

2007

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KORLOY[®]

CUTTING TOOLS



KORLOY Inc.

WE CREATE YOUR TOMORROW!



Profile

40 years' Challenge has made New-Road.
Another 40 years will Create New-Beginning.

As a cutting tool manufacturer pursuing Leading-company of world market,
Ceaseless challenge and creative mind will make the future of KORLOY Inc.

Introduction



KORLOY Inc. is a total cutting tool manufacturer who makes carbide, coated carbide and etc. Since 1966, constant innovation has led **KORLOY Inc.** to be the best carbide cutting tool manufacturer in Korea, who tries to be one of the world top class in the field of cutting tool manufacture.

KORLOY Inc. is exporting to over 60 nations through out the world. The products of **KORLOY Inc.** have been getting better and better reputation by virtue of creative, progressive and technical human-resource with up-to-date manufacturing machines as well as Technology Oriented and Market Oriented Management Philosophy.

KORLOY Inc. will do the best to be a World best cutting-tool Manufacturer hoping constant interest and support from our generous customers.



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Selection of KORLOY Grades



Turning

Workpiece	P						M				K				S			H				
	High Speed		Medium Speed	Low Speed	Intermittent & Heavy Duty		High Speed	Medium Speed	Low Speed		High Speed	Medium Speed	Low Speed	High Speed	Medium Speed	Low Speed	High Speed	Medium Speed	Low Speed			
ISO	P01	P10	P20	P30	P40	P50	M10	M20	M30	M40	K01	K10	K20	K30	S01	S10	S20	H01	H10	H20		
Coated Carbide	NC3010		NC3120		NC3030		NC9020		NC3030		NC305K		NC6110		PC8010							
			NC500H		PC230		PC9030				NC315K											
Cermet	CN100		CT10		CN20		CN2000				CN100											
C.B.N											KB350		KB360					KB320		KB330		
Un-Coated Carbide	ST05		ST10		ST15		ST20		MA2		ST30N		ST40E		ST46		ST45					
							U10		U20		H02		H01		H05		H10		G10			
							U40															

Milling

Coated Carbide	NCM325		NCM335		PC3525		PC3535		PC3545		NCM325		NCM335		PC9530		PC3545		PC6510		PC215K		PC8520				
Cermet	CN20		CN30																								
C.B.N											KB360												KB350				
Un-Coated Carbide	ST20		MA2		ST30A		ST30N		ST40		U10		U20		U40				H01		H05		H10		G10		

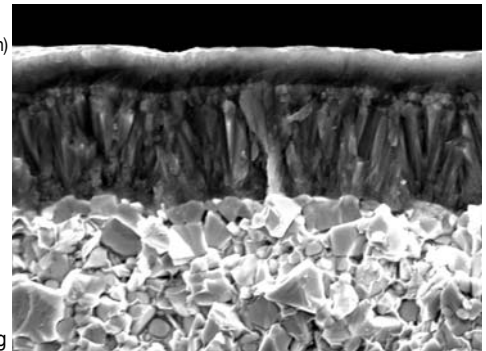
Drilling & Endmilling

Coated Carbide	PC205F		PC210F		PC215F		PC220F		PC225F		PC205F		PC210F		PC215F		PC220F		PC225F		PC205F		PC210F		PC215F		PC220F	
Un-Coated Ultra-fine Carbide	FG2		FS1		FA1		FCC				FS1		FG2		FA1								FG2					

Special Features

- 1) Due to the special crystalline structure of coating, superior wear-resistance and toughness have been acquired.
- 2) Multi-layer coating, having strong bonding strength, has been employed by new coating technology.

Al₂O₃ (Enhance wear Resistance, Prevent Built-up-edge Intermediate layer for better adhesion)
TiC (Enhance wear Resistance)
TiCN (Enhancing wear-resistance and Toughness by adopting New-Coating Tech.)



Cross-sectional view of CVD coating

Guide of Grade Selection

Turning

Workpiece	Cutting condition	1st Choice	Cutting speed		ISO	Application Range
			(m/min)	(sfm)		
Steel	Continuous cutting	NC3010	280(200~400)	920(660~1320)	P01	
		NC3120	230(180~350)	760(590~1150)	P20	
	Interrupted cutting	NC3030	180(120~200)	590(390~660)	P25	
		NC500H	100(50~150)	330(160~490)	P30	
Cast Iron	Continuous cutting	NC305K	370(300~500)	1220(990~1650)	P40	
		NC6110	350(250~450)	1150(820~1480)	K05	
	Interrupted cutting	NC315K	250(150~300)	820(490~990)	K10	
Stainless steel	Continuous cutting	NC9020	200(180~220)	660(590~720)	K20	
		NC3030	150(100~200)	490(330~660)	M01	
	Interrupted cutting	NC3030	150(100~200)	490(330~660)	M10	
		NC3030	150(100~200)	490(330~660)	M20	
					M30	

Milling

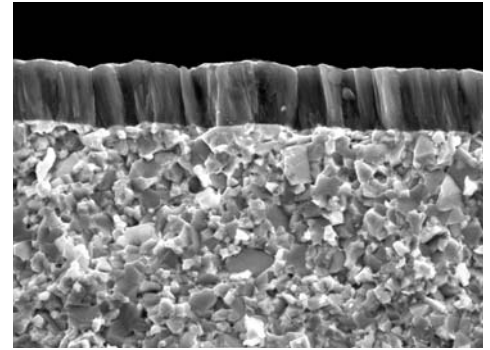
Workpiece	1st Choice	Cutting speed		ISO	Application Range
		(m/min)	(sfm)		
Steel	NCM325	250(150 ~ 300)	820(490 ~ 980)	P20	
				M20	
	NCM335	200(150 ~ 250)	660(490 ~ 820)	P30	
M30					
				P40	
				M40	

Special Features

- 1) PVD coating technology has inherent advantage like superior chipping resistance of coated film itself and maintain the toughness of carbide substrate. Thus it is possible to increase the tool life approximately 2~4times longer than carbide cutting tools.
- 2) PVD coating can make sharp cutting edge without blunting of sharp substrate.
- 3) Ti-base coating film can provide excellent surface finish and high accuracy machining due to the low affinity of Ti film with Workpiece.

Special Features of KORLOY PVD Series

- 1) Using TiAlN which is optimal for high speed dry cutting case.
- 2) Toughness of TiAlN has been enhanced than conventional brittle TiAlN.
- 3) Due to the TiN at outer most layer, friction has been reduced and surface has been improved.
- 4) Easy to recognize of wear amount on cutting edge.



Cross-sectional view of PVD coating

Guide of Grade Selection

Turning

Workpiece	Coating	1st Choice	Cutting speed		ISO	Application Range
			(m/min)	(sfm)		
Steel	TiAlN/ TiN	PC3525	180(120~230)	590(390~750)	P10	
					P20	
					P30	
					P40	
Stainless steel	TiAlN	PC9030	130(50 ~ 180)	430(160 ~ 590)	M20	
					M30	
					M40	
HRSA	TiAlN/TiN	PC8010	50(20 ~ 70)	160(70 ~ 230)	S01	
					S10	
					S20	

Milling

Workpiece	Coating	1st Choice	Cutting speed		ISO	Application Range
			(m/min)	(sfm)		
Steel	TiAlN	PC3525	250(150~350)	820(490~1150)	P10	
	TiAlN/ TiN	PC3535	200(150~250)	660(490~820)	P20	
		PC3545	120(100~150)	390(330~490)	P30	
		P40				
Cast Iron	TiAlN/ TiN	PC6510	200(150~250)	660(490~820)	K01	
		PC215K	170(120~210)	560(390~690)	K10	
			K20			
Stainless steel	TiAlN	PC9530	130(50~200)	430(160~660)	M20	
					M30	
					M40	
HRSA	TiAlN/TiN	PC8520	50(20~70)	160(70~230)	S10	
					S20	
					S30	

Special Features

KORLOY cermet is a kind of carbonitride type cermet which has ultra fine micro structure by adding TiN, TiCN powders as additives. It has superior thermal shock resistance and optimal wear resistance and toughness as per cutting condition, as well.

Special Advantages

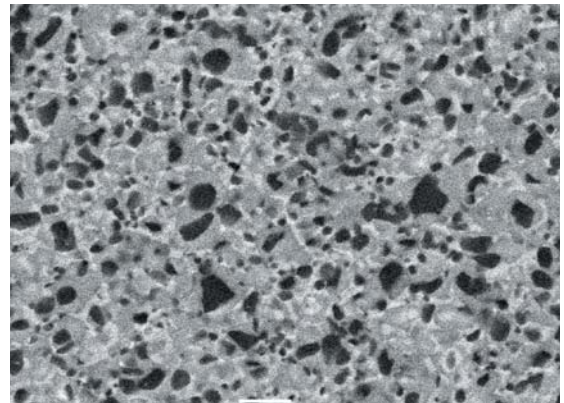
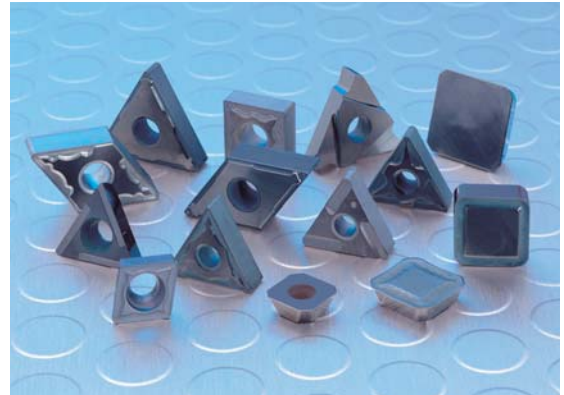
Cermet, using TiCN as main component, is harder than cemented carbide and has lower affinity with Ferrous workpiece at high temperature, thus cermet have special advantage as below.

● Comparing with Un-Coated Carbide

1. Since cermet has superior wear resistance and cratering resistance, higher speed cutting is available.
2. Since cermet has low affinity with ferrous workpiece, from low to high speed cutting is available.
3. Low affinity with workpiece provides excellent surface finish.
4. Exceptional tool life and cutting performance can be acquired at high speed finishing.

● Comparing with Coated Carbide

1. Suitable for light cutting(finishing).
2. Better wear resistance and surface finish can be acquired at the same cutting condition.



Microstructure of Cermet

Guide of Grade Selection

■ Turning

Workpiece	Coating	1st Choice	Cutting Speed		ISO	Application Range
			(m/min)	(sfm)		
Steel	Finishing	* CC105 * CC115	230(150 ~ 300)	750(490 ~ 980)	P01	
		Light to medium cutting	CN100 CT10	200(150 ~ 280) 200(130 ~ 250)	660(490 ~ 920) 660(430 ~ 820)	
	CN20 CN2000		200(150 ~ 250)	660(500 ~ 830)	P20	

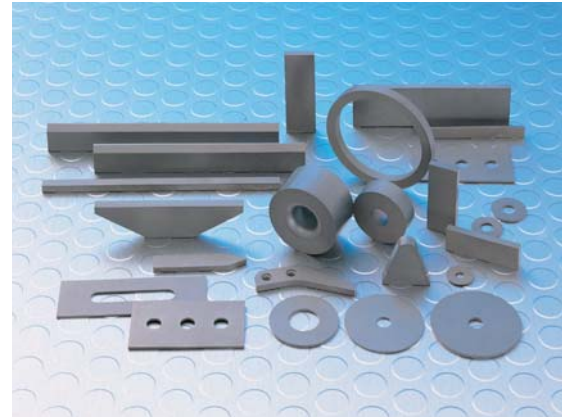
* CC105, CC115 is Coated Cermet Grades.

■ Milling

Workpiece	Coating	1st Choice	Cutting Speed		ISO	Application Range
			(m/min)	(sfm)		
Steel	Finishing	CN20	230(150 ~ 300)	760(500 ~ 990)	P01	
					P10	
	Light to medium cutting	CN30	200(150 ~ 250)	660(500 ~ 820)	P20	

Special Features

Due to the advanced sintering technology that KORLOY use, KORLOY uncoated carbide grades have even and fine alloy structure which is necessary to get superior quality as a cutting tool. KORLOY uncoated carbide grades have exceptional wear resistance and toughness at the same time, due to the special design of WC, Co, TaC and TiC, etc.



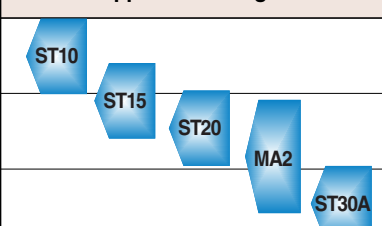
Advantages

- 1) Variety of grades as per ISO classification (P,M,K)
- 2) Excellent quality at machining with coolant, due to the great thermal crack resistance of carbide.
- 3) Due to the special design of carbides, it has fine micro structure and low affinity with workpiece.
- 4) It has excellent toughness, in general.

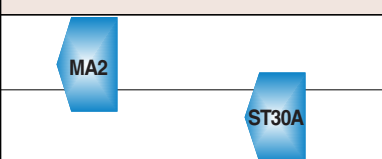
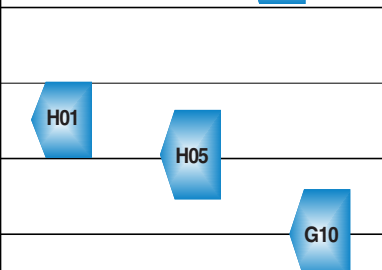
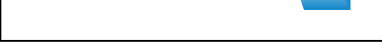
ISO	Composition	Characteristics	Workpiece
P	WC-TiC-TaC-Co	Excellent thermal shock resistance and plastic deformation resistance.	Carbon steel, Alloy steel, Stainless steel
M	WC-TiC-TaC-Co	Comprehensive grades have excellent thermal shock resistance and superior	Carbon steel, Alloy steel, Stainless steel, Cast steel
K	WC-Co	Hard and strong grades	Cast iron, Non-ferrous metal, Plastic, Acryl etc

ISO	Grade	Hardness (HrA)	TRS (kgf/mm ²)	Young's modulus (10 ³ kgf/mm ²)	Thermal expansion coefficient (10 ⁻⁶ /°C)	Thermal conductivity (cal/cm · Sec · °C)
P	ST05	92.7	140	-	-	-
	ST10	92.1	175	48	6.2	25
	ST20	91.9	200	56	5.2	45
	ST30A	91.3	230	53	5.2	-
M	U10	92.4	170	47	-	-
	U2	91.1	210	-	-	88
	ST30A	91.3	230	53	5.2	-
	U40	89.2	270	-	-	-
K	H02	93.2	185	61	4.4	105
	H01	92.9	210	66	4.7	109
	G10	90.9	250	63	-	105

■ Turning

Workpiece	1st Choice	Cutting Speed		ISO	Application Range
		(m/min)	(sfm)		
Steel	ST10	150(100 ~ 200)	500(330 ~ 660)	P10	
	ST15	140(90 ~ 190)	460(300 ~ 630)	P20	
	ST20	130(70 ~ 180)	430(230 ~ 590)	P30	
	MA2, ST30A	130(70 ~ 180)	430(230 ~ 590)		
Cast iron	H02	150(100 ~ 200)	500(330 ~ 660)	K01	
	H01, H05	140(100 ~ 200)	460(330 ~ 660)	K10	
	H10, G10	130(90 ~ 190)	430(300 ~ 630)	K20	
Aluminum alloy	H01	500(300 ~ 800)	1,640(990 ~ 2,630)		K30
Copper, Bronze	H01	200(150 ~ 300)	660(500 ~ 990)		

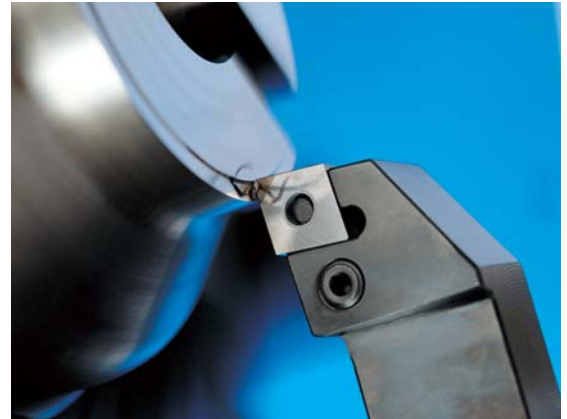
■ Milling

Workpiece	1st Choice	Cutting Speed		ISO	Application Range
		(m/min)	(sfm)		
Steel	MA2	140(70 ~ 180)	460(230 ~ 590)	P20	
	ST30A	130(70 ~ 180)	430(230 ~ 590)	P30	
Cast iron	H01, H05	150(100 ~ 200)	500(330 ~ 660)	K01	
	H10, G10	140(90 ~ 190)	460(300 ~ 630)	K10	
Aluminum alloy	H01	500(300 ~ 800)	1,640(900 ~ 2,630)	K20	
Copper, Bronze	H01	200(150 ~ 300)	660(500 ~ 990)	K30	

Special Features

CBN is a cutting tool material made under ultra high pressure and temperature sintering of mixture of cubic boron nitride and special ceramic binder material.

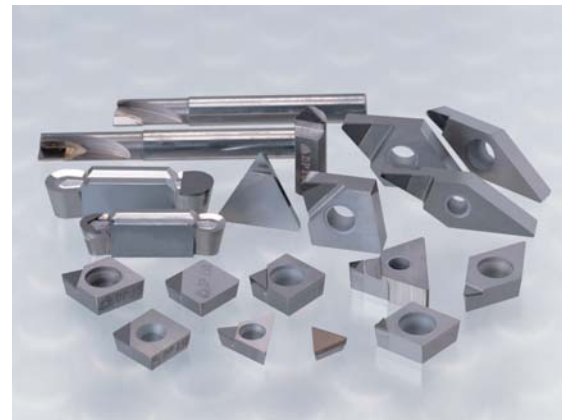
CBN tool is suitable for machining of high speed precise machining in hardened steels and cast irons. Machining with CBN can replace conventional grinding process effectively.



Cutting Condition	Special Features	Workpiece
<p>Hardened steel</p> <p>V: 260, 330, 390, 490, 660 (sfm)</p> <p>f: 0.0004, 0.002, 0.004, 0.008, 0.012 (ipr)</p> <p>Hardened steel</p>	<p>KB320</p> <ul style="list-style-type: none"> • Suitable for general cutting, intermittent and continuous cutting. • Superior toughness. • Comprehensive grade having optimal wear resistance and toughness. 	<p>Hardened steel</p> <p>H_RC : 40~65</p>
<p>Hardened steel</p> <p>V: 30, 330, 390, 490, 660 (sfm)</p> <p>f: 0.0004, 0.002, 0.004, 0.008, 0.012 (ipr)</p> <p>Hardened steel</p>	<p>KB330</p> <ul style="list-style-type: none"> • Suitable for intermittent cutting. 	<p>Hardened steel</p> <p>H_RC : 40~65</p>
<p>Bainite</p> <p>Cast iron</p> <p>V: 330, 660, 990, 1310, 1640, 1970, 2460, 2620 (sfm)</p> <p>f: 0.004, 0.008, 0.012, 0.016, 0.02 (ipr)</p> <p>Cast iron</p> <p>Bainite</p>	<p>KB350</p> <ul style="list-style-type: none"> • Suitable for high speed finishing of cast iron. • Comprehensive grade for machining of cast iron. 	<p>Cast iron</p> <p>H_B : 180~250</p>
<p>Heat resistant alloy</p> <p>Sintered alloy</p> <p>Cast iron</p> <p>Chilled cast iron</p> <p>V: 160, 330, 490, 660, 820, 1640, 4920 (sfm)</p> <p>f: 0.0012, 0.004, 0.008, 0.012, 0.016, 0.02 (ipr)</p> <p>Chilled cast iron</p> <p>Cast iron</p> <p>Sintered alloy</p> <p>Heat resistant alloy</p>	<p>KB360</p> <ul style="list-style-type: none"> • Suitable for high speed cutting of cast iron and milling of high hardness roll, sintered alloy as well. 	<p>Cast iron, Sintered alloy</p> <p>Heat resistant alloy,</p> <p>Carbide roll</p>
<p>Hardened steel</p> <p>V: 330, 490, 660 (sfm)</p> <p>f: 0.0004, 0.002, 0.004, 0.02, 0.04 (ipr)</p> <p>Hardened steel</p>	<p>KB420</p> <ul style="list-style-type: none"> • Unsurpassed tool life at high speed cut. • High productivity. 	<p>Hardened steel</p> <p>H_RC : 40~65</p>


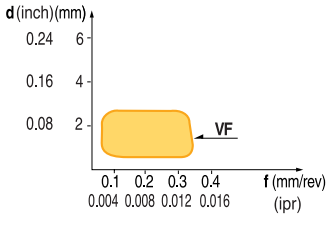
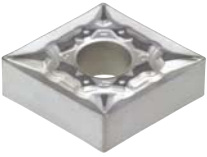
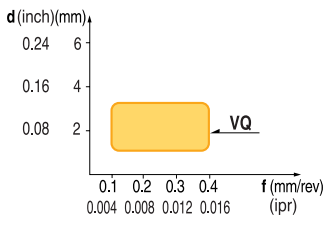

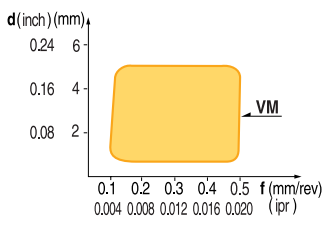

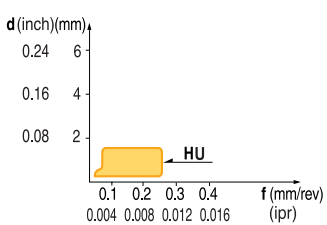
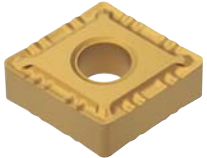
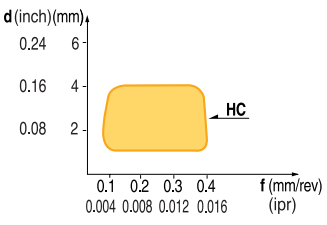
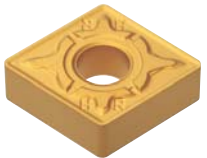
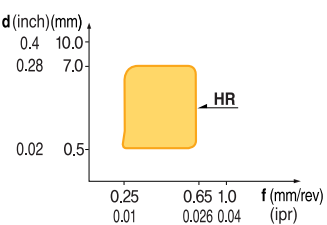
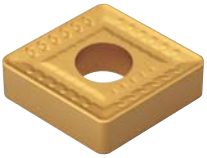
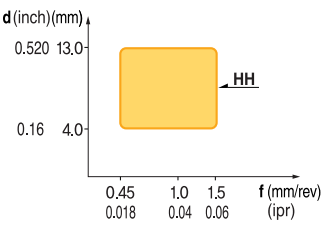
Special Features

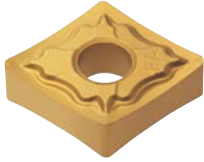
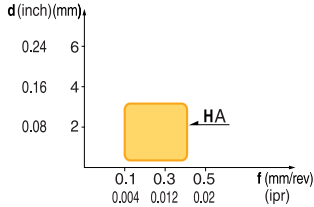
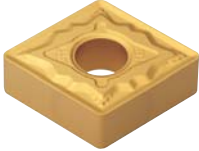
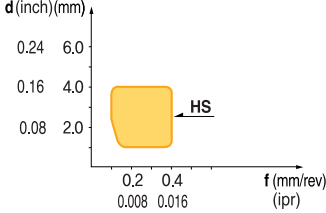
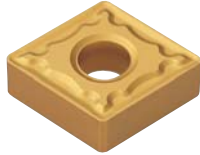
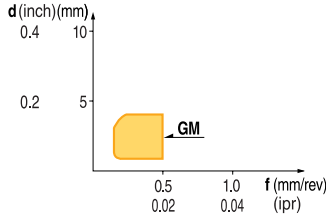

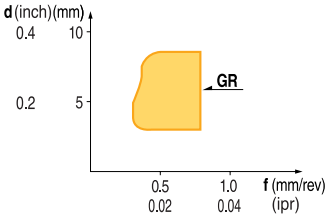

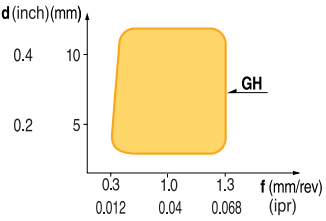
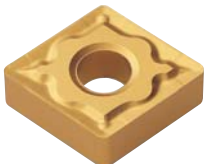
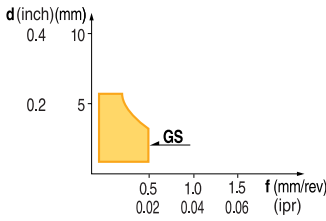
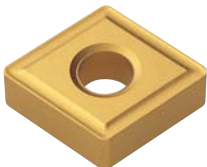
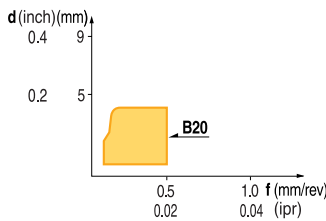
KORLOY PCD products are manufactured by using high quality PCD tip which is made under ultra high temperature and pressure. The PCD tip has been welded on the qualified carbide insert of KORLOY. Since KORLOY supplies high quality PCD products for turning, milling and endmill, it is possible to meet the needs of variety of application.

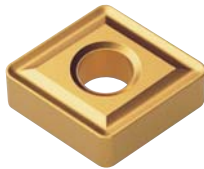
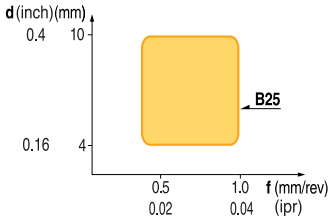
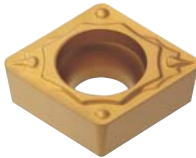
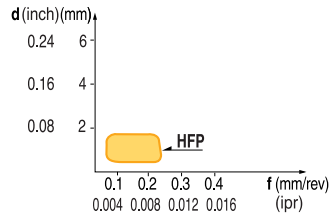

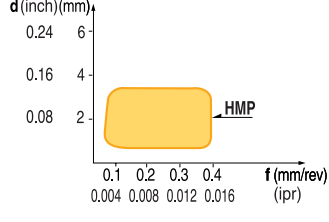

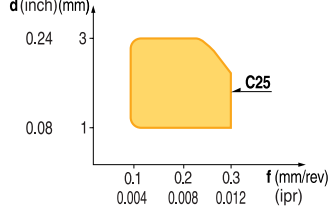
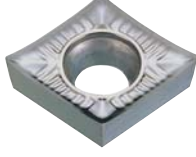
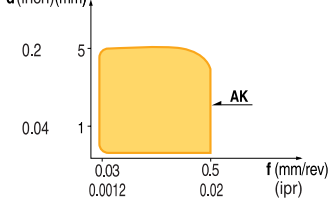
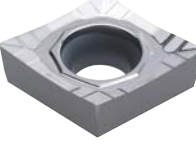
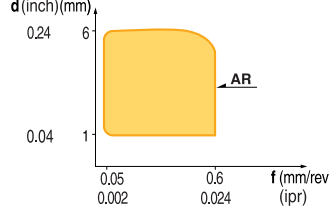
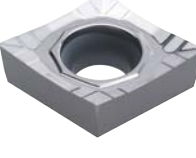
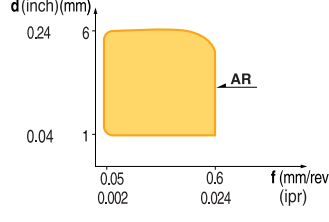

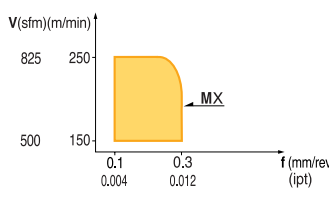



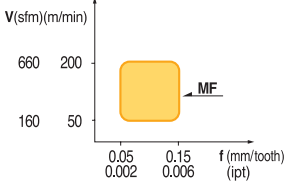

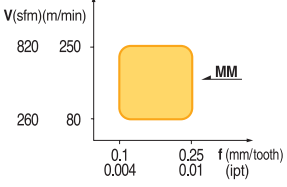

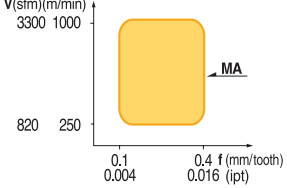
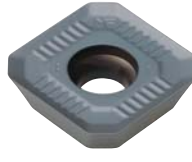
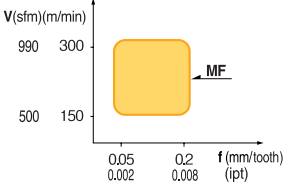
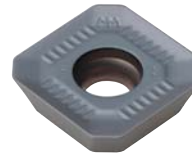
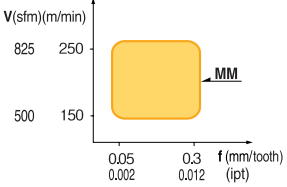
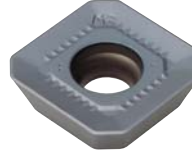
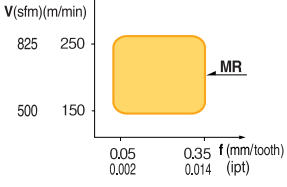

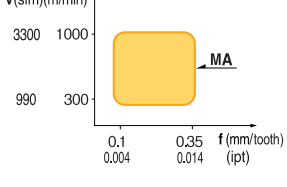
KORLOY PCD grades


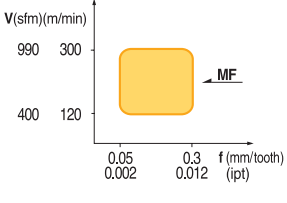

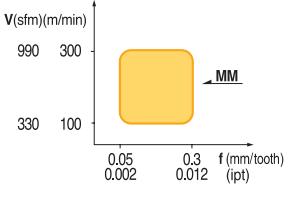
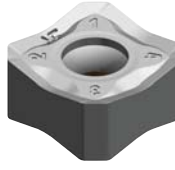
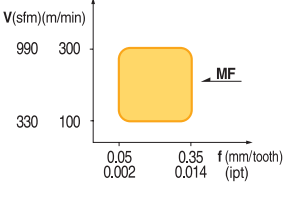
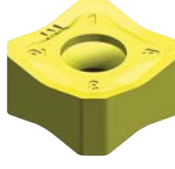
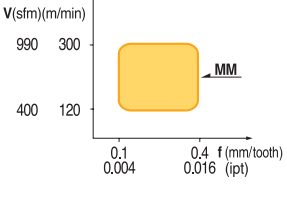
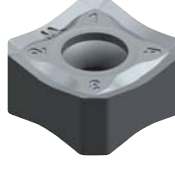
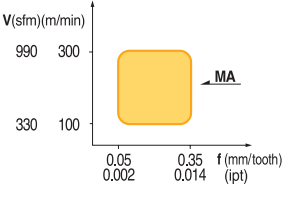
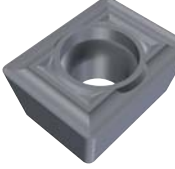
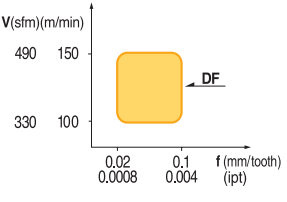

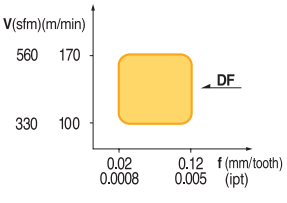
Grade	Special Features	Application range	Grain size (μm)	Hardness (Hv)	TRS (kg/mm ²)
DP90	<ul style="list-style-type: none"> Coarse diamond grain has been used to get excellent wear resistance enough to machine cemented-carbide, high Si aluminum alloy. 	Cemented carbide Ceramic roughing High Si aluminum Rock, Stone	50	10,000 ~ 12,000	110
DP150	<ul style="list-style-type: none"> By use of fine diamond grain having good bonding property, it is suitable for machining of non-ferrous metal, graphite. 	High Si aluminum Copper, Bronze Rubber, Wood, Carbon	5	10,000 ~ 12,000	200
DP200	<ul style="list-style-type: none"> By use of ultra fine diamond grain, it is possible to make sharp cutting edge. Thus it is appropriate grade to machine non-ferrous material. 	Plastic Wood Precise cutting of aluminum	0.5	8,000 ~ 10,000	220

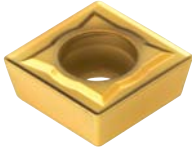
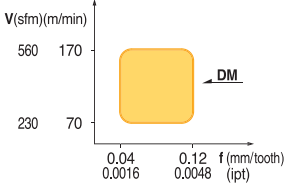
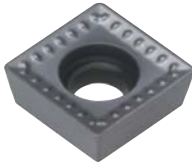
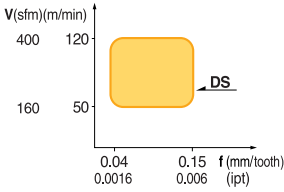
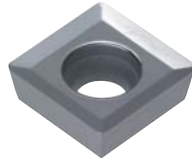
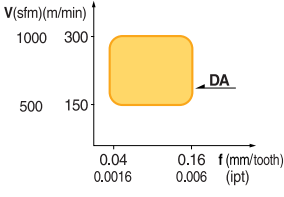

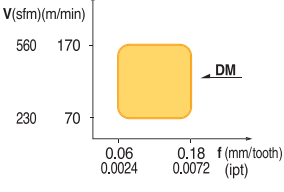
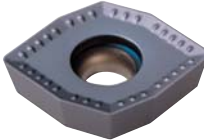
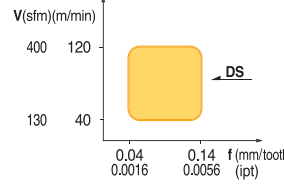

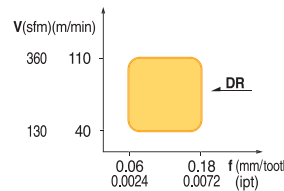

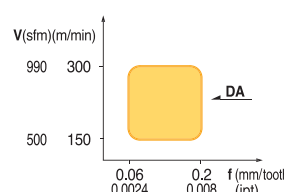
	Shape	Application Range	Special Features
"V" Series	VF 	 <p>Graph showing Application Range for VF: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.08 to 0.24 inch (2 to 6 mm) and f = 0.004 to 0.4 mm/rev (0.1 to 16 ipr).</p>	<ul style="list-style-type: none"> For Finishing Good chip control quality on varied depth of cut. Excellent cutting edge strength has been acquired due to the special chip-breaker. <ul style="list-style-type: none"> Recommended Cutting Conditions d = 0.3 ~ 2.5mm f = 0.05 ~ 0.35mm/rev 0.012 ~ 0.10inch 0.002 ~ 0.014ipr
	VQ 	 <p>Graph showing Application Range for VQ: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.08 to 0.24 inch (2 to 6 mm) and f = 0.004 to 0.4 mm/rev (0.1 to 16 ipr).</p>	<ul style="list-style-type: none"> For Medium to Finish Cutting Exclusive chip breaker for KORLOY's CN2000 grade. Side cutting edge of curving type <ul style="list-style-type: none"> Recommended Cutting Conditions d = 1.0 ~ 3.0mm f = 0.1 ~ 0.4mm/rev 0.04 ~ 0.12inch 0.004 ~ 0.016ipr
	VM 	 <p>Graph showing Application Range for VM: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.08 to 0.24 inch (2 to 6 mm) and f = 0.004 to 0.5 mm/rev (0.1 to 20 ipr).</p>	<ul style="list-style-type: none"> For Medium Cutting Wide available chip control range from medium-finishing to medium-roughing. Suitable chip breaker for CNC machining <ul style="list-style-type: none"> Recommended Cutting Conditions d = 1.0 ~ 5.0mm f = 0.1 ~ 0.5mm/rev 0.04 ~ 0.20inch 0.004 ~ 0.02ipr
"H" Series	HU 	 <p>Graph showing Application Range for HU: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.08 to 0.24 inch (2 to 6 mm) and f = 0.004 to 0.4 mm/rev (0.1 to 16 ipr).</p>	<ul style="list-style-type: none"> For Ultra-fine Finishing, Finishing Suitable for a machining need fine surface finish and a machining generate low cutting force due to sharp cutting edge design. Specially designed chip breaker ensure stable chip control at ultra-fine-finishing condition. <ul style="list-style-type: none"> Recommended Cutting Conditions d = 0.1 ~ 1.5mm f = 0.03 ~ 0.25mm/rev 0.004 ~ 0.006inch 0.0012 ~ 0.01ipr
	HC 	 <p>Graph showing Application Range for HC: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.08 to 0.24 inch (2 to 6 mm) and f = 0.004 to 0.4 mm/rev (0.1 to 16 ipr).</p>	<ul style="list-style-type: none"> For Medium to Finish Cutting Excellent for copying of special shape. Smooth chip control at shallow cut as well as deep depth of cut. <ul style="list-style-type: none"> Recommended Cutting Conditions d = 0.8 ~ 4.0mm f = 0.08 ~ 0.4mm/rev 0.03 ~ 0.16inch 0.003 ~ 0.016ipr
	HR 	 <p>Graph showing Application Range for HR: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.02 to 0.4 inch (0.5 to 10 mm) and f = 0.01 to 1.0 mm/rev (0.26 to 4 ipr).</p>	<ul style="list-style-type: none"> For Roughing Excellent chip control at deep depth of cut and fast feed rate. Strong cutting edge makes excellent cutting performance at intermittent cutting. <ul style="list-style-type: none"> Recommended Cutting Conditions d = 2.5 ~ 7.0mm f = 0.25 ~ 0.65mm/rev 0.1 ~ 0.28inch 0.01 ~ 0.028ipr
	HH 	 <p>Graph showing Application Range for HH: d (inch)(mm) vs f (mm/rev) (ipr). The range is approximately d = 0.16 to 0.52 inch (4 to 13 mm) and f = 0.018 to 1.5 mm/rev (0.06 to 6 ipr).</p>	<ul style="list-style-type: none"> For Heavy Duty Cutting Specially designed toughest cutting edge provides superior cutting performance at deep depth of cut and fast feed rate. Unique design of dot on cutting edge makes smooth chip flow and reduce cutting force. <ul style="list-style-type: none"> Recommended Cutting Conditions d = 4.0 ~ 13.0mm f = 0.45 ~ 1.5mm/rev 0.16 ~ 0.5 inch 0.018 ~ 0.04ipr

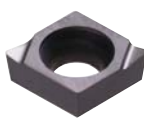



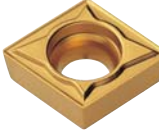


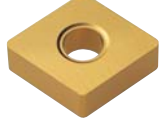

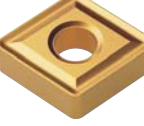

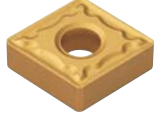
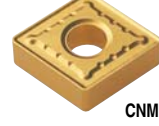


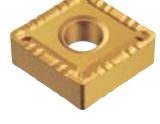



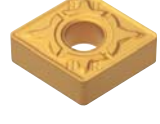






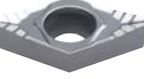


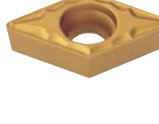
	Shape	Application Range	Special Features
"H"Series	HA 		<ul style="list-style-type: none"> For Light-alloy, Stainless steel machining Sharp cutting edge generate low cutting force. Specially designed tough main cutting edge. Suitable for cutting of low carbon steel, stainless steel, aluminum. <p>Recommended Cutting Conditions</p> <p>d = 0.8 ~ 3.5mm f = 0.1 ~ 0.4mm/rev 0.03 ~ 0.16inch 0.004 ~ 0.016ipr</p>
	HS 		<ul style="list-style-type: none"> For Medium Cutting of Stainless steel Exclusive design for stainless steel cutting provide longer tool life Wear resistance have been reinforced through high rake angle of chip breaker land. <p>Recommended Cutting Conditions</p> <p>d = 1.0 ~ 4.0mm f = 0.1 ~ 0.4mm/rev 0.04 ~ 0.16 inch 0.004 ~ 0.016ipr</p>
"G"Series	GM 		<ul style="list-style-type: none"> For Medium to Light Cutting Excellent chip control at general cutting conditions. Strong cutting edge strength provide good performance at intermittent and fast feed cutting. <p>Recommended Cutting Conditions</p> <p>d = 0.7 ~ 4.0mm f = 0.1 ~ 0.5mm/rev 0.03 ~ 0.16inch 0.004 ~ 0.02ipr</p>
	GR 		<ul style="list-style-type: none"> For Medium to Roughing Suitable for deep depth of cut and fast feed cutting of steel and cast iron. Suitable for intermittent cutting. <p>Recommended Cutting Conditions</p> <p>d = 3.0 ~ 8.0mm f = 0.3 ~ 0.8mm/rev 0.12 ~ 0.32inch 0.012 ~ 0.032ipr</p>
	GH 		<ul style="list-style-type: none"> For Heavy Duty Cutting Suitable for heavy duty cutting due to strong cutting edge. Wide chip control range with low cutting force <p>Recommended Cutting Conditions</p> <p>d = 3.0 ~ 11.0mm f = 0.3 ~ 1.3mm/rev 0.12 ~ 0.44inch 0.012 ~ 0.047ipr</p>
	GS 		<ul style="list-style-type: none"> For Medium to Roughing of Stainless steel Exclusive chip breaker for stainless steel. <p>Recommended Cutting Conditions</p> <p>d = 1.5 ~ 5.5mm f = 0.15 ~ 0.5mm/rev 0.06 ~ 0.22inch 0.006 ~ 0.02ipr</p>
"B"Series	B20 		<ul style="list-style-type: none"> For Light to Medium Cutting Exclusive chip breaker for cutting of cast iron. <p>Recommended Cutting Conditions</p> <p>d = 1.5 ~ 4.0mm f = 0.15 ~ 0.5mm/rev 0.06 ~ 0.16inch 0.006 ~ 0.02ipr</p>


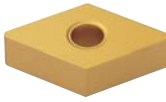
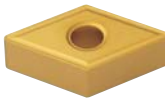

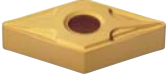
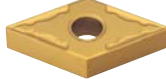
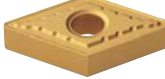


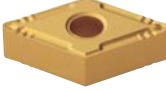





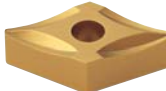







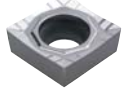



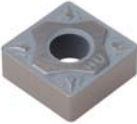

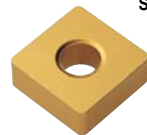
Shape		Application Range	Special Features
"B" Series	B25 		<ul style="list-style-type: none"> For General Cutting Suitable for general cutting condition cutting. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 4.0 \sim 10.0\text{mm}$ $f = 0.5 \sim 1.0\text{mm/rev}$ $0.16 \sim 0.40\text{inch}$ $0.02 \sim 0.04\text{ipr}$
	HFP 		<ul style="list-style-type: none"> For Finishing Excellent chip control at shallow depth of cut and low feed rate. Excellent surface finish of work piece due to reduced cutting force. Suitable for fine boring. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 0.1 \sim 1.5\text{mm}$ $f = 0.05 \sim 0.25\text{mm/rev}$ $0.004 \sim 0.06\text{inch}$ $0.002 \sim 0.01\text{ipr}$
"H-Posi" Series	HMP 		<ul style="list-style-type: none"> For Medium Cutting Excellent chip control at wide range of cutting conditions. Suitable for stainless steel cutting. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 0.5 \sim 3.5\text{mm}$ $f = 0.05 \sim 0.4\text{mm/rev}$ $0.02 \sim 0.14\text{inch}$ $0.002 \sim 0.016\text{ipr}$
	C25 		<ul style="list-style-type: none"> For Medium Cutting Suitable for intermittent cutting and cast iron machining. Good surface finish due to low cutting force. Suitable for both boring and outer diameter turning. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 1.0 \sim 3.0\text{mm}$ $f = 0.1 \sim 0.3\text{mm/rev}$ $0.04 \sim 0.12\text{inch}$ $0.004 \sim 0.012\text{ipr}$
"C" Series	AK 		<ul style="list-style-type: none"> For Aluminum Cutting High rake angle and low resistance cutting edge secures long tool life in continuous cutting of aluminum turning. High speed of finishing operation. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 0.1 \sim 4.0\text{mm}$ $f = 0.03 \sim 0.5\text{mm/rev}$ $0.004 \sim 0.16\text{inch}$ $0.0012 \sim 0.02\text{ipr}$
	AR 		<ul style="list-style-type: none"> For Aluminum Cutting High stability of cutting edge secures great performance in high speed and intermittent machining. High speed of medium and interrupted operation. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 1.0 \sim 6.0\text{mm}$ $f = 0.05 \sim 0.6\text{mm/rev}$ $0.04 \sim 0.24\text{inch}$ $0.002 \sim 0.024\text{ipr}$
"AI" Series	AR 		<ul style="list-style-type: none"> For Aluminum Cutting High stability of cutting edge secures great performance in high speed and intermittent machining. High speed of medium and interrupted operation. <ul style="list-style-type: none"> Recommended Cutting Conditions $d = 1.0 \sim 6.0\text{mm}$ $f = 0.05 \sim 0.6\text{mm/rev}$ $0.04 \sim 0.24\text{inch}$ $0.002 \sim 0.024\text{ipr}$
"MX" Series	MX 		<ul style="list-style-type: none"> For General Milling Possible to increase productivity through increase feed and depth. Excellent heat resistance due to the special chip breaker design of top face of insert. <ul style="list-style-type: none"> Recommended Cutting Conditions $V = 150 \sim 250\text{m/min}$ $f = 0.1 \sim 0.3\text{mm/tooth}$ $500 \sim 825\text{sfm}$ $0.004 \sim 0.012\text{ipr}$

	Shape	Application Range	Special Features
"Alpha Mill" Series	MF 		<ul style="list-style-type: none"> For Finishing of Milling Specially designed cutting edge to reduce cutting load enables to multi applications for various workpiece. <p>Recommended Cutting Conditions</p> <p>V = 50 ~ 300m/min f = 0.05 ~ 0.15mm/tooth 160 ~ 660sfm 0.002 ~ 0.006ipt</p>
	MM 		<ul style="list-style-type: none"> For Medium Cutting of Milling The best match of strong cutting edge and curved line ensures various milling operations. <p>Recommended Cutting Conditions</p> <p>V = 80 ~ 250m/min f = 0.1 ~ 0.25mm/tooth 260 ~ 820sfm 0.004 ~ 0.01ipt</p>
	MA 		<ul style="list-style-type: none"> For Aluminum Milling Optimal design and polished mirror top face for aluminum machining makes smooth chip control and prevents built-up-edge. <p>Recommended Cutting Conditions</p> <p>V = 250 ~ 1000m/min f = 0.1 ~ 0.4mm/tooth 820 ~ 3300sfm 0.004 ~ 0.016ipt</p>
"Future Mill" Series	MF 		<ul style="list-style-type: none"> For Finishing of Milling Special design for light cutting of gummy materials like stainless steel and hard to machine material provide fine surface finish and longer tool life. <p>Recommended Cutting Conditions</p> <p>V = 150 ~ 300m/min f = 0.05 ~ 0.2mm/tooth 500 ~ 990sfm 0.002 ~ 0.008ipt</p>
	MM 		<ul style="list-style-type: none"> For Medium Cutting of Milling Chip breaker design to cover general cutting condition provide wide available application range. Ground type and as sintered type is available. <p>Recommended Cutting Conditions</p> <p>V = 150 ~ 250m/min f = 0.05 ~ 0.3mm/tooth 500 ~ 825sfm 0.002 ~ 0.012ipt</p>
	MR 		<ul style="list-style-type: none"> For Roughing of Milling Strongest cutting edge strength provide stable tool life even in case of severe cutting with heavy intermittent and heavy roughing. <p>Recommended Cutting Conditions</p> <p>V = 150 ~ 250m/min f = 0.05 ~ 0.35mm/tooth 500 ~ 825sfm 0.002 ~ 0.014ipt</p>
	MA 		<ul style="list-style-type: none"> For Aluminum Milling Suitable design for aluminum machining like sharp cutting edge, mirror face of insert top which prevent built-up-edge, provide excellent cutting performance. <p>Recommended Cutting Conditions</p> <p>V = 300 ~ 1000m/min f = 0.1 ~ 0.35mm/tooth 990 ~ 3300sfm 0.004 ~ 0.014ipt</p>



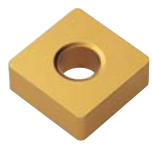


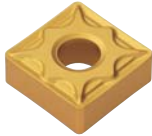
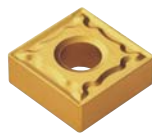

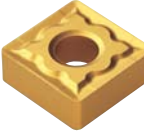

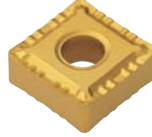
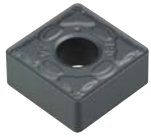







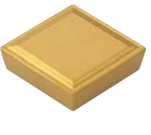
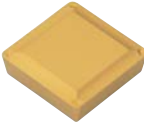
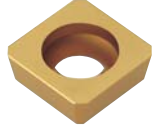
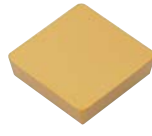

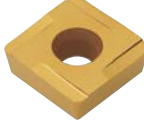



	Shape	Application Range	Special Features
"Rich Mill RM4" Series	MF 		<ul style="list-style-type: none"> For Finishing of Milling Specially designed chip breaker with low cutting load for light cutting and difficult-to-cut material provides fine surface roughness and longer tool life <p>Recommended Cutting Conditions</p> <p>V=120-300m/min f=0.05-0.3mm/tooth 400-990sfm 0.002-0.012ipt</p>
	MM 		<ul style="list-style-type: none"> For Medium to Roughing of Milling Proper design of cutting edge for general milling operation provides wide available application range. <p>Recommended Cutting Conditions</p> <p>V = 100 ~ 300m/min f = 0.05-0.3mm/tooth 330 ~ 990sfm 0.002-0.012ipt</p>
"Rich Mill RM8" Series	MF 		<ul style="list-style-type: none"> For Finishing of Milling Specially designed chip breaker with low cutting load for light cutting and difficult-to-cut material provides fine surface roughness and longer tool life <p>Recommended Cutting Conditions</p> <p>V = 100 ~ 300m/min f = 0.05 ~ 0.35mm/tooth 330 ~ 990sfm 0.002 ~ 0.014ipt</p>
	MM 		<ul style="list-style-type: none"> For Medium to Roughing of Milling Proper design of cutting edge for general milling operation provides wide available application range. <p>Recommended Cutting Conditions</p> <p>V = 120 ~ 300m/min f = 0.1 ~ 0.4mm/tooth 400 ~ 990sfm 0.004-0.016 ipt</p>
	MA 		<ul style="list-style-type: none"> For Aluminum Milling Sharp cutting edge with buffered on top face of insert which prevents built-up-edge provides smooth chip condition. <p>Recommended Cutting Conditions</p> <p>V = 100 ~ 300m/min f = 0.05-0.35mm/tooth 330 ~ 990sfm 0.002-0.014ipt</p>
"LPDrill" Series	DF 		<ul style="list-style-type: none"> For Medium Cutting of Small Hole Drilling General application of steel and stainless steel. Sharp cutting edge for excellent chip breaking in small hole drilling. <p>Recommended Cutting Conditions</p> <p>V = 100 ~ 150m/min f = 0.02 ~ 0.1mm/tooth 330 ~ 490sfm 0.0008 ~ 0.004ipt</p>
"SPDrill" Series	DF 		<ul style="list-style-type: none"> For Medium Cutting of Drilling General application of steel and stainless steel. Excellent performance with suitable cutting edge for deep hole drilling. <p>Recommended Cutting Conditions</p> <p>V = 100 ~ 170m/min f = 0.02 ~ 0.12mm/tooth 330 ~ 560sfm 0.0008 ~ 0.005ipt</p>

	Shape	Application Range	Special Features
"SPDrill" Series	DM 	 <p>V(sfm)(m/min) 560 170 230 70</p> <p>0.04 0.12 f (mm/tooth) 0.0016 0.0048 (ipt)</p>	<ul style="list-style-type: none"> For Medium Cutting of Drilling <ul style="list-style-type: none"> General application of steel, stainless and cast iron Strong cutting edge suitable for interrupted hole drilling. Recommended Cutting Conditions <ul style="list-style-type: none"> V=70~170m/min f=0.04~0.12mm/rev 230~560sfm 0.0016~0.0048ipr
	DS 	 <p>V(sfm)(m/min) 400 120 160 50</p> <p>0.04 0.15 f (mm/tooth) 0.0016 0.006 (ipt)</p>	<ul style="list-style-type: none"> For Stainless steel Drilling <ul style="list-style-type: none"> As an insert for stainless steel drilling, combination of high rake angle and convex dot put on top face make good chip control and long last tool life at the same time. Recommended Cutting Conditions <ul style="list-style-type: none"> V=50~120m/min f=0.04~0.15mm/rev 160~400sfm 0.0016~0.006ipr
	DA 	 <p>V(sfm)(m/min) 1000 300 500 150</p> <p>0.04 0.16 f (mm/tooth) 0.0016 0.006 (ipt)</p>	<ul style="list-style-type: none"> For Aluminum Drilling <ul style="list-style-type: none"> As an insert for aluminum drilling, it has sharp cutting edge and polished mirror top face. It prevents built-up-edge, thus gets great chip flow. Recommended Cutting Conditions <ul style="list-style-type: none"> V=150~300m/min f=0.04~0.16mm/rev 500~1000sfm 0.0016~0.006ipr
"NPDrill" Series	DM 	 <p>V(sfm)(m/min) 560 170 230 70</p> <p>0.06 0.18 f (mm/tooth) 0.0024 0.0072 (ipt)</p>	<ul style="list-style-type: none"> For Medium Cutting of Drilling <ul style="list-style-type: none"> Major application of steel and cast iron Strong cutting edge suitable for interrupted hole drilling. Recommended Cutting Conditions <ul style="list-style-type: none"> V=70~170m/min f=0.06~0.18mm/rev 230~560sfm 0.0024~0.0072ipr
	DS 	 <p>V(sfm)(m/min) 400 120 130 40</p> <p>0.04 0.14 f (mm/tooth) 0.0016 0.0056 (ipt)</p>	<ul style="list-style-type: none"> For Stainless steel Drilling <ul style="list-style-type: none"> Suitable design for stainless drilling having sharp edge and chip breaker Recommended Cutting Conditions <ul style="list-style-type: none"> V=40~120m/min f=0.04~0.14mm/rev 130~400sfm 0.0016~0.0056ipr
	DR 	 <p>V(sfm)(m/min) 360 110 130 40</p> <p>0.06 0.18 f (mm/tooth) 0.0024 0.0072 (ipt)</p>	<ul style="list-style-type: none"> For Roughing of Mild steel <ul style="list-style-type: none"> Roughing of soft steel Strong cutting edge suitable for interrupted hole drilling provides excellent cutting performance. Recommended Cutting Conditions <ul style="list-style-type: none"> V=40~110m/min f=0.06~0.18mm/rev 130~360sfm 0.0024~0.0072ipr
	DA 	 <p>V(sfm)(m/min) 990 300 500 150</p> <p>0.06 0.2 f (mm/tooth) 0.0024 0.008 (ipt)</p>	<ul style="list-style-type: none"> For Aluminum Drilling <ul style="list-style-type: none"> Suitable design for aluminum machining. Sharp cutting edge and buffed surface prevent built-up-edge. It provides excellent cutting performance in high speed aluminum drilling. Recommended Cutting Conditions <ul style="list-style-type: none"> V=150~300m/min f=0.06~0.2mm/rev 500~990sfm 0.0024~0.008ipr



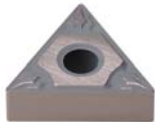

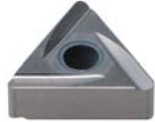























<p>CCET</p>  <p>0301005L (52005) 030101L (520) 030102L (520.5) 030104L (521) 0401005L (62005) 040101L (620) 040102L (620.5) 040104L (621)</p>	<p>CCGT</p> <p>AK </p> <p>AR </p> <p>060202 (21.50.5) 060204 (21.51) 060208 (21.52) 09T302 (32.50.5) 09T304 (32.51) 09T308 (32.52) 120402 (430.5) 120404 (431) 120408 (432)</p>	<p>CCGT-HFP</p>  <p>060202 (21.50.5) 060204 (21.51) 060208 (21.52) 09T302 (32.50.5) 09T304 (32.51) 09T308 (32.52) 120404 (431) 120408 (432)</p>	<p>CCMT-C25</p>  <p>060202 (21.50.5) 060204 (21.51) 060208 (21.52) 080308 (2.522) 09T302 (32.50.5) 09T304 (32.51) 09T308 (32.52) 120404 (431) 120408 (432) 120412 (433)</p>
<p>CCMT-HMP</p>  <p>060202 (21.50.5) 060204 (21.51) 060208 (21.52) 09T302 (32.50.5) 09T304 (32.51) 09T308 (32.52) 120404 (431) 120408 (432)</p>	<p>CNG(M)G-HU</p>  <p>120404 (431) 120408 (432) 120404 (431) 120408 (432) 120412 (433)</p>	<p>CNMA</p>  <p>090308 (322) 120404 (431) 120408 (432) 120412 (433) 120416 (434) 160612 (543) 160616 (544) 190608 (642) 190612 (643) 190616 (644)</p>	<p>CNMG-B20</p>  <p>120404 (431) 120408 (432) 120412 (433) 190604 (641) 190608 (642) 190612 (643)</p>
<p>CNMG-B25</p>  <p>120404 (431) 120408 (432) 120412 (433) 160608 (542) 160612 (543) 190604 (641) 190608 (642) 190612 (643) 190616 (644)</p>	<p>CNMG-GF</p>  <p>090304 (321) 120404 (431) 120408 (432)</p>	<p>CNMG-GM</p>  <p>090304 (321) 090308 (322) 120404 (431) 120408 (432) 120412 (433) 190608 (642)</p>	<p>CNMG-GR</p>  <p>120408 (432) 120412 (433) 120416 (434) 160608 (542) 160612 (543) 160616 (544) 190608 (642) 190612 (643) 190616 (644) 250724 (856) 250924 (866) CNMM 120408 (432) 120412 (433) 190612 (643) 190616 (644)</p>
<p>CNMG-GS</p>  <p>120404 (431) 120408 (432) 120412 (433) 160608 (542) 160612 (543) 190612 (643)</p>	<p>CNMG(M)-HA</p>  <p>120404 (431) 120408 (432) 120412 (433)</p>	<p>CNMG-HC</p>  <p>120404 (431) 120408 (432) 120412 (433)</p>	<p>CNMG-VF</p>  <p>090304 (321) 090308 (322) 120404 (431) 120408 (432) 120412 (433)</p>
<p>CNMG-VQ</p>  <p>NEW</p> <p>120404 (431) 120408 (432)</p>	<p>CNMG-VM</p>  <p>NEW</p> <p>090304 (321) 090308 (322) 120404 (431) 120408 (432) 120412 (433) 160604 (541) 160608 (542) 160612 (543) 190612 (643)</p>	<p>CNMG-HR</p>  <p>120408 (432) 120412 (433) 120416 (434) 160608 (542) 160612 (543) 160616 (544) 160624 (546) 190608 (642) 190612 (643) 190616 (644) 190624 (646) 250924 (866)</p>	<p>CNMG-HS</p>  <p>090304 (321) 090308 (322) 120404 (431) 120408 (432) 120412 (433) 160612 (543) 160616 (544) 190612 (643) 190616 (644)</p>
<p>CNMM-GH</p>  <p>120408 (432) 120412 (433) 160412 (533) 160424 (536) 160612 (543) 160616 (544) 160624 (546) 190608 (642) 190612 (643) 190616 (644) 190624 (646) 250724 (856) 250924 (866)</p>	<p>CNMM-HH</p>  <p>160616 (544) 190608 (642) 190612 (643) 190616 (644) 190624 (646) 250724 (856) 250924 (866) 250932 (868)</p>	<p>CPGT-C05</p>  <p>080204 (2.51.51) 080208 (2.51.52) 090304 (321) 090308 (322) 09T304 (32.51)</p>	<p>CPGT</p>  <p>080202 (2.51.50.5) 080204 (2.51.51) 080208 (2.51.52) 090302 (320.5) 090304 (321) 090308 (322) 09T301 (32.50) 09T302 (32.50.5) 09T304 (32.51)</p>
<p>DCGT</p> <p>AK </p> <p>AR </p> <p>070202 (21.50.5) 070204 (21.51) 11T302 (32.50.5) 11T304 (32.51) 11T308 (32.52) 11T312 (32.53)</p>	<p>DCGT-HFP</p>  <p>070202 (21.50.5) 070204 (21.51) 070208 (21.52) 11T302 (32.50.5) 11T304 (32.51) 11T308 (32.52)</p>	<p>DCMT-C25</p>  <p>070202 (21.50.5) 070204 (21.51) 070208 (21.52) 11T302 (32.50.5) 11T304 (32.51) 11T308 (32.52)</p>	<p>DCMT-HMP</p>  <p>070202 (21.50.5) 070204 (21.51) 070208 (21.52) 11T302 (32.50.5) 11T304 (32.51) 11T308 (32.52)</p>

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SCMT-HMP  09T304 (32.51) 09T308 (32.52) 120404 (431) 120408 (432)	SNG(M)G-HU  120408 (432) 120404 (432) 120408 (432) 120412 (433)	SNG(M)X  120408 (432)	SNGA SNPA*  SNGA 090304 (321) SNPA* 090308 (322) 120402 (430.5) 120404 (431) 120408 (432) 120412 (433) 150608 (542) 150616 (544) 190608 (642) 190612 (643)




















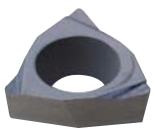
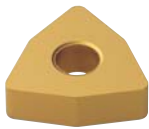











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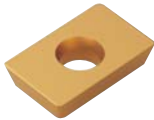

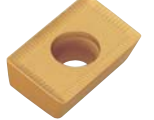







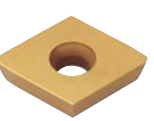






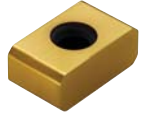

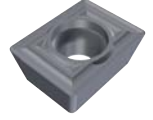
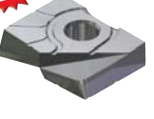
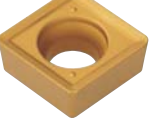
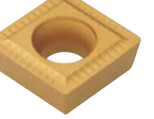



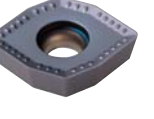

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<p>SNMG-GS</p>  <p>120404 (431) 120408 (432) 120412 (433) 120416 (434)</p>	<p>SNMG(M)-HA</p>  <p>120404 (431) 120408 (432) 120412 (433) SNMM 120408 (432)</p>	<p>SNMG-HC</p>  <p>120404 (431) 120408 (432)</p>	<p>SNMG-VF</p>  <p>120404 (431) 120408 (432) 090304 (321) 090308 (322)</p>
<p>SNMG-VQ</p>  <p>NEW 120404 (431) 120408 (432)</p>	<p>SNMG-VM</p>  <p>NEW 090304 (321) 090308 (322) 120404 (431) 120408 (432) 120412 (433) 190612 (643)</p>	<p>SNMG-HR</p>  <p>120408 (432) 120412 (433) 120416 (434) 150608 (542) 150612 (543) 150616 (544) 150624 (546) 190608 (642) 190612 (643) 190616 (644) 190624 (646) 250724 (856) 250924 (866)</p>	<p>SNMG-HS</p>  <p>090304 (321) 090308 (322) 120404 (431) 120408 (432) 120412 (433) 150612 (533) 150616 (534) 190612 (643) 190616 (644)</p>
<p>SNMM-GH</p>  <p>120408 (432) 120412 (433) 150612 (543) 190612 (643) 190616 (644) 190624 (646) 250724 (856) 250924 (866) 250932 (868)</p>	<p>SNMM-HH</p>  <p>190612 (643) 190616 (644) 190624 (646) 250724 (856) 250732 (858) 250924 (866) 250932 (868) 310924 (1066)</p>	<p>SNMN</p>  <p>090304 (321) 090308 (322) 120304 (421) 120308 (422) 120312 (423) 120404 (431) 120408 (432) 120412 (433) 150408 (532) 150412 (533) 150416 (534)</p>	<p>SPG(M)R-F</p>  <p>SPGR 090304 (321) 120304 (421) SPMR 090304 (321) 120304 (421)</p>
<p>SPG(M)R-M</p>  <p>SPGR 090308 (322) 120308 (422) SPMR 090308 (322) 120308 (422) 120312 (423)</p>	<p>SPGA-(Z)</p>  <p>060204 (21.51) 090308 (322) 090308 (322)</p>	<p>SPGN</p>  <p>070202 (2.51.50.5) 070208 (2.51.53) 090304 (321) 090308 (322) 120302 (420.5) 120304 (421) 120308 (422) 120312 (423) 120316 (424) 120402 (430.5) 120408 (432) 150408 (532) 150412 (533) 150416 (534) 190412 (633) 190416 (634)</p>	<p>SPGT-C05</p>  <p>090304 (321) 090308 (322)</p>
<p>SPGT</p>  <p>090304R (321) 090308R (322) 090304L (321) 090308L (322)</p>	<p>TBGT</p>  <p>060102L (520.5)</p>	<p>TCGT</p>  <p>AK 090202 (1.81.50.5) 090204 (1.81.51) 110202 (21.50.5) 110204 (21.51) 110208 (21.52) 16T302 (32.50.5) 16T304 (32.51) 16T308 (32.52) 16T312 (32.53) 16T316 (32.54)</p> <p>AR</p>	<p>TCGT-HFP</p>  <p>090204 (731) 110202 (21.50.5) 110204 (21.51) 110208 (21.52) 16T304 (32.51) 16T308 (32.52)</p>

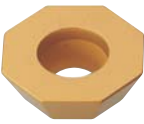






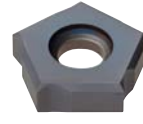
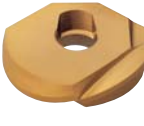





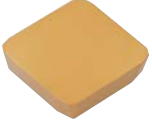


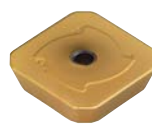
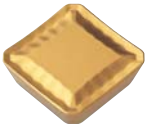
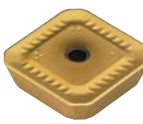

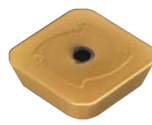
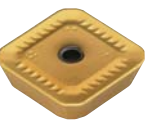
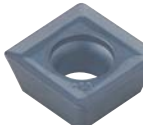
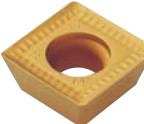

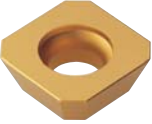
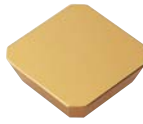
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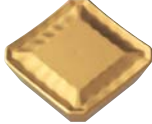

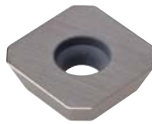
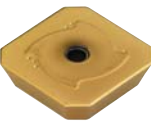
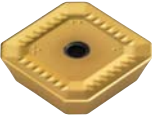


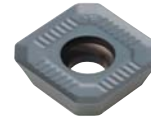

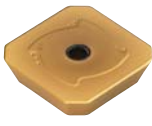
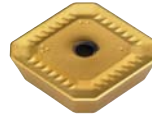
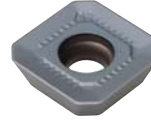

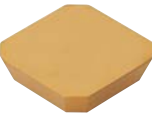

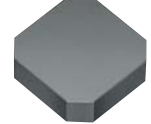

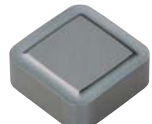

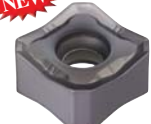
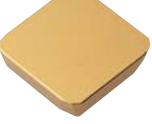

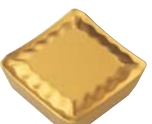
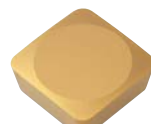

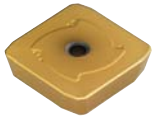
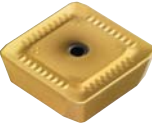
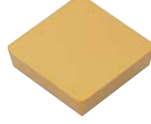
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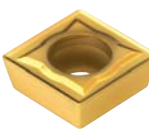
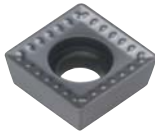
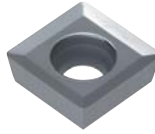
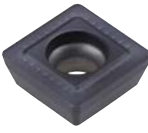
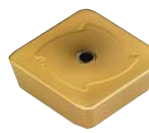
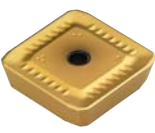


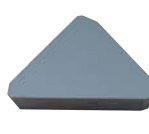


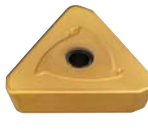







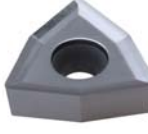







* Old code system

TPGT-HFP  110304 (221) 160308 (332)	TPGT  080202R (1.51.50.5) 110302R (220.5) 110304R (221) 110308R (222) 160404R (331) 160408R (332) 080202L (1.51.50.5) 110302L (220.5) 110304L (221) 110308L (222) 160404L (331) 160408L (332)	VBG(M)T  VBG 160404 (331) 160408 (332) VBMT 160404 (331) 160408 (332)	VBGT  AK 110302 (220.5) 110304 (221) 110308 (222) 160402 (330.5) 160404 (331) 160408 (332) 160412 (333)  AR	
VBMT-HMP  110204 (21.51) 110304 (221) 110308 (222) 160404 (331) 160408 (332)	VCGT  AK 110301 (220) 110302 (220.5) 110304 (221) 110308 (222) 130302 (2.520.5) 130304 (2.521) 130308 (2.522) 160402 (330.5) 160404 (331) 160408 (332) 160412 (333) 220516 (43.54) 220525 (43.56.3) 220530 (43.57.6)  AR	VCGT-HFP  110302 (220.5) 110304 (221) 110308 (222) 160404 (331) 160408 (332)	VCMT-HMP  160404 (331) 160408 (332)	
VNMG-HA  160408 (332)	VNMG-B20  160404 (331) 160408 (332) 220404 (431) 220408 (432)	VNMG-GF  160404 (331) 160408 (332)	VNMG-GM  160404 (331) 160408 (332)	
VNMG-VF  160402 (330.5) 160404 (331) 160408 (332)	VNMG-VQ  160404 (331) 160408 (332)	VNMG-VM  160404 (331) 160408 (332) 160412 (333) 220404 (431) 220408 (432)	VNMG-HS  160404 (331) 160408 (332)	
VNMP  160404 (331) 160408 (332)	WBGT  020102L (1.210.5) S30202L (1.51.50.5) S30204L (1.51.51)	WNMA  060404 (331) 060408 (332) 080408 (432) 080412 (433)	WNM(M)G-B25  WNMG 080404 (431) 080408 (432) 080412 (433) WNMM 100608 (542) 130612 (643)	
WNMG-GM  060404 (331) 060408 (332) 080404 (431) 080408 (432) 080412 (433)	WNMG-GR  080408 (332) 080412 (433) 080416 (434)	WNMG-GS  060404 (331) 060408 (332) 080404 (431) 080408 (432) 080412 (433)	WNMG-HA  060404 (331) 060408 (332) 080404 (431) 080408 (432) 080412 (433)	WNMG-HC  080404 (431) 080408 (432)
WNMG-VF  060404 (331) 060408 (332) 080404 (431) 080408 (432)	WNMG-VQ  080404 (431) 080408 (432)	WNMG-VM  060404 (331) 060408 (332) 060412 (333) 080404 (431) 080408 (432) 080412 (433)	WNMG-HR  060408 (332) 060412 (333) 080408 (432) 080412 (433) 080416 (434)	WNMG-HS  060404 (331) 060408 (332) 060412 (333) 080404 (431) 080408 (432) 080412 (433)

ADKA  150308R 150308TR 150308SR	ADLT  150308R 150308TR 150308SR	APFT-X28  1604PDR 1604PDSR 1604PDTR	APKT  1604PDSR
APKT-MA  1604PDFR	APKT-X22, APFT-X22  1604PDS(T)R 1604PDS(T)R	APKT-X23, X24  1604PD(T)R-X23 1604PD(F)R-X24	APXT, APKT  11T312R-MM 11T316R-MM 11T324R-MM 11T3PDR-MA 11T318R-MA 11T318R-MM 1604PDSR-MF 1604PDSR-MM 160416R-MM 160432R-MM APXT 11T3PDSR-MF 11T3PDSR-MM 11T3PDSR-MR APKT 1604PDFR-MA2 160416FR-MA2 160432FR-MA2
CSN(CSNH)  43M 43MT 43M 43MT	CSP(H)  53R 53L 53R 53L	EDCW  1604ZDFR 1604ZDTR	HECN  090408FN (532) 090408SN (532) 090408TN (532) 110412FN (633) 110412TN (633)
HPEN  090408FN (532) 090408SN (532) 090408EN (532) 110412FN (633)	HPEN-WC  090408-WC (532) 110412-WC (633)	LBH  NEW LBH080 LBH100 LBH120 LBH160 LBH200 LBH250 LBH300 LBH320	LCF  NEW LCF160-D90 LCF200-D90 LCF250-D90
LFH  NEW LFH100 LFH120 LFH160 LFH200 LFH250 LFH300 LFH320	LNE  324-C1.0 324-R0.8	LNM(EX)  LNMX151008PNR-MM LNEX151008PNR-MM LNMX151008PNR-MF LNEX151008PNR-MF	LPMT  LPMT04203-DF
LRH  NEW LRH100-R05 LRH200-R20 LRH100-R10 LRH200-R30 LRH100-R20 LRH250-R10 LRH120-R05 LRH250-R20 LRH120-R10 LRH250-R30 LRH120-R20 LRH300-R10 LRH160-R05 LRH300-R20 LRH160-R10 LRH300-R30 LRH160-R20 LRH320-R10 LRH160-R30 LRH320-R20 LRH200-R05 LRH320-R30 LRH200-R10	MCMT  080308EN 09T308EN	MPMT  090308 (322) 120408 (432)	NPET-DR  222408 252808 293208 334008 415008 516012
NPMT-DM  222408 252808 293208 334008 415008 516012	NPET-DA  222408 252808 293208 334008 415008 516012	NPMT-DS  222408 252808 293208 334008 415008 516012	OFCN  0704SN 0704FN 070408SN 070408FN

OFCW  05T3SN 05T3FN 05T308FN	OFKR-MF, MM, MA  0704SN-MF 070408SN-MF 0704SN-MM 070408SN-MM 0704FN-MA 0704EN-MA	OFKT-MF, MM, MA  05T3SN-MF 05T308SN-MF 05T3SN-MM 05T308SN-MM 05T3FN-MA 05T3EN-MA 0704SN-MM 0704EN-MA 0704FN-MA	ONM(H)X-MF  080608-MF
ONM(H)X-MM  080608-MM	ONHX-W  080608-W	PNEJ  1223N 1225N 1230N 1235N 1240N 1245N 1250N 1255N 1260N 1265N 1270N 1275N 1285N	PNEJ-C  1223N-C03 1230N-C03 1235N-C03 1240N-C05 1245N-C05 1250N-C05 1255N-C05 1260N-C05 1265N-C05 1270N-C05 1275N-C05
RC  RC16 RC20 RC25 RC30 RC32	RDHW  0501M0-F,E,S 06T1M0-F,E,S 0702M0-F,E,S 0803M0-F,E,S 1605M0-F,E,S 2006M0-F,E,S	RDKT  10T3M0-MM,MF,MA 1204M0-MM,MF,MA 1605M0-MM 2006M0-MM	REKR-MM  170400-MM
RPM  120400	SDAN, SDCN, SDKN  SDAN 1203AEEN 1203AEFN 1203AESN SDCN 1203AESN SDKN 1504AEFN 1504AETN 1504AESN	SDC(H)  42R 42L 42M 42MT 42TR 42TL 53R 53L 53TR 53TL	SDCN  42R 42L 42M 42MT 42MT-RH 42MT-S20 53R 53L 53M 53MT 53MT-RH 53MT-S20
SDET-MA  SDET09M402R-MA SDET130504R-MA	SDKN-SM  1203AESN-SM 1504AESN-SM	SDKR-MX  1203AESN-MX 1203AETN-MX 1504AESN-MX 1504AETN-MX	SDKR-SM  1203AESN-SM 1504AESN-SM
SDMT  090308 (322)	SDXN-FM  1203AESN-FM 1504AESN-FM	SDXR-FM  1203AESN-FM 1504AESN-FM	SDXT-MA  09M405R-MA 130508R-MA
SDXT-MF  09M405R-MF 09M405L-MF 130508R-MF	SDXT-MM  09M405R-MM 09M405L-MM 130508R-MM 130538-MM	SECA  1204AFSN (43) 1204AFTN (43) 1204AFFN (43) 1204AFEN (43) 1504AFSN (53) 1504AFTN (53) 1504AFFN (53)	SEAN, SECN, SEKN  1203AFFN (42) 1203AFTN (42) 1203AFEN (42) 1203AFN (42) 1203AFSN (42) 1203AFTN-S20 (42) 1504AFFN (53) 1504AFTN (53) 1504AFEN (53) 1504AFSN (53)

<p>SECR-MX, SEKR-MX(MF1)</p>  <p>1203AFSN- MX (42) 1203AFSN- MX (42) 1203AFSN- MF1 (42) 1204AFSN- MX (43) 1504AFSN- MX (53)</p>	<p>SEET-MA</p>  <p>0903AGFN-MA 14M4AGFN-MA</p>	<p>SEEW</p>  <p>0903AGTN 14M4AGTN</p>	<p>SEKN-SM</p>  <p>1203AFSN-SM 1504AFSN-SM</p>
<p>SEKR-SM</p>  <p>1203AFSN-SM 1504AFSN-SM</p>	<p>SEKR-X35</p>  <p>1203AFSN-X35 (42) 1203AFFN-X35 (42) 1204AFFN-X35 (43)</p>	<p>SEMN</p>  <p>1204AZ (43)</p>	<p>SEX(E)T-MF</p>  <p>0903AGSN-MF 0903AGSN-MF 14M4AGSN-MF 14M4AGSN-MF</p>
<p>SEX(E)T-MM</p>  <p>0903AGSN-MM 0903AGSN-MM 14M4AGSN-MM 14M4AGSN-MM</p>	<p>SEXN-FM</p>  <p>1203AFSN-FM 1504AFSN-FM</p>	<p>SEXR-FM</p>  <p>1203AFSN-FM 1504AFSN-FM</p>	<p>SEXT-MR</p>  <p>0903AGSN-MR 14M4AGSN-MR</p>
<p>SFAN, SFCN</p>  <p>1203EFR (42) 1203EFR (42) 1203ZFR (42)</p>	<p>SFKN</p>  <p>12T3AZTN (42.5) 12T3AZSN (42.5) 12T3AZFN (42.5) 12T3AZEN (42.5)</p>	<p>SNAN, SNCN, SNKN</p>  <p>1204ENN (43) 1504ENN (53) 1204ENN (43) 1504ENN (53)</p>	<p>SNC-MW</p>  <p>43MW</p>
<p>SNC(M)F</p>  <p>NEW SNC(M)F 1206Q(E)(A)NN-MF 1206Q(E)(A)NN-MM SNC(M)F 1507Q(E)(A)NN-MF 1507Q(E)(A)NN-MM</p>	<p>SNEF</p>  <p>435 535</p>	<p>SNEX</p>  <p>1010ZNN 1010ZNN-CU1 1212ZNN-CU1 101010 101010-CU1 121212-CU1</p>	<p>SNM(E)X</p>  <p>NEW 1206ANN-MF 1206ANN-MM 1206ANN-MA</p>
<p>SPAN, SPCN, SPKN</p>  <p>1203ED(T)L (42) 1204ED(T)R (43) 1504ED(T)R (53) 150412T (53) 1504EDL (53) 1203ED(T)R-RH (42) 1504ED(T)R-RH (53) 1203EDR-S20 (42) 1504EDR-S20 (53) SPKN 1203ED(T)R (42) 1204ED(T)R (43) 1504ED(T)R (53) 1904ED(T) (63)</p> <p>SPAN 1203ED(T)R (42) 1504ED(T)R (53) SPCN 1203ED(T)R (42)</p>	<p>SPC(H)</p>  <p>42R 42TR 53R 53TR</p>	<p>SPCR-MX, SPKR-MX</p>  <p>SPCR 1203EDSR (42) SPKR 1203EDSL (42) 1504EDSR (53)</p>	<p>SPEN-WC</p>  <p>120416-WC (434) 150412-WC (533) 150416-WC (534) 150420-WC (535) 190424-WC (636)</p>
<p>SPEX</p>  <p>1203EDR-1 (42) 1203EDL-1 (42) 1504EDR-1 (53) 1504EDL-1 (53) 1904EDR-1 (63) 1904EDL-1 (63)</p>	<p>SPKN-SM</p>  <p>1203EDSR-SM 1504EDSR-SM</p>	<p>SPKR-SM</p>  <p>1203EDSR-SM 1504EDSR-SM</p>	<p>SPMN</p>  <p>120304 (421) 120308 (422) 120312 (423) 120408 (432) 120412 (433) 150408 (532) 150412 (533) 190408 (632) 190412 (633)</p>

SPMT  060304 (221) 120408 (432)	SPMT-DM  050203 060204 070204	SPMT-DS  050203 060204 070204	SPET-DA  050203 060204 070204
SPMT-KC  110408-KC	SPXN-FM  1203EDSR-FM 1504EDSR-FM	SPXR-FM  1203EDSR-FM 1504EDSR-FM	TECN, TEKN, TEEN  TEEN 43R 43TR 43TR-S20 43R 43TR 43R TEKN 43R (TECN) 43TR
TECN, TEKN, TEEN(-Z)  TECN 22R 22TR TEEN 22R 22TR 32R 32TR 43R-Z 43TR-Z TEKN 43L-Z (TECN)43TL-Z	TFAN, TFCN  TFAN 2203PFR (42) 2203PFL (42) TFCN 1603PFR (32) 1603PFL (32) TFCN 2203PFR (42) 2203PFL (42)	TPAN, TPCN  TPAN 1103PPN (22) TPCN 1103PPTN (22) 1603PPN (32) 1603PPTN (32) 1603PPR (32) 1603PPTR (32) 1603PDR (32) 1603PPSR (32) 1603PPR-RH (32) 1603PDR-S20 (32) 2204PPN (43) 2204PPTN (43) 2204PDR (43) 2204PDR (43) 2204PDL (43) 2204PDR (43) 2204PDR-RH (43) 2204PDR-S20 (43)	TPKN  1103PPN (22) 1103PPTN (22) 1603PPN (32) 1603PPTN (32) 1603PPR (32) 1603PPTR (32) 1603PDR (32) 1603PDR (32) 1603PDSR (32) 2204PPN (43) 1603PPTN (43) 2204PDR (43) 2204PDR (43) 2204PDR (43) 2204PDR (43)
TPKN-SM  1603PDSR-SM 2204PDSR-SM	TPKR-MX  1603PPR -MX (32) 1603PDSN -MX (32) 1603PDSR -MX (32) 2204PDSR -MX (43) 2204PPR -MX (43)	TPKR-SM  1603PDSR-SM 2204PDSR-SM	TPXN-FM  1603PDSR-FM 2204PDSR-FM
TPXR-FM  1603PDSR-FM 2204PDSR-FM	VCKT-MA  220530N-MA	WCMT-C20  030208-C20 (1.81.52) 040208-C20 (21.52) 050308-C20 (2.522) 06T308-C20 (32.52) 080408-C20 (432) 080412-C20 (433)	WCMT-C21  030204-C21 (1.81.51) 040204-C21 (21.51) 040208-C21 (432) 080408-C21
WCKT-DA  030208-DA 040208-DA 050308-DA 06T308-DA 080408-DA	WCMT-DS(P)  030204-DSP 040204-DSP 050308-DS 06T308-DS 080408-DS 080412-DS	WDKT  080316ZDSR-MH 10T320ZDSR-MH 130520ZDSR-MH 150625ZDSR-MH	XCET-KC  310404ER-KC
ZCMT-ER  080308-ER 09T308-ER	ZDMT-R  08T2-R10 1103-R12.5 13T3-R16	ZPMT  1504PPSR	ZPMT-R  1604-R20 1604-R25 1604-R31.5

for Turning

CCGT

AK



060202 (21.50.5)
060204 (21.51)
060208 (21.52)
09T302 (32.50.5)
09T304 (32.51)
09T308 (32.52)
120402 (430.5)
120404 (431)
120408 (432)
120412 (433)

AR



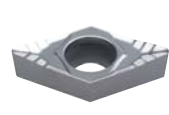
DCGT

AK



070202 (21.50.5)
070204 (21.51)
070208 (21.52)
11T302 (32.50.5)
11T304 (32.51)
11T308 (32.52)
11T312 (32.53)

AR



RCGT

AK



0602M0
0803M0
1003M0
10T3M0
1204M0

AR



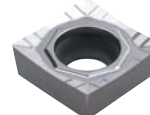
SCGT

AK



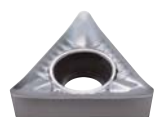
09T302 (32.50.5)
09T304 (32.51)
09T308 (32.52)
120404 (431)
120408 (432)
120412 (433)
120416 (434)

AR



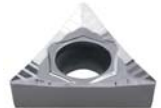
TCGT

AK



090202 (1.81.50.5)
090204 (1.81.51)
110202 (21.50.5)
110204 (21.52)
110208 (21.52)
16T302 (32.50.5)
16T304 (32.51)
16T308 (32.52)
16T312 (32.53)
16T316 (32.54)

AR



VBGT

AK



110302 (220.5)
110304 (221)
110308 (222)
130302 (2.52.0.5)
160402 (330.5)
160404 (331)
160412 (333)

AR



VCGT

AK

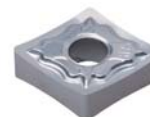


110302 (220.5)
110304 (221)
110308 (222)
130302 (2.520.5)
130304 (2.521)
130308 (2.522)
160402 (330.5)
160404 (331)
160408 (332)
160412 (333)
220525 (43.56.3)
220530 (43.57.6)

AR



CNMG-HA



120404 (431)
120408 (432)
120412 (433)

for Milling

APKT



1604PDR-MA
160416R-MA
160432R-MA

APKT



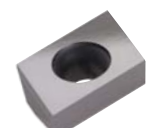
1604PDR-MA3

APXT



11T3PDR-MA
11T318R-MA

CDEW



CDEW1204R/L-XCF

OFKT



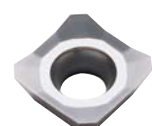
05T3FN-MA
0704FN-MA

OFKR



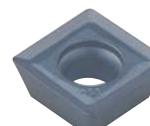
0704FN-MA

SDHT



1204AEFN-MA (43)

SDXT - MA



09M405R
130508R

SEHT



1204AFFN-M (43)

SEET- MA



0903AGFN
14M4AGFN

VCKT-MA



220530
(43.57.5)

VDKT-MA



11T210
(21.52.5)

XEKT-MA



19M5□□-MA

■ XEKT19M5□□-MA's nose-R size

ISO	04	08	12	16	18	20	30	32	40	50
ASA	1	2	3	4	4.5	5	7.5	8	10	12.5

for Grooving

MRGN-A



MRGN6N-A
MRGN8N-A

MRGN-A5



MRGN6N-A5
MRGN8N-A5

MRGN-AM



MRGN6N-AM
MRGN8N-AM

MRGN-AP



MRGN6N-AP
MRGN8N-AP

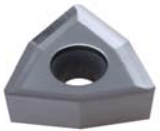
MVGN



MRGN8N-A-R1.2
MRGN8N-A-R1.6

for Drilling

WCKT



06T308-DA (32.52)
080408-DA (432)

NPET-DA



222408-DA
252808-DA
293208-DA
334008-DA
415008-DA
516012-DA

SPET-DA



050203-DA
060204-DA
070204-DA

■ for Forming, Grooving, Threading and Parting

for M.G.T Tools

MGMN - G



. Width
1.5mm
2.0mm 0.078 inch
2.5mm
3.0mm 0.118 inch
4.0mm 0.157 inch
5.0mm 0.197 inch

MGMN - M



. Width
2.0mm
2.5mm
3.0mm 0.118 inch
4.0mm 0.157 inch
5.0mm 0.197 inch
6.0mm 0.236 inch

Holder : MGEHR/L, MGEVR/L, MGEUR/L, MGIVR/L, MGIUR/L

MRMN - M



Radius : 1.5R
2R
2.5R
3R
4R

MFMN



. Width : 3mm

Holder : MGFVR/L3(25)
MGFHR/L3(25)

for Micro Boring Tools

FTG, FTT, FTF



Holder : FTIH

※ for Internal Grooving, Threading and Copy machining

for Parting

SP



Holder : SPB-S or SPH-S
SPB or SPH

SP

200 400 600
200L 400L 600L
200R 400R 600R
300 500
300L 500L
300R 500R

inch : 0.087, 0.122, 0.161, 0.201, 0.252

SP- A Series for Aluminum

200 - A 200 R/L - A
300 - A 300 R/L - A
400 - A 400 R/L - A
500 - A 500 R/L - A

for Forming

BF



. Width
3.1mm 0.122 inch
5.1mm 0.201 inch
8.1mm 0.319 inch

Holder : GFT, GFIP

for Grooving

DB



. Width
3.0 - 8.0mm

Holder : DBH

DC



. Width
3.0mm 0.118 inch
4.0mm 0.157 inch
5.0mm 0.197 inch

Holder : DBH

ESB



34

Holder : EH

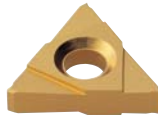
GO



. Width
2.5mm 0.098 inch
3.2mm 0.126 inch
4.1mm 0.161 inch

Holder : GH

GS



. Width
1.23 - 4.28mm
0.048 - 0.169 inch

Holder : GH

GW



. Width
1.1 - 8.0mm
0.043 - 0.315 inch

Holder : GFT, GFIP

IG



. Width
1.25 - 2.8mm
0.049 - 0.110 inch

Holder : IGH

GR



. Width
2.0 - 8.0mm
0.079 - 0.315 inch

Holder : GFT, GFIK

POB



. Width
3.0mm 0.118 inch
4.0mm 0.157 inch
5.0mm 0.197 inch

Holder : PH

TB



. Width
3000 type
1.25 - 4.3mm
0.049 - 0.110 inch

Holder : TBH

4000 type
1.25 - 4.5mm
0.049 - 0.177 inch

FGD / FGM



. Width
3.0mm 0.118 inch
4.0mm 0.157 inch

Holder : FGHH, FGVH

for Threading

ERM



ISO Metric
1.5 - 3.0(pitch-mm)
Partial profile 60°
Partial profile 55°

Holder : ERH

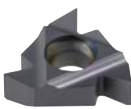
IRM



ISO Metric
1.5 - 3.0(pitch-mm)
Partial profile 60°
Partial profile 55°

Holder : IRH

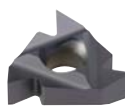
ER



ISO Metric
1.0 - 5.0(pitch-mm)
Whitworth 55
5 - 28(No.of pitch/Inch)
UN 60
5 - 28(No.of pitch/Inch)

Holder : ERH

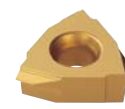
IR



ISO Metric
0.5 - 5.0(pitch-mm)
Whitworth 55
5 - 48(No.of pitch/Inch)
UN 60
5 - 48(No.of pitch/Inch)

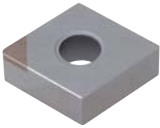
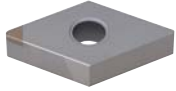
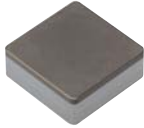
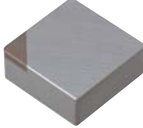
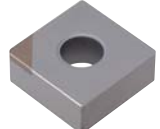
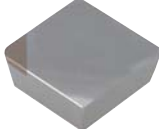

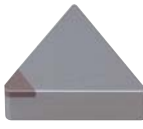
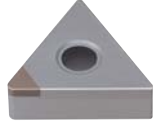
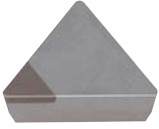
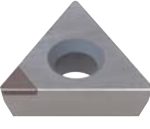


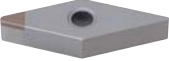
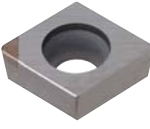
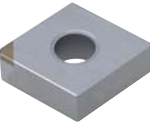
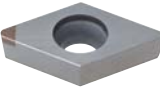
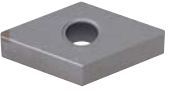
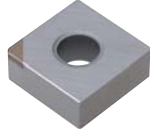
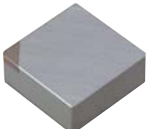
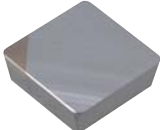
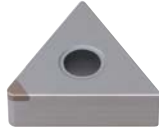
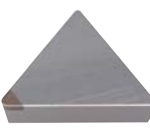
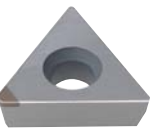

Holder : IRH



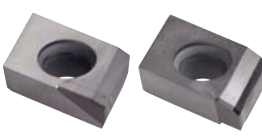

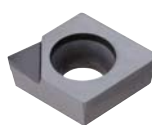

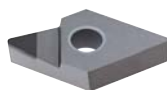

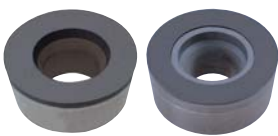
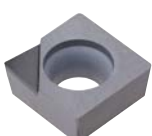
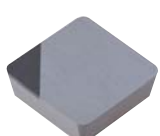
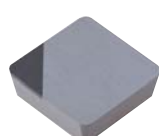
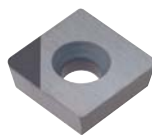

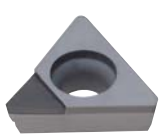
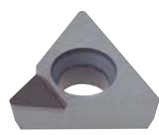

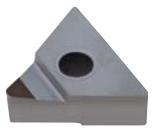

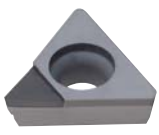
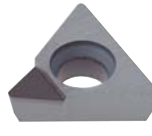
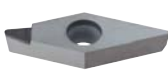
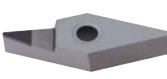


VETR



ISO Metric
0.8 - 3.0(pitch-mm)

Holder : TH

<p>CNMA</p>  <p>120404 (431) 120408 (432) 120412 (433)</p>	<p>DNMA</p>  <p>150404 (431) 150408 (432) 150412 (433)</p>	<p>SNGN-B</p>  <p>120408-B (432) 120412-B (433) 120416-B (434)</p>	<p>SNGN</p>  <p>160408 (432) 120412 (433)</p>
<p>SNMA</p>  <p>120404 (431) 120408 (432) 120412 (433)</p>	<p>SPGN</p>  <p>090304 (321) 090308 (322) 090312 (323) 120308 (422) 120312 (423)</p>	<p>TBGN-B</p>  <p>060102-B (1.210.5) 060104-B (1.211) 060108-B (1.212)</p>	<p>TNGN</p>  <p>160404 (331) 160408 (332) 160412 (333)</p>
<p>TNMA</p>  <p>160402 (330.5) 160404 (331) 160408 (332) 160412 (333) 220408 (432) 220412 (433)</p>	<p>TPGN</p>  <p>090204 (1.81.51) 090208 (1.81.52) 110304 (221) 110308 (222) 160304 (321) 160308 (322) 160312 (323) 220408 (432)</p>	<p>TPGW</p>  <p>110304 (221) 110308 (222) 160404 (331) 160408 (332) 160412 (333)</p>	<p>VBMW</p>  <p>160404 (331) 160408 (332)</p>
<p>VCMW</p>  <p>160404 (331) 160408 (332)</p>	<p>VNMA</p>  <p>160404 (331) 160408 (332) 220408 (432)</p>	<p>NU-CC(P)GW</p>  <p>NU- 060202 (21.50.5) CCGW 060204 (21.51) 060208 (21.52) 09T302 (32.50.5) 09T304 (32.51) 09T308 (32.52) NU- 080202 (2.51.50.5) CPGW 080204 (2.51.51) 080208 (2.51.52) 090302 (320.5) 090304 (321) 090308 (322)</p>	<p>NU-CNMA</p>  <p>120404 (431) 120408 (432) 120412 (433)</p>
<p>NU-DCGW</p>  <p>070202 (21.50.5) 070204 (21.51) 070208 (21.52) 11T302 (32.50.5) 11T304 (32.51) 11T308 (32.52)</p>	<p>NU-DNMA</p>  <p>150404 (431) 150408 (432) 150412 (433)</p>	<p>NU-SNMA</p>  <p>120404 120408 120412</p>	<p>NU-SNMN</p>  <p>120408 (432) 120412 (433)</p>
<p>NU-SPGN</p>  <p>090304 (321) 090308 (322)</p>	<p>NU-TNMA</p>  <p>160404 (331) 160408 (332) 160412 (333)</p>	<p>NU-TPGN</p>  <p>110304 (221) 110308 (222) 160304 (321) 160308 (322)</p>	<p>NU-TPGW</p>  <p>080202 (1.51.50.5) 080204 (1.51.51) 080208 (1.51.52) 110202 (21.50.5) 110204 (21.51) 110208 (21.52) 110302 (220.5) 110304 (221) 110308 (222) 160404 (331) 160408 (332)</p>
<p>NU-VNMA</p>  <p>160404 (331) 160408 (332)</p>			

<p>BAPD</p>  <p>R/L-XAF R-L-XAW R-NAF R-NAW</p>	<p>CCMT</p>  <p>060201 (21.50) 060202 (21.50.5) 060204 (21.51) 09T301 (32.50) 09T302 (32.50.5) 09T304 (32.51)</p>	<p>CDEW</p>  <p>1204R/L-XAF 1204R/L-XAW 1204R/L-NAF 1204R/L-NAW</p>	<p>CNMX</p>  <p>120404 (431) 120408 (432) 120412 (433)</p>
<p>CPMT</p>  <p>080202 (2.51.50.5) 080204 (2.51.51) 080208 (2.51.52) 090302 (320.5) 090304 (321) 090308 (322)</p>	<p>DCMT</p>  <p>070201 (21.50) 070202 (21.50.5) 070204 (21.51) 11T301 (32.50) 11T302 (32.50.5) 11T304 (32.51)</p>	<p>DNMX</p>  <p>150404 (431) 150408 (432) 150412 (433)</p>	<p>MRGN</p>  <p>MRGN 600-A 800-A</p>
<p>RPG(T)W(-WF)</p>  <p>RPGW 0803MO RPGT 0803MO-WF</p>	<p>SCMT</p>  <p>070201 (2.51.50) 070202 (2.51.50.5) 070204 (2.51.51) 09T301 (32.50) 09T302 (32.50.5) 09T304 (32.51)</p>	<p>SEGN</p>  <p>070202 (2.51.50.5) 070204 (2.51.51) 070208 (2.51.52) 090302 (320.5) 090304 (321) 090308 (322) 120302 (420.5) 120304 (421) 120308 (422)</p>	<p>SPGN</p>  <p>090302 (320.5) 090304 (321) 090308 (322) 120304 (421) 120308 (422) 120312 (423)</p>
<p>SPGW</p>  <p>090302 (320.5) 090304 (321) 090308 (322)</p>	<p>TBGN-B</p>  <p>060102-B (1.210.5) 060104-B (1.211) 060108-B (1.212)</p>	<p>TBGW</p>  <p>060102 (1.210.5) 060104 (1.211)</p>	<p>TCMT</p>  <p>090201 (1.81.50) 090202 (1.81.50.5) 090204 (1.81.51) 110201 (21.50) 110202 (21.50.5) 110204 (21.51)</p>
<p>TEGN</p>  <p>110202 (21.50.5) 110204 (21.51) 110208 (21.52) 110302 (220.5) 110304 (221) 110308 (222) 160302 (320.5) 160304 (321) 160308 (322) 220404 (431) 220408 (432)</p>	<p>TNMX</p>  <p>160404 (331) 160408 (332) 160412 (333)</p>	<p>TPGN</p>  <p>090202 (1.81.50.5) 090204 (1.81.51) 090208 (1.81.52) 110302 (220.5) 110304 (221) 110308 (222) 160302 (320.5) 160304 (321) 160308 (322) 160312 (323)</p>	<p>TPGW</p>  <p>080202 (1.51.50.5) 080204 (1.51.51) 080208 (1.51.52) 110202 (21.50.5) 110204 (21.51) 110208 (21.52) 110300 (210) 110302 (210.5) 110304 (211) 110308 (212) 160402 (330.5) 160404 (331) 160408 (332) 160412 (333)</p>
<p>TPMT</p>  <p>110302 (220.5) 110304 (221) 110308 (222)</p>	<p>VCMT</p>  <p>110301 (220) 110302 (220.5) 110304 (221) 110308 (222) 160408 (332) 160412 (333) 220520 (43.55) 220530 (43.57)</p>	<p>VNMX</p>  <p>160402 (330.5) 160404 (331) 160408 (332) 160412 (333)</p>	<p>DFE</p>  <p>2040S 2050S 2080S 2090S 2100S 4090S 4100S 4130GS</p>
<p>DPE</p>  <p>1040 2090 1045 2095 1050 2100 1055 2105 2060 2110 2065 2115 2070 2120 2075 2080 2085</p>			

Turning Toolholders

Lever lock system

PCBNR/L



2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M16 (16-5D)
3225-P12 (85-4D)
3232-P16 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-S25 (24-8E)

PCLNR/L



1616-M09 (10-3D)
2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M16 (16-5D)
3232-P12 (20-4D)
3232-P16 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-P19 (24-6D)
4040-S25 (24-8E)
5050-T25 (32-8H)

PDJNR/L



1616-H11 (10-3A)
2020-K11 (12-3B)
2525-M11 (16-3D)
2020-K15 (12-4B)
2525-M15 (16-4D)
3225-P15 (85-5D)
3232-P15 (20-4D)
2020-K15-3 (12-4B-3)
2525-M15-3 (16-4D-3)
3232-P15-3 (20-4D-3)

PDNNR/L



2020-K15 (12-4B)
2525-M15 (16-4D)
4025-M15 (86-4D)
2525-M15-3 (16-4D-3)
4025-M15-3 (86-4D-3)
3232-P15 (20-4D)

PRDCN



2020-M10 (12-10B)
2525-M10 (16-10D)
2525-M12 (16-12D)
2020-K12 (12-12B)
3225-Q12 (85-12E)
2525-Q16 (16-16E)
3225-Q16 (85-16E)
3232-Q16 (20-16E)
3232-Q20 (20-20E)
4040-S25 (24-25E)
4040-T25 (24-25H)
5050-U32 (32-32H)

PRGCR/L



2020-K10 (12-10B)
2525-M10 (16-10D)
2020-K12 (12-12B)
2525-M12 (16-12D)
3225-P12 (85-12D)
2525-M16 (16-16D)
3225-P16 (85-16D)
3232-P20 (20-20D)
4040-S25 (24-25E)

PSDNN



1616-H09 (10-3A)
2020-K12 (12-4B)
2525-M12 (16-4D)
3232-P12 (20-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-S25 (24-8E)
4040-T25 (24-8H)

PSBNR/L



1616-H09 (10-3A)
2020-K12 (12-4B)
2525-M12 (16-4D)
3232-P12 (85-4D)
3225-P12 (20-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)
5050-T25 (32-8H)

PSKNR/L



1616-H09 (10-3A)
2020-K09 (12-3B)
2020-K12 (12-4B)
2525-M12 (16-4D)
3232-P12 (20-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
3232-S19 (20-6D)
4040-S19 (24-6E)
4040-S25 (24-8E)

PSSNR/L



1616-H09 (10-3A)
2020-K12 (12-4B)
2525-M12 (16-4D)
3232-P12 (20-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-R19 (24-6E)
4040-S25 (24-8E)

PTFNR/L



1616-H16 (10-3A)
2020-K16 (12-3B)
2525-M16 (16-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)
3232-P27 (20-5D)
4040-S27 (24-5E)

PTGNR/L



1212-F11 (08-2K)
1616-H11 (10-2A)
1616-H16 (10-3A)
2020-K11 (12-2B)
2020-K16 (12-3B)
2525-M16 (16-3D)
3232-P16 (20-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)
3232-P27 (20-5D)
4040-S27 (24-5E)

PTTNR/L



1616-H16 (10-3A)
2020-K16 (12-3B)
2525-M16 (16-3D)
2525-M22 (16-4D)

PWLNR/L



1616-H06 (10-3A)
2020-K06 (12-3B)
2525-M06 (16-3D)
2020-K08 (12-4B)
2525-M08 (16-4D)

Multi lock system

MCKNR/L



2020-K12 (12-4B)
2525-M12 (16-4D)
3232-P12 (20-4D)

MCLNR/L



2020-K12 (12-4B)
2525-M12 (16-4D)
3225-P12 (85-4D)
3232-P12 (20-4D)
2525-M16 (16-5D)
3232-P16 (20-5D)
4040-S16 (24-5E)
2525-M19 (16-6D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-S25 (24-8E)

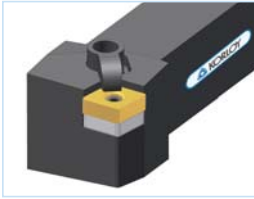
MCMNN



2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M16 (20-4D)
3232-P12 (16-5D)
3232-P16 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)

Turning Toolholders

MCRNR/L



2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M16 (16-5D)
3232-P16 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)

MDJNR/L



2020-K11 (12-3B)
2525-M11 (16-3D)
2020-K15-3 (12-4B-3)
2525-M15-3 (16-4D-3)
3232-P15-3 (20-4D-3)
2020-K15 (12-4B)
2525-M15 (16-4D)
3232-P15 (20-4D)

MDNN



2525-M15-3 (16-4D-3)
2525-M15 (16-4D)

MDQNR/L



2525-M15 (16-4D)
3232-P15 (20-4D)
2525-M15-3 (16-4D-3)
3232-P15-3 (20-4D-3)

MSBNR/L



2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)

MSDNN



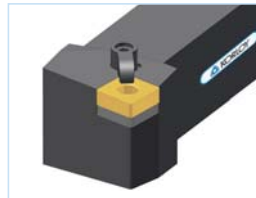
1616-H09 (10-3A)
2020-K09 (12-3B)
2020-K12 (12-4B)
2525-M12 (16-4D)
3225-P12 (85-4D)
2525-M15 (16-5D)
3225-P15 (85-5D)
3232-P15 (20-5D)
4040-S15 (24-5E)
3232-P19 (20-6D)
4040-S19 (24-6E)

MSKNR/L



1616-H09 (10-3A)
2020-K09 (12-3B)
2020-K12 (12-3D)
2525-M12 (16-3D)
3225-P12 (85-3D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-S25 (24-8E)

MSRNR/L



1616-H09 (10-3A)
2020-K09 (12-3B)
2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3225-P19 (85-6D)
3232-P19 (20-6D)
4040-S19 (24-6E)
4040-S25 (24-8E)

MSSNR/L



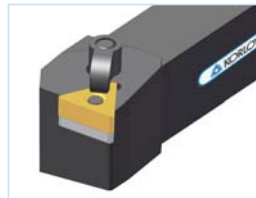
1616-H09 (10-3A)
2020-K09 (12-3B)
2020-K12 (12-4B)
2525-M12 (16-4D)
2525-M15 (16-5D)
3232-P15 (20-5D)
3232-P19 (20-6D)
4040-S19 (24-6E)

MTENNS



2020-K16 (12-3B)
2525-M16 (16-3D)
2525-M22 (16-4D)
3232-P27 (20-5D)
4040-S33 (24-6E)

MTFNR/L



1616-H16 (10-3A)
2020-K16 (12-3B)
2525-M16 (16-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)
4040-S22 (24-4E)
3232-P27 (20-5D)
4040-S27 (24-5E)
4040-S33 (24-6E)

MTGNR/L



1616-H16 (10-3A)
2020-K16 (12-3B)
2525-M16 (16-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)
3232-P27 (20-5D)
4040-S27 (24-5E)
4040-S33 (24-6E)

MTJNR/L



2020-K16 (12-3B)
2525-M16 (16-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)
3232-P27 (20-5D)
4040-S27 (24-5E)
4040-S33 (24-6E)

MVJNR/L



2020-K16 (12-3B)
2525-M16 (16-3D)
3232-P16 (20-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)
4040-S22 (24-4E)

MVPNR/L



2020-K16 (12-3B)

MVTNR

2525-M16 (16-3D)

MVQNR

2020-K16 (20-3D)
2525-M16 (16-3D)
3232-P16 (20-3D)

MVNN



2020-K16 (12-3B)
2525-M16 (16-3D)

MWLNR



2020-K06 (12-3B)
2525-M06 (16-3D)
3232-P06 (20-3D)
2020-K08 (12-4B)
2525-M08 (16-4D)
3232-P08 (20-4D)

Turning Toolholders

Wedge clamp on system

WTJNR



2020-K16 (12-3B)
2525-M16 (16-3D)
3225-P16 (85-3D)
3232-P16 (20-3D)
2525-M22 (16-4D)
3232-P22 (20-4D)

WTXNR/L



2020-K16 (12-3B)
2525-M16 (16-3D)
3232-P16 (20-3D)

WWLNR/L



2020-K08 (12-4B)
2525-M08 (16-4D)
3232-P08 (20-4D)

Clamp on system

CKJNR/L



2020-K16 (12-3B)
2525-M16 (16-3D)
3225-P16 (20-3D)
3225-M16 (85-3D)
3232-P16 (20-3D)
4040-R16 (24-3E)

CSDNN



2020-K12C (12-4B)
2525-M12C (16-4D)
3225-P12C (85-4D)

CCLNR/L



2020-K12C (12-4B)
2525-M12C (16-4D)
3225-P12C (85-4D)

CRDNN



2020-K12C (12-4B)
2525-M12C (16-4D)
3225-P12C (85-4D)

CRGNR/L



2020-K12C (12-4B)
2525-M12C (16-4D)
3225-P12C (85-4D)

CSKNR/L



2020-K12C (12-4B)
2525-M12C (16-4D)
3225-P12C (85-4D)

CTFNR/L



2020-K16C (12-4B)
2525-M16C (16-4D)
3225-P16C (85-4D)

CKNNR/L



2525-M16 (16-3D)
3232-P16 (20-3D)

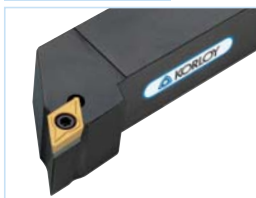
CTGNR/L



2020-K16C (12-4B)
2525-M16C (16-4D)
3225-P16C (85-4D)

Screw on system

SDJCR/L



1010-E07 (06-2J)
1212-E07 (08-2K)
1212-F11 (08-3K)
1616-H07 (10-2A)
1616-H11 (10-3A)
2020-K07 (12-2B)
2020-K11 (12-3B)
2525-M11 (16-3D)

STGCR/L



0808-D09 (05-1.8I)
1010-E09 (06-1.8J)
1212-F11 (08-2K)
1616-H11 (10-2A)
1616-H16 (10-3A)
2020-K16 (12-3B)
2525-M16 (16-3D)

SVVBN



1212-F11 (08-2K)
1212-F11-2 (08-2K-2)
1616-H11 (10-2A)
1616-H11-2 (10-2A-2)
1616-H16 (10-3A)
2020-K11 (12-2B)
2020-K11-2 (12-2B-2)
2020-K16 (12-3B)
2525-M16 (16-3D)
3225-P16 (85-3D)

SCLCR/L



0808-D06 (05-2I)
1010-E06 (06-2J)
1212-F09 (08-3K)
1616-H09 (10-3A)
2020-K09 (12-3B)
2525-M09 (16-3D)
2020-K12 (12-4B)
2525-M12 (16-4D)

SCACR/L



1010-E06 (06-2J)
1212-F09 (08-3K)

SSKCR/L



1616-H09 (10-3A)

Turning Toolholders

Screw on system

SDNCN



1010-E07 (06-2J)
1212-F07 (08-2K)
1212-H11 (08-3A)
1616-H11 (10-3A)
2020-K11 (12-3B)

SDACR/L



1010-E07 (06-2J)
1212-E07 (08-3K)
1616-H11 (10-3A)

SSDCN



1212-F09 (08-3K)
1616-H09 (10-3A)

SSBCR/L



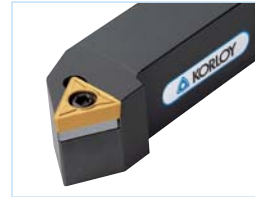
1212-F09 (08-3K)
1616-H09 (10-3A)
2020-K12 (12-4B)

STACR/L



1010-E09 (06-1.8J)
1212-F11 (08-2K)

STTCR/L



1616-H11 (10-2A)
1616-H16 (10-3A)
2020-K16 (12-3B)

STFCR/L



1010-E09 (06-1.8J)
1212-F11 (08-2K)
1616-H11 (10-2A)
1616-H16 (10-3A)
2020-K16 (12-3B)
2525-M16 (16-3D)

SVABR/L



1616-M16 (10-3A)
2020-K16 (12-3B)

SWACR/L



1010-E04 (06-2J)
1212-F04 (08-2A)
1616-H06 (10-3A)
2020-K08 (12-4B)

SSSCR/L



1616-H09 (10-3A)
2020-K12 (12-4B)
2525-M12 (16-4D)

Boring Bars

Screw on system

SCLCR/L



S08K-SCLCR/L-06 (S06K-SCLCR/L2)
S10K-SCLCR/L-06 (S06K-SCLCR/L2)
S10M-SCLCR/L-06 (S06M-SCLCR/L2)
S12M-SCLCR/L-06 (S08M-SCLCR/L2)
S12M-SCLCR/L-09 (S08M-SCLCR/L3)
S16R-SCLCR/L-09 (S10R-SCLCR/L3)
S20S-SCLCR/L-09 (S12S-SCLCR/L3)
S25T-SCLCR/L-09 (S16T-SCLCR/L3)
S25T-SCLCR/L-12 (S16T-SCLCR/L4)
S32U-SCLCR/L-12 (S20U-SCLCR/L4)

SCLPR/L



S10M-SCLPR/L-08 (S06M-SCLPR/L2.5)
S12M-SCLPR/L-08 (S08M-SCLPR/L2.5)
S16N-SCLPR/L-09 (S10N-SCLPR/L3)
S16R-SCLPR/L-09 (S10R-SCLPR/L3)
S20N-SCLPR/L-09 (S12N-SCLPR/L3)
S20S-SCLPR/L-09 (S12S-SCLPR/L3)
C10M-SCLPR/L-08 (C06M-SCLPR/L2.5)
C12M-SCLPR/L-08 (C08M-SCLPR/L2.5)
C16R-SCLPR/L-09 (C10R-SCLPR/L3)
C20S-SCLPR/L-09 (C12S-SCLPR/L3)

SDQCR/L, SDUCR/L



S10M-SDQCR/L-07 (S06M-SDQCR/L2)
S12M-SDQCR/L-07 (S08M-SDQCR/L2)
S16R-SDQCR/L-07 (S10R-SDQCR/L2)
S16R-SDQCR/L-11 (S10R-SDQCR/L3)
S20S-SDQCR/L-11 (S12S-SDQCR/L3)
S25T-SDQCR/L-11 (S16T-SDQCR/L3)
S32U-SDQCR/L-11 (S20U-SDQCR/L3)

SDZCR/L



S16R-SDZCR/L-07 (S10R-SDZCR/L2)
S20S-SDZCR/L-07 (S12S-SDZCR/L2)
S25T-SDZCR/L-11 (S16T-SDZCR/L3)
S32U-SDZCR/L-11 (S20U-SDZCR/L3)
S40V-SDZCR/L-11 (S24V-SDZCR/L3)

SSKCR/L



S12M-SSKCR/L09 (S08M-SSKCR/L3)
S16R-SSKCR/L09 (S10R-SSKCR/L3)
S20S-SSKCR/L09 (S12S-SSKCR/L3)
S25T-SSKCR/L12 (S16T-SSKCR/L4)
S32U-SSKCR/L12 (S20U-SSKCR/L4)

SSKPR/L



S12M-SSKPR/L-09 (S08M-SSKPR/L3)
S16N-SSKPR/L-09 (S10N-SSKPR/L3)
S16R-SSKPR/L-09 (S10R-SSKPR/L3)
S20N-SSKPR/L-09 (S12N-SSKPR/L3)
S20S-SSKPR/L-09 (S12S-SSKPR/L3)
X12M-SSKPR/L-09 (X08M-SSKPR/L3)
X16N-SSKPR/L-09 (X10N-SSKPR/L3)
X16R-SSKPR/L-09 (X10R-SSKPR/L3)
X20N-SSKPR/L-09 (X12N-SSKPR/L3)
X20S-SSKPR/L-09 (X12S-SSKPR/L3)

STFCR/L



S10M-STFCR/L-09 (S06M-STFCR/L1.8)
S12M-STFCR/L-09 (S08M-STFCR/L1.8)
S12M-STFCR/L-11 (S08M-STFCR/L2)
S16R-STFCR/L-11 (S10R-STFCR/L2)
S20S-STFCR/L-11 (S12S-STFCR/L2)
S20S-STFCR/L-16 (S12S-STFCR/L3)
S25T-STFCR/L-16 (S16T-STFCR/L3)
S32U-STFCR/L-16 (S20U-STFCR/L3)
S40V-STFCR/L-16 (S24V-STFCR/L3)

STFPR/L



S10M-STFPR/L-11 (S06M-STFPR/L2)
S12M-STFPR/L-11 (S08M-STFPR/L2)
S16N-STFPR/L-11 (S10N-STFPR/L2)
S16R-STFPR/L-11 (S10R-STFPR/L2)
S20N-STFPR/L-16 (S12N-STFPR/L3)
S20S-STFPR/L-16 (S12S-STFPR/L3)
C10M-STFPR/L-11 (C06M-STFPR/L2)
C12M-STFPR/L-11 (C08M-STFPR/L2)
C16R-STFPR/L-11 (C10R-STFPR/L2)
C20S-STFPR/L-16 (C12S-STFPR/L3)

SVQBR/L



S32U-SVQBR/L-16 (S20U-SVQBR/L3)
S40V-SVQBR/L-16 (S24V-SVQBR/L3)

SVUBR/L



S32U-SVUBR/L-16 (S20U-SVUBR/L3)
S40V-SVUBR/L-16 (S24V-SVUBR/L3)

SWLCR/L



S25T-SWLCR/L-08 (S16T-SWLCR/L4)
S32U-SWLCR/L-08 (S20U-SWLCR/L4)

Boring Bars

Lever lock system

PCLNR/L



S16R-PCLNR/L-09 (S10R-PCLNR/L3)
S20S-PCLNR/L-09 (S12S-PCLNR/L3)
S25T-PCLNR/L-09 (S16T-PCLNR/L3)
S25T-PCLNR/L-12 (S16T-PCLNR/L4)
S32U-PCLNR/L-12 (S20U-PCLNR/L4)
S40V-PCLNR/L-12 (S24V-PCLNR/L4)
S50W-PCLNR/L-12 (S32W-PCLNR/L4)
S50W-PCLNR/L-19 (S32W-PCLNR/L6)
A25R-PCLNR/L-12 (A16R-PCLNR/L4)
A32S-PCLNR/L-12 (A20S-PCLNR/L4)
A40T-PCLNR/L-12 (A24T-PCLNR/L4)

PSKNR/L



S25T-PSKNR/L-12 (S16T-PSKNR/L4)
S32U-PSKNR/L-12 (S20U-PSKNR/L4)
S40V-PSKNR/L-12 (S24V-PSKNR/L4)
A25R-PSKNR/L-12 (A16R-PSKNR/L4)
A32S-PSKNR/L-12 (A20S-PSKNR/L4)

PTFNR/L



S16R-PTFNR/L-16 (S10R-PTFNR/L3)
S20S-PTFNR/L-16 (S12S-PTFNR/L3)
S25T-PTFNR/L-16 (S16T-PTFNR/L3)
S32U-PTFNR/L-16 (S20U-PTFNR/L3)
S40V-PTFNR/L-16 (S24V-PTFNR/L3)
A25R-PTFNR/L-16 (A16R-PTFNR/L3)
A32S-PTFNR/L-16 (A20S-PTFNR/L3)

PDSNR/L



S32U-PDSNR/L-15 (S20U-PDSNR/L4)
S40V-PDSNR/L-15 (S24V-PDSNR/L4)
S32U-PDSNR/L-15-3 (S20U-PDSNR/L4-3)
S40V-PDSNR/L-15-3 (S24V-PDSNR/L4-3)
A32S-PDSNR/L-15 (A20S-PDSNR/L4)
A32S-PDSNR/L-15-3 (A20S-PDSNR/L4-3)

PDUNR/L



S20S-PDUNR/L-11 (S12S-PDUNR/L3)
S25T-PDUNR/L-11 (S16T-PDUNR/L3)
S32U-PDUNR/L-11 (S20U-PDUNR/L3)
S32U-PDUNR/L-15 (S20U-PDUNR/L4)
S40V-PDUNR/L-15 (S24V-PDUNR/L4)
S32U-PDUNR/L-15-3 (S20U-PDUNR/L4-3)
S40V-PDUNR/L-15-3 (S24V-PDUNR/L4-3)
A32S-PDUNR/L-15 (A20S-PDUNR/L4)
A32S-PDUNR/L-15-3 (A20S-PDUNR/L4-3)

Multi lock system

MCLNR/L



S25T-MCLNR/L-12 (S16T-MCLNR/L4)
S32U-MCLNR/L-12 (S20U-MCLNR/L4)
S40V-MCLNR/L-12 (S24V-MCLNR/L4)
A25R-MCLNR/L-12 (A16R-MCLNR/L4)
A32S-MCLNR/L-12 (A20S-MCLNR/L4)

MDUNR/L



S32U-MDUNR/L-15 (S20U-MDUNR/L4)
S40V-MDUNR/L-15 (S24V-MDUNR/L4)
A32S-MDUNR/L-15 (A20S-MDUNR/L4)
A40T-MDUNR/L-15 (A24T-MDUNR/L4)

MSKNR/L



S25T-MSKNR/L-12 (S16T-MSKNR/L4)
S32U-MSKNR/L-12 (S20U-MSKNR/L4)
S40V-MSKNR/L-12 (S24V-MSKNR/L4)
A25R-MSKNR/L-12 (A16R-MSKNR/L4)
A32S-MSKNR/L-12 (A20S-MSKNR/L4)
A40T-MSKNR/L-12 (A24T-MSKNR/L4)

MTFNR/L



S25T-MTFNR/L-16 (S16T-MTFNR/L3)
S32U-MTFNR/L-16 (S20U-MTFNR/L3)
S40V-MTFNR/L-16 (S24V-MTFNR/L3)
A25R-MTFNR/L-16 (A16R-MTFNR/L3)
A32S-MTFNR/L-16 (A20S-MTFNR/L3)

MVUNR/L



S32U-MVUNR/L-16 (S20U-MVUNR/L3)
S40V-MVUNR/L-16 (S24V-MVUNR/L3)
A32U-MVUNR/L-16 (A20U-MVUNR/L3)
A40T-MVUNR/L-16 (A24T-MVUNR/L3)

MWLNRL



S25T-MWLNRL-06 (S16T-MWLNRL-3)
S32U-MWLNRL-06 (S20U-MWLNRL-3)
S40V-MWLNRL-06 (S24V-MWLNRL-3)
S25T-MWLNRL-08 (S16T-MWLNRL-4)
S32U-MWLNRL-08 (S20U-MWLNRL-4)
S40V-MWLNRL-08 (S24V-MWLNRL-4)
A25R-MWLNRL-06 (A16R-MWLNRL-3)
A32S-MWLNRL-06 (A20S-MWLNRL-3)
A25R-MWLNRL-08 (A16R-MWLNRL-4)
A32S-MWLNRL-08 (A20S-MWLNRL-4)

Coolant hole boring bars

SDUCR/L



A10H-SDUCR/L-07 (A06H-SDUCR/L2)
A12K-SDUCR/L-07 (A08K-SDUCR/L2)
A16M-SDUCR/L-07 (A10M-SDUCR/L2)
A20Q-SDUCR/L-11 (A12Q-SDUCR/L3)
A25R-SDUCR/L-11 (A16R-SDUCR/L3)

STFCR/L



A10H-STFCR/L-09 (A06H-STFCR/L1.8)
A12K-STFCR/L-09 (A08K-STFCR/L1.8)
A12K-STFCR/L-11 (A08K-STFCR/L2)
A16M-STFCR/L-11 (A10M-STFCR/L2)
A20Q-STFCR/L-11 (A12Q-STFCR/L2)
A25R-STFCR/L-16 (A16R-STFCR/L3)
A32S-STFCR/L-16 (A20S-STFCR/L3)

SDQCR/L



A10H-SDQCR/L-07 (A06H-SDUCR/L2)
A12K-SDQCR/L-07 (A08K-SDUCR/L2)
A16M-SDQCR/L-11 (A10M-SDUCR/L2)
A20Q-SDQCR/L-11 (A12Q-SDUCR/L3)
A25R-SDQCR/L-11 (A16R-SDUCR/L3)

SCLCR/L



A08F-SCLCR/L-06 (A05F-SCLCR/L2)
A10H-SCLCR/L-06 (A06H-SCLCR/L2)
A12K-SCLCR/L-06 (A08K-SCLCR/L2)
A12K-SCLCR/L-09 (A08K-SCLCR/L3)
A16M-SCLCR/L-09 (A10M-SCLCR/L3)
A20Q-SCLCR/L-09 (A12Q-SCLCR/L3)
A25R-SCLCR/L-09 (A16R-SCLCR/L3)
A25R-SCLCR/L-12 (A16R-SCLCR/L4)
A32S-SCLCR/L-12 (A20S-SCLCR/L4)

SCLPR/L



A10H-SCLPR/L-08 (A06H-SCLPR/L2.5)
A12K-SCLPR/L-08 (A08K-SCLPR/L2.5)
A16M-SCLPR/L-09 (A10M-SCLPR/L3)
A20Q-SCLPR/L-09 (A12Q-SCLPR/L3)
E10M-SCLPR/L-08 (E08M-SCLPR/L2.5)
E12M-SCLPR/L-08 (E08M-SCLPR/L2.5)
E16R-SCLPR/L-09 (E10R-SCLPR/L3)
E20S-SCLPR/L-09 (E12S-SCLPR/L3)

SDZCR/L



A25R-SDZCR/L-11 (A16R-SDZCR/L3)
A32S-SDZCR/L-11 (A20S-SDZCR/L3)

SSKCR/L



A12K-SSKCR/L09 (A08K-SSKCR/L3)
 A16M-SSKCR/L09 (A10M-SSKCR/L3)
 A20Q-SSKCR/L09 (A12Q-SSKCR/L3)
 A25R-SSKCR/L12 (A16R-SSKCR/L4)
 A32S-SSKCR/L12 (A20S-SSKCR/L4)

SSKPR/L



A12K-SSKPR/L-09 (A08K-SSKPR/L3)
 A16M-SSKPR/L-09 (A10M-SSKPR/L3)
 A20Q-SSKPR/L-09 (A12Q-SSKPR/L3)

STFPR/L



A10H-STFPR/L-11 (A06H-STFPR/L2)
 A12K-STFPR/L-11 (A08K-STFPR/L2)
 A16M-STFPR/L-11 (A10M-STFPR/L2)
 A20Q-STFPR/L-16 (A12Q-STFPR/L3)
 E10M-STFPR/L-11 (E06M-STFPR/L2)
 E12M-STFPR/L-11 (E08M-STFPR/L2)
 E16R-STFPR/L-11 (E10M-STFPR/L2)
 E20S-STFPR/L-16 (E12S-STFPR/L3)

SVQBR/L



A32S-SVQBR/L-16 (A20S-SVQBR/L3)

SVUBR/L



A32S-SVUBR/L-16 (A20S-SVUBR/L3)

SWLCR/L



A25R-SWLCR/L-08 (A16R-SWLCR/L4)
 A32S-SWLCR/L-08 (A20S-SWLCR/L4)

Compact mini bars

SCLCR/R



S10H-SCLCR/L-0305
 S10H-SCLCR/L-0306
 S10J-SCLCR/L-0407
 S10J-SCLCR/L-0408
 C04G-SCLCR/L-0305
 C05H-SCLCR/L-0306
 C06J-SCLCR/L-0407
 C07K-SCLCR/L-0408

STUBR/L



A08F-STUBR/L-06
 C08K-STUBR/L-06
 S08K-STUBR/L-06

STUPR/L



A08F-STUPR/L-08
 C08K-STUPR/L-08
 S08K-STUPR/L-08

SWUBR/L




A08F-SWUBR/L-02
 A08F-SWUBR/L-S3
 C05H-SWUBR/L-02
 C08K-SWUBR/L-02
 C08K-SWUBR/L-S3
 E05H-SWUBR/L-02
 E08K-SWUBR/L-02
 S05H-SWUBR/L-02
 S08K-SWUBR/L-02
 S08K-SWUBR/L-S3

Forming, Grooving, Threading, Parting

SAW-MAN

SPB-S(SPBA-S)

(Stopper type)



Insert : SP

· Blade

- 226-S 432-S
- 232-S 526-S
- 326-S 532-S
- 332-S 626-S
- 426-S 632-S

SPH-S(SPHA-S)




Insert : SP

· Blade

- 316R/L-S
- 320R/L-S
- 325R/L-S
- 420R/L-S
- 425R/L-S
- 520R/L-S
- 525R/L-S

SPB(SPBA) / SMBB(SMBBA)



Insert : SP

· Blade

- 226 432
- 232 526
- 326 532
- 332 626
- 426 632

· Block

- 1626
- 2026
- 2032
- 2526
- 2532
- 3232

M. G. T

MGEHR/L



Insert : MGMN-M
MRMN-M
MRGN-A

MGIVR/L



Insert : MGMN-M
MRMN-M
MRGN-A

MGEUR/L



Insert : MGMN-M
MRMN-M
MRGN-A

MGEVR/L



Insert : MGMN-M
MRMN-M

MGIUR/L



Insert : MGMN-M
MRMN-M
MRGN-A


Internal Cutting

FTIH



Insert : FTG, FTT, FTF

IGH



Insert : IG

- 214 (0910-2)
- 216 (1110-2)
- 220 (1310-2)

GFIK



Insert : GR

- 316R/L (1410-3)
- 325R/L (2116-3)
- 340R/L (3224-3)
- 525R/L (2116-5)
- 540R/L (3224-5)
- 840R/L (3224-8)

GFIP




Insert : BF, GW

- 316R/L (1310-3)
- 320R/L (1712-3)
- 325R/L (2116-3)
- 340R/L (3224-3)
- 525R/L (2116-5)
- 540R/L (3224-5)

External Cutting

DBH



Insert : DB

- 320 (12-3)
- 325 (16-3)
- 520 (12-5)
- 525 (16-5)
- 720 (12-7)
- 725 (16-7)

GH



Insert : GS, GO

- 2020R/L-3 (12-3)
- 2525R/L-3 (16-3)
- 2020R/L-4 (12-4)
- 2525R/L-4 (16-4)

GFT



Insert : GW, BF

- 320R/L (12-3)
- 325R/L (16-3)
- 525R/L (16-5)
- 825R/L (16-8)

TBH




Insert : TB

- 320-23 (12-3-23)
- 320-33 (12-3-33)
- 320-43 (12-3-43)
- 325-23 (16-3-23)
- 325-33 (16-3-33)
- 325-43 (16-3-43)
- 420-23 (12-4-23)
- 420-33 (12-4-33)
- 420-45 (12-4-45)
- 425-23 (16-4-23)
- 425-33 (16-4-33)
- 425-45 (16-4-45)

Face Grooving Tools


EH



Insert : ESB

- 620 (12-6)
- 625 (16-6)


PH



Insert : POB

- 320R/L (12-3)
- 325R/L (16-3)
- 420R/L (12-4)
- 425R/L (16-4)
- 520R/L (12-5)
- 525R/L (16-5)

FGHH (FGVH)



Insert : FGD
FGM
FMM

- 320R
- 325R
- 420R
- 425R
- 520R
- 525R

MGFHR



Insert : MFMN
MGMN

- 325-24/35-T10
- 325-29/40-T10
- 325-34/50-T10
- 25-44/70-T10
- 325-64/99-T10
- 425-62/120-T15
- 425-112/200-T15

MGFVR



Insert : MFMN
MGMN

- 325-24/35-T10
- 325-29/40-T10
- 325-34/50-T10
- 425-44/60-T15

Threading

ERH



Insert : ER/ERM

- Screw on system : ERH□□
- Clamp on system : ERH□□

IRH



Insert : IR/IRM

- Screw on system : IRH□□
- Clamp on system : IRH□□

VTH



Insert : VETR

- 2020R/L (12)
- 2525R/L (16)
- 3225R/L (85)

Rich Mill Series

RM4PC(M) 4000



($\phi 50 - \phi 160\text{mm}$)
($\phi 2 - \phi 6.4\text{inch}$)

· Insert
LNMX151008PNR-MF
LNMX151008PNR-MM
LNEX151008PNR-MF
LNEX151008PNR-MM

RM4PS 4000



($\phi 32 - \phi 63\text{mm}$)
($\phi 1.28 - \phi 2.52\text{inch}$)

· Insert
LNMX151008PNR-MF
LNMX151008PNR-MM
LNEX151008PNR-MF
LNEX151008PNR-MM

RM8AC(M) 4000



($\phi 50 - \phi 250\text{mm}$)
($\phi 2 - \phi 10\text{inch}$)

· Insert
SNMX1206ANN-MF
SNMX1206ANN-MM
SNEX1206ANN-MF
SNEX1206ANN-MM

RM8EC(M) 4000



($\phi 50 - \phi 200\text{mm}$)
($\phi 2 - \phi 8\text{inch}$)

· Insert
SNMX1206ENN-MF
SNMX1206ENN-MM
SNEX1206ENN-MF
SNEX1206ENN-MM

RM16AC(M) 8000



($\phi 63 - \phi 200\text{mm}$)
($\phi 2.52 - \phi 8\text{inch}$)

· Insert
ONMX080608-MF
ONMX080608-MM
ONHX080608-MF
ONHX080608-MM
ONHX080608-W

RMT8Q/E/A(M) 4000,5000



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
SNCF 1206QNN-MM SNMF 1507ENN-MM
1206QNN-MF 1507ENN-MF
SNMF 1206QNN-MM SNCF 1206ANN-MM
1206QNN-MF 1206ANN-MF
SNCF 1206ENN-MM SNMF 1206ANN-MM
1206ENN-MF 1206ANN-MF
SNMF 1206ENN-MM SNCF 1507ANN-MM
1206ENN-MF 1507ANN-MF
SNCF 1507ENN-MM SNMF 1507ANN-MM
1507ENN-MF 1507ANN-MF

Future Mill Series

FMRC 3000, 4000, 5000, 6000



($\phi 40 - \phi 160\text{mm}$)
($\phi 1.6 - \phi 6.4\text{inch}$)

· Insert
RDKT10T3M0-MM, MF, MA
RDKT1204M0-MM, MF, MA
RDKT1605M0-MM
RDKT2006M0-MM
RDHW1605M0-F, E, S
RDHW2006M0-F, E, S

FMRS 1000, 1500, 2000, 2500, 3000, 4000, 5000, 6000



($\phi 8 - \phi 63\text{mm}$)
($\phi 0.32 - \phi 2.52\text{inch}$)

· Insert
RDHW0501M0-F, E, S
RDHW06T1M0-F, E, S
RDHW0702M0-F, E, S
RDHW0803M0-F, E, S
RDKT10T3M0-MM, MF, MA
RDKT1204M0-MM, MF, MA
RDKT1605M0-MM
RDKT2006M0-MM
RDHW1605M0-F, E, S
RDHW2006M0-F, E, S

FMRM 1000, 1500, 2000, 2500, 3000, 4000, 5000



($\phi 8 - \phi 42\text{mm}$)
($\phi 0.32 - \phi 1.72\text{inch}$)

· Insert
RDHW0501M0-F, E, S
RDHW06T1M0-F, E, S
RDHW0702M0-F, E, S
RDHW0803M0-F, E, S
RDKT10T3M0-MM, MF, MA
RDKT1204M0-MM, MF, MA
RDKT1605M0-MM
RDHW1605M0-F, E, S

FMPC



($\phi 50 - \phi 125\text{mm}$)
($\phi 2 - \phi 5\text{inch}$)

· Insert
SDXT09M405R-MF
SDXT09M405R-MM
SDXT09M405R-MA
SDET09M402R-MA
SDXT130508R-MF
SDXT130508R-MM
SDXT130508R-MA
SDET130504R-MA

FMPS



($\phi 25 - \phi 63\text{mm}$)
($\phi 1 - \phi 2.52\text{inch}$)

· Insert
SDXT09M405R-MF
SDXT09M405R-MM
SDXT09M405R-MA
SDET09M402R-MA
SDXT130508R-MF
SDXT130508R-MM
SDXT130508R-MA
SDET130504R-MA

FMAC



($\phi 50 - \phi 200\text{mm}$)
($\phi 2 - \phi 8\text{inch}$)

· Insert
SEET0903AGSN-MF
SEXT0903AGSN-MF
SEET0903AGSN-MM
SEXT0903AGSN-MM
SEET0903AGFN-MA
SEXT0903AGSN-MR
SEET14M4AGSN-MF
SEXT14M4AGSN-MF
SEET14M4AGSN-MM
SEXT14M4AGSN-MM
SEET14M4AGSN-MA
SEXT14M4AGSN-MA
SEET14M4AGSN-MR
SEXT14M4AGSN-MR
SEEW14M4AGTN-W

Future Mill Aluminum Body

FMAS



($\phi 25 - \phi 63\text{mm}$)
($\phi 1 - \phi 2.52\text{inch}$)

· Insert
SEET0903AGSN-MF
SEXT0903AGSN-MF
SEET0903AGSN-MM
SEXT0903AGSN-MM
SEET0903AGFN-MA
SEXT0903AGSN-MR
SEET14M4AGSN-MF
SEXT14M4AGSN-MF
SEET14M4AGSN-MM
SEXT14M4AGSN-MM
SEET14M4AGSN-MA
SEXT14M4AGSN-MA
SEET14M4AGSN-MR
SEXT14M4AGSN-MR
SEEW14M4AGTN-W

FMAC-A



($\phi 63 - \phi 315\text{mm}$)
($\phi 2.52 - \phi 12.6\text{inch}$)

· Insert
SEET0903AGSN-MF
SEXT0903AGSN-MF
SEET0903AGSN-MM
SEXT0903AGSN-MM
SEET0903AGFN-MA
SEXT0903AGSN-MR
SEET14M4AGSN-MF
SEXT14M4AGSN-MF
SEET14M4AGSN-MM
SEXT14M4AGSN-MM
SEET14M4AGSN-MA
SEXT14M4AGSN-MA
SEET14M4AGSN-MR
SEXT14M4AGSN-MR
SEEW14M4AGTN-W

FMPC-A



($\phi 63 - \phi 315\text{mm}$)
($\phi 2.52 - \phi 12.6\text{inch}$)

· Insert
SDXT09M405R-MF
SDXT09M405R-MM
SDXT09M405R-MA
SDET09M402R-MA
SDXT130508R-MF
SDXT130508R-MM
SDXT130508R-MA
SDET130504R-MA

HRM Tool

HRMC(M) 1300, 1500



($\phi 50 - \phi 160\text{mm}$)
($\phi 2 - \phi 6.4\text{inch}$)

· Insert
WDKT130520ZDSR-MH
WDKT150625ZDSR-MH

HRMS 0800,1000,1300,1500



($\phi 20 - \phi 63\text{mm}$)
($\phi 0.8 - \phi 2.52\text{inch}$)

· Insert
WDKT080316ZDSR-MH
WDKT10T320ZDSR-MH
WDKT130520ZDSR-MH
WDKT150625ZDSR-MH

Mill-Max series

ADN4000 / ADN5000



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
SDAN1203, 1504
SDKN1203, 1504

AE4000(AEM,AEA)



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
SECN1203(42)
SEKN1203(42)
SEKR1203(42)
· For milling of steel,
tool steel and
stainless steel

EF4000(EFM,EFA)



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
SFAN1203(42)
SFCN1203
· For milling of aluminum
and light alloy exclusively

※ADM, AEM, EFM : They have the Metric Size System.

EN4000(ENM,ENA)



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
SNCN1204(42)
· For milling of cast -
iron exclusively

EPN4000 / EPN5000



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
SPAN1203, 1504
SPCN1203, 1504
SPKN1203, 1504
SPKR1203, 1504

PPN4000



($\phi 80 - \phi 315\text{mm}$)
($\phi 3.2 - \phi 12.6\text{inch}$)

· Insert
TPAN2204
TPKN2204
TPKR2204
TPCN2204

Double-Mill series

AFO4000(AFOM,AFOA)



($\phi 80 - \phi 125\text{mm}$)
($\phi 3.2 - \phi 5\text{inch}$)

· Insert
OFCW05T3N
OFKT05T3SN-MF
OFKT05T3SN-MM
REKT12T300-MM
OFKT05T3FN-MA

AFO5000(AFOM,AFOA)



($\phi 80 - \phi 200\text{mm}$)
($\phi 3.2 - \phi 8\text{inch}$)

· Insert
OFCN0704N
OFKR0704SN-MF
OFKR0704SN-MM
REKR170400-MM
OFKR0704FN-MA

※AFOM : They have the Metric Size System.

Alpha-Mill Series

AMC2000,3000S

($\varnothing 50 - \varnothing 100\text{mm}$)
($\varnothing 2 - \varnothing 4\text{inch}$)



· Insert
APXT11T3PDSR-MM
11T3PDSR-MF
11T312R-MM
11T3PDR-MA
APKT1604PDR-MA
APXT1604PDSR-MM
1604PDSR-MF
160416R-MM
160432R-MM

AMC 2000,3000SE

($\varnothing 80 - \varnothing 100\text{mm}$)
($\varnothing 3.2 - \varnothing 4\text{inch}$)



· Insert
APXT11T3PDSR-MM
11T3PDSR-MF
11T312R-MM
1604PDSR-MM
1604PDSR-MF
160416R-MM
160432R-MM

AMS 2000S, 3000S

($\varnothing 10 - \varnothing 63\text{mm}$)
($\varnothing 0.4 - \varnothing 2.52\text{inch}$)



· Insert
APXT 11T3PDSR-MM
11T3PDSR-MM
11T312R-MM
1604PDSR-MM
1604PDSR-MF
160416R-MM
APKT 160432R-MM
1604PDR-MA

AMS 2000, 3000SE

($\varnothing 25 - \varnothing 63\text{mm}$)
($\varnothing 1 - \varnothing 2.52\text{inch}$)



· Insert
APXT 11T3PDSR-MM
11T3PDSR-MF
11T312R-MM
1604PDSR-MM
1604PDSR-MF
160416R-MM
160432R-MM

AMS 2000M

($\varnothing 20 - \varnothing 40\text{mm}$)
($\varnothing 0.8 - \varnothing 1.6\text{inch}$)



· Insert
APXT 11T3PDSR-MM
11T3PDSR-MF
11T312R-MM
11T3PDR-MA

AMC 2000M

($\varnothing 50 - \varnothing 100\text{mm}$)
($\varnothing 2 - \varnothing 4\text{inch}$)



· Insert
APXT11T3PDSR-MM
11T3PDSR-MF
11T312R-MM
11T3PDR-MA

Tank-Mill Series

THE

($\varnothing 25 - \varnothing 50\text{mm}$)
($\varnothing 1 - \varnothing 2\text{inch}$)



· Insert
APLT070304R
ADLT150308R
ZPMT1504PPSR
SPMT060304
SPMT120308
SDMT090308

HE

($\varnothing 25 - \varnothing 63\text{mm}$)
($\varnothing 1 - \varnothing 2.52\text{inch}$)



· Insert
MCMT080308EN
09T308EN
ZCMT 080308ER
09T308ER

Chamfer Tool Series

CE

CE15-1125R-S20
CE30-1125R-S20
CE45-1107R-S20
CE45-1119R-S20
CE45-1125R-S20
CE60-1125R-S32



· Insert
SPMT110408-KC

CE

CE45-1207R-S32
CE45-1220R-S32
CE45-1225R-S32
CE45-1235R-S32



· Insert
SPMN120308

CE

CE30-3105R-S32
CE45-3105R-S32
CE60-3105R-S32



· Insert
XCET310404ER-KC

Cen-Mill Series

PM

($\varnothing 40 - \varnothing 50\text{mm}$)
($\varnothing 1.6 - \varnothing 2\text{inch}$)



· Insert
EDCW1604ZDF(T)R

SE

($\varnothing 25 - \varnothing 40\text{mm}$)
($\varnothing 1 - \varnothing 1.6\text{inch}$)



· Insert
MPMT090308
120408

TM

($\varnothing 32 - \varnothing 50\text{mm}$)
($\varnothing 1.28 - \varnothing 2\text{inch}$)



· Insert
MIT 100, 150, 200, 300, 400
MET 100, 150, 200, 300, 400

Turbo-Mill Series

ADS 4000, 5000

($\varnothing 50 - \varnothing 63\text{mm}$)
($\varnothing 2 - \varnothing 2.52\text{inch}$)



· Insert
SDCN42M/MT
SDCN42M/MT

PES2000, 3000, 4000

($\varnothing 20 - \varnothing 63\text{mm}$)
($\varnothing 0.8 - \varnothing 2.52\text{inch}$)



· Insert
TECN22R/TR
TECN32R/TR
TECN42R/TR
TECN43R/TR

Pro-X Mill

PAXC



($\phi 40$ - $\phi 125$ mm)
($\phi 1.6$ - $\phi 5$ inch)
· Insert
XEKT19M5 \square \square -MA

PAXS



($\phi 20$ - $\phi 40$ mm)
($\phi 0.8$ - $\phi 1.6$ inch)
· Insert
XEKT19M5 \square \square -MA

■ XEKT19M5 \square \square -MA's nose-R size

Nose-R (ISO code)	04	08	12	16	18	20	30	32	40	50
Nose-R (ASA code)	1	2	3	4	4.5	5	7.5	8	10	12.5

Pro-A Mill

PAC 4000



($\phi 40$ - $\phi 100$ mm)
($\phi 1.6$ - $\phi 4$ inch)
· Insert
VCKT220530 - MA

PAS 2000, 4000



2000 ($\phi 12$ - $\phi 42$ mm)
($\phi 0.48$ - $\phi 1.68$ inch)
4000 ($\phi 32$ - $\phi 40$ mm)
($\phi 1.28$ - $\phi 1.6$ inch)
· Insert
VDKT11T210-MA
VCKT220530-MA

PAM 2000



($\phi 12$ - $\phi 42$ mm)
($\phi 0.48$ - $\phi 1.68$ inch)
· Insert
VDKT11T210-MA

Aero Mill

APD(M) \square \square \square -A(Insert Type)



($\phi 80$ - $\phi 315$ mm)
($\phi 3.2$ - $\phi 12.6$ inch)
· Insert
CDEW1204R-XCF
CDEW1204R-XAF
CDEW1204R-XAW
CDEW1204R-NAF
CDEW1204R-NAW

APD(M) \square \square \square -B(Blade Type)



($\phi 80$ - $\phi 315$ mm)
($\phi 3.2$ - $\phi 12.6$ inch)
· Blade
BAPDR-XAF
BAPDR-XAW
BAPDR-NAF
BAPDR-NAW

High Feed Cutter for Cast iron

CBMQ(AA=2°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
SNEX1010ZNN-CU1
SNEX101010-CU1
SNEX1212ZNN-CU1
SNEX121212-CU1

CBMF(AA=5°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
SNEX1010ZNN-CU1
SNEX101010-CU1
SNEX1212ZNN-CU1
SNEX121212-CU1

CBME(AA=15°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
SNEX101010-CU1
SNEX121212-CU1

CBMC(AA=25°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
SNEX101010-CU1
SNEX121212-CU1

CBMA(AA=45°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
SNEX1010ZNN-CU1
SNEX101010-CU1
SNEX1212ZNN-CU1
SNEX121212-CU1

DRMQ(AA=2°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
SNQC1205ZNR
SNQC1205ZNL

SQN(AA=2°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
LNE 324-C1.0
LNE 324-R0.8

SFN(AA=5°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
LNE 324-C1.0
LNE 324-R0.8

SEN(AA=15°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
LNE 324-R0.8

SAN(AA=45°)



($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

· Insert
LNE 324-C1.0
LNE 324-R0.8

COUPLE MILL



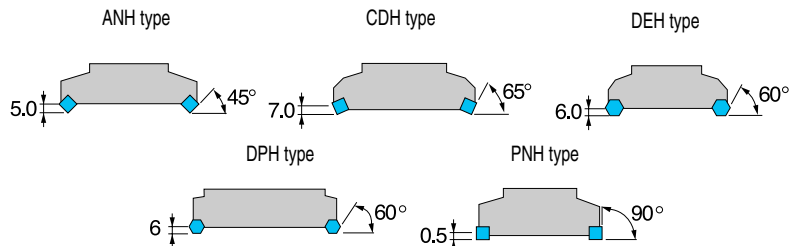
($\phi 335 - \phi 450$ mm)
($\phi 13.4 - \phi 18$ inch)

CUBE-COUPLE
DURA-COUPLE
STORM-COUPLE

High feed cutter



ANH4000, 5000
CDH4000, 5000
CDH4000, 5000
DEH5000
DPH5000
PNH4000, 5000



Side cutter

FC0810R/L-31524R/L(FCA) HC10024R/L-31524R/L(HCA)



FC0810R/L-31524R/L(FCA)
($\phi 80 - \phi 315$ mm)
($\phi 3.2 - \phi 12.6$ inch)

HC10024R/L-31524R/L(HCA)
($\phi 100 - \phi 315$ mm)
($\phi 4 - \phi 12.6$ inch)
· Insert
TPCN1103PPN
1603PPN

SPB (Boss type)



($\phi 80 - \phi 200$ mm)
($\phi 3.2 - \phi 8$ inch)

· Insert
PNEJ 1223N
PNEJ 1275N

SPP (Plane type)



($\phi 80 - \phi 200$ mm)
($\phi 3.2 - \phi 8$ inch)

· Insert
PNEJ 1223N
PNEJ 1275N

- Ultra fine grain grade (FCC, FA1, FS1)
- Accurate cutting surface and good finishing operations with excellent toughness

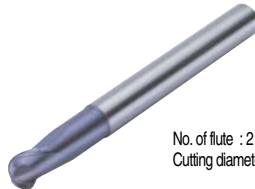
H-Max Endmills

HPRE



No. of flute : 4
Cutting diameter : $\phi 3 - \phi 16_{mm}$

HPBE



No. of flute : 2
Cutting diameter : $\phi 1.0 - \phi 16.0_{mm}$

Z-Max Endmills

HSE



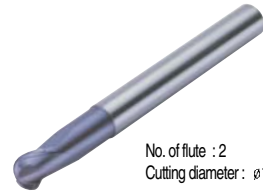
No. of flute : 4, 6, 8
Cutting diameter : $\phi 3 - \phi 20_{mm}$
For high feed

HSRE



No. of flute : 4
Cutting diameter : $\phi 3 - \phi 16_{mm}$

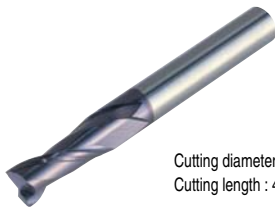
HSBE



No. of flute : 2
Cutting diameter : $\phi 1.0 - \phi 16.0_{mm}$

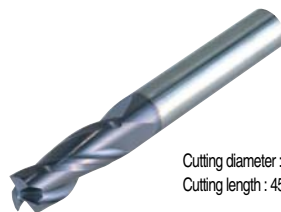
Coated Carbide Endmills Q-MAX Endmills

SSE2000 - Q(TiAlN)



Cutting diameter : $\phi 1 - \phi 16$
Cutting length : $40_{mm} - 90_{mm}$

SSE3000 - Q(TiAlN)



Cutting diameter : $\phi 3 - \phi 16$
Cutting length : $45_{mm} - 90_{mm}$

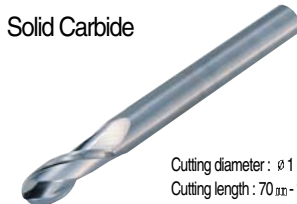
SSE4000 - Q (TiAlN)



Cutting diameter : $\phi 13 - \phi 16$
Cutting length : $45_{mm} - 90_{mm}$

Ball Endmills

SSBE (2000/4000)



Cutting diameter : $\phi 1 - \phi 16$
Cutting length : $70_{mm} - 120_{mm}$

SSBE2000 - Q / 4000 - Q



Cutting diameter : $\phi 1 - \phi 16$
Cutting length : $70_{mm} - 120_{mm}$

LSSBE - Q (Long Ball Endmills)



Cutting diameter : $\phi 3 - \phi 16$
Cutting length : $100_{mm} - 170_{mm}$

ZSBE(Brazed Spiral)



Cutting diameter : $\phi 14 - \phi 50$
Cutting length : $100_{mm} - 170_{mm}$

Endmills for specific workpiece

SSEA2000/3000



No. of flute : 2, 3
Cutting diameter : $\phi 10 - \phi 20$
Cutting length : $40_{mm} - 110_{mm}$

SSES3000-Q



Cutting diameter : $\phi 3 - \phi 20$
Cutting length : $45_{mm} - 110_{mm}$

Solid Spiral Endmills

SSE2000



Cutting diameter : $\phi 3 - \phi 16$
Cutting length : $40_{mm} - 80_{mm}$

SSE4000



Cutting diameter : $\phi 3 - \phi 16$
Cutting length : $40_{mm} - 80_{mm}$

Mach Drills

MSD

MSD□□□-□P

NEW



Aspect Ratio : 3D, 5D, 7D
Cutting diameter : ϕ 2.5 - ϕ 20mm
 ϕ 0.1 - ϕ 0.8inch

MSDH(Mach Drill with Coolant Hole)

MSDH□□□-□P

NEW



Aspect Ratio : 3D, 5D, 7D
Cutting diameter : ϕ 2.5 - ϕ 20mm
 ϕ 0.1 - ϕ 0.8inch

Mach Long Drills

MLD (Mach Drill with Coolant Hole)

NEW



Aspect ratio : Over 15D
Cutting diameter : ϕ 2.5 - ϕ 16mm
Max. overall length : 300mm

MLDP (Mach Drill with Coolant Hole)

NEW



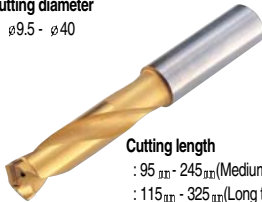
Cutting diameter : ϕ 2.5 - ϕ 16mm
Pilot Drill

Vulcan Drills

VZD- MA, MBA, LA, LBA

(Brazed type)

Cutting diameter
: ϕ 9.5 - ϕ 40



Cutting length
: 95_{mm} - 245_{mm} (Medium type)
: 115_{mm} - 325_{mm} (Long type)

Drills

SSD



Cutting diameter : ϕ 1 - ϕ 13
Cutting length : 32_{mm} - 125_{mm}
For General purpose

Indexable Drills Series

LPD



($\phi 12$ - $\phi 13.5$ mm)
($\phi 0.48$ - $\phi 0.54$ inch)

• Insert
LPMT040203-DF

SPD



($\phi 13$ - $\phi 22$ mm)
($\phi 0.52$ - $\phi 0.88$ inch)

• Insert
SPMT050203-DM, DS, DA, DF
(SPET)060204
070204

NPD



($\phi 23$ - $\phi 60$ mm)
($\phi 0.92$ - $\phi 2.4$ inch)

• Insert
NPMT 222408-DM,DS,DR,DA
(NPET) 252808
293208
334008
415008
516012

NPD Cartridge



($\phi 61$ - $\phi 100$ mm)
($\phi 2.44$ - $\phi 4$ inch)

• Insert
NPMT 222408-DM,DS,DR,DA
(NPET) 252808
293208
334008
415008
516012

Mach Mill & Laser Mill Series

BFE

($\phi 16$ - $\phi 32$ mm)
($\phi 0.64$ - $\phi 1.28$ inch)



• Insert
RC16
RC20
RC25
RC30
RC32

BRE

($\phi 20$ - $\phi 63$ mm)
($\phi 0.8$ - $\phi 2.52$ inch)



• Insert
ZDMT08T2-R10.0
ZDMT1103-R12.5
ZDMT13T3-R16.0
ZPMT1604-R20.0
ZPMT1604-R25.0
ZPMT1604-R31.5

LBE Holder(Shank)



• Steel Shank
LBE080035T-S12
LBE080055T-S12
LBE080075T-S12

LBE100035T-S12	LBE250090T-S25	LBE100120S-S10C
LBE100055T-S12	LBE250135T-S32	LBE120100S-S12C
LBE100075T-S12	LBE300055S-S32	LBE120150S-S12C
LBE120035S-S12	LBE300105T-S32	LBE160100S-S16C
LBE120055T-S12	LBE300160T-S32	LBE160150S-S16C
LBE120085T-S16	LBE320055S-S32	LBE200120S-S20C
LBE160035S-S16	LBE320105T-S32	LBE200170S-S20C
LBE160065T-S16	LBE320160T-S32	LBE250140S-S25C
LBE160100T-S20		LBE250170S-S25C
LBE200040S-S20	• Carbide Shank	LBE300140S-S32C
LBE200035T-S12	LBE080080S-S08C	LBE300170S-S32C
LBE200075T-S20	LBE080100S-S08C	LBE320140S-S32C
LBE200115T-S25	LBE100080S-S10C	LBE320170S-S32C
LBE250045S-S25		

Carbide Shank



LBE080020S-S08C-130
LBE080020S-S08C-150
LBE100023S-S10C-130
LBE100023S-S10C-170

LBE120025S-S12C-150
LBE120025S-S12C-200
LBE160030S-S16C-180
LBE160030S-S16C-210
LBE200035S-S20C-190
LBE200035S-S20C-240
LBE250040S-S25C-220
LBE250040S-S25C-250
LBE300050S-S32C-230
LBE300050S-S32C-260
LBE320055S-S32C-230
LBE320055S-S32C-280

LBE Modular Head



LBE100-MHD-M06
LBE120-MHD-M06
LBE160-MHD-M08
LBE200-MHD-M10
LBE250-MHD-M12
LBE300-MHD-M16
LBE320-MHD-M16

Shank adaptor for modular head

FMR, PAM, LBE modular type shank



(Taper neck type)

(Straight neck type)

MAT-M06-020-S10S	MAT-M08-040-S16T	MAT-M10-110-S25T
MAT-M06-020-S12S	MAT-M08-065-S16T	MAT-M10-130-S32T
MAT-M06-040-S12S	MAT-M08-080-S16T	MAT-M12-050-S25T
MAT-M08-020-S16S	MAT-M08-065-S16T	MAT-M12-070-S25T
MAT-M10-030-S20S	MAT-M08-080-S20T	MAT-M12-090-S25T
MAT-M12-030-S25S	MAT-M08-110-S25T	MAT-M12-110-S32T
MAT-M16-035-S32S	MAT-M10-050-S20T	MAT-M12-175-S40T
	MAT-M10-070-S20T	MAT-M16-055-S32T
	MAT-M10-090-S25T	MAT-M16-080-S32T
		MAT-M16-120-S32T
		MAT-M16-175-S40T

Carbide modular adaptor * Standard type : Available to use RM, LM, HRM, FMR



MAT-M08-010-S16S-C-150	MAT-M16-020-S32S-C-180
MAT-M08-010-S16S-C-180	MAT-M16-020-S32S-C-210
MAT-M08-010-S16S-C-250	MAT-M16-020-S32S-C-300
MAT-M10-010-S20S-C-170	
MAT-M10-010-S20S-C-200	
MAT-M10-010-S20S-C-300	
MAT-M12-015-S25S-C-170	
MAT-M12-015-S25S-C-200	
MAT-M12-015-S25S-C-300	



MATM08-080-S16S-C	MATM16-080-S32S-C
MATM08-110-S16S-C	MATM16-120-S32S-C
MATM08-150-S16S-C	MATM16-175-S32S-C
MATM10-090-S20S-C	
MATM10-110-S20S-C	
MATM10-175-S20S-C	
MATM12-090-S25S-C	
MATM12-110-S25S-C	
MATM12-175-S25S-C	

THE COMPARISON OF CHIP BREAKERS

APPLICATION		KORLOY		SUMITO -MO	SANDVIK	KENNA- METAL	KYOCERA	MITSU- BISHI	ISCAR	TOSHIBA	SECO	WALTER	DIJET	
		Main	Sub											
NEGATIVE	STEEL	EXTREME FINISHING	HU	D02	FA	QF	FF	GP DP CF	FH	SF	TF	FF1 F1, F2	F1 FA	
		FINISHING	VF	GF	SU, SK SP LU	PF	FN FP FW	CQ HQ	SH	NF	TS, AS 11 17	MF2	NF NF3 NF5	FT UA
		MEDIUM FINISHING	HC	VM	SX UU	SM		CQ HQ	SH	NF RF LF	MJ	MF1	NS4 NS8	GP UR PF
		MEDIUM ROUGHING	VM	GM	GU UX UG	PM QM	MN MP MW	GS HS CS	MA MH	TF PP	TM	M3 MR3	NM, NM4 NM5, NM6 NM7	UB GG
		ROUGHING	HR	GR	MU MX	PR	RN CT	GT HT ★	GH	NR	TH	MR4 M5 MR7	NR5 NR7	UD
		HEAVY	GH HH	B40	HG MP HP	HR	RH SP HP	HX	HZ, HV HH HX	TNM	TU 57 65	RR9 R4		UC
		WIPER	VW LW		LUW GUW	WF WM WR	MW FW	WQ	MW SW	WF WG	ASW	M3 M5	NF, PF NM, PM	
	GENERAL	B25	GR	UZ	23	MG	★	MT, MV	GN				GN	
	STAINLESS STEEL MILD STEEL	HA HS GS	HC HM GR X38	SU, EX MU, FL (GU)	MF MM, QM MR	FF, FW FP, MP MW, RN	GU, HU XP, XQ XS	FS, FJ SH, MJ MS, GJ GH	PP TF	TF SS SA TU, MS	MF1 MF3 M5	NS4 NM4 NR7	SF	
	CAST IRON	GR	B20 B25 HR	UZ UX ★	KF KM, QM KR, QR	FF, FW MP, MW RN	GC ★ ZS	★ ★	GN	★ 33, CM ★	MF3 M5	NS4, NS8 ★ NM4		
ALUMINUM	HA				F GP MS	AH		PP						
POSITIVE	CAST IRON	FINISHING	HFP	C05	FP FK	PF KF	MT-UF MT-LF GT-LF	GP DP HQ	FV SQ	★ SM	01 PF	F1	PF4 PF5	FT
		MEDIUM FINISHING	HMP		SJ, SU SK	(PM) (KM)	MF	XQ HQ	R/L R/L-F	14, SM 17, 19	PS 23 PM	F1 F2	PS4 PS5	
		MEDIUM ROUGHING	C25	HMP	SF MU	(PR) (KR)	MT-MF GM	★ G	MV MQ ★	19	24 ★	F2	PM2, PM5 (PR5)	
	ALUMINUM	AK AR		AG	AL	HP	A3		AS	PP	AI		ALU ACB	
	STAINLESS STEEL MILD STEEL	HMP	AK	MU	MF, MM MR	LF	(XQ)	FV ★	14, SM 17, 19	SS		PS4 PM5		
	INDEXABLE DRILLS	DS, DA DF, DM	C20 C21	S04 R06	51, 53 56, 58		★ SU, SP		SW, GF GG, DT		C1, P1 85, 86			
GROOVING		M, G			CM, CS					K3, J10	MC, LF			

★No Name ★Simple Type

The Comparison of Grades - Turning

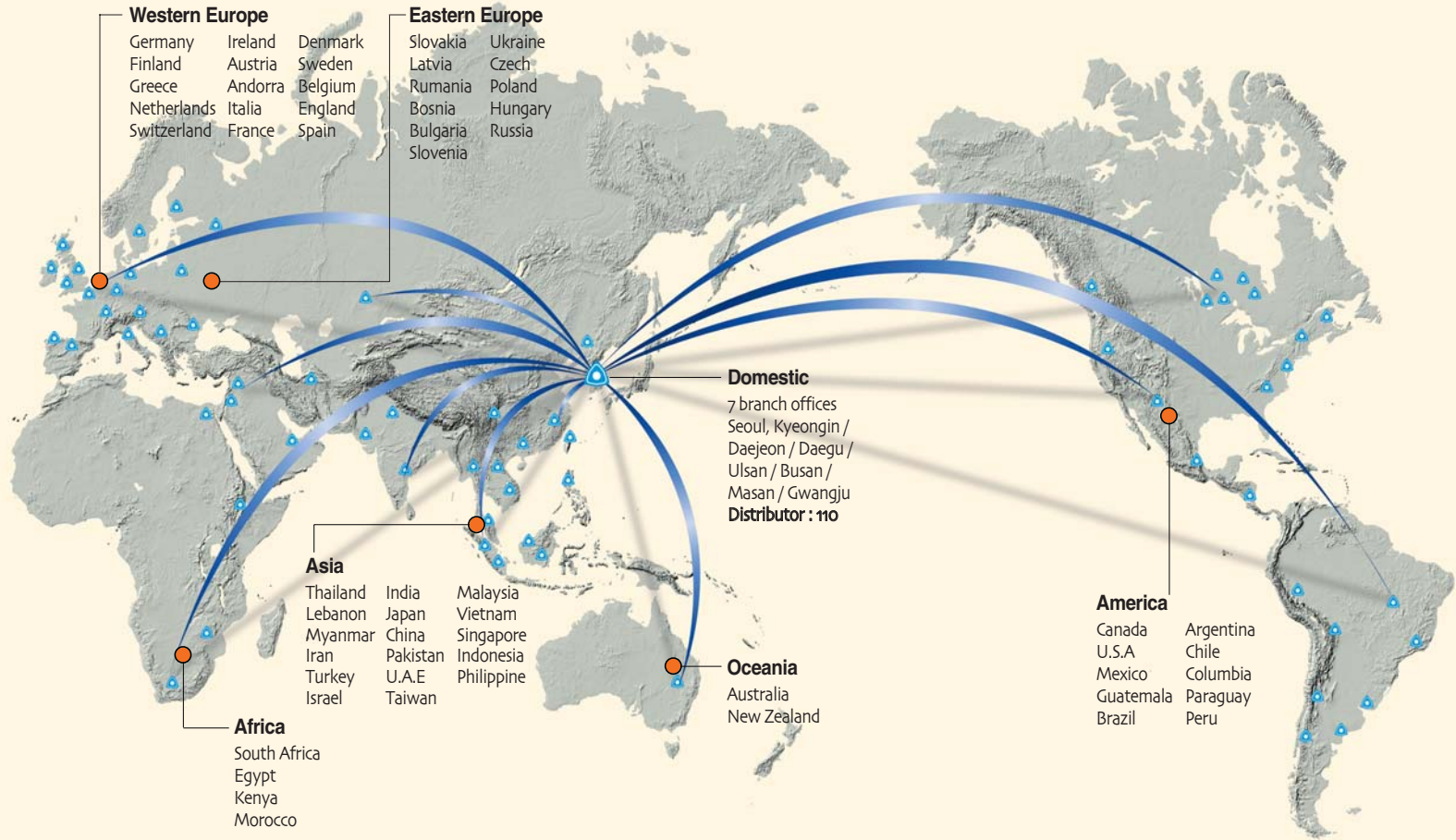
ISO	KORLOY		SUMITOMO		KYOCERA		ISCAR		SANDVIK		SECO		KENNAMETAL		TOSHIBA	
	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET
P	ST06E	CN100	ST10P	AC700G	TN30	IC8048	GC4005	CT5015	TP1000	KC9105	TX10S	AH330	K45	KC9105	TX10S	AH330
	ST10P	CT10	ST20E	AC900G	PR1005	IC9150	GC4015	CT525	CM	KC9110	TX20	AH110	KM	KC9110	TX20	AH110
	ST15	CC115	ST20E	AC2000	CA5515	IC9250	GC4225	CT525	C15M	KU101	TX30	GH730	KM	KU101	TX30	GH730
	MA2	CN20	A30	AC2000	PR1115	IC9250	GC4225	GC1525	CP2000	KU25T	TX40	T9005	K420	KU25T	TX40	T9005
	ST30E	CN2000	ST40E	AC3000	CA5525	IC9350	GC4235	GC1525	CP2000	KC9125	TX40	T9015	K420	KC9125	TX40	T9015
M	ST30N	CN2000	ST40E	AC3000	PR1025	IC9350	GC4035	GC1525	CP2500	KC9240	TX40	T9025	K420	KC9240	TX40	T9025
	ST40E	CN2000	ST40E	AC3000	PR1025	IC9350	GC4035	GC1525	CP5000	KC9245	TX40	T9035	K420	KC9245	TX40	T9035
	U10E	PC3010	U10E	AC610M	CA6515	IC9025	GC1005	AT10	TP400	KC9215	TU10	AH120	K2885	KC9215	TU10	AH120
	U2	NC9020	U2	EH510Z	CA6015	IC9025	GC2015	AT15	CP200	KC9225	TU20	AH140	K2S	KC9225	TU20	AH140
	A40	NC3030	A40	AC630M	PR915	IC328	GC1020	TTR	CP250	KC3010	TU40	AH330	K2S	KC3010	TU40	AH330
K	A40	PC3030	A40	EH520Z	PR930	IC328	GC2035	TTR	CP500	KC5025	TU40	T5105	K2S	KC5025	TU40	T5105
	H2	NC305K	H2	AC410K	CA4010	IC9015	GC3205	THM	TK1000	KC9315	TH03	AH110	K68	KC9315	TH03	AH110
	H01	NC6110	H01	AC300G	CA4110	IC9015	GC3210	THR	CP200	KC9320	TH10	GH110	K8735	KC9320	TH10	GH110
	H05	NC315K	H05	EH520Z	CR7015	IC4028	GC3215	THR	CP250	KC9325	TH10	T5105	K8735	KC9325	TH10	T5105
	G10E	NC315K	G10E	AC700G	PR905	IC28	GC3215	THR	CP500	KC7310	KS20	T5020	K8735	KC7310	KS20	T5020
ISO	KORLOY		MITSUBISHI		HITACHI		VALENITE		WALTER		TAEGUTEK		NTK		DIJET	
	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET	WC	COATED CERMET
	ST06E	CN100	UE6005	NX2525	HG8010	CH350	SV305	VC383	WIP01	TT1500	TN	JC10V	K3N	JC10V	LN10	JC10V
	ST10P	CT10	UE6110	NX3035	GM8015	CZ25	VP5515	VC6	WIP05	TB1815	T15	JC215V	T15	JC215V	CX50	JC215V
	ST20E	CC115	UC6010	UP35N	GM8020	CH530	SV310	VC5	WIP10	T3350	N20	JC325V	C30	JC325V	CX75	JC325V
P	MA2	CN20	UE6020	AP25N	HG8025	CH550	VP5525	VC5	WIP20	TT5100	N40	JC450	N40	JC450	CX90	JC450
	ST30E	CN2000	UC6025	AP25N	GM8035	CH550	VP5530	VC56	WAF30	CT420	CX99	JC450	N40	JC450	CX99	JC450
	ST30N	CN2000	UC6035	NX335	GM8035	CH570	VP5535	VC56	WAF40	CT520	LN10	JC5003	N40	JC5003	LN10	JC5003
	ST40E	CN2000	UE6035	NX335	GM8035	CH570	VP5535	VC56	WPP30	CT520	CX75	JC110V	N40	JC110V	CX75	JC110V
	U10E	PC8010	US7020	NX2525	GM25	GM25	VC27	VC28	WAM20	TT2500	CX99	JC5015	N40	JC5015	CX99	JC5015
M	U2	NC3030	US735	EX35	GM30	GX30	VC28	VC28	WAM30	TT3600	LN10	JC105V	N40	JC105V	LN10	JC105V
	A40	PC9030	VP15TF	EX35	GM30	GX30	VC28	VC28	WAM30	TT5000	CX75	JC110V	N40	JC110V	CX75	JC110V
	A40	PC9030	VP20MF	EX35	GM30	GX30	VC28	VC28	WAM30	TT5030	CX99	JC215V	N40	JC215V	CX99	JC215V
	A40	PC9030	VP20M	EX35	GM30	GX30	VC28	VC28	WAM30	TT5030	CX99	JC215V	N40	JC215V	CX99	JC215V
	A40	PC9030	VP20M	EX35	GM30	GX30	VC28	VC28	WAM30	TT5030	CX99	JC215V	N40	JC215V	CX99	JC215V
K	H2	NC305K	NX2525	NX2525	CY100H	VC3	VC3	VC3	WAK10	TT1300	LN10	JC105V	CP2	JC105V	LN10	JC105V
	H01	NC6110	UC5105	GM3005	HG3315	VC2	VC2	VC2	WAK10	TT7310	CX75	JC110V	CP5	JC110V	CX75	JC110V
	H05	NC6110	GP10H	GM3005	HG3005	VC2	VC2	VC2	WAK10	TT1500	CX75	JC215V	CP5	JC215V	CX75	JC215V
	H10	NC315K	UC5115	GM8015	GM8015	VC1	VC1	VC1	WAK20	CT420	LN10	JC105V	CP5	JC105V	LN10	JC105V
	G10E	NC315K	UC6010	GM8020	GM8020	VC1	VC1	VC1	WAK20	CT520	CX75	JC110V	CP5	JC110V	CX75	JC110V

* Coated ★ : PVD
 Cermet ★ : cermet+PVD

The Comparison of Grades - Milling

ISO	KORLOY		SUMITOMO		KYOCERA		ISCAR		SANDVIK		SECO		KENNAMETAL		TOSHIBA	
	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET
P	NCM325	CN20	AC230	T250A	PR730	TN100M	IC520M	IC30N	GC1015	IC903	T20M	KT195M	KC795M	NS540	T325	NS740
	PC3525		ACP100		PR630		IC635		GC1025		T60M		KC792M			
	PC230		ACP200		PR830		IC903		GC4020		T250M		KC522M			
	NCM335		ACP300		PR660		IC950		GC4030		T25M		KUJ20M			
	PC3545		ACP330		PR660		IC908		GC4030		F25M		KUJ30M			
M	PC8520	CN30	EH510Z	T250A	PR730	TC60M	IC903	IC30N	GC1005	IC903	CP200	KC9240	KC9240	NS540	CP200	NS740
	NCM335		EH520Z		PR1025		IC900		GC1025		CP500		KC5510			
	PC9530		ACP300		PR630		IC250		GC2030		CP500		KC7020			
			ACP300		PR660		IC928		GC1030		F30M		KC5025			
			ACP350		PR660		IC328		GC2040		F40M		KC7025			
K	PC6510	CN30	ACK100	T250A	PR510	CH550	IC4050	VALENITE	GC3220	IC903	T150M	KC992M	T1015	NS540	T150M	NS740
	PC215K		ACK200		PR905		GC3020		DT7150		T20M		KC709M			
			ACK300		PR905		GC3040		IC900				KC510M			
			ACK300		PR905		GC3040		IC910				KC520M			
			ACK330		PR905		GC3040		IC950				KC915M			
ISO	KORLOY		MITSUBISHI		HITACHI		VALENITE		WALTER		TAEGUTEK		NTK		DIJET	
	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET	COATED	CERMET
	NCM325	CN20	VP15TF	NX2525	CY150	CH550	SV935	VALENITE	WQM15	IC903	CT420	QC5003	JC5003	NS540	JC730V	NS740
	PC3525		F7030		PR905		WTL41		CT3000		JC730V					
	PC230		GP20M		PR905		WKP25		CT520		JC5030					
NCM335	AP20M		PR905		WQM25		CT520		JC5015							
PC3545	UP20M		PR905		WTL71		CT520		JC5015							
M	PC8520	CN30	VP15TF	NX2525	HC844	CH570	WQM25	VALENITE	WQM35	IC903	TT7300	QC5040	JC5040	NS540	TT7070	NS740
	NCM335		VP10MF		WSP45		WQM25		TT7030		JC5040					
	PC9530		VP15TF		WSH35		WTL71		TT7070		JC5015					
			AP10H		WTP35		WKP35		TT7080		JC5015					
			VP20RT		WSM45		WQM35		TT7080		JC5015					
K	PC6510	CN30	F5010	NX2525	CY100H	CH570	V01	VALENITE	WTA11	IC903	TT6060	QC5003	JC5003	NS540	TT6030	NS740
	PC215K		VP10MF		VN8		WAK15		TT6290		JC600					
			VP15TF		VN8		WXN15		TT6290		JC610					
			AP10H		VN8		WTA21		TT6290		JC5015					
			VP20RT		VN8		WKP25		TT6290		JC5015					

※ Coated ★ : PVD
Cermet ★ : cermet+PVD



■ Coating line of Jin-cheon Factory



■ Cheong-ju Factory



■ Jin-cheon Factory



■ High Technology Analysis facility



■ R&D Institute



■ Superb Designing facility

CARBIDE CUTTING TOOL REPRESENTATIVE OF KOREA

KORLOY Inc. is a carbide cutting tool manufacturer launched at 1966, now supply its products over 60 countries all over the world and has national wide sales network in KOREA.

We, KORLOY Inc. will always do our best to be the top class manufacturer with ceaseless R&D, high quality product and good service.

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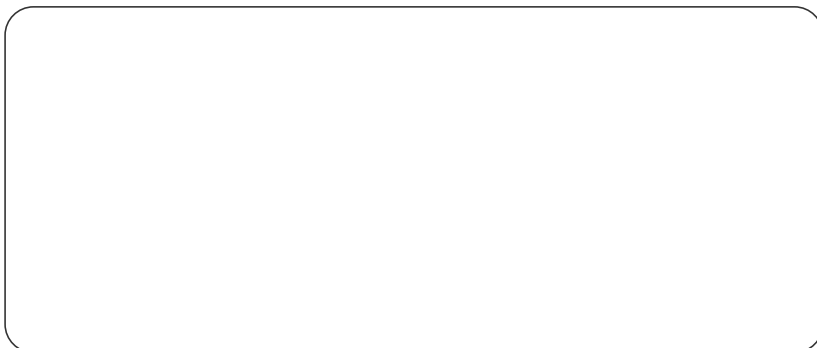
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