Ap \times Ae \times Vf \text{ (in}^3\text{/min.)}$
Cutting Time	$T = L \div Vf \text{ (min.)}$	
Power Consumption (Pc)	Metric $Pc = Ap \times Ae \times Vf \times Kc \times 0.000000017 \text{ (kW)}$	Inch $Pc = Ap \times Ae \times Vf \times Kc \times 0.00000253 \text{ (Hp)}$

Drilling Formulas

Power Consumption (Pc)	Metric $Pc = Fn \times Vc \times D \times Kc \times 0.0000042 \text{ (kW)}$	Inch $Pc = Fn \times Vc \times D \times Kc \times 0.0000076 \text{ (Hp)}$
Torque (Mc)	Metric $Mc = Pc \times 9554.1 \div RPM \text{ (Nm)}$	Inch $Mc = Pc \times 5255 \div RPM \text{ (lbf ft)}$
Thrust (T)	$T \approx 0.5 \times Kc \times DC/2 \times Fn \times \sin KAPR \text{ (N)}$	

Terms

RPM (n)	Spindle Speed (Revolution per minute)
Vc	Cutting Speed
D	Work Diameter
Vf	Feed Rate (Table Feed)
Fn	Feed per Revolution
Ap	Depth of Cut
Q	Metal Removal Rate
L	Length of cut
T	Cutting Time (min.)

Application Guide

Steel Guide

Grade Recommendation based on Workpiece Material Condition

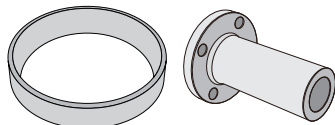
HARD

YG3115

YG3125

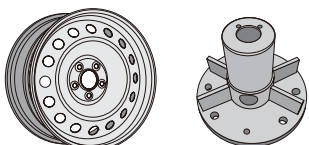
YG3030

TOUGH



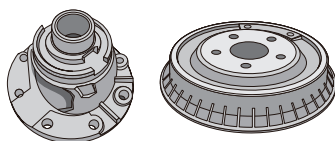
Pre Machined Condition

No Outer Skin
Uniform hardness on material
Has stable machining condition



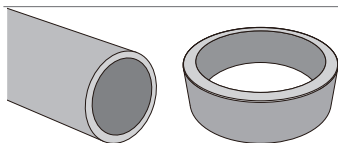
Welded Condition

Soft / No Outer Skin
Weld Bead Could be of Different Hardness than Actual Part
Stock on Part could even except weld Seam during Machining causing shock loads



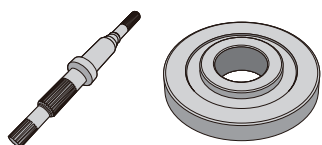
Cast Condition

Hard Outer Skin
Could have Sand Inclusion, - if Green Sand Cast
Component could have uneven Stock during machining



Hot Rolled Condition

Soft / No Outer Skin
Usually heat treated before machine to reduce Hardness
Component could have uneven Stock During Machining



Forged Condition

Soft Outer Skin
Usually heat treated before machine to reduce Hardness
Component could have uneven Stock during machining

Chipbreaker, Feed Rate and Depth of Cut

		Sharp Edge	General	Strong Edge
	Continuous	 -UF		
	General	 -UL	 -UM	
	Heavy Interrupt		 -UG	 -UC -UR

Application Guide

Steel Guide

TURNING

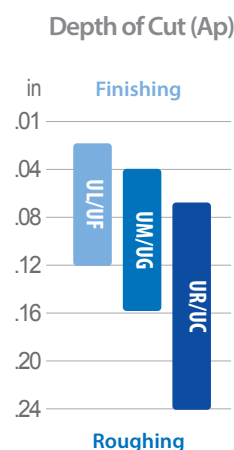
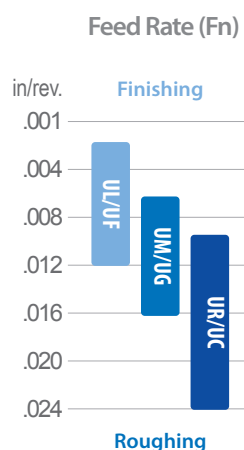
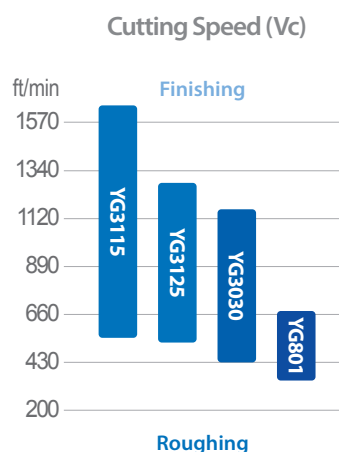
PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

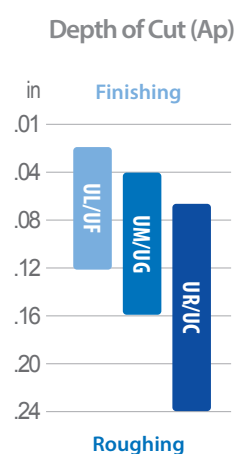
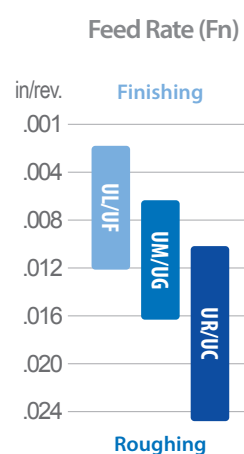
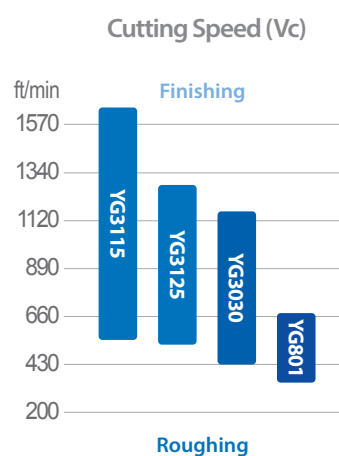
P	Non Alloy Steel, About 0.15% C (Low Carbon Steel)									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
1	S15C	CK15	1.0401	1015	1350	XC18	C15	F.1110	080M15	15



First Choice Grade and Value

YG3030 - Vc 980 ft/min

P	Non Alloy Steel, About 0.45% C (Medium Carbon Steel)									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
2~3	S45C	C45	1.0503	1045	1672	XC42H1TS	C45	F.1140	060A47	45



First Choice Grade and Value

YG3125 - Vc 885 ft/min

Application Guide

Steel Guide

TURNING

PARTING & GROOVING

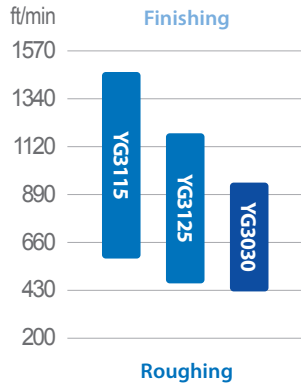
MILLING

DRILLING

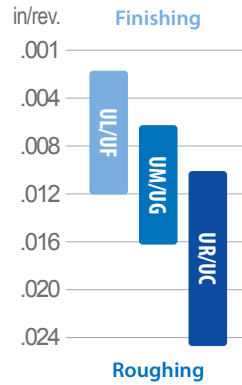
TECHNICAL INFORMATION

P	Low-alloyed Steel									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
6~9	SCM440	42CrMo4	1.7225	4140	2244	42 CD 4	42CrMo4	F.1252	708M40	38HM

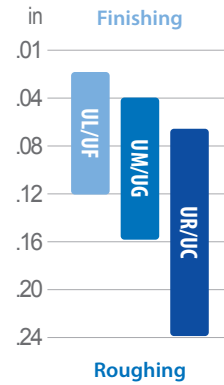
Cutting Speed (Vc)



Feed Rate (Fn)



Depth of Cut (Ap)

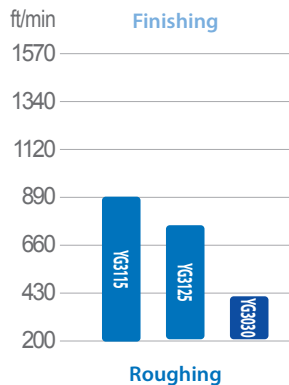


First Choice Grade and Value

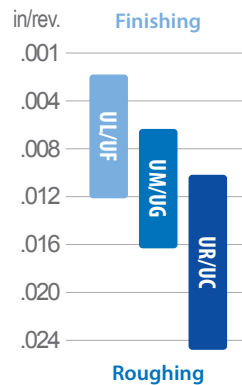
YG3020 - Vc 790 ft/min

P	High Alloyed Steel, and Tool Steel									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
10~11	SKD11	X155CrVMo121	1.2379	D2	2310	Z160CDV12	X165CrMoW12KU	F.5318	BD2	KH12MF

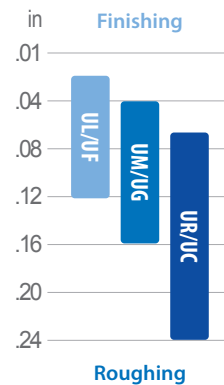
Cutting Speed (Vc)



Feed Rate (Fn)



Depth of Cut (Ap)



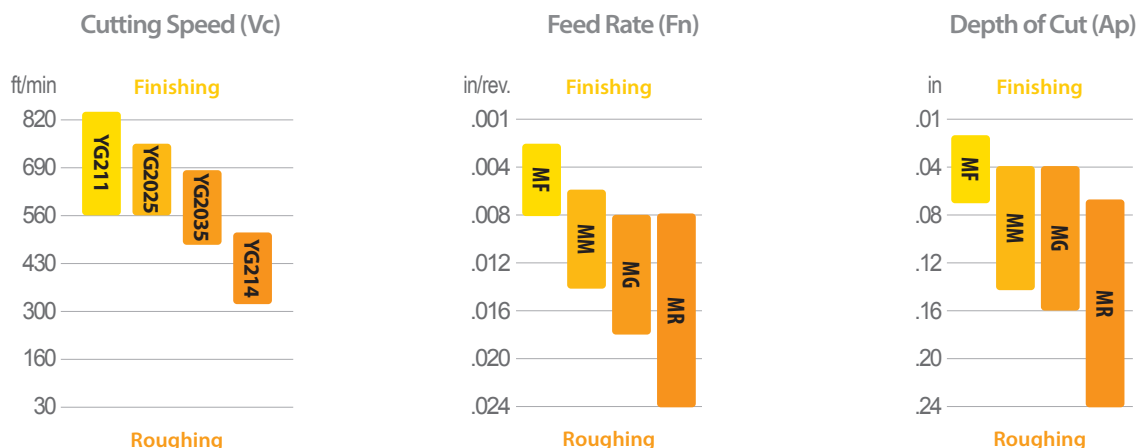
First Choice Grade and Value

YG3115 - Vc 490 ft/min

Application Guide

Stainless steel Guide

M	Ferritic / Martensitic Stainless									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
12~13	SUS430	X6Cr17	1.4016	430	2320	Z8C17	Z8C17	F3113	430S15	12C17



First Choice Grade and Value

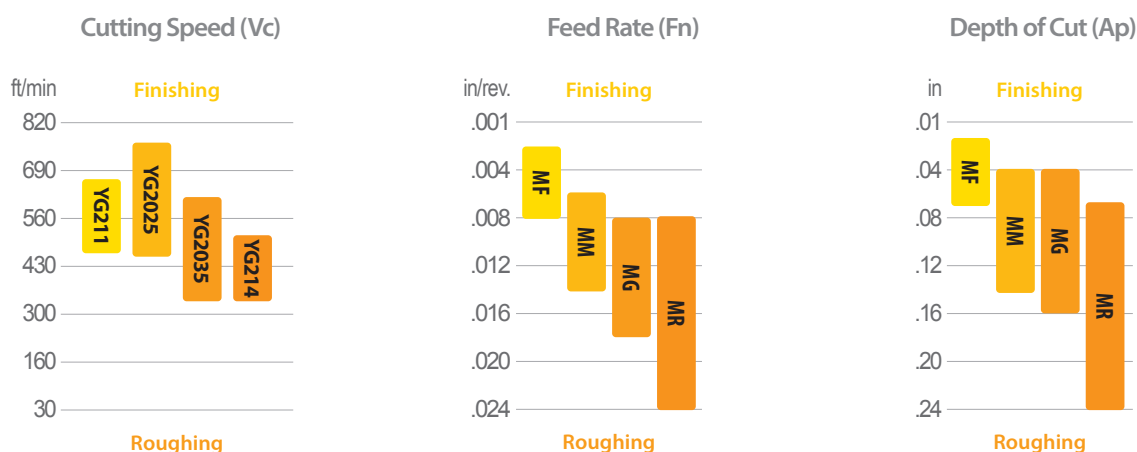
Ferritic Stainless steel

YG213 - Vc 520 ft/min
YG2025 - Vc 620 ft/min

Martensitic

YG213 - Vc 430 ft/min
YG2025 - Vc 520 ft/min

M	Austenitic Stainless steel									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
14	SUS304	X5CrNi18 9	1.4350	304	2332	Z6CN18 09	X5CrNi18 10	F3551	304S15	03KH18N11



First Choice Grade and Value

YG2025 - Vc 620 ft/min

Application Guide

Cast iron Guide

TURNING

PARTING & GROOVING

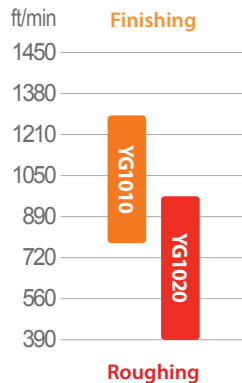
MILLING

DRILLING

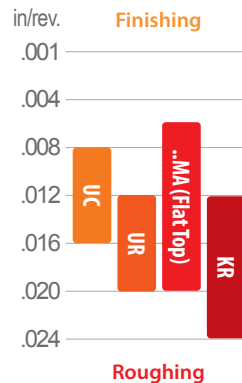
TECHNICAL INFORMATION

K	Grey cast iron									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
15~16	FC250	GG25	0.6025	A48 40 B	0125	Ft 25 D	G25	FG25	Grade 260	Sc 25

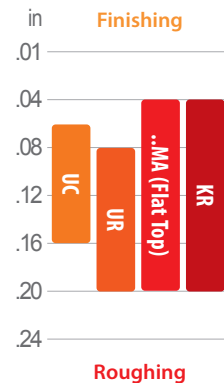
Cutting Speed (Vc)



Feed Rate (Fn)



Depth of Cut (Ap)

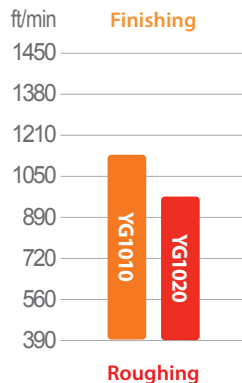


First Choice Grade and Value

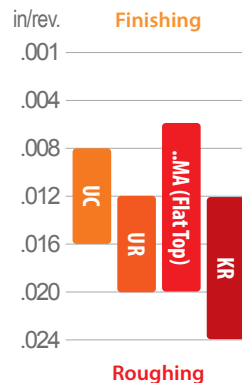
YG1010 - Vc 1,050 ft/min

K	Nodular cast iron									
VDI	JIS	DIN	Mat'l No.	AISI/ASTM	SS	AFNOR	UNI	UNE	BS	GOST
17~18	FCD500	GGG50	0.7050	80-55-06	0.7050	FGS 500-7	GS 500-7	FGE50-7	SNG 500-7	Vc 50-2

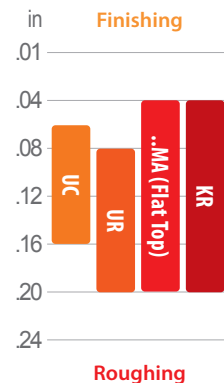
Cutting Speed (Vc)



Feed Rate (Fn)



Depth of Cut (Ap)



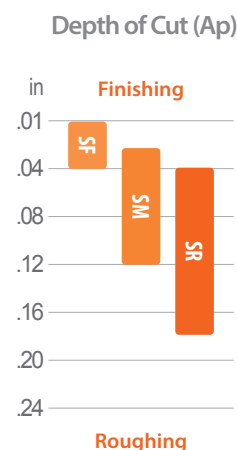
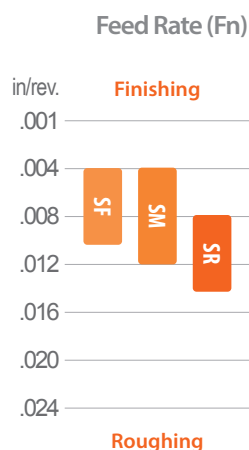
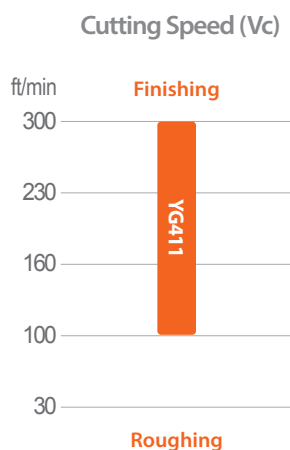
First Choice Grade and Value

YG1020 - Vc 750 ft/min

Application Guide

HRSA Guide

S	Superalloys & Titanium Alloys									
VDI	DIN	Mat'l No.	AISI/ASTM	AFNOR	BS	UNS	Brands	UNE	BS	GOST
31~37	NiCr19Fe19NbMo	2.4668	5383	NC19eNB	HR8	N07718	Inconel 718	F.3113	430S15	12C17

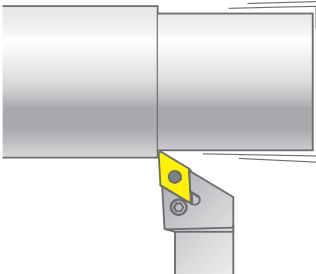
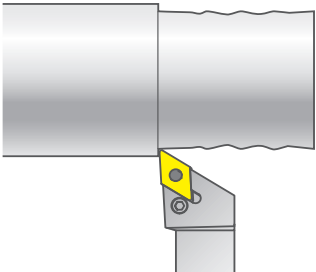


First Choice Grade and Value

YG411 - Vc 165 ft/min

Surface Roughness Guide

Trouble Shooting

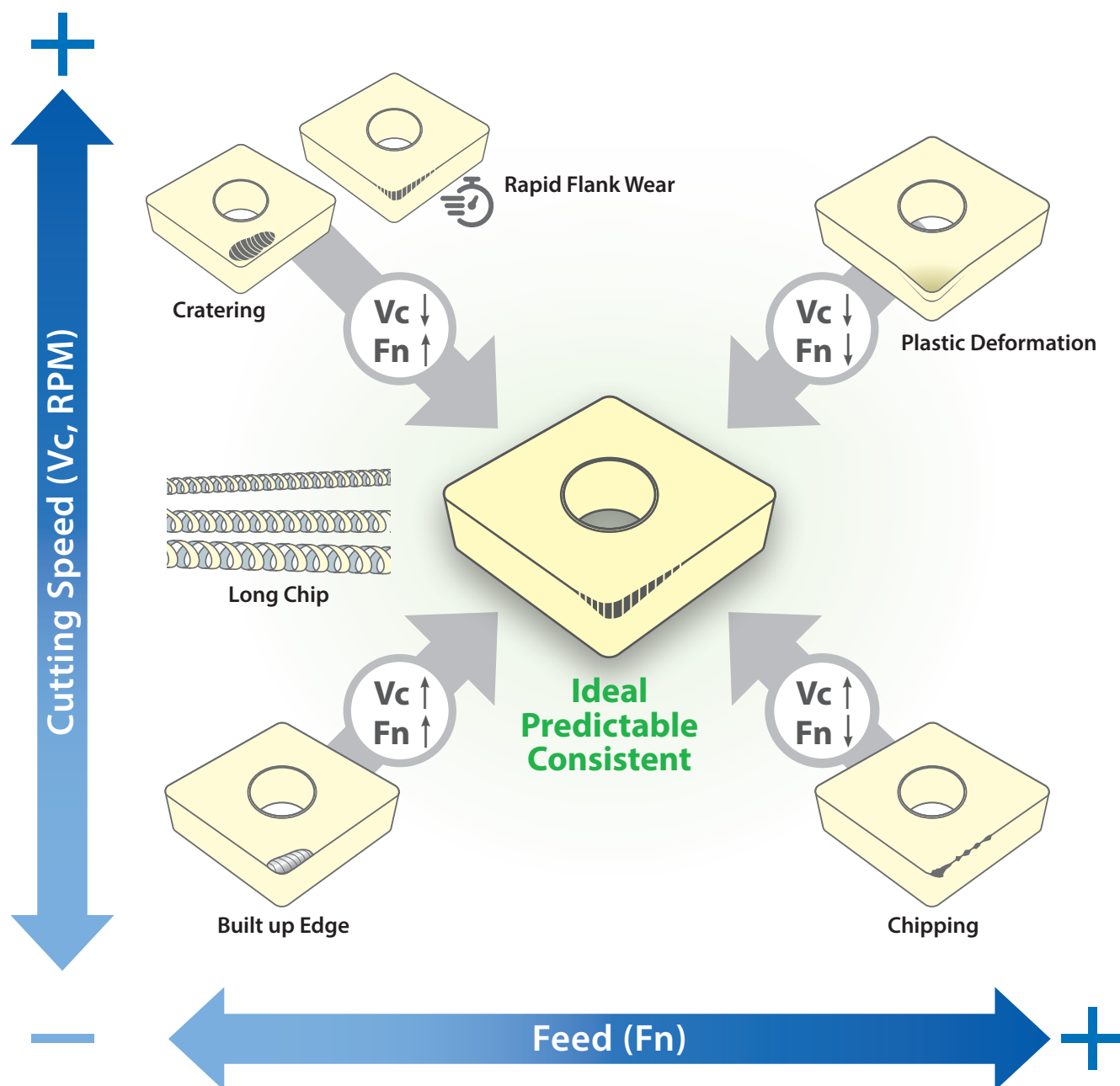
Pattern	Reasons	Solutions
Vibration		
	- High radial or tangential force - Unstable condition	- Lower depth of cut (a_p) - Use sharper chipbreaker - Check stability, and position of tool and workpiece - Reduce the overhang (bigger and shorter tool)
Bad Surface		
	- Work material is damaged by chips - Feed is too high for corner radius	- Different chipbreaker - Lower depth of cut (a_p) - Lower feed - Larger corner radius

Theoretical Surface Roughness

Ra / Rz μm (μinch)	Insert Corner Radius Code ISO					
	02 (0)	04 (1)	08 (2)	12 (3)	16 (4)	24 (6)
	Feed Rate mm/rev (inch/rev)					
16 / 64	.002	.003	.004	.005	.006	.007
64 / 256	.004	.006	.008	.010	.011	.014
128 / 512	.006	.008	.011	.014	.016	.019
250 / 1000	-	.011	.016	.019	.022	.027
320 / 1280	-	-	.018	.022	.025	.031

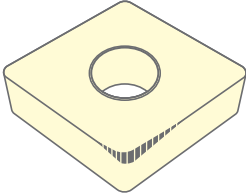
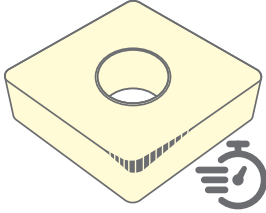
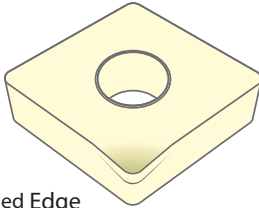
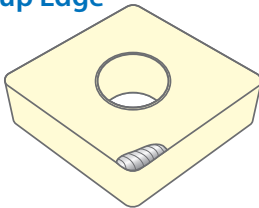
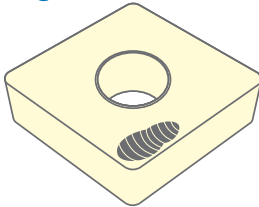
Trouble Shooting

Trouble Shooting Guide map



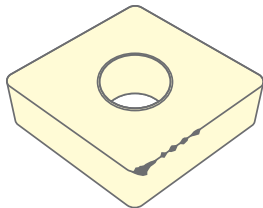
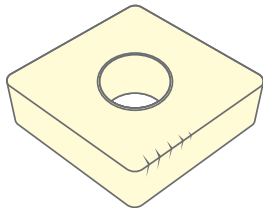
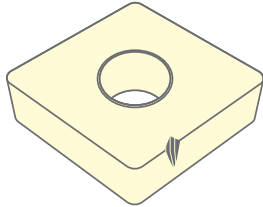
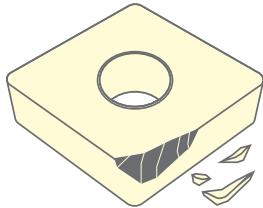
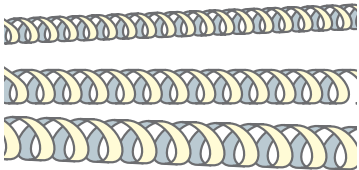
Application Guide

Trouble Shooting

Pattern	Reasons	Solutions
General Flank Wear  Flank face near by corner is abraded	- The most ideal wear - Consistent and predictable - General wear behavior when machining condition is normal	
Rapid Flank Wear  Looks same as general flank wear, but happens quickly	Grade - Not enough wear resistance - Too tough grade Heat - Cutting speed is too high - Not enough coolant	- More wear resistant grade - Reduce the cutting speed (Vc, SFM, RPM or SFPM) - Optimize coolant - Increase Feed (Fn) if feed is low
Plastic Deformation  Deformed Edge	- Excess thermal load - Excess mechanical load	- Reduce cutting temperature - More wear resistant grade - Reduce the cutting speed (Vc, SFM, RPM or SFPM) - Lower feed (Fn) - Lower depth of cut (ap) - Optimize coolant
Built up Edge  Workpiece material is welded on the cutting edge	- Sticky materials (low carbon steel, Stainless steel, non-ferrous metal, heat resistant super alloys) - Too low cutting speed	- Increase cutting speed - Lower feed rate - Sharper chipbreaker & geometry - Use high pressure coolant - Use PVD grade - Use Positive Insert
Cratering 	Heat - Cutting speed is too high - Too tough grade	- Reduce cutting temperature - Lower cutting speed (Vc, SFM, RPM or SFPM) - Adjust Feed (Fn) - Harder grade

Application Guide

Trouble Shooting

Pattern	Reasons	Solutions
Chipping 	- Unstable machining condition (Vibration) - Grade is too hard / brittle - Cutting edge is too sharp	- Focus on stabilizing cutting condition - Reduce overhang (shorter and bigger tool) - Tougher grade - Tougher chipbreaker
Thermal Crack 	- Thermal stress due to rapid change of temperature	- Tougher grade - Lower cutting speed (Vc, SFM, RPM or SFPM) - Lower feed (Fn) - Sharper chipbreaker - Change coolant / dry cut
Notching 	- Improved edge strength work piece has hardened skin	- More wear resistant grade - Reduce the cutting speed (Vc, SFM, RPM or SFPM) - Adjust Feed (Fn) - Lower depth of cut (ap) - Optimize coolant - Go for tougher chipbreaker
Breakage (Mechanical Fracture) 	- Mechanical load is too heavy (feed or depth is too high) - Heavy interrupted cut - Grade is too hard for work material - Unstable machining (vibration) - Cutting speed is too low - Impurities in work material	- Lower feed (Fn) or depth of cut (ap) - Tougher grade - Reduce overhang and check stability of tool and work material - Higher cutting speed (Vc, SFM, RPM or SFPM)
Long Chip 	- Feed is too low for chip breaking - Depth of cut is too shallow for corner radius - Chip area (Fn x Ap) too low	- Higher feed - Sharper chipbreaker - Higher depth of cut - Select a smaller corner radius

Technical Information

Comparison Chart - Turning Chipbreakers

	ISO	Application	YG-1	ISCAR	KENAMETAL	Korloy	Kyocera	Mitsubishi	SANDVIK	Seco	Sumitomo	Taegutec	Tungaloy	Walter
TURNING	P	Finish	UF	F3P, NF	FN, K	VF, VB	PP	SH	PF, LC	MF2	LU, FE, SU	FG, FLP, FC, FX	TSE, PS, TS ZF, 11, 17, NS	NF4, NF3
		Semi Finish	PSF (Cermet)	TF	-	VQ(Cermet)	PQ, HQ, CJ	C	XF	-	-	FM	AM, NM, TQ, 27	MP3
			UL		LF, CT	VC, CP	CQ, VC, VF	SA, SY	-	-	SE	MLP, FT	ZM	NS6
		Medium	UM	-	-	LP	-	-	-	MF5	SX	MC	-	MP3
			GM	-	-	MP	PMG, PG	-	PM	-	GE, GU	PC, MGP	PM, TM	-
			UG	M3P, GN	MP, MN	VM, HM	HK, GS, HS, PS	MP, MA, MH	XM, QM, PMC	M3	UG, UX	MT	DM	NM4, MP5, MU5, NM6
		Medium Roughing	UC	MG-	MG-	B2S	MG-	MG-	-	M5	-	MG-	MG-	MG-
		Roughing	UR	R3P, NR	RP, RN	HR, GR, VR	PT, GT, HT, PH	RP, GH	PR, XMR	MRS, MR6, MR7	MU, ME, MX, MP	RGP, RT	6S, TH, TRS	NR4, RP5, RP7
		Heavy Roughing	UH	R3P, NM	RM, RP, MR	GH	PX	HL, HX, HR, HZ, HM	PR, QR, MR	R4, R5	MP, HG	RX, RH	TRS	NRF, NR6, HU3, HU5
			UT	H3P, H4P, H5P	RH	VH, VT	-	HV	HR	R6 R7, R8, PR6, PR9, R56, R57, R68	HP, HU, HW, HF	HT, HD, HY, HZ	TU, TUS	NRR, HU7
		Wiper Finish	PWF	WF	FW	VW	WF, WP	SW	WF, WL	W-MF2	LUW, SEW	WS, WA	APW, FW	FW5
		Wiper Medium	PWM	WG	MW, RW	LW	WQ, WE	MW	WM, WXM	W-M3, W-M6, W-MF5	GUW	WT	ASW, SW	MW5
PARTING & GROOVING	M	Finish	MF	SF, F3M, NF	FE, FP	VP2	MQ, SK	LM	MF, XF	FF1, MF2	SU, EF	EA, SF	SF	NF4, FM5
		Medium	GM, MM, MG	TF, M3M, VL	MP, UP, MR	MM, HS	MS, MU, (HU)	MM, GM, MA	MM, XM, MMC	MF3, MF4, M3	EX, EG, GU	MK, EM, MM, MP	SS, SM	MMS, MU5
		Rough	MR	GN, R3M, NR	RP	RM, GS	SG	RM	MR, XMR, MRR	MF5, M5	HM, EM, MU	ET	SH, S	NRS
MILLING	K	Medium	UC	M3P, GN, MG-	-	MK, B2S	KG, MG-, C	MK, GK, MG-	KM	M5	GZ, UX	MT, MG-	CM, MG-	NM5, RK5
		Rough	UR	NR	UN, R P	RK, GR	KH, ZS, GC, PH	RK	KR	MR7	-	RT, KT	CH	MV7, RK7
			KR, MA-	MA-	MA-	MA-	MA-	MA-	MA-, KRR	MA-	MA-	MA-	MA-	MA-RK5, MA-RK7
DRILLING	S	Finish	GG-SF	SF, F3M, F3S	FS, GG-FS	VP1	SQ, MQ, SK	GG-FJ, LS	SF, GG-SGF	M1	EF	EA, SF	HRF	NF4
		Medium	SM	TF, M3M, VL	UP	VP3	MS, MU	MS	QM, SM, 23	MF4, MF5	EG, EX	MK, MGS, MP	HMM, HRM	NMS, NMT
		Rough	SR	MR	RP	VP4	SG, (R/L-SX)	RS, GJ	SR, SMR	MR4	MU	ET	-	NRS, NRT

	ISO	Application	YG-1	ISCAR	KENAMETAL	Korloy	Kyocera	Mitsubishi	SANDVIK	Seco	Sumitomo	Taegutec	Tungaloy	Walter
TECHNICAL INFORMATION	P	Finish	GT-SF Swiss	GT-FM, GT-SM	-	GT-FS, GT-VP1	GT-CF, GT-GF, GT-SK GT-GQ, GT-SK	GT-SMG	GT-UM	FF1	-	GT-SL, GT-SA, GT-SM	GT-01	FP4
			PF	PF	11	FP	PP, XP, GK, GP, DP	FP, FV	PF, UF	FF1	FC, FB, LU, FP, FK	FA, FX	PSF	FP4
			UF	F3P	UF	VF, VL	XQ, GK	LP, SV	UM, XF	F1	SI, LB	FG	TSE, PSS	FP4, PSS
		Medium	PM	14, SM	LF, FP	HMP, MP	HQ, GQ	MT-, MV	PM, XM, PMC	MF2, M3	SC, SU, GU	FM, GT-SH	TM, PS	MP4
			UG	M3P, 19	MF, MP	C2S	MT-	MP	PR, UR, XR	F2, M5	MU	MT, PC	PM, TSE, TM	FP6, PM5, E47
		Finish	GT-SF Swiss	GT-FM, GT-SM	GT-LF	GT-FS, GT-MS	GT-CF, GT-GF, GT-GQ	GT-SMG	GT-UM	GT-F1	-	GT-SA	GT-01	-
			MF	SM, TF, F3M, 14	11, UF, FP	VE, VL	MQ, SKS, SK	FM, FV, LM, SV	MF, UM	F1	FC, SI LU, SU	FG	PSF, PSS, PS	FM4
	M	Medium	MM	M3M, SM	MP, MF	HMP, MP	GQ	MM, MV	MM, MMC	F2, MF2	MU	PC	PM	MM4, RM4
		Medium	UG	SM, 14	MT, C, MP, MF	C2S	MT-	MK, MT-	KM, KR	M3, M5	MU	MT	CM, MT-	F2, FK6, MK4, RK6
	N	Finish	GT-AL	AF, AS	HP	AK, AR	AP, AH	AZ	GX-AL	AL	AW, AG, AY	FL	AL	MN2
	S	Super Finish	GT-SF	GT-FM, GT-SM	GT-LF	GT-FS, GT-MS	GT-CF, GT-GF, GT-GQ	GT-FS, GT-LS	GT-UM	GT-F1	-	GT-FGS, GT-SA	GT-01	GT-PF2
		Finish	MF	SM, PF, F3M, 14	FP	VP1, VL	MQ, SKS, SK	FS	MF, UM	F1, F2	FC, SI	FG	PSF	PF4, PSS
		Medium	MM	M3M, SM	LF	MP	GQ	LS, MS	MM	MF2	SU, GU	PC	PSS, PM	PM5

Technical Information

Comparison Chart - Turning Grades

	ISO	YG-1	DIJET	HITACHI	ISCAR	KENNAMETAL	KORLOY	KYOCERA	MITSUBISHI	NTK	PRAMET	SANDVIK	SECO	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
CVD Coated	P	YG3010	-	HG8010	IC8150 IC9150 IC9015	KCP05B KCP05 KCPK05 KCP10B KCP10	NC3215	CA510 CA515 CA5505 CA5515	UE6105 UE6110 MY5015 MC6015	CP7	T9310 T9315	GC4415 GC4305 GC4315	TP0501 TP1500 TP1501	AC8015P AC810P AC700G	TT8105B TT8115B TT8105 TT8115	T9205 T9105 T9215 T9115	WPP10G WPP01 WPP05S WPP10S
		YG3115	-		IC8150 IC9150	KCP10 KCP10B	NC3215	CA515 CA5515	MC9015 MC6115 UE6110	-	T9315	GC4315 GC4415	TP1501 TP1500	AC8015P AC8020P AC810P	TT8115 TT8115B	T9115 T9215	WPP10 WPP10S
		YG3020	JC110V JC215V	GM8020 HG8025 GM25	IC8250 IC9250	KCP25 KCP25B	NC3120 NC3225	CA025P CA525 CA5525	MC6025 UE6020	CP5	T9325	GC4425 GC4325	TP2500 TP2501	AC8025P AC820P	TT8125B TT8125 LC225P	T9225 T9125	WPP20G WPP20S WMP20S
		YG3125	JC215V	GM8020 HG8025 GM25	IC8250 IC8350	KCP25C	NC3120 NC3225	CA125P CA025P CA525 CA5525	MC6125 MC6025 UE6020	CP1	T9325	GC4325 GC4425	TP2501 TP25 TP200	AC8025P AC820P	TT8125B TT8125	T9225 T9125	WPP20S WPP20G
		YG3030	JC325V	GM8035	IC8350 IC9350	KCP30B KCP30 KCP40B KCP40	NC3030 NC5330	CA530 CA5535	MC6035 UE6035 UH6400	-	T9335	GC4235 GC2135 GC4035	TP3500 TP3501	AC8035P AC830P	-	T9235 T9135	WPP30G WPP30S WKP30S
	M	YG3030	-	GM25 GX30 HG8025 GH8035	IC6015 IC6025 IC9300 IC520M IC4050 IC635	KCM15B KCM15 KCM25B KCM25 KCM35B KCM35	NC9115 NC9125 NC9135 NC5330	CA6515 CA6525	MC7015 MC7025 US7020 US735 UH6400	-	T7325 T7330 T7335	GC2015 GC2025 GC2035 GC235	TM1501 TM2501 TM3501	AC6020M AC610M AC6030M AC630M AC6040M AC830P	TT9215 TT9225 TT9235	T6120 T6020 T6130 T6030	WMP20S
		YG2025	-	-	IC9025 IC9325	KCM25	-	CA6525	MC7025 US7020	-	-	GC2220	TM2501 TM2000	AC6020M AC6030M	TT9225 TT5100	T6120 T9125	-
		YG2035	JC525X	GM25 GM8035	IC6025	KCM35B KCM35	NC9135 NC3235	-	US735	-	T7335	GC2025	TM3501	AC6030M	TT9225	-	WMP20S
	K	YG1010 YG001	JC105V JC110V JC215V	HG3305 HG3315 HG3505 HG3515 GM8020 HG8010 HG8025	IC5005 IC5010 IC4028 IC8150	KCK05 KCK05B KCK15 KCK15B KCK20 KCK20B KCPK05	NC6310 NC6315 NC5330	CA310 CA315 CA320 CA4505 CA4515	MC5005, UC5105, MC5015 UC5115 MY5015	CP1 CP2 CP5	T5305 T5315	GC3205 GC3210 GC3215	TK0501 TK1501	AC4010K AC405K AC4015K AC415K AC420K AC8025P	TT3005 TT7005 TT7310 TT7015	T5105 T515 T5115 T1215 T1115 T5125 T5020	WKK10S WKK20S WAK30 WKP30S WKK10 WKK20
		YG1020	JC110V JC215V	GM8020 HG8025	IC5010	KCK20B KCK20	NC6315 NC5320	CA320 CA4515	MC5125 MC5020	CP1	T5315	GC3225	TK1501	AC4015K AC4125K AC420K	TT7025	T515 T5125 T1215 T1115	WKK20S WKP25S WAK20
PVD Coated	P	YG801	JC5003 JC5015	IP2000 IP3000	IC807 IC830 IC507 IC908	KU10T KCU10 KT315 KU25T KC5010	PC5300 PC5400 PC3035	PR930 PR1225 PR1535 PR1725	VP10RT MS6015 VP15TF VP20MF VP20RT UP20M	-	T6310 T8430 T8345	GC1025	TP1030 TP1020	AC1030U	TT4410 TT9020 TT4430 TT9080 TT8080	AH330 AH725 AH730 SH725 SH730	WTA43 WTA41
		YG211	JC5003 JC5015	IP505 IP1005 HG8025	IC3028 IC907	KCU10 KCU5010	PC8105 PC8110	-	VP10RT	ZM3 QM3 VM1 TAS	T6310 T8315	GC1105 GC1115 GC2015	TS2000 TS2050	SC520U AC1030U	TT5030	AH120 AH140 AH630 AH645	WSM21 WSM01 WSM10S
	M	YG401	-	-	IC807	-	PC8115	-	MP9005	-	-	-	-	AC5005S	TT5080	-	-
		YG213	-	GM25 GX30	IC908	KCU25 KCU5025	PC5300 PC8120 PC9030	PR930 PR1225 PR1535 PR1725	VP15TF VP20MF VP20RT UP20M MP7025	-	T8330 M6330	GC2025	CP200 CP500	AC530U	TT9080	SH725 AH7025	WSM20S
		YG214	-	-	IC330 IC830	-	PC5400	-	-	-	T8430	GC2035	CP600	-	TT8080 TT8020	SH730 GH330 GH730 AH4035	WSM30S
	S	YG411	-	-	IC807	KCS10B	UPC810	PR1155	MP9005	-	-	GC1105	-	AC5005S	TT3010	AH8005	-
		YG401	-	-	IC804 IC806 IC830 IC807 IC908	KCS10 KCU10 KCU25 KCS010 KCS025	PC8105 PC8110 PC8115 PC5300 PC5400	PRO05S PRO155 PR1535 PR1125 PR1305 PR1310	MP9005 VP05RT MP9015 VP10RT MP9025 VP20RT	-	M6330 T6310	GC1025 GC1105 GC1125	TS2000 TS2050 TS2500 TH1000 CP200	AC5015S SC5025S AC510U AC520U	TT3010 TT3020 TT5080 TT5030	AH110 AH120	WSM01 WSM10S WSM20S WSM21 WSM30S
Non Coated	N	YG10	-	-	IC20	K313	H01 H05	KW10	HT10	-	-	-	KX	H1	-	-	WK1
Cermet	P10	YT100G	-	-	IC20N IC520N	KT315	CC1500	PV710 PV720 PV7040 CCX	AP25N NX1010 NX2525	-	-	-	-	T1000A T1500Z	PV3010	NS520	-
		YT100	AT200	DC610	IC30N	KT5020 KT125 KT150	CN1500 CN2500 CC125	TN60 TN610 TN620 TC40N	UP35N	T15 Z15 CZ	TT010 TT310	CT5005 CT5015 CT525 GC1525	TP1030 CMP CM	T1500A T1000A T2500Z	CT3000	GT730 GT530 NS520 NS720	-

Technical Information

Comparison Chart - Milling Grades

ISO	YG-1	DUJET	HITACHI	ISCAR	KENNAMETAL	KORLOY	KYOCERA	MITSUBISHI	MOLDINO	SANDVIK	SECO	SUMITOMO	TAEGUTEK	TUNGALOY	WALTER
P	YG712	JCS003	CY9020 JP4020 TB6045	-	KC715M KC522M KC635M	PC3700 PC3600 PC3+M3: M24500	PR730	MP8010 MP6120 MP6130 MP9120	-	GC4220 GC1130	T250M MP3000	ACP2000 ACZ310	TT7070 TT7080 TT7030	T3130 GH330	WKP25S WKP25 WAM10
	YG713	JCS015	JP4120 CY250	IC950 IC1008	KCS25M	PC210F	PR830 PR630	-	JP4120	GC4230 GC4330	T350M F25M	ACP200 ACZ330	-	AH710 AH120 T3225	WAM20 WAM30
	YG602	JCS030 JCS040	PTH30E JS4060 JP4160	IC900 IC808 IC908 IC330	KC725M KC735M	NC5330 PC5300 NCM325 NC5350	PR1025 PR1225	VP15TF VP20RT MP9130	JP4020	GC1030 GC4240	F30M	ACP3000	TT9030 TT9080	T3130 AH3035 AH110	WKP35G, WKP35S
	YG612	JP5003	-	IC330 IC928 IC830	KCS22M KC725M KCPK30 KCPM40 KCSM30	PC3700 PC5300 PC5400	PR1525 PR1225 PR1835 PR830	MP6130 VP15TF VP30RT UP20M	JP4160 PTH40H PTH30E JP4120	GC1030 GC1130 GC4340	MP3000 F40M F32M	ACP300 ACP200 ACP3000 ACU2500	TT9080 TT8080 TT8020	AH120 AH140 AH3035 AH3225	WKP25 WKP35 WKP45
	YG613	-	JM4160 PTH40H	IC830 IC928	KCPM20 KC935M KCPM40	NC5340 PC5400 NCM335	PR1525 PR1230 PR660	FH7020 VP30RT F7030	-	GC4340 GC1040	F40M T60M	ACP300 ACZ350	TT8020 TT8025 TT8080	AH725 AH730 GH330 AH130 AH140	WKP45S, WKP45X WSP45S
M	YG602	JCS003 JCS015 JCS030	JX1015 TB6020 CY250 GX2160 JX1045	IC330	KC635M KC522M KC725M	PC210F PC5300 NCM325 NC5350	PR1025 PR1225 PR1525 PR630	VP15TF MP7130 MP7030	GX2160	GC2030 GC1030	F25M	XCU2500 ACM100 ACP200 ACM300	TT9030 TT9080	AH725 AH120 GH110 AH730	WAM30 WXM35, WSM35,
	YG612	JCS015	-	IC330 IC328 IC928	KCS22M KC725M KCPM40 KCSM30 KCSM40	PC5300 PC9030 PC5400 PC6510	PR1225	MP7140 MP9120	JX1060	GC1125 GC2140	MP2050	ACM300	TT9030 TT8020	AH3135 AH6235	WSM35S WSP45
	YG613	JCS040	TB6045 JX1060 TB6060	IC928 IC328	KC722	PC9530 NCM335 PC5400	PR660 PR1535 PR660	MP9030 MP7140 VP30RT	-	GC2040	F30M F40M	ACP300 ACZ350 ACP400	TT8080 TT8020	AH140 GH340	WSP45
	YG614	-	-	IC330 IC882	-	PC9540	PR1535	-	JM4160	GC1040	-	-	-	AH3225	-
K	YG5020	JCS003	-	DT7150 IC5100 IC418	KC915M	NC5330 PC8110	PR1510 PR510	VP15TF	-	GC3220 GC1020	MK1500 MP1500	XCK2000	TT6290 TT7515 TT6800	T1015	WAK15
	YG501	JCS015	-	IC910 IC810	KCK15 KC520M	PC6510 NC5340	PR1210 PR905	MP8010 MC5020	-	GC3040	MK2050 MK2000	-	TT6080 TT6030	T1115 T1215 AH120	WKK25S WKP25
	YG622	-	-	-	-	NC5350 PC5300	CA420M	VP20RT	-	-	MK3000	ACK300	-	GH110	WKP35
N	YG50		WH10	IC20 IC08	K115M K110M K313	H01 H05	KW10 GW25	HT10 MT2010		H10 H13A H10F	H15	H1	K10 UF10	TH10	WK10
S	YG602	-	ACS05E	IC328 IC408	KCS10M KCU30M	PC5300 PC5400 PC9540	CA6535 PR620	VP15TF VP30RT	-	GC1025 GC1040	F40M MM4500	ACS20U	TT9030 TT8020 TT9540	-	WSM35S
	YG613	-	-	IC903	KC725M	UPC845	PR660 PR1535	MP9130	-	S30T S40T	MS2500	-	TT8080 TT3540	-	WSM45S WSM45X
	YG904	-	-	-	X700	UPC845 UNC840	-	-	-	-	-	-	TT3540 TT9540	-	WSP45G WMP45G W3536
H	YG012			IC1008				VP15TF	JP4120	GC1130 GC1030	MP1500 MP3000				

Technical Information

Material Groups

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc	Examples
P	1	Non-alloyed steel	About 0.15% C	Annealed	125		S15C, C15, 1015
	2		About 0.45% C	Annealed	190	13	S45C, C45, 1045
	3		About 0.45% C	Quenched & Tempered	250	25	
	4		About 0.75% C	Annealed	270	28	SK5, Ck75, 1080
	5		About 0.75% C	Quenched & Tempered	300	32	
	6	Low-alloyed Steel		Annealed	180	10	SCM440, 42CrMo4, 410
	7			Quenched & Tempered	275	29	
	8			Quenched & Tempered	300	32	
	9			Quenched & Tempered	350	38	
	10	High-alloyed steel, and tool steel		Annealed	200	15	SKD, D2
	11			Quenched & Tempered	325	35	SKH, SUH, M42
M	12	Stainless Steel	Ferritic / Martensitic	Annealed	200	15	SUS 420, X40Cr13, 420
	13		Martensitic	Quenched & Tempered	240	23	
	14		Austenitic		180	10	SUS 316, 316, X5CrNiMo 17 12 2
K	15	Grey cast iron	Pearlitic / Ferritic		180	10	FC, GG, EN-GJL-250
	16		Pearlitic (Martensitic)		260	26	
	17	Nodular cast iron	Ferritic		160	3	FCD, GGG, EN-GJS-500-7
	18		Pearlitic		250	25	
	19	Malleable cast iron	Ferritic		130		FCMW, FCMP, GTS, GJMB350-10
	20		Pearlitic		230	21	
N	21	Aluminum-wrought alloy	Not Curable		60		SAE 1000, AlMg 1, 3.3315
	22		Curable	Hardened	100		SAE 7050, AlCuMg 1, 3.1325
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		ADC12, G-AlSi12, 3.2581
	24		≤ 12% Si, Curable	Hardened	90		C4BS, G-AlSi10Mg, 3.2381
	25		> 12% Si, Not Curable		130		
	26	Copper and copper alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		CuZn36Pb 3, 2.0375
	27		CuZn, CuSnZn (Brass)		90		CuZn 15, 2.0240
	28		CuSn, lead-free copper and electrolytic copper		100		G-CuZn40Fe, 2.0590
	29	Non-metallic materials	Duroplastic, Fiber Reinforced Plastic				CFRP
	30		Rubber, Wood, etc.				
S	31	Heat resistant super alloys	Fe Based	Annealed	200	15	X12 NiCrSi 36-16, 1.4864
	32			Aged	280	30	
	33			Annealed	250	25	Inconel 718, NiCr20TiAl, 2.4631
	34		Ni or Co Based	Aged	350	38	NiCu30Al, 2.4375
	35			Cast	320	34	G-X120Mn12, 1.3401
	36	Titanium alloys	Pure Titanium		400 Rm		
	37		Alpha + Beta Alloys	Hardened	1050Rm		TiAl6V4, 3.7165
H	38	Hardened steel		Hardened	550	55	SK3
	39			Hardened	630	60	
	40	Chilled cast iron		Cast	400	42	
	41	Hardened cast iron		Hardened	550	55	

Technical Information

Material Groups

P	VDI 3323 1		Material Description Non-alloyed steel			Composition / Structure / Heat Treatment About 0.15% C, Annealed					HB 125	HRC	
	Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
TURNING	1.0037	STKM 12 C	St 37-2	-	4360 40 B	S235JR	E24-2	1311	Fe 360 B			16D	
	1.0038	STKM 12 A	St 37-3	A570.36	4360 40 C	S275J2G3	E28-3	1312	Fe 360 D FF			ST14KP	
	1.0045	SM 490 YA	S 355 JR	-	-	S 1207	E36-2	-	Fe 510 BFN				
	1.0050	SS 50	St 50-2	A570 Gr. 50	4360 50 B	E 295	A50-2	2172	Fe 490			ST5PS	
	1.0060	SM 58	St 60-2	A572 Gr. 65	4360 55 E	-	A60-2	1650	Fe 60-2			ST6PS	
	1.0114		S 235 J0	-	En 40C	S 235 J0	E24-3		Fe 360 CFN				
	1.0143		S 275 J0	-	-	S 275 J0	E28-3	1414	Fe 430 C				
	1.0144	SM41C, SM400	St 44-3 N	A573 Gr. 81	4360 43C	S 275 J2 G3	E28-3	1412	Fe 430 D FF			ST14KP	
	1.0149		Ro St 44-2	-	43C	S 275 J0 H	-	1412	Fe430C				
	1.0301	S10C	C10	1010	045M10	C10	34C10, XC10		C10	F1511	G10100	10	
PARTING & GROOVING	1.0330	SPCC	St 12	-	DC 01	Fe P01	DC 01/Fe P01	1142	Fe P01			15KP	
	1.0335	SPHE	DD 13 (StW 24)	A622(1008)	HS 3	DD 13	3C		FeP13			08KP	
	1.0338	SPCE	St 4	A620(1008)	14491CR	Fe P04	Fe 14	1147	DC04/FeP04			08JU	
	1.0345	SPV 50	P235 GH	A516 Gr. 65	P 235 GH	P 235 GH	A 37 CP	1330	Fe E 235		K02503		
	1.0401	S15C	C15	1015	080M15	-	C18RR, XC18	1350	C15, C16	F1110	G10170	15	
	1.0402	S20C	C22	1020	050 A 20	1 C 22	C20	1450	C 20	F1120	G10200	20	
	1.0425	SPV315	P265GH/HII				A42CP	1430	Fe4101KW		K02801	16K	
	1.0443	SC 450	G5-45	A2765-35	A1		E23-45M	1305					
	1.0539		S355NH				TSE355-4	2134	Fe510B				
	1.0545		S355N		4360-50E		E355R	2334	FeE355KG				
MILLING	1.0546		S355NL		4360-50EE		E355FP	2135	FeE355KT				
	1.0547		S355JOH		4360-50C		TSE355-3	2172	Fe510C				
	1.0549		S355NLH					2135	Fe510D				
	1.0553	SM 520 M	St52-3U	A14880-40	4360-50C		320-560M	1606	Fe510C				
	1.0562	SM490A	St E 355	A633 Gr. C	P 355 N		FeE355KGN	2132	Fe E 355 KG		K12000	15GF	
	1.0565		W St E 355		P 355 NH		P 355 NH	2106	Fe E 355 KW		K01600		
	1.0566	SLA 37	T St E 355		P 355 NL1		P 355 NL1	2107	Fe E 355 KT				
	1.0570	SM 50 YA	St 52-3	1	4360-50 C	S355JR	E36-3	2172	Fe 510 B			17G15	
	1.0715	SUM22	95Mn28	1213	230M07		S250	1912	CF5Mn28	F2111	G12130		
	1.0718	SUM22L	95Mn28	12L13			S250Pb	1914	CF95Mn28	F2112	G12134		
DRILLING	1.0721		10S20	1108	10S20		10S20		CF10S20	F2121	G11080		
	1.0722		10SPb20	11L08			10PbF2		CF10SPb20		G11084		
	1.0736	SUM25	95Mn36	1215			S300		CF9Mn36	F2113	G12150		
	1.0737		95Mn36	12L14			S300Pb	1926	CF95Mn36	F2114	G12144		
	1.0972		S315MC		1501-40F30		E315D						
	1.0976		S355MC		1501-43F35		E355D	2642	FeE355TM				
	1.0982		S460MC		1501-50F45								
	1.0984		S500MC				E490D	2662	FeE490TM				
	1.0986		S500MC		1501-60F55		E560D		FeE560TM				
	1.1121	S10C	Ck10	1010	040A10		XC10	1265	C10	F1510	G10100	10	
TECHNICAL INFORMATION	1.1141	S15	Ck15	1015	040A15	32C	XC15	1370	C15	F1110	G10150	15	
	1.1151	S20C	C22E	1020	055M15		2C22	1450	C20	F1120	G10230	20	
	1.8900	S25C	StE380	A572-60	436055E			2145	FeE390KG				
			St44-2	A36	436043A		NFA35-501E28	1411					
			StE320-3Z		1501160			1421					

Technical Information

Material Groups

P		VDI 3323 2	Material Description Non-alloyed steel			Composition / Structure / Heat Treatment About 0.45% C, Annealed					HB 190	HRC 13
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0501	S35C	C35	1035	080A32		1C35	1572	C35	F.113	G10350	35	
1.0503	S45C	C45	1045	060A47		XC42H1TS	1672	C45	F.114	G10450	45	
1.0511	S40C	C40	1040	080M40		1C40		C40	F.114A	G10400	40	
1.0540	S 50 C	C50					1674	C50		G10500		
1.0551		GS-52	A2770-36	A2		280-480M	1505					
1.0553	SM 520 M	St52-3U	A14880-40	4360-50C		320-560M	1606	Fe510C				
1.0577		S 355 J 2 G 4	A738	Fe 510 D 2 FF		A52FP	2107					
1.0726		35S20	1140	212M36	8M	35MF6	1957			G11400	40	
1.0727		45S20	1146			45MF4	1973			G11460		
1.1157		40Mn4	1039	150M36	15	40M5				G10390	40G	
1.1158	S25C	C25E	1025	070M25		XC25		C25	F.1120	G10250	25	
1.1166	SMn433H	34Mn5	1536						TOB	G15360		
1.1167	SMn438(H)	36Mn5	1335	150M36		40M5	2120	36Mn6	F.1203	G13350	35G2	
1.1170	SCMn1	28Mn6	1330	150M28	14A	20M5		C28Mn	28Mn6	G13300	30G	
1.1178	S 30 C	C30E		080M30		XC32		C30	2C30	G10300		
1.1180		C35R	1035	080A35		3C35	1572		F.1135	G10350		
1.1181	S35C	C35E	1035	080A35		XC38	1572	C36	F.1130	G10340	35	
1.1191	S45C	CK45	1045	080A46		XC45	1672	C45	F.1140		45	
1.1206	S 50 C	C50E	1050	080M50		2C50	1674	C50		G10500	50	
1.1213	S50C	Cf53	1050	070M55		XC48HTS	1674	C53		G10500	50	

P		VDI 3323 3	Material Description Non-alloyed steel			Composition / Structure / Heat Treatment About 0.45% C, Annealed					HB 250	HRC 25
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0481	SG365	17 Mn 4/P 295 GH	A516 Gr. 70	224-460B	P 295 GH	A 48 CP	2102	Fe E 295	A47RCI	K03501	14G2	
1.0501	S35C	C35	1035	080A32		1C35	1572	C35	F.1130	G10350	35	
1.0503	S45C	C45	1045	060A47		XC42H1TS	1672	C45	F.1140	G10450	45	
1.0614		C76D	1074			XC75				G10750		
1.0616		C86D	1086			XC80		C85		G10860		
1.0618		C92D	1095			XC90				G10950		
1.0726		35S20	1140	212M36	8M	35MF6	1957			G11400	40	
1.1157		40Mn4	1039	150M36	15	40M5				G10390	40G	
1.1165	SMn433H	30Mn5	1036	120M36		35M5		30Mn5	F.8211	K13300	30G2	
1.1167	SMn438(H)	36Mn5	1335	150M36		40M5	2120	36Mn6	F.1203	G13350	35G2	
1.1186	S40C	C40E	1040	060A40		2C40		C40		G10400		
1.1191	S45C	CK45	1045	080M46		2C45	1672	C45	F.1140		45	
1.1201	S50C	C45R	1049	080M46		3C45	1660	C45	F.1145		38HM	
1.1213	S50C	Cf53	1050	070M55		XC48HTS	1674	C53		G10500	50	
1.7242	SCM 418 H	18CrMo4										
1.7337		16CrMo4-4	A387 Gr.12					A18CrMo45KW		K11564	15C M	
1.7362	SCMV 6	12CrMo195		3606-625		Z10CD5-05		16CrMo205		K41545		
		17MnV6	A572-60	436055E		NFA35-501E36	2142					

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

P		VDI 3323 4	Material Description Non-alloyed steel			Composition / Structure / Heat Treatment About 0.75% C, Annealed					HB 270	HRc 28
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0603	S 70 C -CSP	C67	107	080A67		XC65		C67		G10700		
1.0605		C75	1075	144980HS				C75		G10740	75	
1.1203	S55C	Ck55	1055	060A57		2C55	1655	C55	F.1150	G10550	55	
1.1209		C55R	1055	070M55		3C55		C55	F.1155	G10550		
1.1221	S58C	Ck60	1060	060A62	43D	2C60	1678	C60	F.1150	G10640	60	
1.1231	S 70 C -CSP	C67E	1070	060A67		XC68	1770	C70	F.5103	G10700	65GA	
1.1248	C 75	C75E	1074	060A78		XC75	1774	C75	F.5107	G10800	75(A)	
1.1269	SK 5 -CSP	C85E	1086			XC90		C90		G10900	85(A)	
1.1274	SUP4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F.5117	G10950		
1.1545	SK 3	C 105 W1	W1	BW 2	C 105U	Y1 105	1880	C 100 KU	F.5118		U10A	
1.1663	SK 2	C125W	W112			Y2120					U13	

P		VDI 3323 5	Material Description Non-alloyed steel			Composition / Structure / Heat Treatment About 0.75% C, Quenched & Tempered					HB 300	HRc 32
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0070		St 70-2	1055	Fe690-2FN	-	A70-2	1655	Fe 690	F.1150		55	
1.0535	S55C	C55	1055	070M55		1C55	1655	C55		J05000	55	
1.0601	S58C	C60	1060	060A62	43D	1C60		C60		G10600	60(G)	
1.1203	S55C	Ck55	1055	060A57		2C55	1655	C55	F.1150	G10550	55	
1.1221	S58C	Ck60	1060	060A62	43D	2C60	1678	C60	F.1150	G10640	60	
1.1274	SUP4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F.5117	G10950		
1.1545	SK 3	C 105 W1	W1	BW 2	C 105U	Y1 105	1880	C 100 KU	F.5118		U10A	
1.1663	SK 2	C125W	W112			Y2120					U13	
1.5120		38MnSi4										
1.5710	SNC236	36NiCr6	3135	640A35	111A	35NC6						
1.7701		51CrMoV4						51CrMoV4				

Technical Information

Material Groups

P		VDI 3323 6	Material Description Low-alloyed Steel			Composition / Structure / Heat Treatment Annealed					HB 180	HRc 10
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0116		St 37-3	A570 Gr. 36	4360-40C	S 235 J2 G3	E24-3	1312	Fe 360 D1 (2)	AE235D		ST3KP	
1.0904	SKH 1, SKT 4	55Si7	9255	250A53	45	55S7	2085	55Si8	56Si7	G92550	55S2	
1.0961	SUP 7	60SiCr7	9262			60SC6		60SiCr8	60SiCr8	G92620		
1.2067		100Cr6	L3	BL3		Y100C6			100Cr6			
1.2108		90CrSi5	L1				2092	105WCr5				
1.2210		115CrV3	L2			100C3		107CrV3KU	F520L		11KHf	
1.2241		51CrV4										
1.2330	SCM435TK	35CrMo4	4135	708A37		34CD4	2234	35CrMo4			35KHM	
1.2419	SKS31	105WCr6		105WC13		105WC13	2140	10WCr6			CWG	
1.2510	SKS3	100MnCrW4	O1	BO1		90MWCV 5	2140	95 MnWCr 5 KU	F5220		9KHVG	
1.2542		45WCrV7	S1	BS1			2710	45WCrV8KU			5CW2SF	
1.2550		60WCrV7	S1			55WC20	2710	58WCr9KU			5KHV2SF	
1.2713	SKT4	55NiCrMoV6	L6			55NCV7			F520S		5C NM	
1.2721		50NiCr13	L6			55NCV6	2550		F528			
1.2842		90MnCrV8	O2	BO2		90MV8				T31502	9G2F	
1.3501		100Cr2	E50100									
1.3505	SUJ2	100Cr6	52100	25135	31	100C6	2258	100Cr6	F1310		SCC 15	
1.5024		46Si7				45S7		46Si7	F1451			
1.5025		51Si7	9259H		50Si7	51S7	2090	50Si7	F1450			
1.5026		55Si7			56Si7	55S7	2085	55Si7	F1440	G92550	55S2	
1.5027		60Si7	9260	251A60	60Si7	60S7		60Si7	F1441	G92600	60S2	
1.5028	SUP7	65Si7	9260H									
1.5415	STFA 12	15Mo3	A204Gr.A	1503-243B		15D3	2912	16Mo3(KG)	F2601	K11820		
1.5419	SCPH11	20Mo4	4419	1503-243-430			2512	G20Mo5		G44190		
1.5423	SB450M	16Mo5	4520	1503-245-420				16Mo5(KG)	F2602	K11522		
1.5622		14Ni6	A350-LF5			16N6		14Ni6(KG)	F2641			
1.5732	SNC415(H)	14NiCr10	3415			14NC11		16NiCr11				
1.5752	SNC815(H)	14NiCr14	3310	655M13	36A	12NC15					20X2H4A	
1.6511	SUP10	36CrNiMo4	9840	816M40	110	40NCD3		36NiCrMo4(KB)			40C N2MA	
1.6523	SNCM220(H)	21NiCrMo2	8620	805M20	362	20NCD2	2506	20NiCrMo2			20C GNM	
1.6546	SNCM240	40NiCrMo2-2	8740	311-Tyre7				40NiCrMo2(KB)			38C GNM	
1.6566		17NiCrMo6-4										
1.6587		17CrNiMo6		820A16		18NCD6		14NiCrMo13				
1.6657		10NiCrMo13-4						14NiCrMo131				
1.7015	SCR415(H)	10Cr3	5015	523M15		12C3				G50150	15C	
1.7033	SCR430(H)	34Cr4	5132	530A32	18B	32C4		34Cr4(KB)		G51300	35C	
1.7035	SCR440(H)	41Cr4	5140	530M40	18	42C4	2245	41Cr4		G51400	40H	
1.7131	SCR 415	16MnCr5	5115	527M17		16MC5	2511	16MnCr5		G51150	12KHn2	
1.7139		16MnCr55					2127				18HG	
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3			50C GA	
1.7218	SCM420	25CrMo4	4130	CDS110		25CD4	2225	25CrMo4(KB)			20C M	
1.7220	SCM432	34CrMo4	4135	708 A 37		35CD4	2234	34CrMo4			35C M	
1.7223	SNB22-1	41CrMo4	4142					41CrMo4			40C FA	
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F1252		38HM	
1.7228		55NiCrMoV6G		823M30	33		2512	653M31				
1.7262	SCM415(H)	15CrMo5				12CD4	2216	12CrMo4				
1.7321		20mOcr4					2625					
1.7335	SCM415(H)	13CrMo4-4	A182-F11	1501-620		15CD4-5	2216	14CrMo45			12C M	
1.7361		32CrMo12		722M24	40B	30CD12	2240	30CrMo12	F124A			
1.7380		10CrMo9-10	A182F22	1501-622		12CD9-10	2218	12CrMo9			12KH8	

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

P		VDI 3323 6	Material Description Low-alloyed Steel			Composition / Structure / Heat Treatment Annealed					HB 180	HRC 10
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.7715		14MoV6-3		1503-660-440				13MoCrV6				
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4		G61500	50C GFA	
1.8161		58CrV4										
1.8509	SACM 645	41CrAlMo7	A355A	905M39	41B	40CAD6-12	2940	41CrAlMo7				
1.8523		39CrMoV13-9		897M39	40C			36CrMoV12				

P		VDI 3323 7	Material Description Low-alloyed Steel			Composition / Structure / Heat Treatment Quenched & Tempered					HB 275	HRC 29
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.5415	STFA 12	15Mo3	A204GrA	1503-243B		15D3	2912	16Mo3(KG)	F.2601	K11820		
1.5423	SB450M	16Mo5	4520	1503-245-420				16Mo5(KG)	F.2602	K11522		
1.5622		14Ni6	A350-LF5			16N6		14Ni6(KG)	F.2641			
1.5732	SNC415(H)	14NiCr10	3415			14NC11		16NiCr11				
1.5752	SNC815(H)	14NiCr14	3310	655M13	36A	12NC15					20X2H4A	
1.5755	SNC236	31NiCr14		653M31		18NC13	2534		F.1270			
1.6565	SNCM447	40NiCrMo6	4340	817M40	24	35NCD6	2541	35NiCrMo6(KB)			38C 2N2MA	
1.6587		17CrNiMo6		820A16		18NCD6		14NiCrMo13				
1.6657		10NiCrMo13-4						14NiCrMo131				
1.6957		26NiCrMoV14-5										
1.7015	SCr415(H)	10Cr3	5015	523M15		12C3				G50150	15C	
1.7262	SCM415(H)	15CrMo5				12CD4	2216	12CrMo4				
1.7335	SCM415(H)	13CrMo4-4	A182-F11	1501-620		15CD4-5	2216	14CrMo45			12C M	
1.7380		10CrMo9-10	A182F22	1501-622		12CD9-10	2218	12CrMo9			12KH8	
1.7715		14MoV6-3		1503-660-440				13MoCrV6				
1.7733		24CrMoV55				20CDV6		21CrMoV511				
1.7755		GS-45CrMoV10-4										
1.8070		21CrMoV511						35NiCr9				

P		VDI 3323 8	Material Description Low-alloyed Steel			Composition / Structure / Heat Treatment Quenched & tempered					HB 300	HRC 32
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.1730		C45W3	C45W			XC48						
1.2332	SCM(440)	47CrMo4	4142	708M40	19A	42CD4	2244	42CrMo4				
1.5736	SNC 631 (H)	36NiCr10	3435			30NC11						
1.6523	SNCM220(H)	21NiCrMo2	8620	805M20	362	20NCD2	2506	20NiCrMo2			20C GNM	
1.7033	SCr430(H)	34Cr4	5132	530A32	18B	32C4		34Cr4(KB)		G51300	35C	
1.7218	SCM420	25CrMo4	4130	CDS110		25CD4	2225	25CrMo4(KB)			20C M	
1.8515		32CrMo12		722M24	40B	30CD12	2240	32CrMo12	F.124A			

Technical Information

Material Groups

P		VDI 3323 9	Material Description Low-alloyed Steel			Composition / Structure / Heat Treatment Quenched & Tempered					HB 350	HRc 38
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0904	SKH 1, SKT 4	55Si7	9255	250A53	45	55S7	2085	55Si8		G92550	55S2	
1.0961	SUP 7	60SiCr7	9262			60SC6		60SiCr8		G92620		
1.2067		100Cr6	L3	BL3		Y100C6		100Cr6				
1.2419	SKS31	105WCr6		105WC13		105WC13	2140	10WCr6			CWG	
1.2542		45WCrV7	S1	BS1			2710	45WCrV8KU			5CW25F	
1.2713	SKT4	55NiCrMoV6	L6			55NCDV7			F520S		5C NM	
1.4882		X50CrMnNiNbN219				Z50CMNNb21-09						
1.5120		38MnSi4										
1.5710	SNC236	36NiCr6	3135	640A35	111A	35NC6						
1.5755	SNC236	31NiCr14		830m31		18NC13	2534		F1270			
1.6511	SUP10	36CrNiMo4	9840	816M40	110	40NCD3		36NiCrMo4(KB)			40C N2MA	
1.6546	SNCM240	40NiCrMo2-2	8740	311-Tyre7				40NiCrMo2(KB)			38C GNM	
1.7035	SCR440(H)	41Cr4	5140	530M40	18	42C4	2245	41Cr4		G51400	40H	
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3			50C GA	
1.7220	SCM432	34CrMo4	4135	708Aa37		35CD4	2234	34CrMo4			35C M	
1.7223	SNB22-1	41CrMo4	4142					41CrMo4			40C FA	
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F.1252		38HM	
1.7361		32CrMo12		722M24	40B	30CD12	2240	30CrMo12	F.124A			
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4	51CrV4	G61500	50C GFA	
1.8161		58CrV4										
1.8509	SACM 645	41CrAlMo7	A355A	905M39	41B	40CAD6-12	2940	41CrAlMo7				
1.8523		39CrMoV13-9		897M39	40C			36CrMoV12				

P		VDI 3323 10	Material Description High-alloyed steel, and tool steel			Composition / Structure / Heat Treatment Annealed					HB 200	HRc 15
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.0347	SPCD	RRSt 3	A619	CR3	FeP03	F 13		DC03/FeP03			08JU	
1.0723	SUM32	15S22		210A15			1922		F210F			
1.2080	SKD1	X210Cr12	D3	BD3	X210Cr12	Z200C12		X205Cr12KU		T30403	KH12	
1.2162	SCR 420 H	21MnCr5				20MC5						
1.2311		40CrMnMo7				40CMD8		35CrM08KU				
1.2312		40CrMnMoS8.6	P20+S			40CMD8S						
1.2316		X36CrMo17			X38CrMo16							
1.2343	SKD 6	X38CrMoV5-1	H11	BH11		Z38CDV5		X37CrMoV51KU		T20811	4C 5MF5	
1.2344	SKD61	X40CrMoV5-1	H13	BH13		Z40CDV5	2242	X40CrMoV511KU	F5318	T20813	4C 5MF15	
1.2363	SKD12	X100CrMoV5-1	A2	BA2		Z100CDV5	2260	X100CrMoV51KU	F5227		9KH5VF	
1.2379	SKD11	X155CrVMo121	D2	BD2		Z160CDV12	2310	X165CrMoW12KU		T30402	KH12MF	KRUPP2379
1.2436	SKD 2	X210CrW12	D4(D6)	BD6		Z200CD12	2312	X215CrW121KU	F5213		KH12	

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

P		VDI 3323 10	Material Description High-alloyed steel, and tool steel			Composition / Structure / Heat Treatment Annealed					HB 200	HRC 15
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.2510	SKS3	100MnCrW4	O1	BO1		90 MWC V 5	2140	95 MnWCr 5 KU	F5220		9KHVG	
1.2581	SKD5	X30WCrV9-3	H21	BH21		Z30WCV9		X30WCrV93KU	F526	T20821	3C 2W8F	
1.2601		X165CrMoV12					2310	X160CrMoV12			KH12MF	
1.2606	SKD 62	X37CrMoW51	H12	BH12		Z35CWDV5		X35CrMoW05KU	F537	T20812	5C NM	
1.2764		X19NiCrMo4										
1.2767		X45NiCrMo4				45NCD16		40NiCrMoV8KU				
1.2842		90MnCrV8	O2	B02		90MV8		90MnVGr8KU		T31502	9G2F	
1.3243	SKH55	S6-5-2-5	T15			KCV06-05-05-04-02	2723	HS6-5-2-5			R6M5K5	
1.3249	SKH 3	S18-1-2-5	T4	BT4		Z80WKCV18-05-04					R18K5F2	
1.3343	SKH51, SKH9	S6-5-2	M2	BM2		Z85WDCV	2722	HS652	F5604		R6M5	
1.3348	SKH 58	S2-9-2	M7			Z100DCWV09-04-02	2782	HS292	F5607			
1.3355	SKH 2	S18-0-1	T1	BT1		Z80WCV18-4-01					R18	
1.4718	SUH1	X45CrSi9-3	HNV3	401S45	52	Z45CS9		X45CrSi8	F322		40C 9S2	
1.5662	SL9N60(53)	X8Ni9	ASMA353	502-650		9Ni		X10Ni9	F2645			
1.5680		12Ni19	2515	12Ni19		Z18N5						

P		VDI 3323 11	Material Description High-alloyed steel, and tool steel			Composition / Structure / Heat Treatment Quenched & Tempered					HB 325	HRC 35
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.2080	SKD1	X210Cr12	D3	BD3	X210Cr12	Z200C12		X205Cr12KU		T30403	KH12	
1.2344	SKD61	X40CrMoV5-1	H13	BH13		Z40CDV5	2242	X40CrMoV511KU	F5318	T20813	4C 5MF15	
1.2363	SKD12	X100CrMoV5-1	A2	BA2		Z100CDV5	2260	X100CrMoV51KU	F5227		9KHSVF	
1.2436	SKD 2	X210CrW12	D4(D6)	BD6		Z200CD12	2312	X215CrW121KU	F5213		KH12	
1.2581	SKD5	X30WCrV9-3	H21	BH21		Z30WCV9		X30WCrV93KU	F526	T20821	3C 2W8F	
1.2601		X165CrMoV12					2310	X160CrMoV12			KH12MF	
1.2714	SKT 4	55NiCrMoV7	6F3/L6			55NiCrMoV7			F5205		5KHNV	
1.3202		S12-1-4-5		BT15				HS12-1-5-5				
1.3207		S10-4-3-10		BT42		Z130WKCDV						
1.3243	SKH55	S6-5-2-5	T15			KCV06-05-05-04-02	2723	HS6-5-2-5			R6M5K5	
1.3246		S7-4-2-5	M35			Z110WKCDV07-05-04		HS7-4-2-5				
1.3247	SKH 51	S2-10-1-8	M42	BM42		Z110DKCW09-08-04		HS2-9-1-8			R2AM9K5	
1.3255	SKH 3	S18-1-2-5	T4	BT4		Z80WKCV18-05-04					R18K5F2	
1.3343	SKH51, SKH9	S6-5-2	M2	BM2		Z85WDCV	2722	HS652	F5604		R6M5	
1.3348	SKH 58	S2-9-2	M7			Z100DCWV09-04-02	2782	HS292	F5607			
1.3355	SKH 2	S18-0-1	T1	BT1		Z80WCV18-4-01					R18	
1.4718	SUH1	X45CrSi9-3	HNV3	401S45	52	Z45CS9		X45CrSi8	F322		40C 9S2	
1.4935	SUH 616	X20CrMoWV121	422							S42200		
1.5680		12Ni19	2515	12Ni19		Z18N5						

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

M		VDI 3323 12	Material Description Stainless steel			Composition / Structure / Heat Treatment Ferritic / Martensitic, Annealed					HB 200	HRC 15
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.4000	SUS403	X6Cr13	403	403S17		Z6C13	2301	X6Cr13	F3110	S40300	08C 13	ATI 410S
1.4001		X7Cr14	410 S	403S7		Z8C13	2301		F8401		08C 13	
1.4002	SUS 405	X6CrAl13	405	405S17		Z6CA13	2302	X6CrAl13		S40500		
1.4005	SUS416	X12CrS13	416	416S21		Z11CF13	2380	X12CrS13	F3411	S41600		ATI 416
1.4006	SUS410	X12Cr13	410	410S21	56A	Z10C13	2302	X12Cr13	F3401	S41000	12C 13	ATI 410
1.4016	SUS430	X6Cr17	430	430S15	X8Cr17	Z8C17	2320	X8Cr17	F3113	S43000	12C 17	ATI 430
1.4027	SCS 2	GX20Cr14		420C29		Z20C13M					20C 13L	
1.4028	SUS420J2	X30Cr13	420	420S45		Z30C13	2304			S42020	20C 13	
1.4034	SUS420J2	X46Cr13		420S45		Z40C14		X40Cr14	F3405			
1.4057	SUS431	X19CrNi17-2	431	431S29	57	Z15CN16-02	2321	X16CrNi16	F3427	S43100	20C 17N2	431 (HT)
1.4086		GX120Cr29		452C11								
1.4104	SUS430F	X12CrMoS17	430F	420S37		Z10CF17	2383	X10CrS17	F3117	S43020		
1.4112	SUS 440 B	X90CrMoV18	440B							S44003	95KH18	
1.4113	SUS434	X6CrMo17	434	434S17		Z8CD17-01	2325	X8CrMo17		S43400		AL 434
1.4313	SCS5	X3CrNi13-4	CA6-NM	425C11		Z4CND13-04M	2385	(G)X6CrNi304		J91540		
1.4340		GX40CrNi274								J92615		
1.4417		X2CrNiMoSi195	S31500				2376			S39215		
1.4418		X4CrNiMo165				Z6CND16-04-01	2387					APX4
1.4510	SUS430LX	X6CrTi17	XM8			Z4CT17		X6CrTi17	F3115	S43035	08C 17T	430Ti
1.4511	SUS430LK	X6CrNb17				Z4CNb17		X6CrNb17	F3122			AXC525
1.4512	SUH409	X6CrTi12	409	LW19		Z3CT12		X6CrTi12		S40900		
1.4720		X20CrMo13										
1.4724	SUS 405	X10CrAl113	405	403S17		Z10C13		X10CrAl112	F311		10C 13SJU	
1.4742	SUS430	X10CrAl18	430	439S15	60	Z10CA518		X8Cr17	F3113	S43000	15C 13SJU	
1.4747	SUH4	X80CrNiSi20	HNV6	443S65	59	Z80CSN20-02		X80CrSiNi20	F320B	S65006		
1.4749		X18CrN28	446								15KH28	
1.4762	SUH446	X10CrAl124	446			Z10CA524	2322	X16Cr26		S44600		
1.4871	SUH35,SUH36	X53CrMnNiN21-9	EV8	349S54		Z52CMN21-09		X53CrMnNiN219		S63008	55C 20G9AN4	
		X10CrNi15	429									
		X12CrNi18-9	302	302S31		Z10CN18-09	2330					
M		VDI 3323 13	Material Description Stainless steel			Composition / Structure / Heat Treatment Martensitic, Quenched & Tempered					HB 240	HRC 23
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.4000	SUS403	X6Cr13	403	403S17		Z6C13	2301	X6Cr13	F3110	S40300	08C 13	ATI 410S
1.4001		X7Cr14	410 S	403S7		Z8C13	2301		F8401		08C 13	
1.4006	SUS410	X12Cr13	410	410S21	56A	Z10C13	2302	X12Cr13	F3401	S41000	12C 13	ATI 410
1.4016	SUS430	X6Cr17	430	430S15	X8Cr17	Z8C17	2320	X8Cr17	F3113	S43000	12C 17	ATI 430
1.4021	SUS 420J1	X20Cr13	420	420S37		Z20C13	2303	14210	F5261	S42000	20C 13	ATI 420
1.4027	SCS 2	GX20Cr14		420C29		Z20C13M					20C 13L	
1.4031	SUS 420 J2	X40Cr13	420			Z40C14	-2304		F3404	S42080	40C 13	
1.4034	SUS420J2	X46Cr13		420S45		Z40C14		X40Cr14	F3405			
1.4057	SUS431	X19CrNi17-2	431	431S29	57	Z15CN16-02	2321	X16CrNi16	F3427	S43100	20C 17N2	431 (HT)
1.4104	SUS430F	X12CrMoS17	430F	420S37		Z10CF17	2383	X10CrS17	F3117	S43020		
1.4113	SUS434	X6CrMo17	434	434S17		Z8CD17-01	2325	X8CrMo17		S43400		AL 434
1.4313	SCS5	X3CrNi13-4	CA6-NM	425C11		Z4CND13-04M	2385	(G)X6CrNi304		J91540		
1.4544		A 700	321	S.524		Z 10 CNT 18 11		X6CrNiTi1811		J92630	08C 18N12T	
1.4546		X5CrNiNb18-10	348	347S31				X6CrNiNb1811		J92640		ATI 348
1.4871	SUH35,SUH36	X53CrMnNiN21-9	EV8	349S54		Z52CMN21-09		X53CrMnNiN219		S63008	55C 20G9AN4	
1.4922		X20CrMoV12-1					2317	x20CrMoV1201				
1.4923		X22CrMoV121										Jethete X20

Technical Information

Material Groups

TURNING	M		VDI 3323 14	Material Description			Composition / Structure / Heat Treatment					HB 180	HRc 10
	Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
PARTING & GROOVING	1.4301	SUS 304	X5CrNi18-10	304	304S15		Z5CN18-09	2332		F3551	S30409	08C 18N10	
	1.4305	SUS303	X10CrNiS18-10	303	303S21	58M	Z8CNF18-09	2346	X10CrNiS18.09	F3508	S30300	30C 18N11	ATI 303
	1.4306	SCS19	X2CrNi1911	304L	304C12	X3CrNi1810KD	Z2CN18-09	2352	GX2CrNi1910	F3503	S30403	03KH18N11	ATI 304L
	1.4308	SUS304L	GX6CrNi18-9	CF-8	304C15	58E	Z6CN18-10M	2333					CF-8
	1.4310	SUS 301	X10CrNi18-8	301	301S21		Z12CN17-07	2331	X2CrNi1807	F3517	S30100	07KH16N6	ATI 301
	1.4311	SUS304LN	X2CrNiN18 10	304LN	304S62		Z2CN18-10	2371	X2CrNiN1810	F3541	S30453	03KH18N11	
	1.4312	SCS12	GX10CrNi188	305	302C25		Z10CN18-9M					10C 18N9L	ATI 305
	1.4350	SUS304	X5CrNi18-9	304	304S15	58E	Z6CN18-09	2332	X5CrNi1810	F3551	S30400		ATI 304
	1.4362		X2CrNiN234	S32304			Z2CN23-04AZ	2327			S32304		ATI 2304TM
	1.4371		X3CrMnNiN18887	202	284S16		Z8CMN18-08-05						
MILLING	1.4401	SUS316	X5CrNiMo17-12-2	316	316S13		Z3CND17-11-01	2347	X5CrNiMo17 12 2	F3534	S31600	08KH17H13M2T	ATI 316
	1.4404	SUS316L	X2CrNiMo17-13-2	316L	316S11		Z2CND17-12	2348	X2CrNiMo1712	F3533	S31603		ATI 316L
	1.4406	SUS316LN	X2CrNiMoN17122	316LN	316S61		Z2CND17-12AZ		X2CrNiMoN1712	F3542	S31653	07C 18N	ATI 316LN
	1.4408	SCS14	GX6CrNiMo18-10	CF-8M	316C16			2343	X7CrNiMo2010	F8414	J92900	10G2S2MSL	
	1.4410	SCS 14 A	GX10CrNiMo18-9				Z5CND20-12M	2328			S32750		
	1.4429	SUS316LN	X2CrNiMoN17-13-3	316Ln	316S62		Z2CND17-13AZ	2375	X2CrNiMoN17133	F3543		03KH16N15M3	
	1.4435	SUS316L	X2CrNiMo18143	316L	316S11		Z3CND17-12-03	2375	X2CrNiMo17 13 2	F3533	S31603	03C 17N14M3	
	1.4436	SUS316	X3CrNiMo17-13-3	316	316S19		Z6CND18-12-03	2343	X5CrNiMo17 12 2	F3543	S31600		
	1.4438	SUS317L	X2CrNiMo18164	317L	317S12		Z2CND19-15-04	2367	X2CrNiMo18 16 4	F3539	S31703		ATI 317L
	1.4439		X2CrNiMoN17135	(s31726)			Z3CND18-14-06AZ						
DRILLING	1.4440		X2CrNiMo18-16										
	1.4449	SUS317	X5CrNiMo17133	317	317S16				X5CrNiMo1815		S31700		ATI 317
	1.4460	SUS 329 J1	X8CrNiMo275	329				2324			S32900		10RE51
	1.4462	SUS329J3L	X2CrNiMoN2253		318S13		Z3CND22-05Az	2377			S31803		ATI 2205TM
	1.4500		X7NiCrMoCuNb2520				Z3NCUDU25-20M				J95150		
	1.4521	SUS444	X2CrMoTi18-2	443444				2326	X2CrMoTiNb18 2	F3123			
	1.4539		X1NiCrMoCuN25205				Z2NCUDU25-20	2562			N08904		ATI 904L
	1.4541	SUS321	X14CrNiTi18-10	321	321S31		Z6CNT18-10	2337	X6CrNiTi18 11	F3523	S32100	06C 18N10T	ATI 321
	1.4542	SUS630	X5CrNiCuNb174	630			Z7CNU15-05						UGIMA 4542
	1.4545		Z7CNU15.05	15-SPH							S15500		ATI 15-5
TECHNICAL INFORMATION	1.4547		X1CrNiMoN20187	S31254				2378			S31254		Uranus B25 6Mo
	1.4550	SUS347	X6CrNiNb18-10	347	347S17	58F	Z6CNNb18-10	2338	X6CrNiNb18 11	F3552	S34700	08C 18N12B	ATI 347
	1.4552	SCS 21	GX7CrNiNb18-9				Z4CNNb19-10M				J92710		
	1.4568	SUS 631	X 7 CrNiAl 17 7		316S111		Z 9 CAN 17-7	2388	Z8CNA17-07		S17700	09C 17NJU1	17-7PH
	1.4571	SUS 316Ti	X6CrNiMoTi17-12-2	316Ti	320S31	58J	Z6NDT17-12	2350	X6CrNiMoTi17 12	F3535		10C 17N13M2T	ATI 316Ti
	1.4581	SCS 22	GX5CrNiMoNb18		318C17		Z4CNDNb18-12M						
	1.4583		X6CrNiMoNb18-12	318	303S21		Z15CNS20-12		X15CrNiSi2 12				
	1.4585		GX7CrNiMoCuNb1818						X6CrNiMoTi17 12		J94651		
	1.4821		X20CrNiSi254				Z20CNS25-04				S44635		
	1.4823		GX40CrNiSi274								J92605		
	1.4828	SCS17	X15CrNiSi20-12	309	309S24	58C	Z15CNS20-12			F8414	S30900	20C 20N14S2	ATI 309
	1.4833	SUS 309 S	X6CrNi2213	309S	309S13		Z15CN24-13				J93400		
	1.4845	SUH310	X12CrNi25-21	310S	310S24		Z12CN25-20	2361	X6CrNi2520	F331	S31008	20C 23N18	ATI 310S
	1.4878	SUS321	X12CrNiTi18-9	321	321S20	58B	Z6CNT18-12(B)	2337	X6CrNiTi1811	F3553	S32100		ACX315
	1.4891		X5CrNiNb18-10	Ss30415				2372					
	1.4893		X8CrNiNb11	S30815				2368					
	1.4948		X6CrNi1811	304H	304S51		Z5CN18-09	2333			S30480		
	1.4980		X5NiCrTi2515	660				2570			S66286		Incoloy A 286
			X5NiCrN3525										
			X2CrNiMoN18134	S31753									
			X2CrNiMoN25227										

Technical Information

Material Groups

K		VDI 3323 15	Material Description Grey cast iron			Composition / Structure / Heat Treatment Pearlitic / Ferritic					HB 180	HRc 10
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.6010	FC100	GG10	A48 20 B	Grade 100	GJL-100	Ft 10 D	0100	G10	FG10		Sc 10	
0.6015	FC150	GG15	A48 25 B	Grade 150	GJL-150	Ft 15 D	0115	G15	FG15		Sc 15	
0.6020	FC200	GG20	A48 30 B	Grade 220	GJL-200	Ft 20 D	0120	G20	FG20	W06020	Sc 20	
0.6025	FC250	GG25	A48 40 B	Grade 260	GJL-250	Ft 25 D	0125	G25	FG25		Sc 25	
0.6660		GGL-NiCr 20 2	1050/700/7	Grade F2	GJLA-XNiCr 20-2	L-NC 202	0523	-		F41002		Ni-Resist 2
1.4449	SUS317	X5CrNiMo17133	317	317S16				X5CrNiMo1815		S31700		ATI 317

K		VDI 3323 16	Material Description Grey cast iron			Composition / Structure / Heat Treatment Pearlitic (Martensitic)					HB 260	HRc 26
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.6025	FC250	GG25	A48 40 B	Grade 260	GJL-250	Ft 25 D	0125	G25	FG25		Sc 25	
0.6030	FC300	GG30	A48 45 B	Grade 300	GJL-300	Ft 30 D	0130	G30	FG30		Sc 30	
0.6035	FC350	GG35	A48 50 B	Grade 350	GJL-350	Ft 35 D	0135	G35	FG35		Sc 35	
0.6040	FC400	GG40	A48 60 B	Grade 400	GJL-400	Ft 40 D	0140	G40	FC40		Sc 40	

K		VDI 3323 17	Material Description Nodular cast iron			Composition / Structure / Heat Treatment Ferritic					HB 160	HRc 3
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.7033	FCD350-22L	GGG35.3	-	350/22L40	GJS-350-22-LT	FGS 370-17	0717-15	-				
0.7040	FCD400	GGG40	60-40-18	SNG 420-12	GJS-400-15	FCS 400-12	0717-02	GS 400-12	FG E38-17	F32800	Vc 42-12	
0.7043	FCD 370	GGG40.3	60-40-18	SNG 370-17	GJS-400-18-LT	FGS 370-17	0717-12	GSO 42-17			Vc 42-12	
0.6040	FC400	GG40	A48 60 B	Grade 400	GJL-400	Ft 40 D	0140	G40	FC40		Sc 40	

K		VDI 3323 18	Material Description Nodular cast iron			Composition / Structure / Heat Treatment Pearlitic					HB 250	HRc 25
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.7050	FCD500	GGG50	80-55-06	SNG 500-7	GJS-500-7	FGS 500-7	0727-02	GS 500-7	FG E50-7	F33100	Vc 50-2	
0.7060	FCD600	GGG60	80-55-06	SNG 600-3	GJS-600-3	FGS 600-3	0732-03	GS 600-3	FG E60-2		Vc 60-2	
0.7070	FCD700	GGG70	100-70-03	SNG 700-2	GJS-700-2	FGS 700-2	0737-01	GS 700-2	FG S70-2	F34800	Vc 70-2	
0.7652	FCDA-NiMn 13 7	GGG NiMn 13-7	-	Grade S6	GJSA-XNiMn 13-7	FGS Ni13 Mn7	0772	-				Nodumag
0.7660		GGG NiCr 20-2	A436 D2	Grade S2	GJSA-XNiCr 20-2	FGS Ni20 Cr2	0776	-				Ni-Resist D-2

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

K		VDI 3323 19	Material Description Malleable cast iron				Composition / Structure / Heat Treatment Ferritic				HB 130	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.8135	FCMW330	GTS-35	32510	B 340-12	GJMB350-10	MN 35-10	0815	GMN 35	GTS35		Kc 35-10	

K		VDI 3323 20	Material Description Malleable cast iron				Composition / Structure / Heat Treatment Pearlitic				HB 230	HRc 21
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.8145	FCMW370	GTS-45	A220-40010	P 440-7	GJMB450-6	MN 450	0852	GMN 45				
0.8155	FCMP490	GTS-55	50005	P 510-4	GJMB-550-4	MP 50-5	0854	GMN 55			Kc 60-3	
0.8165	FCMP590	GTS-65	70003	P 570-3	GJMB-650-2	MN 650-3	0856	GMN 65				
0.8170	FCMP690	GTS-70	90001	P 690-2	GJMB-700-2	MN 700-2	0862	GMN 70			Kc 70-2	

Technical Information

Material Groups

N		VDI 3323 21	Material Description Aluminum-wrought alloy			Composition / Structure / Heat Treatment Not Curable					HB 60	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
3.0205		Al99	Al99									
3.0255	(A1050)	Al99.5	1000	L31		A59050C					D1	
3.3315		AlMg1										

N		VDI 3323 22	Material Description Aluminum-wrought alloy			Composition / Structure / Heat Treatment Curable, Hardened					HB 100	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
3.1325		AlCuMg1									AD35	
3.1655	A2011	AlCuSiPb										
3.2315		AlMgSi1									AK9	
3.4345		AlZnMgCuO.5	7050	L86		AZ4GU/9051		811-04				
3.4365	7075	AlZnMgCu1.5	7075	7075		7075		AlZn5.8MgCuCr			B95	

N		VDI 3323 23	Material Description Aluminum-cast, alloyed			Composition / Structure / Heat Treatment ≤ 12% Si, Not Curable					HB 75	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
3.2163		G-AlSi9Cu3									VAL8	
3.2382		GD-AlSi10Mg										
3.2383		G-AlSiOMg(Cu)	A360.2	LM9			4253					
3.2581		G-AlSi12										
3.3561		G-AlMg5										
3.5101		G-MgZn4sE1Zr1	ZE41	MAG5								
3.5103		MgSE3Zn27r1	EZ33	MAG6		G-TR3Z2						
3.5812		G-MgAl8Zn1	AZ81	NMAG1								
3.5912		G-MgAl9Zn1	AZ91	MAG7								
			A356-72	2789		NFA32-201						
	A5052		356.1	LM25			4244				AK7	
		G-AlSi12	A413.2	LM6			4261					
	ADC12	G-AlSi12(Cu)	A413.1	LM20			4260				AK12	
	A6061	GD-AlSi12	A413.0				4247					
	A7075	GD-AlSi8Cu3	A380.1	LM24			4250					

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

N		VDI 3323 24	Material Description Aluminum-cast, alloyed			Composition / Structure / Heat Treatment ≤ 12% Si, Curable, Hardened					HB 90	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.1871		G-AlCu4TiMg										
3.1754		G-AlCu5Ni1,5										
3.2371		G-AlSi7Mg	4218B								AK8	
3.2373	C4BS	G-AlSi9MgWA	SC64D			A-57G	4251				AK9	
3.2381		G-AlSi10Mg									AK12	
3.5106		G-MgAg3SE2Zr1	QE22	mag12								
		G-ALMG5	GD-AISI12	LM5		A-SU12	4252					

N		VDI 3323 26	Material Description Copper and Copper Alloys (Bronze / Brass)			Composition / Structure / Heat Treatment Cutting alloys, PB>1%					HB 110	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.0375		CuZn36Pb3									LS60-2	
2.1090		G-CuSn75pb	C93200			U-E7Z5pb4						
2.1096		G-CuSn5ZnPB	c83600	LG2								
2.1098		G-CuSn2Znpb	C83600									
2.1182		G-CuPb15Sn	C23000	LB1		U-pb15E8						

N		VDI 3323 27	Material Description Copper and copper alloys (Bronze / Brass)			Composition / Structure / Heat Treatment CuZn, CuSnZn (Brass)					HB 90	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.0240	C2300	CuZn15									L90	
2.0321		CuZn37	C27200	c2108		CuZn36,CuZn37		C2700			L63	
2.0590		G-CuZn40Fe										
2.0592		G-CuZn35Al1	C86500	U-Z36N3		HTB1						
2.0596		G-CuZn34Al2	C86200	HTB1		U-Z36N3					LTs23AD	
2.1293		CuCrZr	C18200	CC102		U-Cr0-8Zr						

N		VDI 3323 28	Material Description Copper and copper alloys (Bronze / Brass)			Composition / Structure / Heat Treatment CuSn, lead-free copper and electrolytic copper					HB 100	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.0060		E-Cu57										
2.0966		CuAl10Ni5Fe4	C63000	Ca104		U-A10N					BrAD	
2.0975		G-CuAl10Ni	B-148-52									
2.1050		G-CuSn10	c90700	CT1								
2.1052		G-CuSn12	C90800	pb2		UE12P						
2.1292		G-CuCrF35	C81500	CC1-FF								

Technical Information

Material Groups

S		VDI 3323 31	Material Description Heat resistant super alloys			Composition / Structure / Heat Treatment Fe Based, Annealed					HB 200	HRc 15
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.4558	NCF 800TB	X2NiCrAlTi3220	N08800	NA15								
1.4562		X1NiCrMoCu32287	N08031									
1.4563		X1NiCrMoCuN31274	N08028			Z1NCUD31-27-03	2584				EK77	
1.4864	SUH330	X12NiCrSi36-16	330	NA17		Z12NCS37-18				N08330		
1.4865	SCH15	GX40NiCrSi38-18		330C40				XG50NiCr3919		J94605		
1.4958		X5NiCrAlTi3120										

S		VDI 3323 32	Material Description Heat resistant super alloys			Composition / Structure / Heat Treatment Fe Based, Aged					HB 280	HRc 30
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.4977		X40CoCrNi2020				Z42CNKDOWNb						

S		VDI 3323 33	Material Description Heat resistant super alloys			Composition / Structure / Heat Treatment Ni or Co Based, Annealed					HB 250	HRc 25
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.4360		NiCu30Fe		NA13		NU30				N04400		Monel400
2.4603		NiCr 30 FeMo	5390A			NC22FeD						Hastelloy G-30
2.4610		NiMo16Cr16Ti								N26455		HastelloyC-4
2.4630		NiCr20Ti		HR5,203-4		NC20T				N06075		Nimonic75
2.4631	NCF 80A	NiCr20TiAl		Hr40		NC20TA				N07080	KHIN77TYuR	Nimonic 80A
2.4642	NCF 690	NiCr29Fe				Nnc30Fe				N06690		Inconel 690
2.4856		NiCr22Mo9Nb		NA21		NC22FeDNb				N06625		Inconel 625
2.4858		NiCr21Mo		NA16		NC21FeDU				N08825	KHIN38VT	Incoloy 825

S		VDI 3323 34	Material Description Heat resistant super alloys			Composition / Structure / Heat Treatment Ni or Co Based, Aged					HB 350	HRc 38
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.4375		NiCu30Al	4676	NA18		NU30AT				N05500		MonelK500
2.4662		NiFe35Cr14MoTi	5660			ZSNCDT42				N09901		Incoloy 901
2.4668		NiCr19Fe19NbMo	5383	HR8		NC19eNB				N07718		Inconel 718
2.4670		S-NiCr13A16MoNb	5391	Mar-46		NC12AD						Nimocast 713
2.4694		NiCr16Fe7TiAl								N07751		Inconel 751
2.4955		NiFe25Cr20NbTi										
2.4964		CoCr20W15Ni	5772			KC20WN						Haynes 25
		CoCr22W14Ni	AMS 5772			KC22WN						

Technical Information

Material Groups

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

S		VDI 3323 35	Material Description Heat resistant super alloys			Composition / Structure / Heat Treatment Ni or Co Based, Cast					HB 320	HRc 34
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.4669		NiCr15Fe7TiAl				NC15TNbA				N07750		Inconel X750
2.4685		G-NiMo28								N10665		Hastelloy B
2.4810		G-NiMo30										Hastelloy C
2.4973		NiCr19Co11MoTi	AMS 5399			NC19KDT					VT5-1	
3.7115		TiAl5Sn2								R54520	VT1-00	ATI Grade 6

S		VDI 3323 36	Material Description Titanium alloys			Composition / Structure / Heat Treatment Pure Titanium					HB 400 Rm	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
2.4674		NiCo15Cr10MoAlTi	AMS 5397							N13100		IN 100
3.7025		Ti1	R50250	2TA1						R50250		ATI 30 CP Gr. 1
3.7225		Ti1pd	R52250	TP1						R52250		

S		VDI 3323 37	Material Description Titanium alloys			Composition / Structure / Heat Treatment Alpha + Beta Alloys, Hardened					HB 1050 Rm	HRc
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
3.7124		TiCu2		2TA21-24								
3.7145		TiAl6Sn2Zr4Mo2Si	R54620							R54620		
3.7165		TiAl6V4	AMS R56400	TA10-13		T-A6V					VT6	
3.7185		TiAl4Mo4Sn2		TA45-51								
3.7195		TiAl3V2.5								R56320		ATI 3-2.5
		TiAl4Mo4Sn4Si0.5										
		TiAl5Sn2.5	AMS R54520	TA14/17		T-A5E						
		Ti6Al4VELI	AMS R56401	TA11								

Technical Information

Material Groups

H		VDI 3323 38	Material Description Hardened steel			Composition / Structure / Heat Treatment Hardened					HB 550	HRc 55
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
1.1231	S70 C-CSP	Ck67	1070	060 A 67	C 67S	XC 68	1770	C 70	F5103		70	
1.1248	C 75	Ck75	1078, 1080	060 A 78	C 75S	XC 75	1774	C 75	F5107		75	
1.1274	SUP 4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F5117			
1.1545	SK 3	C 105W1	W1	BW 2	C 105U	Y1 105	1880	C 100 KU	F5118		U10A	
1.2762		75CrMoNiW67	-	-	-	-	-	-				
1.3401	SCMnH1	GX120Mn12	A128(A)			Z120M12	2183	GX120Mn12	F8251		110G13L	
1.4021	SUS 420 J1	X 20 Cr 13	420	420 S 37	X 20 Cr 13	Z 20 C 13	2303	X 20 Cr 13	F5261		20KH13	ATI 420
1.4109	SUS 440 A	X 65 CrMo 14	440 A	-	X 70 CrMo 15	Z 70 D 14	-	-				ATI 440A
1.4112	SUS 440 B	X 90 CrMoV 18	440 B	409 S 19	X 90 CrMoV 18	Z 2 CND 18 05	2327	X CrTi 12				
1.4125	SUS 440 C	X 105 CrMo 17	440 C	-	X 105 CrMo 17	Z 100 CD 17	-	X 105 CrMo 17			95KH18	ATI 440C
1.6746		32NiCrMo14-5	-	832M31	32NiCrMo145	35NCD14	-	-				
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3				
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F1252		38HM	

H		VDI 3323 40	Material Description Chilled cast iron			Composition / Structure / Heat Treatment Cast					HB 400	HRc 42
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.9620		GX260NiCr42	A532 IB	Grade 2 A	GJN-HV520	FB Ni4 Cr2 BC	0512	-		F45001		Ni-Hard2
0.9625		GX330NiCr42	A532 IA	Grade 2 B	GJN-HV550	FB Ni4 Cr2 HC	0513	-		F45000		Ni-Hard1
0.9630		GX300 CrNiSi 9 5 2	A532 ID	Grade 2 C	GJN-HV600	FB Cr9 Ni5	0457	-		F45003		Ni-Hard 4
0.9640		GX300CrMoNi1521	-	-	-	-	-	-		F45005		
0.9650		GX260Cr27	-	Grade 3 D		-	0466	-				
0.9655		GX300CrNiMo271	-	Grade 3 E		-	-	-			20C 25N2052	
1.4841	SUH 310	X15CrNiSi25-20	310	314S31	X 15 CrNiSi 25 20	Z15CNS25-20	-	-		S31400		Cronifer 2520

H		VDI 3323 41	Material Description Hardened cast iron			Composition / Structure / Heat Treatment Hardened					HB 550	HRc 55
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	Brands
0.9635		GX300 CrMo 15 3	-	-	-	-	-	-				
0.9645		GX260 CrMoNi 20 21	-	-	-	-	-	-		F45007		

X-Drill(SYMX) Offset Value & Hole Tolerance

Metric

ØDC	Offset
14.0	0.55
14.5	0.45
15.0	0.40
15.5	0.30
16.0	0.25
16.5	0.15
17.0	0.70
17.5	0.65
18.0	0.45
18.5	0.40
19.0	0.30
19.5	0.25
20.0	0.15
20.5	0.05
21.0	0.60
21.5	0.55
22.0	0.45
22.5	0.40
23.0	0.30
23.5	0.25
24.0	0.95
24.5	0.85
25.0	0.80
25.5	0.70
26.0	0.65
26.5	0.55
27.0	0.45
27.5	0.40
28.0	0.30
28.5	0.25
29.0	0.80
29.5	0.70
30.0	0.65
30.5	0.55
31.0	0.45
31.5	0.40
32.0	0.30
32.5	0.25
33.0	0.15
33.5	0.05
34.0	1.05
35.0	0.80
36.0	0.65
37.0	0.45
38.0	0.30
39.0	0.80

Metric

ØDC	Offset
40.0	0.65
41.0	0.45
42.0	0.40
43.0	0.25
44.0	0.15
45.0	1.75
46.0	1.50
47.0	1.25
48.0	1.05
49.0	0.70
50.0	0.40

Inch

ØDC	Offset
.563	.48
.594	.40
.625	.24
.656	.08
.689	.64
.703	.56
.719	.48
.734	.40
.750	.32
.781	.16
.813	.08
.843	.56
.875	.48
.906	.32
.937	.96
.969	.88

Inch

ØDC	Offset
.984	.80
1.000	.72
1.031	.64
1.063	.48
1.094	.36
1.125	.24
1.156	.72
1.187	.64
1.219	.48
1.250	.40
1.281	.24
1.312	.08
1.343	1.04
1.375	.80
1.406	.72
1.437	.64
1.469	.48
1.500	.32
1.513	.16
1.531	.80
1.562	.72
1.594	.56
1.625	.48
1.687	.24
1.719	.32
1.750	.08
1.781	1.76
1.813	1.52
1.875	1.36
1.937	.72
1.969	.40
2.000	.24

X-Drill(SYMX) Hole Tolerance

Unit	L/D	ØDC	Hole Tolerance
Metric	2 – 3D	Ø14 – 28	-0.1 – +0.25
		Ø29 – 50	-0.1 – +0.30
	4 – 5D	Ø14 – 28	-0.1 – +0.35
		Ø29 – 50	-0.1 – +0.40
Inch	2 – 3D	Ø0.563 – 1.125"	-0.004 – +0.010"
		Ø1.156 – 2.000"	-0.004 – +0.012"
	4 – 5D	Ø0.563 – 1.125"	-0.004 – +0.014"
		Ø1.156 – 2.000"	-0.004 – +0.016"

ISO ↔ ANSI

ISO	ANSI
CC.. 060201	CC.. 21.50
CC.. 060202	CC.. 21.50.5
CC.. 060204	CC.. 21.51
CC.. 060208	CC.. 21.52
CC.. 09T301	CC.. 32.50
CC.. 09T302	CC.. 32.50.5
CC.. 09T304	CC.. 32.51
CC.. 09T308	CC.. 32.52
CC.. 120402	CC.. 430.5
CC.. 120404	CC.. 431
CC.. 120408	CC.. 432
CC.. 120412	CC.. 433
CN.. 090308	CN.. 322
CN.. 090312	CN.. 323
CN.. 090408	CN.. 332
CN.. 090412	CN.. 333
CN.. 120401	CN.. 430
CN.. 120402	CN.. 430.5
CN.. 120404	CN.. 431
CN.. 120408	CN.. 432
CN.. 120412	CN.. 433
CN.. 120416	CN.. 434
CN.. 160608	CN.. 542
CN.. 160612	CN.. 543
CN.. 160616	CN.. 544
CN.. 190608	CN.. 642
CN.. 190612	CN.. 643
CN.. 190616	CN.. 644
CN.. 190624	CN.. 646
CN.. 250924	CN.. 866
DC.. 070202	DC.. 21.50.5
DC.. 070204	DC.. 21.51
DC.. 070208	DC.. 21.52
DC.. 11T301	DC.. 32.50

ISO	ANSI
DC.. 11T302	DC.. 32.50.5
DC.. 11T304	DC.. 32.51
DC.. 11T308	DC.. 32.52
DC.. 11T312	DC.. 32.53
DN.. 110404	DN.. 331
DN.. 110408	DN.. 332
DN.. 150404	DN.. 431
DN.. 150408	DN.. 432
DN.. 150412	DN.. 433
DN.. 150604	DN.. 441
DN.. 150608	DN.. 442
DN.. 150612	DN.. 443
SC.. 09T304	SC.. 32.51
SC.. 09T308	SC.. 32.52
SC.. 120408	SC.. 432
SD.. 1203	SD.. 42
SC.. 120412	SC.. 433
SD.. 120420	SD.. 435
SD.. 1504	SD.. 53
SE.. 1203	SE.. 42
SN.. 090304	SN.. 321
SN.. 090308	SN.. 322
SN.. 120404	SN.. 431
SN.. 120408	SN.. 432
SN.. 120412	SN.. 433
SN.. 120416	SN.. 434
SN.. 150612	SN.. 543
SN.. 190612	SN.. 643
SN.. 190616	SN.. 644
SN.. 190624	SN.. 646
SN.. 250724	SN.. 856
SN.. 250924	SN.. 866
SP.. 1203	SP.. 42
SP.. 120308	SP.. 422

ISO ↔ ANSI

ISO	ANSI
SP.. 1504	SP.. 53
TC.. 110204	TC.. 21.51
TC.. 110208	TC.. 21.52
TC.. 16T302	TC.. 32.50.5
TC.. 16T304	TC.. 32.51
TC.. 16T308	TC.. 32.52
TN.. 160404	TN.. 331
TN.. 160408	TN.. 332
TN.. 160412	TN.. 333
TN.. 220404	TN.. 431
TN.. 220408	TN.. 432
TN.. 220412	TN.. 433
TN.. 220416	TN.. 434
TP.. 1603	TP.. 32
TP.. 160308	TP.. 322
TP.. 2204	TP.. 43
VB.. 110301	VB.. 220
VB.. 110302	VB.. 220.5
VB.. 110304	VB.. 221
VB.. 110308	VB.. 222
VB.. 160402	VB.. 330.5
VB.. 160404	VB.. 331
VB.. 160408	VB.. 332
VC.. 110301	VC.. 220
VC.. 110302	VC.. 220.5
VC.. 110304	VC.. 221
VC.. 110308	VC.. 222
VC.. 160402	VC.. 330.5
VC.. 160404	VC.. 331
VC.. 160408	VC.. 332
VN.. 160404	VN.. 331
VN.. 160408	VN.. 332
VN.. 160412	VN.. 333
WN.. 060404	WN.. 331

ISO	ANSI
WN.. 060408	WN.. 332
WN.. 060412	WN.. 333
WN.. 080404	WN.. 431
WN.. 080408	WN.. 432
WN.. 080412	WN.. 433
WN.. 080416	WN.. 434

Search

INSERT

Description	Page
ADKT	121
AOMT	121
APGT	122
APKT	123
APMT	124
CCGT	55
CCMT	55
CNGG	29
CNMA	26
CNMG	26
CNMM	30
DCGT	58
DCMT	58
DNGG	34
DNMA	31
DNMG	31
DNMM	35
DNUX	36
ENMX	125
KNUX	37
LNHU	127
LNKU	127
ODMT	128
ODMW	128
OFER	129
OFMT	129
ONHU	130
ONMU	130
PNMU	131
RCMT	60
RCMX	61
RDKT	132
RDKW	132
RDMT	133
RDMW	133
ROHX	134
RPMT	135
RPMW	135
RPMX	134

INSERT

Description	Page
SCGT	62
SCMT	62
SDCN	136
SDKN	136
SDMT	137
SDMW	137
SEGT	138
SEKN	141
SEKR	141
SEKT	139
SEMT	140
SNGX	142
SNMA	38
SNMG	38
SNMM	41
SNMX	143
SPCN	144
SPKN	144
SPKR	144
SPMT	145
SPMX	173
SPUN	146
SYMX	172
TCGT	64
TCMT	64
TDN	95
TDP	95
TDY	96
TNGG	46
TNMA	42
TNMG	42
TNMM	47
TNUX	48
TPCN	149
TPCT	147
TPKN	149
TPKR	149
TPKT	148
TPUN	150

INSERT

Description	Page
VBGT	66
VBMT	66
VCGT	67
VCMT	67
VNGG	50
VNMA	49
VNMG	49
WCMX	174
WNEX	151
WNGG	54
WNMA	51
WNMG	51
CNGA	73
DNGA	74
SNGA	75
TNGA	76
VNGA	77
WNGA	78
CCGW	79
DCGW	80
SCGW	81
TCGW	82
TPGW	83
VBGW	84
VCGW	85
NCBP	104
NCBO	105
NCBF	106
NCPR	107
NCGR	108
NCGS	109
NCFI	110
NCFE	110
NCCH	111
NCTH	112
NCHI	113

TURNING HOLDER

Description	Page
DCBNR/L	87
DCKNR/L	87
DCLNR/L	87
DDJNR/L	88
DDNNN	88
DSBNR/L	89
DSDNN	89
DSSNR/L	89
DTJNR/L	90
DVJNR/L	91
DVVNN	91
DWLNR/L	92

PARTING & GROOVING HOLDER

Description	Page
YTER/L-C	97
YTIR/L-C	99

MILLING CUTTER

Description	Page
...-APKT10-...	154
...-APKT16-...	154
...-ENMX04...	155
...-ENMX06...	156
...-ENMX09...	157
...-LNHU13...	158
...-ODMT06-...	159
...-PNMU12-...	160
...-RDKT08-...	161
...-RDKT10-...	161
...-RDKT12-...	161
...-SDMW12-...	162
...-SEKT12-...	163
...-TP07-...	164
...-TP11-...	166
...-TP16-...	167
...-WN04-...	168
...-WN08-...	169

DRILL HOLDER

Description	Page
YGSY	175
YGWC	185

MEMO



HIGH QUALITY PRODUCTS and ON TIME DELIVERY for WORLD-WIDE CUSTOMERS

Since 1982, YG-1 has been committed to quality, innovation and the unique customer experience. Our performance and experience have granted YG-1 the global impression of one of the leading manufacturers of high quality cutting tool solutions. This global footprint expands over 75 countries, with international logistic centers, pledging to our customers to give the best service available today - and tomorrow.

EUROPE

BELGIUM	FINLAND	ITALY	PORTUGAL	SLOVENIA	THE NETHERLANDS
CROATIA	FRANCE	LITHUANIA	ROMANIA	SPAIN	TÜRKIYE
CZECH REPUBLIC	GERMANY	NORWAY	SWEDEN	UNITED KINGDOM	DENMARK
HUNGARY	POLAND	SERBIA	SWITZERLAND	AUSTRIA	GREECE
ALBANIA	BOSNIA AND HERZEGOVINA	UKRAINE	UZBEKISTAN	BULGARIA	
ESTONIA					

ASIA PACIFIC

AUSTRALIA	INDONESIA	MALAYSIA	SOUTH KOREA	VIETNAM
CHINA	ISRAEL	PAKISTAN	TAIWAN	
HONG KONG	JAPAN	PHILIPPINES	THAILAND	
INDIA	SAUDI ARABIA	SINGAPORE	UNITED ARAB EMIRATES	

AMERICAS

BRAZIL	CANADA	COLOMBIA	MEXICO	UNITED STATES
--------	--------	----------	--------	---------------

AFRICA

EGYPT	SOUTH AFRICA
-------	--------------

YG YG-1 CO., LTD.

* For more information on sales network, please contact the head office as below;

HEAD OFFICE

13-40, Songdogwahak-ro 16beon-gil, Yeonsu-gu, Incheon 21984, South Korea

Phone: +82-32-526-0909 www.yg1.solutions E-mail: yg1@yg1.solutions



YG - 1 USA

730 Corporate Woods Parkway,
Vernon Hills, IL 60061 U.S.A.

Phone : 800 - 765 - 8665

Technical Assistance : 888 - 868 - 5988
yg1usa.com

YG - 1 CANADA INC.

3375 North Service Road, Unit A8
Burlington, Ontario, CANADA L7N 3G2

Phone: +1 905 - 335 - 2500

Customer Service: orders@yg1.solutions
ecommm.yg1.solutions

GLOBAL HEADQUARTERS

13-40, Songdogwahak-ro 16beon-gil, Yeonsu-gu,
Incheon 21984, South Korea

Phone: +82 - 32 - 526 - 0909

yg1@yg1.solutions
https://www.yg1.solutions

Note The information is provided for reference only. Tool specifications are subject to change without prior notice.
Although we endeavor to supply accurate and timely information, there can be no guarantee to cover every particular application.
YG - 1 or publishers are not liable for any damage for use of the information.



Search 'YG-1' on social media outlets

YG1YUIT2512006