

CBN & PCD Tools

C1~C36



CBN Tools

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PCD Tools

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CBN Tools



Extended Tool Life

Improved Stability

High Speed Machining

Kyocera's innovative CBN tools
CBN Variation and Features See Page A16

Various lineup applicable from machining Hard materials to Sintered steel

Identification System (Turning Insert)

C N G A 12 04 04 S01225 ME

"Turning Indexable Inserts Identification System" See Page B2

Insert Type	Description	Edge Prep.	Manufacturer's Option	Edge Length	No. of Edges	Regrinding
Negative	CNGA120404MEF	F	MEF	Short (Small Edge)	2	Not Recommended
	CNGA120404ME4	S01225	ME4		4(Double-sided)	
	CNGA120404S01225ME		ME		2	
	CNGA120404S00545MEP	S00545	MEP		2	
	CNGA120404S01225SE	S01225	SE		1	
CNMN120404S02020	S02020	Without Indication (Only KBN900)	Long	Plural edge	Possible	
Positive	CCMW09T304MEF	F	MEF	Short (Small Edge)	2	Not Recommended
	CCMW09T304T00815ME	T00815	ME		2	
	CCMW09T304S01225MES	S01225	MES		2	
	CCMW09T304T00815SE	T00815	SE		1	

About Regrinding

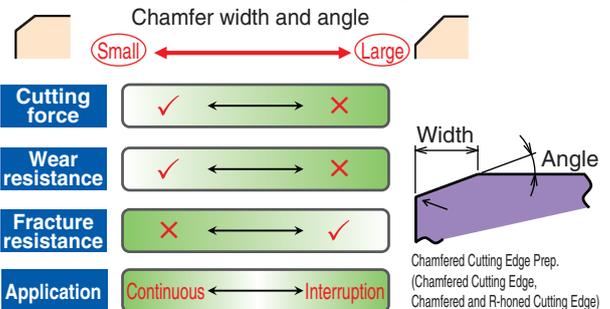
- 1) Regrinding is possible for inserts without any indication in manufacturer's option. Regrinding cannot be available depending on the edge condition.
- 2) Regrinding is not recommended for inserts with manufacturer's symbol like "ME" or "SE".

Note) 1. See Page B3 for insert color.

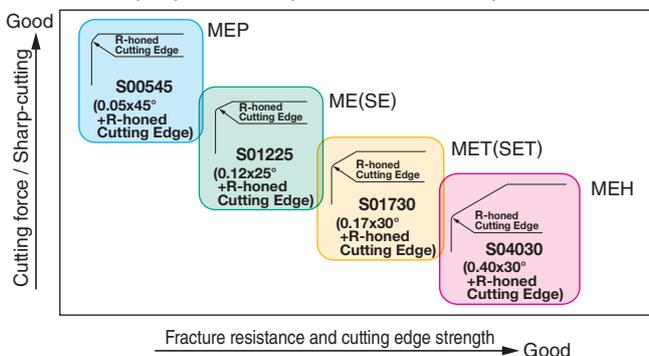
Edge Preparation Identification System

Symbol	Cutting Edge Spec.	Example		Shape
F	Sharp Edge	F	Sharp Edge	
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	

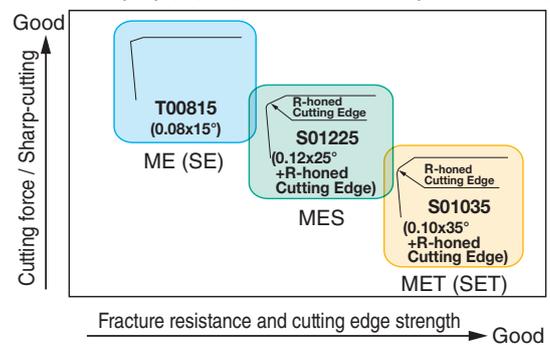
Features of chamfer width and angle



(1) Standard cutting edge prep. of negative inserts (Machining of hard materials)



(2) Standard cutting edge prep. of positive inserts (Machining of hard materials)



Manufacturer's Option	Edge Prep.	Application and Features
MEP	S00545 0.05mm x 45°+R-honed Cutting Edge	High speed, Continuous Excellent crater wear resistance
ME	S01225 0.12mm x 25°+R-honed Cutting Edge	General purpose
MET	S01730 0.17mm x 30°+R-honed Cutting Edge	Superior fracture resistance
MEH	S04030 0.40mm x 30°+R-honed Cutting Edge	Interrupted high feed machining Prevention of flaking

Manufacturer's Option	Edge Prep.	Application and Features
ME	T00815 0.08mm x 15°	Chamfered Sharp-cutting oriented, less burring
MES	S01225 0.12mm x 25°+R-honed Cutting Edge	General purpose
MET	S01035 0.10mm x 35°+R-honed Cutting Edge	Interrupted machining Stable machining oriented

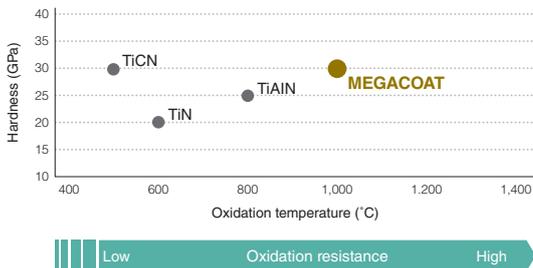
H Chipbreaker Series

Unique Molded Chipbreaker Provides Excellent Chip Control when Machining Hard Materials
3 Chipbreaker Styles for a Wide Range of Machining Applications

Chipbreaker	Applications	Recommended Cutting Range
<p>HH 1st Choice</p> <p>Twin Dots Breaks chips into small pieces</p> <p>Wide Bump Provides stable chip curls</p>	<p>Hardened Steel Finishing</p> <p>55HRC or more</p>	<p>Small D.O.C. (ap = 0.1~0.3 mm)</p>
<p>HL</p> <p>Wide Bump</p> <p>Rake Surface Stable chip control for softer interior of hard materials</p>	<p>Hardened Steel Finishing</p> <p>55HRC or less</p>	
<p>HD</p> <p>Wide Bump</p> <p>Multi-step Structure Good for a wide range of conditions</p> <p>Rake Surface Stable chip control for softer interior of hard materials</p>	<p>Removing the Carburized Layer (From Carburized Layer to Unhardened Layer)</p>	

MEGACOAT CBN

Properties of PVD Coating

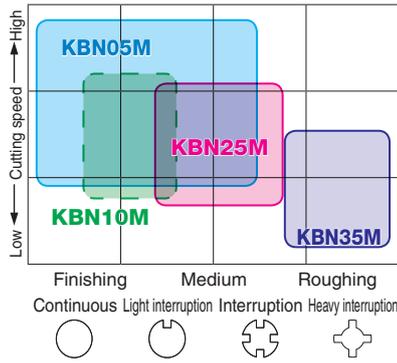


Advantages of MEGACOAT

- Long tool life and stable machining due to superior heat-resistance and hardness
- Stability improvement through prevention of crater wear (oxidation, diffusional wear)
- High thermal stability and surface smoothness provide excellent surface finish

Application Map

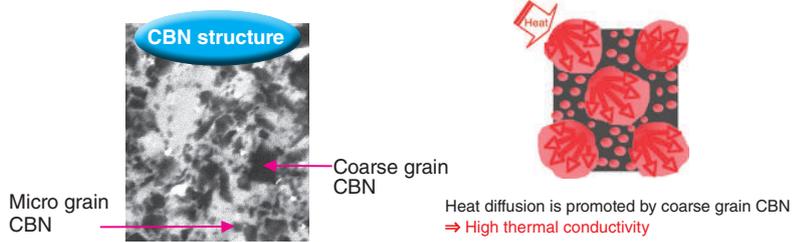
● Hard Materials



● Hybrid Grain Structure (KBN05M)

Mixed structure of micro grain CBN and coarse grain CBN

➔ CBN that possess high hardness, toughness and thermal resistance characteristics

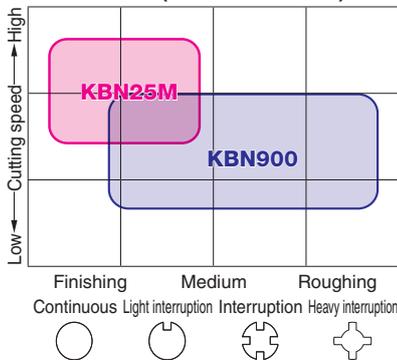


KBN05M is 1st recommended grade for a wide range of applications from continuous (high speed finishing) to interrupted machining.

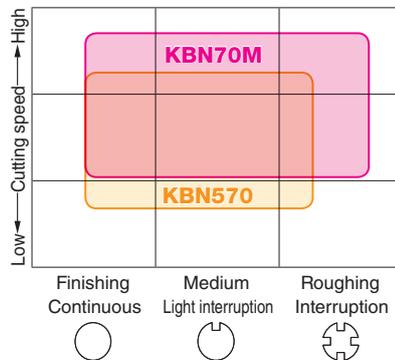
KBN25M : High stability for general machining

KBN35M : Honeycomb structure CBN
Superior fracture resistance in heavy interrupted machining

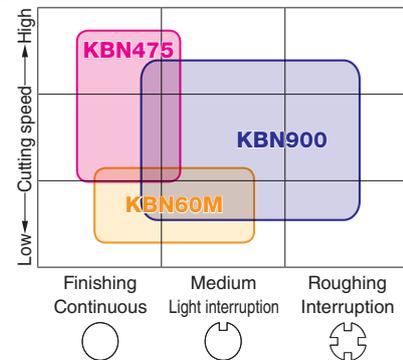
● Roll Materials (Chilled Cast Iron)



● Sintered Steel



● Cast Iron

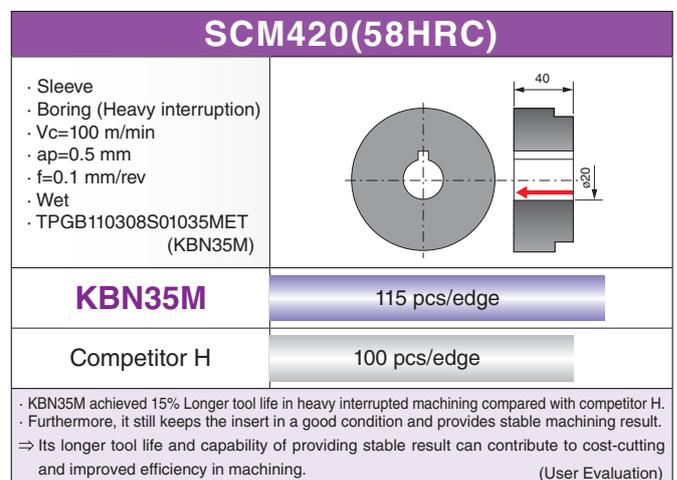
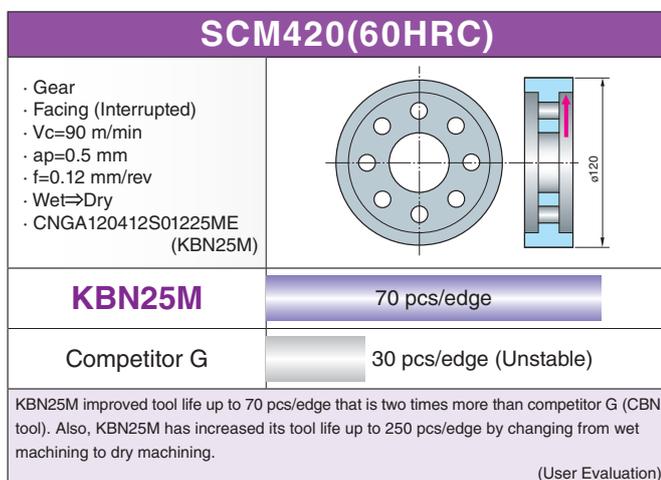
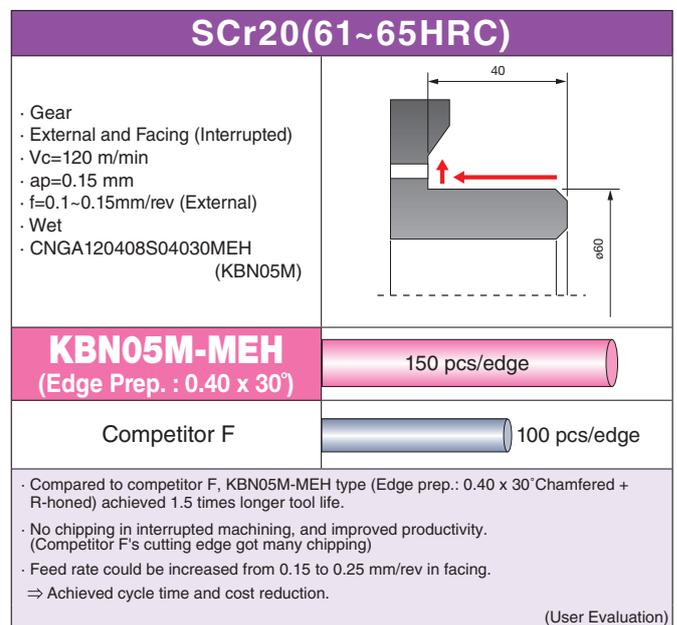
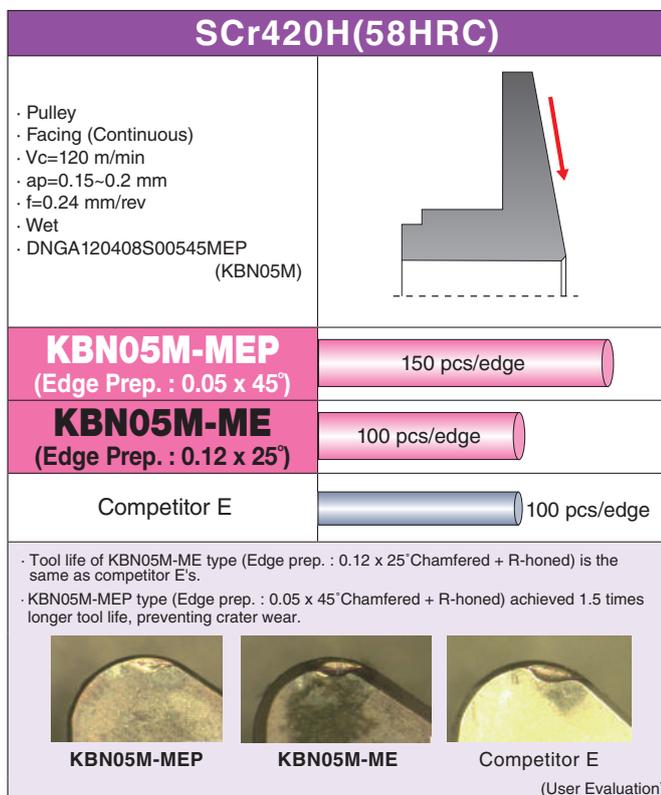
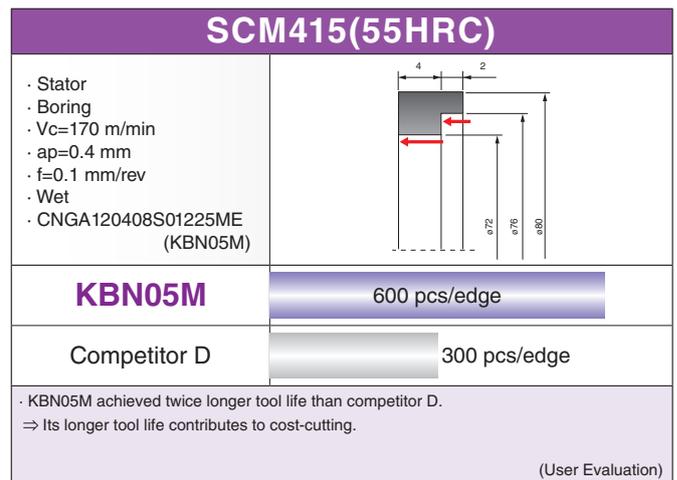
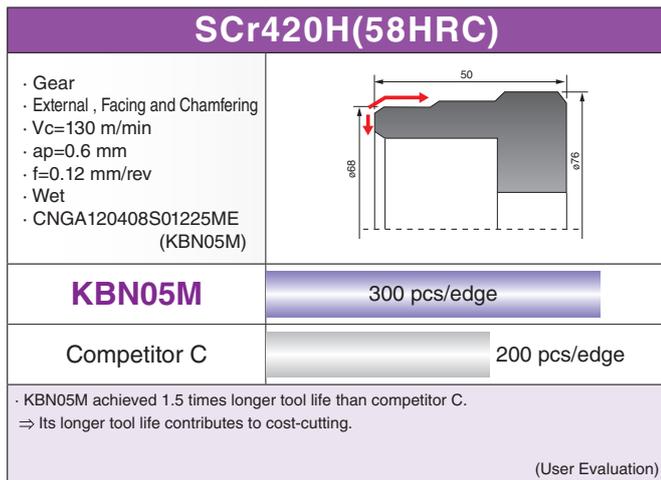


Recommended Cutting Conditions

Workpiece Material	Hardness	Applications		Recommended Insert Grade	Cutting Conditions		
					Vc (m/min)	ap (mm)	f (mm/rev)
Hard Materials	55HRC or more	General Finishing	Continuous-Interruption	KBN05M	100 - 150 - 200	0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1
		HH Chipbreaker for Hardened Steel Finishing	Continuous-Interruption	KBN05M	100 - 150 - 200	0.1 - 0.2 - 0.3	0.1 - 0.15 - 0.25
		High Efficient Stable Machining	Light interruption-Interruption	KBN25M	80 - 120 - 160	0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1
		Interruption (Small ap)	Interruption-Heavy interruption	KBN35M	60 - 100 - 150	0.05 - 0.2 - 0.4	0.05 - 0.08 - 0.1
	55HRC or less	Heavy Machining	Continuous-Interruption	KBN900	70 - 90 - 110	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2
		HL Chipbreaker for Hardened Steel Finishing	Continuous-Interruption	KBN05M	100 - 150 - 200	0.1 - 0.2 - 0.3	0.1 - 0.15 - 0.25
		Finishing	Continuous	*PT600M	60 - 80 - 120	0.2 - 0.5 - 0.7	0.05 - 0.1 - 0.15
Removing the Carburized Layer	HD Chipbreaker for Removing the Carburized Layer	Continuous-Interruption	KBN05M	100 - 150 - 200	0.3 - 0.5 - 0.7	0.1 - 0.15 - 0.25	
Gray Cast Iron	250HB or less	Finishing	Continuous-Light interruption	KBN475	400 - 800 - 1,200	0.05 - 0.2 - 0.5	0.1 - 0.2 - 0.3
		Finishing	Continuous-Light interruption	KBN60M	300 - 500 - 700	0.05 - 0.2 - 0.5	0.1 - 0.2 - 0.3
		High Efficient Finishing	Continuous-Light interruption	KBN900	500 - 900 - 1,200	0.1 - 0.5 - 1.0	0.05 - 0.1 - 0.2
		Heavy Machining	Continuous-Interruption	KBN900	500 - 700 - 900	0.5 - 1.5 - 3.0	0.1 - 0.3 - 0.5
Roll Materials (Chilled Cast Iron)	55HRC or more	Finishing	Continuous-Interruption	KBN25M	80 - 120 - 160	0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1
		Heavy Machining	Continuous-Interruption	KBN900	70 - 90 - 110	0.3 - 0.7 - 1.0	0.05 - 0.1 - 0.15
Sintered Steel	-	Finishing	Continuous-Light interruption	KBN570	50 - 150 - 250	0.05 - 0.15 - 0.25	0.03 - 0.1 - 0.2
	-	Finishing	Continuous-Interruption	KBN70M	100 - 200 - 250	0.05 - 0.2 - 0.3	0.05 - 0.15 - 0.25

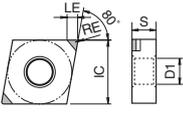
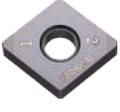
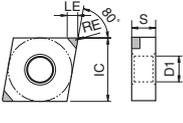
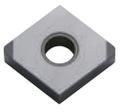
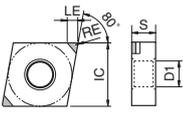
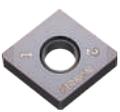
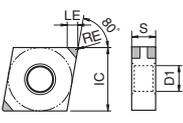
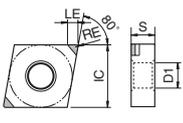
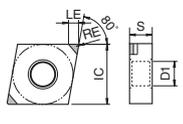
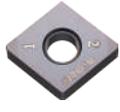
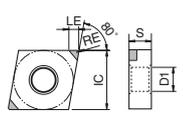
*PT600M : MEGACOAT on Al₂O₃+TiC ceramic

Case Studies



80° Rhombic / Negative

Description	IC	S	D1
CNGA 1204_	12.70	4.76	5.16
CNGM 1204_			

Edge Prep.			K											See Page for Applicable Toolholders									
Symbol	Cutting Edge Spec.	Example		Gray Cast Iron (With Scale)	Gray Cast Iron (Without Scale)	Nodular Cast Iron (With Scale)	Hard Materials (Roughing)	Hard Materials (Finishing)	Hard Materials (Chip Control)	Sintered Steel	MEGACOAT CBN					CBN							
F	Sharp Edge	F Sharp Edge																					
E	R-honed Cutting Edge	E R-honed Cutting Edge																					
T	Chamfered Cutting Edge	T01215 0.12mm x 15° Chamfered Cutting Edge																					
S	Chamfered and R-honed Cutting Edge	S01225 0.12mm x 25° Chamfered and R-honed Cutting Edge																					
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN					D8 D9 F65 F69 F70							
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570								
	 CNGA 120404S01215MEW 120408S01215MEW 120412S01215MEW	S01215	0.4 0.8 1.2	2.6 2.5 2.5	2	● ● ●	▲ ▲	● ●						● ●	● ●								
	 CNGA 120404S00545MEP 120408S00545MEP 120412S00545MEP 120416S00545MEP 120420S00545MEP 120424S00545MEP	S00545	0.4 0.8 1.2 1.6 2.0 2.4	2.6 2.6 2.5 3.4 3.4 3.3	2	● ● ● ● ● ●																	
	 CNGA 120404MEF 120408MEF 120412MEF	F	0.4 0.8 1.2	2.6 2.6 2.5	2																● ● ●	● ●	
	 CNGA 120404ME4 120408ME4 120412ME4	S01225	0.4 0.8 1.2	2.6 2.6 2.5	4	● ● ●																	
	 CNGA 120402S01225ME 120404S01225ME 120408S01225ME 120412S01225ME 120416S01225ME 120420S01225ME 120424S01225ME CNGA 120404T01215ME 120408T01215ME 120412T01215ME	S01225 T01215	0.2 0.4 0.8 1.2 1.6 2.0 2.4 0.4 0.8 1.2	2.6 2.6 2.6 2.5 3.4 3.4 3.3 2.6 2.6 2.5	2 2	● ● ● ● ● ● ● ● ●	▲ ▲	● ● ●					● ● ●	● ● ●	● ●								
	 CNGA 120404S01730MET 120408S01730MET 120412S01730MET 120416S01730MET 120420S01730MET 120424S01730MET	S01730	0.4 0.8 1.2 1.6 2.0 2.4	2.6 2.6 2.5 3.4 3.4 3.3	2	● ● ● ● ● ●	▲	● ● ●						●									
	 CNGA 120404S04030MEH 120408S04030MEH 120412S04030MEH 120416S04030MEH 120420S04030MEH 120424S04030MEH	S04030	0.4 0.8 1.2 1.6 2.0 2.4	2.6 2.6 2.5 3.4 3.4 3.3	2	● ● ● ● ● ●																	

- CBN & PCD Tools
- CBN
- PCD
- Negative
- C
- D
- S
- T
- V
- W
- Solid
- Grooving

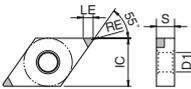
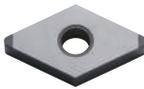
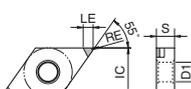
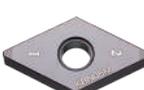
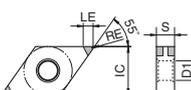
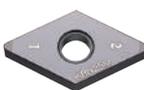
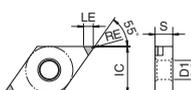
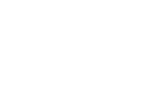
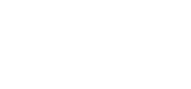
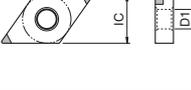
CBN & PCD Inserts are sold in 1 piece boxes

● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

(mm)

Description	IC	S	D1
DNGA 1504_	12.70	4.76	5.16
1506_		6.35	
DNGM 1504_	12.70	4.76	5.16

55° Rhombic / Negative

Edge Prep.				K											See Page for Applicable Toolholders					
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)															
F	Sharp Edge	F	Sharp Edge		Gray Cast Iron (Without Scale)															
E	R-honed Cutting Edge	E	R-honed Cutting Edge		Nodular Cast Iron (With Scale)															
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	H	Hard Materials (Roughing)															
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge		Hard Materials (Finishing)															
					Hard Materials (Chip Control)															
					Sintered Steel															
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN							CBN							
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570					
 Multi Edge / Finishing	 DNGA 150404S00545MEP 150408S00545MEP 150412S00545MEP 150416S00545MEP 150420S00545MEP 150424S00545MEP	S00545	0.4	2.6	2	●														
			0.8	2.2		●														
			1.2	1.9		●														
			1.6	3.8		●														
			2.0	3.5		●														
			2.4	3.1		●														
 Multi Edge / Sharp Edge	 DNGA 150404MEF 150408MEF 150412MEF	F	0.4	2.6	2										●	●				
			0.8	2.2													●	●		
			1.2	1.9														●	●	
 Multi Edge (Double-sided)	 DNGA 150404ME4 150408ME4 150412ME4	S01225	0.4	2.6	4	●														
			0.8	2.2		●														
			1.2	1.9		●														
 Multi Edge	 DNGA 150401S01225ME 150402S01225ME 150404S01225ME 150408S01225ME 150412S01225ME 150416S01225ME 150420S01225ME 150424S01225ME	S01225	0.1	2.8	2	●		●												
			0.2	2.7		●	▲	●												
			0.4	2.6		●		●	●	●										
			0.8	2.2		●		●	●	●										
			1.2	1.9		●		●												
			1.6	3.8		●		●												
	 Multi Edge	 DNGA 150404T01215ME 150408T01215ME 150412T01215ME	T01215	0.4	2.6	2										●	●			
				0.8	2.2														●	●
				1.2	1.9															●
		 Multi Edge	 DNGA 150604S01225ME 150608S01225ME 150612S01225ME	S01225	0.4	2.6	2	●		●							●			
					0.8	2.2		●		●	●								●	
					1.2	1.9		●		●										
 Multi Edge	 DNGA 150604T01215ME 150608T01215ME	T01215	0.4	2.6	2										●					
			0.8	2.2														●		
			0.8	2.2																
 Multi Edge / Tough	 DNGA 150404S01730MET 150408S01730MET 150412S01730MET 150416S01730MET 150420S01730MET 150424S01730MET	S01730	0.4	2.6	2	●		●	●						●					
			0.8	2.2		●		●	●								●			
			1.2	1.9		●		●	●											
			1.6	3.8		●		●												
			2.0	3.5		●		●												
			2.4	3.1		●		●												
 Multi Edge / Interruption	 DNGA 150404S04030MEH 150408S04030MEH 150412S04030MEH 150416S04030MEH 150420S04030MEH 150424S04030MEH	S04030	0.4	2.6	2	●														
			0.8	2.2		●														
			1.2	1.9		●														
			1.6	3.8		●														
			2.0	3.5		●														
			2.4	3.1		●														

CBN & PCD Tools

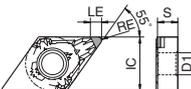
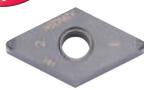
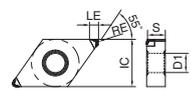
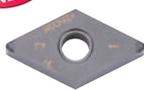
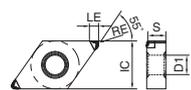
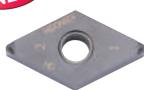
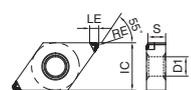
- CBN
- PCD
- Negative
- C
- D
- S
- T
- V
- W
- Solid
- Grooving

CBN & PCD Inserts are sold in 1 piece boxes

● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

55° Rhombic / Negative

Description	IC	S	D1
DNGA 1504_	12.70	4.76	5.16
1506_		6.35	
DNGM 1504_	12.70	4.76	5.16

Edge Prep.				K											See Page for Applicable Toolholders						
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)																
F	Sharp Edge	F	Sharp Edge	Gray Cast Iron (Without Scale)																	
E	R-honed Cutting Edge	E	R-honed Cutting Edge	Nodular Cast Iron (With Scale)																	
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	Hard Materials (Roughing)																	
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	Hard Materials (Finishing)	●	●															
				Hard Materials (Chip Control)	●	●															
				Sintered Steel																	
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN										
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570						
 Chip Control		S00825	0.8	1.6	1			●													
		S01225	1.2	2.1	1			●													
 Hardened Steel Finishing (55HRC or more)		E	0.4	2.6	2	●															
			0.8	2.2		●															
			1.2	1.9		●															
 Hardened Steel Finishing (55HRC or less)		E	0.4	2.6	2	●															
			0.8	2.2		●															
			1.2	1.9		●															
 Removing the Carburized Layer		S01235	0.4	2.6	2	●															
			0.8	2.2		●															
			1.2	1.9		●															

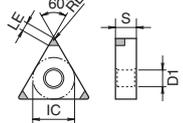
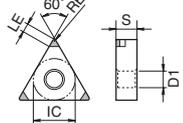
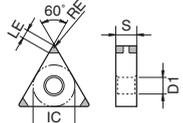
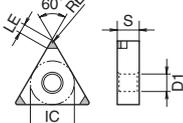
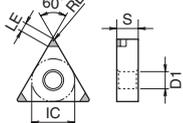
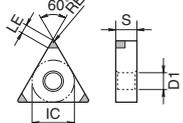
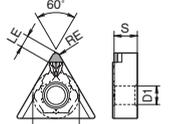
CBN & PCD Inserts are sold in 1 piece boxes

● : Std. Item (1 pc boxes)

Insert Grades	A
Turnable Inserts	B
CBN & PCD Tools	C
External	D
Small Parts	E
Boring	F
Grooving	G
Cut-off	H
Threading	J
Drilling	K
Milling	M
Tools for Turning Mill	N
Spare Parts	P
Technical Information	R
Index	T

60° Triangle / Negative

Description	IC	S	D1
TNGA 1604	9.525	4.76	3.81
TNGM 1604			

Edge Prep.				K											See Page for Applicable Toolholders			
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)	Gray Cast Iron (Without Scale)	Nodular Cast Iron (With Scale)	Hard Materials (Roughing)			Hard Materials (Finishing)			Hard Materials (Chip Control)			Sintered Steel	
F	Sharp Edge	F	Sharp Edge															
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge															
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	H														
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge															
Insert		Description		Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN			D16 D17 D18 F66 F76 F77		
					RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525		KBN475	KBN570
		TNGA 160404S00545MEP 160408S00545MEP 160412S00545MEP		S00545	0.4 0.8 1.2	2.7 2.4 2.1	3	●										
		TNGA 160404MEF 160408MEF 160412MEF		F	0.4 0.8 1.2	2.7 2.4 2.1	3								●	●		
		TNGA 160404ME6 160408ME6 160412ME6		S01225	0.4 0.8 1.2	2.7 2.4 2.1	6	●										
		TNGA 160401S01225ME 160402S01225ME 160404S01225ME 160408S01225ME 160412S01225ME		S01225	0.1 0.2 0.4 0.8 1.2	2.9 2.8 2.7 2.4 2.1	3	●	▲	●	●			●	●	●		
		TNGA 160404T01215ME 160408T01215ME 160412T01215ME		T01215	0.4 0.8 1.2	2.7 2.4 2.1	3						●		●			
		TNGA 160404S01730MET 160408S01730MET 160412S01730MET		S01730	0.4 0.8 1.2	2.7 2.4 2.1	3	●		●	●			●				
		TNGA 160404S04030MEH 160408S04030MEH 160412S04030MEH		S04030	0.4 0.8 1.2	2.7 2.4 2.1	3	●										
		TNGM 160408S00825BB1		S00825	0.8	1.7	1			●								
		TNGM 160408S01225BB2		S01225	0.8	2.1	1			●								

Insert Grades
Turnable Inserts
CBN & PCD Tools
External
Small Parts Machining
Boring
Grooving
Cut-off
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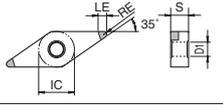
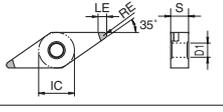
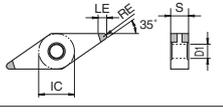
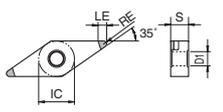
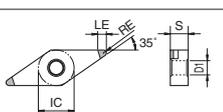
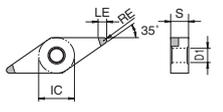
● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

CBN & PCD Inserts are sold in 1 piece boxes

35° Rhombic / Negative

(mm)

Description	IC	S	D1
VNGA 1604	9.525	4.76	3.81

Edge Prep.				K											See Page for Applicable Toolholders			
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)	Gray Cast Iron (Without Scale)	Nodular Cast Iron (With Scale)	Hard Materials (Roughing)			Hard Materials (Finishing)			Hard Materials (Chip Control)			Sintered Steel	
F	Sharp Edge	F	Sharp Edge															
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge															
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	H														
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge															
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN							
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570			
		S00545	0.4 0.8	2.0 1.8	2	●												
		F	0.4 0.8	2.0 1.8	2											●	●	
		S01225	0.4 0.8	2.0 1.8	4	●												
		S01225	0.1 0.2 0.4 0.8	2.6 2.3 2.0 1.8	2	▲	●	●	●	●		●	●	●	●	●	●	
		T01215	0.4 0.8	2.0 1.8	2						●			●				
		S01730	0.4 0.8	2.0 1.8	2	●		●	●						●			
		S04030	0.4 0.8	2.0 1.8	2	●												

- CBN & PCD Tools
- CBN
- PCD
- Negative
- C
- D
- S
- T
- V
- W
- Solid
- Grooving

CBN & PCD Inserts are sold in 1 piece boxes

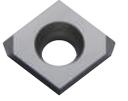
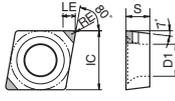
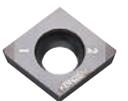
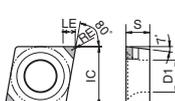
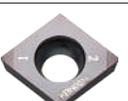
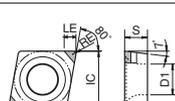
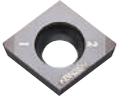
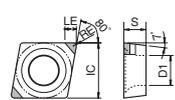
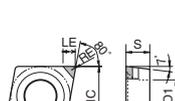
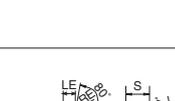
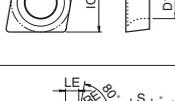
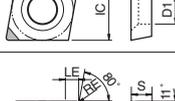
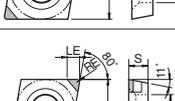
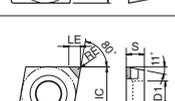
● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

80° Rhombic / Positive

*Thickness of CC_0301_ and CC_0401_ are different (mm)

Description	IC	S	D1
CCMW *0301_	3.5	1.4	1.9
*0401_	4.3	1.8	2.3
0602_	6.35	2.38	2.8
09T3_	9.525	3.97	4.4

Description	IC	S	D1
CPGB 0802	7.94	2.38	3.5
0903	9.525	3.18	4.5

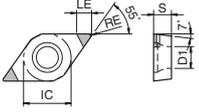
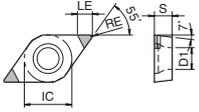
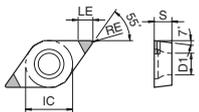
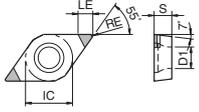
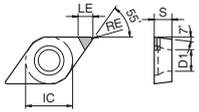
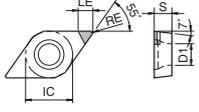
Edge Prep.														See Page for Applicable Toolholders			
Symbol	Cutting Edge Spec.	Example		K													
F	Sharp Edge	F	Sharp Edge														
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge														
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	H													
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge														
					Gray Cast Iron (With Scale)												
					Gray Cast Iron (Without Scale)												
					Nodular Cast Iron (With Scale)												
					Hard Materials (Roughing)												
					Hard Materials (Finishing)												
					Hard Materials (Chip Control)												
					Sintered Steel												
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN					Ref. to the table below C15	
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570		
	 CCMW 09T304MEF 09T308MEF	F	0.4 0.8	1.9 1.8	2												Ref. to the table below C15
	 CCMW 060202T00815ME 060204T00815ME 060208T00815ME CCMW 09T302T00815ME 09T304T00815ME 09T308T00815ME	T00815 T00815	0.2 0.4 0.8 0.2 0.4 0.8	2.0 1.9 1.8 2.0 1.9 1.8	2 2	●	▲	●	●		●	●	●	●	●	●	
	 CCMW 060204S01225MES 060208S01225MES CCMW 09T304S01225MES 09T308S01225MES	S01225 S01225	0.4 0.8 0.4 0.8	1.9 1.8 1.9 1.8	2 2	●									●	●	
	 CCMW 09T304S01035MET 09T308S01035MET	S01035	0.4 0.8	1.9 1.8	2	●	▲	●	●						●		
	 *CCMW 030102T00815SE 030104T00815SE *CCMW 040102T00815SE 040104T00815SE CCMW 060202T00815SE 060204T00815SE CCMW 09T302T00815SE 09T304T00815SE	T00815 T00815 T00815 T00815	0.2 0.4 0.2 0.4 0.2 0.4 0.2 0.4	1.4 1.4 1.4 1.4 2.0 1.9 2.0 1.9	1 1 1 1	▲	●				●	●	●	●			
	 *CCMW 030102S01035SET 030104S01035SET *CCMW 040102S01035SET 040104S01035SET CCMW 060204S01035SET CCMW 09T304S01035SET	S01035 S01035 S01035 S01035	0.2 0.4 0.2 0.4 0.4 0.4	1.4 1.4 1.4 1.4 1.9 1.9	1 1 1 1	▲	●								●		
	 CPGB 080204T00815ME CPGB 090302T00815ME 090304T00815ME 090308T00815ME	T00815 T00815	0.4 0.2 0.4 0.8	1.9 1.9 1.9 2.5	2 2	●		●			●	●	●	●	●	●	
	 CPGB 090304S01225MES 090308S01225MES	S01225	0.4 0.8	1.9 2.5	2	●											
	 CPGB 080204S01035MET 080208S01035MET CPGB 090304S01035MET 090308S01035MET	S01035 S01035	0.4 0.8 0.4 0.8	1.9 2.2 1.9 2.5	2 2			●							●		
	 CPGB 080202T00815SE 080204T00815SE CPGB 090302T00815SE 090304T00815SE	T00815 T00815	0.2 0.4 0.2 0.4	1.9 1.9 1.9 1.9	1 1						●	●	●	●			
	 CPGB 090304S01035SET	S01035	0.4	1.9	1										●		

CBN & PCD Inserts are sold in 1 piece boxes

● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

55° Rhombic / Positive

Description	IC	S	D1
DCMW 0702	6.35	2.38	2.8
11T3	9.525	3.97	4.4

Edge Prep.				K											See Page for Applicable Toolholders			
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)	Gray Cast Iron (Without Scale)	Nodular Cast Iron (With Scale)	Hard Materials (Roughing)			Hard Materials (Finishing)			Hard Materials (Chip Control)			Sintered Steel	
F	Sharp Edge	F	Sharp Edge															
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge															
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge															
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge															
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN							
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570			
 Multi Edge / Sharp Edge	 DCMW 11T304MEF 11T308MEF	F	0.4 0.8	1.7 1.9	2													
 Multi Edge	 DCMW 070202T00815ME 070204T00815ME 070208T00815ME DCMW 11T302T00815ME 11T304T00815ME 11T308T00815ME 11T312T00815ME	T00815 T00815	0.2 0.4 0.8	1.9 1.7 1.9	2 2	●	▲	●	●	●	●	●	●	●	●	●	●	●
 Multi Edge / General Purpose	 DCMW 11T302S01225MES 11T304S01225MES 11T308S01225MES	S01225	0.2 0.4 0.8	1.9 1.7 1.9	2	●										●	●	
 Multi Edge / Tough	 DCMW 070202S01035MET 070204S01035MET 070208S01035MET DCMW 11T302S01035MET 11T304S01035MET 11T308S01035MET 11T312S01035MET	S01035 S01035	0.2 0.4 0.8 1.2	1.9 1.7 1.9	2 2	●		●	●						●	●		
 Small Edge	 DCMW 070202T00815SE 070204T00815SE DCMW 11T302T00815SE 11T304T00815SE 11T308T00815SE	T00815 T00815	0.2 0.4	1.9 1.7	1 1			●							●	●		
 Small Edge / Tough	 DCMW 070204S01035SET DCMW 11T302S01035SET 11T304S01035SET 11T308S01035SET	S01035 S01035	0.4 0.2 0.4 0.8	1.7 1.9	1 1										●	●		

Ref. to the table below

Insert Description	See Page for Applicable Toolholders
DC..07 type	E28,E29,E32,E33,E44,F45~F47
DC..11 type	E24,E28,E29,E30,E32,E33,E44,F45~F47,F67

● CC type / TP type

Insert Description	See Page for Applicable Toolholders
CC..0602 type	E26,E27,E43,F23,F41
CC..09T3 type	E26,E27,E43,F41,F67

Insert Description	See Page for Applicable Toolholders
TP..0802 type	E35,F51,F53
TP..0902 type	F24,F51,F53

Insert Description	See Page for Applicable Toolholders
TP..1103 type	E35,F51,F52
TP..1603 type	F51,F52

● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

CBN & PCD Inserts are sold in 1 piece boxes

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60° Triangle / Positive

Description	IC	S	(mm)	
			D1	D1
TPGB 0802_	4.76	2.38	2.5	3.5
0902_	5.56		3.0	4.5
TPGW 1604_	9.525	4.76	4.4	4.4

Edge Prep.				K											See Page for Applicable Toolholders	
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)											
F	Sharp Edge	F	Sharp Edge	Gray Cast Iron (Without Scale)												
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	Nodular Cast Iron (With Scale)												
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	Hard Materials (Roughing)												
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	H	Hard Materials (Finishing)											
				H	Hard Materials (Chip Control)											
					Sintered Steel											
Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN					CBN					
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570	
	TPGB 110304MEF 110308MEF	F	0.4 0.8	2.1 1.8	3											
	TPGB 110302T00815ME 110304T00815ME 110308T00815ME	T00815	0.2 0.4 0.8	2.3 2.1 1.8	3	●	▲	●	●	●	●	●	●	●	●	●
	TPGB 160304T00815ME 160308T00815ME	T00815	0.4 0.8	1.8 1.5	3	●		●	●	●					●	●
	TPGB 110304S01225MES 110308S01225MES	S01225	0.4 0.8	2.1 1.8	3	●									●	●
	TPGB 110302S01035MET 110304S01035MET 110308S01035MET	S01035	0.2 0.4 0.8	2.3 2.1 1.8	3	●	▲	●	●							
	TPGB 160304S01035MET 160308S01035MET	S01035	0.4 0.8	1.8 1.5	3			●							●	●
	TPGB 080202T00815SE 080204T00815SE	T00815	0.2 0.4	1.8 1.6	1		▲	●							●	●
	TPGB 090202T00815SE 090204T00815SE	T00815	0.2 0.4	1.8 1.6	1		▲	●							●	●
	TPGB 110302T00815SE 110304T00815SE 110308T00815SE	T00815	0.2 0.4 0.8	1.9 1.8 1.5	1		▲								●	●
	TPGB 160302T00815SE 160304T00815SE	T00815	0.2 0.4	1.9 1.8	1										●	●
	TPGB 080202S01035SET 080204S01035SET	S01035	0.2 0.4	1.8 1.6	1			●							●	
	TPGB 090202S01035SET 090204S01035SET	S01035	0.2 0.4	1.8 1.6	1			●							●	
	TPGB 110304S01035SET 110308S01035SET	S01035	0.4 0.8	1.8 1.5	1										●	●
	TPGB 160304S01035SET	S01035	0.4	1.8	1										●	
	TPGW 160404T00815ME 160408T00815ME	T00815	0.4 0.8	1.8 1.5	3		▲	●								
	TPGW 160404S01035MET 160408S01035MET	S01035	0.4 0.8	1.8 1.5	3			●							●	
	TPGW 160404T00815SE	T00815	0.4	1.8	1										●	

Ref. to the table below C15

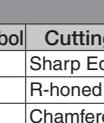
- CBN & PCD Tools
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- PCD
- Positive
- C
- D
- S
- T
- V
- W
- Solid
- Grooving

CBN & PCD Inserts are sold in 1 piece boxes

80° Trigon / Positive

Description	IC	S	D1
WBGW 0601_	3.97	1.59	2.3
0802_	4.76	2.38	

Edge Prep.				K											See Page for Applicable Toolholders
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)										
F	Sharp Edge	F	Sharp Edge	Gray Cast Iron (Without Scale)											
E	R-honed Cutting Edge	E008	R0.08mmHoned Cutting Edge	Nodular Cast Iron (With Scale)											
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	Hard Materials (Roughing)											
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	Hard Materials (Finishing)	●	●									
				Hard Materials (Chip Control)											
				Sintered Steel											

Insert	*Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN							CBN			See Page for Applicable Toolholders
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570	
	WBGW 060102T00815L-SE	T00815	0.2	1.9	1	▲	●						●	●		
	060104T00815L-SE	T00815	0.4	1.9	1	▲	●						●	●		
	WBGW 080202T00815L-SE	T00815	0.2	2.3	1	▲	●						●	●		
	080204T00815L-SE	T00815	0.4	2.3	1	▲	●						●	●		
	WBGW 060102S01035LSET	S01035	0.2	1.9	1		●									
	060104S01035LSET	S01035	0.4	1.9	1		●						●			
	WBGW 080202S01035LSET	S01035	0.2	2.3	1		●									
	080204S01035LSET	S01035	0.4	2.3	1	▲	●						●			

* Left-hand (L) Only

60° Triangle / Positive without Hole

Description	IC	S	D1
TBGN 0601_	3.97	1.59	-
TPGN 1103_	6.35	3.18	
1603_	9.525		

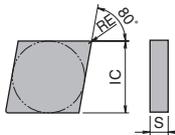
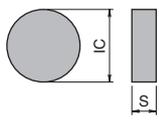
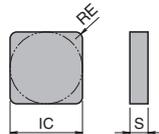
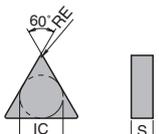
Edge Prep.				K											See Page for Applicable Toolholders
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (With Scale)										
F	Sharp Edge	F	Sharp Edge	Gray Cast Iron (Without Scale)											
E	R-honed Cutting Edge	E008	R0.08mmHoned Cutting Edge	Nodular Cast Iron (With Scale)											
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	Hard Materials (Roughing)											
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	Hard Materials (Finishing)	●										
				Hard Materials (Chip Control)											
				Sintered Steel											

Insert	Description	Edge Prep.	Dimension (mm)		No. of Edges	MEGACOAT CBN							CBN			See Page for Applicable Toolholders
			RE	LE		KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN510	KBN525	KBN475	KBN570	
	TBGN 060102T00815	T00815	0.2	-	3										●	
	060104T00815		0.4	-		▲							●	●		
	060108T00815		0.8	-									●			
	TPGN 110302T00815ME	T00815	0.2	2.6	3										●	
	110304T00815ME		0.4	2.5									●			
	TPGN 110304T00815SE	T00815	0.4	2.5	1										●	
	TPGN 160302T00815SE	T00815	0.2	2.6	1									●	●	
	160304T00815SE		0.4	2.4								●	●			
160308T00815SE	T00815	0.8	2.1	1									●			
	TPGN 110304S01035SET	S01035	0.4	2.5	1										●	
	TPGN 160304S01035SET	S01035	0.4	2.4	1									●		

CBN & PCD Inserts are sold in 1 piece boxes

Negative (Solid)

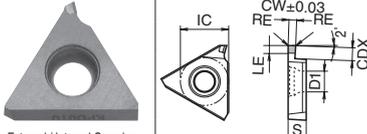
Description	(mm)		Description	(mm)	
	IC	S		IC	S
CNMN 0903_	9.525	3.18	SNMN 0903_	9.525	3.18
1204_	12.70	4.76	1203_	12.70	3.18
RNMN 0903_	9.525	3.18	1204_		4.76
1203_	12.70	3.18	TNMN 1103_	6.35	3.18
1204_		4.76	1604_	9.525	4.76

Edge Prep.				K	Gray Cast Iron (With Scale)		H	Hard Materials (Roughing)		Sintered Steel	See Page for Applicable Toolholders
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (Without Scale)			Hard Materials (Finishing)			
F	Sharp Edge	F	Sharp Edge	Nodular Cast Iron (With Scale)		Hard Materials (Chip Control)					
E	R-honed Cutting Edge	E008	R0.08mmHoned Cutting Edge								
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge								
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge								
Insert			Description	Edge Prep.	Dimension (mm)	No. of Edges	PVD Coated CBN				
					RE		KBN900				
 Solid		CNMN 090308S02020	S02020	0.8	4	●	D32				
		CNMN 090312S02020	S02020	1.2							
		CNMN 120412S02020	S02020	1.2							
		CNMN 120416S02020	S02020	1.6							
 Solid		RNMN 090300S02020	S02020	-	Depends on ap	●	D33				
		RNMN 120300S02020	S02020								
		RNMN 120400S02020	S02020								
 Solid		SNMN 090308S02020	S02020	0.8	8	●	D34				
		SNMN 090312S02020	S02020	1.2							
		SNMN 120308S02020	S02020	0.8			D35				
		SNMN 120312S02020	S02020	1.2							
		SNMN 120408S02020	S02020	0.8							
		SNMN 120412S02020		1.2							
SNMN 120416S02020	1.6										
SNMN 120420S02020	2.0										
 Solid		TNMN 110308S02020	S02020	0.8	6	●	D36				
		TNMN 160408S02020	S02020	0.8			F81				
		TNMN 160412S02020	S02020	1.2		●	D30				

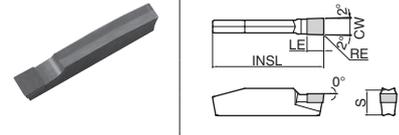
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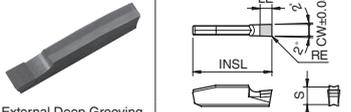
Grooving Inserts (1-edge)

Edge Prep.				K	Gray Cast Iron (With Scale)		No. of Edges	CBN		See Page for Applicable Toolholders										
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (Without Scale)			KBN510	KBN525											
F	Sharp Edge	F	Sharp Edge	H	Nodular Cast Iron (With Scale)				G9 ~ G11 G66											
E	R-honed Cutting Edge	E008	R0.08mmHoned Cutting Edge		Hard Materials (Roughing)															
T	Chamfered Cutting Edge	T01215	0.12mm x 15°Chamfered Cutting Edge		Hard Materials (Finishing)		○	●												
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	Hard Materials (Chip Control)																
				Sintered Steel																
Insert		Description	Edge Prep.	Dimension (mm)							CBN									
Handed Insert shows Right-hand				CW	CDX	RE	IC	S	D1	LE	No. of Edges	KBN510	KBN525							
		GBA43% 125-020	E008	1.25	2.0															
		150-020	E008	1.50	3.5															
		200-020	E008	2.00	3.5	0.2	12.70	4.76	5.5	1.9	1	●	●	●	●					
		250-020	E008	2.50	4.0							●	●	●	●					
		300-020	E008	3.00	4.0							●	●	●	●					

Deep Grooving Inserts (1-edge)

Edge Prep.				K	Gray Cast Iron (With Scale)		No. of Edges	MEGA COAT CBN		See Page for Applicable Toolholders									
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (Without Scale)			KBN05M	KBN570										
F	Sharp Edge	F	Sharp Edge	H	Nodular Cast Iron (With Scale)				G24 ~ G31 G24 G30 G31										
E	R-honed Cutting Edge	E008	R0.08mmHoned Cutting Edge		Hard Materials (Roughing)														
T	Chamfered Cutting Edge	T01215	0.12mm x 15°Chamfered Cutting Edge		Hard Materials (Finishing)		●												
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	Hard Materials (Chip Control)															
				Sintered Steel			●												
Insert		Description	Edge Prep.	Dimension (mm)						No. of Edges	KBN05M	KBN570							
External Deep Grooving				CW	RE	INSL	S	LE	Tolerance										
		GDGS 2020N-020NB	E008	2.0	0.2							●							
		3020N-040NB	E008	3.0								●							
		4020N-040NB	E008	4.0	±0.03	20	4.3	2.9	1			●							
		5020N-040NB	E008	5.0	0.4							●							
		6020N-040NB	E008	6.0								●							

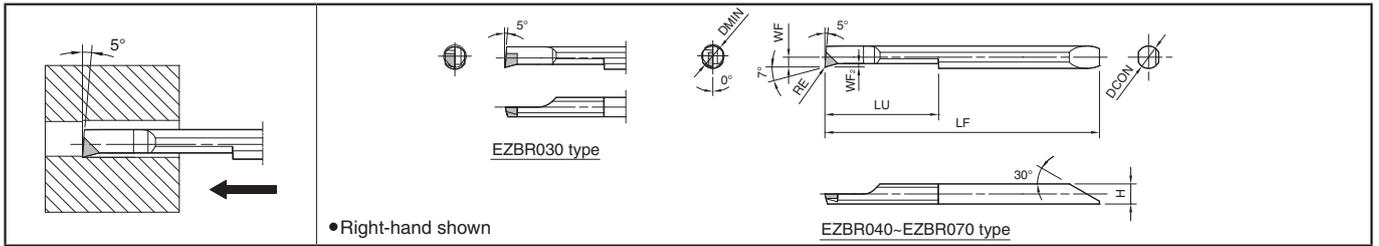
Deep Grooving Inserts (1-edge)

Edge Prep.				K	Gray Cast Iron (With Scale)		No. of Edges	CBN		See Page for Applicable Toolholders									
Symbol	Cutting Edge Spec.	Example			Gray Cast Iron (Without Scale)			KBN510	KBN525										
F	Sharp Edge	F	Sharp Edge	H	Nodular Cast Iron (With Scale)				G42,G43 G42 G43 G44 G42,G43										
E	R-honed Cutting Edge	E008	R0.08mmHoned Cutting Edge		Hard Materials (Roughing)														
T	Chamfered Cutting Edge	T01215	0.12mm x 15°Chamfered Cutting Edge		Hard Materials (Finishing)		○	●											
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge	Hard Materials (Chip Control)															
				Sintered Steel															
Insert		Description	Edge Prep.	Dimension (mm)						No. of Edges	KBN510	KBN525							
External Deep Grooving				CW	RE	INSL	S	LE											
		GMN 2	E008	2.0	0.2							▲	▲						
		3	E008	3.0								▲	▲						
		4	E008	4.0	0.4	20	4.3	2.9	1			▲	▲						
		5	E008	5.0								▲	▲						
		6	E008	6.0								▲	▲						

CBN & PCD Inserts are sold in 1 piece boxes

● : Std. Item (1 pc boxes) ▲ : To be replaced by a new product

EZ Bars (EZB-NB · CBN)



EZ Bars Dimensions

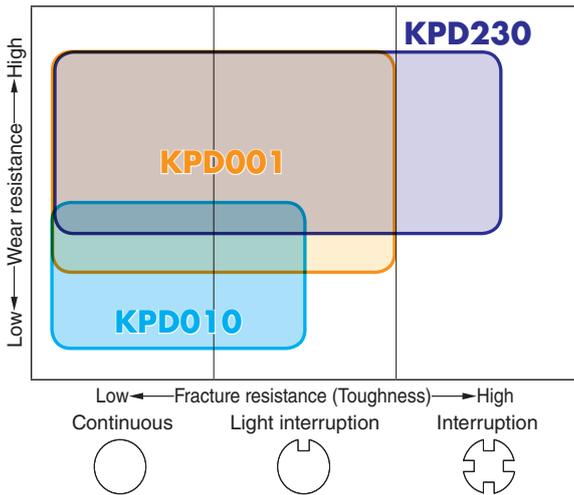
Edge Prep.		Example		K	Material		No. of Edges		See Page for Applicable Sleeves				
Symbol	Cutting Edge Spec.				Gray Cast Iron (With Scale)	Gray Cast Iron (Without Scale)							
F	Sharp Edge	F	Sharp Edge	H	Hard Materials (Roughing)				F26 F31				
E	R-honed Cutting Edge	E008	R0.08mm Honed Cutting Edge		Hard Materials (Finishing)								
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge		Hard Materials (Chip Control)								
S	Chamfered and R-honed Cutting Edge	S01225	0.12mm x 25° Chamfered and R-honed Cutting Edge		Sintered Steel								
Description	Edge Prep.	Min. Bore Dia.	Dimension (mm)							No. of Edges	MEGACOAT CBN		
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE		KBN05M		
EZBR	030030-003NB	T00815	3	3	2.6	38.8	13	1.25	0.3	0.035 ^{±0.015}	1	●	
	040040-003NB	T00815	4	4	3.6	48.8	20	1.75	0.5			●	
	050050-003NB	T00815	5	5	4.6	58.1	25	2.25	0.5			●	
	060060-003NB	T00815	6	6	5.6	66.1	30	2.75	0.5			●	
	070070-003NB	T00815	7	7	6.6	74.1	35	3.25	0.5			●	

● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes

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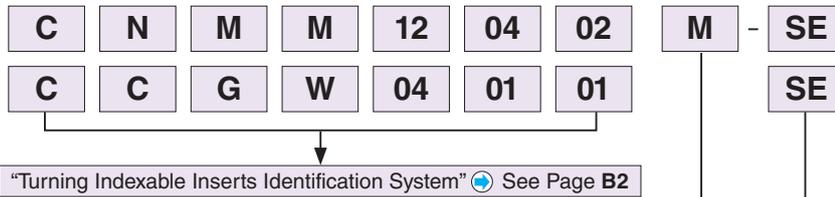
Application Map



About Insert Grades

Grades	Applications	Features
KPD001 (Ave. Grain Size under 0.5µm)	<ul style="list-style-type: none"> High speed machining of non-ferrous metals and brass High speed machining of plastics Machining of carbide 	<ul style="list-style-type: none"> The world highest level micro-grain diamond High edge strength, and superior to wear resistance, fracture resistance and edge sharpening performance
KPD010 (Ave. Grain Size 10µm)	<ul style="list-style-type: none"> High speed machining of non-ferrous metals and brass High speed machining of plastics Machining of carbide 	<ul style="list-style-type: none"> Good balance of wear resistance and flexural strength General purpose
KPD230 (Mixture of fine grain with the Ave. grain size 2-30 µm and rough grain)	<ul style="list-style-type: none"> High speed machining of non-ferrous metals and brass High speed machining of plastics 	<ul style="list-style-type: none"> High density PCD with mixture of coarse and fine grains features excellent abrasive wear resistance and fracture resistance
KPD250 (Ave. Grain Size 25µm) (Made to order)	<ul style="list-style-type: none"> High speed machining of high silicon aluminum alloy Machining of carbide 	<ul style="list-style-type: none"> Coarse grain PCD (Ave. Grain Size 25µm) Superior to wear resistance

Identification System (Turning Insert)



Insert Type	Description	Manufacturer's Option 1	Manufacturer's Option 2	Series Name	Edge Length	No. of Edges	Regrinding
Negative	CNMM120402M-SE	M	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CNMM120402M-NE	(Indicates the tool is for negative toolholders)	NE	New Value Edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CNMM120402M		No Indication	-	Long	1	
Positive	CCGW040101SE	-	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CCGW040101NE		NE	New Value Edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CCGW040101		No Indication	-	Long	1	

- Note) 1. No edge preparation symbols for PCD inserts. Most of the PCD inserts' edge prep. are sharp edge.
 2. "M" in manufacturer's option 1 indicates the inserts are applicable to negative toolholders.
 3. See page B3 for insert color.

About Regrinding

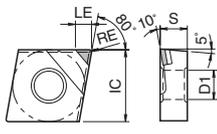
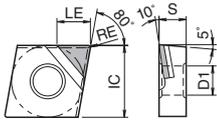
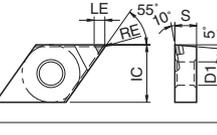
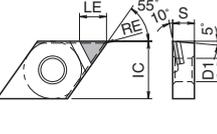
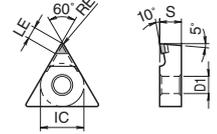
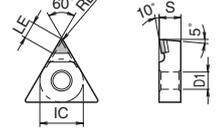
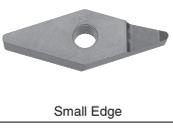
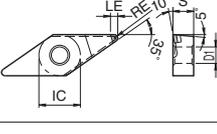
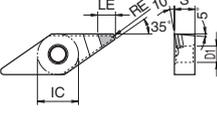
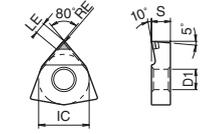
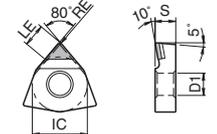
- Regrinding is possible with the inserts with "NE" and no symbol in manufacturer's option 2. Regrinding cannot be available depending on the edge condition.
- Regrinding is not recommended for inserts with "SE" in manufacturer's option 2.

Recommended Cutting Conditions (Turning)

Workpiece Material	Insert Grades		Cutting Conditions				Remarks
	KPD001	KPD010	Vc (m/min)	ap(mm)		f (mm/rev)	
				Small Edge and Positive (Inserts)	Negative (Inserts)		
Aluminum alloys Zinc alloys	★	☆	300~1,500	~1.0	~2.0	0.03~0.5	Both Dry and Coolant
Copper, Brass, Bronze	★	☆	300~1,000	~1.0	~2.0	0.03~0.5	
Magnesium Alloys	★	☆	400~1,200	~1.0	~2.0	0.03~0.5	
Carbide	★	☆	10~30	~0.3	~0.3	0.03~0.1	
Titanium Alloys	★	☆	100~200	~1.0	~2.0	0.05~0.2	Coolant
Glass fiber reinforced plastics Carbon fiber	★	☆	100~600	~1.0	~2.0	0.05~0.5	Dry
Silica Filling Plastic Particle Board	★	☆	400~800	~1.0	~2.0	0.05~0.5	

★: 1st Recommendation ☆: 2nd Recommendation

Negative

Edge Prep.				N		S						See Page for Applicable Toolholders					
PCD all items		Sharp Edge		Non-ferrous Metals (With interruption)		Non-ferrous Metals (Without interruption)											
PCD all items		Sharp Edge		Titanium Alloys (With interruption)		Titanium Alloys (Without interruption)											
Insert	Description	Dimension (mm)					No. of Edges	PCD									
		IC	S	D1	RE	LE		KPD001	KPD010	KPD230	KPD250						
		CNMM	120402M-SE 120404M-SE 120408M-SE	12.70	4.76	5.16	0.2 0.4 0.8	2.8 2.8 2.7	1	● ● ●	● ● ●						
		CNMM	120402M-NE 120404M-NE 120408M-NE	12.70	4.76	5.16	0.2 0.4 0.8	5.1 5.0 4.9	1	● ● ●							
		CNMM	120402M 120404M 120408M 120412M				0.2 0.4 0.8 1.2	5.8 5.8 5.7 5.6		● ● ● ●	● ● ● ●						
		DNMM	150402M-SE 150404M-SE 150408M-SE				12.70	4.76		5.16	0.2 0.4 0.8	2.8 2.6 2.2	1	● ● ●	● ● ●		
		DNMM	150402M-NE 150404M-NE 150408M-NE				12.70	4.76		5.16	0.2 0.4 0.8	5.2 5.0 4.6	1	● ● ●			
		DNMM	150402M 150404M 150408M	0.2 0.4 0.8	5.9 5.8 5.4	● ● ●			● ● ●								
		TNMM	160402M-SE 160404M-SE 160408M-SE	9.525	4.76	3.81	0.2 0.4 0.8	2.7 2.6 2.3	1	● ● ●	● ● ●						
		TNMM	160402M-NE 160404M-NE 160408M-NE	9.525	4.76	3.81	0.2 0.4 0.8	3.2 3.1 2.8	1	● ● ●							
		TNMM	160402M 160404M 160408M 160412M				0.2 0.4 0.8 1.2	3.8 3.6 3.3 3.0		● ● ● ●	● ● ● ●						
		VNMM	160402M-SE 160404M-SE 160408M-SE				9.525	4.76		3.81	0.2 0.4 0.8	2.9 2.5 1.6	1	● ● ●	● ● ●		
		VNMM	160402M-NE 160404M-NE 160408M-NE	9.525	4.76	3.81	0.2 0.4 0.8	4.7 4.2 3.4	1	● ● ●							
		VNMM	160402M 160404M 160408M				0.2 0.4 0.8	5.3 4.8 4.0		● ● ●	● ● ●						
		WNMM	080402M-SE 080404M-SE 080408M-SE	12.70	4.76	5.16	0.2 0.4 0.8	2.8 2.8 2.7	1	● ● ●	● ● ●						
		WNMM	080402M-NE 080404M-NE	12.70	4.76	5.16	0.2 0.4	5.0 5.0	1	● ●							
		WNMM	080404M				0.4	5.8		●	●						

· SE : Small Edge / NE : New Value Edge

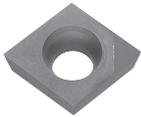
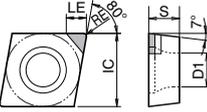
● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes

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Positive

Edge Prep.				N								See Page for Applicable Toolholders	
PCD all items		Sharp Edge		S		Titanium Alloys (With interruption)		Titanium Alloys (Without interruption)					
Insert	Description	Dimension (mm)					No. of Edges	PCD					
		IC	S	D1	RE	LE		KPD001	KPD010	KPD230	KPD250		
		CCGW 040101SE	4.3	1.8	2.3	0.1	1.3	1	●				F23 F41
		CCGW 040102SE				0.2	1.3		●				
		CCGW 040104SE				0.4	1.3		●				
		CCGW 060201SE	6.35	2.38	2.8	0.1	2.3		●				Ref. to the table below
		CCGW 060202SE				0.2	2.3		●				
		CCGW 060204SE				0.4	2.3		●				
		CCGW 09T302SE	9.525	3.97	4.4	0.2	2.7		●				
		CCGW 09T304SE				0.4	2.7		●				
		CCGW 09T308SE				0.8	2.7		●				
	CCGW 040101NE	4.3	1.8	2.3	0.1	1.7	●				F23 F41		
	CCGW 040102NE				0.2	1.6	●						
	CCGW 040104NE				0.4	1.6	●						
	CCGW 060201NE	6.35	2.38	2.8	0.1	3.1	●				Ref. to the table below		
	CCGW 060202NE				0.2	3.0	●						
CCGW 060204NE	0.4				3.0	●							
CCGW 09T301NE	9.525	3.97	4.4	0.1	3.4	●							
CCGW 09T302NE				0.2	3.4	●							
CCGW 09T304NE				0.4	3.4	●							
CCGW 09T308NE				0.8	3.3	●							
CCGW 040101	4.3	1.8	2.3	0.1	1.9	●				F23 F41			
CCGW 040102				0.2	1.9	●	●						
CCGW 040104				0.4	1.9	●	●						
CCGW 060201	6.35	2.38	2.8	0.1	3.5	●		●		Ref. to the table below			
CCGW 060202				0.2	3.5	●		●					
CCGW 060204				0.4	3.5	●		●					
CCGW 09T301	9.525	3.97	4.4	0.1	3.8	●							
CCGW 09T302				0.2	3.8	●		●					
CCGW 09T304				0.4	3.7	●		●					
CCGW 09T308				0.8	3.6	●		●					
CCMT 060202SE	6.35	2.38	2.8	0.2	2.2	●					Ref. to the table below		
CCMT 060204SE				0.4	2.2	●							
CCMT 09T301SE	9.525	3.97	4.4	0.1	2.7	●							
CCMT 09T302SE				0.2	2.7	●							
CCMT 09T304SE				0.4	2.7	●							
CCMT 09T308SE				0.8	2.7	●							
CCMT 060201NE	6.35	2.38	2.8	0.1	2.8	●							
CCMT 060202NE				0.2	2.8	●							
CCMT 060204NE				0.4	2.8	●							
CCMT 09T301NE	9.525	3.97	4.4	0.1	3.4	●							
CCMT 09T302NE				0.2	3.4	●							
CCMT 09T304NE				0.4	3.4	●							
CCMT 09T308NE				0.8	3.3	●							
CCMT 060201	6.35	2.38	2.8	0.1	3.3	●		●					
CCMT 060202				0.2	3.3	●		●					
CCMT 060204				0.4	3.2	●		●					
CCMT 09T301	9.525	3.97	4.4	0.1	3.9	●							
CCMT 09T302				0.2	3.9	●		●					
CCMT 09T304				0.4	3.9	●		●					
CCMT 09T308				0.8	3.8	●		●					

SE : Small Edge / NE : New Value Edge

Insert Description	See Page for Applicable Toolholders
CC..0602 type	E26,E27,E43,F23,F41
CC..09T3 type	E26,E27,E43,F41,F67

CBN & PCD Inserts are sold in 1 piece boxes

Positive

Edge Prep.				N		S		See Page for Applicable Toolholders							
PCD all items		Sharp Edge		Non-ferrous Metals (With interruption)		Non-ferrous Metals (Without interruption)									
Insert		Description		Dimension (mm)					PCD						
Handed Insert shows Left-hand				IC	S	D1	RE	LE	No. of Edges	KPD001	KPD010	KPD230	KPD250		
		CCMT	09T302APD 09T304APD 09T308APD	9.525	3.97	4.4	0.2 0.4 0.8	2.7 2.7 2.7	1	●				Ref. to the table below C24	
		CPMH	090302SE 090304SE	9.525	3.18	4.5	0.2 0.4	2.7 2.7	1	●					
		CPMH	080202NE 080204NE	7.94	2.38	3.5	0.2 0.4	3.2 3.2	1	●				F43	
		CPMH	090301NE 090302NE 090304NE 090308NE	9.525	3.18	4.5	0.1 0.2 0.4 0.8	3.4 3.4 3.4 3.3		●					
		CPMH	080201 080202 080204	7.94	2.38	3.5	0.1 0.2 0.4	3.7 3.7 3.7	●	●					
		CPMH	090301 090302 090304 090308	9.525	3.18	4.5	0.1 0.2 0.4 0.8	4.0 3.9 3.9 3.8	●	●					
		DCMT	070201SE 070202SE 070204SE	6.35	2.38	2.8	0.1 0.2 0.4	2.7 2.7 2.7	●						Ref. to the table below
		DCMT	11T301SE 11T302SE 11T304SE 11T308SE	9.525	3.97	4.4	0.1 0.2 0.4 0.8	2.7 2.7 2.7 2.7	●						
		DCMT	070201NE 070202NE 070204NE	6.35	2.38	2.8	0.1 0.2 0.4	3.4 3.4 3.2	●						
		DCMT	11T301NE 11T302NE 11T304NE 11T308NE	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.4 3.3 3.2 2.8	●						
DCMT	070201 070202 070204	6.35	2.38	2.8	0.1 0.2 0.4	4.0 3.9 3.7	●	●							
DCMT	11T301 11T302 11T304 11T308	9.525	3.97	4.4	0.1 0.2 0.4 0.8	4.0 3.9 3.7 3.3	●	●							
DCMT	070202^{3/4}-NE 070204^{3/4}-NE	6.35	2.38	2.8	0.2 0.4	3.3 3.2	●								
DCMT	11T302^{3/4}-NE 11T304^{3/4}-NE	9.525	3.97	4.4	0.2 0.4	3.3 3.2	●								
		DCMT	11T302APD 11T304APD 11T308APD	9.525	3.97	4.4	0.2 0.4 0.8	2.7 2.7 2.7	1	●					

· SE : Small Edge / NE : New Value Edge

Insert Description	See Page for Applicable Toolholders
DC..07 type	E28,E29,E32,E33,E44,F45-F47
DC..11 type	E24,E28,E29,E30,E32,E33,E44,F45-F47,F67

● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes

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Positive

Edge Prep.				N								See Page for Applicable Toolholders
PCD all items		Sharp Edge		S		Titanium Alloys (With interruption)		Titanium Alloys (Without interruption)				
Insert	Description	Dimension (mm)					No. of Edges	PCD				
		IC	S	D1	RE	LE		KPD001	KPD010	KPD230	KPD250	
	TBGW 060102NE 060104NE	3.97	1.59	2.4	0.2	2.1	1	●				F24 F51 F53
	TBGW 060102 060104				0.4	1.9		0.2	2.4	●	●	
	TBMT 060101NE 060102NE 060104NE 060108NE	3.97	1.59	2.4	0.1	2.2	1	●				
	TBMT 060102 060104 060108				0.2	2.1		●				
					0.4	2.0		●				
					0.8	1.7		●				
					0.2	2.5		●	●			
	TCGW 110302SE 110304SE	6.35	3.18	2.8	0.2	2.5	1		●			
	TCGW 110302NE 110304NE				0.4	2.4		●				
	TCGW 110302				0.2	3.3		●				
	TCMT 110301SE 110302SE 110304SE	6.35	3.18	2.8	0.2	2.6	1		●			
	TCMT 080202NE 110302NE 110304NE				0.1	2.5		●				
					0.4	2.4		●				
	TCMT 080202 080204	4.76	2.38	2.5	0.2	2.1	1	●				
	TCMT 110302				0.2	3.4		●				
					0.4	3.3		●				
					0.2	2.4			●			
	TPGB 090202SE 090204SE 090208SE	5.56	2.38	3.2	0.2	2.1	1	●				
	TPGB 110301SE 110302SE 110304SE				0.4	2.1		●				
					0.8	2.1		●				
	TPGB 160302SE 160304SE	9.525	3.18	4.7	0.1	2.7		●	●			
					0.2	2.6		●	●			
					0.4	2.5		●	●			
	0.2	2.6		●	●							
	0.4	2.4		●	●							

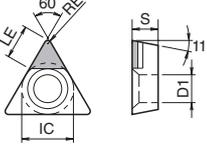
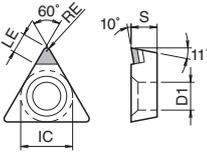
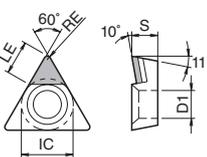
SE : Small Edge / NE : New Value Edge

Insert Description	See Page for Applicable Toolholders
TP..0802 type	E35,F51,F53
TP..0902 type	F24,F51,F53

Insert Description	See Page for Applicable Toolholders
TP..1103 type	E35,F51,F52
TP..1603 type	F51,F52

CBN & PCD Inserts are sold in 1 piece boxes

Positive

Edge Prep.				N		Non-ferrous Metals (With interruption)		●						See Page for Applicable Toolholders
PCD all items		Sharp Edge		S		Non-ferrous Metals (Without interruption)		●						
						Titanium Alloys (With interruption)		●						
Insert	Description	Dimension (mm)					No. of Edges	PCD				Ref. to the table below C26		
		IC	S	D1	RE	LE		KPD001	KPD010	KPD230	KPD250			
 	TPGB 080202NE	4.76	2.38	2.3	0.2	2.2	1	●						
	080204NE				0.4	2.1		●						
	080208NE				0.8	1.8		●						
	TPGB 090202NE	5.56	2.38	3.2	0.2	2.7	1	●						
	090204NE				0.4	2.6		●						
	090208NE				0.8	2.3		●						
	TPGB 110302NE	6.35	3.18	3.3	0.2	3.4	1	●						
	110304NE				0.4	3.3		●						
	110308NE				0.8	3.0		●						
	TPGB 160304NE	9.525	3.18	4.7	0.4	3.2	1	●						
	160308NE				0.8	2.9		●						
	TPGB 080202	4.76	2.38	2.3	0.2	2.6	1	●	●					
080204				0.4	2.4		●	●						
TPGB 090202	5.56	2.38	3.2	0.2	3.2	1	●	●						
090204				0.4	3.0		●	●						
TPGB 110302	6.35	3.18	3.3	0.2	3.9	1	●	●						
110304				0.4	3.7		●	●						
110308				0.8	3.4		●	●						
  	TPMH 080202SE	4.76	2.38	2.3	0.2	2.0	1	●						
	080204SE				0.4	1.8		●						
	TPMH 090202SE	5.56	2.38	3.2	0.2	2.4	1	●						
	090204SE				0.4	2.2		●						
	TPMH 110301SE	6.35	3.18	3.3	0.1	2.7	1	●	●					
	110302SE				0.2	2.6		●	●					
	110304SE				0.4	2.5		●	●					
	TPMH 160302SE	9.525	3.18	4.7	0.2	2.6	1	●	●					
	160304SE				0.4	2.4		●	●					
	TPMH 080201NE	4.76	2.38	2.3	0.1	2.3	1	●						
	080202NE				0.2	2.2		●						
	080204NE				0.4	2.1		●						
	TPMH 090201NE	5.56	2.38	3.2	0.1	2.7	1	●						
	090202NE				0.2	2.6		●						
	090204NE				0.4	2.5		●						
	090208NE				0.8	2.2		●						
	TPMH 110301NE	6.35	3.18	3.3	0.1	3.4	1	●						
	110302NE				0.2	3.3		●						
	110304NE				0.4	3.2		●						
	110308NE				0.8	2.9		●						
	TPMH 160304NE	9.525	3.18	4.7	0.4	3.3	1	●						
	160308NE				0.8	3.0		●						
	TPMH 080202	4.76	2.38	2.3	0.2	2.5	1	●	●					
	080204				0.4	2.3		●	●					
TPMH 090201	5.56	2.38	3.2	0.1	3.0	1	●	●						
090202				0.2	2.9		●	●						
090204				0.4	2.8		●	●						
090208				0.8	2.5		●	●						
TPMH 110301	6.35	3.18	3.3	0.1	3.9	1	●	●						
110302				0.2	3.9		●	●						
110304				0.4	3.7		●	●						
110308				0.8	3.4		●	●						
TPMH 160302	9.525	3.18	4.7	0.2	4.0	1	●	●						
160304				0.4	3.8		●	●						
160308				0.8	3.6		●	●						

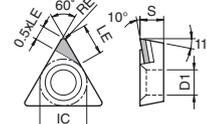
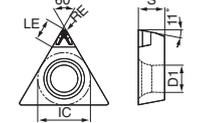
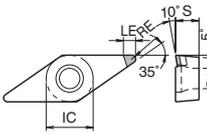
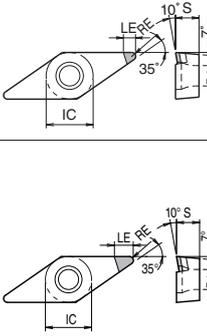
SE : Small Edge / NE : New Value Edge

● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes

Insert Grades
Turnable Inserts
CBN & PCD Tools
External
Small Parts
Boring
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Positive

Edge Prep.				N		S								See Page for Applicable Toolholders							
PCD all items		Sharp Edge		Non-ferrous Metals (With interruption)		Non-ferrous Metals (Without interruption)		Titanium Alloys (With interruption)		Titanium Alloys (Without interruption)											
Insert	Description	Dimension (mm)					No. of Edges	PCD													
		IC	S	D1	RE	LE		KPD001	KPD010	KPD230	KPD250										
		TPMH	110302L-NE 110304L-NE	6.35	3.18	3.3	0.2 0.4	3.8 3.6	1	●				Ref. to the table below C26							
		TPMT	110302APD 110304APD 110308APD	6.35	3.18	3.3	0.2 0.4 0.8	2.6 2.5 2.5	1	●											
		VBMT	110301SE 110302SE 110304SE 110308SE	6.35	3.18	2.8	0.1 0.2 0.4 0.8	2.5 2.3 1.9 1.9	1	●				Ref. to the table below							
		VBMT	160401SE 160402SE 160404SE 160408SE				9.525	4.76		4.4	0.1 0.2 0.4 0.8	2.7 2.5 2.1 2.0	●								
		VBMT	110301NE 110302NE 110304NE 110308NE								6.35	3.18	2.8		0.1 0.2 0.4 0.8	2.6 2.4 2.0 3.1	●				
		VBMT	160401NE 160402NE 160404NE 160408NE												9.525	4.76	4.4	0.1 0.2 0.4 0.8	2.8 2.6 2.2 3.0	●	
	VBMT	110301 110302 110304 110308	6.35	3.18	2.8	0.1 0.2 0.4 0.8			3.0 2.8 2.4 3.5									●	●		
	VBMT	160401 160402 160404 160408				9.525	4.76	4.4	0.1 0.2 0.4 0.8	3.2 3.0 2.6 3.5								●	●		
		VCMT							080202SE 080204SE 080208SE	4.76	2.38	2.3	0.2 0.4 0.8					1.4 1.4 1.4	1	●	
		VCMT							080201NE 080202NE 080204NE 080208NE				4.76		2.38	2.3	0.1 0.2 0.4 0.8	1.7 1.7 1.8 1.9	1	●	
		VCMT	080201 080202 080204 080208	4.76	2.38				2.3								0.1 0.2 0.4 0.8	2.0 2.0 2.1 2.2	1	●	●

SE : Small Edge / NE : New Value Edge

Insert Description	See Page for Applicable Toolholders
VB..1103 type	E36,E37,E38,E45,F54,F56,F59
VB..1604 type	E37,E38,F54,F56,F59

CBN & PCD Inserts are sold in 1 piece boxes

Positive

Edge Prep.				N		S								See Page for Applicable Toolholders
PCD all items		Sharp Edge		Non-ferrous Metals (With interruption)		Non-ferrous Metals (Without interruption)		Titanium Alloys (With interruption)		Titanium Alloys (Without interruption)				
Insert	Description	Dimension (mm)					Angle	No. of Edges	PCD					
		IC	S	D1	RE	LE	GAN		KPD001	KPD010	KPD230	KPD250		
	WBMT 060102L-SE	3.97	1.59	2.3	0.2	1.3	5°	1	●					F25 F61
	WBMT 080202L-SE	4.76	2.38	2.3	0.2	1.6	10°	1	●					
	WBMT 060101L-NE	3.97	1.59	2.3	0.1	1.7	5°	1	●					
	WBMT 060102L-NE				0.2	1.6			●					
	WBMT 060104L-NE				0.4	1.6			●					
	WBMT 080202L-NE	4.76	2.38	2.3	0.2	2.1	10°	1	●					
WBMT 080204L-NE	0.4				2.1	●								
WBMT 060101L	3.97	1.59	2.3	0.1	1.9	5°	1	●						
WBMT 060102L				0.2	1.9			●	●					
WBMT 060104L				0.4	1.9			●	●					
WBMT 080202L	4.76	2.38	2.3	0.2	2.4	10°	1	●	●					
WBMT 080204L				0.4	2.3			●	●					
	WPMT 110202SE	6.35	2.38	2.8	0.2	2.1	-	1	●				F62	
	WPMT 110202NE				0.2	2.7			●					
	WPMT 110202				0.2	3.1				●				
	SPGN 120304NE	12.70	3.18	-	0.4	3.6	-	1	●					
	SPGN 120304				0.4	4.2				●				
	TPGN 110301SE	6.35	3.18	-	0.1	2.6	-	1	●					F63
	TPGN 110302SE				0.2	2.5			●	●				
	TPGN 110304SE				0.4	2.4			●	●				
	TPGN 160301SE	9.525	3.18	-	0.1	2.6	-	1	●					
	TPGN 160302SE				0.2	2.6			●	●				
	TPGN 160304SE				0.4	2.4			●	●				
	TPGN 160304NE	9.525	3.18	-	0.4	3.2	-	1	●					
	TPGN 160308NE				0.8	2.9			●					
	TPGN 110302	6.35	3.18	-	0.2	3.9	-	1	●	●				
	TPGN 110304				0.4	3.7			●	●				
TPGN 110308	0.8				3.4	●			●					
TPGN 160304	9.525	3.18	-	0.4	3.7	-	1	●	●					
TPGN 160308				0.8	3.4			●	●					

SE : Small Edge / NE : New Value Edge

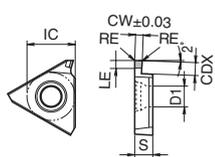
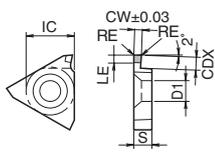
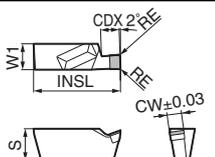
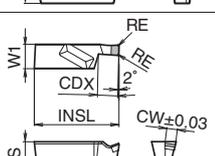
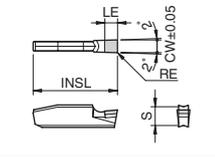
● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes

Insert Grades
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CN & PCD Tools
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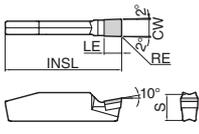
A
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Grooving Inserts (1-edge)

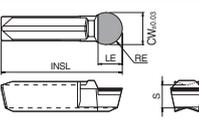
Edge Prep.		PCD all items		Sharp Edge		N		S		No. of Edges		PCD		See Page for Applicable Toolholders	
						Non-ferrous Metals (With interruption)		Non-ferrous Metals (Without interruption)		Titanium Alloys (With interruption)		Titanium Alloys (Without interruption)			KPD001
Insert		Description		Dimension (mm)						No. of Edges	PCD				See Page for Applicable Toolholders
Handed Insert shows Right-hand		CW	CDX	RE	IC	S	D1	LE	KPD001		KPD010				
		R	L	R	L	R	L	R	L	R	L	R	L		
 <p>External / Internal Grooving</p>		GBA32R 125-010	1.25	2.0	0.1	9.525	3.18	4.4	1.7	●				G9 G11 G66	
		150-010	1.50	2.0							●				
		GBA43^{3/4} 125-010	1.25	2.0							●				
		150-010	1.50	3.5							●				
		200-010	2.00	3.5	0.1	12.70	4.76	5.5	1.9	●					
		250-010	2.50	4.0							●				
 <p>External Grooving</p>		TGF32R 125-010	1.25	2.0					1.7	●				G18 G19	
		150-010	1.50	2.0	0.1	9.525	3.18	4.5	1.7	●					
		200-010	2.00	2.5					1.9	●					
Insert		Description		Dimension (mm)						No. of Edges	PCD				See Page for Applicable Toolholders
Handed Insert shows Right-hand		CW	CDX	RE	W1	INSL	S		KPD001		KPD010				
		R	L	R	L	R	L	R	L	R	L	R	L		
 <p>Internal Grooving</p>		GV^{3/4} 145-020A	1.45	2.3	0.2	4.0	12	5.0				●		G65	
		200-020A	2.00	2.3	0.2	4.0	12	5.0					●		
		GV^{3/4} 200-020B	2.00	3.2	0.2	4.5	15	5.5					●		
		250-020B	2.50	3.2	0.2	4.5	15	5.5					●		
 <p>Face Grooving</p>		GVF^{3/4} 250-020B	2.50	4.8								●	●	G100 G103 G110	
		300-020B	3.00	4.8	0.2	5.8	20	5.0					●		●
		400-020B	4.00	5.3									MTO		MTO
		GVF^{3/4} 350-040C	3.50	6.8	0.4	7.0	27	7.0					MTO		
Insert		Description		Dimension (mm)						No. of Edges	PCD		See Page for Applicable Toolholders		
		CW	RE	INSL	S	LE			KPD001		KPD010				
 <p>External Deep Grooving</p>		GMN 2	2.0							▲	▲			G42 G43 G44 G42,G43	
		3	3.0							▲	▲				
		4	4.0	0.2	20	4.3	2.9			▲	▲				
		5	5.0							▲	▲				
		6	6.0							▲	▲				
											▲	▲			

CBN & PCD Inserts are sold in 1 piece boxes

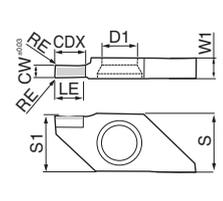
Deep Grooving Inserts (1-edge)

Edge Prep.				N	Non-ferrous Metals (With interruption)		●		See Page for Applicable Toolholders		
PCD all items		Sharp Edge		S	Titanium Alloys (With interruption)		●				
Insert	Description	Dimension (mm)					No. of Edges	PCD			
		CW	RE	INSL	S	LE		KPD001			
			Tolerance								
 External Deep Grooving		GDGS 2020N-020NB	2.0					●	G24 G31		
		3020N-020NB	3.0					●			
		4020N-020NB	4.0	±0.03	0.2	20	4.3	2.9	1	●	G24 G30 G31
		5020N-020NB	5.0						●		
		6020N-020NB	6.0						●		

For Aluminum Wheel (1-edge)

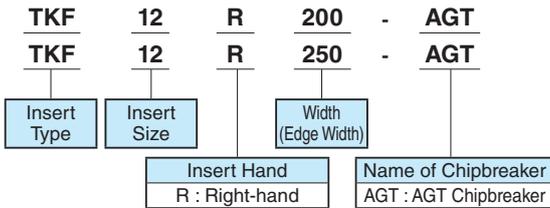
Edge Prep.				N	Non-ferrous Metals (With interruption)		●		See Page for Applicable Toolholders	
GMGW		R-honed Cutting Edge		S	Titanium Alloys (With interruption)		●			
Insert	Description	Dimension (mm)					No. of Edges	PCD		
		CW	RE	INSL	S	LE		KPD001		
		GMGW 6030-30R	6	3	30	5.5	4.5	1	●	G48
		8030-40R	8	4		6	●			
	GMGW 8030-40R-HR	8	4	30	5.5	5	●			

Turning / Grooving (1-edge)

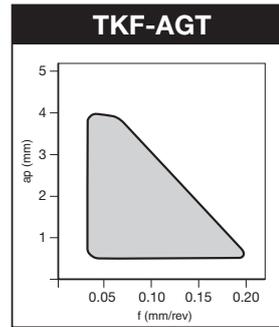
Edge Prep.		Dimension (mm)											Angle	No. of Edges	PCD		See Page for Applicable Toolholders
PCD all items	Sharp Edge	CW	CDX	RE	W1	S	S1	D1	LE	PSIRR	R	L					
 Handed Insert shows Right-hand		TKF12R	200-AGT	2.0	4.8	0.1 ⁺⁰ _{-0.05}	3.0	8.7	8.3	5.0	4.2	0°	1	●		E13	
			250-AGT	2.5	4.8										●		

- * Lead angle (Front cutting edge angle: **PSIRR**) shows the angle when installed in toolholder.
- * PCD Inserts of TKF type only for Turning and Grooving.
- * When using in cut-off machining, maximum cut-off diameter is $\varnothing 8$. Set the feed rate less than **0.08mm/rev**.
- * **CDX** shows available grooving depth.

Inserts Identification System



Applicable Range



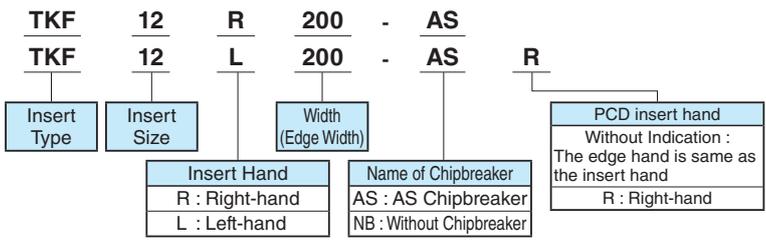
- CBN & PCD Tools
- CBN
- PCD
- Positive
- C
- D
- S
- T
- V
- W
- Solid
- Grooving

Turning / Grooving (1-edge)

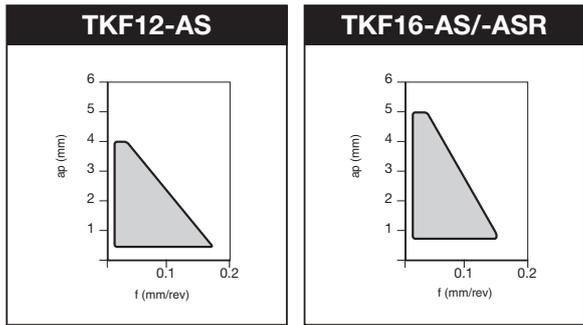
Edge Prep.		Dimension (mm)											Angle	No. of Edges	PCD		See Page for Applicable Toolholders
PCD all items		Sharp Edge		CW	CDX	RE	W1	S	S1	D1	LE	PSIR ^{R/L}	R	L			
Insert		Description															
Handed Insert shows Right-hand																	
 <p>Turning / Grooving</p>	TKF12 ^{R/L}	200-AS	2.0	5												●	●
		250-AS	2.5	5	0.1	3	8.7	7.3		5			0°			●	
	TKF16 ^{R/L}	250-AS	2.5	8		4	9.5	8.0				6.3				●	●
 <p>External Grooving (Turning is possible)</p>	TKF16L	250-ASR	2.5	8	0.1	4	9.5	8.0	5	6.3	0°		1		●		
	TKF12 ^{R/L}	150-NB	1.5	3.5							2.0				●	●	
		200-NB	2.0	4	0.1	3	8.7	8.3	5	3.0	0°		1		●	●	
		250-NB	2.5	4											●		
		250-NB4.5	2.5	5							4.5				●		

- * Lead angle (Front cutting edge angle: PSIR^{R/L}) shows the angle when installed in toolholder.
- * PCD Inserts of TKF type only for Turning and Grooving.
- * Cut-off is not recommended.
- * CDX shows available grooving depth.

Inserts Identification System



Applicable Range



- Note 1) The cutting edge of the TKF-AS/-ASR will be 1mm lower than the center line when attached to the KTKF toolholder (See Fig. 1). Adjust the height by making NC lathe parameter settings or inserting a plate.
- 2) If the 1mm adjustment is not possible on your automatic lathe, use the TKF-AGT or the TKF-NB (See Fig. 2).

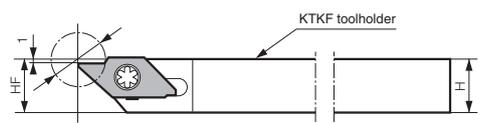


Fig. 1 When a TKF-AS/-ASR insert is attached (The cutting edge is 1mm lower than the center line)

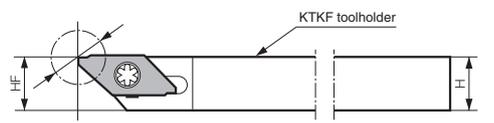
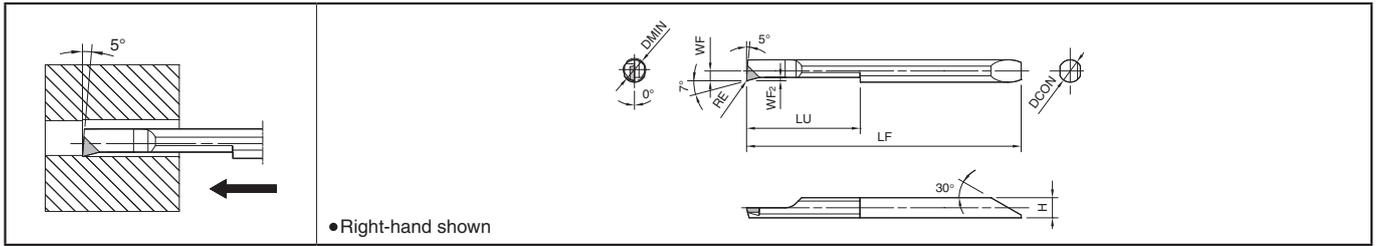


Fig. 2 When a TKF-AGT or a TKF-NB insert is attached

CBN & PCD Inserts are sold in 1 piece boxes

EZ Bars (EZB-NB · PCD)



EZ Bars Dimensions

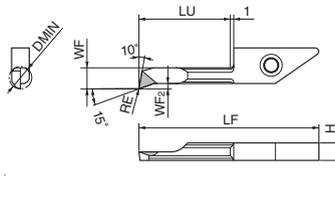
Edge Prep.		PCD all items		Sharp Edge		N	Non-ferrous Metals (With interruption)		●		S	Titanium Alloys (With interruption)		●		Titanium Alloys (Without interruption)	●		See Page for Applicable Sleeves
Description		Min. Bore Dia.	Dimension (mm)									No. of Edges	PCD						
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE		No. of Edges	KPD001							
EZBR	040040-003NB	4	4	3.6	48.8	20	1.75	0.5	0.035 ^{±0.015}		1	●		F27 F31					
	050050-003NB	5	5	4.6	58.1	25	2.25					●							
	060060-003NB	6	6	5.6	66.1	30	2.75					●							
	070070-003NB	7	7	6.6	74.1	35	3.25					●							

CBN & PCD Tools

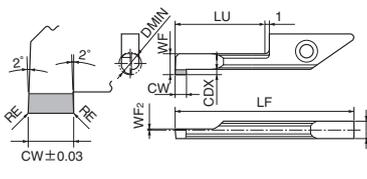
CBN
PCD

CBN & PCD Inserts are sold in 1 piece boxes

System Tip-Bars

Edge Prep.		Min. Bore Dia.	Dimension (mm)							No. of Edges	PCD		See Page for Applicable Toolholders
PCD all items	Sharp Edge		DMIN	H	LF	LU	WF	WF ₂	RE		KPD001	KPD010	
Insert Handed Insert shows Right-hand													
													
VNBR 0411-02NB		4	3.9	30.8	11	3.5	0.5	0.2	1	●	●	F34 F35	
0420-02NB				39.8	20					●	●		
VNBR 0511-02NB		5	3.9	30.8	11	4.5	0.7	0.2	●	●			
0520-02NB				39.8	20				●	●			
VNBR 0620-02NB		6	3.9	39.8	20	5.3	1.0	0.2	●	●			
0630-02NB				49.8	30				●	●			
VNBR 0720-02NB		7	3.9	39.8	20	6.2	1.0	0.2	●	●			
0730-02NB				49.8	30				●	●			

System Tip-Bars

Edge Prep.		Min. Bore Dia.	Dimension (mm)								No. of Edges	PCD		See Page for Applicable Toolholders
PCD all items	Sharp Edge		DMIN DAXN	CW	RE	H	LF	LU	WF	WF ₂		CDX	KPD001	
Insert Handed Insert shows Right-hand														
														
VNGR 0410-11NB		4	1.0	0.05	3.9	30.8	11	3.5	0.1	0.8	1	MTO		F34 F35
0420-11NB				2.0	0.10							MTO		
VNGR 0510-11NB		5	1.0	0.05	3.9	30.8	11	4.4	0.1	1.0	MTO			
0520-11NB				2.0	0.10						MTO			
VNGR 0610-20NB		6	1.0	0.05	3.9	39.8	20	5.2	0.3	1.8	MTO			
0620-20NB				2.0	0.10						MTO			
VNGR 0710-20NB		7	1.0	0.05	3.9	39.8	20	6.2	0.3	2.0	MTO	MTO		
0720-20NB				2.0	0.10						MTO			
VNFR 0820-10NB		8	2.0							2.0	MTO	MTO		
0830-10NB		8	3.0	0.05	3.9	39.8	10	7.3	-	3.0	MTO			

Milling Inserts

Edge Prep.		N	Non-ferrous Metals (With interruption)								☺	☹	☹	See Page for Applicable Toolholders
PCD all items		S	Titanium Alloys (With interruption)								☺	☹	☹	
Insert	Description	IC INSL	S	BCH	BS	LE	W1	ANN	AS	No. of Edges	PCD			
	SDKN 1203AUFN-NE	12.70	3.18	0.5	1.2	3.1	-	15°	23°	1	●			-
	1203AUFN					3.6					●	●		
	SEEN 1203AFFN-NE	12.70	3.18	0.5	1.4	3.0	-	20°	25°	1	●			-
	1203AFFN					3.5					●	●		
 With Wiper Edge	SEEN 1203AFFR-W	12.50	3.18	-	3.5	1.7	14.56	20°	25°	1	●			-
	SOKN 13T3AXFN-NE	13.494	3.97	0.4	1.1	3.0	-	27°	32°	1			▲	-
	TEEN 1603PTFR-NE	9.525	3.18	0.6	1.4	4.1	-	20°	22°	1	●		●	-
	1603PTFR					4.7					●	●		
	TEKN 2204PTFR-NE	12.70	4.76	0.7	1.8	4.2	-	20°	22°	1	●		●	-
	2204PTFR					4.8					●	●		
Insert	Description	W1	S	D1	INSL	RE	LE	AS	AN	No. of Edges	PCD			See Page for Applicable Toolholders
	BDGT 11T302FR	6.7	3.8	2.8	11.5	0.2	3.8	18°	13°	1	●		●	M64 M65 M66 M67
	11T304FR					0.4					●	●		
	11T308FR					0.8					●	●		
	BDGT 11T302FR-LE					0.2	5.2				●	●		
	11T304FR-LE					0.4					●	●		
	11T308FR-LE					0.8					●	●		
	BDMT 11T302FR	6.7	3.8	2.8	11.0	0.2	3.6	18°	13°	1	●		●	M65 M66 M67
	11T304FR					0.4					●	●		
	BDMT 170402FR	9.6	4.9	4.4	17.0	0.2	4.4	18°	13°	1	●		●	M65 M66 M67
	170404FR					0.4					●	●		
	NDCW 150302FRX-NE	9.525	3.18	4.4	15.0	0.2	5.1	15°	-	1	●		●	M132
	150302FRX					5.7	●				●			

CBN & PCD Inserts are sold in 1 piece boxes