



MILLING TOOLS

INSERT STANDARDS

CBN&PCD INSERT STANDARDS

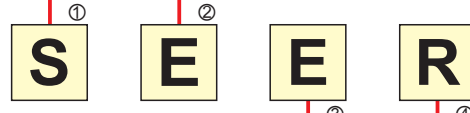
INSERT GRADES

IDENTIFICATION	1286
GRADES FOR MILLING.....	1288
MILLING APPLICATION RANGE	1289
COATED CARBIDE(CVD&PVD)	1292
CERMET.....	1294
CEMENTED CARBIDE	1295
CBN(SINTERED CBN).....	1296
PCD(SINTERED DIAMOND)	1297
CLASSIFICATION.....	1298
ROTATING INSERTS.....	1308
WIPER INSERT	1332
CBN & PCD TURNING INSERTS	1334
CBN AND PCD WITH WIPER.....	1337
DRILLING INSERTS	1338

IDENTIFICATION

Symbol	Insert Shape	
N	Heptagonal	
O	Octagonal	
S	Square	
T	Triangular	
C	Rhombic80°	
M	Rhombic86°	
A	Parallelogram85°	
R	Round	
X	Special Design	—
W	Wiper	—
① Insert Shape		

Symbol	Normal Clearance AN	
C	7°	
D	15°	
E	20°	
F	25°	
G	30°	
N	0°	
P	11°	
O	Other Normal Clearance	
X	Other Normal Clearance	
② Normal Clearance		



③ Tolerance Class			
Symbol	Tolerance of Nose Height M (mm)	Tolerance of Inscribed Circle IC (mm)	Tolerance of Thickness S (mm)
A	±0.005	±0.025	±0.025
C	±0.013	±0.025	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
K*	±0.013	±0.05—±0.15	±0.025
M*	±0.08—±0.18	±0.05—±0.15	±0.13
N*	±0.08—±0.18	±0.05—±0.15	±0.025

The surface of insert with * mark is sintered.

④ Fixing and/or for Chip Breaker				
Symbol	Hole	Hole Configuration	Chip Breaker	Figure
W	With Hole	Cylindrical Hole	No	
T	With Hole	Cylindrical Hole + One Countersink (40°—60°)	Single Sided	
B	With Hole	Cylindrical Hole + One Countersink (70°—90°)	No	
N	Without Hole	—	No	
R	Without Hole	—	Single Sided	
X	—	—	—	Special Design

Symbol				Diameter of Inscribed Circle
	06	06	11	6.35
	08	07	13	7.94
	09	09	16	9.525
10				10.00
12				12.00
	12	12	22	12.70
	16	15	27	15.875
20				20.00

⑤ Insert Size

Symbol	Insert Thickness (mm)
03	3.18
T3	3.97
04	4.76

⑥ Insert Thickness

Symbol	Honing
F	Sharp
E	Round
T	Chamfer
S	Chamfer+Hone
Z	Chamfer (Strong Cutting Edge Type)

⑨ Cutting Edge Condition

⑤ 12 ⑥ 03 ⑦ A ⑧ F ⑨ E ⑩ R ⑪ 1 - JS ⑫ JS

⑦ Wiper insert cutting angle	
Symbol	Wiper insert cutting angle
A	45°
E	75°
P	90°
Z	Other Angle

⑧ Clearance of Wiper Insert	
Symbol	Clearance Angle
D	15°
E	20°
F	25°
G	30°

⑩ Hand Tool Holder	
Symbol	Hand Tool Holder
L	Left Hand Tool Holder
N	For Both Right and Left Hand Tool Holder
R	Right Hand Tool Holder

⑪ Width of Wiper Insert	
Symbol	Width of Wiper Insert
1	1.4 (1.94 only for TEKN)

⑫ Chip Breaker	
Symbol	Name
FT	FT Breaker
HS	HS Breaker
JH	JH Breaker
JM	JM Breaker
JP	JP Breaker
JS	JS Breaker
LS	LS Breaker
MM	MM Breaker
MS	MS Breaker

ROTATING TOOL INSERTS

GRADES FOR MILLING

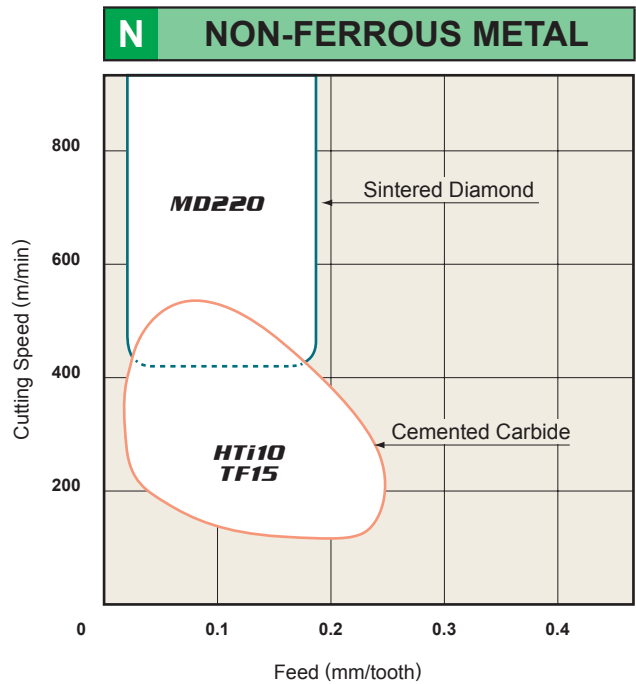
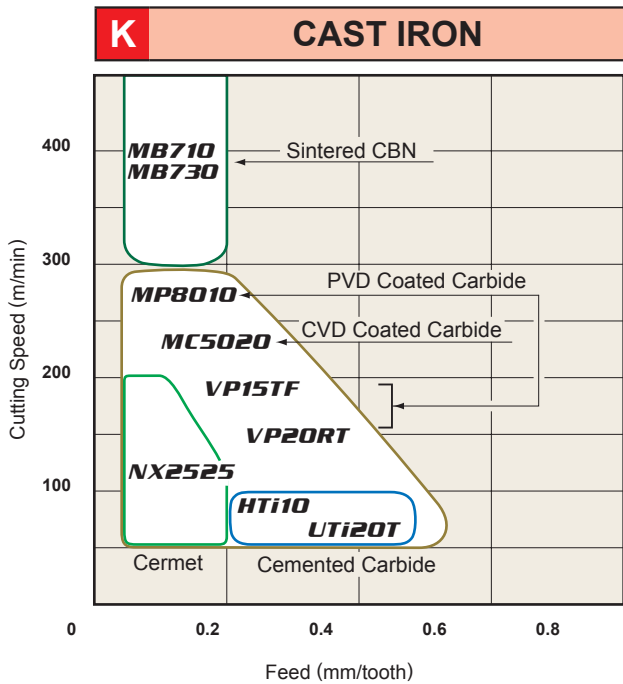
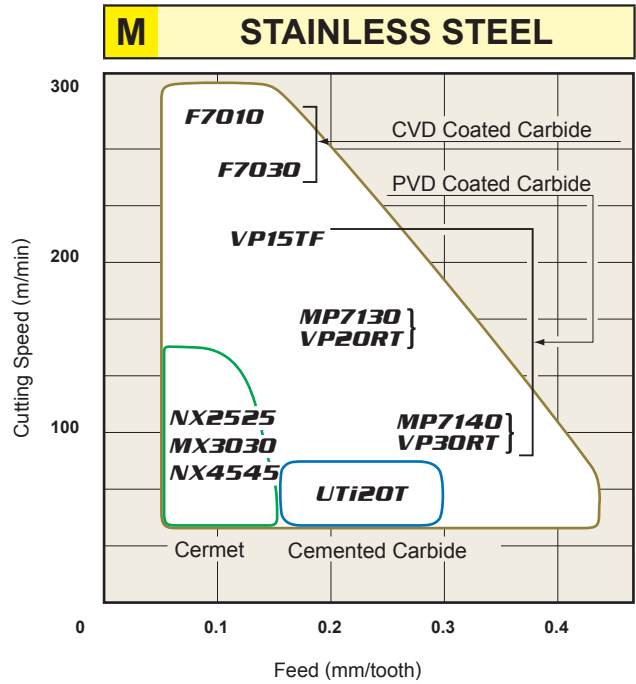
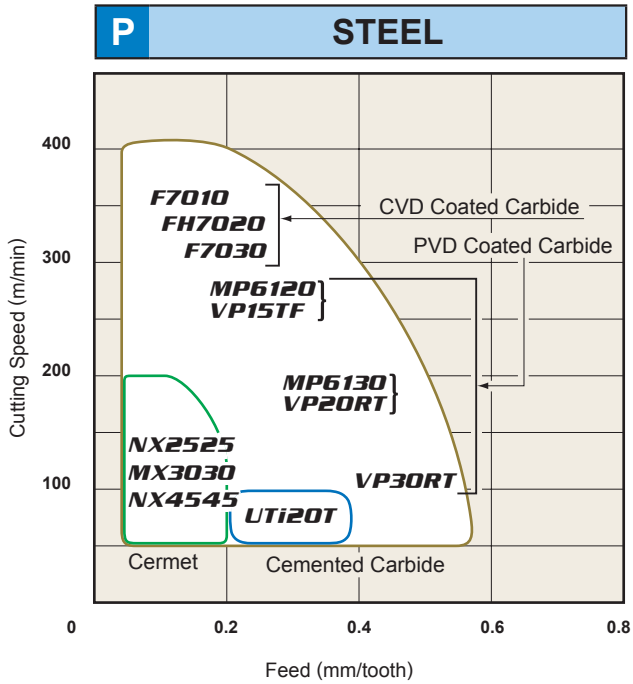
INDEXABLE INSERT GRADES FOR MILLING

ISO	Coated Carbide		Cermets	Cemented Carbide	CBN (Sintered CBN)	PCD (Sintered Diamond)
	CVD	PVD				
P Steel	P01					
	P10	F7010				
	P20	FH7020 F7030	MP6120 VP15TF MP6130	NX2525 NEW MX3030 NX4545		
	P30		LP20M VP20RT		UTi20T	
	P40			VP30RT		
M Stainless Steel	M01	F7010				
	M10					
	M20	F7030	VP15TF MP7130 MP7030	NX2525 NEW MX3030 NX4545		
	M30		LP20M VP20RT		UTi20T	
	M40		MP7140	VP30RT		
K Cast Iron	K01					
	K10	MC5020	MP8010 VP15TF	NX2525	HTi05T HTi10	MB710 MB730
	K20					
	K30		VP20RT		UTi20T	
N Non-Ferrous Metal	N01					MD205 MD220 MD230
	N10				HTi10	
	N20		LC15TF		TF15	
	N30					
S Heat Resistant Alloy · Ti Alloy	S01					MB730
	S10		MP9120 VP15TF MP9130 MP9030			
	S20					
	S30					
H Hardened Materials	H01		MP8010 VP15TF			
	H10					
	H20					
	H30					

ROTATING TOOL INSERTS



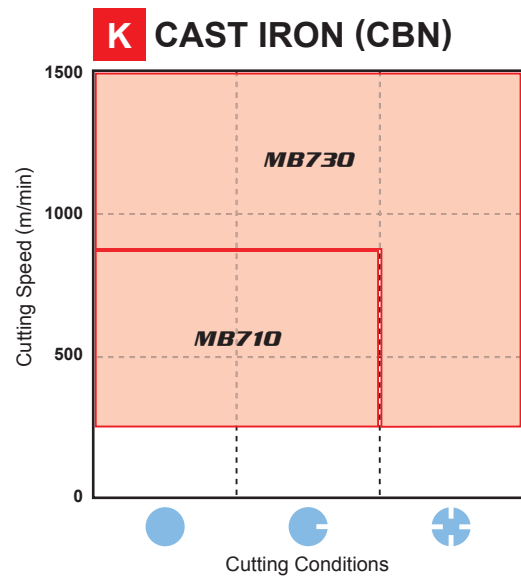
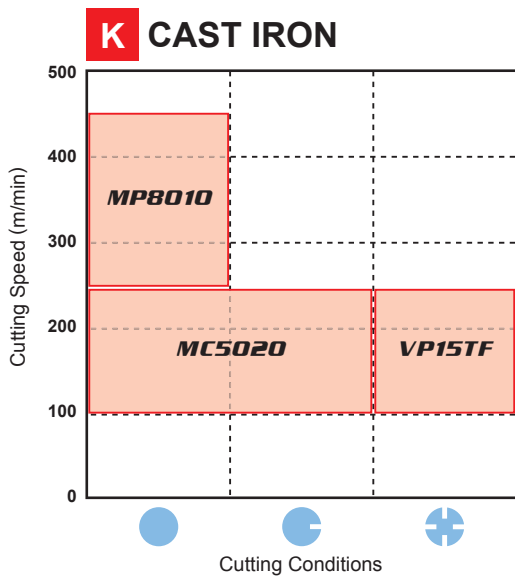
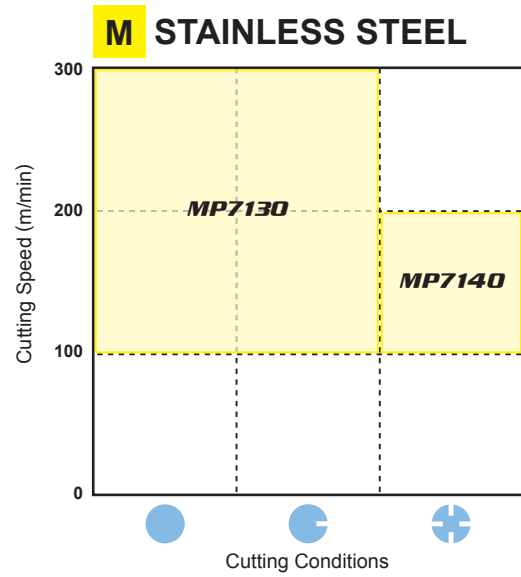
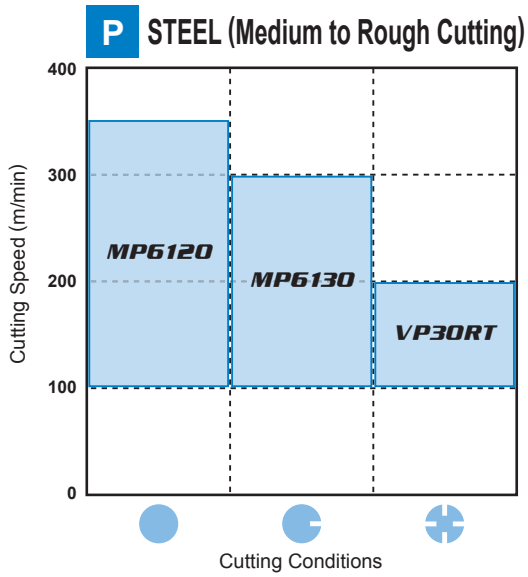
MILLING APPLICATION RANGE



ROTATING TOOL
INSERTS

ROTATING TOOL INSERTS

● Recommendation of the insert grade based on cutting speed and conditions for each workpiece.

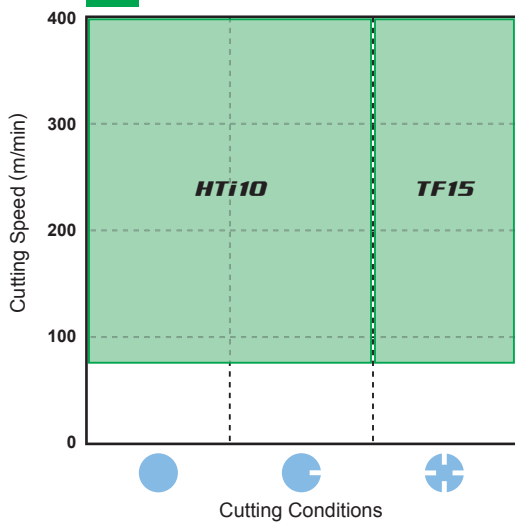


ROTATING TOOL INSERTS

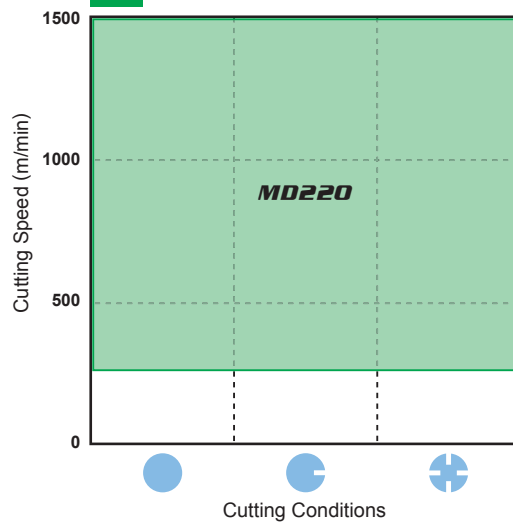
CUTTING CONDITIONS

- Stable Cutting**
 Plane Cutting
 Constant Depth of Cut
 Pre-Machined
 Securely Clamped Component Cutting
- General Cutting**
- Unstable Cutting**
 Heavy Interrupted Cutting
 Irregular Depth of Cut
 Low Clamping Rigidity Cutting

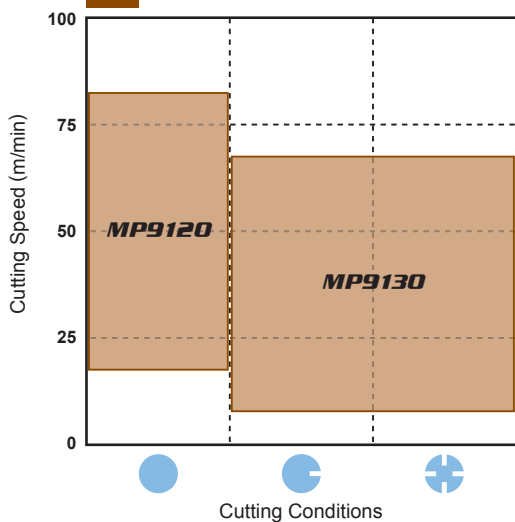
N NON-FERROUS METAL



N NON-FERROUS METAL (PCD)



S HEAT RESISTANT ALLOY, TITANIUM ALLOY



ROTATING TOOL INSERTS

COATED CARBIDE(CVD&PVD)

<CVD>

- Special tough fibrous structure improves wear and fracture resistance.
- It covers a wide application range and reduces the number of tools required.

<PVD>

- PVD coating prolongs tool life when compared to cemented carbide under the same cutting conditions.
- Coating of tools with sharp edges is possible without softening or changing the quality of the substrate.

SELECTION STANDARD

MILLING

Work Material	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
P Steel	F7030	200 (150 – 250)	P10	
	MP6120	150 (100 – 200)	P20	
	MP6130	150 (100 – 200)	P30	
	VP15TF	150 (100 – 200)	P40	
M Stainless Steel	F7030	200 (150 – 250)	M10	
	MP7030	150 (100 – 200)	M20	
	MP7130	150 (100 – 200)	M30	
	MP7140	150 (100 – 200)	M40	
	VP15TF	150 (100 – 200)	M40	
K Cast Iron	MC5020	180 (100 – 250)	K01	
	VP15TF	150 (100 – 200)	K10	
		150 (100 – 200)	K20	
		150 (100 – 200)	K30	
N Aluminium Alloy	LC15TF	1000 (200 – 3000)	N10	
			N20	
			N30	
S Heat Resistant Alloy Ti Alloy	MP9120	30 (20 – 40)	S01	
	VP15TF	30 (20 – 40)	S10	
	MP9130	40 (25 – 60)	S20	
	MP9030	40 (25 – 60)	S30	
H Hardened Materials	MP8010	80 (50 – 120)	H01	
			H10	
	VP15TF	80 (50 – 120)	H20	
			H30	



ROTATING TOOL INSERTS

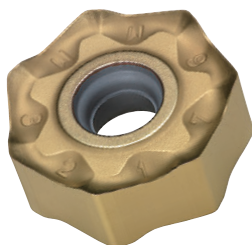
GRADE CHARACTERISTICS

Grade	Substrate		Coating Layer		Grade	Substrate		Coating Layer	
	Hardness (HRA)	T.R.S (GPa)	Composition	Thickness		Hardness (HRA)	T.R.S (GPa)	Composition	Thickness
MC5020	91.0	2.2	TiCN-Al ₂ O ₃ -Ti Compound	Thick	MP8010	93.5	2.3	(Al,Ti,Si)N	Thin
FH7020	88.8	2.8	TiCN-Al ₂ O ₃ -Ti Compound	Thick	MP9120	91.5	2.5	(Al,Ti,Cr)N	Thin
F7030	88.8	2.8	TiCN-Al ₂ O ₃ -TiN	Thin	MP9030	90.5	2.5	(Al,Ti)N-Ti Compound	Thin
MP6120	91.5	2.5	(Al,Ti,Cr)N	Thin	MP9130	90.5	2.7	(Al,Ti,Cr)N	Thin
MP6130	90.5	2.5	(Al,Ti,Cr)N	Thin	VP15TF	91.5	2.5	(Al,Ti)N	Thin
MP7030	90.5	2.5	(Al,Ti)N-Ti Compound	Thin	VP20RT	90.5	2.5	(Al,Ti)N	Thin
MP7130	90.5	2.5	(Al,Ti,Cr)N	Thin	VP30RT	88.8	2.8	(Al,Ti)N	Thin
MP7140	88.8	2.8	(Al,Ti,Cr)N	Thin	UP20M	90.5	2.0	Ti Compound	Thin

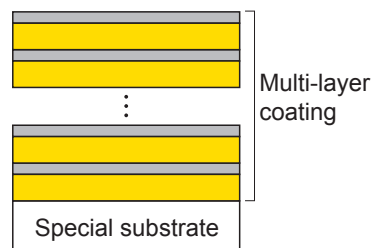
*1GPa=102kg/mm²

For machining of stainless steel

MP7030



MP7030 has a multi-layer coating based on newly developed Ti-compound. It provides superior wear and fracture resistance in stainless steel machining. A special tough cemented carbide substrate gives excellent performance in machining of difficult-to-cut materials such as stainless steel.



Heat-resistant Alloy, Cutting For Titanium Alloy

MP9130



An enhanced super fine cemented carbide substrate has increased toughness while maintaining hardness. The Al-Ti-Cr-N accumulating coating ensures optimum heat and wear resistance. The combination of these properties gives excellent fracture resistance and welding resistance because of low coefficient of friction when machining titanium alloy.

ROTATING TOOL INSERTS

CERMET

- NX2525 for high speed milling.
- NX4545, MX3030 for general milling.

SELECTION STANDARD

MILLING

Work Material	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
Steel	NX2525	250 (150 – 350)	P10 M10	
			P20 M20	
	MX3030 NX4545	150 (120 – 180)	P30 M30	
Cast Iron	NX2525	200 (150 – 300)	K01	
			K10	
			K20	

(Note) In case of wet cutting, please use coated carbide VP15TF for steel cutting and coated carbide MC5020 for cast iron cutting.

GRADE CHARACTERISTICS

Grade	Hardness (HRA)	T.R.S. (GPa)	Thermal Conductivity (W/m·K) *	Thermal Expansion (x10 ⁻⁶ /K)
NX2525	92.2	2.0	33	7.8
MX3030	90.0	2.2	33	7.8
NX4545	90.0	2.2	33	7.8

*1GPa=102kg/mm², 1W/m · K=2.39×10⁻³cal/cm · sec · °C

CEMENTED CARBIDE

● Available grade series are UTi20T for steel and cast iron, and HTi10 for cast iron, non-ferrous metal and non-metal.

SELECTION STANDARD

MILLING

Work Material	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
P Steel	UTi20T	120 (50 – 180)	P10	
			P20	
			P30	
M Stainless Steel	UTi20T	120 (50 – 180)	M10	
			M20	
			M30	
K Cast Iron	HTi10	100 (50 – 150)	K10	
	UTi20T	120 (50 – 180)	K20	
			K30	
N Non-Ferrous Metal	HTi10 TF15	400 (300 – 500)	N01	
			N10	
			N20	
			N30	

MAIN COMPONENT AND APPLICATION

ISO	Main Component	Characteristics	Work Material
P M	WC-TiC-TaC-Co	Heat / Deformation resistance.	Carbon steel, Alloy steel, Stainless steel and Cast iron
K N	WC-Co	High rigidity and wear resistance.	Cast iron, Non-Ferrous metals and Non-metal

GRADE CHARACTERISTICS

ISO	Grade	Hardness (HRA)	Thermal Conductivity (W/m·K)*	Thermal Expansion (x10 ⁻⁶ /K)	Young's Modulus (GPa) *	T.R.S (GPa) *
P M	UTi20T	90.5	38	5.5	520	2.0
K N	HTi05T	92.5	79	4.5	600	1.5
	HTi10	92.0	79	4.6	630	2.0
N	TF15	91.5	71	5.3	580	2.5

*1GPa=102kg/mm², 1W/m · K=2.39×10⁻³cal/cm · sec · °C

ROTATING TOOL INSERTS

CBN(SINTERED CBN)



- MB710 and MB730 for cast iron cutting.
- BC5030 for high speed machining of cast irons now available.
- Due to the combination of the BC5030 insert geometry and the AOX allows the use of up to 16 corners per insert, enabling cost effective high efficiency machining.

SELECTION STANDARD / RECOMMENDED CUTTING CONDITIONS

FINISHING

Work Material	Structure	Cutting Speed (m/min)					Feed (mm/tooth)	Depth of Cut (mm)	Coolant
		250	500	750	1000	1250			
Grey Cast Iron	JIS FC250	MB710 MB730					-0.3	-0.5	Dry
	JIS FC300								

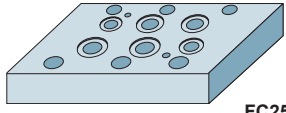
ROUGHING

Work Material	Structure	Cutting Speed (m/min)					Feed (mm/tooth)	Depth of Cut (mm)	Coolant
		250	500	1000	1500	2000			
Grey Cast Iron	JIS FC250	BC5030					-0.15	-3.0	Dry

FEATURES AND BASE

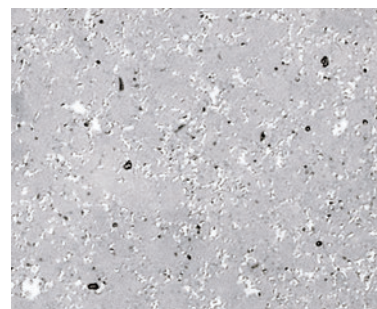
Grade	Application	Features	Main Component	Coating Layer
MB710	For General Cutting	General purpose grade with well balanced wear and fracture resistance.	CBN TiC Al ₂ O ₃	—
MB730	For High Speed Cutting For interrupted Cutting	Has the largest CBN content and therefore displays good thermal conductivity. It is suitable for the high temperatures that are generated in high speed cutting.	CBN (High Content) Co Base Alloy	—
BC5030	For high-speed machining at large depths of cut High-speed interrupted machining at large depths of cut	High CBN content and high thermal conductivity. The whole insert is composed of sintered CBN. This enables high speed, high efficiency machining at larger depths of cut. The coated grade for easy recognition of used corners.	CBN AlN	TiN

APPLICATION EXAMPLES

Tool		AOX445R10008D	Tool		NF1000R0408D (MB730)
Insert		SL-ONEN120404ASN (BC5030)	Workpiece		 FC250
Machine		Machining Center	Component		Hydraulic component
Cutting Condition	Cutting Speed (m/min)	1200	Cutting Condition	Cutting Speed (m/min)	1800
	Depth of Cut (mm)	2.8		Feed per Tooth (mm/tooth)	0.1
	Width of Cut (mm)	70		Table Feed (mm/min)	4584
	Table Feed (mm/min)	3057		Depth of Cut (mm)	0.05
	Feed per Tooth (mm/tooth)	0.1		Width of Cut (mm)	90
	Result			10 times longer tool life and 4 times higher efficiency than ceramics. Excellent machining with a surface finish of Ra < 1.6µm	Coolant
			Axial Runout (mm)		≤0.005mm
Result			Result		Compared with competitor CBN grade cutting, the normal wear surface is excellent and a extendable life finishing is maintained.

PCD(SINTERED DIAMOND)

- Suitable for non-ferrous metals cutting such as aluminium alloy.
- Suitable for extremely high speed finishing.



Micro-Structure of MD220

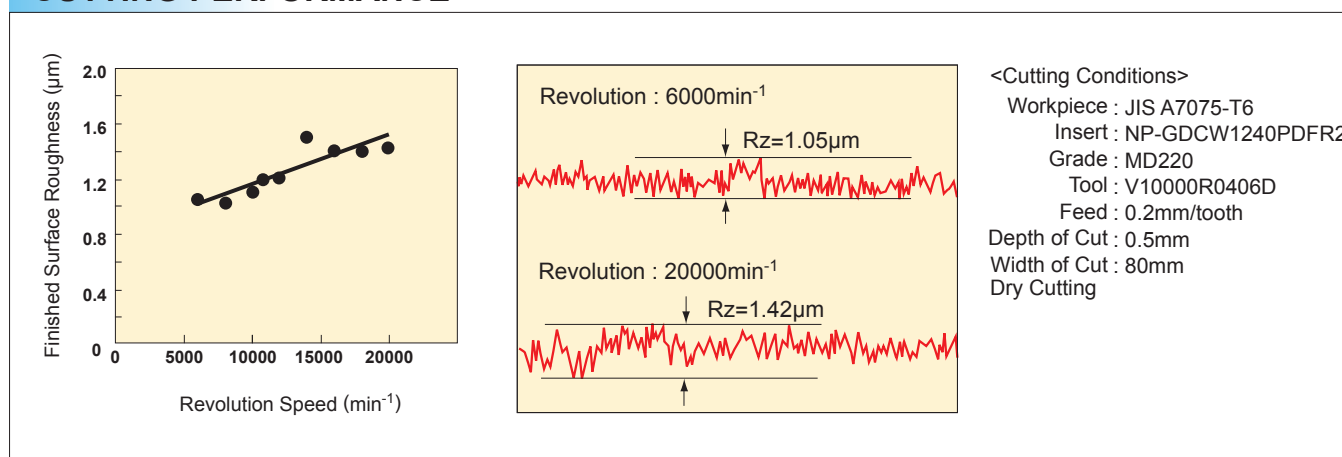
GRADE FEATURES

Grade	Features
MD220	Excellent in the balance between wear resistance and fracture resistance. For a wide range of tooling applications.

RECOMMENDED CUTTING CONDITIONS

























Work Material	Cutting Speed (m/min)	Grade	Feed per Tooth (mm/tooth)	Depth of Cut (mm)
Aluminium Alloy (Si ≤12%)	1000—6000	MD220	—0.3	—0.5
Aluminium Alloy (Si ≥13%)	200—800			

CUTTING PERFORMANCE

















ROTATING TOOL
INSERTS

CLASSIFICATION

Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page		
AF5000 	LDCN190412R	1334	AHX640S 	WNEU2007ZEN7C-M	1333	AJX PMC 	JOMW06T215ZZSR-FT	1310		
	LDCN190412L						JOMW080320ZZSR-FT			
AF10000 	GDCN2004PDR	1334	AHX640S 	WNEU2007ZEN7C-WP	1333		AJX PMC 		JDMW09T320ZDSR-FT	1310
									JDMW120420ZDSR-FT	
AHX440S AHX475S 	NNMU130508ZER-L	1314	AHX640S 	NNMU200608ZEN-MK	1315	AJX PMC 		JDMW140520ZDSR-FT	1310	
	NNMU130508ZEN-M							JOMT06T215ZZSR-JM		
NNMU130532ZEN-M			JOMT080320ZZSR-JM							
NNMU130532ZEN-R			JDMT09T320ZDSR-JM							
AHX640S 	WNEU1305ZEN4C-M	1332	AHX640S 	NNMU200608ZEN-HK	1315	AJX PMC 	JDMT120420ZDSR-JM	1310		
							JDMT140520ZDSR-JM			
AHX640S 	NNMU200708ZEN-M	1314	AHX640S 	WNEU2006ZEN7C-WK	1333		AOX445 		JDMT120420ZDSR-ST	1310
									JDMT140520ZDSR-ST	
AHX640S 	NNMU200708ZEN-MP	1314	AHX640W 	NNMU200608ZEN-MK	1315	APX3000 	JOMT06T216ZZER-JL	1310		
							JOMT080322ZZER-JL			
AHX640S 	NNMU200712ZER-L	1315	AHX640W 	NNMU200608ZEN-HK	1315	APX3000 	JDMT09T323ZDER-JL		1310	
							JDMT120423ZDER-JL			
AHX640S 	NNMU200712ZER-MM	1314	AHX640W 	WNEU2006ZEN7C-WK	1333		APX3000 	JDMT140523ZDER-JL		1310
								SL-ONEN120404ASN	1335	
								AOGT123602PEFR-GM	1308	
							AOGT123604PEFR-GM			
							AOGT123608PEFR-GM			
							AOMT123602PEER-M	1308		
							AOMT123604PEER-M			
							AOMT123608PEER-M			
							AOMT123610PEER-M			
							AOMT123612PEER-M			
							AOMT123616PEER-M			
							AOMT123620PEER-M			
							AOMT123624PEER-M			
							AOMT123630PEER-M			
							AOMT123632PEER-M			









ROTATING TOOL INSERTS


























Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page		
	AOMT123604PEER-H	1308		RPHT1040M0E4-L	1316		SEET13T3AGEN-JL	1319		
	AOMT123608PEER-H			RPHT1040M0E4-M			SEMT13T3AGSN-JM			
	AOMT123616PEER-H			RPHT1040M0E4-R						
	AOMT184804PEER-H	1308		RDMW0517M0E		RPHT1248M0E4-L		1316		SEMT13T3AGSN-JH
	AOMT184808PEER-H					RPHT1248M0E4-M				
	AOMT184816PEER-H					RPHT1248M0E4-R				
	AOMT184832PEER-H					RPMT1040M0E4-L				
	AOMT184840PEER-H					RPMT1040M0E4-M				
	AOMT184850PEER-H					RPMT1040M0E4-R				
	AOMT184864PEER-H					RPMT1248M0E4-L				
	AOMT184804PEER-M	1308		RDMW0620M0E	1316		SEMT13T3AGSN-FT	1319		
	AOMT184808PEER-M			RDMW0724M0E						
	AOMT184810PEER-M			SOET12T308PEER-JL					1320	
	AOMT184812PEER-M		SOMT12T308PEER-JM							
	AOMT184816PEER-M			SOMT12T308PEEL-JM						
	AOMT184820PEER-M		SOMT12T308PEER-JH	1320						
	QOMT0830R-M2	1316				SOMT12T308PEER-JM	1321		SEGT13T3AGFN-JP	1319
	QOMT1035R-M2		SOMT12T308PEEL-JM							
	QOMT1342R-M2		SOMT12T308PEER-JH	1320						
	QOMT1651R-M2				SOMT12T320PEER-FT	1321				
	QOMT1856R-M2		SOGT12T308PEFR-JP	1320						
	QOMT2062R-M2				W0EW12T308PEER8C	1333				
	QOMT2576R-M2		W0EW12T308PETR8C							
	QOGT0830R-G1	1316		WEEW13T3AGER8C	1332		WEEW13T3AGFR3C	1337		
	QOGT1035R-G1								WEEW13T3AGTR8C	
	QOGT1342R-G1									
	QOGT1651R-G1								WEEW13T3AGTR3C	
	QOGT1856R-G1									
	QOGT2062R-G1								WEEW13T3AGTR3C	
	QOGT2576R-G1									

ROTATING TOOL INSERTS
























ROTATING TOOL INSERTS

ROTATING TOOL INSERTS




























Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page				
	AXD4000	1328		XDGX175004PDFR-GL	1328	BAP300 Under-cut Type	ZRM0603R-M3	1331				
	XDGX175008PDFR-GL			XDGX227008PDFR-GL			ZRM0603R-M4					
	XDGX175012PDFR-GL			XDGX227016PDFR-GL			ZRM0603R-M5					
	XDGX175016PDFR-GL			XDGX227020PDFR-GL			XDGX227024PDER-GL	1331	XPMT13T3PDER-M1	1331		
	XDGX175020PDFR-GL			XDGX227030PDFR-GL			XPMT13T3PDER-M2					
	XDGX175024PDFR-GL			XDGX227032PDFR-GL			XPMT13T3PDER-M6					
	XDGX175030PDFR-GL			XDGX227040PDFR-GL			XPMT13T3PDER-M75					
	XDGX175032PDFR-GL			XDGX227050PDFR-GL			XPMT13T3PDER-M8					
	XDGX175040PDFR-GL			XDGX227008PDER-GLA			1331	XPMT13T3PDER-M1	1331			
	XDGX175050PDFR-GL									XDGX227016PDER-GLA	XPMT13T3PDER-M2	
XDGX175004PDER-GM	XDGX227020PDER-GLA	XPMT13T3PDER-G1	1331		XPMT13T3PDER-G1					1331		
	XDGX175008PDER-GM										XDGX227024PDER-GLA	XPMT13T3PDER-G2
	XDGX175012PDER-GM										XDGX227030PDER-GLA	XPMT13T3PDER-G6
	XDGX175016PDER-GM			XDGX227032PDER-GLA		XPMT13T3PDER-G75						
	XDGX175020PDER-GM			XDGX227040PDER-GLA		XPMT13T3PDER-G8						
XDGX175024PDER-GM	XDGX227050PDER-GLA		1331	XPMT13T3PDER-G1	1331							
XDGX175030PDER-GM	BAE					AEMW150304ER	1309	XPMT13T3PDER-G2	1331			
XDGX175032PDER-GM										AEMW150308ER	XPMT13T3PDER-G6	
XDGX175040PDER-GM										AEMW19T304ER		XPMT13T3PDER-G75
XDGX175050PDER-GM										AEMW19T308ER		
XDGX175004PDFR-GM		BAP300 SRM2	APMT1135PDER-H1	1309	XPMT13T3PDER-G8					1331		
	APMT1135PDER-H2											
	APMT1135PDER-H3											
	APMT1135PDER-H4											
	APMT1135PDER-H6											
XDGX175008PDFR-GM		APMT1604PDER-H1	1309	APMT1604PDER-H1	1309							
XDGX175012PDFR-GM						APMT1604PDER-H2						
XDGX175016PDFR-GM						APMT1604PDER-H4						
XDGX175020PDFR-GM						APMT1604PDER-H6						
XDGX175024PDFR-GM						APMT1604PDER-H8						
XDGX175030PDFR-GM		APMT1604PDER-M2	1309	APMT1604PDER-M2	1309							
XDGX175032PDFR-GM						APMT1135PDER-M0	1309	APMT1135PDER-M0				
XDGX175040PDFR-GM									APMT1135PDER-M1			
XDGX175050PDFR-GM									APMT1135PDER-M2			
XDGX175004PDFR-GM									APGT1135PDFR-G2	APGT1135PDFR-G2	1308	APGT1135PDFR-G2
	XDGX175008PDFR-GM		1308	APGT1135PDFR-G2								
XDGX175012PDFR-GM	1308				APGT1135PDFR-G2	1308	APGT1135PDFR-G2	1309				
XDGX175016PDFR-GM		1308	APGT1135PDFR-G2	1308					APGT1135PDFR-G2	1309		
XDGX175020PDFR-GM	1308				APGT1135PDFR-G2	1308	APGT1135PDFR-G2	1309				
XDGX175024PDFR-GM		1308	APGT1135PDFR-G2	1308					APGT1135PDFR-G2	1309		
XDGX175030PDFR-GM	1308				APGT1135PDFR-G2	1308	APGT1135PDFR-G2	1309				
XDGX175032PDFR-GM		1308	APGT1135PDFR-G2	1308					APGT1135PDFR-G2	1309		
XDGX175040PDFR-GM	1308				APGT1135PDFR-G2	1308	APGT1135PDFR-G2	1309				
XDGX175050PDFR-GM		1308	APGT1135PDFR-G2	1308					APGT1135PDFR-G2	1309		

Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page
BF407 QBF407 	SFAN1203ZFFR2	1319	BRP 	RPMW08T2M0T	1317	CBJP CBMP TAB 	JPMT060204-E	1311
	SFAN1203ZFFL2			RPMW10T3M0E				
	SFCN1203ZFFR2			RPMW10T3M0T				
	SFCN1203ZFFL2			RPMW1204M0E				
	SFCN1203ZFFR2	1335		RPMW1204M0T	1317		MPMT090308	1313
				RPMW1606M0E				
	WFC42ZFER2	1337		RPMW1606M0T	1317	CESP CFSP CGSP 	SPMW090304	1323
				RPMT08T2M0E-JS				
	NP-WFC42ZFER2	1337	BSP 	RPMT10T3M0E-JS	1322		SPMW090308	
				RPMT1204M0E-JS			SPMB1204APT	
				RPMT1606M0E-JS				SPMW120308
BMR 	HNMX1206EN06-R	1310	BXD4000 	XDGT1550PDER-G04	1327	DCCC BZC 	CCMX083508EN-A	1309
				XDGT1550PDER-G08				
	HNMX1206EN12-R	1310		XDGT1550PDER-G12	1327		CCMX09T308EN-A	1310
				XDGT1550PDER-G16				
BN425 DN 	SNC43B2G	1320		XDGT1550PDER-G20	1327		ZCMX083508ER-A	1331
	SNC43B2S			XDGT1550PDER-G30			ZCMX09T308ER-A	
	SNK43B2G			XDGT1550PDER-G32			1331	ZCMX09T308ER-B
	SNK43B2S			XDGT1550PDER-G40				
	SNKF43B2S	1320		XDGT1550PDER-G50	1327	E404 FE404 	SEA42C10GR	1317
	SNMF43B2G			XDGT1550PDRF-G04			SEA42C10GL	
				XDGT1550PDRF-G08		ECMP TAB 	MPMT070308	1313
							MPMT090308	
						MPMT120408		

ROTATING TOOL INSERTS















Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page
FBP415 QBP415 	SPEN1203EEER1	1322	FP590 	SPEN535A	1321	MG445 	MGEEW1650AFTR	1313
	SPEN1203EEEL1							
	SPNN1203EEER1							
	SPNN1203EEEL1							
	SPER1203EEER-JS	1322	NF10000 QF10000 	GDCN2004PDFR3	1334	MVX 	SOMX063005-UM	1338
	SPEN1203EETR1	1335	NF10000 	NP-GDCN2004PDSR3	1334		SOMX073505-UM	
	WPC42EEER10C	1333	NR10000 	GDCN2004ZDTR1	1334		SOMX084005-UM	
	WPC42EEEL10C							
FF3000 	SPCA53Z	1321	MG200 	MGEEW1035PFTR	1313	SOMX094506-UM		
	SPCG53Z	1321	MG300 	MGEEW1242PFTR	1313	SOMX115506-UM		
FMAX 	GOER1404PXFR2	1334	MG400 	MGEEW1650PFTR	1313	SOMX136008-UM		
	GOER1408PXFR2							
FMSD 	SDEN1203AEN	1317	MG245 	MGEEW1035AFTR	1313	SOMX166508-UM		
	SDKN1203AEN							
	SDKN1203AETN							
	SDKN1504AETN							
FP490 	SPEN424A	1321	MG345 	MGEEW1242AFTR	1313	SOMX187008-UM		
							SOMX063005-US	1338
					SOMX073505-US			
					SOMX084005-US			
					SOMX094506-US			
					SOMX115506-US			
					SOMX136008-US			
					SOMX166508-US			
					SOMX187008-US			
							SOMX062905-UH	1339
					SOMX073405-UH			
					SOMX083905-UH			
					SOMX094406-UH			
					SOMX115406-UH			
					SOMX135908-UH			
					SOMX166408-UH			
					SOMX186908-UH			
							SOGX063005-UN	1339
					SOGX073505-UN			
					SOGX084005-UN			
					SOGX094506-UN			
					SOGX115506-UN			
					SOGX136008-UN			
					SOGX166508-UN			
					SOGX187008-UN			

ROTATING TOOL INSERTS










Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page
 NSE300 SE300	TEEN1603PEFR1	1325	 OCTACUT BOE	OEMX12T3ETR1	1315	 S300	SPMW090304	1323
	TEEN1603PEER1			OEMX12T3ESR1			SPMW090308	
	TEEN1603PETR1			OEMX1705ESR1				
	TEEN1603PESR1			OEMX1705ETR1				
 TECN1603	TECN1603PEFR1W	1326	 OEMX12T3ETR1	OEMX12T3ETR1	1334	 S400	SPMW120304	1323
	TECN1603PEER1W						SPMN120304	
	TECN1603PETR1W						SPMN120304T	
 TEER1603	TEER1603PEER-JS	1326	 OEMX12T3EER1-JS	OEMX12T3EER1-JS	1315	 SPMN120312	SPMN120308	1322
				OEMX1705EER1-JS			SPMN120408	
				OEMX1705ETR1-JS			SPMN120412	
 TECN1603	TECN1603PEFR1	1335	 REMX1705SN	REMX1705SN	1316	 SPGN120304	SPGN120308	1322
							SPGN120312	
 NSE400 SE400	TECN2204PEFR1	1326	 REMX12T3EN-JS	REMX12T3EN-JS	1316	 S500	SPMN150408	1322
	TECN2204PEER1			REMX1705EN-JS			SPMN150412	
	TECN2204PETR1						SPGN150404	
	TEEN2204PEFR1		 P425	WPC42W3GR	1333	 SEEN1203EFFR1	1318	
	TEEN2204PEER1							
	TEEN2204PETR1							
	TEEN2204PESR1							
	TEKN2204PEER1							
	TEKN2204PESR1							
TEKN2204PETR1	 PMF	TPEW1303ZPER2	1326	 SEKN1203EFTR1	1318			
TEKN2204PESR1								
TEKN2204PETR								
TEER2204PEER-JS	 TPEW1303ZPTR2		1336	 SEER1203EFER-JS	1318			
 TECN2204	TECN2204PEFR1	1335	 CPMT1205ZPEN-M2	CPMT1205ZPEN-M2	1310	 SECN1203EFFR1	1335	
				CPMT1205ZPEN-M3				
 WEC42		1332	 CPMT1906ZPEN-M2	CPMT1906ZPEN-M2	1332	 WEC42EFER5C	1332	
				CPMT1906ZPEN-M3				

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	
SE445 LSE445 	SECN1203AFTN1	1317	SE545 	WEC53AFER5C	1332	SRM2 	SRM16C-M	1324	
	SEEN1203AFFN1			WEC53AFTR5C			SRM20C-M		
	SEEN1203AFEN1		SG20 	RGEN2004M0EN	1317		SRM25C-M		
	SEEN1203AFTN1			RGEN2004M0SN			SRM30C-M		
	SEEN1203AFSN1			SPX 	JPMX140412-JM		1311	SRM32C-M	
	SEKN1203AFSN1				JPMX190412-JM			SRM16E-M	
	SEKN1203AFTN1				JPMX140412-WH		1311		SRM20E-M
	SEKN1203AFTN								JPMX190412-WH
	SEER1203AFEN-JS	1318		MPMX120412-JM	1314		SRM30E-M		
	SECN1203AFFR1	1335		MPMX120412-WH	1314	SRG16C	1324		
									SRG20C
	WEC42AFTR5C	1332		MPMX120412-WH	1314	SRG25C			
									SRG30C
SE515 	SECN1504EFTR1	1318	SRB 	SPMX120408-JM	1323	SRG32C	1324		
	SEEN1504EFER1			SRMX120408-JM		SRG16E			
	SEEN1504EFSR1		SRF 	SPMX120408-WH	1323	SRG20E			
	SEEN1504EFTR1								SRG25E
	SEKN1504EFSR1			SRBT10	1323	SRG30E			
	SEKN1504EFTR1			SRBT12		SRG32E			
WEC53EFTR5C	SRBT16	SRM2 ϕ 40 ϕ 50 	SRG40C	1324					
	SRBT20					SRG50C			
	SRBT25		SRG40E	1324					
	SRBT30					SRG50E			
	SRBT32				APMT1135PDER-H2	1309			
					APMT1604PDER-H2				
SE545 	SEEN1504AFEN1	1318	SRF 	SRFT10	1323	APMT1135PDER-M2	1309		
	SEEN1504AFSN1			SRFT12		APMT1604PDER-M2			
	SEEN1504AFTN1			SRFT16					
	SEKN1504AFSN1			SRFT20					
	SEKN1504AFTN1	SRFT25							
	SEER1504AFEN-JS	SRFT30							
		1318		SRFT32					

ROTATING TOOL INSERTS

Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	
STAW 	STAWK○○○○TG	1346	TAF 	GCMT040204-U1	1338	TBE1 	SPMT120408-A	1323	
	STAWN○○○○T			GCMT040204-U2			MPMW070308		
	STAWN○○○○TH	1344		GPMT060204-U1 GPMT070204-U1 GPMT090304-U1 GPMT11T308-U1 GPMT140408-U1	1338		MPMW090308	1313	
							GPMT060204-U2 GPMT070204-U2 GPMT090304-U2 GPMT11T308-U2 GPMT140408-U2		MPMW120408
SUF 	SUFT10R05	1325		GPMT060204-U3 GPMT070204-U3 GPMT090304-U3 GPMT11T308-U3 GPMT140408-U3	1338		NP-GDCW1240PDFR2	1334	
	SUFT10R10						VAS400 Side Cutter		LNGU130804PNER-M
	SUFT10R20						LNGU130804PNEL-M		
	SUFT12R05						LNGU130808PNER-M		
	SUFT12R10						LNGU130808PNEL-M		
	SUFT12R20						LNGU130812PNER-M		
	SUFT12R30						LNGU130812PNEL-M		
	SUFT16R05						LNGU130816PNER-M		
	SUFT16R10						LNGU130816PNEL-M		
	SUFT16R15						LNGU130816PNEL-M		
	SUFT16R20						LNGU130820PNER-M		
	SUFT16R30						LNGU130820PNEL-M		
	SUFT20R05						LNGU130824PNER-M		
	SUFT20R10						LNGU130824PNEL-M		
	SUFT20R15						LNGU130824PNEL-M		
	SUFT20R20						LNGU130830PNER-M		
	SUFT20R30						LNGU130830PNEL-M		
	SUFT25R05						LNGU130840PNER-M		
	SUFT25R10						LNGU130840PNEL-M		
	SUFT25R20						LNGU130850PNER-M		
	SUFT25R30						LNGU130850PNEL-M		
	SUFT30R05								
	SUFT30R10								
	SUFT30R20								
	SUFT30R30								
	SUFT32R05								
	SUFT32R10								
	SUFT32R20								

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

Cutter Type	Order Number	Page	Cutter Type	Order Number	Page	Cutter Type	Order Number	Page			
VAS500 Side Cutter 	LNGU171004PNER-R	1312	VFX6 	XNMU190912R-MS	1330	WSX445 	WNGU1406ANEN8C-M	1333			
	LNGU171004PNEL-R			XNMU190916R-MS			Corner Angle 0° 11° Positive 		TPEN1603PPR TPEN2204PDR TPKN1603PPR TPKN2204PDR	1326	
	LNGU171008PNER-R			XNMU190924R-MS							Corner Angle 15° 11° Positive 
	LNGU171008PNEL-R			XNMU190932R-MS		Corner Angle 45° 20° Positive 		SEKN1203AGTN			
	LNGU171012PNER-R			XNMU190940R-MS			Negative 		SNMN120408 SNMN120412	1320	
	LNGU171012PNEL-R			XNMU190950R-MS		11° Positive 		TPMN160304 TPMN160308 TPMN160312 TPMN220404 TPMN220408 TPMN220412			1327
	LNGU171016PNER-R		XNMU190912R-HS	VOX400 VOS400 Side Cutter 	SONX1206PER SONX1206PEL		1321				
	LNGU171016PNEL-R		XNMU190912R-LS			WOEX1206PER5C 		1333			
	LNGU171020PNER-R		VIPER 	TPNX1605N	1327						
	LNGU171020PNEL-R					WSX445 	SNGU140812ANFR-L SNGU140812ANER-L SNGU140812ANER-M SNMU140812ANER-M SNMU140812ANER-R SNMU140812ANER-H SNGU140812ANEL-M SNMU140812ANEL-M SNMU140812ANEL-R	1320			
	LNGU171024PNER-R		XNMU160708R-MS XNMU160712R-MS XNMU160716R-MS XNMU160724R-MS XNMU160732R-MS XNMU160740R-MS	1330							
	LNGU171024PNEL-R				XNMU160708R-HS				1330		
	LNGU171030PNER-R		XNMU160708R-LS	1330							
	LNGU171030PNEL-R										
	LNGU171040PNER-R										
	LNGU171040PNEL-R										
	LNGU171050PNER-R										
	LNGU171050PNEL-R										
LNGU171060PNER-R											
LNGU171060PNEL-R											
LNGU171070PNER-R											
LNGU171070PNEL-R											

ROTATING INSERTS

Work Material	P	Steel			●		●				Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✦ : Unstable Cutting							
	M	Stainless Steel			●		●											
	K	Cast Iron	●		●		●											
N	Non-ferrous Metal									Honing : E : Round F : Sharp								
S	Heat-resistant Alloy, Titanium Alloy			●		●												
H	Hardened Steel			●		●												
Shape	Order Number	Class	Honing	Coated						Carbide	Dimensions (mm)					Geometry		
				MC5020	MP6120	MP6130	MP7130	MP9120	MP9130	VP15TF	VP20RT	HT110	TF15	L	W1		S	BS
	AOGT123602PEFR-GM	G	F									●	12	6.6	3.6	1.8	0.2	
	AOGT123604PEFR-GM	G	F									●	12	6.6	3.6	1.6	0.4	
	AOGT123608PEFR-GM	G	F									●	12	6.6	3.6	1.2	0.8	
	AOMT123604PEER-H	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	1.6	0.4	
	AOMT123608PEER-H	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	1.2	0.8	
	AOMT123616PEER-H	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.4	1.6	
	AOMT123602PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	1.8	0.2	
	AOMT123604PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	1.6	0.4	
	AOMT123608PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	1.2	0.8	
	AOMT123610PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	1.0	1.0	
	AOMT123612PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.8	1.2	
	AOMT123616PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.4	1.6	
	AOMT123620PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.4	2.0	
	AOMT123624PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.4	2.4	
	AOMT123630PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.4	3.0	
AOMT123632PEER-M	M	E	●	●	●	●	●	●	●	●		12	6.6	3.6	0.4	3.2		
	AOMT184804PEER-H	M	E	●	●	●	●	●	●	●	●		18	9	4.8	1.8	0.4	
	AOMT184808PEER-H	M	E	●	●	●	●	●	●	●	●		18	9	4.8	1.4	0.8	
	AOMT184816PEER-H	M	E	●	●	●	●	●	●	●	●		18	9	4.8	0.4	1.6	
	AOMT184832PEER-H	M	E		●	●					●		18	9	4.8	0.4	3.2	
	AOMT184840PEER-H	M	E		●	●					●		18	9	4.8	0.4	4.0	
	AOMT184850PEER-H	M	E		●	●					●		18	9	4.8	—	5.0	
	AOMT184864PEER-H	M	E		●	●					●		18	9	4.8	—	6.35	
	AOMT184804PEER-M	M	E	●	●	●	●	●	●	●	●		18	9	4.8	1.8	0.4	
	AOMT184808PEER-M	M	E	●	●	●	●	●	●	●	●		18	9	4.8	1.4	0.8	
	AOMT184810PEER-M	M	E	●			●	●	●				18	9	4.8	1.0	1.0	
	AOMT184812PEER-M	M	E	●			●	●	●				18	9	4.8	0.8	1.2	
	AOMT184816PEER-M	M	E	●	●	●	●	●	●	●	●		18	9	4.8	0.4	1.6	
	AOMT184820PEER-M	M	E	●			●	●	●				18	9	4.8	0.4	2.0	
	APGT1135PDRF-G2	G	F									●	11	6.35	3.5	1.2	0.8	

● : Inventory maintained in Japan.
(10 inserts in one case)



ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

Work Material	P	Steel			●		●		●		●		●		Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting Honing : E : Round F : Sharp	
	M	Stainless Steel	●		●		●		●		●		●			
	K	Cast Iron	✖		●		●		●		●		●			
N	Non-ferrous Metal	●		●		●		●		●		●				
S	Heat-resistant Alloy, Titanium Alloy	●		●		●		●		●		●				
H	Hardened Steel	●		●		●		●		●		●				
Shape	Order Number	Class	Honing	Coated		Cermet		Carbide		Dimensions (mm)					Geometry	
				F7030	VP15TF	UP20M	NX2525	NX4545	UT120T	HT110	IC	L	W1	S		BS
	BAE AEMW150304ER	M	E		●	●	●	●	●	—	15.875	9.525	3.18	—	0.4	
	AEMW150308ER	M	E		●	●	●	●	●	—	15.875	9.525	3.18	—	0.8	
	AEMW19T304ER	M	E		●	●	●	●	●	—	19.05	12.7	3.97	—	0.4	
	AEMW19T308ER	M	E		●	●	●	●	●	—	19.05	12.7	3.97	—	0.8	
	BAP400 APGT1604PDFR-G2	G	F					●	●	—	16.5	9.525	4.76	1.4	0.8	
	BAP300 SRM2 SRM2φ40 φ50 APMT1135PDER-H1	M	E	●	●	●	●	●	●	—	11	6.35	3.5	1.5	0.4	
	APMT1135PDER-H2	M	E	●	●	●	●	●	●	—	11	6.35	3.5	1.2	0.8	
	APMT1135PDER-H3	M	E	●	●	●	●	●	●	—	11	6.35	3.5	0.8	1.2	
	APMT1135PDER-H4	M	E	●	●	●	●	●	●	—	11	6.35	3.5	0.4	1.6	
	APMT1135PDER-H6	M	E	●	●	●	●	●	●	—	11	6.35	3.5	0.4	2.4	
	BAP400 SRM2 SRM2φ40 φ50 APMT1604PDER-H1	M	E	●	●	●	●	●	●	—	16.5	9.525	4.76	1.7	0.4	
	APMT1604PDER-H2	M	E	●	●	●	●	●	●	—	16.5	9.525	4.76	1.4	0.8	
	APMT1604PDER-H4	M	E	●	●	●	●	●	●	—	16.5	9.525	4.76	0.4	1.6	
	APMT1604PDER-H6	M	E	●	●	●	●	●	●	—	16.5	9.525	4.76	0.4	2.4	
	APMT1604PDER-H8	M	E	●	●	●	●	●	●	—	16.5	9.525	4.76	0.4	3.2	
	BAP300 SRM2 SRM2φ40 φ50 APMT1135PDER-M0	M	E	●	●	●	●	●	●	—	11	6.35	3.5	1.8	0.2	
	APMT1135PDER-M1	M	E	●	●	●	●	●	●	—	11	6.35	3.5	1.5	0.4	
	APMT1135PDER-M2	M	E	●	●	●	●	●	●	—	11	6.35	3.5	1.2	0.8	
	BAP400 SRM2 SRM2φ40 φ50 APMT1604PDER-M2	M	E	●	●	●	●	●	●	—	16.5	9.525	4.76	1.4	0.8	
	DCCC CCMX083508EN-A	M	E	●	●	●	●	●	●	7.94	—	—	3.5	—	0.8	
	CCMX09T308EN-A	M	E	●	●	●	●	●	●	9.525	—	—	3.97	—	0.8	

ROTATING TOOL INSERTS


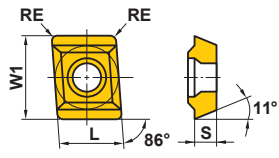

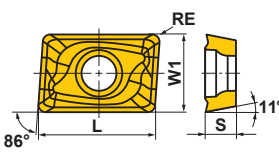

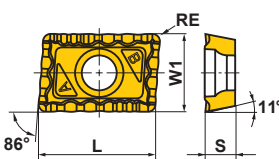
ROTATING TOOL INSERTS

Work Material	P	Steel	● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting											Cutting Conditions (Guide) :									
	M	Stainless Steel												Honing :									
	K	Cast Iron												E : Round S : Chamfer + Hone									
Shape	Order Number	Class	Honing	Coated											Carbide	Dimensions (mm)					Geometry		
				F7030	FH7020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	MC5015	VP15TF	VP30RT	UT120T	IC	S	BS	RE	AN			
	CCMX09T308EN-B	M	E	●													●	9.525	3.97	-	0.8	7°	
	CPMT1205ZPEN-M2	M	E														●	12.7	5.56	1.4	0.8	-	
	CPMT1205ZPEN-M3	M	E														●	12.7	5.56	1.4	1.2	-	
	CPMT1906ZPEN-M2	M	E														●	19.05	6.35	1.4	0.8	-	
	CPMT1906ZPEN-M3	M	E														●	19.05	6.35	1.4	1.2	-	
	HNMX1206EN06-R	M	E														●	12.7	6	-	-	-	
	HNMX1206EN12-R	M	E														●	12.7	6	-	-	-	
	JOMW06T215ZZSR-FT	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	6.35	2.78	1.2	1.5	13°	
	JOMW080320ZZSR-FT	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	8	3.18	1.4	2	13°	
	JDMW09T320ZDSR-FT	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9.525	3.97	1.8	2	15°	
	JDMW120420ZDSR-FT	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	12	4.76	2.5	2	15°	
	JDMW140520ZDSR-FT	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	14	5.56	2.8	2	15°	
	JOMT06T216ZZER-JL	M	E					●	●	●	●							6.35	2.78	1.2	1.6	13°	
	JOMT080322ZZER-JL	M	E					●	●	●	●							8	3.18	1.4	2.2	13°	
	JDMT09T323ZDER-JL	M	E					●	●	●	●							9.525	3.97	1.8	2.3	15°	
	JDMT120423ZDER-JL	M	E					●	●	●	●							12	4.76	2.5	2.3	15°	
	JDMT140523ZDER-JL	M	E					●	●	●	●							14	5.56	2.8	2.3	15°	
	JOMT06T215ZZSR-JM	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	6.35	2.78	1.2	1.5	13°	
	JOMT080320ZZSR-JM	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	8	3.18	1.4	2	13°	
	JDMT09T320ZDSR-JM	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9.525	3.97	1.8	2	15°	
	JDMT120420ZDSR-JM	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	12	4.76	2.5	2	15°	
	JDMT140520ZDSR-JM	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	14	5.56	2.8	2	15°	
	JDMT120420ZDSR-ST	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	12	4.76	2.5	2	15°	
	JDMT140520ZDSR-ST	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	14	5.56	2.8	2	15°	



● : Inventory maintained in Japan.
(10 inserts in one case)

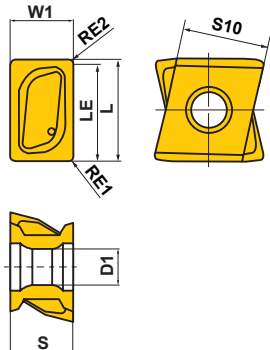
■ = MIRACLE SIGMA

ROTATING TOOL INSERTS

Work Material	P	Steel	●	●	●	●	●	Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting Honing : E : Round			
	M	Stainless Steel	●	●	●	●	●				
K	Cast Iron	✖	✖				✖				
N	Non-ferrous Metal										
S	Heat-resistant Alloy, Titanium Alloy	●									
H	Hardened Steel	●									
Shape	Order Number	Class	Honing	Coated		Carbide	Dimensions (mm)				Geometry
				VP15TF	VP20RT	UP20M	UT120T	L	W1	S	
CBJP TAB 	JPMT060204-E	M	E	●	●	●	6.5	7.94	2.38	0.4	 This figure is for outer insert (E).
SPX 	JPMX140412-JM	M	E	●	●		14.3	12.7	4.79	1.2	
	JPMX190412-JM	M	E	●	●		19.05	12.7	4.83	1.2	
SPX 	JPMX140412-WH	M	E	●	●		14.3	12.7	4.76	1.2	
	JPMX190412-WH	M	E	●	●		19.05	12.7	4.76	1.2	

ROTATING TOOL INSERTS

Work Material	P	Steel	Coated	Cutting Conditions (Guide) :										Geometry
	M	Stainless Steel		● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting										
	K	Cast Iron		Honing :										
N	Non-ferrous Metal	Class	Honing	E : Round										
S	Heat-resistant Alloy, Titanium Alloy			Dimensions (mm)										
H	Hardened Steel	Order Number	MP6120	VP15TF	L	LE	S	S10	RE1	RE2	W1	D1		
VAS400 Side Cutter 	LNGU130804PNER-M				G	E	●	13.0	12.2	8.0	11.0	0.4	0.8	8.0
	LNGU130804PNEL-M	G	E	●	13.0	12.2	8.0	11.0	0.4	0.8	8.0	4.5		
	LNGU130808PNER-M	G	E	●	13.0	12.2	8.0	11.0	0.8	0.8	8.0	4.5		
	LNGU130808PNEL-M	G	E	●	13.0	12.2	8.0	11.0	0.8	0.8	8.0	4.5		
	LNGU130812PNER-M	G	E	●	13.0	12.2	8.0	11.0	1.2	0.8	8.0	4.5		
	LNGU130812PNEL-M	G	E	●	13.0	12.2	8.0	11.0	1.2	0.8	8.0	4.5		
	LNGU130816PNER-M	G	E	●	13.0	12.2	8.0	11.0	1.6	0.8	8.0	4.5		
	LNGU130816PNEL-M	G	E	●	13.0	12.2	8.0	11.0	1.6	0.8	8.0	4.5		
	LNGU130820PNER-M	G	E	●	13.0	12.2	8.0	11.0	2.0	0.8	8.0	4.5		
	LNGU130820PNEL-M	G	E	●	13.0	12.2	8.0	11.0	2.0	0.8	8.0	4.5		
	LNGU130824PNER-M	G	E	●	13.0	12.2	8.0	11.0	2.4	0.8	8.0	4.5		
	LNGU130824PNEL-M	G	E	●	13.0	12.2	8.0	11.0	2.4	0.8	8.0	4.5		
	LNGU130830PNER-M	G	E	●	13.0	11.4	8.0	11.0	3.0	1.6	8.0	4.5		
	LNGU130830PNEL-M	G	E	●	13.0	11.4	8.0	11.0	3.0	1.6	8.0	4.5		
	LNGU130840PNER-M	G	E	●	13.0	11.4	8.0	11.0	4.0	1.6	8.0	4.5		
	LNGU130840PNEL-M	G	E	●	13.0	11.4	8.0	11.0	4.0	1.6	8.0	4.5		
LNGU130850PNER-M	G	E	●	13.0	11.4	8.0	11.0	5.0	1.6	8.0	4.5			
LNGU130850PNEL-M	G	E	●	13.0	11.4	8.0	11.0	5.0	1.6	8.0	4.5			
VAS500 Side Cutter 	LNGU171004PNER-R	G	E	●●	17.0	16.2	10.0	13.0	0.4	0.8	10.0	5.5		
	LNGU171004PNEL-R	G	E	●●	17.0	16.2	10.0	13.0	0.4	0.8	10.0	5.5		
	LNGU171008PNER-R	G	E	●●	17.0	16.2	10.0	13.0	0.8	0.8	10.0	5.5		
	LNGU171008PNEL-R	G	E	●●	17.0	16.2	10.0	13.0	0.8	0.8	10.0	5.5		
	LNGU171012PNER-R	G	E	●●	17.0	16.2	10.0	13.0	1.2	0.8	10.0	5.5		
	LNGU171012PNEL-R	G	E	●●	17.0	16.2	10.0	13.0	1.2	0.8	10.0	5.5		
	LNGU171016PNER-R	G	E	●●	17.0	16.2	10.0	13.0	1.6	0.8	10.0	5.5		
	LNGU171016PNEL-R	G	E	●●	17.0	16.2	10.0	13.0	1.6	0.8	10.0	5.5		
	LNGU171020PNER-R	G	E	●●	17.0	16.2	10.0	13.0	2.0	0.8	10.0	5.5		
	LNGU171020PNEL-R	G	E	●●	17.0	16.2	10.0	13.0	2.0	0.8	10.0	5.5		
	LNGU171024PNER-R	G	E	●●	17.0	16.2	10.0	13.0	2.4	0.8	10.0	5.5		
	LNGU171024PNEL-R	G	E	●●	17.0	16.2	10.0	13.0	2.4	0.8	10.0	5.5		
	LNGU171030PNER-R	G	E	●●	17.0	15.4	10.0	13.0	3.0	1.6	10.0	5.5		
	LNGU171030PNEL-R	G	E	●●	17.0	15.4	10.0	13.0	3.0	1.6	10.0	5.5		
	LNGU171040PNER-R	G	E	●●	17.0	15.4	10.0	13.0	4.0	1.6	10.0	5.5		
	LNGU171040PNEL-R	G	E	●●	17.0	15.4	10.0	13.0	4.0	1.6	10.0	5.5		
	LNGU171050PNER-R	G	E	●●	17.0	15.4	10.0	13.0	5.0	1.6	10.0	5.5		
	LNGU171050PNEL-R	G	E	●●	17.0	15.4	10.0	13.0	5.0	1.6	10.0	5.5		
	LNGU171060PNER-R	G	E	●●	17.0	15.4	10.0	13.0	6.0	1.6	10.0	5.5		
	LNGU171060PNEL-R	G	E	●●	17.0	15.4	10.0	13.0	6.0	1.6	10.0	5.5		
LNGU171070PNER-R	G	E	●●	17.0	15.4	10.0	13.0	7.0	1.6	10.0	5.5			
LNGU171070PNEL-R	G	E	●●	17.0	15.4	10.0	13.0	7.0	1.6	10.0	5.5			




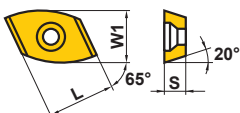

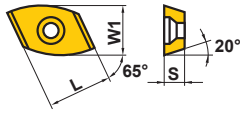

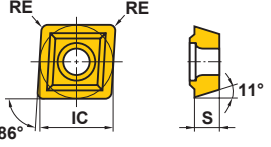

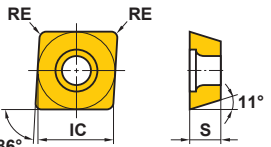
Right hand insert shown.

● : Inventory maintained in Japan.
(10 inserts in one case)



ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

Work Material	P	Steel	● ●		●	● ●						Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting Honing : E : Round T : Chamfer		
	M	Stainless Steel	● ●		●	● ●								
	K	Cast Iron	✖ ✖		●	✖ ●								
N	Non-ferrous Metal	● ●		●	● ●									
S	Heat-resistant Alloy, Titanium Alloy	● ●		●	● ●									
H	Hardened Steel	● ●		●	● ●									
Shape	Order Number	Class	Honing	Coated		Cermet	Carbide		Dimensions (mm)					Geometry
				VP15TF	UP20M	NX2525	UT120T	HT110	L	W1	IC	S	RE	
	MG245 MG345 MG445	MGEEW1035AFTR	E	T	●	●	● ●	10	9	—	3.5	—	 This figure is for outer insert (E).	
		MGEEW1242AFTR	E	T	●	●	● ●	12	10.5	—	4.2	—		
		MGEEW1650AFTR	E	T	●	●	● ●	16	13	—	5	—		
	MG200 MG300 MG400	MGEEW1035PFTR	E	T	●	●	● ●	10	9	—	3.5	—		
		MGEEW1242PFTR	E	T	●	●	● ●	12	10.5	—	4.2	—		
		MGEEW1650PFTR	E	T	●	●	● ●	16	13	—	5	—		
	CBMP ECMP TAB	MPMT070308	M	E	●	●	●	—	—	7.94	3.18	0.8		
		MPMT090308	M	E	● ●	●	●	—	—	9.525	3.18	0.8		
		MPMT120408	M	E	●	●	●	—	—	12.7	4.76	0.8		
	TSMP	MPMW070308	M	E	●	●	●	—	—	7.94	3.18	0.8		
		MPMW090308	M	E	● ●	●	●	—	—	9.525	3.18	0.8		
		MPMW120408	M	E	●	●	●	—	—	12.7	4.76	0.8		

ROTATING TOOL INSERTS

Work Material	P	Steel								Cutting Conditions (Guide) :								
	M	Stainless Steel								● : Stable Cutting	● : General Cutting	✦ : Unstable Cutting						
Shape	Order Number	Class	Honing	Coated							Dimensions (mm)				Geometry			
				MP6120	MP6130	MP7130	MP7140	MC5020	VP15TF	VP20RT	MP7030	IC	S	BS		RE		
	MPMX120412-JM	M	E							●	●			12.7	4.79	—	1.2	
	MPMX120412-WH	M	E							●	●			12.7	4.76	—	1.2	
	NNMU130508ZER-L	M	E	●	●	●	●	●	●	●	●			13.4	5.77	1	0.8	
	NNMU130508ZEN-M	M	E	●	●	●	●	●	●	●	●			13.4	5.57	1	0.8	
	NNMU130532ZEN-M	M	E	●	●	●	●	●	●	●	●			13.4	5.57	—	3.2	
	NNMU130532ZEN-R	M	E	●	●	●	●	●	●	●	●			13.4	5.47	—	3.2	
	NNMU200708ZEN-M	M	E	●	●									20	8	1	0.8	
	NNMU200708ZEN-MP	M	E							●				20	8	1	0.8	
	NNMU200712ZER-MM	M	E								●			20	8	1	1.2	

■ = MIRACLE
S I G M A

● : Inventory maintained in Japan.
(10 inserts in one case)

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS


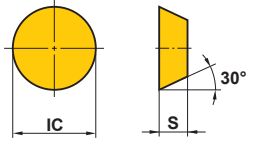

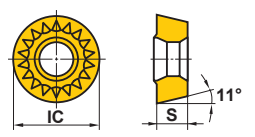

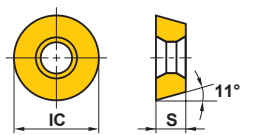

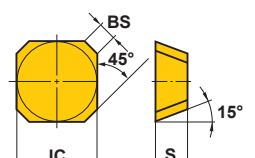

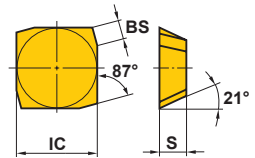

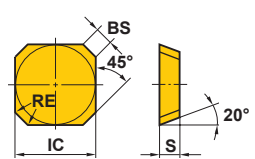
Work Material	P	Steel											Cutting Conditions (Guide) :							
	M	Stainless Steel											● : Stable Cutting	● : General Cutting						
Shape	K	Cast Iron											✳ : Unstable Cutting							
	N	Non-ferrous Metal											Honing :							
	S	Heat-resistant Alloy, Titanium Alloy											E : Round	F : Sharp	S : Chamfer + Hone					
	H	Hardened Steel																		
Shape	Order Number	Class	Honing	Coated							Carbide	Dimensions (mm)						Geometry		
				F7030	MC7020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	VP15TF	VP30RT	MP8010	HTT10	L	LE		W1	IC
	AQX	QOGT0830R-G1	G	E *1	●	●	●	●	●	●	●	●	●	8.4	7.4	5.5	—	3	0.4	
		QOGT1035R-G1	G	E *1	●	●	●	●	●	●	●	●	●	10.6	9.2	7	—	3.5	0.4	
		QOGT1342R-G1	G	E *1	●	●	●	●	●	●	●	●	●	13.1	11.5	8.7	—	4.2	0.4	
		QOGT1651R-G1	G	E *1	●	●	●	●	●	●	●	●	●	16.5	14.5	11	—	5.1	0.4	
		QOGT1856R-G1	G	E *1	●	●	●	●	●	●	●	●	●	18	16	12	—	5.6	0.4	
		QOGT2062R-G1	G	E *1	●	●	●	●	●	●	●	●	●	20.4	18	13.6	—	6.2	0.4	
		QOGT2576R-G1	G	E *1	●	●	●	●	●	●	●	●	●	25.8	23	17.2	—	7.6	0.4	
	AQX	QOMT0830R-M2	M	E	●	●	●	●	●	●	●	●	●	8.4	7.4	5.5	—	3	0.8	
		QOMT1035R-M2	M	E	●	●	●	●	●	●	●	●	●	10.6	9.2	7	—	3.5	0.8	
		QOMT1342R-M2	M	E	●	●	●	●	●	●	●	●	●	13.1	11.5	8.7	—	4.2	0.8	
		QOMT1651R-M2	M	E	●	●	●	●	●	●	●	●	●	16.5	14.5	11	—	5.1	0.8	
		QOMT1856R-M2	M	E	●	●	●	●	●	●	●	●	●	18	16	12	—	5.6	0.8	
		QOMT2062R-M2	M	E	●	●	●	●	●	●	●	●	●	20.4	18	13.6	—	6.2	0.8	
		QOMT2576R-M2	M	E	●	●	●	●	●	●	●	●	●	25.8	23	17.2	—	7.6	0.8	
	ARP	RPHT1040M0E4-L	H	E	●	●	●	●	●	●	●	●	●	—	—	—	10	3.97	—	
		RPHT1040M0E4-M	H	E	●	●	●	●	●	●	●	●	●	—	—	—	10	3.97	—	
		RPHT1040M0E4-R	H	E	●	●	●	●	●	●	●	●	●	—	—	—	10	3.97	—	
		RPHT1248M0E4-L	H	E	●	●	●	●	●	●	●	●	●	—	—	—	12	4.76	—	
		RPHT1248M0E4-M	H	E	●	●	●	●	●	●	●	●	●	—	—	—	12	4.76	—	
		RPHT1248M0E4-R	H	E	●	●	●	●	●	●	●	●	●	—	—	—	12	4.76	—	
		RPMT1040M0E4-L	M	E	●	●	●	●	●	●	●	●	●	—	—	—	10	3.97	—	
		RPMT1040M0E4-M	M	E	●	●	●	●	●	●	●	●	●	—	—	—	10	3.97	—	
		RPMT1040M0E4-R	M	E	●	●	●	●	●	●	●	●	●	—	—	—	10	3.97	—	
		RPMT1248M0E4-L	M	E	●	●	●	●	●	●	●	●	●	—	—	—	12	4.76	—	
		RPMT1248M0E4-M	M	E	●	●	●	●	●	●	●	●	●	—	—	—	12	4.76	—	
	RPMT1248M0E4-R	M	E	●	●	●	●	●	●	●	●	●	—	—	—	12	4.76	—		
	ARX	RDMW0517M0E	M	E	●	●	●	●	●	●	●	●	●	—	—	—	5	1.70	—	
		RDMW0620M0E	M	E	●	●	●	●	●	●	●	●	●	—	—	—	6	1.99	—	
		RDMW0724M0E	M	E	●	●	●	●	●	●	●	●	●	—	—	—	7	2.38	—	
	OCTACUT	REMX1705SN	M	S	●	●	●	●	●	●	●	●	●	—	—	—	17.25	5.2	—	
	OCTACUT	REMX12T3EN-JS	M	E	●	●	●	●	●	●	●	●	●	—	—	—	12.95	4.17	—	
		REMX1705EN-JS	M	E	●	●	●	●	●	●	●	●	●	—	—	—	17.25	5.2	—	

*1 Grade HTT10 is "F".


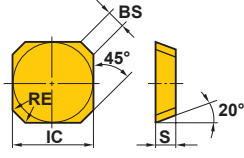

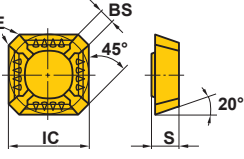

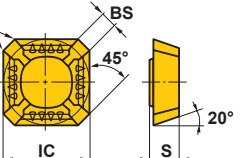

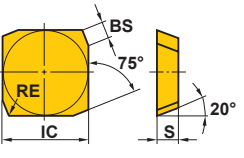

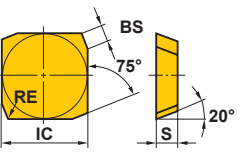

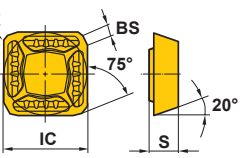


● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products. (10 inserts in one case)

ROTATING TOOL INSERTS


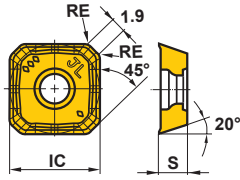

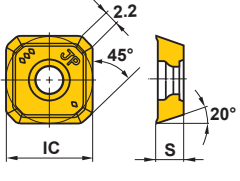

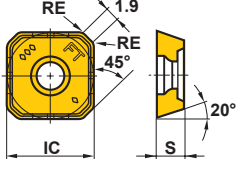

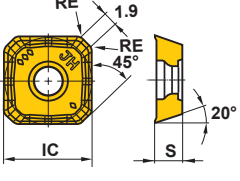

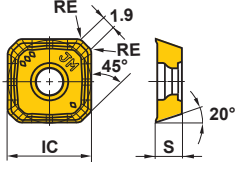

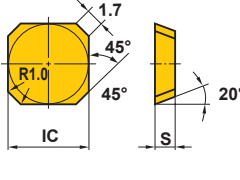

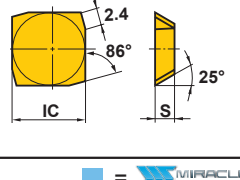
Work Material	P	Steel			●		●		●		●		Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting Honing : E : Round F : Sharp S : Chamfer + Hone T : Chamfer
	M	Stainless Steel	●		●		●		●		●		
	K	Cast Iron	✖		●		●		●		●		
N	Non-ferrous Metal	●		●		●		●		●			
S	Heat-resistant Alloy, Titanium Alloy	●		●		●		●		●			
H	Hardened Steel	●		●		●		●		●			
Shape	Order Number	Class	Honing	Coated			Cermet	Carbide	Dimensions (mm)				Geometry
				F7030	MC5020	VP15TF	UP20M	NX2925	NX4545	UT120T	HT110	IC	
	SG20 RGEN2004M0EN	E	E		●				20	4.76	—	—	
	RGEN2004M0SN	E	S	●		●		● ●	20	4.76	—	—	
	BRP RPMT08T2M0E-JS	M	E	●	●				8	2.78	—	—	
	RPMT10T3M0E-JS	M	E	●	●				10	3.97	—	—	
	RPMT1204M0E-JS	M	E	●	●			●	12	4.76	—	—	
	RPMT1606M0E-JS	M	E	●	●				16	6.35	—	—	
	BRP RPMW08T2M0T	M	T		●				8	2.78	—	—	
	RPMW10T3M0E	M	E	●			●		10	3.97	—	—	
	RPMW10T3M0T	M	T		●				10	3.97	—	—	
	RPMW1204M0E	M	E	●			●	●	12	4.76	—	—	
	RPMW1204M0T	M	T		●				12	4.76	—	—	
	RPMW1606M0E	M	E	●				●	16	6.35	—	—	
	FMSD SDEN1203AEN	E	T					▲	12.7	3.18	1.2	—	
	SDKN1203AEN	K	T	▲	●		▲	▲	12.7	3.18	1.2	—	
	SDKN1203AETN	K	T					▲	12.7	3.18	1.7	—	
	SDKN1504AETN	K	T					▲	15.875	4.76	1.7	—	
	FE404 E404 SEA42C10GR	A	F					▲	12.7	3.18	2.4	—	
	SEA42C10GL	A	F					▲	12.7	3.18	2.4	—	
	SE445 SECN1203AFTN1	C	T					●	12.7	3.18	1.4	1.0	
	SEEN1203AFFN1	E	F					●	12.7	3.18	1.4	1.0	
	SEEN1203AFEN1	E	E		●				12.7	3.18	1.4	1.0	
	SEEN1203AFTN1	E	T				●	●	12.7	3.18	1.4	1.0	
	SEEN1203AFSN1	E	S	●	●				12.7	3.18	1.4	1.0	
	SEKN1203AFSN1	K	S	●					12.7	3.18	1.4	—	
	SEKN1203AFTN1	K	T					●	12.7	3.18	1.4	—	
SEKN1203AFTN	K	T					●	12.7	3.18	1.7	1.0		

ROTATING TOOL INSERTS

Work Material	P	Steel	Coated	Cemet	Carbide	Cutting Conditions (Guide) :				Honing :			
	M	Stainless Steel				●	Stable Cutting	●	General Cutting		✳	Unstable Cutting	
	K	Cast Iron											
N	Non-ferrous Metal												
S	Heat-resistant Alloy, Titanium Alloy												
H	Hardened Steel												
Shape	Order Number	Class	Honing	Dimensions (mm)				Geometry					
				F7030	MC5020	VP15TF	NX2525		NX4545	UTi20T	HTi10	IC	S
	SE545 SEEN1504AFEN1	E	E	●					15.875	4.76	1.4	1.0	
	SEEN1504AFTN1	E	T			●	●		15.875	4.76	1.4	1.0	
	SEEN1504AFSN1	E	S	●	●				15.875	4.76	1.4	1.0	
	SEKN1504AFSN1	K	S	●					15.875	4.76	1.4	—	
	SEKN1504AFTN1	K	T				●		15.875	4.76	1.4	—	
	SE445 SEER1203AFEN-JS	E	E	●	●	●			12.7	3.18	1.4	1.0	
	SE545 SEER1504AFEN-JS	E	E	●	●				15.875	4.76	1.4	1.0	
	SE415 QSE415 SEEN1203EFFR1	E	F					●	12.7	3.18	1.4	1.0	
	SEEN1203EFER1	E	E		●				12.7	3.18	1.4	1.0	
	SEEN1203EFTR1	E	T				●	●	12.7	3.18	1.4	1.0	
	SEEN1203EFSR1	E	S	●	●				12.7	3.18	1.4	1.0	
	SEKN1203EFSR1	K	S	●					12.7	3.18	1.4	—	
	SEKN1203EFTR1	K	T					●	12.7	3.18	1.4	—	
	SEKN1203EFTR	K	T				●		12.7	3.18	1.8	1.0	
	SE515 SECN1504EFTR1	C	T					●	15.875	4.76	1.4	1.0	
	SEEN1504EFER1	E	E		●				15.875	4.76	1.4	1.0	
	SEEN1504EFTR1	E	T					●	15.875	4.76	1.4	1.0	
	SEEN1504EFSR1	E	S	●					15.875	4.76	1.4	1.0	
	SEKN1504EFSR1	K	S	●					15.875	4.76	1.4	—	
	SEKN1504EFTR1	K	T					●	15.875	4.76	1.4	—	
	SE415 QSE415 SEER1203EFER-JS	E	E	●	●				12.7	3.18	1.4	1.0	

● : Inventory maintained in Japan. □ : Non stock, produced to order only. ▲ : Inventory maintained in Japan. To be replaced by new products.
(10 inserts in one case)

ROTATING TOOL INSERTS

Work Material	P	Steel	●										Cutting Conditions (Guide) :								
	M	Stainless Steel	●										● : Stable Cutting	● : General Cutting	✱ : Unstable Cutting						
Work Material	K	Cast Iron	●										Honing :								
	N	Non-ferrous Metal	●										E : Round	F : Sharp							
	S	Heat-resistant Alloy, Titanium Alloy	●										S : Chamfer + Hone	T : Chamfer							
Work Material	H	Hardened Steel	●																		
Shape	Order Number	Class	Honing	Coated										Cermet	Carbide	Dimensions (mm)			Geometry		
				F7030	MC5020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	VP15TF	VP30RT	NX4545	HT110	IC	S	RE			
	ASX445 SEET13T3AGEN-JL	E	E	●	●	●	●	●	●	●	●	●	●	●	●	●	13.4	3.97	1.5		
		ASX445 SEGT13T3AGFN-JP	G	F														13.4	3.97	—	
	ASX445 SEMT13T3AGSN-FT	M	S	●													13.4	3.97	1.5		
		ASX445 SEMT13T3AGSN-JH	M	S	●	●	●	●	●	●	●	●	●	●	●	●		13.4	3.97	1.5	
	ASX445 SEMT13T3AGSN-JM	M	S	●	●	●	●	●	●	●	●	●	●	●	●	●		13.4	3.97	1.5	
		SEKN1203AGTN	K	T														12.7	3.18	—	
	BF407 SFAN1203ZFFR2	A	F												●		12.7	3.175	—		
	SFAN1203ZFFL2	A	F												●		12.7	3.175	—		
	SFCN1203ZFFR2	C	F												●		12.7	3.175	—		
	SFCN1203ZFFL2	C	F												□		12.7	3.175	—		

ROTATING TOOL INSERTS



ROTATING TOOL INSERTS

Work Material	P	Steel	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting												
	M	Stainless Steel	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting												
	K	Cast Iron	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting												
Honing	N	Non-ferrous Metal	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting												
	S	Heat-resistant Alloy, Titanium Alloy	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting												
	H	Hardened Steel	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting												
Shape	Order Number	Class	Honing	Coated										Cermet	Carbide	Dimensions (mm)				Geometry					
				F7030	MC5020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	VP15TF	VP20RT	VP30RT	MX3030	NX2525	NX4545	UTi20T	HTi10		TF15	IC	S	BS	RE
	SNC43B2G	C	F																						
	SNC43B2S	C	T *1																						
	SNK43B2G	K	F																						
	SNK43B2S	K	T *1																						
	SNGU140812ANFR-L	G	F																						
	SNGU140812ANER-L	G	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNGU140812ANER-M	G	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNMU140812ANER-M	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNMU140812ANER-R	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNMU140812ANER-H	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNGU140812ANEL-M	G	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNMU140812ANEL-M	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNMU140812ANEL-R	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SNKF43B2S	K	T																						
	SNMF43B2G	M	E	●																					
	SNMN120408	M	E	●																					
	SNMN120412	M	E	●																					
	SOET12T308PEER-JL	E	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	SOGT12T308PEFR-JP	G	F																						
	SOMT12T308PEER-JH	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

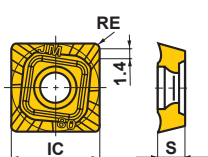
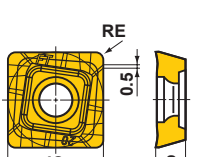
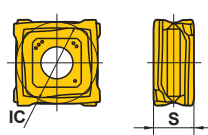
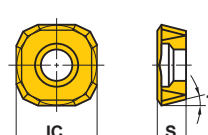
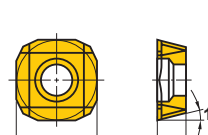
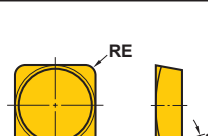
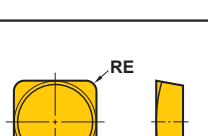
*1 Grade UTi20T is "E".

● : Inventory maintained in Japan.
(10 inserts in one case)



ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

Work Material	P	Steel	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
	M	Stainless Steel	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
	K	Cast Iron	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
Work Material	N	Non-ferrous Metal	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
	S	Heat-resistant Alloy, Titanium Alloy	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
Work Material	H	Hardened Steel	●										● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
	Shape	Order Number	Class	Honing	Coated										Cermet	Carbide	Dimensions (mm)			Geometry
F7030					MC5020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	VP15TF	VP30RT	NX2525	NX4545	HT110	HT105T	IC	S	
ASX400 ASX400 Side Cutter	SOMT12T308PEER-JM	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	12.7	3.97	0.8	 Right hand insert shown.
	SOMT12T308PEEL-JM	M	E														12.7	3.97	0.8	
ASX400	SOMT12T320PEER-FT	M	E	●	●					●	●	●					12.7	3.97	2.0	
VOX400 VOS400 Side Cutter	SONX1206PER	N	E	●											●		12.7	6.3	—	 Right hand insert shown.
	SONX1206PEL	N	E												●		12.7	6.3	—	
FF3000	SPCA53Z	C	E												●		15.88	4.8	—	
FF3000	SPCG53Z	C	F												●	●	15.88	4.8	—	
FP490	SPEN424A	E	F												●	●	12.7	3.18	1.6	
FP590	SPEN535A	E	F												●		15.875	4.76	2.0	

ROTATING TOOL INSERTS



ROTATING TOOL INSERTS

Work Material	P	Steel			●		●		●		Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting				
	M	Stainless Steel	●		●		●		●						
Work Material	K	Cast Iron	✖		●		●		●		Honing : E : Round F : Sharp T : Chamfer				
	N	Non-ferrous Metal	●		●		●		●						
	S	Heat-resistant Alloy, Titanium Alloy	●		●		●		●						
Work Material	H	Hardened Steel	●		●		●		●						
Shape	Order Number	Class	Honing	Coated		Cemet		Carbide		Dimensions (mm)				Geometry	
				F7030	MC5020	VP15TF	UP20M	NX2525	NX4545	UT120T	HT110	IC	S		BS
	FBP415	SPER1203EEER-JS	E	E	●						12.7	3.18	1.4	—	
	Corner Angle 15°	SPEN1203EDR	E	T	▲						12.7	3.18	1.4	—	
	SPKN1203EDR	K	T*1	▲	●	●	▲	▲	▲	12.7	3.18	1.4	—		
	SPKN1504EDR	K	T*1		●	▲	▲	▲	▲	15.875	4.76	1.4	—		
	FBP415	SPEN1203EEER1	E	E	●				●	12.7	3.175	1.4	—		
		SPEN1203EEEL1	E	E	●				●	12.7	3.175	1.4	—		
		SPNN1203EEER1	N	E	●				●	12.7	3.18	1.3	—		
		SPNN1203EEEL1	N	E					●	12.7	3.18	1.3	—		
	BSP	SPMB1204APT	M	T			●		●	12.7	4.76	1.4	—		
	S400	SPMN120304	M	E*1		●			●	●	12.7	3.18	—	0.4	
		SPMN120304T	M	T				●			12.7	3.18	—	0.4	
		SPMN120308	M	E	●	●	●		●	●	12.7	3.18	—	0.8	
		SPMN120312	M	E*1	●	●			●	●	12.7	3.18	—	1.2	
		SPMN120408	M	E	●				●	●	12.7	4.76	—	0.8	
		SPMN120412	M	E	●				●	●	12.7	4.76	—	1.2	
		SPGN120304	G	E*1				●	●	●	12.7	3.18	—	0.4	
		SPGN120308	G	E*1		●	●		●	●	12.7	3.18	—	0.8	
		SPGN120312	G	F					●		12.7	3.18	—	1.2	
	S500	SPMN150408	M	E					●		15.875	4.76	—	0.8	
		SPMN150412	M	E					●		15.875	4.76	—	1.2	
		SPGN150404	G	E					●		15.875	4.76	—	0.4	
		SPGN150408	G	E*1					●		15.875	4.76	—	0.8	

*1 Grade HTI10 is "F".

● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products. (10 inserts in one case)

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

Work Material	P	Steel	Coated	MP6120	MP9120	VP15TF	VP20RT	VP30RT	Cutting Conditions (Guide) :						Geometry		
	M	Stainless Steel							●	●	●	●	●	●		●	●
Work Material	K	Cast Iron	Coated	MP6120	MP9120	VP15TF	VP20RT	VP30RT	Cutting Conditions (Guide) :						Geometry		
	N	Non-ferrous Metal							●	●	●	●	●	●		●	●
	S	Heat-resistant Alloy, Titanium Alloy							●	●	●	●	●	●		●	●
	H	Hardened Steel							●	●	●	●	●	●		●	●
Shape	Order Number	Class	Honing	Coated					Dimensions (mm)						Geometry		
				MP6120	MP9120	VP15TF	VP20RT	VP30RT	RE	L	W1	S	AN	B9			
	SRM2	SRG16C	G	E	●	●	●			8	16	8.2	3.5	11°	—		
		SRG20C	G	E	●	●	●			10	19	10.2	4.6	10°	18°		
		SRG25C	G	E	●	●	●			12.5	24	12.8	5.5	10°	18°		
		SRG30C	G	E	●	●	●			15	28	15.3	7	10°	18°		
		SRG32C	G	E	●	●	●			16	28	16.3	7	10°	18°		
	SRM2	SRG16E	G	E	●	●	●			8	13.5	6.7	3.5	11°	—		
		SRG20E	G	E	●	●	●			10	15.5	8.5	4.6	9°	—		
		SRG25E	G	E	●	●	●			12.5	20.5	10.2	5.5	9°	—		
		SRG30E	G	E	●	●	●			15	25.2	12.2	7	9°	—		
		SRG32E	G	E	●	●	●			16	26.1	13.1	7	9°	—		
	SRM2φ40 φ50	* SRG40C	G	E		●	●	●		20	36	20.5	8.0	11°	—		
		* SRG50C	G	E		●	●	●		25	40	26	8.5	11°	—		
	SRM2φ40 φ50	* SRG40E	G	E		●	●	●		20	32	16.6	8.0	11°	—		
		* SRG50E	G	E		●	●	●		25	35.8	20	8.5	11°	—		
	SRM2	SRM16C-M	M	E	●	●	●			8	16	8.2	3.5	11°	—		
		SRM20C-M	M	E	●	●	●			10	19	10.2	4.6	10°	18°		
		SRM25C-M	M	E	●	●	●			12.5	24	12.8	5.5	10°	18°		
		SRM30C-M	M	E	●	●	●			15	28	15.3	7	10°	18°		
		SRM32C-M	M	E	●	●	●			16	28	16.3	7	10°	18°		
	SRM2	SRM16E-M	M	E	●	●	●			8	13.5	6.7	3.5	11°	—		
		SRM20E-M	M	E	●	●	●			10	15.5	8.5	4.6	9°	—		
		SRM25E-M	M	E	●	●	●			12.5	20.5	10.2	5.5	9°	—		
		SRM30E-M	M	E	●	●	●			15	25.2	12.2	7	9°	—		
		SRM32E-M	M	E	●	●	●			16	26.1	13.1	7	9°	—		

* 2 inserts in one case.

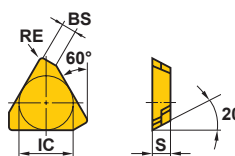
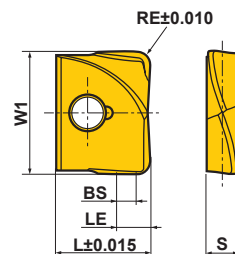


● : Inventory maintained in Japan.
(10 inserts in one case)

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS


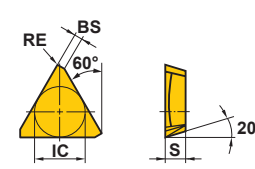

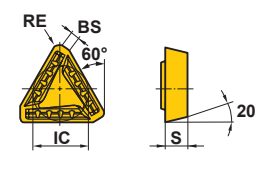

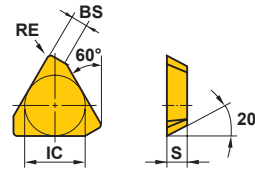

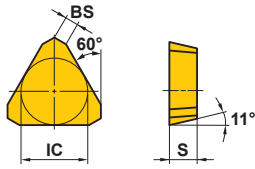
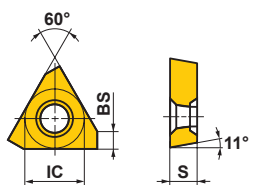
Work Material	P	Steel	Class	Honing	Coated								Cermet		Carbide		Dimensions (mm)							Geometry
	M	Stainless Steel			F7030	MC5020	VP15TF	UP20M	MP8010	NX2525	NX4545	UTi20T	HTi10	W1	LE	IC	L	S	BS	RE				
	K	Cast Iron			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
	N	Non-ferrous Metal																						
	S	Heat-resistant Alloy, Titanium Alloy																						
	H	Hardened Steel																						
						● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting Honing : E : Round F : Sharp S : Chamfer + Hone T : Chamfer																		
SUF	* SUFT10R05	—	F		●	●						10	1.5	—	8.5	2.6	1	0.5						
	* SUFT10R10	—	F		●	●						10	2	—	8.5	2.6	1	1						
	* SUFT10R20	—	F		●	●						10	3	—	8.5	2.6	1	2						
	* SUFT12R05	—	F		●	●						12	1.7	—	10	3	1.2	0.5						
	* SUFT12R10	—	F		●	●						12	2.2	—	10	3	1.2	1						
	* SUFT12R20	—	F		●	●						12	3.2	—	10	3	1.2	2						
	* SUFT12R30	—	F		●	●						12	4.2	—	10	3	1.2	3						
	* SUFT16R05	—	F		●	●						16	2.1	—	12	4	1.6	0.5						
	* SUFT16R10	—	F		●	●						16	2.6	—	12	4	1.6	1						
	* SUFT16R15	—	F		●	●						16	3.1	—	12	4	1.6	1.5						
	* SUFT16R20	—	F		●	●						16	3.6	—	12	4	1.6	2						
	* SUFT16R30	—	F		●	●						16	4.6	—	12	4	1.6	3						
	* SUFT20R05	—	F		●	●						20	2.5	—	15	5	2	0.5						
	* SUFT20R10	—	F		●	●						20	3	—	15	5	2	1						
	* SUFT20R15	—	F		●	●						20	3.5	—	15	5	2	1.5						
	* SUFT20R20	—	F		●	●						20	4	—	15	5	2	2						
	* SUFT20R30	—	F		●	●						20	5	—	15	5	2	3						
	* SUFT25R05	—	F		●	●						25	3	—	18.5	6	2.5	0.5						
	* SUFT25R10	—	F		●	●						25	3.5	—	18.5	6	2.5	1						
	* SUFT25R20	—	F		●	●						25	4.5	—	18.5	6	2.5	2						
	* SUFT25R30	—	F		●	●						25	5.5	—	18.5	6	2.5	3						
* SUFT30R05	—	F		●	●						30	3.5	—	22.5	7	3	0.5							
* SUFT30R10	—	F		●	●						30	4	—	22.5	7	3	1							
* SUFT30R20	—	F		●	●						30	5	—	22.5	7	3	2							
* SUFT30R30	—	F		●	●						30	6	—	22.5	7	3	3							
* SUFT32R05	—	F		●	●						32	3.7	—	23.5	7	3.2	0.5							
* SUFT32R10	—	F		●	●						32	4.2	—	23.5	7	3.2	1							
* SUFT32R20	—	F		●	●						32	5.2	—	23.5	7	3.2	2							
NSE300 SE300	TEEN1603PEFR1	E	F									—	—	9.525	—	3.175	1.4	0.4						
	TEEN1603PEER1	E	E		●							—	—	9.525	—	3.175	1.4	0.4						
	TEEN1603PETR1	E	T			●	●	●	●			—	—	9.525	—	3.175	1.4	0.4						
	TEEN1603PESR1	E	S	●	●							—	—	9.525	—	3.175	1.4	0.4						



* 2 inserts in one case.

ROTATING TOOL
INSERTS


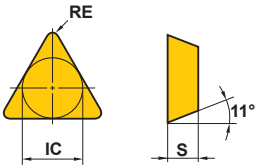

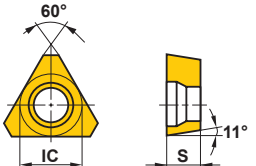

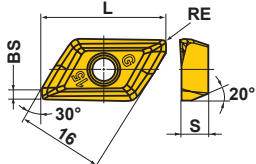

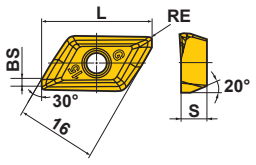

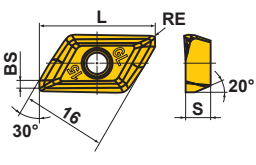
ROTATING TOOL INSERTS

Work Material	P	Steel	Coated	MC5020	VP15TF	UP20M	AP10H	Cermet	NX2525	NX4545	Carbide	UT120T	HT110	Cutting Conditions (Guide) :				Geometry						
	M	Stainless Steel												● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting										
	K	Cast Iron												Honing :										
N	Non-ferrous Metal	E : Round F : Sharp S : Chamfer + Hone T : Chamfer																						
S	Heat-resistant Alloy, Titanium Alloy	IC				S				BS				RE										
H	Hardened Steel	IC				S				BS				RE										
Shape	Order Number	Class	Honing	Coated								Cermet				Carbide				Dimensions (mm)				Geometry
IC	S	BS	RE																					
	TECN1603PEFR1W	C	F									●	9.525	3.175	1.4	0.4								
	TECN1603PEER1W	C	E									●	9.525	3.175	1.4	0.4								
	TECN1603PETR1W	C	T						●	●	●		9.525	3.175	1.4	0.4								
	TEER1603PEER-JS	E	E	●								●	9.525	3.175	1.4	0.4	Wall face finishing. 							
	TEER2204PEER-JS	E	E	●								●	12.7	4.76	1.4	1.0								
	TECN2204PEFR1	C	F									●	12.7	4.76	1.4	1.0								
	TECN2204PEER1	C	E									●	12.7	4.76	1.4	1.0								
	TECN2204PETR1	C	T						●	●	●		12.7	4.76	1.4	1.0								
	TEEN2204PEFR1	E	F									●	12.7	4.76	1.4	1.0								
	TEEN2204PEER1	E	E		●							●	12.7	4.76	1.4	1.0								
	TEEN2204PETR1	E	T			●			●	●	●		12.7	4.76	1.4	1.0								
	TEEN2204PESR1	E	S		●	●							12.7	4.76	1.4	1.0								
	TEKN2204PEER1	K	E										●	12.7	4.76	1.94		—						
	TEKN2204PESR1	K	S		●									12.7	4.76	1.94		—						
	TEKN2204PETR1	K	T			●			●	●	●		12.7	4.76	1.94	—								
TEKN2204PETR	K	T							●			12.7	4.76	1.94	—									
	TPEN1603PPR	E	T	▲					▲				9.525	3.18	1.2	—								
	TPKN1603PPR	K	T *1	▲	●	▲			▲	▲	▲		9.525	3.18	1.2	—								
	TPEN2204PDR	E	T *1	▲									12.7	4.76	1.4	—								
	TPKN2204PDR	K	T *1	▲	●	▲			▲	▲	▲		12.7	4.76	1.4	—								
PMF	TPEW1303ZPER2	E	E		●	●							7.94	3.18	2	—								

*1 Grade F7030 is "E".

● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products. (10 inserts in one case)

ROTATING TOOL INSERTS

Work Material	P	Steel	Coated		Cermet	Carbide	Cutting Conditions (Guide) :					Geometry						
	M	Stainless Steel					● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting											
	K	Cast Iron					Honing : E : Round F : Sharp											
	N	Non-ferrous Metal																
	S	Heat-resistant Alloy, Titanium Alloy																
	H	Hardened Steel																
Shape	Order Number	Class	Honing	Coated		Cermet	Carbide	Dimensions (mm)					Geometry					
				F7030	VP15TF	LC15TF	UP20M	NX2525	UTi20T	HTi10	TF15	L		IC	S	BS	RE	
11°Positive 	TPMN160304	M	E*1	●	●	●	●	●	●	●	●	—	9.525	3.18	—	0.4		
	TPMN160308	M	E*2	●	●	●	●	●	●	●	●	—	9.525	3.18	—	0.8		
	TPMN160312	M	E*1			●					●		—	9.525	3.18	—		1.2
	TPMN220404	M	E							●			—	12.7	4.76	—		0.4
	TPMN220408	M	E*1		●	●	●			●	●		—	12.7	4.76	—		0.8
	TPMN220412	M	E*1		●	●				●	●		—	12.7	4.76	—		1.2
VIPER 	TPNX1605N	N	E							●			9.525	5	—	—		
BXD4000 	XDGT1550PDER-G04	G	E	●								22	—	5	1.5	0.4		
	XDGT1550PDER-G08	G	E	●								22	—	5	1.1	0.8		
	XDGT1550PDER-G12	G	E	●								22	—	5	0.7	1.2		
	XDGT1550PDER-G16	G	E	●								22	—	5	0.4	1.6		
	XDGT1550PDER-G20	G	E	●								21.7	—	5	0.2	2.0		
	XDGT1550PDER-G30	G	E	●								20	—	5	0.6	3.0		
	XDGT1550PDER-G32	G	E	●								20	—	5	0.4	3.2		
	XDGT1550PDER-G40	G	E	●								19	—	5	0.5	4.0		
	XDGT1550PDER-G50	G	E	●								18	—	5	0.4	5.0		
BXD4000 	XDGT1550PDFR-G04	G	F		●					●		22	—	5	1.5	0.4		
	XDGT1550PDFR-G08	G	F		●					●		22	—	5	1.1	0.8		
	XDGT1550PDFR-G12	G	F		●					●		22	—	5	0.7	1.2		
	XDGT1550PDFR-G16	G	F		●					●		22	—	5	0.4	1.6		
	XDGT1550PDFR-G20	G	F		●					●		21.7	—	5	0.2	2.0		
	XDGT1550PDFR-G30	G	F		●					●		20	—	5	0.6	3.0		
	XDGT1550PDFR-G32	G	F		●					●		20	—	5	0.4	3.2		
	XDGT1550PDFR-G40	G	F		●					●		19	—	5	0.5	4.0		
	XDGT1550PDFR-G50	G	F		●					●		18	—	5	0.4	5.0		
BXD4000 	XDGT1550PDFR-GL04	G	F									22	—	5	1.5	0.4		
	XDGT1550PDFR-GL08	G	F									22	—	5	1.1	0.8		

*1 Grade HTi10 is "F".

*2 Grade HTi10 is "F", Grade NX2525 is "T".

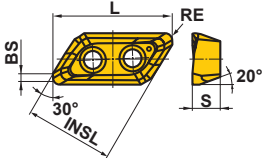

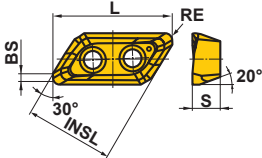

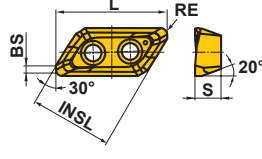
ROTATING TOOL INSERTS

Work Material	P	Steel	●	●	●	●	Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting					Geometry								
	M	Stainless Steel											●	●	●	●	●	●	●	●
	K	Cast Iron																		
N	Non-ferrous Metal	●	✖	●	Honing : E : Round F : Sharp					Geometry										
S	Heat-resistant Alloy, Titanium Alloy	●	●	●							Geometry									
H	Hardened Steel	●	●	●						Geometry										
Shape	Order Number	Class	Honing	Coated			Carbide	Dimensions (mm)												
				LC15TF	MP6120	MP9120	TF15	L	INSL	S	BS	RE								
AXD4000	XDGX175004PDFR-GL	G	F	●			●	23.0	17.5	5	1.7	0.4								
	XDGX175008PDFR-GL	G	F	●			●	23.0	17.5	5	1.3	0.8								
	XDGX175012PDFR-GL	G	F	●			●	23.0	17.5	5	0.9	1.2								
	XDGX175016PDFR-GL	G	F	●			●	22.0	17.5	5	1.4	1.6								
	XDGX175020PDFR-GL	G	F	●			●	22.0	17.5	5	1.0	2.0								
	XDGX175024PDFR-GL	G	F	●			●	22.0	17.5	5	0.6	2.4								
	XDGX175030PDFR-GL	G	F	●			●	21.1	17.5	5	0.8	3.0								
	XDGX175032PDFR-GL	G	F	●			●	21.1	17.5	5	0.6	3.2								
	XDGX175040PDFR-GL	G	F	●			●	20.0	17.5	5	0.8	4.0								
	XDGX175050PDFR-GL	G	F	●			●	19.4	17.5	5	0.4	5.0								
AXD7000	XDGX227008PDFR-GL	G	F	●			●	30.0	22.5	7	2.0	0.8								
	XDGX227016PDFR-GL	G	F	●			●	30.0	22.5	7	1.2	1.6								
	XDGX227020PDFR-GL	G	F	●			●	30.0	22.5	7	0.8	2.0								
	XDGX227024PDFR-GL	G	F	●			●	30.0	22.5	7	0.8	2.4								
	XDGX227030PDFR-GL	G	F	●			●	28.8	22.5	7	0.8	3.0								
	XDGX227032PDFR-GL	G	F	●			●	28.8	22.5	7	0.6	3.2								
	XDGX227040PDFR-GL	G	F	●			●	27.5	22.5	7	0.9	4.0								
	XDGX227050PDFR-GL	G	F	●			●	27.0	22.5	7	0.4	5.0								
AXD7000	XDGX227008PDER-GLA	G	E	●	●			30.0	22.5	7	2.0	0.8								
	XDGX227016PDER-GLA	G	E	●	●			30.0	22.5	7	1.2	1.6								
	XDGX227020PDER-GLA	G	E	●	●			30.0	22.5	7	0.8	2.0								
	XDGX227024PDER-GLA	G	E	●	●			30.0	22.5	7	0.8	2.4								
	XDGX227030PDER-GLA	G	E	●	●			28.8	22.5	7	0.8	3.0								
	XDGX227032PDER-GLA	G	E	●	●			28.8	22.5	7	0.6	3.2								
	XDGX227040PDER-GLA	G	E	●	●			27.5	22.5	7	0.9	4.0								
	XDGX227050PDER-GLA	G	E	●	●			27.0	22.5	7	0.4	5.0								

ROTATING TOOL INSERTS


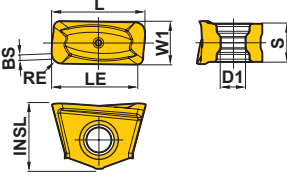

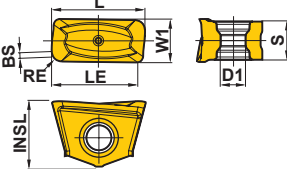

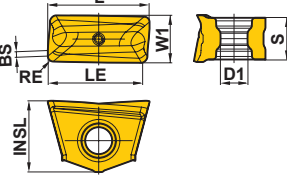

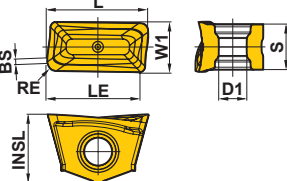

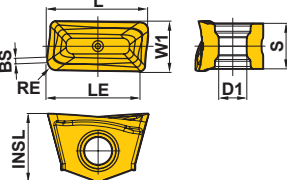

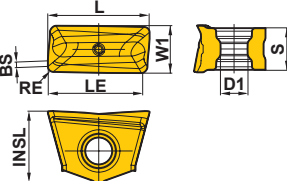


● : Inventory maintained in Japan.
(10 inserts in one case)

Work Material	P	Steel	MP6120	MP9120	TF15	L	INSL	S	BS	RE	Geometry	
	M	Stainless Steel										Coated
Work Material	K	Cast Iron										
	N	Non-ferrous Metal										
	S	Heat-resistant Alloy, Titanium Alloy										
	H	Hardened Steel										
Shape	Order Number	Class	Honing	MP6120	MP9120	TF15	L	INSL	S	BS	RE	Geometry
	AXD4000	XDGX175004PDER-GM	G	E	●	●						
		XDGX175008PDER-GM	G	E	●	●						
		XDGX175012PDER-GM	G	E	●	●						
		XDGX175016PDER-GM	G	E	●	●						
		XDGX175020PDER-GM	G	E	●	●						
		XDGX175024PDER-GM	G	E	●	●						
		XDGX175030PDER-GM	G	E	●	●						
		XDGX175032PDER-GM	G	E	●	●						
		XDGX175040PDER-GM	G	E	●	●						
	AXD4000	XDGX175004PDFR-GM	G	F			●					
		XDGX175008PDFR-GM	G	F			●					
		XDGX175012PDFR-GM	G	F			●					
		XDGX175016PDFR-GM	G	F			●					
		XDGX175020PDFR-GM	G	F			●					
		XDGX175024PDFR-GM	G	F			●					
		XDGX175030PDFR-GM	G	F			●					
		XDGX175032PDFR-GM	G	F			●					
		XDGX175040PDFR-GM	G	F			●					
	XDGX175050PDFR-GM	G	F			●						



ROTATING TOOL INSERTS


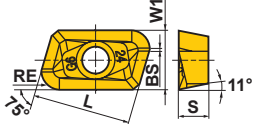

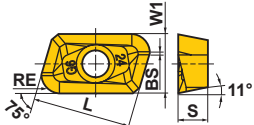

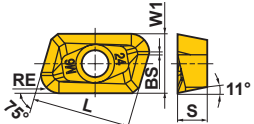

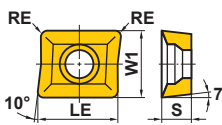

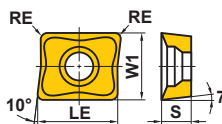

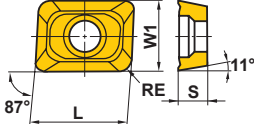
Work Material	P	Steel	Coated		Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting								Honing : E : Round		
	M	Stainless Steel													
	K	Cast Iron													
N	Non-ferrous Metal	Class	Honing	MP9030	MP9130	Dimensions (mm)							Geometry		
S	Heat-resistant Alloy, Titanium Alloy					L	LE	W1	INSL	S	BS	RE		D1	
H	Hardened Steel														
	VFX5	XNMU160708R-MS	M	E	●	●	16.0	13.4	7.0	11.1	6.5	1.0	0.8	4.2	
		XNMU160712R-MS	M	E	●	●	16.0	13.8	7.0	11.1	6.5	1.0	1.2	4.2	
		XNMU160716R-MS	M	E	●	●	16.0	13.8	7.0	11.1	6.5	1.0	1.6	4.2	
		XNMU160724R-MS	M	E	●	●	16.0	13.8	7.0	11.1	6.5	1.0	2.4	4.2	
		XNMU160732R-MS	M	E	●	●	17.3	14.4	7.0	11.1	6.5	—	3.2	4.2	
		XNMU160740R-MS	M	E	●	●	18.9	15.2	7.0	11.1	6.5	—	4.0	4.2	
	VFX5	XNMU160708R-HS	M	E	●	●	16.0	13.4	7.0	11.1	6.5	1.0	0.8	4.2	
	VFX5	XNMU160708R-LS	M	E	●		16.0	13.4	7.0	11.1	6.5	1.0	0.8	4.2	
	VFX6	XNMU190912R-MS	M	E	●	●	19.1	16.5	9.5	12.7	8.5	1.0	1.2	5.2	
		XNMU190916R-MS	M	E	●	●	19.1	16.5	9.5	12.7	8.5	1.0	1.6	5.2	
		XNMU190924R-MS	M	E	●	●	19.1	16.6	9.5	12.7	8.5	1.0	2.4	5.2	
		XNMU190932R-MS	M	E	●	●	20.2	17.1	9.5	12.7	8.5	—	3.2	5.2	
		XNMU190940R-MS	M	E	●	●	21.8	17.8	9.5	12.7	8.5	—	4.0	5.2	
		XNMU190950R-MS	M	E	●	●	21.8	17.8	9.5	12.7	8.5	—	5.0	5.2	
	VFX6	XNMU190912R-HS	M	E	●	●	19.1	16.5	9.5	12.7	8.5	1.0	1.2	5.2	
	VFX6	XNMU190912R-LS	M	E	●		19.1	16.5	9.5	12.7	8.5	1.0	1.2	5.2	

ROTATING TOOL INSERTS



● : Inventory maintained in Japan.
(10 inserts in one case)


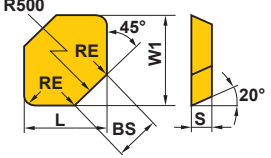

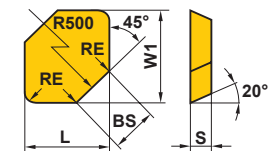

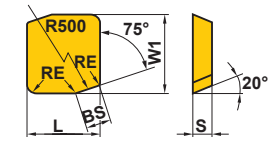

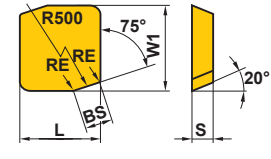

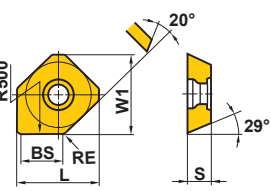

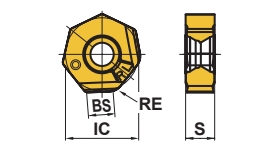
ROTATING TOOL INSERTS

Work Material	P	Steel	● ● ●		● ● ●		● ● ●		● ● ●		Cutting Conditions (Guide) : ● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting Honing : E : Round F : Sharp				
	M	Stainless Steel	● ● ●		● ● ●		● ● ●		● ● ●						
	K	Cast Iron	● ● ●		● ● ●		● ● ●		● ● ●						
N	Non-ferrous Metal	● ● ●		● ● ●		● ● ●		● ● ●							
S	Heat-resistant Alloy, Titanium Alloy	● ● ●		● ● ●		● ● ●		● ● ●							
H	Hardened Steel	● ● ●		● ● ●		● ● ●		● ● ●							
Shape	Order Number	Class	Honing	Coated			Carbide		Dimensions (mm)					Geometry	
				F7030	VP15TF	UP20M	HT110	UT120T	L	W1	S	BS	RE		
	BAP3500	XPGT13T3PDER-G1	G	E	●	●	●	●	●	13	7.9	3.97	1.6	0.4	
		XPGT13T3PDER-G2	G	E	●	●	●	●	●	13	7.9	3.97	1.2	0.8	
		XPGT13T3PDER-G6	G	E	●	●	●	●	●	13	7.9	3.97	0.4	2.4	
		XPGT13T3PDER-G75	G	E	●	●	●	●	●	13	7.9	3.97	0.4	3.0	
		XPGT13T3PDER-G8	G	E	●	●	●	●	●	13	7.9	3.97	0.4	3.2	
	BAP3500	XPGT13T3PDFR-G1	G	F	●	●	●	●	●	13	7.9	3.97	1.6	0.4	
		XPGT13T3PDFR-G2	G	F	●	●	●	●	●	13	7.9	3.97	1.2	0.8	
		XPGT13T3PDFR-G6	G	F	●	●	●	●	●	13	7.9	3.97	0.4	2.4	
		XPGT13T3PDFR-G75	G	F	●	●	●	●	●	13	7.9	3.97	0.4	3.0	
		XPGT13T3PDFR-G8	G	F	●	●	●	●	●	13	7.9	3.97	0.4	3.2	
	BAP3500	XPMT13T3PDER-M1	M	E	●	●	●	●	●	13	7.9	3.97	1.6	0.4	
		XPMT13T3PDER-M2	M	E	●	●	●	●	●	13	7.9	3.97	1.2	0.8	
		XPMT13T3PDER-M6	M	E	●	●	●	●	●	13	7.9	3.97	0.4	2.4	
		XPMT13T3PDER-M75	M	E	●	●	●	●	●	13	7.9	3.97	0.4	3.0	
		XPMT13T3PDER-M8	M	E	●	●	●	●	●	13	7.9	3.97	0.4	3.2	
	DCCC	ZCMX083508ER-A	M	E	●	●	●	●	●	10.4	7.94	3.5	—	0.8	
		ZCMX09T308ER-A	M	E	●	●	●	●	●	12	9.525	3.97	—	0.8	
	DCCC	ZCMX09T308ER-B	M	E	●	●	●	●	●	12	9.525	3.97	—	0.8	
	BAP300 Under-cut type	ZRM0603R-M3	M	E	●	●	●	●	●	8.5	6.35	3.18	—	1.2	
		ZRM0603R-M4	M	E	●	●	●	●	●	8.5	6.35	3.18	—	1.6	
		ZRM0603R-M5	M	E	●	●	●	●	●	8.5	6.35	3.18	—	2.0	

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS

WIPER INSERT

Work Material	P	Steel	●		●	●	●	●	Cutting Conditions (Guide) :								
	M	Stainless Steel	●	●	●	●	●	●	●	● : Stable Cutting ● : General Cutting ✖ : Unstable Cutting							
	K	Cast Iron	●	✖	●	●	●	●	●	Honing :							
N	Non-ferrous Metal	●	●	●	●	●	●	●	E : Round T : Chamfer								
S	Heat-resistant Alloy, Titanium Alloy	●	●	●	●	●	●	●									
H	Hardened Steel	●	●	●	●	●	●	●									
Shape	Order Number	Class	Honing	Coated	Cermet	Coated Cermet	Carbide	Dimensions (mm)						Geometry			
				MP6120	MC5020	VP15TF	NX2525	VP25N	HT105T	L	W1	IC	S		BS	RE	
	SE445	WEC42AFTR5C	C	T													 <p>Right hand insert shown.</p>
	SE545	WEC53AFER5C	C	E				●	15.875	18.505	—	4.76	5	1.0		 <p>Right hand insert shown.</p>	
		WEC53AFTR5C	C	T				●	15.875	18.505	—	4.76	5	1.0			
	SE415	WEC42EFER5C	C	E				●	12.7	13.728	—	3.18	5	1.0		 <p>Right hand insert shown.</p>	
		WEC42EFTR5C	C	T				●	12.7	13.728	—	3.18	5	1.0			
	SE515	WEC53EFTR5C	C	T				●	15.875	16.903	—	4.76	5	1.0		 <p>Right hand insert shown.</p>	
	ASX445	WEEW13T3AGER8C	E	E	●	●		●	16.48	16.6	—	3.97	7.5	1.5			
		WEEW13T3AGTR8C	E	T				●	16.48	16.6	—	3.97	7.5	1.5			
	AHX440S	WNEU1305ZEN4C-M	E	E	●	●	●		—	—	13.4	5.1	4	2.7			

● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products. (10 inserts in one case)

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS


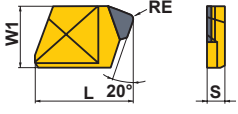

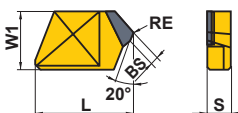

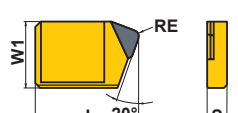

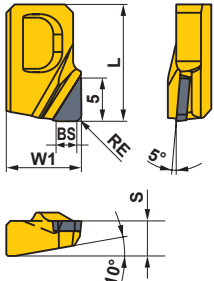

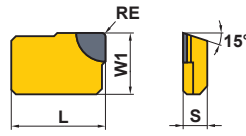

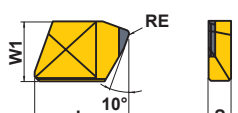

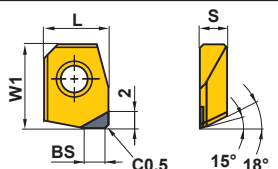

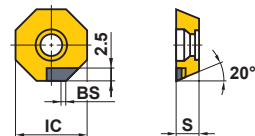
Work Material	P	Steel		Cutting Conditions (Guide) :			Dimensions (mm)						Geometry			
	M	Stainless Steel		●	●	✚	L	W1	IC	S	BS	RE				
	K	Cast Iron		●	●	✚										
N	Non-ferrous Metal		Honing :													
S	Heat-resistant Alloy, Titanium Alloy		E	F	T											
H	Hardened Steel															
Shape	Order Number	Class	Honing	Coated	Cermet	Carbide	Dimensions (mm)						Geometry			
				MC5020	MP6120	VP15TF	NX2525	HT110	HT105T	L	W1	IC	S	BS	RE	
	AHX640S	WNEU2007ZEN7C-M	E	E	●					—	—	20	6.9	7.2	0.8	
	AHX640S	WNEU2007ZEN7C-WP	E	E		●				—	—	20	6.9	7.1	0.8	
	AHX640S	WNEU2006ZEN7C-WK	E	E	●					—	—	20	6.55	7.4	0.8	
	AHX640W															
	WSX445	WNGU1406ANEN8C-M	G	E	●	●	●			18.1	14	—	6	8	1.0	
	ASX400	WOWE12T308PEER8C	E	E				●		12.5	13.2	—	3.97	8	0.8	
		WOWE12T308PETR8C	E	T		●				12.5	13.2	—	3.97	8	0.8	
	VOX400	WOWE1206PER5C	E	E		●				12.5	13.025	—	5.5	—	—	
	FBP415	WPC42EEER10C	C	E				●		12.7	15.163	—	3.175	10	—	
	QBP415	WPC42EEEL10C	C	E				●		12.7	15.163	—	3.175	10	—	
	P425	WPC42W3GR	C	F				▲		12.7	14.5	—	3.2	6	—	

ROTATING TOOL INSERTS


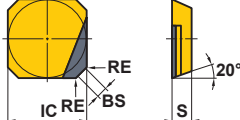

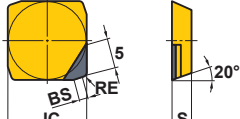

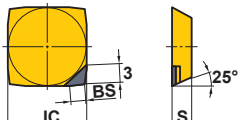

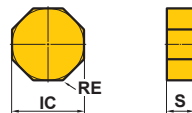

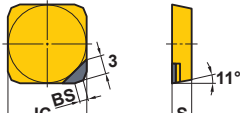

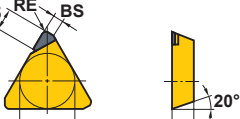

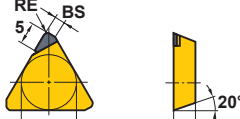


ROTATING TOOL INSERTS


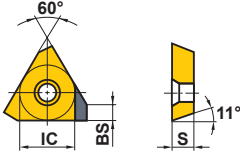
CBN & PCD TURNING INSERTS

Shape	Order Number	Class	Material		Dimensions (mm)						Geometry
			CBN	PCD	L	W1	IC	S	BS	RE	
	GDCN2004PDFR3	C	●	●	20	12.7	—	4.76	—	1.2	
	GDCN2004ZDTR1	C	●	●	20	12.7	—	4.76	1.4	0.8	
	GDCN2004PDR	C	●	●	20	12.7	—	4.76	—	1.2	
	GOER1404PXFR2	E	●	●	14	9	—	4.2	2	0.4	
	GOER1408PXFR2	E	●	●	14	9	—	4.2	2	0.8	
	LDCN190412R	C	●	●	19.05	12.7	—	4.76	—	1.2	 <p>Right hand insert shown.</p>
	LDCN190412L	C	●	●	19.05	12.7	—	4.76	—	1.2	
	NP-GDCN2004PDSR3	C	●	●	20	12.7	—	4.76	—	0.8	
	NP-GDCW1240PDFR2	C	●	●	9.5	12	—	4	2	—	
	OEMX12T3ETR1	M	●	●	—	—	12.7	3.97	1	—	

● : Inventory maintained in Japan.
(1 inserts in one case)

Shape	Order Number	Class	Material			Dimensions (mm)				Geometry
			CBN	PCD	IC	S	BS	RE		
			MB710	BC5030	MD220					
	SE445 SECN1203AFFR1	C		●		12.7	3.18	1.4	1.0	
	SE415 SECN1203EFFR1	C		●		12.7	3.18	1.4	1.0	
	BF407 SFCN1203ZFFR2	C		●		12.7	3.175	2.4	—	
	AOX445 SL-ONEN120404ASN	E	●			12.7	4.76	—	0.4	
	FBP415 SPEN1203EETR1	E	●			12.7	3.175	1.4	—	
	SE300 NSE300 TECN1603PEFR1	C		●		9.525	3.175	1.4	0.4	
	SE400 NSE400 TECN2204PEFR1	C		●		12.7	4.76	1.4	1.0	


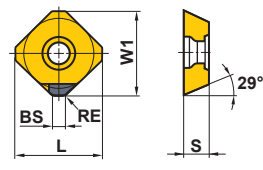

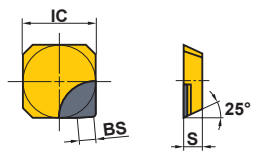

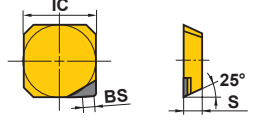
ROTATING TOOL INSERTS

Shape	Order Number	Class	CBN	PCD	Dimensions (mm)				Geometry
			MB710 MB730 MD220		IC	S	BS	RE	
	TPEW1303ZPTR2	E	●		7.94	3.18	2	—	

ROTATING TOOL
INSERTS


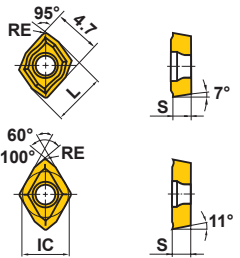

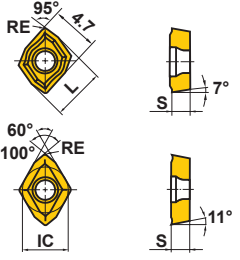

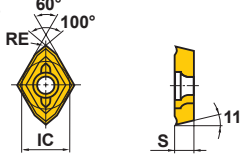

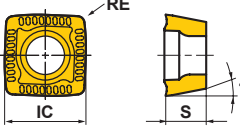

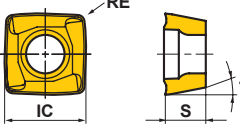
● : Inventory maintained in Japan.
(1 insert in one case)

CBN AND PCD WITH WIPER

Shape	Order Number	Class	CBN	PCD	Dimensions (mm)						Geometry
			MB710	MD220	L	W1	IC	S	BS	RE	
	WEEW13T3AGFR3C	E	●	●	16.48	16.6	—	3.97	3.0	1.5	
	WEEW13T3AGTR3C	E	●	●	16.48	16.6	—	3.97	3.0	1.5	
	WFC42ZFER2	C	●	●	—	—	12.4	3.175	2.4	—	
	NP-WFC42ZFER2	C	●	●	—	—	12.4	3.175	2.4	—	 <p>Right hand insert shown.</p>


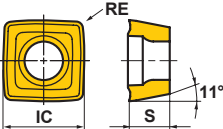

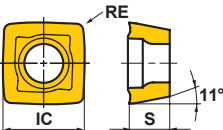
ROTATING TOOL INSERTS

DRILLING INSERTS

Shape	Order Number	Class	Coated						Dimensions (mm)				Geometry
			VP15TF	UP20M	GP20M	UE6020	US735	MC1020	MC5020	IC	L	S	
 GCMT GPMT	TAF GCMT040204-U1	M	●						—	5.0	2.38	0.4	U1 Breaker 
	GPMT060204-U1	M	●	●					5.56	—	2.38	0.4	
	GPMT070204-U1	M	●	●					6.35	—	2.38	0.4	
	GPMT090304-U1	M	●	●					7.94	—	3.18	0.4	
	GPMT11T308-U1	M	●	●					9.525	—	3.97	0.8	
	GPMT140408-U1	M	●	●					12.7	—	4.76	0.8	
 GCMT GPMT	TAF GCMT040204-U2	M	●	●					—	5.0	2.38	0.4	U2 Breaker 
	GPMT060204-U2	M	●	●	●	●			5.56	—	2.38	0.4	
	GPMT070204-U2	M	●	●	●	●			6.35	—	2.38	0.4	
	GPMT090304-U2	M	●	●	●	●			7.94	—	3.18	0.4	
	GPMT11T308-U2	M	●	●	●	●			9.525	—	3.97	0.8	
	GPMT140408-U2	M	●	●	●	●			12.7	—	4.76	0.8	
 GPMT	TAF GPMT060204-U3	M	●		●	●			5.56	—	2.38	0.4	U3 Breaker 
	GPMT070204-U3	M	●		●	●			6.35	—	2.38	0.4	
	GPMT090304-U3	M	●		●	●			7.94	—	3.18	0.4	
	GPMT11T308-U3	M	●		●	●			9.525	—	3.97	0.8	
	GPMT140408-U3	M	●		●	●			12.7	—	4.76	0.8	
 MX	MX SOMX063005-UM	M	●				●	●	6	—	3	0.5	
	SOMX073505-UM	M	●				●	●	7	—	3.5	0.5	
	SOMX084005-UM	M	●				●	●	8.3	—	4	0.5	
	SOMX094506-UM	M	●				●	●	9.7	—	4.5	0.6	
	SOMX115506-UM	M	●				●	●	11.6	—	5.5	0.6	
	SOMX136008-UM	M	●				●	●	13.8	—	6	0.8	
	SOMX166508-UM	M	●				●	●	16.5	—	6.5	0.8	
	SOMX187008-UM	M	●				●	●	18.2	—	7	0.8	
 MX	MX SOMX063005-US	M	●						6	—	3	0.5	
	SOMX073505-US	M	●						7	—	3.5	0.5	
	SOMX084005-US	M	●						8.3	—	4	0.5	
	SOMX094506-US	M	●						9.7	—	4.5	0.6	
	SOMX115506-US	M	●						11.6	—	5.5	0.6	
	SOMX136008-US	M	●						13.8	—	6	0.8	
	SOMX166508-US	M	●						16.5	—	6.5	0.8	
	SOMX187008-US	M	●						18.2	—	7	0.8	

● : Inventory maintained in Japan.
(1 insert in one case)

ROTATING TOOL INSERTS

Shape	Order Number	Class	Coated					Dimensions (mm)				Geometry
			DP8020	TF15				IC	L	S	RE	
	SOMX062905-UH	M	●					6	—	2.9	0.5	
	SOMX073405-UH	M	●					7	—	3.4	0.5	
	SOMX083905-UH	M	●					8.3	—	3.9	0.5	
	SOMX094406-UH	M	●					9.7	—	4.4	0.6	
	SOMX115406-UH	M	●					11.6	—	5.4	0.6	
	SOMX135908-UH	M	●					13.8	—	5.9	0.8	
	SOMX166408-UH	M	●					16.5	—	6.4	0.8	
	SOMX186908-UH	M	●					18.2	—	6.9	0.8	
	SOGX063005-UN	G	●					6	—	3	0.5	
	SOGX073505-UN	G	●					7	—	3.5	0.5	
	SOGX084005-UN	G	●					8.3	—	4	0.5	
	SOGX094506-UN	G	●					9.7	—	4.5	0.6	
	SOGX115506-UN	G	●					11.6	—	5.5	0.6	
	SOGX136008-UN	G	●					13.8	—	6	0.8	
	SOGX166508-UN	G	●					16.5	—	6.5	0.8	
	SOGX187008-UN	G	●					18.2	—	7	0.8	

ROTATING TOOL INSERTS



Order Number	Coated		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	CDI	LF	S	
TAWNH1400T	▲		14.0	7.6	5.0	TAWSNH 1400S16
TAWNH1410T	▲		14.1	7.6	5.0	TAWMNH 1400S16
TAWNH1420T	▲		14.2	7.6	5.0	TAWLNH 1400S16
TAWNH1430T	▲		14.3	7.6	5.0	
TAWNH1440T	▲		14.4	7.6	5.0	
TAWNH1450T	▲		14.5	7.5	5.0	
TAWNH1460T	▲		14.6	7.5	5.0	
TAWNH1470T	▲		14.7	7.5	5.0	TAWSNH 1500S20
TAWNH1480T	▲		14.8	7.5	5.0	
TAWNH1490T	▲		14.9	7.5	5.0	TAWMNH 1500S20
TAWNH1500T	▲		15.0	7.4	5.0	
TAWNH1510T	▲		15.1	7.4	5.0	TAWLNH 1500S20
TAWNH1520T	▲		15.2	7.4	5.0	
TAWNH1530T	▲		15.3	7.4	5.0	
TAWNH1540T	▲		15.4	7.4	5.0	
TAWNH1550T	▲		15.5	7.9	6.0	
TAWNH1560T	▲		15.6	7.9	6.0	
TAWNH1570T	▲		15.7	7.9	6.0	TAWSN 1600S20
TAWNH1580T	▲		15.8	7.9	6.0	
TAWNH1590T	▲		15.9	7.9	6.0	TAWMN 1600S20
TAWNH1600T	▲		16.0	7.8	6.0	
TAWNH1610T	▲		16.1	7.8	6.0	TAWLN 1600S20
TAWNH1620T	▲		16.2	7.8	6.0	
TAWNH1630T	▲		16.3	7.8	6.0	
TAWNH1640T	▲		16.4	7.8	6.0	
TAWNH1650T	▲		16.5	7.7	6.0	
TAWNH1660T	▲		16.6	7.7	6.0	
TAWNH1670T	▲		16.7	7.7	6.0	TAWSN 1700S20
TAWNH1680T	▲		16.8	7.7	6.0	
TAWNH1690T	▲		16.9	7.7	6.0	TAWMN 1700S20
TAWNH1700T	▲		17.0	7.6	6.0	
TAWNH1710T	▲		17.1	7.6	6.0	TAWLN 1700S20
TAWNH1720T	▲		17.2	7.6	6.0	
TAWNH1730T	▲		17.3	7.6	6.0	
TAWNH1740T	▲		17.4	7.6	6.0	
TAWNH1750T	▲		17.5	7.5	6.0	
TAWNH1760T	▲		17.6	7.5	6.0	
TAWNH1770T	▲		17.7	7.5	6.0	TAWSN 1800S20
TAWNH1780T	▲		17.8	7.5	6.0	
TAWNH1790T	▲		17.9	7.5	6.0	TAWMN 1800S20
TAWNH1800T	▲		18.0	7.4	6.0	
TAWNH1810T	▲		18.1	7.4	6.0	TAWLN 1800S20
TAWNH1820T	▲		18.2	7.4	6.0	
TAWNH1830T	▲		18.3	7.4	6.0	
TAWNH1840T	▲		18.4	7.4	6.0	

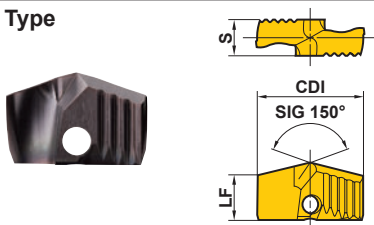
Order Number	Coated		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	CDI	LF	S	
TAWNH1850T	●	□	18.5	9.3	7.0	
TAWNH1860T	●	□	18.6	9.3	7.0	
TAWNH1870T	●	□	18.7	9.3	7.0	TAWSN 1900S25
TAWNH1880T	●	□	18.8	9.3	7.0	
TAWNH1890T	●	□	18.9	9.3	7.0	TAWMN 1900S25
TAWNH1900T	●	□	19.0	9.2	7.0	
TAWNH1910T	●	□	19.1	9.2	7.0	TAWLN 1900S25
TAWNH1920T	●	□	19.2	9.2	7.0	
TAWNH1930T	●	□	19.3	9.2	7.0	
TAWNH1940T	●	□	19.4	9.2	7.0	
TAWNH1950T	●	□	19.5	9.1	7.0	
TAWNH1960T	●	□	19.6	9.1	7.0	
TAWNH1970T	●	□	19.7	9.1	7.0	TAWSN 2000S25
TAWNH1980T	●	□	19.8	9.1	7.0	
TAWNH1990T	●	□	19.9	9.1	7.0	TAWMN 2000S25
TAWNH2000T	●	□	20.0	9.0	7.0	
TAWNH2010T	□	□	20.1	9.0	7.0	TAWLN 2000S25
TAWNH2020T	□	□	20.2	9.0	7.0	
TAWNH2030T	□	□	20.3	9.0	7.0	
TAWNH2040T	□	□	20.4	9.0	7.0	
TAWNH2050T	●	□	20.5	8.9	7.0	
TAWNH2060T	□	□	20.6	8.9	7.0	
TAWNH2070T	□	□	20.7	8.9	7.0	TAWSN 2100S25
TAWNH2080T	□	□	20.8	8.9	7.0	
TAWNH2090T	□	□	20.9	8.9	7.0	TAWMN 2100S25
TAWNH2100T	●	□	21.0	8.8	7.0	
TAWNH2110T	□	□	21.1	8.8	7.0	TAWLN 2100S25
TAWNH2120T	□	□	21.2	8.8	7.0	
TAWNH2130T	□	□	21.3	8.8	7.0	
TAWNH2140T	□	□	21.4	8.8	7.0	
TAWNH2150T	●	□	21.5	10.6	8.0	
TAWNH2160T	□	□	21.6	10.6	8.0	
TAWNH2170T	□	□	21.7	10.6	8.0	TAWSN 2200S25
TAWNH2180T	□	□	21.8	10.6	8.0	
TAWNH2190T	□	□	21.9	10.6	8.0	TAWMN 2200S25
TAWNH2200T	●	□	22.0	10.5	8.0	
TAWNH2210T	□	□	22.1	10.5	8.0	TAWLN 2200S25
TAWNH2220T	□	□	22.2	10.5	8.0	
TAWNH2230T	□	□	22.3	10.5	8.0	
TAWNH2240T	□	□	22.4	10.5	8.0	
TAWNH2250T	●	□	22.5	10.4	8.0	TAWSN 2300S25
TAWNH2260T	□	□	22.6	10.4	8.0	
TAWNH2270T	□	□	22.7	10.4	8.0	TAWMN 2300S25
TAWNH2280T	□	□	22.8	10.4	8.0	
TAWNH2290T	□	□	22.9	10.4	8.0	TAWLN 2300S25

● : Inventory maintained in Japan. □ : Non stock, produced to order only. ▲ : Inventory maintained in Japan. To be replaced by new products. (1 insert in one case)

ROTATING TOOL INSERTS

Order Number	Coated		Dimensions (mm)			Applicable Holder	Order Number	Coated		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	CDI	LF	S			VP15TF	VP10H	CDI	LF	S	
TAWNH2300T	●	□	23.0	10.3	8.0	TAWSN 2300S25	TAWNH2650T	●	□	26.5	11.3	9.0	TAWSN 2700S32
TAWNH2310T	□	□	23.1	10.3	8.0		TAWNH2660T	□	□	26.6	11.3	9.0	
TAWNH2320T	□	□	23.2	10.3	8.0		TAWNH2670T	□	□	26.7	11.3	9.0	
TAWNH2330T	□	□	23.3	10.3	8.0		TAWNH2680T	□	□	26.8	11.3	9.0	
TAWNH2340T	□	□	23.4	10.3	8.0		TAWNH2690T	□	□	26.9	11.3	9.0	
TAWNH2350T	●	□	23.5	10.2	8.0	TAWSN 2400S32	TAWNH2700T	●	□	27.0	11.2	9.0	TAWMN 2700S32
TAWNH2360T	□	□	23.6	10.2	8.0		TAWNH2710T	□	□	27.1	11.2	9.0	
TAWNH2370T	□	□	23.7	10.2	8.0		TAWNH2720T	□	□	27.2	11.2	9.0	
TAWNH2380T	□	□	23.8	10.2	8.0		TAWNH2730T	□	□	27.3	11.2	9.0	
TAWNH2390T	□	□	23.9	10.2	8.0		TAWNH2740T	□	□	27.4	11.2	9.0	
TAWNH2400T	●	□	24.0	10.1	8.0	TAWMN 2400S32	TAWNH2750T	●	□	27.5	12.3	10.0	TAWLN 2400S32
TAWNH2410T	□	□	24.1	10.1	8.0		TAWNH2760T	□	□	27.6	12.3	10.0	
TAWNH2420T	□	□	24.2	10.1	8.0		TAWNH2770T	□	□	27.7	12.3	10.0	
TAWNH2430T	□	□	24.3	10.1	8.0		TAWNH2780T	□	□	27.8	12.3	10.0	
TAWNH2440T	□	□	24.4	10.1	8.0		TAWNH2790T	□	□	27.9	12.3	10.0	
TAWNH2450T	●	□	24.5	11.7	9.0	TAWSN 2500S32	TAWNH2800T	●	□	28.0	12.2	10.0	TAWMN 2800S32
TAWNH2460T	□	□	24.6	11.7	9.0		TAWNH2810T	□	□	28.1	12.2	10.0	
TAWNH2470T	□	□	24.7	11.7	9.0		TAWNH2820T	□	□	28.2	12.2	10.0	
TAWNH2480T	□	□	24.8	11.7	9.0		TAWNH2830T	□	□	28.3	12.2	10.0	
TAWNH2490T	□	□	24.9	11.7	9.0		TAWNH2840T	□	□	28.4	12.2	10.0	
TAWNH2500T	●	□	25.0	11.6	9.0	TAWMN 2500S32	TAWNH2850T	●	□	28.5	12.1	10.0	TAWLN 2500S32
TAWNH2510T	□	□	25.1	11.6	9.0		TAWNH2860T	□	□	28.6	12.1	10.0	
TAWNH2520T	□	□	25.2	11.6	9.0		TAWNH2870T	□	□	28.7	12.1	10.0	
TAWNH2530T	□	□	25.3	11.6	9.0		TAWNH2880T	□	□	28.8	12.1	10.0	
TAWNH2540T	□	□	25.4	11.6	9.0		TAWNH2890T	□	□	28.9	12.1	10.0	
TAWNH2550T	●	□	25.5	11.5	9.0	TAWLN 2500S32	TAWNH2900T	●	□	29.0	12.0	10.0	TAWMN 2900S32
TAWNH2560T	□	□	25.6	11.5	9.0		TAWNH2910T	□	□	29.1	12.0	10.0	
TAWNH2570T	□	□	25.7	11.5	9.0		TAWNH2920T	□	□	29.2	12.0	10.0	
TAWNH2580T	□	□	25.8	11.5	9.0		TAWNH2930T	□	□	29.3	12.0	10.0	
TAWNH2590T	□	□	25.9	11.5	9.0		TAWNH2940T	□	□	29.4	12.0	10.0	
TAWNH2600T	●	□	26.0	11.4	9.0	TAWMN 2600S32	TAWNH2950T	●	□	29.5	11.9	10.0	TAWLN 2600S32
TAWNH2610T	□	□	26.1	11.4	9.0		TAWNH2960T	□	□	29.6	11.9	10.0	
TAWNH2620T	□	□	26.2	11.4	9.0		TAWNH2970T	□	□	29.7	11.9	10.0	
TAWNH2630T	□	□	26.3	11.4	9.0		TAWNH2980T	□	□	29.8	11.9	10.0	
TAWNH2640T	□	□	26.4	11.4	9.0		TAWNH2990T	□	□	29.9	11.9	10.0	
						TAWMN 3000S32	TAWNH3000T	●	□	30.0	11.8	10.0	TAWLN 3000S32
							TAWNH3010T	□	□	30.1	11.8	10.0	
							TAWNH3020T	□	□	30.2	11.8	10.0	
							TAWNH3030T	□	□	30.3	11.8	10.0	
							TAWNH3040T	□	□	30.4	11.8	10.0	

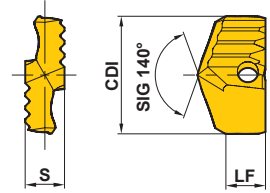
ROTATING TOOL INSERTS

Applicable Drill Shape Geometry	Order Number	Coated		Dimensions (mm)		
		VP15TF		CDI	LF	S
TAW H Type 	TAWBH2450T	●		24.5	11.7	9.0
	TAWBH2460T	□		24.6	11.7	9.0
	TAWBH2470T	●		24.7	11.7	9.0
	TAWBH2650T	□		26.5	11.3	9.0
	TAWBH2670T	●		26.7	11.3	9.0

ROTATING TOOL INSERTS

TAW H Type
(Cast Iron)

Applicable Drill
Shape
Geometry



Order Number	Coated	Dimensions (mm)			Applicable Holder
	DP5010	CDI	LF	S	
TAWKH1400TG	▲	14.0	7.1	5.0	TAWSNH 1400S16
TAWKH1410TG	▲	14.1	7.1	5.0	TAWMNH 1400S16
TAWKH1420TG	▲	14.2	7.1	5.0	TAWLNH 1400S16
TAWKH1430TG	▲	14.3	7.1	5.0	TAWLNH 1400S16
TAWKH1440TG	▲	14.4	7.1	5.0	TAWLNH 1400S16
TAWKH1450TG	▲	14.5	7.0	5.0	
TAWKH1460TG	▲	14.6	7.0	5.0	
TAWKH1470TG	▲	14.7	7.0	5.0	TAWSNH 1500S20
TAWKH1480TG	▲	14.8	7.0	5.0	
TAWKH1490TG	▲	14.9	7.0	5.0	TAWMNH 1500S20
TAWKH1500TG	▲	15.0	6.9	5.0	
TAWKH1510TG	▲	15.1	6.9	5.0	TAWLNH 1500S20
TAWKH1520TG	▲	15.2	6.9	5.0	
TAWKH1530TG	▲	15.3	6.9	5.0	
TAWKH1540TG	▲	15.4	6.9	5.0	
TAWKH1550TG	▲	15.5	7.3	6.0	
TAWKH1560TG	▲	15.6	7.3	6.0	
TAWKH1570TG	▲	15.7	7.3	6.0	TAWSN 1600S20
TAWKH1580TG	▲	15.8	7.3	6.0	
TAWKH1590TG	▲	15.9	7.3	6.0	TAWMN 1600S20
TAWKH1600TG	▲	16.0	7.2	6.0	
TAWKH1610TG	▲	16.1	7.2	6.0	TAWLN 1600S20
TAWKH1620TG	▲	16.2	7.2	6.0	
TAWKH1630TG	▲	16.3	7.2	6.0	
TAWKH1640TG	▲	16.4	7.2	6.0	
TAWKH1650TG	▲	16.5	7.1	6.0	
TAWKH1660TG	▲	16.6	7.1	6.0	
TAWKH1670TG	▲	16.7	7.1	6.0	TAWSN 1700S20
TAWKH1680TG	▲	16.8	7.1	6.0	
TAWKH1690TG	▲	16.9	7.1	6.0	TAWMN 1700S20
TAWKH1700TG	▲	17.0	7.0	6.0	
TAWKH1710TG	▲	17.1	7.0	6.0	TAWLN 1700S20
TAWKH1720TG	▲	17.2	7.0	6.0	
TAWKH1730TG	▲	17.3	7.0	6.0	
TAWKH1740TG	▲	17.4	7.0	6.0	
TAWKH1750TG	▲	17.5	6.8	6.0	
TAWKH1760TG	▲	17.6	6.8	6.0	
TAWKH1770TG	▲	17.7	6.8	6.0	TAWSN 1800S20
TAWKH1780TG	▲	17.8	6.8	6.0	
TAWKH1790TG	▲	17.9	6.8	6.0	TAWMN 1800S20
TAWKH1800TG	▲	18.0	6.8	6.0	
TAWKH1810TG	▲	18.1	6.8	6.0	TAWLN 1800S20
TAWKH1820TG	▲	18.2	6.8	6.0	
TAWKH1830TG	▲	18.3	6.8	6.0	
TAWKH1840TG	▲	18.4	6.8	6.0	

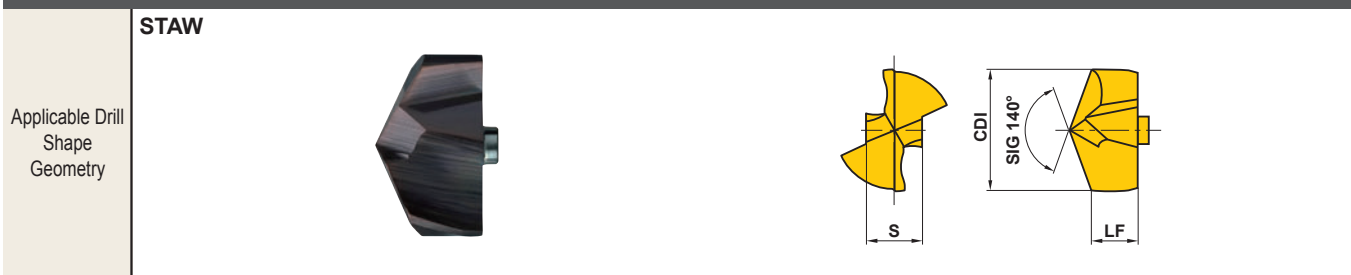
Order Number	Coated	Dimensions (mm)			Applicable Holder
	DP5010	CDI	LF	S	
TAWKH1850TG	●	18.5	8.6	7.0	
TAWKH1860TG	●	18.6	8.6	7.0	
TAWKH1870TG	●	18.7	8.6	7.0	TAWSN 1900S25
TAWKH1880TG	●	18.8	8.6	7.0	
TAWKH1890TG	●	18.9	8.6	7.0	TAWMN 1900S25
TAWKH1900TG	●	19.0	8.5	7.0	
TAWKH1910TG	●	19.1	8.5	7.0	TAWLN 1900S25
TAWKH1920TG	●	19.2	8.5	7.0	
TAWKH1930TG	●	19.3	8.5	7.0	
TAWKH1940TG	●	19.4	8.5	7.0	
TAWKH1950TG	●	19.5	8.4	7.0	
TAWKH1960TG	●	19.6	8.4	7.0	
TAWKH1970TG	●	19.7	8.4	7.0	TAWSN 2000S25
TAWKH1980TG	●	19.8	8.4	7.0	
TAWKH1990TG	●	19.9	8.4	7.0	TAWMN 2000S25
TAWKH2000TG	●	20.0	8.3	7.0	
TAWKH2010TG	□	20.1	8.3	7.0	TAWLN 2000S25
TAWKH2020TG	□	20.2	8.3	7.0	
TAWKH2030TG	□	20.3	8.3	7.0	
TAWKH2040TG	□	20.4	8.3	7.0	
TAWKH2050TG	●	20.5	8.2	7.0	
TAWKH2060TG	□	20.6	8.2	7.0	
TAWKH2070TG	□	20.7	8.2	7.0	TAWSN 2100S25
TAWKH2080TG	□	20.8	8.2	7.0	
TAWKH2090TG	□	20.9	8.2	7.0	TAWMN 2100S25
TAWKH2100TG	●	21.0	8.1	7.0	
TAWKH2110TG	□	21.1	8.1	7.0	TAWLN 2100S25
TAWKH2120TG	□	21.2	8.1	7.0	
TAWKH2130TG	□	21.3	8.1	7.0	
TAWKH2140TG	□	21.4	8.1	7.0	
TAWKH2150TG	●	21.5	9.8	8.0	
TAWKH2160TG	□	21.6	9.8	8.0	
TAWKH2170TG	□	21.7	9.8	8.0	TAWSN 2200S25
TAWKH2180TG	□	21.8	9.8	8.0	
TAWKH2190TG	□	21.9	9.8	8.0	TAWMN 2200S25
TAWKH2200TG	●	22.0	9.7	8.0	
TAWKH2210TG	□	22.1	9.7	8.0	TAWLN 2200S25
TAWKH2220TG	□	22.2	9.7	8.0	
TAWKH2230TG	□	22.3	9.7	8.0	
TAWKH2240TG	□	22.4	9.7	8.0	
TAWKH2250TG	●	22.5	9.6	8.0	TAWSN 2300S25
TAWKH2260TG	□	22.6	9.6	8.0	TAWMN 2300S25
TAWKH2270TG	□	22.7	9.6	8.0	
TAWKH2280TG	□	22.8	9.6	8.0	TAWLN 2300S25
TAWKH2290TG	□	22.9	9.6	8.0	

● : Inventory maintained in Japan. □ : Non stock, produced to order only. ▲ : Inventory maintained in Japan. To be replaced by new products. (1 insert in one case)

Order Number	Coated	Dimensions (mm)			Applicable Holder	Order Number	Coated	Dimensions (mm)			Applicable Holder			
	DP5010	CDI	LF	S			DP5010	CDI	LF	S				
TAWKH2300TG	●	23.0	9.5	8.0	TAWSN 2300S25	TAWKH2750TG	●	27.5	11.3	10.0	TAWSN 2800S32			
TAWKH2310TG	□	23.1	9.5	8.0		TAWKH2760TG	□	27.6	11.3	10.0				
TAWKH2320TG	□	23.2	9.5	8.0		TAWKH2770TG	□	27.7	11.3	10.0				
TAWKH2330TG	□	23.3	9.5	8.0		TAWKH2780TG	□	27.8	11.3	10.0				
TAWKH2340TG	□	23.4	9.5	8.0		TAWKH2790TG	□	27.9	11.3	10.0				
TAWKH2350TG	●	23.5	9.4	8.0	TAWMN 2300S25	TAWKH2800TG	●	28.0	11.2	10.0		TAWMN 2800S32		
TAWKH2360TG	□	23.6	9.4	8.0		TAWKH2810TG	□	28.1	11.2	10.0				
TAWKH2370TG	□	23.7	9.4	8.0		TAWKH2820TG	□	28.2	11.2	10.0				
TAWKH2380TG	□	23.8	9.4	8.0		TAWKH2830TG	□	28.3	11.2	10.0				
TAWKH2390TG	□	23.9	9.4	8.0		TAWKH2840TG	□	28.4	11.2	10.0				
TAWKH2400TG	●	24.0	9.3	8.0		TAWLN 2300S25	TAWKH2850TG	●	28.5	11.1	10.0		TAWLN 2800S32	
TAWKH2410TG	□	24.1	9.3	8.0			TAWKH2860TG	□	28.6	11.1	10.0			
TAWKH2420TG	□	24.2	9.3	8.0			TAWKH2870TG	□	28.7	11.1	10.0			
TAWKH2430TG	□	24.3	9.3	8.0			TAWKH2880TG	□	28.8	11.1	10.0			
TAWKH2440TG	□	24.4	9.3	8.0			TAWKH2890TG	□	28.9	11.1	10.0			
TAWKH2450TG	●	24.5	10.8	9.0	TAWMN 2400S32		TAWKH2900TG	●	29.0	11.0	10.0	TAWMN 2900S32		
TAWKH2460TG	□	24.6	10.8	9.0			TAWKH2910TG	□	29.1	11.0	10.0			
TAWKH2470TG	□	24.7	10.8	9.0			TAWKH2920TG	□	29.2	11.0	10.0			
TAWKH2480TG	□	24.8	10.8	9.0			TAWKH2930TG	□	29.3	11.0	10.0			
TAWKH2490TG	□	24.9	10.8	9.0			TAWKH2940TG	□	29.4	11.0	10.0			
TAWKH2500TG	●	25.0	10.7	9.0		TAWLN 2400S32	TAWKH2950TG	●	29.5	10.9	10.0		TAWLN 2900S32	
TAWKH2510TG	□	25.1	10.7	9.0			TAWKH2960TG	□	29.6	10.9	10.0			
TAWKH2520TG	□	25.2	10.7	9.0			TAWKH2970TG	□	29.7	10.9	10.0			
TAWKH2530TG	□	25.3	10.7	9.0			TAWKH2980TG	□	29.8	10.9	10.0			
TAWKH2540TG	□	25.4	10.7	9.0			TAWKH2990TG	□	29.9	10.9	10.0			
TAWKH2550TG	●	25.5	10.6	9.0	TAWMN 2500S32		TAWKH3000TG	●	30.0	10.8	10.0	TAWMN 3000S32		
TAWKH2560TG	□	25.6	10.6	9.0			TAWKH3010TG	□	30.1	10.8	10.0			
TAWKH2570TG	□	25.7	10.6	9.0			TAWKH3020TG	□	30.2	10.8	10.0			
TAWKH2580TG	□	25.8	10.6	9.0			TAWKH3030TG	□	30.3	10.8	10.0			
TAWKH2590TG	□	25.9	10.6	9.0			TAWKH3040TG	□	30.4	10.8	10.0			
TAWKH2600TG	●	26.0	10.5	9.0		TAWLN 2500S32								
TAWKH2610TG	□	26.1	10.5	9.0										
TAWKH2620TG	□	26.2	10.5	9.0										
TAWKH2630TG	□	26.3	10.5	9.0										
TAWKH2640TG	□	26.4	10.5	9.0										
TAWKH2650TG	●	26.5	10.4	9.0	TAWMN 2600S32									
TAWKH2660TG	□	26.6	10.4	9.0										
TAWKH2670TG	□	26.7	10.4	9.0										
TAWKH2680TG	□	26.8	10.4	9.0										
TAWKH2690TG	□	26.9	10.4	9.0										
TAWKH2700TG	●	27.0	10.3	9.0		TAWLN 2600S32								
TAWKH2710TG	□	27.1	10.3	9.0										
TAWKH2720TG	□	27.2	10.3	9.0										
TAWKH2730TG	□	27.3	10.3	9.0										
TAWKH2740TG	□	27.4	10.3	9.0										

ROTATING TOOL INSERTS

ROTATING TOOL INSERTS



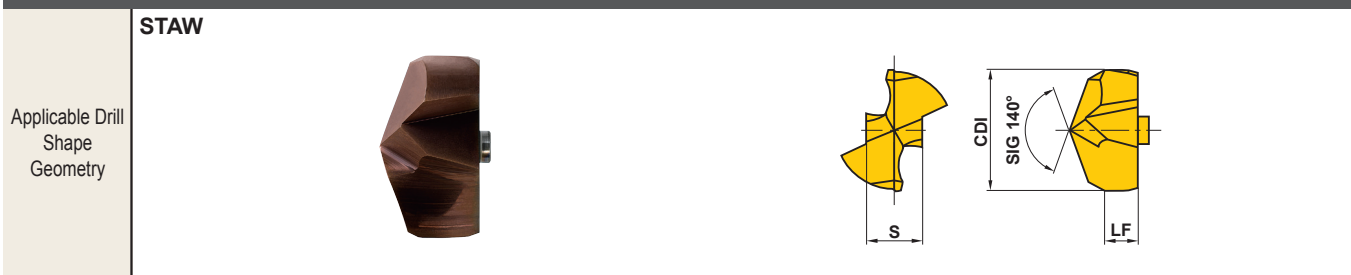
Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	CDI	LF	S	
STAWN1000TH	●	□	10.0	3.8	4.6	STAWSS1000S16
STAWN1010TH	●	□	10.1	3.8	4.6	STAWSN1000S16
STAWN1020TH	●	□	10.2	3.8	4.6	STAWMN1000S16
STAWN1030TH	●	□	10.3	3.8	4.6	STAWLN1000S16
STAWN1040TH	●	□	10.4	3.8	4.6	
STAWN1050TH	●	□	10.5	4.0	4.8	STAWSS1050S16
STAWN1060TH	●	□	10.6	4.0	4.8	STAWSN1050S16
STAWN1070TH	●	□	10.7	4.0	4.8	STAWMN1050S16
STAWN1080TH	●	□	10.8	4.0	4.8	STAWLN1050S16
STAWN1090TH	●	□	10.9	4.0	4.8	
STAWN1100TH	●	□	11.0	4.2	5.1	STAWSS1100S16
STAWN1110TH	●	□	11.1	4.2	5.1	STAWSN1100S16
STAWN1120TH	●	□	11.2	4.2	5.1	STAWMN1100S16
STAWN1130TH	●	□	11.3	4.2	5.1	STAWLN1100S16
STAWN1140TH	●	□	11.4	4.2	5.1	
STAWN1150TH	●	□	11.5	4.4	5.3	STAWSS1150S16
STAWN1160TH	●	□	11.6	4.4	5.3	STAWSN1150S16
STAWN1170TH	●	□	11.7	4.4	5.3	STAWMN1150S16
STAWN1180TH	●	□	11.8	4.4	5.3	STAWLN1150S16
STAWN1190TH	●	□	11.9	4.4	5.3	
STAWN1200TH	●	□	12.0	4.6	5.5	STAWSS1200S16
STAWN1210TH	●	□	12.1	4.6	5.5	STAWSN1200S16
STAWN1220TH	●	□	12.2	4.6	5.5	STAWMN1200S16
STAWN1230TH	●	□	12.3	4.6	5.5	STAWLN1200S16
STAWN1240TH	●	□	12.4	4.6	5.5	
STAWN1250TH	●	□	12.5	4.8	5.8	STAWSS1250S16
STAWN1260TH	●	□	12.6	4.8	5.8	STAWSN1250S16
STAWN1270TH	●	□	12.7	4.8	5.8	STAWMN1250S16
STAWN1280TH	●	□	12.8	4.8	5.8	STAWLN1250S16
STAWN1290TH	●	□	12.9	4.8	5.8	
STAWN1300TH	●	□	13.0	4.9	6.0	STAWSS1300S16
STAWN1310TH	●	□	13.1	4.9	6.0	STAWSN1300S16
STAWN1320TH	●	□	13.2	4.9	6.0	STAWMN1300S16
STAWN1330TH	●	□	13.3	4.9	6.0	STAWLN1300S16
STAWN1340TH	●	□	13.4	4.9	6.0	
STAWN1350TH	●	□	13.5	5.1	6.2	STAWSS1350S16
STAWN1360TH	●	□	13.6	5.1	6.2	STAWSN1350S16
STAWN1370TH	●	□	13.7	5.1	6.2	STAWMN1350S16
STAWN1380TH	●	□	13.8	5.1	6.2	STAWLN1350S16
STAWN1390TH	●	□	13.9	5.1	6.2	
STAWN1400TH	●	□	14.0	5.3	6.4	STAWSS1400S16
STAWN1410TH	●	□	14.1	5.3	6.4	STAWSN1400S16
STAWN1420TH	●	□	14.2	5.3	6.4	STAWMN1400S16
STAWN1430TH	●	□	14.3	5.3	6.4	STAWLN1400S16
STAWN1440TH	●	□	14.4	5.3	6.4	

● : Inventory maintained in Japan. □ : Non stock, produced to order only.
(1 insert in one case)

ROTATING TOOL INSERTS

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	CDI	LF	S	
STAWN1450TH	●		14.5	5.5	6.7	STAWSS1450S16 STAWSN1450S16 STAWMN1450S16 STAWLN1450S16
STAWN1460TH	●		14.6	5.5	6.7	
STAWN1470TH	●		14.7	5.5	6.7	
STAWN1480TH	●		14.8	5.5	6.7	
STAWN1490TH	●		14.9	5.5	6.7	
STAWN1500TH	●		15.0	5.7	6.9	STAWSS1500S20 STAWSN1500S20 STAWMN1500S20 STAWLN1500S20
STAWN1510TH	●		15.1	5.7	6.9	
STAWN1520TH	●		15.2	5.7	6.9	
STAWN1530TH	●		15.3	5.7	6.9	
STAWN1540TH	●		15.4	5.7	6.9	
STAWN1550T	●		15.5	5.9	7.1	STAWSS1600S20 STAWSN1600S20 STAWMN1600S20 STAWLN1600S20
STAWN1560T	●		15.6	5.9	7.1	
STAWN1570T	●		15.7	5.9	7.1	
STAWN1580T	●		15.8	5.9	7.1	
STAWN1590T	●		15.9	5.9	7.1	
STAWN1600T	●		16.0	5.9	7.1	
STAWN1610T	●		16.1	5.9	7.1	
STAWN1620T	●		16.2	5.9	7.1	
STAWN1630T	●		16.3	5.9	7.1	
STAWN1640T	●		16.4	5.9	7.1	
STAWN1650T	●		16.5	6.3	7.6	STAWSS1700S20 STAWSN1700S20 STAWMN1700S20 STAWLN1700S20
STAWN1660T	●		16.6	6.3	7.6	
STAWN1670T	●		16.7	6.3	7.6	
STAWN1680T	●		16.8	6.3	7.6	
STAWN1690T	●		16.9	6.3	7.6	
STAWN1700T	●		17.0	6.3	7.6	
STAWN1710T	●		17.1	6.3	7.6	
STAWN1720T	●		17.2	6.3	7.6	
STAWN1730T	●		17.3	6.3	7.6	
STAWN1740T	●		17.4	6.3	7.6	
STAWN1750T	●		17.5	6.7	8.1	STAWSS1800S20 STAWSN1800S20 STAWMN1800S20 STAWLN1800S20
STAWN1760T	●		17.6	6.7	8.1	
STAWN1770T	●		17.7	6.7	8.1	
STAWN1780T	●		17.8	6.7	8.1	
STAWN1790T	●		17.9	6.7	8.1	
STAWN1800T	●		18.0	6.7	8.1	
STAWN1810T	●		18.1	6.7	8.1	
STAWN1820T	●		18.2	6.7	8.1	
STAWN1830T	●		18.3	6.7	8.1	
STAWN1840T	●		18.4	6.7	8.1	

ROTATING TOOL INSERTS



Order Number	Stock		Dimensions (mm)			Applicable Holder
	DP5010		CDI	LF	S	
STAWK1000TG	●		10.0	3.3	4.6	STAWSS1000S16 STAWSN1000S16 STAWMN1000S16 STAWLN1000S16
STAWK1010TG	●		10.1	3.3	4.6	
STAWK1020TG	●		10.2	3.3	4.6	
STAWK1030TG	●		10.3	3.3	4.6	
STAWK1040TG	●		10.4	3.3	4.6	
STAWK1050TG	●		10.5	3.5	4.8	STAWSS1050S16 STAWSN1050S16 STAWMN1050S16 STAWLN1050S16
STAWK1060TG	●		10.6	3.5	4.8	
STAWK1070TG	●		10.7	3.5	4.8	
STAWK1080TG	●		10.8	3.5	4.8	
STAWK1090TG	●		10.9	3.5	4.8	
STAWK1100TG	●		11.0	3.7	5.1	STAWSS1100S16 STAWSN1100S16 STAWMN1100S16 STAWLN1100S16
STAWK1110TG	●		11.1	3.7	5.1	
STAWK1120TG	●		11.2	3.7	5.1	
STAWK1130TG	●		11.3	3.7	5.1	
STAWK1140TG	●		11.4	3.7	5.1	
STAWK1150TG	●		11.5	3.9	5.3	STAWSS1150S16 STAWSN1150S16 STAWMN1150S16 STAWLN1150S16
STAWK1160TG	●		11.6	3.9	5.3	
STAWK1170TG	●		11.7	3.9	5.3	
STAWK1180TG	●		11.8	3.9	5.3	
STAWK1190TG	●		11.9	3.9	5.3	
STAWK1200TG	●		12.0	4.1	5.5	STAWSS1200S16 STAWSN1200S16 STAWMN1200S16 STAWLN1200S16
STAWK1210TG	●		12.1	4.1	5.5	
STAWK1220TG	●		12.2	4.1	5.5	
STAWK1230TG	●		12.3	4.1	5.5	
STAWK1240TG	●		12.4	4.1	5.5	
STAWK1250TG	●		12.5	4.2	5.8	STAWSS1250S16 STAWSN1250S16 STAWMN1250S16 STAWLN1250S16
STAWK1260TG	●		12.6	4.2	5.8	
STAWK1270TG	●		12.7	4.2	5.8	
STAWK1280TG	●		12.8	4.2	5.8	
STAWK1290TG	●		12.9	4.2	5.8	
STAWK1300TG	●		13.0	4.4	6.0	STAWSS1300S16 STAWSN1300S16 STAWMN1300S16 STAWLN1300S16
STAWK1310TG	●		13.1	4.4	6.0	
STAWK1320TG	●		13.2	4.4	6.0	
STAWK1330TG	●		13.3	4.4	6.0	
STAWK1340TG	●		13.4	4.4	6.0	
STAWK1350TG	●		13.5	4.6	6.2	STAWSS1350S16 STAWSN1350S16 STAWMN1350S16 STAWLN1350S16
STAWK1360TG	●		13.6	4.6	6.2	
STAWK1370TG	●		13.7	4.6	6.2	
STAWK1380TG	●		13.8	4.6	6.2	
STAWK1390TG	●		13.9	4.6	6.2	

ROTATING TOOL INSERTS

● : Inventory maintained in Japan.
(1 insert in one case)

Order Number	Stock		Dimensions (mm)			Applicable Holder
	DP5010		CDI	LF	S	
STAWK1400TG	●		14.0	4.8	6.4	STAWSS1400S16 STAWSN1400S16 STAWMN1400S16 STAWLN1400S16
STAWK1410TG	●		14.1	4.8	6.4	
STAWK1420TG	●		14.2	4.8	6.4	
STAWK1430TG	●		14.3	4.8	6.4	
STAWK1440TG	●		14.4	4.8	6.4	
STAWK1450TG	●		14.5	5.0	6.7	STAWSS1450S16 STAWSN1450S16 STAWMN1450S16 STAWLN1450S16
STAWK1460TG	●		14.6	5.0	6.7	
STAWK1470TG	●		14.7	5.0	6.7	
STAWK1480TG	●		14.8	5.0	6.7	
STAWK1490TG	●		14.9	5.0	6.7	
STAWK1500TG	●		15.0	5.2	6.9	STAWSS1500S20 STAWSN1500S20 STAWMN1500S20 STAWLN1500S20
STAWK1510TG	●		15.1	5.2	6.9	
STAWK1520TG	●		15.2	5.2	6.9	
STAWK1530TG	●		15.3	5.2	6.9	
STAWK1540TG	●		15.4	5.2	6.9	
STAWK1550TG	●		15.5	5.3	7.1	STAWSS1600S20 STAWSN1600S20 STAWMN1600S20 STAWLN1600S20
STAWK1560TG	●		15.6	5.3	7.1	
STAWK1570TG	●		15.7	5.3	7.1	
STAWK1580TG	●		15.8	5.3	7.1	
STAWK1590TG	●		15.9	5.3	7.1	
STAWK1600TG	●		16.0	5.3	7.1	
STAWK1610TG	●		16.1	5.3	7.1	
STAWK1620TG	●		16.2	5.3	7.1	
STAWK1630TG	●		16.3	5.3	7.1	
STAWK1640TG	●		16.4	5.3	7.1	
STAWK1650TG	●		16.5	5.7	7.6	STAWSS1700S20 STAWSN1700S20 STAWMN1700S20 STAWLN1700S20
STAWK1660TG	●		16.6	5.7	7.6	
STAWK1670TG	●		16.7	5.7	7.6	
STAWK1680TG	●		16.8	5.7	7.6	
STAWK1690TG	●		16.9	5.7	7.6	
STAWK1700TG	●		17.0	5.7	7.6	
STAWK1710TG	●		17.1	5.7	7.6	
STAWK1720TG	●		17.2	5.7	7.6	
STAWK1730TG	●		17.3	5.7	7.6	
STAWK1740TG	●		17.4	5.7	7.6	
STAWK1750TG	●		17.5	6.0	8.1	STAWSS1800S20 STAWSN1800S20 STAWMN1800S20 STAWLN1800S20
STAWK1760TG	●		17.6	6.0	8.1	
STAWK1770TG	●		17.7	6.0	8.1	
STAWK1780TG	●		17.8	6.0	8.1	
STAWK1790TG	●		17.9	6.0	8.1	
STAWK1800TG	●		18.0	6.0	8.1	
STAWK1810TG	●		18.1	6.0	8.1	
STAWK1820TG	●		18.2	6.0	8.1	
STAWK1830TG	●		18.3	6.0	8.1	
STAWK1840TG	●		18.4	6.0	8.1	