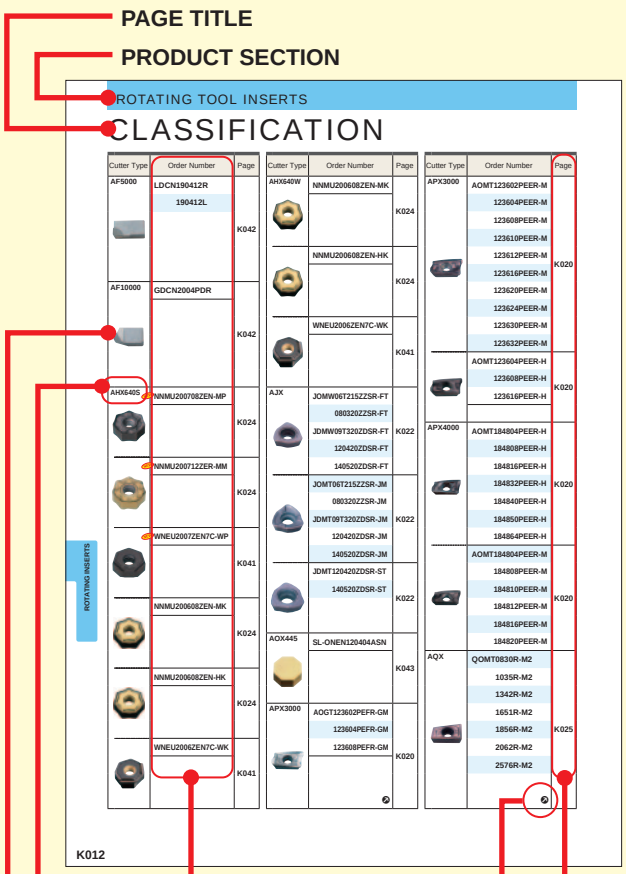
HOW TO READ THE STANDARD OF ROTATING TOOL INSERTS

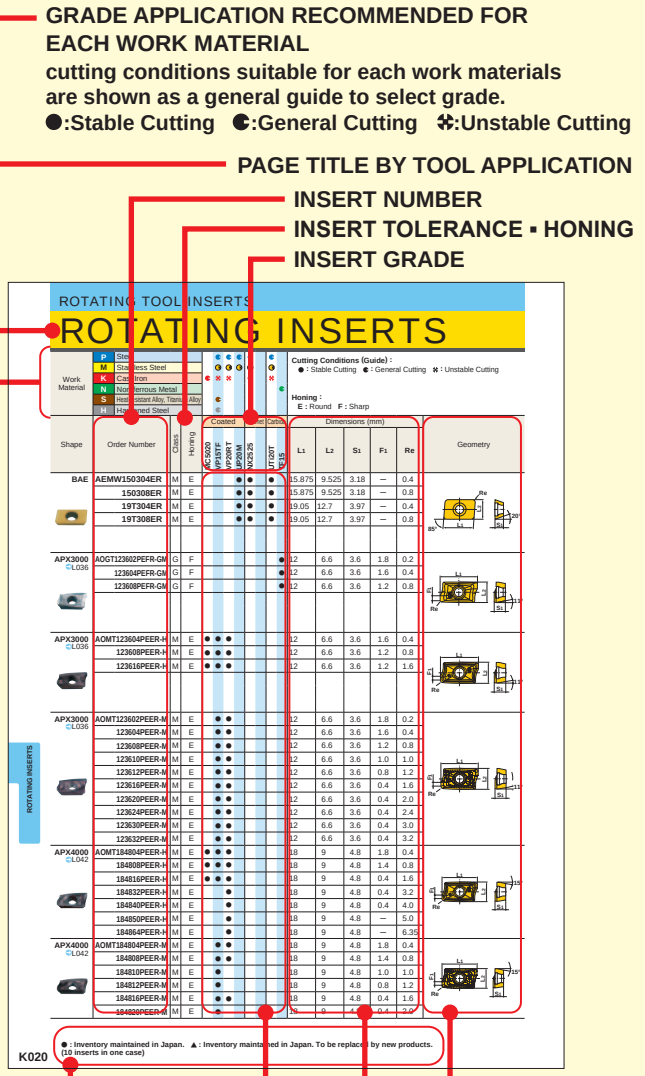
●How the section of milling inserts is organized

①Organized according to cutter type.
②Cutters are arranged in alphabetical order.

●How the standards for milling inserts are organized

①Classified into milling inserts, wiper inserts and drilling inserts.
②Arranged in order of alphabet of order number.





●To Order : Please specify
①insert number and grade.

MILLING TOOLS

INSERT STANDARDS
CBN&PCD INSERT STANDARDS
INSERT GRADES

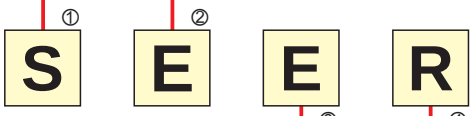
IDENTIFICATION

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

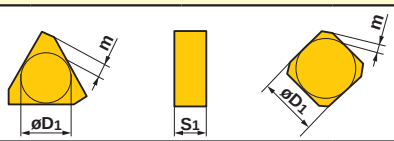
① Insert Shape

Symbol	Normal Clearance
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 **ϕD1**(mm)	Tolerance of Thickness **S1** (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

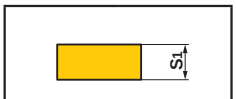
The surface of insert with * mark is sintered.

④ Fixing and/or for Chip Breaker

Symbol	Hole	Hole Configuration	Chip Breaker	Figure
W	With Hole	Cylindrical Hole + One Countersink (40°–60°)	No	
T	With Hole		One Sided	
B	With Hole	Cylindrical Hole + One Countersink (70°–90°)	No	
N	Without Hole	–	No	
R	Without Hole	–	One Sided	
X	–	–	–	Special Design

Symbol R	Symbol C	Symbol S	Symbol T	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

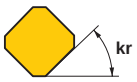
⑥ Insert Thickness

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

⑨ Cutting Edge Condition

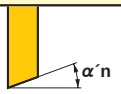
⑤	⑥	⑦	⑧	⑨	⑩	⑪		⑫
12	03	A	F	E	R	1	-	JS

⑦ Cutting Edge Angle



Symbol	Cutting Edge Angle
A	45°
E	75°
P	90°
Z	Other Angle

⑧ Clearance of Wiper Insert

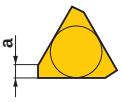


Symbol	Clearance Angle
D	15°
E	20°
F	25°
G	30°

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



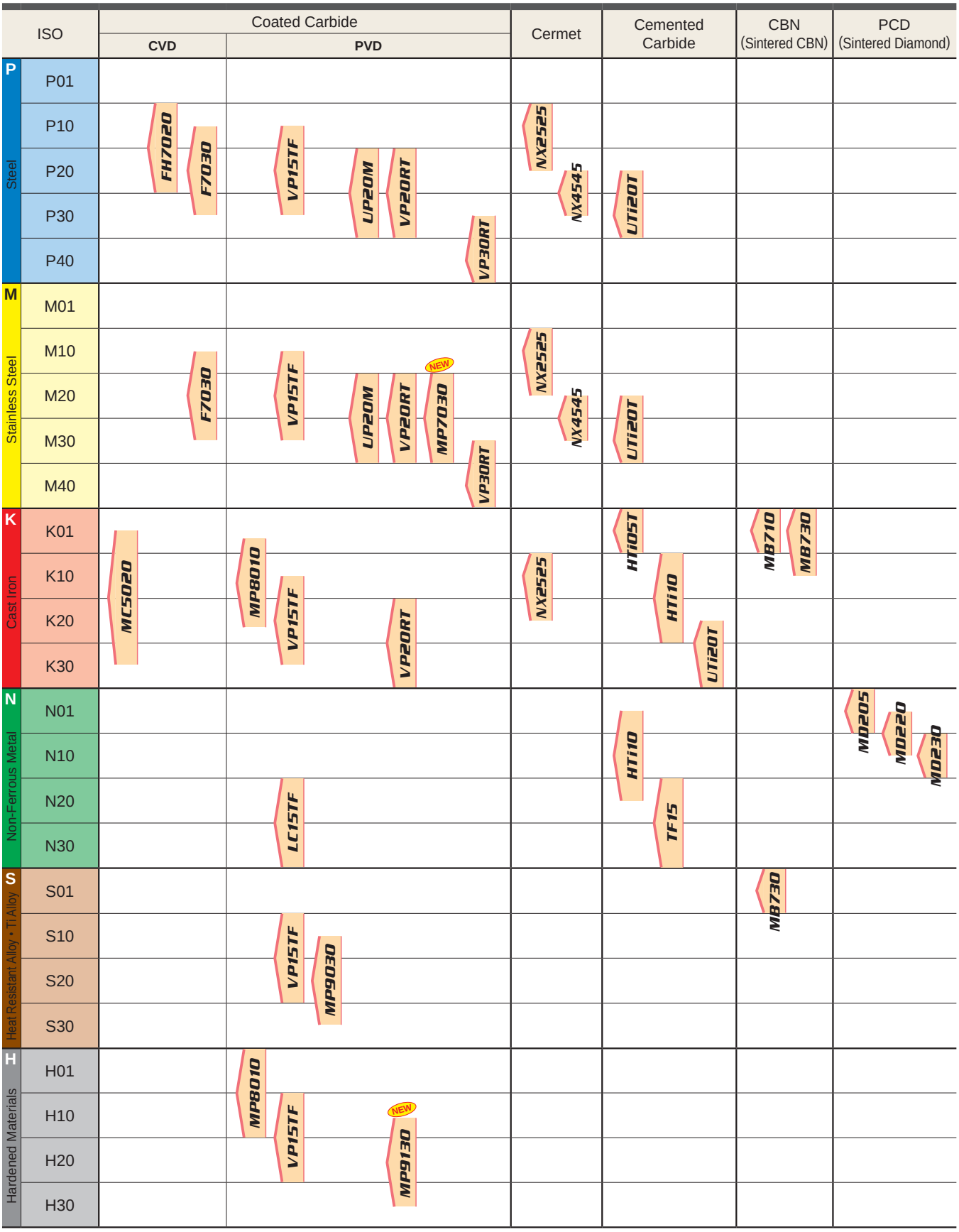
Symbol	Width of Wiper Insert
1	1.4 (1.94 only for TEKN)

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

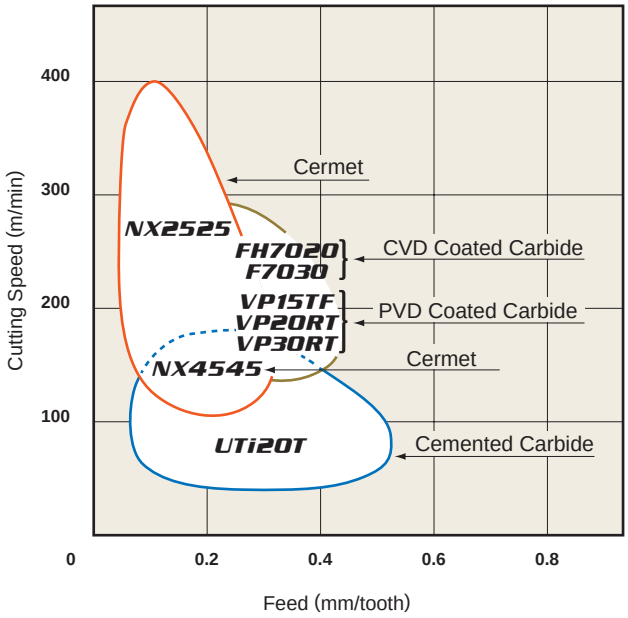
GRADES FOR MILLING

INDEXABLE INSERT GRADES FOR MILLING

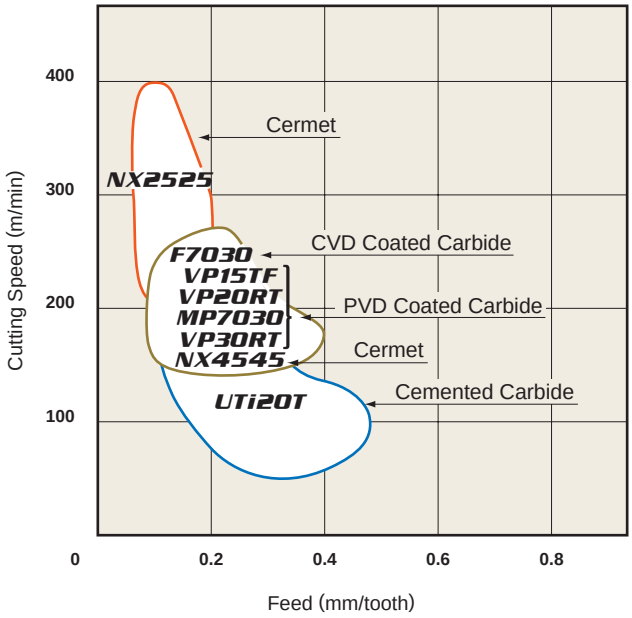


MILLING APPLICATION RANGE

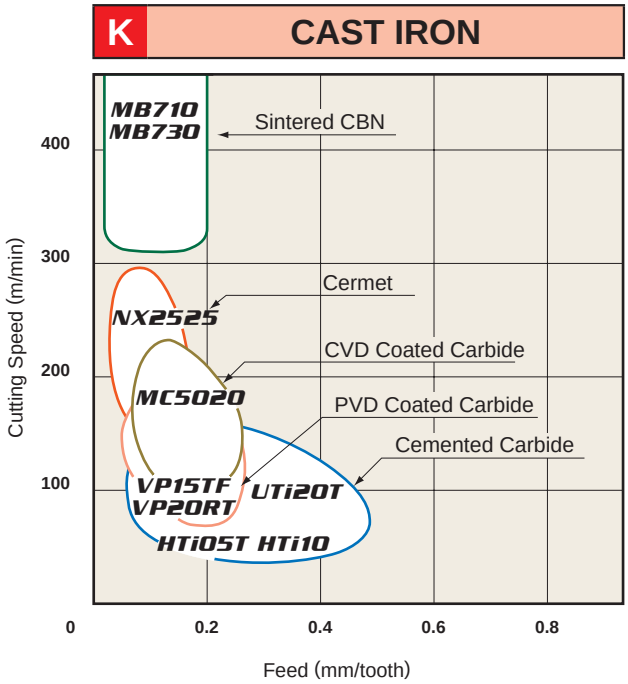
P STEEL



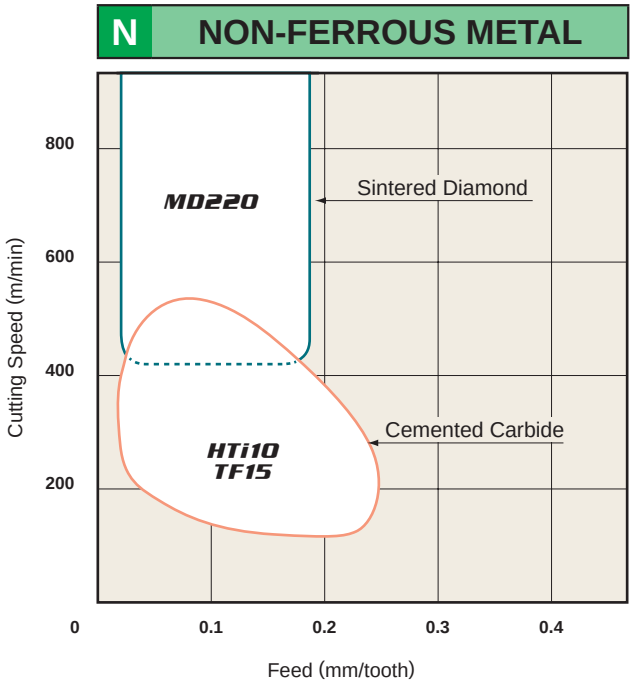
M STAINLESS STEEL



K CAST IRON



N NON-FERROUS METAL



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 subsrate.

SELECTION STANDARD

MILLING

	Work Material	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
P	Steel	**F7030**	200 (150 – 250)	P10	FH7020, F7030, VP15TF, UP20M, VP20RT, VP30RT
		VP15TF	150 (100 – 200)	P20	
		VP30RT	150 (100 – 200)	P30	
		UP20M	120 (100 – 150)	P40	
M	Stainless Steel	**F7030**	200 (150 – 250)	M10	F7030, VP15TF, UP20M, VP20RT, NEW MP7030, VP30RT
		MP7030	150 (100 – 200)	M20	
		VP15TF	150 (100 – 200)	M30	
		VP30RT	150 (100 – 200)	M40	
		UP20M	120 (100 – 150)		
K	Cast Iron	**MC5020**	180 (100 – 250)	K01	MC5020, VP15TF, VP20RT
				K10	
		VP15TF	150 (100 – 200)	K20	
				K30	
N	Aluminium Alloy	**LC15TF**	1000 (200 – 3000)	N10	LC15TF
				N20	
				N30	
S	Heat Resistant Alloy Ti Alloy	**VP15TF**	30 (20 – 40)	S01	VP15TF, MP9030, NEW MP9130
		MP9030	40 (25 – 60)	S10	
		MP9130	40 (25 – 60)	S20	
				S30	
H	Hardened Materials	**VP15TF**	80 (50 – 110)	H01	MP8010, VP15TF
				H10	
				H20	
				H30	

GRADE CHARACTERISTICS

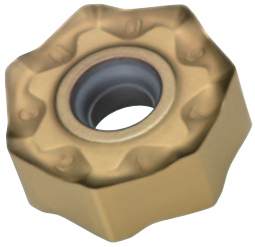
Grade	Substrate		Coating Layer	
	Hardness (HRA)	T.R.S (GPa)	Composition	Thickness
MC5020	91.0	2.2	TiCN-Al_2O_3-Ti Compound	Thick
FH7020	88.8	2.8	TiCN-Al_2O_3-Ti Compound	Thick
F7030	88.8	2.8	TiCN-Al_2O_3-TiN	Thin
MP7030	90.5	2.5	(Al,Ti)N-Ti Compound	Thin
MP8010	93.5	2.3	(Al,Ti,Si)N	Thin
MP9030	90.5	2.5	(Al,Ti)N-Ti Compound	Thin
VP15TF	91.5	2.5	(Al,Ti)N	Thin
VP20RT	90.5	2.5	(Al,Ti)N	Thin
VP30RT	88.8	2.8	(Al,Ti)N	Thin
UP20M	90.5	2.0	TiN	Thin

*1GPa=102kg/mm^2

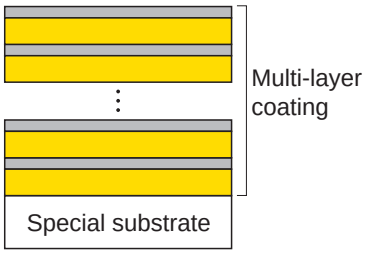
For machining of stainless steel

NEW

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

NEW

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.

CERMET

- **NX2525 for high speed milling.**
- **NX4545 for general milling.**

SELECTION STANDARD

Milling

Work Material	Recommended Grade	Recommended Cutting Speed (m/min)	ISO	Application Range
P M Steel	**NX2525**	250 (150 — 350)	P10 M10	NX2525
			P20 M20	
	NX4545	150 (120 — 180)	P30 M30	NX4545
K Cast Iron	**NX2525**	200 (150 — 300)	K01	
			K10	NX2525
			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
NX4545	90.0	2.2	33	7.8

*1GPa=102kg/mm^2, 1W/m • K=2.39×10^{-3}cal/cm • sec • ℃

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	UTi20T
				P30	
M	Stainless Steel	**UTi20T**	120 (50 ─ 180)	M10	
				M20	UTi20T
				M30	
K	Cast Iron	**HTi10**	100 (50 ─ 150)	K10	HTi10
				K20	
		UTi20T	120 (50 ─ 180)	K30	UTi20T
N	Non-Ferrous Metal	**HTi10** **TF15**	400 (300 ─ 500)	N01	
				N10	HTi10
				N20	TF15
				N30	

MAIN COMPONENT AND APPLICATION

P series for steel cutting, K series for cast iron cutting and M series for general cutting.

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
N	**HTi05T**	92.5	79	4.5	600	1.5
K	**HTi10**	92.0	79	4.6	630	2.0
N	**TF15**	91.5	71	5.3	580	2.5

*1GPa=102kg/mm^2, 1W/m • K=2.39×10^{-3}cal/cm • sec • ℃

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) 250 500 750 1000 1250	Feed (mm/tooth)	Depth of Cut (mm)	Coolant
Grey Cast Iron	JIS FC250	Ferritic + Pearilitic	MB710 / MB730	—0.3	—0.5	Dry
	JIS FC300	Pearilitic				

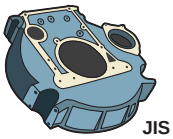
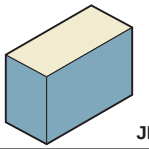
ROUGHING

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

FEATURES AND BASE

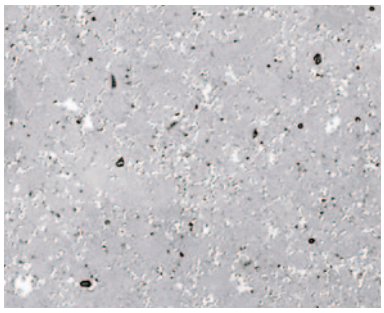
Grade	Application	Features	Main Component	Coating Layer
MB710	For General Cutting	General purpose grade with well balanced wear and fracture resistance.	CBN TiC Al_2O_3	—
MB730	For High Speed Cutting For interrupted Cutting	Has the largest CBN content and therefore displays good thermal conductivity. 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	AF5000R0404D
Insert		SL-ONEN120404ASN (BC5030)	LDCN190412R (MB730)
Machine		Machining Center	Machining Center
Workpiece		 JIS FC250	 JIS FC250
Cutting Condition	Cutting Speed (m/min)	1200	1200
	Depth of Cut (mm)	2.8	0.3
	Width of Cut (mm)	70	75
	Table Feed (mm/min)	3057	5000
	Feed per Tooth (mm/tooth)	0.1	0.33
Result		10 times longer tool life and 4 times higher efficiency than ceramics. Excellent machining with a surface finish of Ra < 1.6μm	When machining cast iron (FC250) it was possible to achieve a surface finish of Ra < 0.6μm.

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

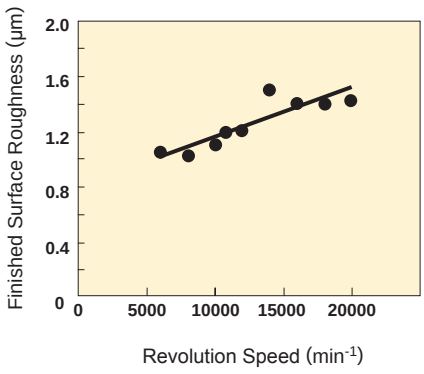
Grade	Features
MD205	Please use when there is insufficient resistance to wear with MD220.
MD220	Excellent in the balance between wear resistance and fracture resistance. For a wide range of tooling applications.
MD230	Please use when there is insufficient resistance to fracturing with MD220.

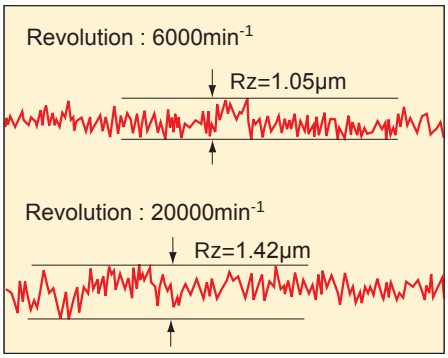
(Note) MD205 and MD230 for special grade materials.

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

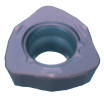


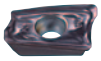


<Cutting Conditions>
Workpiece : JIS A7075-T6
Insert : NP-GDCW1240PDFR2
Grade : MD220
Tool : V10000R0406D
Feed : 0.2mm/tooth
Depth of Cut : 0.5mm
Width of Cut : 80mm
Dry Cutting

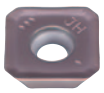
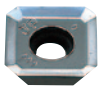
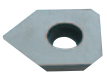
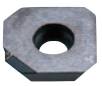
CLASSIFICATION

Cutter Type	Order Number	Page
AF5000 	LDCN190412R	K042
	190412L	
AF10000 	GDCN2004PDR	K042
AHX640S 	NEW NNMU200708ZEN-MP	K024
	NEW NNMU200712ZER-MM	K024
	NEW WNEU2007ZEN7C-WP	K041
	NNMU200608ZEN-MK	K024
	NNMU200608ZEN-HK	K024
	WNEU2006ZEN7C-WK	K041

Cutter Type	Order Number	Page
AHX640W 	NNMU200608ZEN-MK	K024
	NNMU200608ZEN-HK	K024
	WNEU2006ZEN7C-WK	K041
AJX 	JOMW06T215ZZSR-FT	K022
	080320ZZSR-FT	
	JDMW09T320ZDSR-FT	
	120420ZDSR-FT	
	140520ZDSR-FT	
	JOMT06T215ZZSR-JM	K022
	080320ZZSR-JM	
	JDMT09T320ZDSR-JM	
	120420ZDSR-JM	
	140520ZDSR-JM	
	JDMT120420ZDSR-ST	K022
	140520ZDSR-ST	
AOX445 	SL-ONEN120404ASN	K043
APX3000 	AOGT123602PEFR-GM	K020
	123604PEFR-GM	
	123608PEFR-GM	

Cutter Type	Order Number	Page
APX3000 	AOMT123602PEER-M	K020
	123604PEER-M	
	123608PEER-M	
	123610PEER-M	
	123612PEER-M	
	123616PEER-M	
	123620PEER-M	
	123624PEER-M	
	123630PEER-M	
	123632PEER-M	
	AOMT123604PEER-H	K020
	123608PEER-H	
	123616PEER-H	
APX4000 	AOMT184804PEER-H	K020
	184808PEER-H	
	184816PEER-H	
	184832PEER-H	
	184840PEER-H	
	184850PEER-H	
	184864PEER-H	
	AOMT184804PEER-M	K020
	184808PEER-M	
	184810PEER-M	
	184812PEER-M	
	184816PEER-M	
	184820PEER-M	
AQX 	QOMT0830R-M2	K025
	1035R-M2	
	1342R-M2	
	1651R-M2	
	1856R-M2	
	2062R-M2	
	2576R-M2	

Cutter Type	Order Number	Page
AQX	QOGT0830R-G1	K025
	1035R-G1	
	1342R-G1	
	1651R-G1	
	1856R-G2	
	2062R-G1	
	2576R-G1	
ARX	RDMW0517M0E	K025
	0620M0E	
	0724M0E	
ASX400	SOET12T308PEER-JL	K029
		
	SOMT12T308PEER-JM	K030
	12T308PEEL-JM	
	SOMT12T308PEER-JH	K029
		
	SOMT12T320PEER-FT	K030
		
	SOGT12T308PEFR-JP	K029
		
	WOEW12T308PEER8C	K041
	12T308PETR8C	

Cutter Type	Order Number	Page
ASX445	SEET13T3AGEN-JL	K027
		
	SEMT13T3AGSN-JM	K028
		
	SEMT13T3AGSN-JH	K028
		
	SEMT13T3AGSN-FT	K028
		
	SEGT13T3AGFN-JP	K028
		
	WEEW13T3AGER8C	K040
	13T3AGTR8C	
		
	WEEW13T3AGFR3C	K045
	13T3AGTR3C	
		

Cutter Type	Order Number	Page
AXD4000	XDGX175004PDFR-GL	K037
	175008PDFR-GL	
	175012PDFR-GL	
	175016PDFR-GL	
	175020PDFR-GL	
	175024PDFR-GL	
	175030PDFR-GL	
	175032PDFR-GL	
	175040PDFR-GL	
	175050PDFR-GL	
AXD7000	XDGX227008PDFR-GL	K037
	227016PDFR-GL	
	227020PDFR-GL	
	227030PDFR-GL	
	227032PDFR-GL	
	227040PDFR-GL	
	227050PDFR-GL	
BAE	AEMW150304ER	K020
	150308ER	
	19T304ER	
	19T308ER	
BAP300 SRM2	APMT1135PDER-H1	K021
	1135PDER-H2	
	1135PDER-H3	
	1135PDER-H4	
	1135PDER-H6	
	APMT1135PDER-M0	K021
	1135PDER-M1	
	1135PDER-M2	
	APGT1135PDER-G2	K021
		

CLASSIFICATION

Cutter Type	Order Number	Page
BAP300 Under-cut Type	ZRM0603R-M3	K039
	0603R-M4	
	0603R-M5	
BAP3500	XPMT13T3PDER-M1	K039
	13T3PDER-M2	
	13T3PDER-M6	
	13T3PDER-M75	
	13T3PDER-M8	
	XPGT13T3PDFR-G1	K039
	13T3PDFR-G2	
	13T3PDFR-G6	
	13T3PDFR-G75	
	13T3PDFR-G8	
	XPGT13T3PDER-G1	K039
	13T3PDER-G2	
	13T3PDER-G6	
	13T3PDER-G75	
	13T3PDER-G8	
BAP400 SRM2	APMT1604PDER-H1	K021
	1604PDER-H2	
	1604PDER-H4	
	1604PDER-H6	
	1604PDER-H8	
	APMT1604PDER-M2	K021
	APGT1604PDFR-G2	K021
BF407 QBF407	SFAN1203ZFFR2	K028
	1203ZFFL2	
	SFCN1203ZFFR2	
	1203ZFFL2	

Cutter Type	Order Number	Page
BF407 QBF407	SFCN1203ZFFR2	K043
	WFC42ZFER2	K045
	NP-WFC42ZFER2	K045
BN425 DN	SNC43B2G	K029
	43B2S	
	SNK43B2G	
	43B2S	
	SNKF43B2S	K029
	SNMF43B2G	
BRP	RPMW08T2M0T	K026
	10T3M0E	
	10T3M0T	
	1204M0E	
	1204M0T	
	1606M0E	
	1606M0T	
	RPMT08T2M0E-JS	K026
	10T3M0E-JS	
	1204M0E-JS	
	1606M0E-JS	
BSP	SPMB1204APT	K031

Cutter Type	Order Number	Page
BXD4000	XDGT1550PDER-G04	K036
	1550PDER-G08	
	1550PDER-G12	
	1550PDER-G16	
	1550PDER-G20	
	1550PDER-G30	
	1550PDER-G32	
	1550PDER-G40	
	1550PDER-G50	
	XDGT1550PDFR-G04	K036
	1550PDFR-G08	
	1550PDFR-G12	
	1550PDFR-G16	
	1550PDFR-G20	
	1550PDFR-G30	
	1550PDFR-G32	
	1550PDFR-G40	
	1550PDFR-G50	
	XDGT1550PDFR-GL04	K036
	1550PDFR-GL08	
CBJP CBMP TAB	JPMT060204-E	K022
	MPMT090308	K023
	120408	
CESP CFSP CGSP	SPMW090304	K032
	090308	
	120304	
	120308	

Cutter Type	Order Number	Page
DCCC BZC	CCMX083508EN-A	K021
	09T308EN-A	
	CCMX09T308EN-B	K022
	ZCMX083508ER-A	K039
	09T308ER-A	
	ZCMX09T308ER-B	K039
E404 FE404	SEA42C10GR	K026
	42C10GL	
ECMP TAB	MPMT070308	K023
	090308	
	120408	
FBE2	UDC20F	K036
	25F	
	30F	
FBP415 QBP415	SPEN1203EEER1	K030
	1203EEEL1	
	SPNN1203EEER1	
	1203EEEL1	
	SPER1203EEER-JS	K031

Cutter Type	Order Number	Page
FBP415 QBP415	SPEN1203EETR1	K043
	WPC42EEER10C	K041
	42EEEL10C	
FF3000	SPCA53Z	K030
	SPCG53Z	K030
FMSD	SDEN1203AEN	K026
	SDKN1203AEN	
	1203AETN	
	1504AETN	
FP490	SPEN424A	K031
FP590	SPEN535A	K031
NF10000 QF10000	GDCN2004PDFR3	K042
NF10000 NEW	NP-GDCN2004PDSR3	K042

Cutter Type	Order Number	Page
NR10000	GDCN2004ZDTR1	K042
MG200	MGEEW1035PFTR	K023
MG300	MGEEW1242PFTR	K023
MG400	MGEEW1650PFTR	K023
MG245	MGEEW1035AFTR	K023
MG345	MGEEW1242AFTR	K023
MG445	MGEEW1650AFTR	K023
MVX	NEW SOMX063005-UM	K046
	NEW 073505-UM	
	NEW 084005-UM	
	NEW 094506-UM	
NSE300 SE300	TEEN1603PEFR1	K034
	1603PEER1	
	1603PETR1	
	1603PESR1	

ROTATING INSERTS

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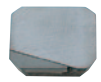
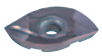
Cutter Type	Order Number	Page
NSE300 SE300 	TECN1603PEFR1W	K035
	1603PEER1W	
	1603PETR1W	
	TEER1603PEER-JS	K035
	TECN1603PEFR1	K043
NSE400 SE400 	TECN2204PEFR1	K035
	2204PEER1	
	2204PETR1	
	TEEN2204PEFR1	
	2204PEER1	
	2204PETR1	
	2204PESR1	
	TEKN2204PEER1	
	2204PESR1	
	2204PETR1	
	2204PETR	
	TEER2204PEER-JS	K035
	TECN2204PEFR1	K043
OCTACUT BOE 	OEMX12T3ETR1	K024
	12T3ESR1	
	1705ESR1	
	1705ETR1	

Cutter Type	Order Number	Page
OCTACUT BOE 	OEMX12T3ETR1	K042
	OEMX12T3EER1-JS	K024
	1705EER1-JS	
	1705ETR1-JS	
	REMX1705SN	K025
	REMX12T3EN-JS	K025
	1705EN-JS	
PMF 	TPEW1303ZPER2	K035
	TPEW1303ZPTR2	K044
PMR 	CPMT1205ZPEN-M2	K022
	1205ZPEN-M3	
	1906ZPEN-M2	
	1906ZPEN-M3	
S300 	SPMW090304	K032
	090308	
S400 	SPMW120304	K032
	120308	

Cutter Type	Order Number	Page
S400 	SPMN120304	K031
	120304T	
	120308	
	120312	
	SPGN120304	
	120308	
	120312	
S500 	SPMN150408	K031
	150412	
	SPGN150404	
	150408	
SE415 QSE415 	SEEN1203EFFR1	K027
	1203EFER1	
	1203EFTR1	
	1203EFSR1	
	SEKN1203EFSR1	K027
	1203EFTR1	
	1203EFTR	
	SEER1203EFER-JS	K027
	SECN1203EFFR1	K042
	WEC42EFER5C	K040
	42EFTR5C	
	WEC42EFER10C	K040

Cutter Type	Order Number	Page
SE445 LSE445	SECN1203AFTN1	K026
	SEEN1203AFFN1	
	1203AFEN1	
	1203AFTN1	
	1203AFSN1	
	SEKN1203AFSN1	
	1203AFTN1	
	1203AFTN	
	SEER1203AFEN-JS	K027
	SECN1203AFFR1	K042
	WEC42AFFR5C	K040
	42AFER5C	
	42AFTR5C	
	WEC42AFER10C	K040
SE515	SECN1504EFTR1	K027
	SEEN1504EFER1	
	1504EFSR1	
	1504EFTR1	
	SEKN1504EFSR1	
	1504EFTR1	
	WEC53EFER5C	K040
	53EFTR5C	

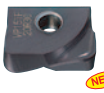
Cutter Type	Order Number	Page
SE545	SEEN1504AFFN1	K026
	1504AFEN1	
	1504AFSN1	
	1504AFTN1	
	SEKN1504AFSN1	
	1504AFTN1	
	SEER1504AFEN-JS	K027
	WEC53AFER5C	K040
	53AFTR5C	
SG20	RGEN2004M0EN	K025
	2004M0SN	
SPX	JPMX140412-JM	K023
	190412-JM	
	JPMX190412-WH	K023
	190416-WH	
	MPMX120412-JM	K023
	MPMX120412-WH	K024

Cutter Type	Order Number	Page
SPX	SPMX120408-JM	K032
		
	SPMX120408-WH	K032
		
SRB	SRBT10	K032
	12	
	16	
	20	
	25	
	30	
	32	
SRF	SRFT10	K032
	12	
	16	
	20	
	25	
	30	
	32	
SRM2	SRM16C-M	K033
	20C-M	
	25C-M	
	30C-M	
	32C-M	
	SRM16E-M	K033
	20E-M	
	25E-M	
	30E-M	
	32E-M	

ROTATING INSERTS

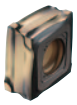
CLASSIFICATION

Cutter Type	Order Number	Page
	SRG16C	K033
	20C	
	25C	
	30C	
	32C	
	SRG16E	K033
	20E	
	25E	
	30E	
	32E	
SRM2ϕ40 ϕ50 	SRG40C	K033
	50C	
	SRG40E	K033
	50E	
	APMT1135PDER-H2	K021
	1604PDER-H2	
	APMT1135PDER-M2	K021
	1604PDER-M2	
STAW 	STAWK○○○○TG	K053
STAW 	STAWN○○○○T	K051
	STAWN○○○○TH	

Cutter Type	Order Number	Page
STLG 	SLG22120L	K029
	22150L	
	22200L	
	38200L	
	38300L	
	38400L	
SUF 	NEW SUFT10R05	K034
	NEW 10R10	
	NEW 10R20	
	NEW 12R05	
	NEW 12R10	
	NEW 12R20	
	NEW 12R30	
	NEW 16R05	
	NEW 16R10	
	NEW 16R15	
	NEW 16R20	
	NEW 16R30	
	20R05	
	20R10	
	NEW 20R15	
	20R20	
	20R30	
	25R05	
	25R10	
	25R20	
	25R30	
	30R05	
	30R10	
	30R20	
	30R30	
	NEW 32R05	
	NEW 32R10	
	NEW 32R20	

Cutter Type	Order Number	Page
TAF 	GCMT040204-U1	K046
	GCMT040204-U2	K046
	GPMT060204-U1	K046
	070204-U1	
	090304-U1	
	11T308-U1	
	140408-U1	
	GPMT060204-U2	K046
	070204-U2	
	090304-U2	
	11T308-U2	
	140408-U2	
	GPMT060204-U3	K046
	070204-U3	
	090304-U3	
	11T308-U3	
	140408-U3	
TAW 	TAWNH○○○○T	K047
	TAWKH○○○○TG	K049
	TAWBH○○○○T	K048

Cutter Type	Order Number	Page
TBE1 	SPMT120408-A	K032
TSMP 	MPMW070308	K023
	090308	
	120408	
V10000 	NP-GDCW1240PDFR2	K042
VFX5 	NEW XNMU160708R-MS	K038
	NEW 160712R-MS	
	NEW 160716R-MS	
	NEW 160724R-MS	
	NEW 160732R-MS	
	NEW 160740R-MS	
	NEW XNMU160708R-HS	K038
	NEW XNMU160708R-LS	K038
VFX6 	XNMU190912R-MS	K038
	NEW 190916R-MS	
	NEW 190924R-MS	
	NEW 190932R-MS	
	NEW 190940R-MS	
	NEW 190950R-MS	
	NEW XNMU190912R-HS	K038

Cutter Type	Order Number	Page
	NEW XNMU190912R-LS	K038
VOX400 	SONX1206PER	K030
	NEW WOEX1206PER5C	K041
VIPER 	TPNX1605N	K036
Corner Angle 0° 11° Positive 	TPEN1603PPR	K035
	2204PDR	
	TPKN1603PPR	
	2204PDR	
Corner Angle 15° 11° Positive 	SPKN1203EDR	K030
	1504EDR	
	SPEN1203EDR	
Corner Angle 45° 20° Positive 	SEKN1203AGTN	K028
Negative 	SNMN120408	K029
	120412	
11° Positive 	SPMN120408	K032
	120412	

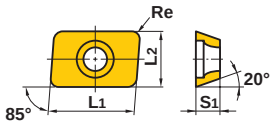
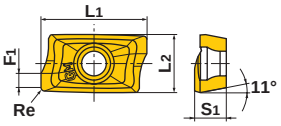
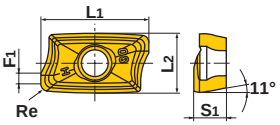
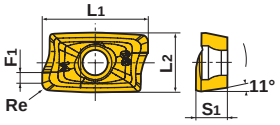
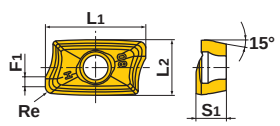
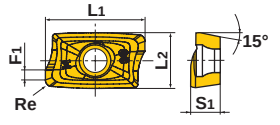
Cutter Type	Order Number	Page
11° Positive 	TPMN160304	K036
	160308	
	160312	
	220404	
	220408	
	220412	

ROTATING INSERTS

Work Material			MC5020	VP15TF	VP20RT	UP20M	NX2525	UTi20T	TF15
	P	Steel		●	●	●	●	●	
	M	Stainless Steel		◔	◔	◔	○	◔	
	K	Cast Iron	●	✲	✲		●	✲	
	N	Non-ferrous Metal							●
	S	Heat-resistant Alloy, Titanium Alloy		●					
	H	Hardened Steel		◔					

Cutting Conditions (Guide) :
● : Stable Cutting ◔ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp

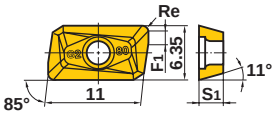
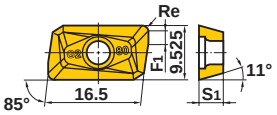
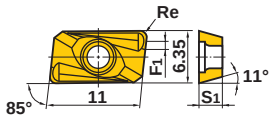
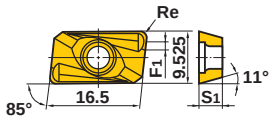
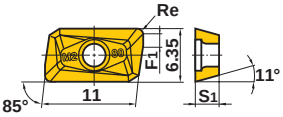
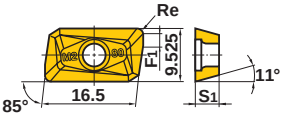
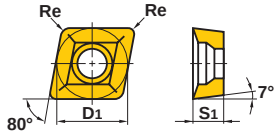
Shape	Order Number	Class	Honing	Coated				Cermet	Carbide		Dimensions (mm)					Geometry
				MC5020	VP15TF	VP20RT	UP20M	NX2525	UTi20T	TF15	L_1	L_2	S_1	F_1	Re	
BAE	**AEMW150304ER**	M	E				●	●	●		15.875	9.525	3.18	—	0.4	
	150308ER	M	E				●	●	●		15.875	9.525	3.18	—	0.8	
	19T304ER	M	E				●	●	●		19.05	12.7	3.97	—	0.4	
	**19T308ER**	M	E				●	●	●		19.05	12.7	3.97	—	0.8	
APX3000 ➲L036	**AOGT123602PEFR-GM**	G	F							●	12	6.6	3.6	1.8	0.2	
	123604PEFR-GM	G	F							●	12	6.6	3.6	1.6	0.4	
	123608PEFR-GM	G	F							●	12	6.6	3.6	1.2	0.8	
																
APX3000 ➲L036	**AOMT123604PEER-H**	M	E	●	●	●					12	6.6	3.6	1.6	0.4	
	123608PEER-H	M	E	●	●	●					12	6.6	3.6	1.2	0.8	
	123616PEER-H	M	E	●	●	●					12	6.6	3.6	1.2	1.6	
																
APX3000 ➲L036	**AOMT123602PEER-M**	M	E		●	●					12	6.6	3.6	1.8	0.2	
	123604PEER-M	M	E		●	●					12	6.6	3.6	1.6	0.4	
	123608PEER-M	M	E		●	●					12	6.6	3.6	1.2	0.8	
	123610PEER-M	M	E		●	●					12	6.6	3.6	1.0	1.0	
	123612PEER-M	M	E		●	●					12	6.6	3.6	0.8	1.2	
	**123616PEER-M**	M	E		●	●					12	6.6	3.6	0.4	1.6	
	123620PEER-M	M	E		●	●					12	6.6	3.6	0.4	2.0	
	123624PEER-M	M	E		●	●					12	6.6	3.6	0.4	2.4	
	123630PEER-M	M	E		●	●					12	6.6	3.6	0.4	3.0	
	123632PEER-M	M	E		●	●					12	6.6	3.6	0.4	3.2	
APX4000 ➲L042	**AOMT184804PEER-H**	M	E	●	●	●					18	9	4.8	1.8	0.4	
	184808PEER-H	M	E	●	●	●					18	9	4.8	1.4	0.8	
	184816PEER-H	M	E	●	●	●					18	9	4.8	0.4	1.6	
	184832PEER-H	M	E			●					18	9	4.8	0.4	3.2	
	184840PEER-H	M	E			●					18	9	4.8	0.4	4.0	
	184850PEER-H	M	E			●					18	9	4.8	—	5.0	
	**184864PEER-H**	M	E			●					18	9	4.8	—	6.35	
APX4000 ➲L042	**AOMT184804PEER-M**	M	E		●	●					18	9	4.8	1.8	0.4	
	184808PEER-M	M	E		●	●					18	9	4.8	1.4	0.8	
	184810PEER-M	M	E		●						18	9	4.8	1.0	1.0	
	184812PEER-M	M	E		●						18	9	4.8	0.8	1.2	
	184816PEER-M	M	E		●	●					18	9	4.8	0.4	1.6	
	**184820PEER-M**	M	E		●						18	9	4.8	0.4	2.0	

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

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp

Shape	Order Number	Class	Honing	Coated			Cermet		Carbide		Dimensions (mm)				Geometry
				F7030	VP15TF	UP20M	NX2525	NX4545	UTi20T	HTi10	D_1	S_1	F_1	Re	
BAP300	**APGT1135PDFR-G2**	G	F							●	—	3.5	1.2	0.8	
															
BAP400	**APGT1604PDFR-G2**	G	F							●	—	4.76	1.4	0.8	
															
BAP300 SRM2 ➲L114	**APMT1135PDER-H1**	M	E	●	●	▲	●	●	▲	●	—	3.5	1.5	0.4	
	1135PDER-H2	M	E	●	●	▲	●	●	▲	●	—	3.5	1.2	0.8	
	1135PDER-H3	M	E	●							—	3.5	0.8	1.2	
	**1135PDER-H4**	M	E	●							—	3.5	0.4	1.6	
	1135PDER-H6	M	E	●							—	3.5	0.4	2.4	
BAP400 SRM2 ➲L114	**APMT1604PDER-H1**	M	E	●		▲			▲		—	4.76	1.7	0.4	
	1604PDER-H2	M	E	●	●	▲	●	●	▲	●	—	4.76	1.4	0.8	
	1604PDER-H4	M	E	●							—	4.76	0.4	1.6	
	**1604PDER-H6**	M	E	●							—	4.76	0.4	2.4	
	1604PDER-H8	M	E	●					▲		—	4.76	0.4	3.2	
BAP300 SRM2 ➲L114	**APMT1135PDER-M0**	M	E	●							—	3.5	1.8	0.2	
	1135PDER-M1	M	E	●							—	3.5	1.5	0.4	
	1135PDER-M2	M	E	●	●			●			—	3.5	1.2	0.8	
															
BAP400 SRM2 ➲L114	**APMT1604PDER-M2**	M	E	●	●			●			—	4.76	1.4	0.8	
															
DCCC	**CCMX083508EN-A**	M	E	●		●			▲		7.94	3.5	—	0.8	
	09T308EN-A	M	E	●	●	●			▲		9.525	3.97	—	0.8	
															

ROTATING INSERTS

Work Material		
P	Steel	
M	Stainless Steel	
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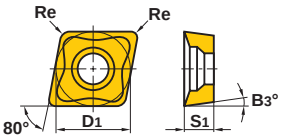
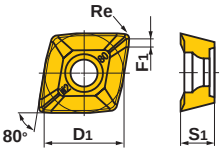
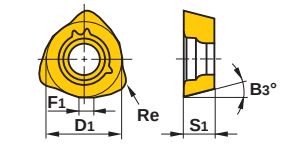
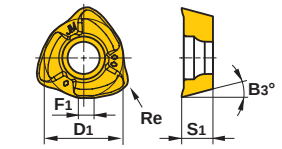
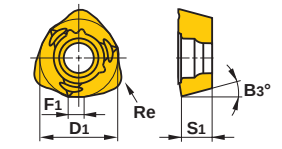
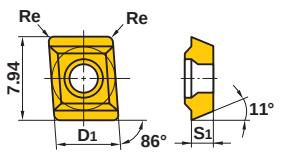
Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✣ : Unstable Cutting

Honing :
E : Round **S :** Chamfer + Hone

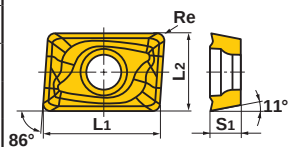
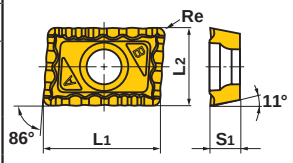
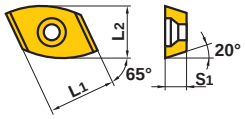
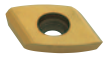
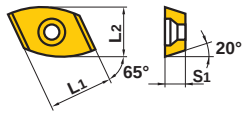
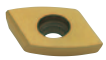
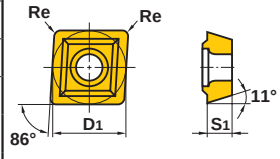
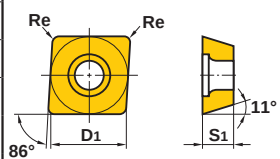
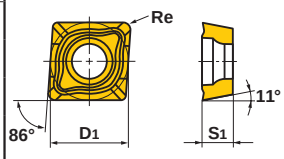
Shape	Order Number	Class	Honing	Coated F7030	Coated FH7020	Coated VP15TF	Coated VP30RT	Coated UP20M	Carbide UTi20T	L2	D1	S1	F1	Re	B3	Geometry
DCCC	**CCMX09T308EN-B**	M	E	●					▲		9.525	3.97	—	0.8	7°	
PMR ➲L129	**CPMT1205ZPEN-M2**	M	E			●					12.7	5.56	1.4	0.8	—	
	1205ZPEN-M3	M	E			●					12.7	5.56	1.4	1.2	—	
	1906ZPEN-M2	M	E			●					19.05	6.35	1.4	0.8	—	
	1906ZPEN-M3	M	E			●					19.05	6.35	1.4	1.2	—	
AJX ➲L072	**JOMW06T215ZZSR-FT**	M	S		●	●	●				6.35	2.78	1.2	1.5	13°	
	080320ZZSR-FT	M	S		●	●	●				8	3.18	1.4	2	13°	
	JDMW09T320ZDSR-FT	M	S		●	●	●				9.525	3.97	1.8	2	15°	
	120420ZDSR-FT	M	S		●	●	●				12	4.76	2.5	2	15°	
	140520ZDSR-FT	M	S		●	●	●				14	5.56	2.8	2	15°	
AJX ➲L072	**JOMT06T215ZZSR-JM**	M	S		●	●	●				6.35	2.78	1.2	1.5	13°	
	080320ZZSR-JM	M	S		●	●	●				8	3.18	1.4	2	13°	
	JDMT09T320ZDSR-JM	M	S		●	●	●				9.525	3.97	1.8	2	15°	
	120420ZDSR-JM	M	S		●	●	●				12	4.76	2.5	2	15°	
	140520ZDSR-JM	M	S		●	●	●				14	5.56	2.8	2	15°	
AJX ➲L072	**JDMT120420ZDSR-ST**	M	S		●	●	●			—	12	4.76	2.5	2	15°	
	140520ZDSR-ST	M	S		●	●	●			—	14	5.56	2.8	2	15°	
CBJP ➲L123 **TAB**	**JPMT060204-E**	M	E			●		●	●	7.94	6.5	2.38	—	0.4	11°	 This figure is for outer insert (E).

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

Work Material			VP15TF	VP20RT	UP20M	NX2525	UTi20T	HTi10
	P	Steel	●	●	●	●	●	
	M	Stainless Steel	◕	◕	◕	○	◕	
	K	Cast Iron	✱	✱		●	✱	◕
	N	Non-ferrous Metal						◕
	S	Heat-resistant Alloy, Titanium Alloy	◕					
	H	Hardened Steel	◕					

Cutting Conditions (Guide) :
● : Stable Cutting ◕ : General Cutting ✱ : Unstable Cutting

Honing :
E : Round **T :** Chamfer

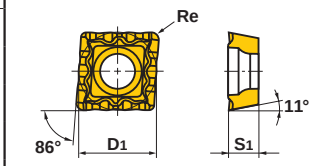
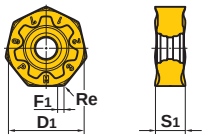
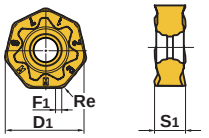
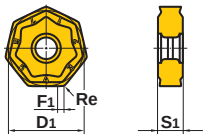
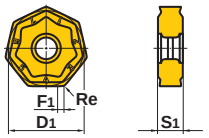
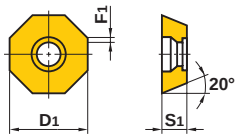
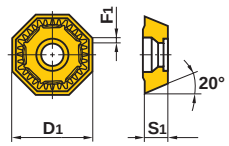
Shape	Order Number	Class	Honing	Coated			Cermet	Carbide		Dimensions (mm)					Geometry
				VP15TF	VP20RT	UP20M	NX2525	UTi20T	HTi10	L_1	L_2	D_1	S_1	Re	
SPX L094	**JPMX140412-JM**	M	E	●	●					14.3	12.7	—	4.76	1.2	
	**190412-JM**	M	E	●	●					19.05	12.7	—	4.76	1.2	
SPX L094	**JPMX140412-WH**	M	E	●	●					14.3	12.7	—	4.76	1.2	
	**190412-WH**	M	E	●	●					19.05	12.7	—	4.76	1.2	
MG245 MG345 MG445	**MGEEW1035AFTR**	E	T			●	●	●	●	10	9	—	3.5	—	
	**1242AFTR**	E	T			●	●	●	●	12	10.5	—	4.2	—	
	1650AFTR	E	T			●	●	●	●	16	13	—	5	—	
MG200 MG300 MG400	**MGEEW1035PFTR**	E	T			●	●	●	●	10	9	—	3.5	—	
	**1242PFTR**	E	T			●	●	●	●	12	10.5	—	4.2	—	
	1650PFTR	E	T			●		●	●	16	13	—	5	—	
CBMP L123 **ECMP TAB**	**MPMT070308**	M	E			●		●		—	—	7.94	3.18	0.8	
	**090308**	M	E	●		●		●		—	—	9.525	3.18	0.8	
	120408	M	E			●		●		—	—	12.7	4.76	0.8	
TSMP L122	**MPMW070308**	M	E					●		—	—	7.94	3.18	0.8	
	**090308**	M	E					●		—	—	9.525	3.18	0.8	
	120408	M	E					●		—	—	12.7	4.76	0.8	
SPX L094	**MPMX120412-JM**	M	E	●	●					—	—	12.7	4.76	1.2	
															

ROTATING INSERTS

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✠ : Unstable Cutting

Honing :
E : Round **S :** Chamfer + Hone **T :** Chamfer

Shape	Order Number	Class	Honing	Coated F7030	Coated MC5020	Coated VP15TF	Coated VP20RT	Coated MP7030 (NEW)	Cermet NX4545	Carbide UTi20T	D1	S1	F1	Re	Geometry
SPX ➔L094	MPMX120412-WH	M	E			●	●				12.7	4.76	—	1.2	
AHX640S (NEW) ➔L016	NNMU200708ZEN-MP	M	E			●					20	8.0	1	0.8	
AHX640S (NEW) ➔L016	NNMU200712ZER-MM	M	E					●			20	8.0	1	1.2	
AHX640S ➔L016 AHX640W ➔L020	NNMU200608ZEN-MK	M	E		●						20	6.55	1	0.8	
AHX640S ➔L016 AHX640W ➔L020	NNMU200608ZEN-HK	M	E		●						20	6.55	1	0.8	
OCTACUT ➔L080	OEMX12T3ETR1	M	T						●		12.7	3.97	1	—	
	12T3ESR1	M	S	●							12.7	3.97	1	—	
	1705ETR1	M	T			●			●		17	5	1.4	—	
	1705ESR1	M	S	●							17	5	1.4	—	
OCTACUT ➔L080	OEMX12T3EER1-JS	M	E	●							12.7	3.97	1	—	
	1705EER1-JS	M	E	●							17	5	1.4	—	
	1705ETR1-JS	M	T			●					17	5	1.4	—	

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

Work Material		
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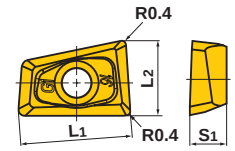
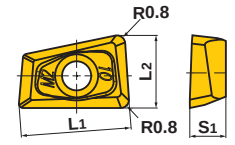
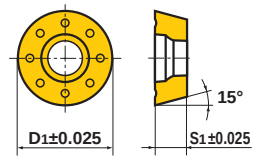
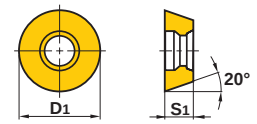
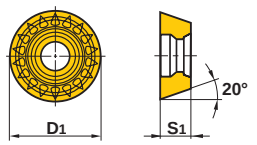
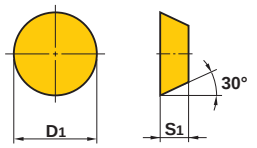
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✱ : Unstable Cutting

Honing :
E : Round **F :** Sharp **S :** Chamfer + Hone

Shape	Order Number	Class	Honing	Coated					Carbide		Dimensions (mm)					Geometry
				F7030	VP15TF	VP30RT	UP20M	MP8010	UTi20T	HTi10	L_1	L_2	D_1	S_1	F_1	
AQX ➲L064	QOGT0830R-G1	G	F ✱1		●					●	8.4	5.5	—	3	—	
	1035R-G1	G	F ✱1		●					●	10.6	7	—	3.5	—	
	1342R-G1	G	F ✱1		●					●	13.1	8.7	—	4.2	—	
	1651R-G1	G	F ✱1		●					●	16.5	11	—	5.1	—	
	1856R-G1	G	F ✱1		●					●	18	12	—	5.6	—	
	2062R-G1	G	F ✱1		●					●	20.4	13.6	—	6.2	—	
	2576R-G1	G	F ✱1		●					●	25.8	17.2	—	7.6	—	
AQX ➲L064	QOMT0830R-M2	M	E		●	●					8.4	5.5	—	3	—	
	1035R-M2	M	E		●	●					10.6	7	—	3.5	—	
	1342R-M2	M	E		●	●					13.1	8.7	—	4.2	—	
	1651R-M2	M	E		●	●					16.5	11	—	5.1	—	
	1856R-M2	M	E		●	●					18	12	—	5.6	—	
	2062R-M2	M	E		●	●					20.4	13.6	—	6.2	—	
	2576R-M2	M	E		●	●					25.8	17.2	—	7.6	—	
ARX ➲L084	RDMW0517M0E	M	E		●			●			—	—	5	1.70	—	
	0620M0E	M	E		●			●			—	—	6	1.99	—	
	0724M0E	M	E		●			●			—	—	7	2.38	—	
OCTACUT ➲L080	REMX1705SN	M	S	●							—	—	17.25	5.2	—	
OCTACUT ➲L080	REMX12T3EN-JS	M	E	●							—	—	12.95	4.17	—	
	1705EN-JS	M	E	●							—	—	17.25	5.2	—	
SG20 ➲L023	RGEN2004M0EN	E	E		●						—	—	20	4.76	—	
	2004M0SN	E	S	●			●		●	●	—	—	20	4.76	—	

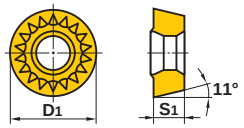
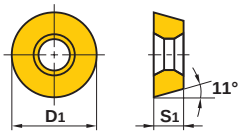
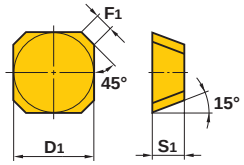
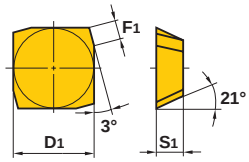
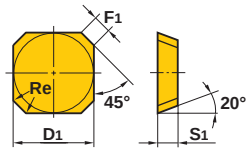
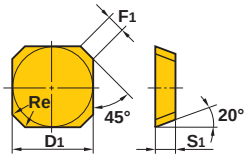
✱1 Grade VP15TF is "E".

ROTATING INSERTS

Work Material			F7030	MC5020	VP15TF	NX2525	NX4545	UTi20T	HTi10
	P	Steel	◐		◐	●	◐	◐	
	M	Stainless Steel	◔		◔	○	◔	◔	
	K	Cast Iron		◐	✲	●		✲	◐
	N	Non-ferrous Metal							◐
	S	Heat-resistant Alloy, Titanium Alloy			◐				
	H	Hardened Steel			◔				

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp **S :** Chamfer + Hone **T :** Chamfer

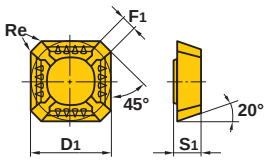
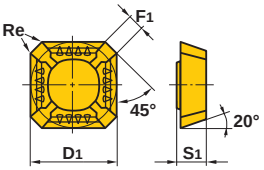
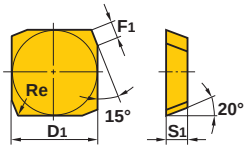
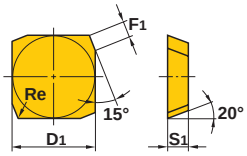
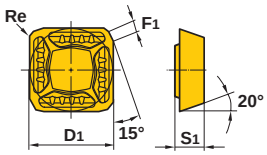
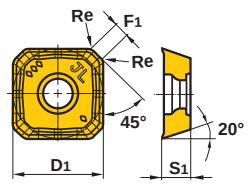
Shape	Order Number	Class	Honing	Coated F7030	Coated MC5020	Coated VP15TF	Cermet NX2525	Cermet NX4545	Carbide UTi20T	Carbide HTi10	D1	S1	F1	Re	Geometry
BRP ➲L088	RPMT08T2M0E-JS	M	E	●		●					8	2.78	—	—	
	10T3M0E-JS	M	E	●		●					10	3.97	—	—	
	1204M0E-JS	M	E	●		●			●		12	4.76	—	—	
	1606M0E-JS	M	E	●		●					16	6.35	—	—	
BRP ➲L088	RPMW08T2M0T	M	T			●					8	2.78	—	—	
	10T3M0E	M	E	●				●			10	3.97	—	—	
	10T3M0T	M	T			●					10	3.97	—	—	
	1204M0E	M	E	●				●	●		12	4.76	—	—	
	1204M0T	M	T			●					12	4.76	—	—	
	1606M0E	M	E	●					●		16	6.35	—	—	
	1606M0T	M	T			●					16	6.35	—	—	
FMSD	SDEN1203AEN	E	T					▲			12.7	3.18	1.2	—	
	SDKN1203AEN	K	T	▲		●	▲		▲		12.7	3.18	1.2	—	
	1203AETN	K	T					▲			12.7	3.18	1.7	—	
	1504AETN	K	T					▲			15.875	4.76	1.7	—	
FE404 ➲L139 E404	SEA42C10GR	A	F							▲	12.7	3.18	2.4	—	
	42C10GL	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	
	1203AFEN1	E	E			●					12.7	3.18	1.4	1.0	
	1203AFTN1	E	T				●	●			12.7	3.18	1.4	1.0	
	1203AFSN1	E	S	●	●						12.7	3.18	1.4	1.0	
	SEKN1203AFSN1	K	S	●							12.7	3.18	1.4	—	
	1203AFTN1	K	T						●		12.7	3.18	1.4	—	
	1203AFTN	K	T					●			12.7	3.18	1.7	1.0	
SE545	SEEN1504AFEN1	E	E			●					15.875	4.76	1.4	1.0	
	1504AFTN1	E	T				●	●			15.875	4.76	1.4	1.0	
	1504AFSN1	E	S	●	●						15.875	4.76	1.4	1.0	
	SEKN1504AFSN1	K	S	●							15.875	4.76	1.4	—	
	1504AFTN1	K	T						●		15.875	4.76	1.4	—	

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

Work Material			Coated				Cermet		Carbide		Dimensions (mm)				
			F7030	MC5020	VP15TF	VP30RT	NX2525	NX4545	UTi20T	HTi10					
P	Steel		◐		◐	✲	●	◐	◐						
M	Stainless Steel		◔		◔	✲	○	◔	◔						
K	Cast Iron			◐	✲		●		✲	◐					
N	Non-ferrous Metal									◐					
S	Heat-resistant Alloy, Titanium Alloy				◐										
H	Hardened Steel				◔										

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp **S :** Chamfer + Hone **T :** Chamfer

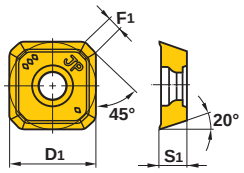
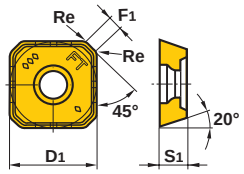
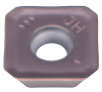
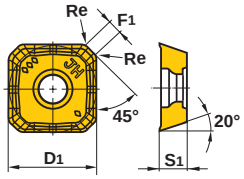
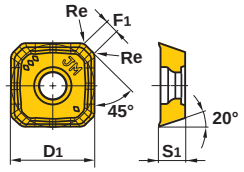
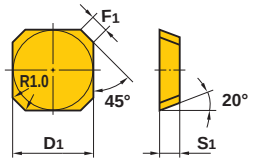
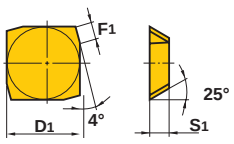
Shape	Order Number	Class	Honing	F7030	MC5020	VP15TF	VP30RT	NX2525	NX4545	UTi20T	HTi10	D_1	S_1	F_1	Re	Geometry
SE445	**SEER1203AFEN-JS**	E	E	●	●	●						12.7	3.18	1.4	1.0	
SE545	**SEER1504AFEN-JS**	E	E	●	●							15.875	4.76	1.4	1.0	
SE415 **QSE415**	**SEEN1203EFFR1**	E	F								●	12.7	3.18	1.4	1.0	
	1203EFER1	E	E			●						12.7	3.18	1.4	1.0	
	1203EFTR1	E	T					●	●			12.7	3.18	1.4	1.0	
	1203EFSR1	E	S	●	●							12.7	3.18	1.4	1.0	
	SEKN1203EFSR1	K	S	●								12.7	3.18	1.4	—	
	1203EFTR1	K	T							●		12.7	3.18	1.4	—	
	1203EFTR	K	T						●			12.7	3.18	1.8	1.0	Right hand insert shown.
SE515 ➲L024	**SECN1504EFTR1**	C	T						●			15.875	4.76	1.4	1.0	
	SEEN1504EFER1	E	E			●						15.875	4.76	1.4	1.0	
	1504EFTR1	E	T						●			15.875	4.76	1.4	1.0	
	1504EFSR1	E	S	●								15.875	4.76	1.4	1.0	
	SEKN1504EFSR1	K	S	●								15.875	4.76	1.4	—	
	1504EFTR1	K	T							●		15.875	4.76	1.4	—	Right hand insert shown.
SE415 **QSE415**	**SEER1203EFER-JS**	E	E	●	●							12.7	3.18	1.4	1.0	
ASX445 ➲L010	**SEET13T3AGEN-JL**	E	E	●		●	●		●			13.4	3.97	1.9	1.5	

ROTATING INSERTS

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
F : Sharp **S :** Chamfer + Hone **T :** Chamfer

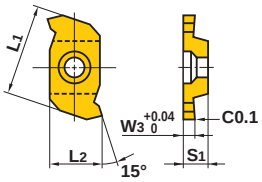
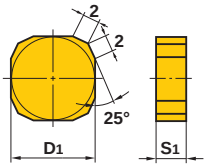
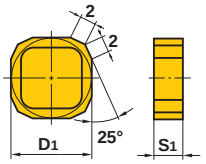
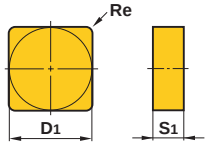
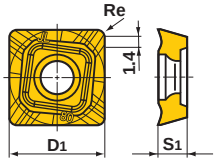
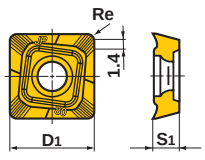
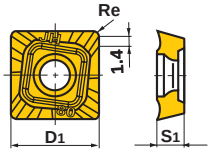
Shape	Order Number	Class	Honing	Coated F7030	Coated MC5020	Coated VP15TF	Coated VP30RT	Cermet NX4545	Carbide HTi10	D1	S1	F1	Re	Geometry
ASX445 ➲L010 	**SEGT13T3AGFN-JP**	G	F						●	13.4	3.97	2.2	—	
ASX445 ➲L010 	**SEMT13T3AGSN-FT**	M	S		●					13.4	3.97	1.9	1.5	
ASX445 ➲L010 	**SEMT13T3AGSN-JH**	M	S	●	●	●	●			13.4	3.97	1.9	1.5	
ASX445 ➲L010 	**SEMT13T3AGSN-JM**	M	S	●	●	●	●	●		13.4	3.97	1.9	1.5	
Corner Angle 45° 	**SEKN1203AGTN**	K	T					▲		12.7	3.18	1.7	—	
BF407 **QBF407** 	**SFAN1203ZFFR2**	A	F						●	12.7	3.175	2.4	—	
	1203ZFFL2	A	F						●	12.7	3.175	2.4	—	
	SFCN1203ZFFR2	C	F						●	12.7	3.175	2.4	—	
	1203ZFFL2	C	F						□	12.7	3.175	2.4	—	

● : 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)

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◕ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp **T :** Chamfer

Shape	Order Number	Class	Honing	Coated				Cermet		Carbide		Dimensions (mm)						Geometry
				F7030	MC5020	VP15TF	VP30RT	NX2525	NX4545	UTi20T	HTi10	L_1	L_2	D_1	S_1	W_3	Re	
STLG	**SLG22120L**	G	T							▲		13	7	—	2.7	1.2	—	
	**22150L**	G	T							▲		13	7	—	3	1.5	—	
	22200L	G	T							▲		13	7	—	3.5	2	—	
	38200L	G	T							▲		15.6	8	—	4	2	—	
	38300L	G	T							▲		15.6	8	—	5	3	—	
	38400L	G	T							▲		15.6	8	—	6	4	—	
BN425 DN	**SNC43B2G**	C	F								●	—	—	12.7	4.8	—	—	
	**43B2S**	C	T ✲1						●	●		—	—	12.7	4.8	—	—	
	SNK43B2G	K	F							●	●	—	—	12.7	4.8	—	—	
	43B2S	K	T ✲1					●	●	●		—	—	12.7	4.8	—	—	
BN425 DN	**SNKF43B2S**	K	T						●			—	—	12.7	4.8	—	—	
	**SNMF43B2G**	M	E		●							—	—	12.7	4.8	—	—	
	SNMN120408	M	E		●							—	—	12.7	4.78	—	0.8	
	**120412**	M	E		●							—	—	12.7	4.78	—	1.2	
ASX400 ➲L030	**SOET12T308PEER-JL**	E	E	●		●	●		●			—	—	12.7	3.97	—	0.8	
																		
ASX400 ➲L030	**SOGT12T308PEFR-JP**	G	F								●	—	—	12.7	3.97	—	0.8	
																		
ASX400 ➲L030	**SOMT12T308PEER-JH**	M	E	●	●	●	●					—	—	12.7	3.97	—	0.8	
																		

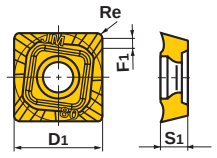
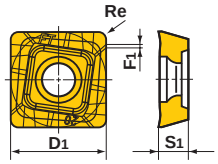
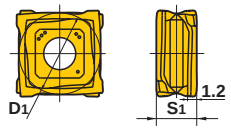
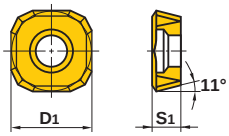
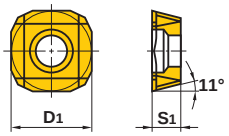
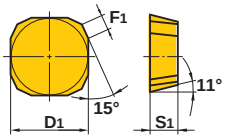
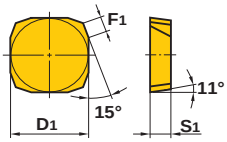
✲1 Grade UTi20T is "E".

ROTATING INSERTS

Work Material		
	P	Steel
	M	Stainless Steel
	K	Cast Iron
	N	Non-ferrous Metal
	S	Heat-resistant Alloy, Titanium Alloy
	H	Hardened Steel

Cutting Conditions (Guide) :
● : Stable Cutting ◔ : General Cutting ✣ : Unstable Cutting

Honing :
E : Round **F :** Sharp **T :** Chamfer

Shape	Order Number	Class	Honing	Coated					Cermet		Carbide			Dimensions (mm)				Geometry
				F7030	MC5020	VP15TF	VP30RT	UP20M	NX2525	NX4545	UTi20T	HTi10	HTi05T	D1	S1	F1	Re	
ASX400 ➲L030	**SOMT12T308PEER-JM**	M	E	●	●	●	●			●				12.7	3.97	1.4	0.8	 Right hand insert shown.
	**12T308PEEL-JM**	M	E			●								12.7	3.97	1.4	0.8	
ASX400 ➲L030	**SOMT12T320PEER-FT**	M	E		●	●								12.7	3.97	0.5	2.0	
																		
VOX400 ➲L026	**SONX1206PER**	N	E		●	●								12.7	6.3	—	—	
																		
FF3000 ➲L136	**SPCA53Z**	C	E						●					15.88	4.8	—	—	
																		
FF3000 ➲L136	**SPCG53Z**	C	F						●				●	15.88	4.8	—	—	
																		
Corner Angle 15°	**SPEN1203EDR**	E	T	▲					▲	▲				12.7	3.18	1.4	—	 Right hand insert shown.
	SPKN1203EDR	K	T✱1	▲	●	●			▲		▲	▲		12.7	3.18	1.4	—	
	**1504EDR**	K	T✱1			●		▲	▲		▲	▲		15.875	4.76	1.4	—	
FBP415	**SPEN1203EEER1**	E	E		●							●		12.7	3.175	1.4	—	 Right hand insert shown.
	1203EEEL1	E	E		●							●		12.7	3.175	1.4	—	
	**SPNN1203EEER1**	N	E		●							●		12.7	3.175	1.4	—	
	1203EEEL1	N	E									●		12.7	3.175	1.4	—	

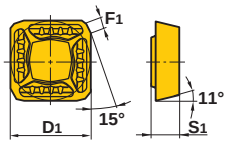
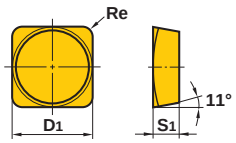
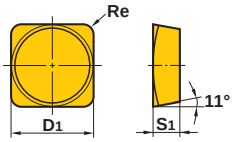
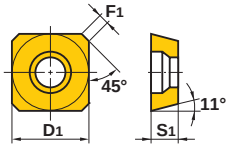
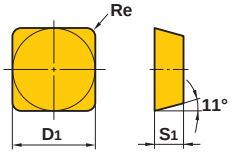
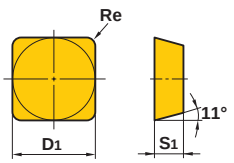
✱1 Grade HTi10 is "F".

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

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◕ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F** : Sharp **T** : Chamfer

Shape	Order Number	Class	Honing	Coated				Cermet	Carbide			Dimensions (mm)				Geometry
				F7030	MC5020	VP15TF	UP20M	NX2525	UTi20T	HTi10	HTi05T	D_1	S_1	F_1	Re	
FBP415	**SPER1203EEER-JS**	E	E		●							12.7	3.175	1.4	–	
FP490 ➲L137	**SPEN424A**	E	F							●	●	12.7	3.18	–	1.6	
FP590 ➲L138	**SPEN535A**	E	F								●	15.875	4.76	–	2.0	
BSP	**SPMB1204APT**	M	T				●		●			12.7	4.76	1.4	–	
S400	**SPMN120304**	M	E✲1			●			●	●		12.7	3.18		0.4	
	120304T	M	T					●				12.7	3.18		0.4	
	120308	M	E	●		●	●		●	●		12.7	3.18		0.8	
	120312	M	E✲1	●		●			●	●		12.7	3.18		1.2	
	120408	M	E		●				●	●		12.7	4.76		0.8	
	120412	M	E		●				●			12.7	4.76		1.2	
	SPGN120304	G	E✲1					●	●	●		12.7	3.18		0.4	
	120308	G	E✲1				●	●	●	●		12.7	3.18		0.8	
	120312	G	F							●		12.7	3.18		1.2	
S500	**SPMN150408**	M	E						●			15.875	4.76		0.8	
	150412	M	E						●			15.875	4.76		1.2	
	SPGN150404	G	E						●			15.875	4.76		0.4	
	150408	G	E✲1							●		15.875	4.76		0.8	

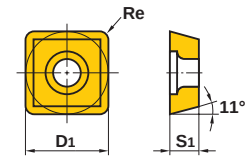
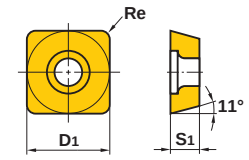
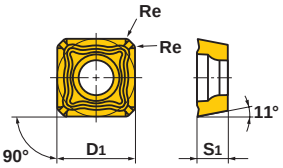
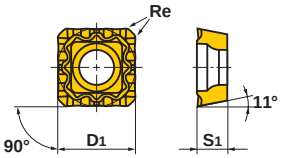
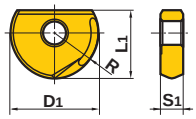
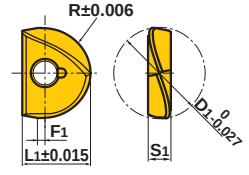
✲1 Grade HTi10 is "F".

ROTATING INSERTS

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp

Shape	Order Number	Class	Honing	Coated				Cermet		Carbide		Dimensions (mm)						Geometry
				VP15TF	VP20RT	UP20M	MP8010	NX2525	NX4545	UTi20T	HTi10	L_1	D_1	S_1	F_1	Re	R	
TBE1	**SPMT120408-A**	M	E			▲				▲		—	12.7	4.76	—	0.8	—	
CESP CFSP CGSP ➲L099	**SPMW090304**	M	E *1	●		●		●	●	●	●	—	9.525	3.18	—	0.4	—	
	090308	M	E *1	●		●		●	●	●	●	—	9.525	3.18	—	0.8	—	
	120304	M	E *1	●		●		●	●	●	●	—	12.7	3.18	—	0.4	—	
	120308	M	E *1	●		●		●	●	●	●	—	12.7	3.18	—	0.8	—	
SPX ➲L094	**SPMX120408-JM**	M	E	●	●							—	12.7	4.76	—	0.8	—	
SPX ➲L094	**SPMX120408-WH**	M	E	●	●							—	12.7	4.76	—	0.8	—	
SRB ➲L106	**SRBT10**	—	F	●								8.5	10	2.6	—	—	5	
	12	—	F	●								10	12	3	—	—	6	
	16	—	F	●								12	16	4	—	—	8	
	20	—	F	●								15	20	5	—	—	10	
	25	—	F	●								18.5	25	6	—	—	12.5	
	30	—	F	●								22.5	30	7	—	—	15	
	32	—	F	●								23.5	32	7	—	—	16	
SRF ➲L106	* **SRFT10**	—	F	●			●					8.5	10	2.6	0.5	—	5	
	* **12**	—	F	●			●					10	12	3	0.5	—	6	
	* **16**	—	F	●			●					12	16	4	1	—	8	
	* **20**	—	F	●			●					15	20	5	1	—	10	
	* **25**	—	F	●			●					18.5	25	6	1	—	12.5	
	* **30**	—	F	●			●					22.5	30	7	1	—	15	
	* **32**	—	F	●			●					23.5	32	7	1	—	16	

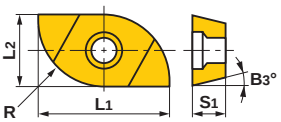
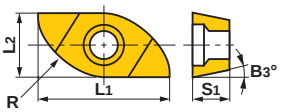
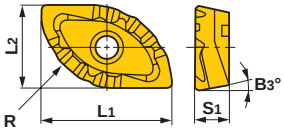
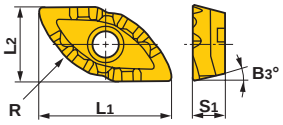
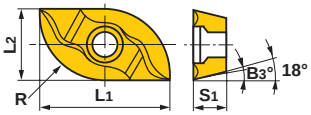
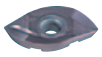
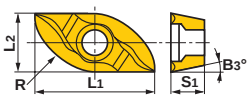
* 2 inserts in one case.
*1 Grade NX2525 and NX4545 are "T".

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

Work Material		
	P	Steel
	M	Stainless Steel
	K	Cast Iron
	N	Non-ferrous Metal
	S	Heat-resistant Alloy, Titanium Alloy
	H	Hardened Steel

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✱ : Unstable Cutting

Honing :
E : Round

Shape	Order Number	Class	Honing	Coated			Dimensions (mm)					Geometry
				VP15TF	VP20RT	VP30RT	L_1	L_2	S_1	R	B_3	
SRM2 ➲L114	**SRG16C**	G	E	●			16	8.2	3.5	8	11°	
	**20C**	G	E	●			19	10.2	4.6	10	10°	
	25C	G	E	●			24	12.8	5.5	12.5	10°	
	30C	G	E	●			28	15.3	7	15	10°	
	32C	G	E	●			28	16.3	7	16	10°	
SRM2 ➲L114	**SRG16E**	G	E	●			13.5	6.7	3.5	8	11°	
	**20E**	G	E	●			15.5	8.5	4.6	10	9°	
	25E	G	E	●			20.5	10.2	5.5	12.5	9°	
	30E	G	E	●			25.2	12.2	7	15	9°	
	32E	G	E	●			26.1	13.1	7	16	9°	
SRM2ϕ40 ϕ50 ➲L120	✱ **SRG40C**	G	E	●	●	●	36	20.5	8.0	20	11°	
	✱ **50C**	G	E	●	●	●	40	26	8.5	25	11°	
SRM2ϕ40 ϕ50 ➲L120	✱ **SRG40E**	G	E	●	●	●	32	16.6	8.0	20	11°	
	✱ **50E**	G	E	●	●	●	35.8	20	8.5	25	11°	
SRM2 ➲L114	**SRM16C-M**	M	E	●			16	8.2	3.5	8	11°	
	**20C-M**	M	E	●			19	10.2	4.6	10	10°	
	25C-M	M	E	●			24	12.8	5.5	12.5	10°	
	30C-M	M	E	●			28	15.3	7	15	10°	
	32C-M	M	E	●			28	16.3	7	16	10°	
SRM2 ➲L114	**SRM16E-M**	M	E	●			13.5	6.7	3.5	8	11°	
	**20E-M**	M	E	●			15.5	8.5	4.6	10	9°	
	25E-M	M	E	●			20.5	10.2	5.5	12.5	9°	
	30E-M	M	E	●			25.2	12.2	7	15	9°	
	32E-M	M	E	●			26.1	13.1	7	16	9°	

✱ 2 inserts in one case.

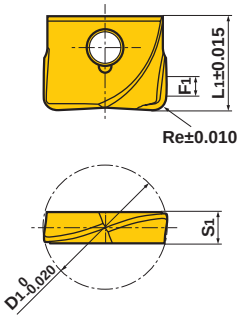
ROTATING INSERTS

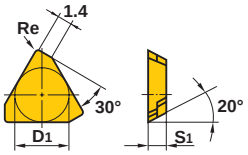
Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp **S :** Chamfer + Hone **T :** Chamfer

Shape	Order Number	Class	Honing	Coated					Cermet		Carbide		Dimensions (mm)					Geometry
				F7030	MC5020	VP15TF	UP20M	MP8010	NX2525	NX4545	UTi20T	HTi10	D_1	L_1	S_1	F_1	Re	
SUF ➔L110	NEW ⁎SUFT10R05	–	F			●		●					10	8.5	2.6	1	0.5	
	NEW ⁎ 10R10	–	F			●		●					10	8.5	2.6	1	1	
	NEW ⁎ 10R20	–	F			●		●					10	8.5	2.6	1	2	
	NEW ⁎ 12R05	–	F			●		●					12	10	3	1.2	0.5	
	NEW ⁎ 12R10	–	F			●		●					12	10	3	1.2	1	
	NEW ⁎ 12R20	–	F			●		●					12	10	3	1.2	2	
	NEW ⁎ 12R30	–	F			●		●					12	10	3	1.2	3	
	NEW ⁎ 16R05	–	F			●		●					16	12	4	1.6	0.5	
	NEW ⁎ 16R10	–	F			●		●					16	12	4	1.6	1	
	NEW ⁎ 16R15	–	F			●		●					16	12	4	1.6	1.5	
	NEW ⁎ 16R20	–	F			●		●					16	12	4	1.6	2	
	NEW ⁎ 16R30	–	F			●		●					16	12	4	1.6	3	
	⁎ 20R05	–	F			●		●					20	15	5	2	0.5	
	⁎ 20R10	–	F			●		●					20	15	5	2	1	
	NEW ⁎ 20R15	–	F			●		●					20	15	5	2	1.5	
	⁎ 20R20	–	F			●		●					20	15	5	2	2	
	⁎ 20R30	–	F			●		●					20	15	5	2	3	
	⁎ 25R05	–	F			●		●					25	18.5	6	2.5	0.5	
	⁎ 25R10	–	F			●		●					25	18.5	6	2.5	1	
	⁎ 25R20	–	F			●		●					25	18.5	6	2.5	2	
	⁎ 25R30	–	F			●		●					25	18.5	6	2.5	3	
	⁎ 30R05	–	F			●		●					30	22.5	7	3	0.5	
	⁎ 30R10	–	F			●		●					30	22.5	7	3	1	
	⁎ 30R20	–	F			●		●					30	22.5	7	3	2	
	⁎ 30R30	–	F			●		●					30	22.5	7	3	3	
	NEW ⁎ 32R05	–	F			●		●					32	23.5	7	3.2	0.5	
	NEW ⁎ 32R10	–	F			●		●					32	23.5	7	3.2	1	
	NEW ⁎ 32R20	–	F			●		●					32	23.5	7	3.2	2	
NSE300 SE300	TEEN1603PEFR1	E	F									●	9.525	–	3.175	–	0.4	
	1603PEER1	E	E			●						●	9.525	–	3.175	–	0.4	
	1603PETR1	E	T				●		●	●	●		9.525	–	3.175	–	0.4	
	1603PESR1	E	S	●	●								9.525	–	3.175	–	0.4	





⁎ 2 inserts in one case.

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

Work Material			Coated					Cermet		Carbide		Dimensions (mm)				
			F7030	MC5020	VP15TF	UP20M	AP10H	NX2525	NX4545	UTi20T	HTi10	D1	S1	F1	Re	Geometry
P	Steel		◔		◔	◔		●	◔	◔						
M	Stainless Steel		◕		◕	◕		○	◕	◕						
K	Cast Iron			◔	✲		◔	●		✲	◔					
N	Non-ferrous Metal										◔					
S	Heat-resistant Alloy, Titanium Alloy				●											
H	Hardened Steel				◕				○							

Cutting Conditions (Guide) :
● : Stable Cutting ◔ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp **S :** Chamfer + Hone **T :** Chamfer

Shape	Order Number	Class	Honing	F7030	MC5020	VP15TF	UP20M	AP10H	NX2525	NX4545	UTi20T	HTi10	D1	S1	F1	Re	Geometry
NSE300 SE300	TECN1603PEFR1W	C	F									●	9.525	3.175	—	0.4	
	1603PEER1W	C	E									●	9.525	3.175	—	0.4	
	1603PETR1W	C	T						●	●	●		9.525	3.175	—	0.4	
	TEER1603PEER-JS	E	E	●							●		9.525	3.175	—	0.4	Wall face finishing.
NSE300 NSE400	2204PEER-JS	E	E	●							●		12.7	4.76	—	1.0	
NSE400 SE400	TECN2204PEFR1	C	F									●	12.7	4.76	1.4	1.0	
	2204PEER1	C	E									●	12.7	4.76	1.4	1.0	
	2204PETR1	C	T						●	●	●		12.7	4.76	1.4	1.0	
	TEEN2204PEFR1	E	F									●	12.7	4.76	1.4	1.0	
	2204PEER1	E	E			●						●	12.7	4.76	1.4	1.0	
	2204PETR1	E	T				●		●	●	●		12.7	4.76	1.4	1.0	
	2204PESR1	E	S	●	●								12.7	4.76	1.4	1.0	
	TEKN2204PEER1	K	E									●	12.7	4.76	1.94	—	
	2204PESR1	K	S	●									12.7	4.76	1.94	—	
	2204PETR1	K	T				●		●		●		12.7	4.76	1.94	—	
	2204PETR	K	T							●			12.7	4.76	1.94	—	Right hand insert shown.
	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 L128	TPEW1303ZPER2	E	E			●		●					7.94	3.18	—	—	

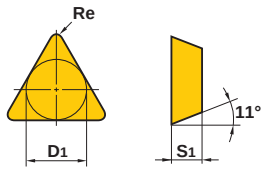
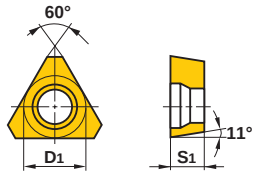
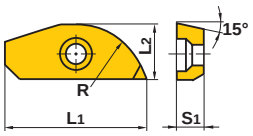
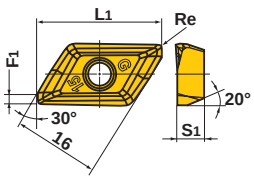
*1 Grade F7030 is "E".

ROTATING INSERTS

Work Material		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metal	
S	Heat-resistant Alloy, Titanium Alloy	
H	Hardened Steel	

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✱ : Unstable Cutting

Honing :
E : Round

Shape	Order Number	Class	Honing	Coated					Cermet	Carbide		Dimensions (mm)							Geometry
				F7030	VP15TF	LC15TF	UP20M	AP20M	NX2525	UTi20T	HTi10	L_1	L_2	D_1	S_1	F_1	Re	R	
11°Positive	TPMN160304	M	E*1	●	●		●		●	●	●	—	—	9.525	3.18	—	0.4	—	
	160308	M	E*2	●	●		●		●	●	●	—	—	9.525	3.18	—	0.8	—	
	160312	M	E*1				●				●	—	—	9.525	3.18	—	1.2	—	
	220404	M	E							●		—	—	12.7	4.76	—	0.4	—	
	220408	M	E*1	●	●		●			●	●	—	—	12.7	4.76	—	0.8	—	
	220412	M	E*1	●	●					●	●	—	—	12.7	4.76	—	1.2	—	
VIPER	TPNX1605N	N	E							●		—	—	9.525	5	—	—	—	
FBE2	UDC20F	C	E		▲				▲			19.4	7.4	—	3.5	—	—	10	
	25F	C	E		▲				▲			24	9.3	—	4	—	—	12.5	
	30F	C	E		▲				▲			28.9	11.2	—	5	—	—	15	
BXD4000 ➲L060	XDGT1550PDER-G04	G	E		●							22	—	—	5	1.5	0.4	—	
	1550PDER-G08	G	E		●							22	—	—	5	1.1	0.8	—	
	1550PDER-G12	G	E		●							22	—	—	5	0.7	1.2	—	
	1550PDER-G16	G	E		●							22	—	—	5	0.4	1.6	—	
	1550PDER-G20	G	E		●							21.7	—	—	5	0.2	2.0	—	
	1550PDER-G30	G	E		●							20	—	—	5	0.6	3.0	—	
	1550PDER-G32	G	E		●							20	—	—	5	0.4	3.2	—	
	1550PDER-G40	G	E		●							19	—	—	5	0.5	4.0	—	
	1550PDER-G50	G	E		●							18	—	—	5	0.4	5.0	—	

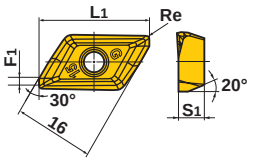
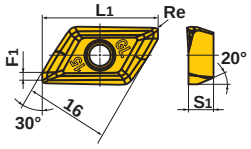
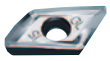
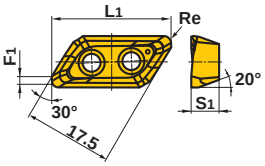
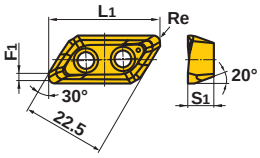
*1 Grade HTi10 is "F".
*2 Grade HTi10 is "F", Grade NX2525 is "T".

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

Work Material		
	P	Steel
	M	Stainless Steel
	K	Cast Iron
	N	Non-ferrous Metal
	S	Heat-resistant Alloy, Titanium Alloy
	H	Hardened Steel

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✣ : Unstable Cutting

Honing :
F : Sharp

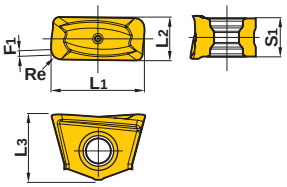
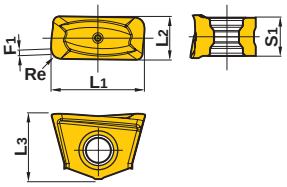
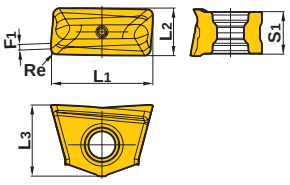
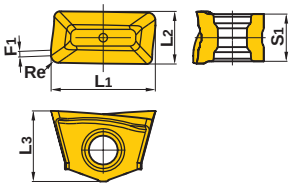
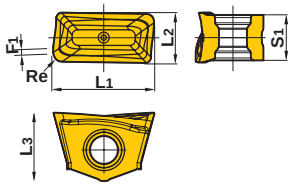
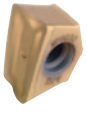
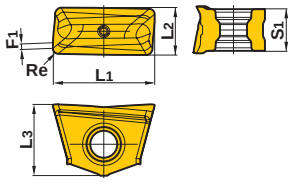
Shape	Order Number	Class	Honing	Coated		Carbide	Dimensions (mm)				Geometry
				VP15TF	LC15TF	TF15	L_1	S_1	F_1	Re	
BXD4000 ➲L060	**XDGT1550PDFR-G04**	G	F		●	●	22	5	1.5	0.4	
	1550PDFR-G08	G	F		●	●	22	5	1.1	0.8	
	1550PDFR-G12	G	F		●	●	22	5	0.7	1.2	
	1550PDFR-G16	G	F		●	●	22	5	0.4	1.6	
	**1550PDFR-G20**	G	F		●	●	21.7	5	0.2	2.0	
	1550PDFR-G30	G	F		●	●	20	5	0.6	3.0	
	1550PDFR-G32	G	F		●	●	20	5	0.4	3.2	
	1550PDFR-G40	G	F		●	●	19	5	0.5	4.0	
	1550PDFR-G50	G	F		●	●	18	5	0.4	5.0	
BXD4000 ➲L060	**XDGT1550PDFR-GL04**	G	F		●	●	22	5	1.5	0.4	
	1550PDFR-GL08	G	F		●	●	22	5	1.1	0.8	
											
AXD4000 ➲L050	**XDGX175004PDFR-GL**	G	F		●	●	23	5	1.7	0.4	
	175008PDFR-GL	G	F		●	●	23	5	1.3	0.8	
	175012PDFR-GL	G	F		●	●	23	5	0.9	1.2	
	175016PDFR-GL	G	F		●	●	22	5	1.4	1.6	
	175020PDFR-GL	G	F		●	●	22	5	1.0	2.0	
	**175024PDFR-GL**	G	F		●	●	22	5	0.6	2.4	
	175030PDFR-GL	G	F		●	●	21.1	5	0.8	3.0	
	175032PDFR-GL	G	F		●	●	21.1	5	0.6	3.2	
	175040PDFR-GL	G	F		●	●	20	5	0.8	4.0	
	175050PDFR-GL	G	F		●	●	19.4	5	0.4	5.0	
AXD7000 ➲L055	**XDGX227008PDFR-GL**	G	F		●	●	30	7	2.0	0.8	
	227016PDFR-GL	G	F		●	●	30	7	1.2	1.6	
	227020PDFR-GL	G	F		●	●	30	7	0.8	2.0	
	**227030PDFR-GL**	G	F		●	●	28.8	7	0.8	3.0	
	227032PDFR-GL	G	F		●	●	28.8	7	0.6	3.2	
	227040PDFR-GL	G	F		●	●	27.5	7	0.9	4.0	
	227050PDFR-GL	G	F		●	●	27	7	0.4	5.0	

ROTATING INSERTS

Work Material		
	P	Steel
	M	Stainless Steel
	K	Cast Iron
	N	Non-ferrous Metal
	S	Heat-resistant Alloy, Titanium Alloy
	H	Hardened Steel

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✱ : Unstable Cutting

Honing :
E : Round

Shape	Order Number	Class	Honing	Coated MP9030	Coated MP9130 (NEW)	L1	L2	L3	S1	F1	Re	Geometry
VFX5 (NEW) ➡L100	XNMU160708R-MS	M	E	●		16.0	7.0	11.1	6.5	1.0	0.8	
	(NEW) 160712R-MS	M	E	●		16.0	7.0	11.1	6.5	1.0	1.2	
	(NEW) 160716R-MS	M	E	●		16.0	7.0	11.1	6.5	1.0	1.6	
	(NEW) 160724R-MS	M	E	●		16.0	7.0	11.1	6.5	1.0	2.4	
	(NEW) 160732R-MS	M	E	●		17.3	7.0	11.1	6.5	—	3.2	
	(NEW) 160740R-MS	M	E	●		18.9	7.0	11.1	6.5	—	4.0	
VFX5 (NEW)	XNMU160708R-HS	M	E	●		16.0	7.0	11.1	6.5	1.0	0.8	
												
VFX5 (NEW)	XNMU160708R-LS	M			●	16.0	7.0	11.1	6.5	1.0	0.8	
												
VFX6 ➡L103	XNMU190912R-MS	M	E	●		19.1	9.5	12.7	8.5	1.0	1.2	
	(NEW) 190916R-MS	M	E	●		19.1	9.5	12.7	8.5	1.0	1.6	
	(NEW) 190924R-MS	M	E	●		19.1	9.5	12.7	8.5	1.0	2.4	
	(NEW) 190932R-MS	M	E	●		20.2	9.5	12.7	8.5	—	3.2	
	(NEW) 190940R-MS	M	E	●		21.8	9.5	12.7	8.5	—	4.0	
	(NEW) 190950R-MS	M	E	●		21.8	9.5	12.7	8.5	—	5.0	
VFX6 (NEW)	XNMU190912R-HS	M	E	●		19.1	9.5	12.7	8.5	1.0	1.2	
												
VFX6 (NEW)	XNMU190912R-LS	M			●	19.1	9.5	12.7	8.5	1.0	1.2	
												

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

Work Material			Coated				Cermet		Carbide		Dimensions (mm)						Geometry
			F7030	VP15TF	UP20M	MP9030	NX2525		UTi20T	HTi10							
P	Steel		●	◐	◐		●		◐								
M	Stainless Steel		◔	◔	◔		○		◔								
K	Cast Iron			✱			●		✱	◐							
N	Non-ferrous Metal									◐							
S	Heat-resistant Alloy, Titanium Alloy			◐		◐											
H	Hardened Steel			◔													

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✱ : Unstable Cutting

Honing :
E : Round **F :** Sharp

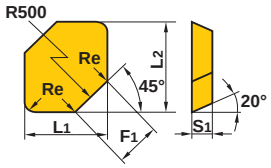
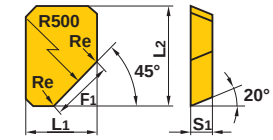
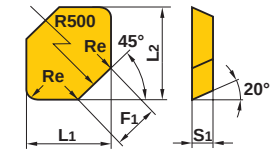
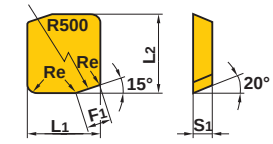
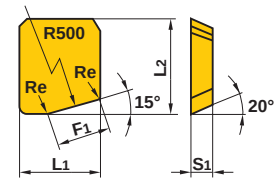
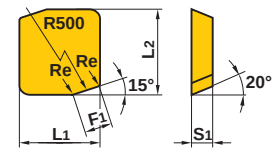
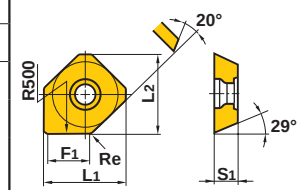
Shape	Order Number	Class	Honing	F7030	VP15TF	UP20M	MP9030	NX2525	UTi20T	HTi10	L1	L2	L3	S1	F1	Re	Geometry
BAP3500	**XPGT13T3PDER-G1**	G	E		●						13	7.9	—	3.97	1.6	0.4	
	**13T3PDER-G2**	G	E		●						13	7.9	—	3.97	1.2	0.8	
	13T3PDER-G6	G	E		●						13	7.9	—	3.97	0.4	2.4	
	13T3PDER-G75	G	E		●						13	7.9	—	3.97	0.4	3.0	
	13T3PDER-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	
	**13T3PDFR-G2**	G	F							●	13	7.9	—	3.97	1.2	0.8	
	13T3PDFR-G6	G	F							●	13	7.9	—	3.97	0.4	2.4	
	13T3PDFR-G75	G	F							●	13	7.9	—	3.97	0.4	3.0	
	13T3PDFR-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	
	**13T3PDER-M2**	M	E	●	●						13	7.9	—	3.97	1.2	0.8	
	13T3PDER-M6	M	E	●	●						13	7.9	—	3.97	0.4	2.4	
	13T3PDER-M75	M	E	●	●						13	7.9	—	3.97	0.4	3.0	
	13T3PDER-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	
	**09T308ER-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	
	**0603R-M4**	M	E		●						8.5	6.35	—	3.18	—	1.6	
	0603R-M5	M	E		●						8.5	6.35	—	3.18	—	2.0	

WIPER INSERTS

Work Material			MC5020 (Coated)	VP15TF (Coated)	NX2525 (Cermet)	VP25N (Coated Cermet)	HTi05T (Carbide)
	P	Steel	◐	◐	●	●	
	M	Stainless Steel	◑	◑	●		
	K	Cast Iron	◐	✲	●	●	●
	N	Non-ferrous Metal					●
	S	Heat-resistant Alloy, Titanium Alloy		◐			
	H	Hardened Steel		◔			

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✲ : Unstable Cutting

Honing :
E : Round **F :** Sharp **T :** Chamfer

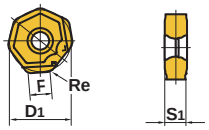
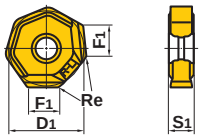
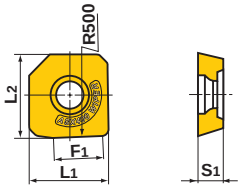
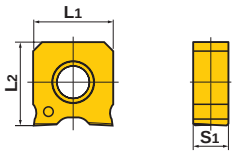
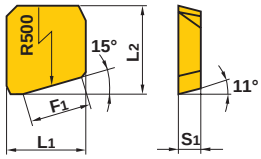
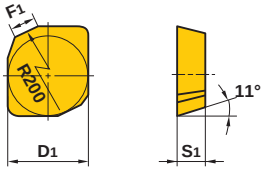
Shape	Order Number	Class	Honing	MC5020 (Coated)	VP15TF (Coated)	NX2525 (Cermet)	VP25N (Coated Cermet)	HTi05T (Carbide)	L1	L2	S1	F1	Re	Dimensions (mm)
SE445	WEC42AFFR5C	C	F					▲	12.7	15.33	3.18	5	1.0	 Right hand insert shown.
	42AFER5C	C	E					▲	12.7	15.33	3.18	5	1.0	
	42AFTR5C	C	T			●			12.7	15.33	3.18	5	1.0	
SE445	WEC42AFER10C	C	E					▲	12.7	18.816	3.18	10	1.0	 Right hand insert shown.
SE545	WEC53AFER5C	C	E					●	15.875	18.505	4.76	5	1.0	 Right hand insert shown.
	53AFTR5C	C	T			●			15.875	18.505	4.76	5	1.0	
SE415	WEC42EFER5C	C	E					●	12.7	13.728	3.18	5	1.0	 Right hand insert shown.
	42EFTR5C	C	T			●			12.7	13.728	3.18	5	1.0	
SE415	WEC42EFER10C	C	E					▲	12.7	14.99	3.18	10	1.0	 Right hand insert shown.
SE515 ➲L024	WEC53EFER5C	C	E					▲	15.875	16.903	4.76	5	1.0	 Right hand insert shown.
	53EFTR5C	C	T			●			15.875	16.903	4.76	5	1.0	
ASX445 ➲L010	WEEW13T3AGER8C	E	E	●	●			●	16.48	16.6	3.97	7.5	1.5	
	13T3AGTR8C	E	T			●	●		16.48	16.6	3.97	7.5	1.5	

● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products.
(10 inserts in one case) (CBN and PCD inserts are available in 1 piece in one case)

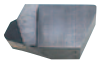
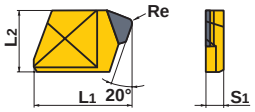
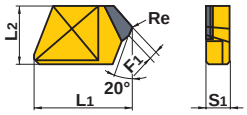
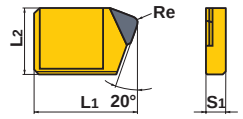
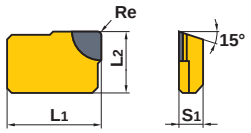
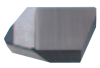
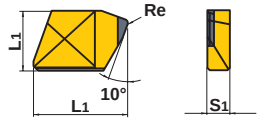
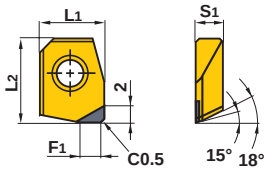
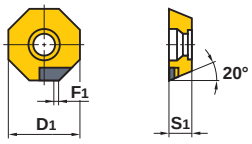
Work Material		
	P	Steel
	M	Stainless Steel
	K	Cast Iron
	N	Non-ferrous Metal
	S	Heat-resistant Alloy, Titanium Alloy
	H	Hardened Steel

Cutting Conditions (Guide) :
● : Stable Cutting ◐ : General Cutting ✱ : Unstable Cutting

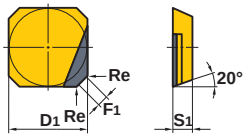
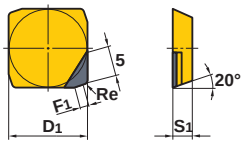
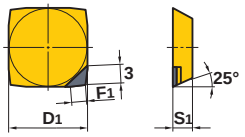
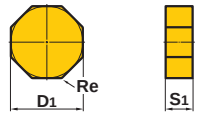
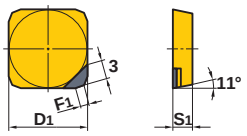
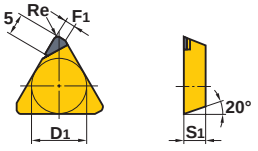
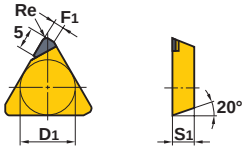
Honing :
E : Round **F :** Sharp **T :** Chamfer

Shape	Order Number	Class	Honing	Coated		Cermet	Carbide		Dimensions (mm)						Geometry
				MC5020	VP15TF	NX2525	HTi10	HTi05T	L_1	L_2	D_1	S_1	F_1	Re	
AHX640S NEW L016 	**WNEU2007ZEN7C-WP**	E	E		●				—	—	20	6.9	7.4	0.8	
AHX640W L020 	**WNEU2006ZEN7C-WK**	E	E	●					—	—	20	6.55	7.4	0.8	
ASX400 L030 	**WOEW12T308PEER8C**	E	E					●	12.5	13.2	—	3.97	8	0.8	
	12T308PETR8C	E	T			●			12.5	13.2	—	3.97	8	0.8	
VOX400 NEW L026 	**WOEX1206PER5C**	N	E		●				12.5	13.025	—	5.5	—	—	
FBP415 **QBP415** 	**WPC42EEER10C**	C	E					●	12.7	15.163	—	3.175	10	—	 Right hand insert shown.
	42EEEL10C	C	E					●	12.7	15.163	—	3.175	10	—	
P425 	**WPC42W3GR**	C	F				▲		—	—	12.7	3.2	6	—	

CBN AND PCD

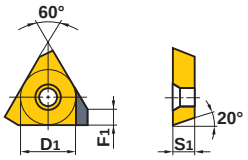
Shape	Order Number	Class	CBN	PCD	Dimensions (mm)						Geometry
			MB730	MD220	L_1	L_2	D_1	S_1	F_1	Re	
NF10000 ➲L135 **QF10000** 	**GDCN2004PDFR3**	C		●	20	12.7	—	4.76	—	1.2	
NF10000 ➲L135 	**GDCN2004ZDTR1**	C		●	20	12.7	—	4.76	1.4	0.8	
AF10000 	**GDCN2004PDR**	C		●	20	12.7	—	4.76	—	1.2	
AF5000 	**LDCN190412R**	C	●	●	19.05	12.7	—	4.76	—	1.2	 Right hand insert shown.
	190412L	C		●	19.05	12.7	—	4.76	—	1.2	
NF10000 NEW ➲L135 	**NP-GDCN2004PDSR3**	C	●		20	12.7	—	4.76	—	0.8	
V10000 ➲L134 	**NP-GDCW1240PDFR2**	C		●	9.5	12	—	4	2	—	
OCTACUT ➲L080 	**OEMX12T3ETR1**	M	●		—	—	12.7	3.97	1	—	

● : Inventory maintained in Japan.
(10 inserts in one case) (CBN and PCD inserts are available in 1 piece in one case)

Shape	Order Number	Class	CBN		PCD	Dimensions (mm)				Geometry
			MB710	BC5030	MD220	D_1	S_1	F_1	Re	
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 ➲L022 	**SL-ONEN120404ASN**	E		●		12.7	4.76	–	0.4	
FBP415 	**SPEN1203EETR1**	E	●			12.7	3.175	1.4	–	
SE300 	**TECN1603PEFR1**	C			●	9.525	3.175	1.4	0.4	
SE400 	**TECN2204PEFR1**	C			●	12.7	4.76	1.4	1.0	

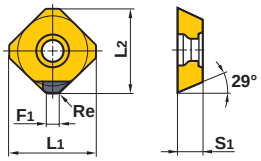
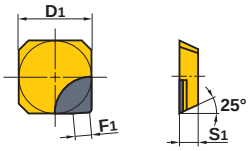
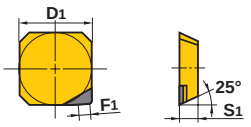
● : Inventory maintained in Japan. (1 insert in one case)

CBN AND PCD

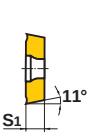
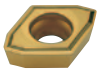
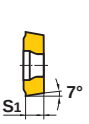
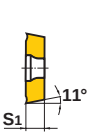
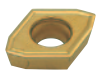
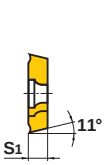
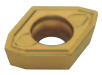
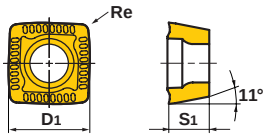
Shape	Order Number	Class	CBN		PCD	Dimensions (mm)				Geometry
			MB710	MB730	MD220	D_1	S_1	F_1	Re	
PMF L128 	**TPEW1303ZPTR2**	E	●			7.94	3.18	2	–	

● : 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_1	L_2	D_1	S_1	F_1	Re	
ASX445 ➲L010	**WEEW13T3AGFR3C**	E		●	16.48	16.6	–	3.97	–	1.5	
	**13T3AGTR3C**	E	●		16.48	16.6	–	3.97	3.0	1.5	
BF407	**WFC42ZFER2**	C		●	–	–	12.4	3.175	2.4	–	
											
BF407	**NP-WFC42ZFER2**	C		●	–	–	12.4	3.175	2.4	–	 Right hand insert shown.
											

DRILLING INSERTS

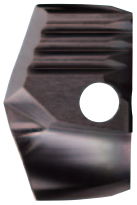
Shape	Order Number	Class	Coated						Dimensions (mm)			Geometry
			VP15TF	UP20M	GP20M	UE6020	US735	MC1020	MC5020	D1	S1	Re	
TAF ➲N217	**GCMT040204-U1**	M		●						—	2.38	0.4	**U1** Breaker
	GPMT060204-U1	M		●		●				5.56	2.38	0.4	GCMT 
 GCMT	**070204-U1**	M		●		●				6.35	2.38	0.4	
	090304-U1	M		●		●				7.94	3.18	0.4	
	11T308-U1	M		●		●				9.525	3.97	0.8	GPMT 
 GPMT	**140408-U1**	M		●		●				12.7	4.76	0.8	
TAF ➲N217	**GCMT040204-U2**	M	●		●					—	2.38	0.4	**U2** Breaker
	GPMT060204-U2	M	●	●		●	●			5.56	2.38	0.4	GCMT 
 GCMT	**070204-U2**	M	●	●		●	●			6.35	2.38	0.4	
	090304-U2	M	●	●		●	●			7.94	3.18	0.4	
	11T308-U2	M	●	●		●	●			9.525	3.97	0.8	GPMT 
 GPMT	**140408-U2**	M	●	●		●	●			12.7	4.76	0.8	
TAF ➲N217	**GPMT060204-U3**	M		●		●	●			5.56	2.38	0.4	**U3** Breaker
	070204-U3	M		●		●	●			6.35	2.38	0.4	GPMT 
	090304-U3	M		●		●	●			7.94	3.18	0.4	
	**11T308-U3**	M		●		●	●			9.525	3.97	0.8	
	140408-U3	M		●		●	●			12.7	4.76	0.8	
MVX ➲N213	**SOMX063005-UM** NEW	M	●					●	●	6	3	0.5	
	073505-UM NEW	M	●					●	●	7	3.5	0.5	
	**084005-UM** NEW	M	●					●	●	8.3	4	0.5	
	094506-UM NEW	M	●					●	●	9.7	4.5	0.5	

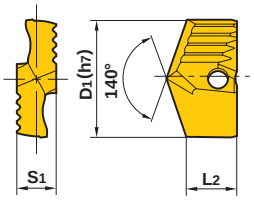
● : Inventory maintained in Japan. ▲ : Inventory maintained in Japan. To be replaced by new products.
(10 inserts in one case)

Applicable Drill Shape Geometry

TAW H Type

N199





Order Number	Coated VP15TF	Coated VP10H	Dimensions (mm) D1	L2	S1	Applicable Holder
TAWNH1400T	▲		14.0	7.6	5.0	TAWSNH 1400S16
1410T	▲		14.1	7.6	5.0	TAWMNH 1400S16
1420T	▲		14.2	7.6	5.0	TAWLNH 1400S16
1430T	▲		14.3	7.6	5.0	
1440T	▲		14.4	7.6	5.0	
1450T	▲		14.5	7.5	5.0	
1460T	▲		14.6	7.5	5.0	
1470T	▲		14.7	7.5	5.0	TAWSNH 1500S20
1480T	▲		14.8	7.5	5.0	TAWMNH 1500S20
1490T	▲		14.9	7.5	5.0	TAWLNH 1500S20
1500T	▲		15.0	7.4	5.0	
1510T	▲		15.1	7.4	5.0	
1520T	▲		15.2	7.4	5.0	
1530T	▲		15.3	7.4	5.0	
1540T	▲		15.4	7.4	5.0	
1550T	▲		15.5	7.9	6.0	
1560T	▲		15.6	7.9	6.0	
1570T	▲		15.7	7.9	6.0	TAWSN 1600S20
1580T	▲		15.8	7.9	6.0	TAWMN 1600S20
1590T	▲		15.9	7.9	6.0	TAWLN 1600S20
1600T	▲		16.0	7.8	6.0	
1610T	▲		16.1	7.8	6.0	
1620T	▲		16.2	7.8	6.0	
1630T	▲		16.3	7.8	6.0	
1640T	▲		16.4	7.8	6.0	
1650T	▲		16.5	7.7	6.0	
1660T	▲		16.6	7.7	6.0	
1670T	▲		16.7	7.7	6.0	TAWSN 1700S20
1680T	▲		16.8	7.7	6.0	TAWMN 1700S20
1690T	▲		16.9	7.7	6.0	TAWLN 1700S20
1700T	▲		17.0	7.6	6.0	
1710T	▲		17.1	7.6	6.0	
1720T	▲		17.2	7.6	6.0	
1730T	▲		17.3	7.6	6.0	
1740T	▲		17.4	7.6	6.0	
1750T	▲		17.5	7.5	6.0	
1760T	▲		17.6	7.5	6.0	
1770T	▲		17.7	7.5	6.0	TAWSN 1800S20
1780T	▲		17.8	7.5	6.0	TAWMN 1800S20
1790T	▲		17.9	7.5	6.0	TAWLN 1800S20
1800T	▲		18.0	7.4	6.0	
1810T	▲		18.1	7.4	6.0	
1820T	▲		18.2	7.4	6.0	
1830T	▲		18.3	7.4	6.0	
1840T	▲		18.4	7.4	6.0	

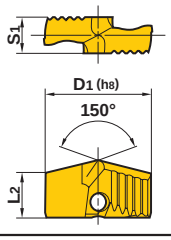
Order Number	Coated VP15TF	Coated VP10H	Dimensions (mm) D1	L2	S1	Applicable Holder
TAWNH1850T	●	□	18.5	9.3	7.0	
1860T	●	□	18.6	9.3	7.0	
1870T	●	□	18.7	9.3	7.0	TAWSN 1900S25
1880T	●	□	18.8	9.3	7.0	TAWMN 1900S25
1890T	●	□	18.9	9.3	7.0	TAWLN 1900S25
1900T	●	□	19.0	9.2	7.0	
1910T	●	□	19.1	9.2	7.0	
1920T	●	□	19.2	9.2	7.0	
1930T	●	□	19.3	9.2	7.0	
1940T	●	□	19.4	9.2	7.0	
1950T	●	□	19.5	9.1	7.0	
1960T	●	□	19.6	9.1	7.0	
1970T	●	□	19.7	9.1	7.0	TAWSN 2000S25
1980T	●	□	19.8	9.1	7.0	TAWMN 2000S25
1990T	●	□	19.9	9.1	7.0	TAWLN 2000S25
2000T	●	□	20.0	9.0	7.0	
2010T	□	□	20.1	9.0	7.0	
2020T	□	□	20.2	9.0	7.0	
2030T	□	□	20.3	9.0	7.0	
2040T	□	□	20.4	9.0	7.0	
2050T	●	□	20.5	8.9	7.0	
2060T	□	□	20.6	8.9	7.0	
2070T	□	□	20.7	8.9	7.0	TAWSN 2100S25
2080T	□	□	20.8	8.9	7.0	TAWMN 2100S25
2090T	□	□	20.9	8.9	7.0	TAWLN 2100S25
2100T	●	□	21.0	8.8	7.0	
2110T	□	□	21.1	8.8	7.0	
2120T	□	□	21.2	8.8	7.0	
2130T	□	□	21.3	8.8	7.0	
2140T	□	□	21.4	8.8	7.0	
2150T	●	□	21.5	10.6	8.0	
2160T	□	□	21.6	10.6	8.0	
2170T	□	□	21.7	10.6	8.0	TAWSN 2200S25
2180T	□	□	21.8	10.6	8.0	TAWMN 2200S25
2190T	□	□	21.9	10.6	8.0	TAWLN 2200S25
2200T	●	□	22.0	10.5	8.0	
2210T	□	□	22.1	10.5	8.0	
2220T	□	□	22.2	10.5	8.0	
2230T	□	□	22.3	10.5	8.0	
2240T	□	□	22.4	10.5	8.0	
2250T	●	□	22.5	10.4	8.0	TAWSN 2300S25
2260T	□	□	22.6	10.4	8.0	TAWMN 2300S25
2270T	□	□	22.7	10.4	8.0	TAWLN 2300S25
2280T	□	□	22.8	10.4	8.0	
2290T	□	□	22.9	10.4	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)

DRILLING INSERTS

Order Number	Coated VP15TF	Coated VP10H	Dimensions (mm) D1	L2	S1	Applicable Holder
TAWNH2300T	●	□	23.0	10.3	8.0	TAWSN 2300S25
2310T	□	□	23.1	10.3	8.0	TAWMN 2300S25
2320T	□	□	23.2	10.3	8.0	TAWLN 2300S25
2330T	□	□	23.3	10.3	8.0	
2340T	□	□	23.4	10.3	8.0	
2350T	●	□	23.5	10.2	8.0	
2360T	□	□	23.6	10.2	8.0	
2370T	□	□	23.7	10.2	8.0	TAWSN 2400S32
2380T	□	□	23.8	10.2	8.0	TAWMN 2400S32
2390T	□	□	23.9	10.2	8.0	TAWLN 2400S32
2400T	●	□	24.0	10.1	8.0	
2410T	□	□	24.1	10.1	8.0	
2420T	□	□	24.2	10.1	8.0	
2430T	□	□	24.3	10.1	8.0	
2440T	□	□	24.4	10.1	8.0	
2450T	●	□	24.5	11.7	9.0	
2460T	□	□	24.6	11.7	9.0	
2470T	□	□	24.7	11.7	9.0	TAWSN 2500S32
2480T	□	□	24.8	11.7	9.0	TAWMN 2500S32
2490T	□	□	24.9	11.7	9.0	TAWLN 2500S32
2500T	●	□	25.0	11.6	9.0	
2510T	□	□	25.1	11.6	9.0	
2520T	□	□	25.2	11.6	9.0	
2530T	□	□	25.3	11.6	9.0	
2540T	□	□	25.4	11.6	9.0	
2550T	●	□	25.5	11.5	9.0	
2560T	□	□	25.6	11.5	9.0	
2570T	□	□	25.7	11.5	9.0	TAWSN 2600S32
2580T	□	□	25.8	11.5	9.0	TAWMN 2600S32
2590T	□	□	25.9	11.5	9.0	TAWLN 2600S32
2600T	●	□	26.0	11.4	9.0	
2610T	□	□	26.1	11.4	9.0	
2620T	□	□	26.2	11.4	9.0	
2630T	□	□	26.3	11.4	9.0	
2640T	□	□	26.4	11.4	9.0	

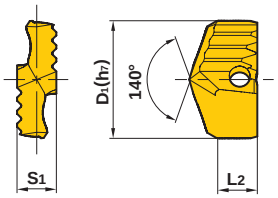
Order Number	Coated VP15TF	Coated VP10H	Dimensions (mm) D1	L2	S1	Applicable Holder
TAWNH2650T	●	□	26.5	11.3	9.0	
2660T	□	□	26.6	11.3	9.0	
2670T	□	□	26.7	11.3	9.0	TAWSN 2700S32
2680T	□	□	26.8	11.3	9.0	TAWMN 2700S32
2690T	□	□	26.9	11.3	9.0	
2700T	●	□	27.0	11.2	9.0	TAWLN 2700S32
2710T	□	□	27.1	11.2	9.0	
2720T	□	□	27.2	11.2	9.0	
2730T	□	□	27.3	11.2	9.0	
2740T	□	□	27.4	11.2	9.0	
2750T	●	□	27.5	12.3	10.0	
2760T	□	□	27.6	12.3	10.0	
2770T	□	□	27.7	12.3	10.0	TAWSN 2800S32
2780T	□	□	27.8	12.3	10.0	TAWMN 2800S32
2790T	□	□	27.9	12.3	10.0	
2800T	●	□	28.0	12.2	10.0	TAWLN 2800S32
2810T	□	□	28.1	12.2	10.0	
2820T	□	□	28.2	12.2	10.0	
2830T	□	□	28.3	12.2	10.0	
2840T	□	□	28.4	12.2	10.0	
2850T	●	□	28.5	12.1	10.0	
2860T	□	□	28.6	12.1	10.0	
2870T	□	□	28.7	12.1	10.0	TAWSN 2900S32
2880T	□	□	28.8	12.1	10.0	TAWMN 2900S32
2890T	□	□	28.9	12.1	10.0	
2900T	●	□	29.0	12.0	10.0	TAWLN 2900S32
2910T	□	□	29.1	12.0	10.0	
2920T	□	□	29.2	12.0	10.0	
2930T	□	□	29.3	12.0	10.0	
2940T	□	□	29.4	12.0	10.0	
2950T	●	□	29.5	11.9	10.0	
2960T	□	□	29.6	11.9	10.0	
2970T	□	□	29.7	11.9	10.0	TAWSN 3000S32
2980T	□	□	29.8	11.9	10.0	TAWMN 3000S32
2990T	□	□	29.9	11.9	10.0	
3000T	●	□	30.0	11.8	10.0	TAWLN 3000S32
3010T	□	□	30.1	11.8	10.0	
3020T	□	□	30.2	11.8	10.0	
3030T	□	□	30.3	11.8	10.0	
3040T	□	□	30.4	11.8	10.0	

Applicable Drill Shape Geometry	Order Number	Coated VP15TF	Coated	Dimensions (mm) D1	L2	S1
TAW H Type ➲ N210  	**TAWBH2450T**	●		24.5	11.7	9.0
	2460T	□		24.6	11.7	9.0
	2470T	●		24.7	11.7	9.0
	2650T	□		26.5	11.3	9.0
	2670T	●		26.7	11.3	9.0

● : 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)

Applicable Drill Shape Geometry

TAW H Type
(Cast Iron)
N199



Order Number	Coated DP5010	D1	L2	S1	Applicable Holder
TAWKH1400TG	▲	14.0	7.1	5.0	TAWSNH 1400S16
1410TG	▲	14.1	7.1	5.0	
1420TG	▲	14.2	7.1	5.0	TAWMNH 1400S16
1430TG	▲	14.3	7.1	5.0	
1440TG	▲	14.4	7.1	5.0	TAWLNH 1400S16
1450TG	▲	14.5	7.0	5.0	
1460TG	▲	14.6	7.0	5.0	
1470TG	▲	14.7	7.0	5.0	TAWSNH 1500S20
1480TG	▲	14.8	7.0	5.0	
1490TG	▲	14.9	7.0	5.0	TAWMNH 1500S20
1500TG	▲	15.0	6.9	5.0	
1510TG	▲	15.1	6.9	5.0	TAWLNH 1500S20
1520TG	▲	15.2	6.9	5.0	
1530TG	▲	15.3	6.9	5.0	
1540TG	▲	15.4	6.9	5.0	
1550TG	▲	15.5	7.3	6.0	
1560TG	▲	15.6	7.3	6.0	
1570TG	▲	15.7	7.3	6.0	TAWSN 1600S20
1580TG	▲	15.8	7.3	6.0	
1590TG	▲	15.9	7.3	6.0	TAWMN 1600S20
1600TG	▲	16.0	7.2	6.0	
1610TG	▲	16.1	7.2	6.0	TAWLN 1600S20
1620TG	▲	16.2	7.2	6.0	
1630TG	▲	16.3	7.2	6.0	
1640TG	▲	16.4	7.2	6.0	
1650TG	▲	16.5	7.1	6.0	
1660TG	▲	16.6	7.1	6.0	
1670TG	▲	16.7	7.1	6.0	TAWSN 1700S20
1680TG	▲	16.8	7.1	6.0	
1690TG	▲	16.9	7.1	6.0	TAWMN 1700S20
1700TG	▲	17.0	7.0	6.0	
1710TG	▲	17.1	7.0	6.0	TAWLN 1700S20
1720TG	▲	17.2	7.0	6.0	
1730TG	▲	17.3	7.0	6.0	
1740TG	▲	17.4	7.0	6.0	
1750TG	▲	17.5	6.8	6.0	
1760TG	▲	17.6	6.8	6.0	
1770TG	▲	17.7	6.8	6.0	TAWSN 1800S20
1780TG	▲	17.8	6.8	6.0	
1790TG	▲	17.9	6.8	6.0	TAWMN 1800S20
1800TG	▲	18.0	6.8	6.0	
1810TG	▲	18.1	6.8	6.0	TAWLN 1800S20
1820TG	▲	18.2	6.8	6.0	
1830TG	▲	18.3	6.8	6.0	
1840TG	▲	18.4	6.8	6.0	

Order Number	Coated DP5010	D1	L2	S1	Applicable Holder
TAWKH1850TG	●	18.5	8.6	7.0	
1860TG	●	18.6	8.6	7.0	
1870TG	●	18.7	8.6	7.0	TAWSN 1900S25
1880TG	●	18.8	8.6	7.0	
1890TG	●	18.9	8.6	7.0	TAWMN 1900S25
1900TG	●	19.0	8.5	7.0	
1910TG	●	19.1	8.5	7.0	TAWLN 1900S25
1920TG	●	19.2	8.5	7.0	
1930TG	●	19.3	8.5	7.0	
1940TG	●	19.4	8.5	7.0	
1950TG	●	19.5	8.4	7.0	
1960TG	●	19.6	8.4	7.0	
1970TG	●	19.7	8.4	7.0	TAWSN 2000S25
1980TG	●	19.8	8.4	7.0	
1990TG	●	19.9	8.4	7.0	TAWMN 2000S25
2000TG	●	20.0	8.3	7.0	
2010TG	□	20.1	8.3	7.0	TAWLN 2000S25
2020TG	□	20.2	8.3	7.0	
2030TG	□	20.3	8.3	7.0	
2040TG	□	20.4	8.3	7.0	
2050TG	●	20.5	8.2	7.0	
2060TG	□	20.6	8.2	7.0	
2070TG	□	20.7	8.2	7.0	TAWSN 2100S25
2080TG	□	20.8	8.2	7.0	
2090TG	□	20.9	8.2	7.0	TAWMN 2100S25
2100TG	●	21.0	8.1	7.0	
2110TG	□	21.1	8.1	7.0	TAWLN 2100S25
2120TG	□	21.2	8.1	7.0	
2130TG	□	21.3	8.1	7.0	
2140TG	□	21.4	8.1	7.0	
2150TG	●	21.5	9.8	8.0	
2160TG	□	21.6	9.8	8.0	
2170TG	□	21.7	9.8	8.0	TAWSN 2200S25
2180TG	□	21.8	9.8	8.0	
2190TG	□	21.9	9.8	8.0	TAWMN 2200S25
2200TG	●	22.0	9.7	8.0	
2210TG	□	22.1	9.7	8.0	TAWLN 2200S25
2220TG	□	22.2	9.7	8.0	
2230TG	□	22.3	9.7	8.0	
2240TG	□	22.4	9.7	8.0	
2250TG	●	22.5	9.6	8.0	TAWSN 2300S25
2260TG	□	22.6	9.6	8.0	
2270TG	□	22.7	9.6	8.0	TAWMN 2300S25
2280TG	□	22.8	9.6	8.0	
2290TG	□	22.9	9.6	8.0	TAWLN 2300S25

DRILLING INSERTS

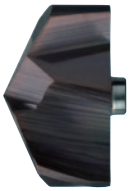
Order Number	Coated DP5010		Dimensions (mm) D1	L2	S1	Applicable Holder
TAWKH2300TG	●		23.0	9.5	8.0	TAWSN 2300S25 TAWMN 2300S25 TAWLN 2300S25
2310TG	□		23.1	9.5	8.0	
2320TG	□		23.2	9.5	8.0	
2330TG	□		23.3	9.5	8.0	
2340TG	□		23.4	9.5	8.0	
2350TG	●		23.5	9.4	8.0	TAWSN 2400S32 TAWMN 2400S32 TAWLN 2400S32
2360TG	□		23.6	9.4	8.0	
2370TG	□		23.7	9.4	8.0	
2380TG	□		23.8	9.4	8.0	
2390TG	□		23.9	9.4	8.0	
2400TG	●		24.0	9.3	8.0	
2410TG	□		24.1	9.3	8.0	
2420TG	□		24.2	9.3	8.0	
2430TG	□		24.3	9.3	8.0	
2440TG	□		24.4	9.3	8.0	
2450TG	●		24.5	10.8	9.0	TAWSN 2500S32 TAWMN 2500S32 TAWLN 2500S32
2460TG	□		24.6	10.8	9.0	
2470TG	□		24.7	10.8	9.0	
2480TG	□		24.8	10.8	9.0	
2490TG	□		24.9	10.8	9.0	
2500TG	●		25.0	10.7	9.0	
2510TG	□		25.1	10.7	9.0	
2520TG	□		25.2	10.7	9.0	
2530TG	□		25.3	10.7	9.0	
2540TG	□		25.4	10.7	9.0	
2550TG	●		25.5	10.6	9.0	TAWSN 2600S32 TAWMN 2600S32 TAWLN 2600S32
2560TG	□		25.6	10.6	9.0	
2570TG	□		25.7	10.6	9.0	
2580TG	□		25.8	10.6	9.0	
2590TG	□		25.9	10.6	9.0	
2600TG	●		26.0	10.5	9.0	
2610TG	□		26.1	10.5	9.0	
2620TG	□		26.2	10.5	9.0	
2630TG	□		26.3	10.5	9.0	
2640TG	□		26.4	10.5	9.0	
2650TG	●		26.5	10.4	9.0	TAWSN 2700S32 TAWMN 2700S32 TAWLN 2700S32
2660TG	□		26.6	10.4	9.0	
2670TG	□		26.7	10.4	9.0	
2680TG	□		26.8	10.4	9.0	
2690TG	□		26.9	10.4	9.0	
2700TG	●		27.0	10.3	9.0	
2710TG	□		27.1	10.3	9.0	
2720TG	□		27.2	10.3	9.0	
2730TG	□		27.3	10.3	9.0	
2740TG	□		27.4	10.3	9.0	

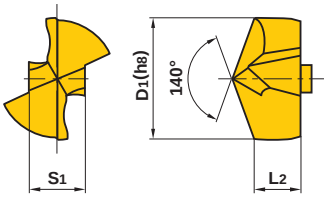
Order Number	Coated DP5010		Dimensions (mm) D1	L2	S1	Applicable Holder
TAWKH2750TG	●		27.5	11.3	10.0	TAWSN 2800S32 TAWMN 2800S32 TAWLN 2800S32
2760TG	□		27.6	11.3	10.0	
2770TG	□		27.7	11.3	10.0	
2780TG	□		27.8	11.3	10.0	
2790TG	□		27.9	11.3	10.0	
2800TG	●		28.0	11.2	10.0	
2810TG	□		28.1	11.2	10.0	
2820TG	□		28.2	11.2	10.0	
2830TG	□		28.3	11.2	10.0	
2840TG	□		28.4	11.2	10.0	
2850TG	●		28.5	11.1	10.0	TAWSN 2900S32 TAWMN 2900S32 TAWLN 2900S32
2860TG	□		28.6	11.1	10.0	
2870TG	□		28.7	11.1	10.0	
2880TG	□		28.8	11.1	10.0	
2890TG	□		28.9	11.1	10.0	
2900TG	●		29.0	11.0	10.0	
2910TG	□		29.1	11.0	10.0	
2920TG	□		29.2	11.0	10.0	
2930TG	□		29.3	11.0	10.0	
2940TG	□		29.4	11.0	10.0	
2950TG	●		29.5	10.9	10.0	TAWSN 3000S32 TAWMN 3000S32 TAWLN 3000S32
2960TG	□		29.6	10.9	10.0	
2970TG	□		29.7	10.9	10.0	
2980TG	□		29.8	10.9	10.0	
2990TG	□		29.9	10.9	10.0	
3000TG	●		30.0	10.8	10.0	
3010TG	□		30.1	10.8	10.0	
3020TG	□		30.2	10.8	10.0	
3030TG	□		30.3	10.8	10.0	
3040TG	□		30.4	10.8	10.0	

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

Applicable Drill Shape Geometry

STAW
N190





Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
STAWN1000TH	●	□	10.0	3.8	4.6	STAWSS1000S16 STAWSN1000S16 STAWMN1000S16 STAWLN1000S16
1010TH	●	□	10.1	3.8	4.6	
1020TH	●	□	10.2	3.8	4.6	
1030TH	●	□	10.3	3.8	4.6	
1040TH	●	□	10.4	3.8	4.6	
1050TH	●	□	10.5	4.0	4.8	STAWSS1050S16 STAWSN1050S16 STAWMN1050S16 STAWLN1050S16
1060TH	●	□	10.6	4.0	4.8	
1070TH	●	□	10.7	4.0	4.8	
1080TH	●	□	10.8	4.0	4.8	
1090TH	●	□	10.9	4.0	4.8	
1100TH	●	□	11.0	4.2	5.1	STAWSS1100S16 STAWSN1100S16 STAWMN1100S16 STAWLN1100S16
1110TH	●	□	11.1	4.2	5.1	
1120TH	●	□	11.2	4.2	5.1	
1130TH	●	□	11.3	4.2	5.1	
1140TH	●	□	11.4	4.2	5.1	
1150TH	●	□	11.5	4.4	5.3	STAWSS1150S16 STAWSN1150S16 STAWMN1150S16 STAWLN1150S16
1160TH	●	□	11.6	4.4	5.3	
1170TH	●	□	11.7	4.4	5.3	
1180TH	●	□	11.8	4.4	5.3	
1190TH	●	□	11.9	4.4	5.3	
1200TH	●	□	12.0	4.6	5.5	STAWSS1200S16 STAWSN1200S16 STAWMN1200S16 STAWLN1200S16
1210TH	●	□	12.1	4.6	5.5	
1220TH	●	□	12.2	4.6	5.5	
1230TH	●	□	12.3	4.6	5.5	
1240TH	●	□	12.4	4.6	5.5	
1250TH	●	□	12.5	4.8	5.8	STAWSS1250S16 STAWSN1250S16 STAWMN1250S16 STAWLN1250S16
1260TH	●	□	12.6	4.8	5.8	
1270TH	●	□	12.7	4.8	5.8	
1280TH	●	□	12.8	4.8	5.8	
1290TH	●	□	12.9	4.8	5.8	
1300TH	●	□	13.0	4.9	6.0	STAWSS1300S16 STAWSN1300S16 STAWMN1300S16 STAWLN1300S16
1310TH	●	□	13.1	4.9	6.0	
1320TH	●	□	13.2	4.9	6.0	
1330TH	●	□	13.3	4.9	6.0	
1340TH	●	□	13.4	4.9	6.0	
1350TH	●	□	13.5	5.1	6.2	STAWSS1350S16 STAWSN1350S16 STAWMN1350S16 STAWLN1350S16
1360TH	●	□	13.6	5.1	6.2	
1370TH	●	□	13.7	5.1	6.2	
1380TH	●	□	13.8	5.1	6.2	
1390TH	●	□	13.9	5.1	6.2	
1400TH	●		14.0	5.3	6.4	STAWSS1400S16 STAWSN1400S16 STAWMN1400S16 STAWLN1400S16
1410TH	●		14.1	5.3	6.4	
1420TH	●		14.2	5.3	6.4	
1430TH	●		14.3	5.3	6.4	
1440TH	●		14.4	5.3	6.4	

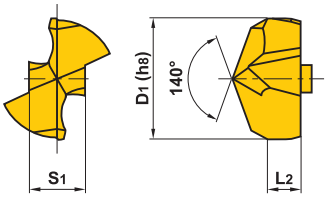
DRILLING INSERTS

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D_1	L_2	S_1	
STAWN1450TH	●		14.5	5.5	6.7	STAWSS1450S16 STAWSN1450S16 STAWMN1450S16 STAWLN1450S16
1460TH	●		14.6	5.5	6.7	
1470TH	●		14.7	5.5	6.7	
1480TH	●		14.8	5.5	6.7	
1490TH	●		14.9	5.5	6.7	
1500TH	●		15.0	5.7	6.9	STAWSS1500S20 STAWSN1500S20 STAWMN1500S20 STAWLN1500S20
1510TH	●		15.1	5.7	6.9	
1520TH	●		15.2	5.7	6.9	
1530TH	●		15.3	5.7	6.9	
1540TH	●		15.4	5.7	6.9	
NEW **1550T**	●		15.5	5.9	7.1	STAWSS1600S20 STAWSN1600S20 STAWMN1600S20 STAWLN1600S20
NEW **1560T**	●		15.6	5.9	7.1	
NEW **1570T**	●		15.7	5.9	7.1	
NEW **1580T**	●		15.8	5.9	7.1	
NEW **1590T**	●		15.9	5.9	7.1	
NEW **1600T**	●		16.0	5.9	7.1	
NEW **1610T**	●		16.1	5.9	7.1	
NEW **1620T**	●		16.2	5.9	7.1	
NEW **1630T**	●		16.3	5.9	7.1	
NEW **1640T**	●		16.4	5.9	7.1	
NEW **1650T**	●		16.5	6.3	7.6	STAWSS1700S20 STAWSN1700S20 STAWMN1700S20 STAWLN1700S20
NEW **1660T**	●		16.6	6.3	7.6	
NEW **1670T**	●		16.7	6.3	7.6	
NEW **1680T**	●		16.8	6.3	7.6	
NEW **1690T**	●		16.9	6.3	7.6	
NEW **1700T**	●		17.0	6.3	7.6	
NEW **1710T**	●		17.1	6.3	7.6	
NEW **1720T**	●		17.2	6.3	7.6	
NEW **1730T**	●		17.3	6.3	7.6	
NEW **1740T**	●		17.4	6.3	7.6	
NEW **1750T**	●		17.5	6.7	8.1	STAWSS1800S20 STAWSN1800S20 STAWMN1800S20 STAWLN1800S20
NEW **1760T**	●		17.6	6.7	8.1	
NEW **1770T**	●		17.7	6.7	8.1	
NEW **1780T**	●		17.8	6.7	8.1	
NEW **1790T**	●		17.9	6.7	8.1	
NEW **1800T**	●		18.0	6.7	8.1	
NEW **1810T**	●		18.1	6.7	8.1	
NEW **1820T**	●		18.2	6.7	8.1	
NEW **1830T**	●		18.3	6.7	8.1	
NEW **1840T**	●		18.4	6.7	8.1	

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

Applicable Drill Shape Geometry

STAW
N190



Order Number	Stock DP5010		Dimensions (mm) D1	L2	S1	Applicable Holder
NEW **STAWK1000TG**	●		10.0	3.3	4.6	STAWSS1000S16 STAWSN1000S16 STAWMN1000S16 STAWLN1000S16
NEW **1010TG**	●		10.1	3.3	4.6	
NEW **1020TG**	●		10.2	3.3	4.6	
NEW **1030TG**	●		10.3	3.3	4.6	
NEW **1040TG**	●		10.4	3.3	4.6	
NEW **1050TG**	●		10.5	3.5	4.8	STAWSS1050S16 STAWSN1050S16 STAWMN1050S16 STAWLN1050S16
NEW **1060TG**	●		10.6	3.5	4.8	
NEW **1070TG**	●		10.7	3.5	4.8	
NEW **1080TG**	●		10.8	3.5	4.8	
NEW **1090TG**	●		10.9	3.5	4.8	
NEW **1100TG**	●		11.0	3.7	5.1	STAWSS1100S16 STAWSN1100S16 STAWMN1100S16 STAWLN1100S16
NEW **1110TG**	●		11.1	3.7	5.1	
NEW **1120TG**	●		11.2	3.7	5.1	
NEW **1130TG**	●		11.3	3.7	5.1	
NEW **1140TG**	●		11.4	3.7	5.1	
NEW **1150TG**	●		11.5	3.9	5.3	STAWSS1150S16 STAWSN1150S16 STAWMN1150S16 STAWLN1150S16
NEW **1160TG**	●		11.6	3.9	5.3	
NEW **1170TG**	●		11.7	3.9	5.3	
NEW **1180TG**	●		11.8	3.9	5.3	
NEW **1190TG**	●		11.9	3.9	5.3	
NEW **1200TG**	●		12.0	4.1	5.5	STAWSS1200S16 STAWSN1200S16 STAWMN1200S16 STAWLN1200S16
NEW **1210TG**	●		12.1	4.1	5.5	
NEW **1220TG**	●		12.2	4.1	5.5	
NEW **1230TG**	●		12.3	4.1	5.5	
NEW **1240TG**	●		12.4	4.1	5.5	
NEW **1250TG**	●		12.5	4.2	5.8	STAWSS1250S16 STAWSN1250S16 STAWMN1250S16 STAWLN1250S16
NEW **1260TG**	●		12.6	4.2	5.8	
NEW **1270TG**	●		12.7	4.2	5.8	
NEW **1280TG**	●		12.8	4.2	5.8	
NEW **1290TG**	●		12.9	4.2	5.8	
NEW **1300TG**	●		13.0	4.4	6.0	STAWSS1300S16 STAWSN1300S16 STAWMN1300S16 STAWLN1300S16
NEW **1310TG**	●		13.1	4.4	6.0	
NEW **1320TG**	●		13.2	4.4	6.0	
NEW **1330TG**	●		13.3	4.4	6.0	
NEW **1340TG**	●		13.4	4.4	6.0	
NEW **1350TG**	●		13.5	4.6	6.2	STAWSS1350S16 STAWSN1350S16 STAWMN1350S16 STAWLN1350S16
NEW **1360TG**	●		13.6	4.6	6.2	
NEW **1370TG**	●		13.7	4.6	6.2	
NEW **1380TG**	●		13.8	4.6	6.2	
NEW **1390TG**	●		13.9	4.6	6.2	

DRILLING INSERTS

Order Number	Stock DP5010		Dimensions (mm) D_1	L_2	S_1	Applicable Holder
NEW STAWK1400TG	●		14.0	4.8	6.4	STAWSS1400S16 STAWSN1400S16 STAWMN1400S16 STAWLN1400S16
NEW 1410TG	●		14.1	4.8	6.4	
NEW 1420TG	●		14.2	4.8	6.4	
NEW 1430TG	●		14.3	4.8	6.4	
NEW 1440TG	●		14.4	4.8	6.4	
NEW 1450TG	●		14.5	5.0	6.7	STAWSS1450S16 STAWSN1450S16 STAWMN1450S16 STAWLN1450S16
NEW 1460TG	●		14.6	5.0	6.7	
NEW 1470TG	●		14.7	5.0	6.7	
NEW 1480TG	●		14.8	5.0	6.7	
NEW 1490TG	●		14.9	5.0	6.7	
NEW 1500TG	●		15.0	5.2	6.9	STAWSS1500S20 STAWSN1500S20 STAWMN1500S20 STAWLN1500S20
NEW 1510TG	●		15.1	5.2	6.9	
NEW 1520TG	●		15.2	5.2	6.9	
NEW 1530TG	●		15.3	5.2	6.9	
NEW 1540TG	●		15.4	5.2	6.9	
NEW 1550TG	●		15.5	5.3	7.1	STAWSS1600S20 STAWSN1600S20 STAWMN1600S20 STAWLN1600S20
NEW 1560TG	●		15.6	5.3	7.1	
NEW 1570TG	●		15.7	5.3	7.1	
NEW 1580TG	●		15.8	5.3	7.1	
NEW 1590TG	●		15.9	5.3	7.1	
NEW 1600TG	●		16.0	5.3	7.1	
NEW 1610TG	●		16.1	5.3	7.1	
NEW 1620TG	●		16.2	5.3	7.1	
NEW 1630TG	●		16.3	5.3	7.1	
NEW 1640TG	●		16.4	5.3	7.1	
NEW 1650TG	●		16.5	5.7	7.6	STAWSS1700S20 STAWSN1700S20 STAWMN1700S20 STAWLN1700S20
NEW 1660TG	●		16.6	5.7	7.6	
NEW 1670TG	●		16.7	5.7	7.6	
NEW 1680TG	●		16.8	5.7	7.6	
NEW 1690TG	●		16.9	5.7	7.6	
NEW 1700TG	●		17.0	5.7	7.6	
NEW 1710TG	●		17.1	5.7	7.6	
NEW 1720TG	●		17.2	5.7	7.6	
NEW 1730TG	●		17.3	5.7	7.6	
NEW 1740TG	●		17.4	5.7	7.6	
NEW 1750TG	●		17.5	6.0	8.1	STAWSS1800S20 STAWSN1800S20 STAWMN1800S20 STAWLN1800S20
NEW 1760TG	●		17.6	6.0	8.1	
NEW 1770TG	●		17.7	6.0	8.1	
NEW 1780TG	●		17.8	6.0	8.1	
NEW 1790TG	●		17.9	6.0	8.1	
NEW 1800TG	●		18.0	6.0	8.1	
NEW 1810TG	●		18.1	6.0	8.1	
NEW 1820TG	●		18.2	6.0	8.1	
NEW 1830TG	●		18.3	6.0	8.1	
NEW 1840TG	●		18.4	6.0	8.1	

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

Memo