

CBN & PCD Tools

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C

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CBN Tools



Extended Tool Life | Improved Stability | High Speed Machining

Kyocera's innovative CBN tools.

CBN Variation and Features Ref. to 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" Refer to Page B2

Insert Type	Description	Edge Prep.	Manufacture's Option	Edge Length	No. of Edges	re-grinding
Negative	CNGA120404MEF	F	MEF	Short (Small Edge)	2	Not Recommended
	CNGA120404ME4	S01225	ME4		4 [Multi Edge (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	

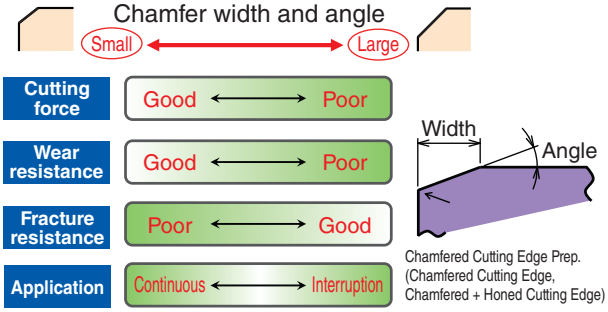
● About re-grinding
1) Regrinding is possible for inserts without any indication in manufacturer's option. Regrinding can not be available depending on the edge condition.
2) Regrinding is not recommended for inserts with manufacturer's symbol like "ME" or "SE"

Note 1) Ref. to Page **B3** for insert color.

Edge Preparation Identification System

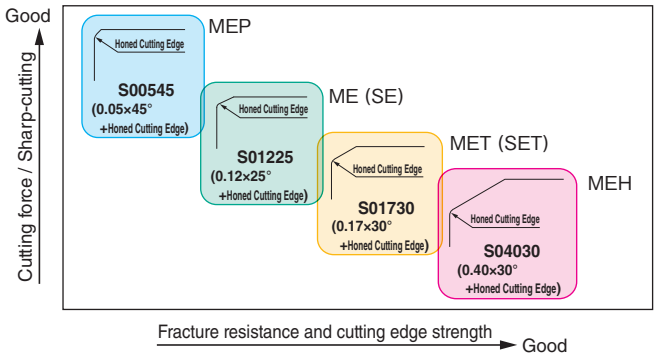
Edge Prep.				
Symbol	Cutting Edge Spec.	Example		Shape
F	Sharp Edge	F	Sharp Edge	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mm×15° Chamfered Cutting Edge	0.12, 15
S	Chamfered and Honed Cutting Edge	S01225	0.12mm×25° Chamfered and Honed Cutting Edge	0.12, 25, Honed

Features of chamfer width and angle

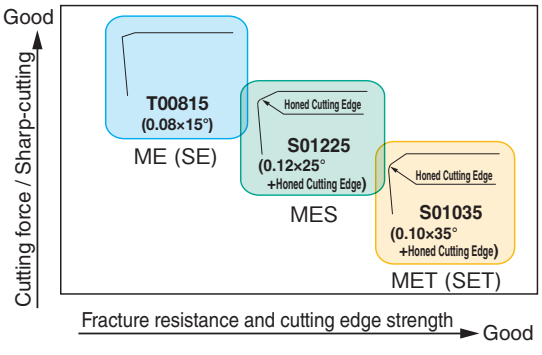


Chamfered Cutting Edge Prep. (Chamfered Cutting Edge, Chamfered + Honed Cutting Edge)

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



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



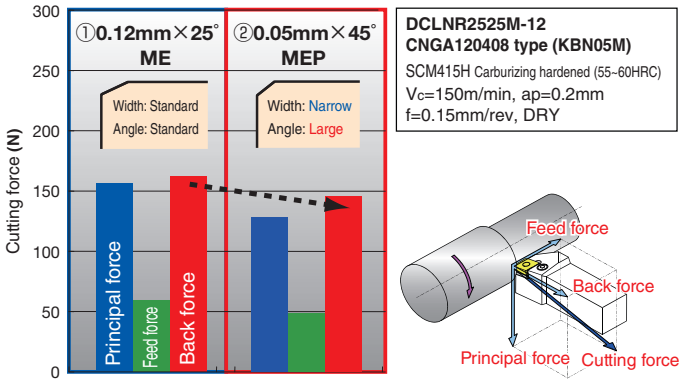
Manufacture's Option	Edge Prep.		Application and Features
MEP	S00545	0.05mm×45°+Honed Cutting Edge	High speed, Continuous Excellent crater wear resistance
ME	S01225	0.12mm×25°+Honed Cutting Edge	General purpose
MET	S01730	0.17mm×30°+Honed Cutting Edge	Superior fracture resistance
MEH	S04030	0.40mm×30°+Honed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

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

■ Negative Inserts, Features of new edge prep. (Machining of hard materials)

(1) MEP（High speed / Continuous）

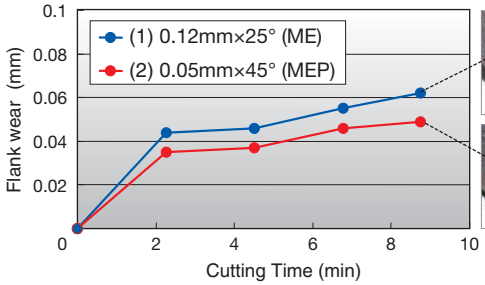
● Cutting force comparison



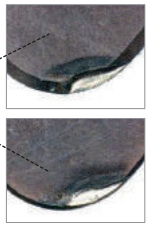
DCLNR2525M-12
CNGA120408 type (KBN05M)
SCM415H Carburizing hardened (55~60HRC)
Vc=150m/min, ap=0.2mm
f=0.15mm/rev, DRY

● Wear comparison

SCM415H Carburizing hardened (55~60HRC)
Vc=150m/min, ap=0.2mm
f=0.15mm/rev, DRY



Rake face



MEP performs lower cutting force than ME
⇒Sharp cutting!

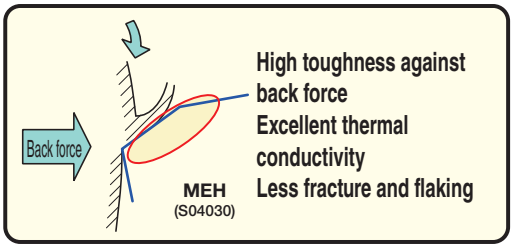
"MEP prevents the Flank wear, compared to ME
⇒Prevents crater wear!

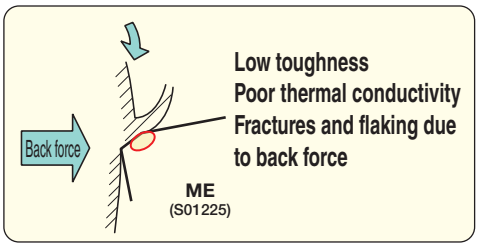
(2) MEH (Interruption / High feed machining)

● Toughness and Prevention of flaking



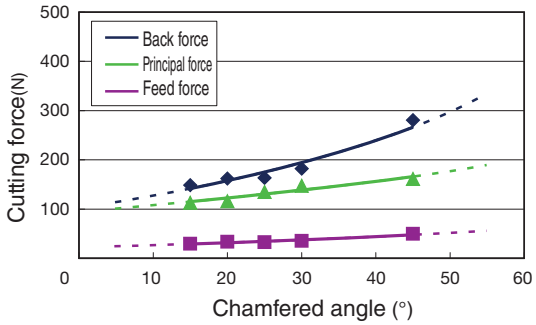
Prevention of flaking



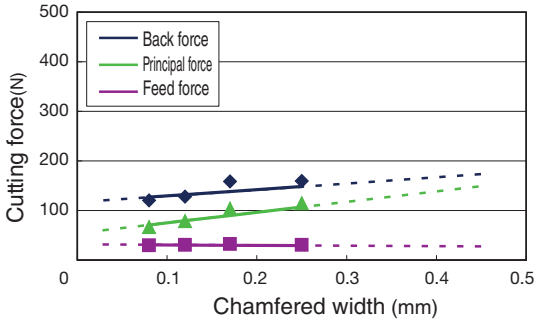


● Cutting force and chamfered angle / width

Cutting Conditions Chamfered width : 0.12mm
Vc=100m/min ap=0.1mm f=0.25mm/rev



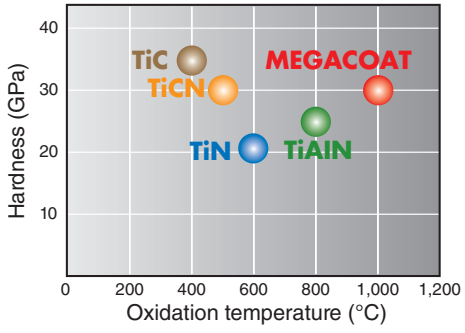
Cutting Conditions Chamfered angle : 25°
Vc=100m/min ap=0.1mm f=0.25mm/rev



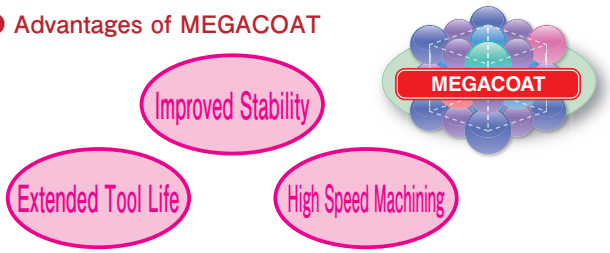
Cutting force is influenced by chamfered angle more than chamfered width.
Though enlarging chamfered angle is more effective for fracture resistance improvement than changing chamfered width, the cutting force increases as well. Please refer to the graph for details.

■ MEGACOAT CBN

● Properties of PVD Coating



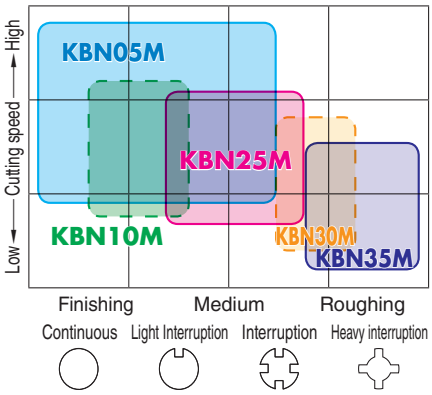
● Advantages of MEGACOAT



- 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

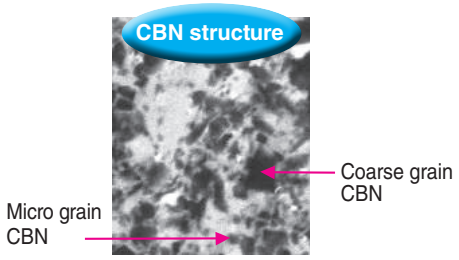
Hard materials

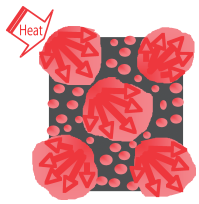


Hybrid Grain Structure (KBN05M)

Mixed structure of micro grain CBN and coarse grain CBN

CBN that possess High hardness, toughness and thermal resistance characteristics



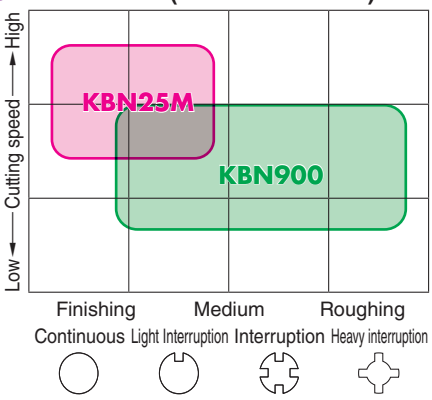


Heat diffusion is promoted by coarse grain CBN
⇒ **High thermal conductivity**

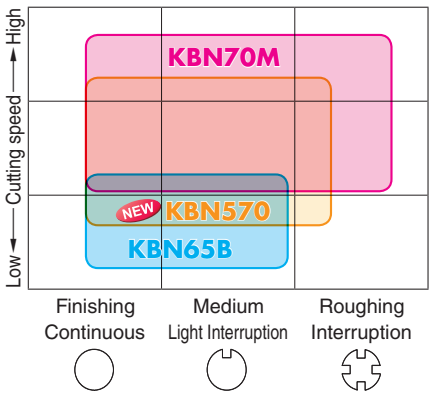
KBN05M is 1st recommended grade for a wide range of application from continuous (high speed finishing) to interrupted machining.

KBN25M : High stability for general machining
KBN30M : High stability in interrupted machining
KBN35M : Honeycomb structure CBN
Superior fracture resistance in heavy interrupted machining

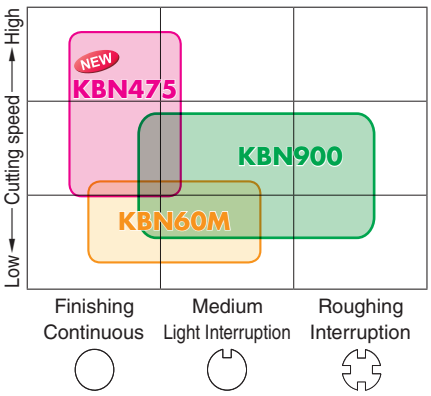
Roll Materials (Chilled Cast Iron)



Sintered Steel



Cast Iron



Recommended Cutting Conditions

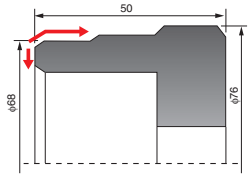
Workpiece Material	Hardness	Applications		Recommended Insert Grade	Cutting Conditions		
					Vc (m/min)	ap (mm)	f (mm/rev)
Heat Treated Steel	Over 55HRC	General Finishing	Continuous~Interruption	KBN05M	100 - **150** - 200	0.05 - **0.3** - 0.5	0.05 - **0.08** - 0.1
		High Efficient Stable Machining	Light 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
		Heavy Machining	Continuous~Interruption	KBN900	70 - **90** - 110	0.5 - **1.0** - 2.0	0.05 - **0.1** - 0.2
	Under 55HRC	Finishing	Continuous	*PT600M	60 - **80** - 120	0.2 - **0.5** - 0.7	0.05 - **0.1** - 0.15
Gray Cast Iron	Under 250HB	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)	Over 55HRC	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 Al_2O_3+TiC ceramic

Case Studies

SCr420H(58HRC)

- Gear
- External , Facing and Chamfering
- Vc=130m/min
- ap=0.6mm
- f=0.12mm/rev
- Wet
- CNGA120408S01225ME (KBN05M)



KBN05M	300 pcs/edge
Competitor C	200 pcs/edge

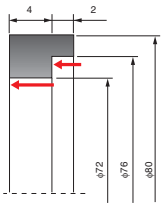
- KBN05M achieved 1.5 times longer tool life than competitor C.

⇒Its longer tool life contributes to cost-cutting.

(Evaluation by the user)

SCM415(55HRC)

- Stator
- Boring
- Vc=170m/min
- ap=0.4mm
- f=0.1mm/rev
- Wet
- CNGA120408S01225ME (KBN05M)



KBN05M	600 pcs/edge
Competitor D	300 pcs/edge

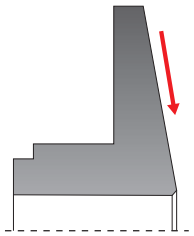
- KBN05M achieved twise longer tool life than competitor D.

⇒Its longer tool life contributes to cost-cutting.

(Evaluation by the user)

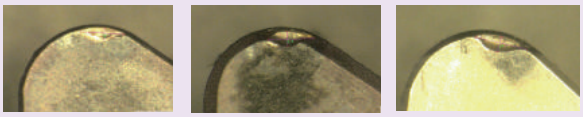
SCr420H(58HRC)

- Pulley
- Facing (Continuous)
- Vc=120m/min
- ap=0.15~0.2mm
- f=0.24mm/rev
- Wet
- DNGA120408S00545MEP (KBN05M)



KBN05M-MEP (Edge Prep.:0.05×45°)	150 pcs/edge
KBN05M-ME (Edge Prep.:0.12×25°)	100 pcs/edge
Competitor E	100 pcs/edge

- Tool life of KBN05M-ME type (Edge prep.: 0.12×25° Chamfered + R honed) is same as competitor E's.
- KBN05M-MEP (Edge prep.: 0.05×45° Chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.

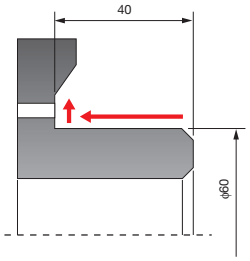


KBN05M-MEP　KBN05M-ME　Competitor E

(Evaluation by the user)

SCr20(61~65HRC)

- Gear
- External and Facing (Interrupted)
- Vc=120m/min
- ap=0.15mm
- f=0.1~0.15mm/rev (External)
- Wet
- CNGA120408S04030MEH (KBN05M)



KBN05M-MEH (Edge Prep.:0.40×30°)	150 pcs/edge
Competitor F	100 pcs/edge

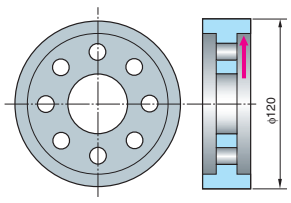
- Compared to competitor F, KBN05M-MEH type (Edge prep.: 0.40×30° Chamfered + R honed) achieved 1.5 times longer tool life.
- No chipping in interrupted machining, and improved productivity (Competitor F's cutting edge got many chipping.)
- Feed rate could be increased from 0.15 to 0.25 mm/rev in facing.

⇒Achieved cycle time and cost reduction.

(Evaluation by the user)

SCM420(60HRC)

- Gear
- Facing (Interrupted)
- Vc=90m/min
- ap=0.5mm
- f=0.12mm/rev
- Wet ⇒ Dry
- CNGA120412S01225ME (KBN25M)



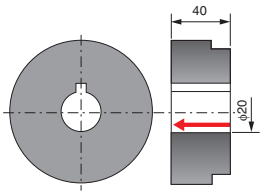
KBN25M	70 pcs/edge
Competitor G	30 pcs/edge (Unstable)

KBN25M improved tool life up to 70 pieces/edge than is two times more than competitor's G (CBN tool). Also, KBN25M has increased its tool life up to 250 pieces/edge by hanging from wet machining to dry machining.

(Evaluation by the user)

SCM420(58HRC)

- Sleeve
- Boring (Heavy interruption)
- Vc=100m/min
- ap=0.5mm
- f=0.1mm/rev
- Wet
- TPGB110308S01035MET (KBN35M)



KBN35M	115 pcs/edge
Competitor H	100 pcs/edge

- KBN35M achieved 15% Longer tool life in heavy interrupted machining compared with competitor H.
- Furthermore it still keeps the insert in a good condition and so provides stable machining result.

⇒Its longer tool life and capability of providing stable result can contribute to cost-cutting and improved efficiency in machining.

(Evaluation by the user)

(mm)

80° Rhombic / Negative

Description	A	T	φd
CNGA 1204_ CNGM 1204_	12.70	4.76	5.16

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

K	Gray Cast Iron (With Scale)	○
	Gray Cast Iron (Without Scale)	◕
	Nodular Cast Iron (With Scale)	○
H	Hard Materials (Roughing)	✠
	Hard Materials (Finishing)	● ○ ◕
	Hard Materials (Chip Control)	● ◕
	Sintered Steel	◔ ✠ ◕

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
Multi Edge / With Wiper Edge	CNGA 120404S01215MEW	S01215	0.4	2.6	2	●	○	●	□	●				●	●				D8 F63 F67 F68
	CNGA 120408S01215MEW		0.8	2.5		●	○	●	○	●				●	●				
	CNGA 120412S01215MEW		1.2	2.5		●	○	●	□	●				□	●				
NEW Multi Edge / Finishing	CNGA 120404S00545MEP	S00545	0.4	2.6	2	●													
	CNGA 120408S00545MEP		0.8	2.6		●													
	CNGA 120412S00545MEP		1.2	2.5		●													
	CNGA 120416S00545MEP		1.6	3.4		●													
	CNGA 120420S00545MEP		2.0	3.4		●													
	CNGA 120424S00545MEP		2.4	3.3		●													
NEW Multi Edge / Sharp Edge	CNGA 120404MEF	F	0.4	2.6	2											●		●	
	CNGA 120408MEF		0.8	2.6												●		●	
	CNGA 120412MEF		1.2	2.5												●		●	
NEW Multi Edge (Double-sided)	CNGA 120404ME4	S01225	0.4	2.6	4	●													
	CNGA 120408ME4		0.8	2.6		●													
	CNGA 120412ME4		1.2	2.5		●													
Multi Edge	CNGA 120402S01225ME	S01225	0.2	2.6	2	●	○	●		●	●			●	●				
	CNGA 120404S01225ME		0.4	2.6		●	○	●	○	●	●			●	●	●			
	CNGA 120408S01225ME		0.8	2.6		●	○	●	○	●	●			●	●	●			
	CNGA 120412S01225ME		1.2	2.5		●	○	●	○	●	●			□	●	●			
NEW	CNGA 120416S01225ME		1.6	3.4		●													
	CNGA 120420S01225ME		2.0	3.4		●													
	CNGA 120424S01225ME		2.4	3.3		●													
	CNGA 120404T01215ME	T01215	0.4	2.6	2							●	●			●			
	CNGA 120408T01215ME		0.8	2.6								●	●			●			
	CNGA 120412T01215ME		1.2	2.5								●	●			●			
Multi Edge / Tough	CNGA 120404S01730MET	S01730	0.4	2.6	2	●	○	●	○	●					●				
	CNGA 120408S01730MET		0.8	2.6		●	○	●	○	●					●				
	CNGA 120412S01730MET		1.2	2.5		●	□	●	□	●					●				
NEW	CNGA 120416S01730MET		1.6	3.4		●													
	CNGA 120420S01730MET		2.0	3.4		●													
	CNGA 120424S01730MET		2.4	3.3		●													
NEW Multi Edge / Interruption	CNGA 120404S04030MEH	S04030	0.4	2.6	2	●													
	CNGA 120408S04030MEH		0.8	2.6		●													
	CNGA 120412S04030MEH		1.2	2.5		●													
	CNGA 120416S04030MEH		1.6	3.4		●													
	CNGA 120420S04030MEH		2.0	3.4		●													
	CNGA 120424S04030MEH		2.4	3.3		●													

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

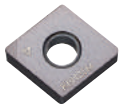
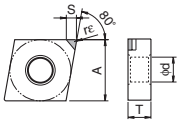
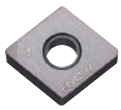
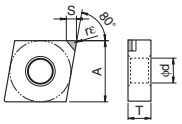
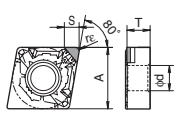
(mm)

Description	A	T	φd
CNGA 1204_	12.70	4.76	5.16
CNGM 1204_			

80° Rhombic / Negative

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570
K	Gray Cast Iron (With Scale)													
	Gray Cast Iron (Without Scale)													
	Nodular Cast Iron (With Scale)													
H	Hard Materials (Roughing)		○	●						○	◔			
	Hard Materials (Finishing)		●	●										
	Hard Materials (Chip Control)		●	●										
	Sintered Steel													

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	Ref. to Page for Applicable Toolholders
 Small Edge		CNGA 120402S01225SE	S01225	0.2	2.6	1	D8 F63 F67 F68
		CNGA 120404S01225SE		0.4	2.6		
		CNGA 120408S01225SE		0.8	2.6		
		CNGA 120412S01225SE		1.2	2.5		
		CNGA 120404T01215SE	T01215	0.4	2.6	1	
		CNGA 120408T01215SE		0.8	2.6		
		CNGA 120412T01215SE		1.2	2.5		
 Small Edge / Tough		CNGA 120404S01730SET	S01730	0.4	2.6	1	
		CNGA 120408S01730SET		0.8	2.6		
 Chip Control		CNGM 120404S00825BB1	S00825	0.4	1.8	1	
		CNGM 120408S00825BB1		0.8	2.0		
		CNGM 120412S00825BB1		1.2	2.2		
		CNGM 120404S01225BB2	S01225	0.4	2.2	1	
		CNGM 120408S01225BB2		0.8	2.4		
		CNGM 120412S01225BB2		1.2	2.6		
		CNGM 120404S01625BB3	S01625	0.4	2.6	1	
		CNGM 120408S01625BB3		0.8	2.8		
		CNGM 120412S01625BB3		1.2	3.0		

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

How to read pages of "Turning Inserts" B13

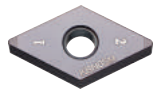
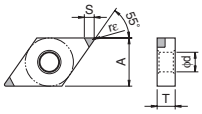
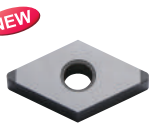
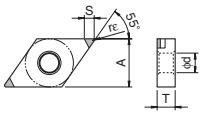
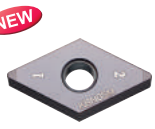
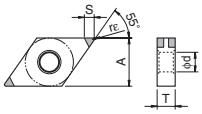
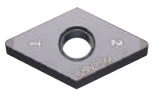
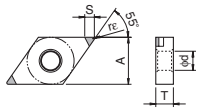
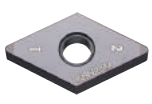
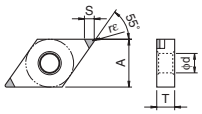
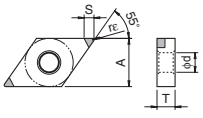
55° Rhombic / Negative

(mm)

Description		A	T	φd
DNGA	1504_	12.70	4.76	5.16
	1506_		6.35	
DNGM	1504_	12.70	4.76	5.16

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		Ref. to Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	
	Hard Materials (Chip Control)	
	Sintered Steel	

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW  Multi Edge / Finishing		DNGA 150404S00545MEP	S00545	0.4	2.6	2	●												
		DNGA 150408S00545MEP		0.8	2.2		●												
		DNGA 150412S00545MEP		1.2	1.9		●												
		DNGA 150416S00545MEP		1.6	3.8		●												
		DNGA 150420S00545MEP		2.0	3.5		●												
		DNGA 150424S00545MEP		2.4	3.1		●												
NEW  Multi Edge / Sharp Edge		DNGA 150404MEF	F	0.4	2.6	2										●		●	
		DNGA 150408MEF		0.8	2.2											●		●	
		DNGA 150412MEF		1.2	1.9											●			
NEW  Multi Edge (Double-sided)		DNGA 150404ME4	S01225	0.4	2.6	4	●												D10 D11 F64 F70 F71
		DNGA 150408ME4		0.8	2.2		●												
		DNGA 150412ME4		1.2	1.9		●												
 Multi Edge		DNGA 150401S01225ME	S01225	0.1	2.8	2	●	□	●										
		DNGA 150402S01225ME		0.2	2.7		●	○	●			●		●	●				
		DNGA 150404S01225ME		0.4	2.6		●	○	●	□	●	●		●	●	●			
		DNGA 150408S01225ME		0.8	2.2		●	○	●	○	●	●		●	●	●			
		DNGA 150412S01225ME		1.2	1.9		●	□	●	□	●					●			
		NEW DNGA 150416S01225ME		1.6	3.8		●												
		DNGA 150420S01225ME		2.0	3.5		●												
		DNGA 150424S01225ME		2.4	3.1		●												
		DNGA 150404T01215ME	T01215	0.4	2.6	2							●	●			●		
		DNGA 150408T01215ME		0.8	2.2								□	●			●		
		DNGA 150412T01215ME		1.2	1.9									●			●		
		DNGA 150604S01225ME	S01225	0.4	2.6	2	●	○	●	□	●				●				
		DNGA 150608S01225ME		0.8	2.2		●	○	●	□	●	●			●				D10
		DNGA 150612S01225ME		1.2	1.9		●		□	□	●	●							D11
		DNGA 150604T01215ME	T01215	0.4	2.6	2							●						F64
		DNGA 150608T01215ME		0.8	2.2								●	●					
 Multi Edge / Tough		DNGA 150404S01730MET	S01730	0.4	2.6	2	●	○	●	○	●				●				
		DNGA 150408S01730MET		0.8	2.2		●	○	●	○	●				●				D10
		DNGA 150412S01730MET		1.2	1.9		●	□	●	□	●				●				D11
		NEW DNGA 150416S01730MET		1.6	3.8		●												F64
		DNGA 150420S01730MET		2.0	3.5		●												F70
		DNGA 150424S01730MET		2.4	3.1		●												F71
		DNGA 150604S01730MET	S01730	0.4	2.6	2	●	○	●	□	●				□				D10
		DNGA 150608S01730MET		0.8	1.9		●	○	●	□	●				●				D11
		DNGA 150612S01730MET		1.2	1.9		●	□	□	□	●								F64
NEW  Multi Edge / Interruption		DNGA 150404S04030MEH	S04030	0.4	2.6	2	●												D10
		DNGA 150408S04030MEH		0.8	2.2		●												D11
		DNGA 150412S04030MEH		1.2	1.9		●												F64
		DNGA 150416S04030MEH		1.6	3.8		●												F70
		DNGA 150420S04030MEH		2.0	3.5		●												F71
		DNGA 150424S04030MEH		2.4	3.1		●												

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

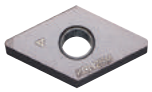
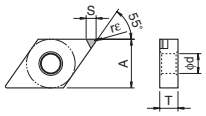
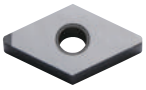
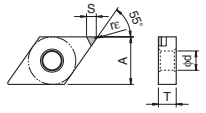
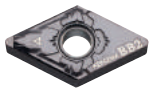
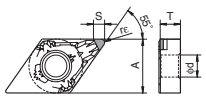
(mm)

Description		A	T	φd
DNGA	1504_	12.70	4.76	5.16
	1506_		6.35	
DNGM	1504_	12.70	4.76	5.16

55° Rhombic / Negative

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		MEGACOAT CBN								CBN					
		KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)														
	Gray Cast Iron (Without Scale)														
	Nodular Cast Iron (With Scale)														
H	Hard Materials (Roughing)														
	Hard Materials (Finishing)		○	●						○	◔				
	Hard Materials (Chip Control)		●	●											
	Sintered Steel														

Insert		Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
 Small Edge		DNGA 150401S01225SE	S01225	0.1	2.2	1			●											
		150402S01225SE		0.2	2.5				●						●	●				D10
		150404S01225SE		0.4	2.3			□	●						●	●				D11
		150408S01225SE		0.8	1.9			□	●							●				F64
		150412S01225SE		1.2	1.9				□											F70
		DNGA 150404T01215SE	T01215	0.4	2.3	1												○		F71
		150408T01215SE		0.8	1.9													○		
		DNGA 150604S01225SE	S01225	0.4	2.3	1		□	●						□					D10
		150608S01225SE		0.8	1.9			□	□											D11
		150612S01225SE		1.2	1.9				□											F64
 Small Edge / Tough		DNGA 150404S01730SET	S01730	0.4	2.3	1										□				
		150408S01730SET		0.8	1.9											□				
 Chip Control		DNGM 150404S00825BB1	S00825	0.4	1.6	1		□	●											D10
		150408S00825BB1		0.8	1.6			□	●											D11
		150412S00825BB1		1.2	1.8				●											F64
		DNGM 150404S01225BB2	S01225	0.4	1.8	1			●											F70
		150408S01225BB2		0.8	2.0			○	●											F71
		150412S01225BB2		1.2	2.1				●											
		DNGM 150404S01625BB3	S01625	0.4	2.2	1		○	●											
		150408S01625BB3		0.8	2.5			○	●											
		150412S01625BB3		1.2	2.5				●											

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

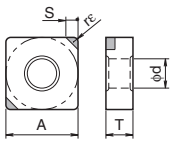
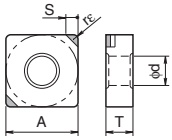
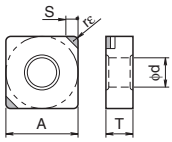
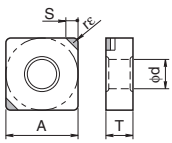
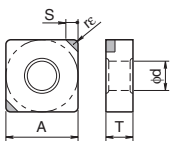
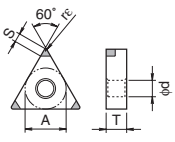
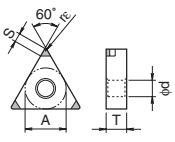
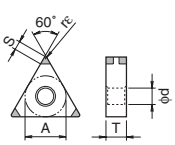
(mm)

Description	A	T	φd
SNGA 1204_	12.70	4.76	5.16
TNGA 1604_	9.525	4.76	3.81

90° Square · 60° Triangle / Negative

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + 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
K			●					
H					✠	●	●	
					✠	○		✠

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW  Multi Edge / Finishing		SNGA 120408S00545MEP	S00545	0.8	1.8	2	●												
		SNGA 120412S00545MEP		1.2	2.2		●												
NEW  Multi Edge / Sharp Edge		SNGA 120408MEF	F	0.8	1.8	2										●			
		SNGA 120412MEF		1.2	2.2											●			
 Multi Edge		SNGA 120404S01225ME	S01225	0.4	1.8	2	●	○	●						□					D12 D13 F73
		SNGA 120408S01225ME		0.8	1.8		●	○	●	□	●	●		□	●	●			
		SNGA 120412S01225ME		1.2	1.8											●			
		SNGA 120404T01215ME	T01215	0.4	1.8	2							●						
		SNGA 120408T01215ME		0.8	1.8							□	●			●			
		SNGA 120412T01215ME		1.2	1.8								●			●			
 Multi Edge / Tough		SNGA 120404S01730MET	S01730	0.4	1.8	2	●		●										
		SNGA 120408S01730MET		0.8	1.8		●		●	□	●				●				
		SNGA 120412S01730MET		1.2	2.2		●		●	□	●				●				
NEW  Multi Edge / Interruption		SNGA 120408S04030MEH	S04030	0.8	1.8	2	●												
		SNGA 120412S04030MEH		1.2	2.2		●												
NEW  Multi Edge / Finishing		TNGA 160404S00545MEP	S00545	0.4	2.7	3	●												
		TNGA 160408S00545MEP		0.8	2.4		●												
		TNGA 160412S00545MEP		1.2	2.1		●												
NEW  Multi Edge / Sharp Edge		TNGA 160404MEF	F	0.4	2.7	3										●		●	D14 D15 F64 F74 F75
		TNGA 160408MEF		0.8	2.4											●		●	
		TNGA 160412MEF		1.2	2.1											●		●	
NEW  Multi Edge (Double-sided)		TNGA 160404ME6	S01225	0.4	2.7	6	●												
		TNGA 160408ME6		0.8	2.4		●												
		TNGA 160412ME6		1.2	2.1		●												

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

60° Triangle / Negative

(mm)

Description	A	T	φd
TNGA 1604_	9.525	4.76	3.81
TNGM 1604_			

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		Ref. to Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	
	Hard Materials (Chip Control)	
	Sintered Steel	

Insert	Description		Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
 Multi Edge	TNGA	160401S01225ME		0.1	2.9		●	○	●											
		160402S01225ME		0.2	2.8		●	○	●		●	●			●	●				
		160404S01225ME	S01225	0.4	2.7	3	●	○	●	○	●	●			●	●	●			
		160408S01225ME		0.8	2.4		●	○	●	□	●	●			●	●	●			
		160412S01225ME		1.2	2.1		●	□	●	□	●	●			●	●	●			
	TNGA	160404T01215ME		0.4	2.7								●	●			●			
		160408T01215ME	T01215	0.8	2.4	3							●	●			●			
		160412T01215ME		1.2	2.1								●	●			●			
 Multi Edge / Tough	TNGA	160404S01730MET		0.4	2.7		●	○	●	○	●					●				
		160408S01730MET	S01730	0.8	2.4	3	●	○	●	○	●					●				
		160412S01730MET		1.2	2.1		●		●	□	●					●				
NEW  Multi Edge / Interruption	TNGA	160404S04030MEH		0.4	2.7		●													D14
		160408S04030MEH	S04030	0.8	2.4	3	●													D15
		160412S04030MEH		1.2	2.1		●													F64
 Small Edge	TNGA	160401S01225SE		0.1	2.6				●							●				F74
		160402S01225SE	S01225	0.2	2.9	1		○	●						●	●				F75
		160404S01225SE		0.4	2.7			○	●						●	●				
		160408S01225SE		0.8	2.4			○	●						●	●				
	TNGA	160404T01215SE		0.4	2.7													○		
		160408T01215SE	T01215	0.8	2.4	1												○		
		160412T01215SE		1.2	2.2													○		
 Small Edge / Tough	TNGA	160404S01730SET		0.4	2.7				●							●				
		160408S01730SET	S01730	0.8	2.4	1			●							●				
 Chip Control	TNGM	160404S00825BB1		0.4	1.5			□	●											
		160408S00825BB1	S00825	0.8	1.7	1		□	●											
		160412S00825BB1		1.2	1.9				●											
	TNGM	160404S01225BB2		0.4	1.9				●											
		160408S01225BB2	S01225	0.8	2.1	1			●											
		160412S01225BB2		1.2	2.2				●											
	TNGM	160404S01625BB3		0.4	2.2			□	●											
		160408S01625BB3	S01625	0.8	2.4	1			●											
		160412S01625BB3		1.2	2.6				●											

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

35° Rhombic / Negative

(mm)

Description	A	T	φd
VNGA 1604_	9.525	4.76	3.81

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + 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
K	Gray Cast Iron (With Scale)							
	Gray Cast Iron (Without Scale)		●					
	Nodular Cast Iron (With Scale)							
H	Hard Materials (Roughing)				✠	✠		
	Hard Materials (Finishing)	●	○	●			○	◔
	Hard Materials (Chip Control)							
	Sintered Steel					◔	✠	●

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW Multi Edge / Finishing	VNGA 160404S00545MEP	S00545	0.4	2.0	2	●													D16 D17 D18
	VNGA 160408S00545MEP		0.8	1.8		●													
NEW Multi Edge / Sharp Edge	VNGA 160404MEF	F	0.4	2.0	2											●		●	
	VNGA 160408MEF		0.8	1.8												●		●	
NEW Multi Edge (Double-sided)	VNGA 160404ME4	S01225	0.4	2.0	4	●													
	VNGA 160408ME4		0.8	1.8		●													
Multi Edge	VNGA 160401S01225ME	S01225	0.1	2.6	2		○	●											
	VNGA 160402S01225ME		0.2	2.3		●	○	●		●	●			●	●				
	VNGA 160404S01225ME		0.4	2.0		●	○	●	○	●	●			●	●	●			
	VNGA 160408S01225ME		0.8	1.8		●	○	●	○	●	●					●			
	VNGA 160404T01215ME	T01215	0.4	2.0	2							●	●			●			
	VNGA 160408T01215ME		0.8	1.8								●	●			●			
Multi Edge / Tough	VNGA 160404S01730MET	S01730	0.4	2.0	2	●	□	●	○	●					●				
	VNGA 160408S01730MET		0.8	1.8		●	○	●	□	●					●				
NEW Multi Edge / Interruption	VNGA 160404S04030MEH	S04030	0.4	2.0	2	●													
	VNGA 160408S04030MEH		0.8	1.8		●													
Small Edge	VNGA 160401S01225SE	S01225	0.1	2.6	1			●							●				
	VNGA 160402S01225SE		0.2	2.3			○	●						●	●				
	VNGA 160404S01225SE		0.4	1.9			○	●						●	●				
	VNGA 160408S01225SE		0.8	2.7			○	●						●	●				
	VNGA 160404T01215SE	T01215	0.4	1.9	1												○		
	VNGA 160408T01215SE		0.8	2.7													○		
Small Edge / Tough	VNGA 160404S01730SET	S01730	0.4	1.9	1			●							●				
	VNGA 160408S01730SET		0.8	2.7				●							●				

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

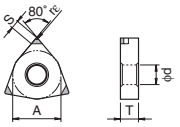
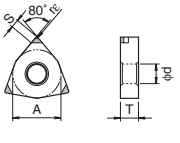
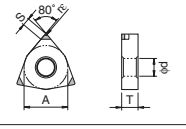
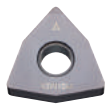
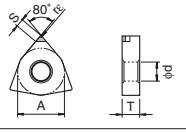
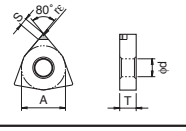
80° Trigon / Negative

(mm)

Description	A	T	φd
WNGA 0804_	12.70	4.76	5.16

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	✣ ✠
	Hard Materials (Finishing)	● ○ ◕ ○ ◔
	Hard Materials (Chip Control)	
	Sintered Steel	◔ ✠

Insert		Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
 Multi Edge / Sharp Edge		WNGA 080404MEF 080408MEF	F	0.4 0.8	2.0 2.6	3											● ●			D20 F77 F78
 Multi Edge		WNGA 080404S01225ME 080408S01225ME 080412S01225ME	S01225	0.4 0.8 1.2	2.0 2.6 2.5	3	● ● ●	○ ○	● ● ●	□ □ □	● ● ●	● ●			● ●	● ●	● ●			
		WNGA 080404T01215ME 080408T01215ME 080412T01215ME	T01215	0.4 0.8 1.2	2.0 2.6 2.5	3							□ ● ●	● ●			● ●			
 Multi Edge / Tough		WNGA 080404S01730MET 080408S01730MET 080412S01730MET	S01730	0.4 0.8 1.2	2.0 2.6 2.5	3		○ ○ □	● ● ●	□ □ □	● ● ●									
 Small Edge		WNGA 080404S01225SE 080408S01225SE	S01225	0.4 0.8	2.0 1.9	1		○ ○												
 Small Edge / Tough		WNGA 080404S01730SET	S01730	0.4	2.0	1										●				

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

80° Rhombic / Positive

*Thickness of CC_0301_ and CC_0401_ are different (mm)

Description		A	T	φd	α
CCMW	*0301_	3.5	1.4	1.9	7°
	*0401_	4.3	1.8	2.3	
	0602_	6.35	2.38	2.8	
	09T3_	9.525	3.97	4.4	

(mm)

Description		A	T	φd	α
CPGB	0802_	7.94	2.38	3.5	11°
	0903_	9.525	3.18	4.5	

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	⊕ ✖
	Hard Materials (Finishing)	● ○ ◕ ○ ◔
	Hard Materials (Chip Control)	
	Sintered Steel	◔ ✖ ◕

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW Multi Edge / Sharp Edge	CCMW 09T304MEF	F	0.4	1.9	2											●		●	Ref. to the table below C15
	CCMW 09T308MEF		0.8	1.8												●		●	
Multi Edge	CCMW 060202T00815ME	T00815	0.2	2.0	2	●	○	●		●				●	●				
	CCMW 060204T00815ME		0.4	1.9		●	○	●		●	●			●	●	●			
	CCMW 060208T00815ME		0.8	1.8		●	○	●		●	●			●		●			
	CCMW 09T302T00815ME	T00815	0.2	2.0	2	●	○	●		●	●			●	●				
	CCMW 09T304T00815ME		0.4	1.9		●	○	●	□	●	●	●	●	●	●	●			
	CCMW 09T308T00815ME		0.8	1.8		●	○	●	□	●	●	●	●	●	●	●			
NEW Multi Edge / General Purpose	CCMW 060204S01225MES	S01225	0.4	1.9	2	●													
	CCMW 060208S01225MES		0.8	1.8		●													
	CCMW 09T304S01225MES	S01225	0.4	1.9	2	●										●			
	CCMW 09T308S01225MES		0.8	1.8		●										●			
Multi Edge / Tough	CCMW 09T304S01035MET	S01035	0.4	1.9	2	●	○	●		●					●				
	CCMW 09T308S01035MET		0.8	1.8		●	○	●		●									
Small Edge	*CCMW 030102T00815SE	T00815	0.2	1.4	1		○	●						●	●				F19
	*CCMW 030104T00815SE		0.4	1.4			○	●						●	●				
	*CCMW 040102T00815SE	T00815	0.2	1.4	1		○	●						●	●				F39
	*CCMW 040104T00815SE		0.4	1.4			○	●						●	●				
	CCMW 060202T00815SE	T00815	0.2	2.0	1									●	●				Ref. to the table below C15
	CCMW 060204T00815SE		0.4	1.9				●						●	●				
	CCMW 09T302T00815SE	T00815	0.2	2.0	1		○							●	●				
	CCMW 09T304T00815SE		0.4	1.9			○							●	●				
Small Edge / Tough	*CCMW 030102S01035SET	S01035	0.2	1.4	1		○	●											F19
	*CCMW 030104S01035SET		0.4	1.4			○	●							●				
	*CCMW 040102S01035SET	S01035	0.2	1.4	1		○	●											F39
	*CCMW 040104S01035SET		0.4	1.4			○	●							●				
	CCMW 060204S01035SET	S01035	0.4	1.9	1										●				Ref. to the table below C15
	CCMW 09T304S01035SET	S01035	0.4	1.9	1										●				
Multi Edge	CPGB 080204T00815ME	T00815	0.4	1.9	2	●	○	●		●				●	●	●			
	CPGB 090302T00815ME	T00815	0.2	1.9	2	●	○	●						●	●				
	CPGB 090304T00815ME		0.4	1.9		●	○	●		●	●			●	●	●			
	CPGB 090308T00815ME		0.8	2.5												●			
NEW Multi Edge / General Purpose	CPGB 090304S01225MES	S01225	0.4	1.9	2	●													
	CPGB 090308S01225MES		0.8	2.5		●													
Multi Edge / Tough	CPGB 080204S01035MET	S01035	0.4	1.9	2		○	●		●					●				F41
	CPGB 080208S01035MET		0.8	2.2				●											
	CPGB 090304S01035MET	S01035	0.4	1.9	2	●	○	●		●					●				
	CPGB 090308S01035MET		0.8	2.5		●	○	●		●									
Small Edge	CPGB 080202T00815SE	T00815	0.2	1.9	1									●	●				
	CPGB 080204T00815SE		0.4	1.9										●	●				
	CPGB 090302T00815SE	T00815	0.2	1.9	1									●	●				
	CPGB 090304T00815SE		0.4	1.9			○							●	●				
Small Edge / Tough	CPGB 080204S01035SET	S01035	0.4	1.9	1			●											
	CPGB 090304S01035SET	S01035	0.4	1.9	1										●				

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

(mm)

55° Rhombic / Positive

Description	A	T	φd	α
DCMW 0702_	6.35	2.38	2.8	7°
11T3_	9.525	3.97	4.4	

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

	Work Material	Recommended Grade
K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	✣ ✠
	Hard Materials (Finishing)	● ○ ◕ ○ ◔
	Hard Materials (Chip Control)	
	Sintered Steel	◔ ✠ ●

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW Multi Edge / Sharp Edge	DCMW 11T304MEF	F	0.4	1.7	2											●		●	Ref. to the table below
	DCMW 11T308MEF		0.8	1.9												●		●	
Multi Edge	DCMW 070202T00815ME	T00815	0.2	1.9	2	●	○	●		●	●			●	●	●			
	DCMW 070204T00815ME		0.4	1.7		●	○	●		●	●			●	●	●			
	DCMW 070208T00815ME		0.8	1.9		●	□	●		●					●				
	DCMW 11T302T00815ME	T00815	0.2	1.9	2	●	○	●		●	●			●	●				
	DCMW 11T304T00815ME		0.4	1.7		●	○	●	□	●	●	●	●	●	●	●			
	DCMW 11T308T00815ME		0.8	1.9		●	○	●	□	●	●	□	●	●	●	●			
	DCMW 11T312T00815ME		1.2	1.9		●		●	□	●					□				
NEW Multi Edge / General Purpose	DCMW 11T302S01225MES	S01225	0.2	1.9	2	●													
	DCMW 11T304S01225MES		0.4	1.7		●										●			
	DCMW 11T308S01225MES		0.8	1.9		●										●			
Multi Edge / Tough	DCMW 070202S01035MET	S01035	0.2	1.9	2		○	●		●									
	DCMW 070204S01035MET		0.4	1.7			○	●		●									
	DCMW 070208S01035MET		0.8	1.9				●		●									
	DCMW 11T302S01035MET	S01035	0.2	1.9	2	●	○	●		●					●				
	DCMW 11T304S01035MET		0.4	1.7		●	○	●		●					●				
	DCMW 11T308S01035MET		0.8	1.9			○	●		●					●				
	DCMW 11T312S01035MET		1.2	1.9			○	□		●									
Small Edge	DCMW 070202T00815SE	T00815	0.2	1.9	1		□	●						●	●				
	DCMW 070204T00815SE		0.4	1.7			○	●						●	●				
	DCMW 11T302T00815SE	T00815	0.2	1.9	1									●	●				
	DCMW 11T304T00815SE		0.4	1.7										●	●				
	DCMW 11T308T00815SE		0.8	1.9				●							●				
Small Edge / Tough	DCMW 070204S01035SET	S01035	0.4	1.7	1										●				
	DCMW 11T302S01035SET	S01035	0.2	1.9	1										●				
	DCMW 11T304S01035SET		0.4	1.7											●				
	DCMW 11T308S01035SET		0.8	1.9											●				

Insert Description	Ref. to Page for Applicable Toolholders
DC..07 type	**E24~E27,E35,F43~F45**
DC..11 type	**E20,E24~E27,E35,F43~F45,F65**

● CC type / TP type

Insert Description	Ref. to Page for Applicable Toolholders
CC..0602 type	**E22,E23,E34,F39**
CC..09T3 type	**E22,E23,E34,F39,F65**

Insert Description	Ref. to Page for Applicable Toolholders
TP..0802 type	**E29,F49,F51**
TP..0902 type	**F49,F51**

Insert Description	Ref. to Page for Applicable Toolholders
TP..1103 type	**E29,F49,F50**
TP..1603 type	**F49,F50**

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

How to read pages of "Turning Inserts" ➡ B13

60° Triangle / Positive

(mm)

Description	A	T	ϕd	α
TPGB 0802_	4.76	2.38	2.5	11°
0902_	5.56		3.0	

Description	A	T	ϕd	α
TPGB 1103_	6.35	3.18	3.5	11°
1603_	9.525		4.5	
TPGW 1604_	9.525	4.76	4.4	11°

Edge Prep.		
Symbol	Cutting Edge Spec.	Example
F	Sharp Edge	F Sharp Edge
E	Honed Cutting Edge	E008 R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215 0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225 0.12mmx25° Chamfered + Honed Cutting Edge

		Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)																				
	Gray Cast Iron (Without Scale)												●					●			
	Nodular Cast Iron (With Scale)																				
H	Hard Materials (Roughing)											✠									
	Hard Materials (Finishing)							●	○	◕						○	◔				
	Hard Materials (Chip Control)																				
	Sintered Steel																			◕	

	Insert	Description	Edge Prep.	rε	S	No. of Edges	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW	Multi Edge / Sharp Edge	TPGB 110304MEF	F	0.4	2.1	3											●		●	Ref. to the table below C15
		TPGB 110308MEF		0.8	1.8												●		●	
	Multi Edge	TPGB 110302T00815ME	T00815	0.2	2.3	3	●	○	●			●			●	●	●			
		TPGB 110304T00815ME		0.4	2.1		●	○	●		●	●			●	●	●			
		TPGB 110308T00815ME		0.8	1.8		●	○	●		●	●			●	●	●			
		TPGB 160304T00815ME	T00815	0.4	1.8	3	●	○	●		●	●					●			
		TPGB 160308T00815ME		0.8	1.5		●	□	●		●	●					●			
NEW	Multi Edge / General Purpose	TPGB 110304S01225MES	S01225	0.4	2.1	3	●										●			
		TPGB 110308S01225MES		0.8	1.8		●										●			
	Multi Edge / Tough	TPGB 110302S01035MET	S01035	0.2	2.3	3		○	●		●									
		TPGB 110304S01035MET		0.4	2.1		●	○	●		●									
		TPGB 110308S01035MET		0.8	1.8		●	○	●		●									
		TPGB 160304S01035MET	S01035	0.4	1.8	3		○	●		●					●				
		TPGB 160308S01035MET		0.8	1.5				●							●				
	Small Edge	TPGB 080202T00815SE	T00815	0.2	1.8	1		○	●						●	●				
		TPGB 080204T00815SE		0.4	1.6			○	●						●	●				
		TPGB 090202T00815SE	T00815	0.2	1.8	1		○	●						●	●				
		TPGB 090204T00815SE		0.4	1.6			○	●						●	●				
		TPGB 110302T00815SE	T00815	0.2	1.9	1		○							●	●				
		TPGB 110304T00815SE		0.4	1.8			○							●	●				
		TPGB 110308T00815SE		0.8	1.5											●				
		TPGB 160302T00815SE	T00815	0.2	1.9	1		○							●	●				
		TPGB 160304T00815SE		0.4	1.8			○							●	●				
	Small Edge / Tough	TPGB 080202S01035SET	S01035	0.2	1.8	1		○	●											
		TPGB 080204S01035SET		0.4	1.6			○	●							●				
		TPGB 090202S01035SET	S01035	0.2	1.8	1		○	●											
		TPGB 090204S01035SET		0.4	1.6			○	●							●				
		TPGB 110304S01035SET	S01035	0.4	1.8	1										●				
		TPGB 110308S01035SET		0.8	1.5											●				
		TPGB 160304S01035SET	S01035	0.4	1.8	1										●				
		TPGB 160308S01035SET		0.8	1.5											●				
	Multi Edge	TPGW 160404T00815ME	T00815	0.4	1.8	3		○	●											-
		TPGW 160408T00815ME		0.8	1.5			○	●											
	Multi Edge / Tough	TPGW 160404S01035MET	S01035	0.4	1.8	3		□	●							●				
		TPGW 160408S01035MET		0.8	1.5			□	●											
	Small Edge	TPGW 160404T00815SE	T00815	0.4	1.8	1										●				
	Small Edge / Tough	TPGW 160404S01035SET	S01035	0.4	1.9	1										●				

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

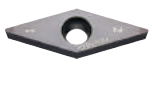
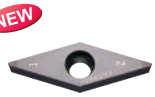
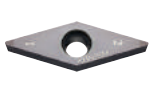
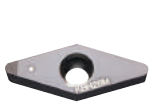
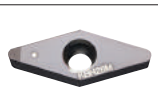
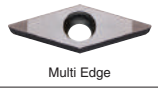
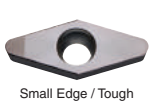
35° Rhombic / Positive

(mm)

Description	A	T	φd	α
VBGW 1103_	6.35	3.18	2.8	5°
1604_	9.525	4.76	4.4	
VCGW 0802_	4.76	2.38	2.3	7°

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570
K	Gray Cast Iron (With Scale)													
	Gray Cast Iron (Without Scale)						●					●		
	Nodular Cast Iron (With Scale)													
H	Hard Materials (Roughing)					✠								
	Hard Materials (Finishing)	●	○	●						○	◔			
	Hard Materials (Chip Control)													
	Sintered Steel							◔	✠					●

Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
NEW  Multi Edge / Sharp Edge	VBGW 110304MEF	F	0.4	2.0	2											●		●	Ref. to the table below
	110308MEF		0.8	1.7												●		●	
	VBGW 160404MEF	F	0.4	2.0	2											●		●	
	160408MEF		0.8	1.7												●		●	
 Multi Edge	VBGW 110302T00815ME	T00815	0.2	2.4	2	●	○	●		●	●			●	●	●			
	110304T00815ME		0.4	2.0		●	○	●	□	●	●	●	●	●	●	●			
	110308T00815ME		0.8	1.7		●	□	●	□				●		●	●			
	VBGW 160402T00815ME	T00815	0.2	2.4	2	●	○	●		●				●	●				
	160404T00815ME		0.4	2.0		●	○	●	□	●	●	●	●	●	●	●			
	160408T00815ME		0.8	1.7		●	○	●	□	●	●	●	●	●	●	●			
NEW  Multi Edge / General Purpose	VBGW 110304S01225MES	S01225	0.4	2.0	2	●										●			
	110308S01225MES		0.8	1.7												●			
	VBGW 160404S01225MES	S01225	0.4	2.0	2	●										●			
	160408S01225MES		0.8	1.7												●			
 Multi Edge / Tough	VBGW 110302S01035MET	S01035	0.2	2.4	2		○	●		●									
	110304S01035MET		0.4	2.0		●	○	●		●					●				
	110308S01035MET		0.8	1.7			○	●		●									
	VBGW 160402S01035MET	S01035	0.2	2.4	2		○	●		●									
	160404S01035MET		0.4	2.0		●	○	●		●					●				
	160408S01035MET		0.8	1.7			○	●		●									
 Small Edge	VBGW 110302T00815SE	T00815	0.2	2.8	1		○	●						●	●				
	110304T00815SE		0.4	2.4			○	●						●	●				
	110308T00815SE		0.8	1.7			○							●					
	VBGW 160402T00815SE	T00815	0.2	2.4	1									●	●				
	160404T00815SE		0.4	2.0			○							●	●				
	160408T00815SE		0.8	1.7										●	●				
 Small Edge / Tough	VBGW 110304S01035SET	S01035	0.4	2.0	1										●				
	110308S01035SET		0.8	1.7				●											
	VBGW 160404S01035SET	S01035	0.4	2.0	1										●				
	160408S01035SET		0.8	1.7											●				
 Multi Edge	VCGW 080202T00815ME	T00815	0.2	2.0	2	●	○	●		●				●	●	●			
	080204T00815ME		0.4	2.0		●	○	●		●	●			●	●	●			
	080208T00815ME		0.8	1.7		●					●					●			
 Multi Edge / Tough	VCGW 080202S01035MET	S01035	0.2	2.0	2		○	●											E36 F52
	080204S01035MET		0.4	2.0			○	●											
	080208S01035MET		0.8	1.7				●											
 Small Edge	VCGW 080202T00815SE	T00815	0.2	2.4	1		○	●						●	●				F54 F57
	080204T00815SE		0.4	2.0			○							●	●				
 Small Edge / Tough	VCGW 080204S01035SET	S01035	0.4	2.0	1										●				
	080208S01035SET		0.8	1.8											●				

Insert Description	Ref. to Page for Applicable Toolholders
VB..1103 type	E30,E31,E36,F52,F54,F57
VB..1604 type	E30,E31,F52,F54,F57

● : Std. Item (1 pc boxes) ○ : Check Availability □ : Deleted from the next catalogue

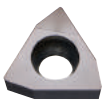
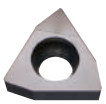
CBN & PCD Inserts are sold in 1 piece boxes.

80° Trigon / Positive

(mm)

Description	A	T	φd	α
WBGW 0601_	3.97	1.59	2.3	5°
0802_	4.76	2.38		

Edge Prep. Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		Insert (Left-hand Shown)	*Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)																				
K	Gray Cast Iron (Without Scale)																				
K	Nodular Cast Iron (With Scale)																				
H	Hard Materials (Roughing)																				
H	Hard Materials (Finishing)								●	◕						○	◔				
H	Hard Materials (Chip Control)																				
	Sintered Steel																				
		 Small Edge	WBGW 060102T00815L-SE	T00815	0.2	1.9	1		○	●						●	●				F59
			WBGW 060104T00815L-SE		0.4	1.9			○	●						●	●				
			WBGW 080202T00815L-SE	T00815	0.2	2.3	1		○	●						●	●				
			WBGW 080204T00815L-SE		0.4	2.3			○	●						●	●				
		 Small Edge / Tough	WBGW 060102S01035LSET	S01035	0.2	1.9	1		○	●											
			WBGW 060104S01035LSET		0.4	1.9			○	●							●				
			WBGW 080202S01035LSET	S01035	0.2	2.3	1		○	●											
			WBGW 080204S01035LSET		0.4	2.3			○	●							●				

*Left-hand (L) Only

60° Triangle / Positive without Hole

(mm)

Description	A	T	φd	α
TBGN 0601_	3.97	1.59	-	5°
TPGN 1103_	6.35	3.18		11°
1603_	9.525			

Edge Prep. Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

		Insert	Description	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)																				
K	Gray Cast Iron (Without Scale)																				
K	Nodular Cast Iron (With Scale)																				
H	Hard Materials (Roughing)																				
H	Hard Materials (Finishing)								●							○	◔				
H	Hard Materials (Chip Control)																				
	Sintered Steel																			◕	
	NEW	 CBN surface type/Sharp Edge	TBGN 060104F	F	0.4	-	3													●	-
		 CBN surface type	TBGN 060102T00815	T00815	0.2	-	3		□							●	●				
			TBGN 060104T00815		0.4	-			○							●	●				
			TBGN 060108T00815		0.8	-			○							●	□				
		 Multi Edge	TPGN 110302T00815ME	T00815	0.2	2.6	3										●				
			TPGN 110304T00815ME		0.4	2.5											●				
			TPGN 110308T00815ME		0.8	2.4											□				
		 Small Edge	TPGN 110302T00815SE	T00815	0.2	2.6	1										●				E43
			TPGN 110304T00815SE		0.4	2.5										●	●				
			TPGN 110308T00815SE		0.8	2.4											●				
			TPGN 160302T00815SE	T00815	0.2	2.6	1									□	●				F61
			TPGN 160304T00815SE		0.4	2.4										●	●				
			TPGN 160308T00815SE		0.8	2.1											●				
		 Small Edge / Tough	TPGN 110304S01035SET	S01035	0.4	2.5	1										●				
			TPGN 110308S01035SET		0.8	2.4											●				
			TPGN 160304S01035SET	S01035	0.4	2.4	1										●				
			TPGN 160308S01035SET		0.8	2.1											□				

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ○ : Check Availability
□ : Deleted from the next catalogue

Negative (Solid)

(mm)

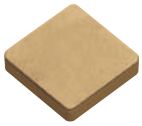
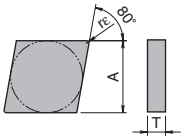
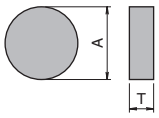
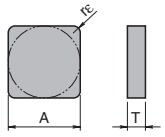
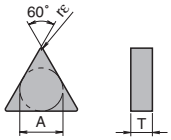
Description		A	T
CNMN	0903_	9.525	3.18
	1204_	12.70	4.76
RNMN	0903_	9.525	3.18
	1203_	12.70	3.18
	1204_		4.76

(mm)

Description		A	T
SNMN	0903_	9.525	3.18
	1203_	12.70	3.18
	1204_		4.76
TNMN	1103_	6.35	3.18
	1604_	9.525	4.76

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge	F	Sharp Edge
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge

K	Gray Cast Iron (With Scale)	✱
	Gray Cast Iron (Without Scale)	✱
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	●
	Hard Materials (Chip Control)	
	Sintered Steel	

Insert		Description		Edge Prep.	Dimension (mm) rε	No. of Edges	PVD Coated CBN KBN900	Ref. to Page for Applicable Toolholders
 Solid		CNMN	090308S02020	S02020	0.8	4	●	D32
			090312S02020		1.2		●	F81
		CNMN	120408S02020	S02020	0.8		●	D22
			120412S02020		1.2		●	
			120416S02020		1.6		●	
 Solid		RNMN	090300S02020	S02020	—	Depends on ap	●	D33
		RNMN	120300S02020	S02020			●	
		RNMN	120400S02020	S02020			●	D27 D33
 Solid		SNMN	090308S02020	S02020	0.8	8	●	D34 D35
			090312S02020		1.2		●	
		SNMN	120308S02020	S02020	0.8		●	
			120312S02020		1.2		●	
		SNMN	120408S02020	S02020	0.8		●	D25
			120412S02020		1.2		●	D34
			120416S02020		1.6		●	D35
			120420S02020		2.0		●	F79
 Solid		TNMN	110308S02020	S02020	0.8	6	●	D36 F81
		TNMN	160408S02020	S02020	0.8		●	D26
			160412S02020		1.2		●	
			160416S02020		1.6		□	

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example		K / H	Gray Cast Iron (With Scale)	KBN510	KBN525	Ref. to Page for Applicable Toolholders
F	Sharp Edge	F	Sharp Edge	K	Gray Cast Iron (Without Scale)			
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	K	Nodular Cast Iron (Without Scale)			
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge	H	Hard Materials (Roughing)			
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge	H	Hard Materials (Finishing)	○	●	
				H	Hard Materials (Chip Control)			
					Sintered Steel			

Insert (Handed Insert shows Right-hand)	Description	Edge Prep.	W	B	rε	A	T	φd	S	No. of Edges	KBN510	KBN525	Ref. to Page for Applicable Toolholders
 External / Internal Grooving	GBA43R/L 125-020	E008	1.25	2.0	0.2	12.70	4.76	5.5	1.9	1	●	●	G9
	150-020	E008	1.50	3.5							●	●	G11
	200-020	E008	2.00	3.5							●	●	G56
	250-020	E008	2.50	4.0							●	●	
	300-020	E008	3.00	4.0							●	●	

Deep Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example		K / H	Gray Cast Iron (With Scale)	MEGA COAT CBN KBN05M	CBN KBN570	Ref. to Page for Applicable Toolholders
F	Sharp Edge	F	Sharp Edge	K	Gray Cast Iron (Without Scale)			
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	K	Nodular Cast Iron (Without Scale)			
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge	H	Hard Materials (Roughing)			
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge	H	Hard Materials (Finishing)	●		
				H	Hard Materials (Chip Control)			
					Sintered Steel		●	

Insert	Description	Edge Prep.	W	W Tolerance	rε	M	L	H	S	No. of Edges	MEGA COAT CBN KBN05M	CBN KBN570	Ref. to Page for Applicable Toolholders
NEW  External Grooving	GDGS 2020N-020NB	E008	2.0	±0.03	0.2	1.8	20	4.3	2.9	1	●		G21 ~ G25
		E002										●	
	3020N-040NB	E008	3.0		0.4	2.3					●		
		E002										●	
	4020N-040NB	E008	4.0			3.3					●		
		E002										●	
	5020N-040NB	E008	5.0			4.2					●		G22 ~ G25
		E002										●	
	6020N-040NB	E008	6.0			5.2					●		
		E002										●	

Deep Grooving Inserts (1-edge)

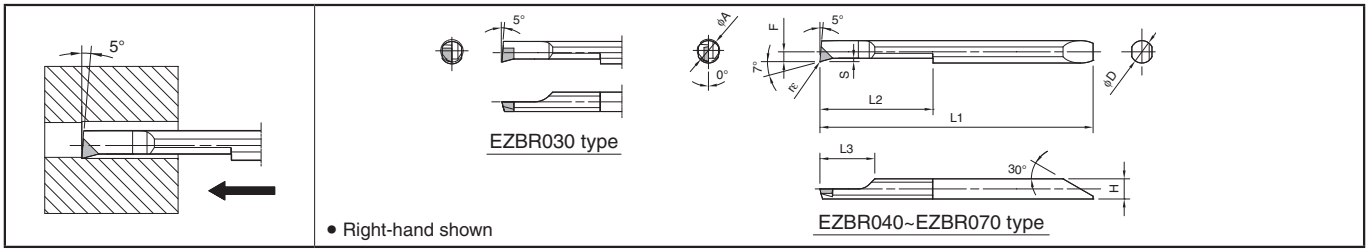
Edge Prep. Symbol	Cutting Edge Spec.	Example		K / H	Gray Cast Iron (With Scale)	KBN510	KBN525	Ref. to Page for Applicable Toolholders
F	Sharp Edge	F	Sharp Edge	K	Gray Cast Iron (Without Scale)			
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	K	Nodular Cast Iron (Without Scale)			
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge	H	Hard Materials (Roughing)			
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge	H	Hard Materials (Finishing)	○	●	
				H	Hard Materials (Chip Control)			
					Sintered Steel			

Insert	Description	Edge Prep.	W	rε	L	H	M	S	No. of Edges	KBN510	KBN525	Ref. to Page for Applicable Toolholders
 External Grooving	GMN 2	E008	2.0	0.2	20	4.3	1.8	2.9	1	●	●	G34,G35
	3	E008	3.0	0.4			2.3			●	●	G34
	4	E008	4.0				3.3			●	●	G35
	5	E008	5.0				4.2			●	●	G36
	6	E008	6.0				5.2			●	●	G34,G35

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes)

EZ Bars (EZB-NB:CBN) NEW



EZ Bars Dimensions

Edge Prep. Symbol	Cutting Edge Spec.	Example		K	H	Ref. to Page for Applicable Sleeves
F	Sharp Edge	F	Sharp Edge			
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge			
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge			
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge			

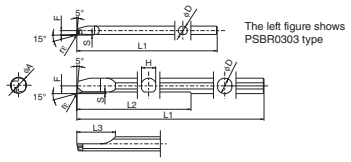
K: Gray Cast Iron (With Scale), Gray Cast Iron (Without Scale), Nodular Cast Iron (Without Scale)
H: Hard Materials (Roughing), Hard Materials (Finishing), Hard Materials (Chip Control)
Sintered Steel

Description		Edge Prep.	Min. Bore Dia.	Dimension (mm)								No. of Edges	MEGACOAT CBN		Ref. to Page for Applicable Sleeves
			ϕA	ϕD	H	L1	L2	L3	F	S	rε		KBN05M		
EZBR	030030-003NB	T00815	3	3	2.6	38.8	13	6.8	1.25	0.3	0.035 $^{\pm0.015}$	1	●		F22 ~ F27
	040040-003NB	T00815	4	4	3.6	48.8	20	9.8	1.75	0.5			●		
	050050-003NB	T00815	5	5	4.6	58.1	25	9.8	2.25	0.5			●		
	060060-003NB	T00815	6	6	5.6	66.1	30	11.8	2.75	0.5			●		
	070070-003NB	T00815	7	7	6.6	74.1	35	11.8	3.25	0.5			●		

Tip-Bars

Edge Prep. Symbol	Cutting Edge Spec.	Example		K	H	Ref. to Page for Applicable Sleeves
F	Sharp Edge	F	Sharp Edge			
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge			
T	Chamfered Cutting Edge	T01215	0.12mmx15° Chamfered Cutting Edge			
S	Chamfered + Honed Cutting Edge	S01225	0.12mmx25° Chamfered + Honed Cutting Edge			

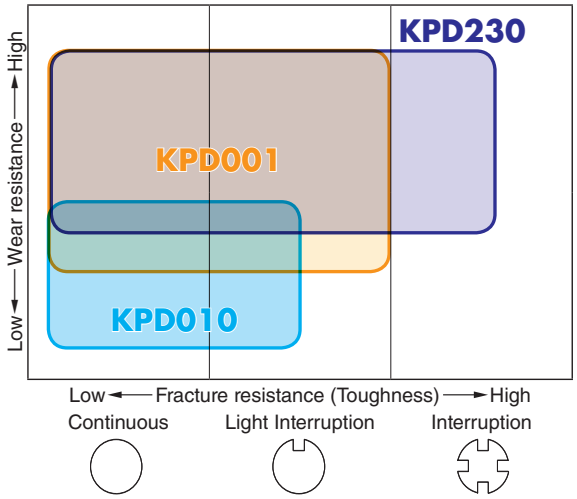
K: Gray Cast Iron (With Scale), Gray Cast Iron (Without Scale), Nodular Cast Iron (Without Scale)
H: Hard Materials (Roughing), Hard Materials (Finishing), Hard Materials (Chip Control)
Sintered Steel

Insert (Handed Insert shows Right-hand)	Description		Edge Prep.	Min. Bore Dia.	Dimension (mm)								No. of Edges	CBN		Ref. to Page for Applicable Sleeves
				ϕA	ϕD	H	L1	L2	L3	F	S	rε		KBN510	KBN525	
 The left figure shows PSBR0303 type	PSBR	0303-50NBS	T00815	3	2.8	-	50	25	7	1.4	0.15	0.05	1	○	○	F84
		0404-60NBS	T00815	4	3.8	3.6	60	30	10	1.9	0.3			○	○	
		0505-70NBS	T00815	5	4.8	4.4	70	40	12	2.4	0.5			○	○	
		0606-70NBS	T00815	6	5.8	5.2		45		2.9				○	○	
		0707-80NBS	T00815	7	6.8	6.2	80	50		3.4				○	○	

● : Std. Item (1 pc boxes) ○ : Check Availability

CBN & PCD Inserts are sold in 1 piece boxes.

Application Map



About Insert Grades

Grades	Applications	Features
KPD001 (Ave. Grain Size under 0.5μm)	●High speed machining of non-ferrous metals and brass ●High speed machining of plastics ●Machining of carbide	●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)	●High speed machining of non-ferrous metals and brass ●High speed machining of plastics ●Machining of carbide	●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)	●High speed machining of non-ferrous metals and brass ●High speed machining of plastics	●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)	●High speed machining of high silicon aluminium alloy ●Machining of carbide	●Coarse grain PCD (Ave. Grain Size 25μm) ●Superior to wear resistance

Identification System (Turning Insert)

C	N	M	M	12	04	02	M	–	SE
C	C	G	W	04	01	01			SE

"Turning Indexable Inserts Identification System" Refer to Page B2

Insert Type	Description	Manufacture's Option 1	Manufacture's Option 2	Series Name	Edge Length	No. of Edges	re-grinding
Negative	CNMM120402M-SE	M (Indicates the tool is for negative inserts/ toolholders)	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CNMM120402M-NE		NE	New Value Edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CNMM120402M		Without 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		Without 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. Ref. to page **B3** for insert color.

● About re-grinding
1) Regrinding is possible with the inserts with "NE" and no symbol in manufacturer's option 2. Regrinding can not be available depending on the edge condition.
2) Regrinding is not recommended for inserts with "SE" in manufacturer's option 2.

Recommended Cutting Conditions (Turning)

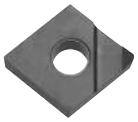
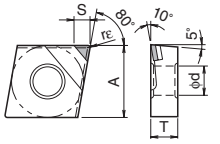
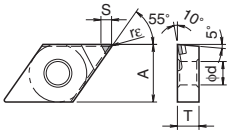
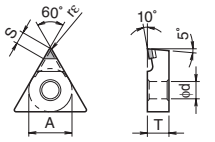
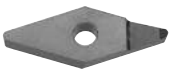
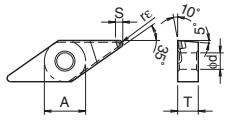
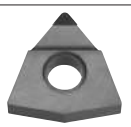
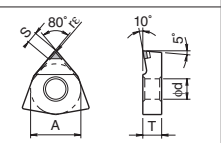
Workpiece Material	Insert Grades		Cutting Conditions				Remarks
	KPD001	KPD010	Vc (m/min)	ap (mm) Small Edge and Positive (Inserts)	ap (mm) Negative (Inserts)	f (mm/rev)	
Aluminum alloys Zinc alloys	★	☆	300~1,500	~1.0	~2.0	0.03~0.5	Both Dry and Coolant
Copper, Brass, Bronze	★	☆	300~1,000	~1.0	~2.0	0.03~0.5	
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

N	Non-ferrous Metals (With interruption)	●
	Non-ferrous Metals (Without interruption)	●
S	Titanium Alloys (With interruption)	●
	Titanium Alloys (Without interruption)	●

Edge Prep.	
PCD all items	Sharp Edge

Insert	Description		Dimension (mm)					Angle	No. of Edges	PCD				Ref. to Page for Applicable Toolholders
			A	T	φd	rε	S	α		KPD001	KPD010	KPD230	KPD250	
 Small Edge		CNMM 120402M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●			D8 F63 F67 F68
		CNMM 120404M-SE				0.4	2.8			●	●			
		CNMM 120408M-SE				0.8	2.7			●	●			
		CNMM 120402M-NE				0.2	5.1			●				
		CNMM 120404M-NE				0.4	5.0			●				
		CNMM 120408M-NE				0.8	4.9			●				
		CNMM 120402M	12.70	4.76	5.16	0.2	5.8	-	1	●	●			
		CNMM 120404M				0.4	5.8			●	●			
		CNMM 120408M				0.8	5.7			●	●			
		CNMM 120412M				1.2	5.6				●			
 Small Edge		DNMM 150402M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●			D10 D11 F64 F70 F71
		DNMM 150404M-SE				0.4	2.6			●	●			
		DNMM 150408M-SE				0.8	2.2			●	●			
		DNMM 150402M-NE				0.2	5.2			●				
		DNMM 150404M-NE				0.4	5.0			●				
		DNMM 150408M-NE				0.8	4.6			●				
		DNMM 150402M	12.70	4.76	5.16	0.2	5.9	-	1	●	●			
		DNMM 150404M				0.4	5.8			●	●			
		DNMM 150408M				0.8	5.4			●	●			
		DNMM 150412M				1.2	5.0				●			
 Small Edge		TNMM 160402M-SE	9.525	4.76	3.81	0.2	2.7	-	1	●	●			D14 D15 F64 F74 F75
		TNMM 160404M-SE				0.4	2.6			●	●			
		TNMM 160408M-SE				0.8	2.3			●	●			
		TNMM 160402M-NE				0.2	3.2			●				
		TNMM 160404M-NE				0.4	3.1			●				
		TNMM 160408M-NE				0.8	2.8			●				
		TNMM 160402M	9.525	4.76	3.81	0.2	3.8	-	1	●	●			
		TNMM 160404M				0.4	3.6			●	●			
		TNMM 160408M				0.8	3.3			●	●			
		TNMM 160412M				1.2	3.0				●			
 Small Edge		VNMM 160402M-SE	9.525	4.76	3.81	0.2	2.9	-	1	●	●			D16 D17 D18
		VNMM 160404M-SE				0.4	2.5			●	●			
		VNMM 160408M-SE				0.8	1.6			●	●			
		VNMM 160402M-NE				0.2	4.7			●				
		VNMM 160404M-NE				0.4	4.2			●				
		VNMM 160408M-NE				0.8	3.4			●				
		VNMM 160402M	9.525	4.76	3.81	0.2	5.3	-	1	●	●			
		VNMM 160404M				0.4	4.8			●	●			
		VNMM 160408M				0.8	4.0			●	●			
		VNMM 160412M				1.2	3.1				●			
 Small Edge		WNMM 080402M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●			D20 F77 F78
		WNMM 080404M-SE				0.4	2.8			●	●			
		WNMM 080408M-SE				0.8	2.7				●			
		WNMM 080402M-NE				0.2	5.0			●				
		WNMM 080404M-NE				0.4	5.0			●				
		WNMM 080402M	12.70	4.76	5.16	0.2	5.8	-	1		□			
		WNMM 080404M				0.4	5.8				●			

· **SE:** Small Edge **/ NE:** New Value Edge

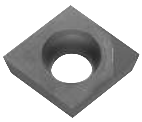
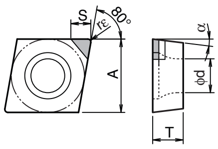
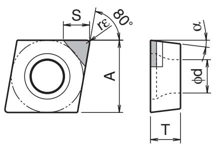
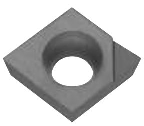
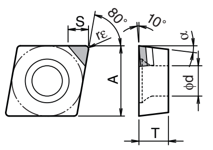
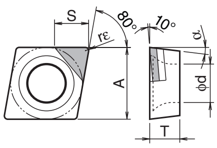
● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

Positive

*Thickness of CC_0301_ and CC_0401_ are different

	Work material		KPD001	KPD010	KPD230	KPD250
N	Non-ferrous Metals (With interruption)		◐			
	Non-ferrous Metals (Without interruption)		●			
S	Titanium Alloys (With interruption)		◐			
	Titanium Alloys (Without interruption)		●			

Edge Prep.															
PCD all items		Sharp Edge													
Insert		Description		Dimension (mm) A	T	φd	rε	S	Angle α	No. of Edges	PCD KPD001	KPD010	KPD230	KPD250	Ref. to Page for Applicable Toolholders
		*CCGW NEW	040101SE	4.3	1.8	2.3	0.1	1.3	7°	1	●				F19 F39
			040102SE				0.2	1.3			●				
			040104SE				0.4	1.3			●				
		CCGW NEW	060201SE	6.35	2.38	2.8	0.1	2.3			●				Ref. to the table below
			060202SE				0.2	2.3			●				
			060204SE				0.4	2.3			●				
		CCGW NEW	09T302SE	9.525	3.97	4.4	0.2	2.7			●				
			09T304SE				0.4	2.7			●				
			09T308SE				0.8	2.7			●				
		*CCGW	040101NE	4.3	1.8	2.3	0.1	1.7	7°	1	●				F19 F39
			040102NE				0.2	1.6			●				
			040104NE				0.4	1.6			●				
		CCGW	060201NE	6.35	2.38	2.8	0.1	3.1			●				Ref. to the table below
			060202NE				0.2	3.0			●				
			060204NE				0.4	3.0			●				
		CCGW	09T301NE	9.525	3.97	4.4	0.1	3.4			●				
			09T302NE				0.2	3.4			●				
			09T304NE				0.4	3.4			●				
			09T308NE				0.8	3.3			●				
		*CCGW	040101	4.3	1.8	2.3	0.1	1.9	7°	1	●				F19 F39
			040102				0.2	1.9			●	●			
			040104				0.4	1.9			●	●			
		CCGW	060201	6.35	2.38	2.8	0.1	3.5				●			Ref. to the table below
			060202				0.2	3.5				●			
			060204				0.4	3.5				●			
		CCGW	09T301	9.525	3.97	4.4	0.1	3.8			●	●			
			09T302				0.2	3.8			●	●			
			09T304				0.4	3.7			●	●			
			09T308				0.8	3.6				●			
		CCMT NEW	060202SE	6.35	2.38	2.8	0.2	2.2	7°	1	●				Ref. to the table below
			060204SE				0.4	2.2			●				
		CCMT NEW	09T301SE	9.525	3.97	4.4	0.1	2.7			●				
			09T302SE				0.2	2.7			●				
			09T304SE				0.4	2.7			●				
			09T308SE				0.8	2.7			●				
		CCMT	060201NE	6.35	2.38	2.8	0.1	2.8	7°	1	●				
			060202NE				0.2	2.8			●				
			060204NE				0.4	2.8			●				
		CCMT	09T301NE	9.525	3.97	4.4	0.1	3.4			●				
			09T302NE				0.2	3.4			●				
			09T304NE				0.4	3.4			●				
			09T308NE				0.8	3.3			●				
		CCMT	060201	6.35	2.38	2.8	0.1	3.3	7°	1	●	●			
			060202				0.2	3.3			●	●			
			060204				0.4	3.2			●	●			
		CCMT	09T301	9.525	3.97	4.4	0.1	3.9			●	●			
			09T302				0.2	3.9			●	●			
			09T304				0.4	3.9			●	●			
			09T308				0.8	3.8				●			

· **SE:** Small Edge **/ NE:** New Value Edge

Insert Description	Ref. to Page for Applicable Toolholders
CC..0602 type	**E22,E23,E34,F39**
CC..09T3 type	**E22,E23,E34,F39,F65**

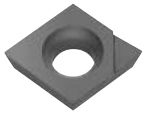
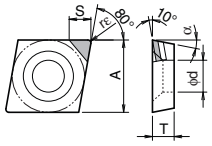
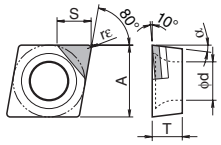
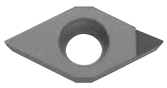
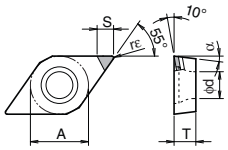
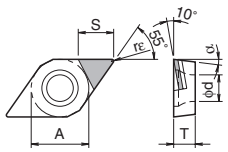
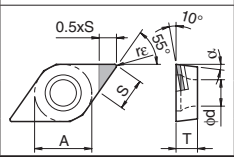
CBN & PCD Inserts are sold in 1 piece boxes.

●: Std. Item (1 pc boxes)

Positive

Edge Prep.	
PCD all items	Sharp Edge

N	Non-ferrous Metals (With interruption)	●
	Non-ferrous Metals (Without interruption)	●
S	Titanium Alloys (With interruption)	●
	Titanium Alloys (Without interruption)	●

Insert (Handed Insert shows Left-hand)	Description	Dimension (mm) A	T	φd	rε	S	Angle α	No. of Edges	PCD KPD001	KPD010	KPD230	KPD250	Ref. to Page for Applicable Toolholders
 	CPMH 090302SE	9.525	3.18	4.5	0.2	2.7	11°	1	●				F41
	NEW CPMH 090304SE				0.4	2.7			●				
	CPMH 080202NE	7.94	2.38	3.5	0.2	3.2	11°	1	●				
	CPMH 080204NE				0.4	3.2			●				
	CPMH 090301NE	9.525	3.18	4.5	0.1	3.4	11°	1	●				
	CPMH 090302NE				0.2	3.4			●				
	CPMH 090304NE				0.4	3.4			●				
	CPMH 090308NE				0.8	3.3			●				
	CPMH 080201	7.94	2.38	3.5	0.1	3.7	11°	1	●	●			
	CPMH 080202				0.2	3.7			●	●			
	CPMH 080204				0.4	3.7			●	●			
	CPMH 090301	9.525	3.18	4.5	0.1	4.0	11°	1		●			
	CPMH 090302				0.2	3.9			●	●			
	CPMH 090304				0.4	3.9			●	●			
	CPMH 090308				0.8	3.8				●			
 	DCMT 070201SE	6.35	2.38	2.8	0.1	2.7	7°	1	●				Ref. to the table below
	NEW DCMT 070202SE				0.2	2.7			●				
	DCMT 070204SE				0.4	2.7			●				
	DCMT 11T301SE	9.525	3.97	4.4	0.1	2.7	7°	1	●				
	NEW DCMT 11T302SE				0.2	2.7			●				
	DCMT 11T304SE				0.4	2.7			●				
	DCMT 11T308SE				0.8	2.7			●				
	DCMT 070201NE	6.35	2.38	2.8	0.1	3.4	7°	1	●				
	DCMT 070202NE				0.2	3.4			●				
	DCMT 070204NE				0.4	3.2			●				
	DCMT 11T301NE	9.525	3.97	4.4	0.1	3.4	7°	1	●				
	DCMT 11T302NE				0.2	3.3			●				
	DCMT 11T304NE				0.4	3.2			●				
	DCMT 11T308NE				0.8	2.8			●				
	DCMT 070201	6.35	2.38	2.8	0.1	4.0	7°	1	●	●			
	DCMT 070202				0.2	3.9			●	●			
	DCMT 070204				0.4	3.7			●	●			
	DCMT 11T301	9.525	3.97	4.4	0.1	4.0	7°	1	●	●			
	DCMT 11T302				0.2	3.9			●	●			
	DCMT 11T304				0.4	3.7			●	●			
	DCMT 11T308				0.8	3.3			●	●			
 	DCMT 070202R/L-NE	6.35	2.38	2.8	0.2	3.3	7°	1	●				
	DCMT 070204R/L-NE				0.4	3.2			●				
	DCMT 11T302R/L-NE	9.525	3.97	4.4	0.2	3.3	7°	1	●				
	DCMT 11T304R/L-NE				0.4	3.2			●				

· **SE:** Small Edge **/ NE:** New Value Edge

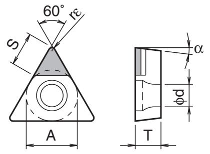
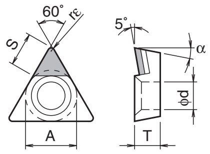
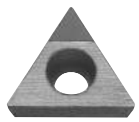
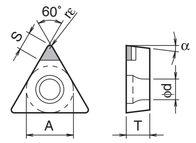
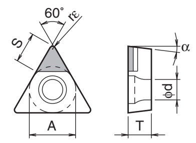
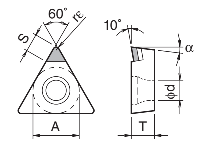
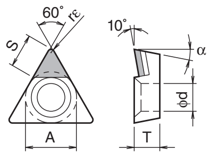
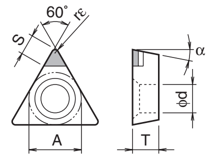
Insert Description	Ref. to Page for Applicable Toolholders
DC..07 type	**E24~E27,E35,F43~F45**
DC..11 type	**E20,E24~E27,E35,F43~F45,F65**

● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes.

Positive

		Material	KPD001	KPD010	KPD230	KPD250
N		Non-ferrous Metals (With interruption)	◐			
		Non-ferrous Metals (Without interruption)	●			
S		Titanium Alloys (With interruption)	◐			
		Titanium Alloys (Without interruption)	●			

Insert (Edge Prep.: PCD all items)		Description (Edge Prep.: Sharp Edge)		Dimension (mm) A	T	ϕd	rε	S	Angle α	No. of Edges	PCD KPD001	KPD010	KPD230	KPD250	Ref. to Page for Applicable Toolholders
		TBGW	060102NE	3.97	1.59	2.3	0.2	2.1	5°	1	●				F49 F51
			060104NE				0.4	1.9			●				
		TBGW	060102				0.2	2.4			●	●			
			060104				0.4	2.2			●	☐			
		TBMT	060101NE	3.97	1.59	2.3	0.1	2.2	5°	1	●				
			060102NE				0.2	2.1			●				
			060104NE				0.4	2.0			●				
			060108NE				0.8	1.7			●				
		TBMT	060101				0.1	2.6				●			
			060102				0.2	2.5			●	●			
			060104				0.4	2.3				●			
			060108				0.8	2.0			●	●			
		TCGW	110302SE	6.35	3.18	2.8	0.2	2.5	7°	1		●			E29
			110304SE				0.4	2.4				●			
		TCGW	110302NE				0.2	3.3	7°	1	●				
			110304NE				0.4	3.2			●				
		TCGW	110302				0.2	3.9	7°	1		●			
			110304				0.4	3.7				●			
		TCMT	110301SE	6.35	3.18	2.8	0.1	2.6	7°	1		●			
			110302SE				0.2	2.5				●			
			110304SE				0.4	2.4				●			
		TCMT	080202NE	4.76	2.38	2.3	0.2	2.1	7°	1	●				
		TCMT	110302NE	6.35	3.18	2.8	0.2	3.4			●				
			110304NE				0.4	3.3			●				
		TCMT	080202	4.76	2.38	2.3	0.2	2.4	7°	1		●			
			080204				0.4	2.2				●			
		TCMT	110302	6.35	3.18	2.8	0.2	3.9				●			
		TPGB NEW	090202SE	5.56	2.38	3.0	0.2	2.1	11°	1	●				Ref. to the table below
			090204SE				0.4	2.1			●				
			090208SE				0.8	2.1			●				
		TPGB	110301SE	6.35	3.18	3.3	0.1	2.7			●	●			
			110302SE				0.2	2.6			●	●			
			110304SE				0.4	2.5			●	●			
		TPGB	160302SE	9.525	3.18	4.5	0.2	2.6			●	●			
			160304SE				0.4	2.4			●	●			

· **SE:** Small Edge / **NE:** New Value Edge

Insert Description	Ref. to Page for Applicable Toolholders
TP..0802 type	**E29,F49,F51**
TP..0902 type	**F49,F51**

Insert Description	Ref. to Page for Applicable Toolholders
TP..1103 type	**E29,F49,F50**
TP..1603 type	**F49,F50**

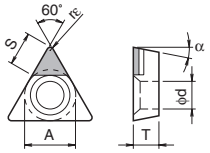
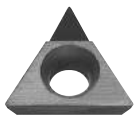
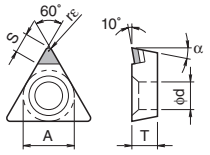
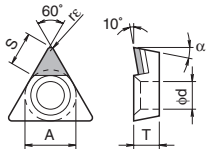
CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

Positive

N	Non-ferrous Metals (With interruption)	●
	Non-ferrous Metals (Without interruption)	●
S	Titanium Alloys (With interruption)	●
	Titanium Alloys (Without interruption)	●

Edge Prep.	
PCD all items	Sharp Edge

Insert		Description		Dimension (mm) A	T	ϕd	rε	S	Angle α	No. of Edges	PCD KPD001	KPD010	KPD230	KPD250	Ref. to Page for Applicable Toolholders
		TPGB	080202NE	4.76	2.38	2.5	0.2	2.2	11°	1	●				Ref. to the table below C26
			080204NE				0.4	2.1			●				
			080208NE				0.8	1.8			●				
		TPGB	090202NE	5.56	2.38	3.0	0.2	2.7			●				
			090204NE				0.4	2.6			●				
			090208NE				0.8	2.3			●				
		TPGB	110302NE	6.35	3.18	3.3	0.2	3.4			●				
			110304NE				0.4	3.3			●				
			110308NE				0.8	3.0			●				
		TPGB	160304NE	9.525	3.18	4.5	0.4	3.2			●				
			160308NE				0.8	2.9			●				
		TPGB	080202	4.76	2.38	2.5	0.2	2.6			●	●			
			080204				0.4	2.4			●	●			
		TPGB	090202	5.56	2.38	3.0	0.2	3.2			●	●			
			090204				0.4	3.0			●	●			
		TPGB	110302	6.35	3.18	3.3	0.2	3.9			●	●			
			110304				0.4	3.7			●	●			
			110308				0.8	3.4				●			
		TPMH	080202SE NEW	4.76	2.38	2.5	0.2	2.0	11°	1	●				
			080204SE				0.4	1.8			●				
		TPMH	090202SE NEW	5.56	2.38	3.0	0.2	2.4			●				
			090204SE				0.4	2.2			●				
		TPMH	110301SE	6.35	3.18	3.3	0.1	2.7				●			
			110302SE				0.2	2.6			●	●			
			110304SE				0.4	2.5			●	●			
		TPMH	160302SE	9.525	3.18	4.5	0.2	2.6			●	□			
			160304SE				0.4	2.4			●	●			
		TPMH	080201NE	4.76	2.38	2.5	0.1	2.3	11°	1	●				
			080202NE				0.2	2.2			●				
			080204NE				0.4	2.1			●				
		TPMH	090201NE	5.56	2.38	3.0	0.1	2.7			●				
			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			●				
			110302NE				0.2	3.3			●				
			110304NE				0.4	3.2			●				
			110308NE				0.8	2.9			●				
		TPMH	160304NE	9.525	3.18	4.5	0.4	3.3			●				
			160308NE				0.8	3.0			●				
		TPMH	080201	4.76	2.38	2.5	0.1	2.6	11°	1		□			
			080202				0.2	2.5			●	●			
			080204				0.4	2.3			●	●			
		TPMH	090201	5.56	2.38	3.0	0.1	3.0			●	●			
			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			●	●			
			110302				0.2	3.9			●	●			
			110304				0.4	3.7			●	●			
			110308				0.8	3.4				●			
		TPMH	160302	9.525	3.18	4.5	0.2	4.0			●	●			
			160304				0.4	3.8			●	●			
			160308				0.8	3.6				●			

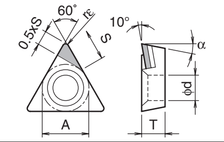
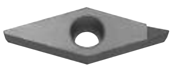
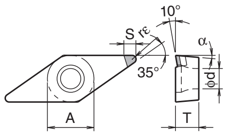
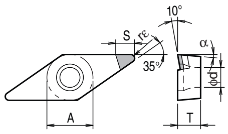
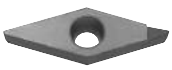
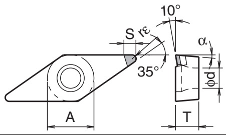
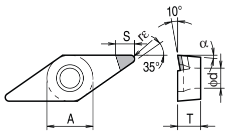
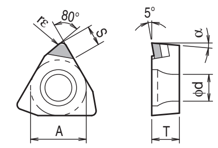
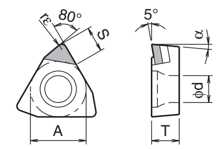
· **SE:** Small Edge **/ NE:** New Value Edge

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

Positive

			KPD001	KPD010	KPD230	KPD250
N	Non-ferrous Metals (With interruption)		◐			
	Non-ferrous Metals (Without interruption)		●			
S	Titanium Alloys (With interruption)		◐			
	Titanium Alloys (Without interruption)		●			

Edge Prep.															
PCD all items		Sharp Edge													
Insert (Handed Insert shows Left-hand)		Description		Dimension (mm) A	T	φd	rε	S	Angle α	No. of Edges	PCD KPD001	KPD010	KPD230	KPD250	Ref. to Page for Applicable Toolholders
		TPMH	110302L-NE	6.35	3.18	3.3	0.2	3.8	11°	1	●				Ref. to the table below C26
			110304L-NE				0.4	3.6			●				
		VBMT NEW	110301SE	6.35	3.18	2.8	0.1	2.5	5°	1	●				Ref. to the table below
			110302SE				0.2	2.3			●				
			110304SE				0.4	1.9			●				
			110308SE				0.8	1.9			●				
		VBMT NEW	160401SE	9.525	4.76	4.4	0.1	2.7			●				
			160402SE				0.2	2.5			●				
			160404SE				0.4	2.1			●				
			160408SE				0.8	2.0			●				
		VBMT	110301NE	6.35	3.18	2.8	0.1	2.6	5°	1	●				
			110302NE				0.2	2.4			●				
			110304NE				0.4	2.0			●				
			110308NE				0.8	3.1			●				
		VBMT	160401NE	9.525	4.76	4.4	0.1	2.8			●				
			160402NE				0.2	2.6			●				
			160404NE				0.4	2.2			●				
			160408NE				0.8	3.0			●				
		VBMT	110301	6.35	3.18	2.8	0.1	3.0	5°	1	●	●			
			110302				0.2	2.8			●	●			
			110304				0.4	2.4			●	●			
			110308				0.8	3.5			●	●			
		VBMT	160401	9.525	4.76	4.4	0.1	3.2			●	●			
			160402				0.2	3.0			●	●			
			160404				0.4	2.6			●	●			
			160408				0.8	3.5			●	●			
		VCMT NEW	080202SE	4.76	2.38	2.3	0.2	1.4	7°	1	●				E36 F52 F54 F57
			080204SE				0.4	1.4			●				
			080208SE				0.8	1.4			●				
		VCMT	080201NE				0.1	1.7	7°	1	●				
			080202NE				0.2	1.7			●				
			080204NE				0.4	1.8			●				
			080208NE				0.8	1.9			●				
		VCMT	080201				0.1	2.0	7°	1		●			
			080202				0.2	2.0			●	●			
			080204				0.4	2.1			●	●			
			080208				0.8	2.2			●	●			
		WBMT NEW	060102L-SE	3.97	1.59	2.3	0.2	1.3	5°	1	●				F59
		WBMT	060101L-NE	3.97	1.59	2.3	0.1	1.7	5°	1	●				
			060102L-NE				0.2	1.6			●				
			060104L-NE				0.4	1.6			●				
		WBMT	060101L	3.97	1.59	2.3	0.1	1.9	5°	1	●	□			
			060102L				0.2	1.9			●	●			
			060104L				0.4	1.9			●	●			

· **SE:** Small Edge **/ NE:** New Value Edge

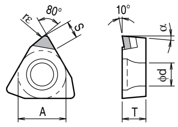
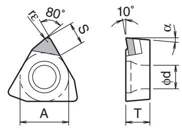
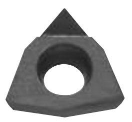
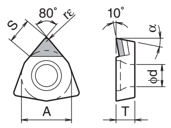
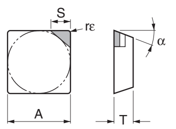
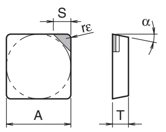
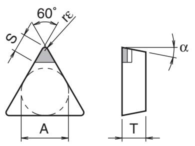
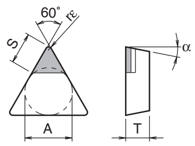
Insert Description	Ref. to Page for Applicable Toolholders
VB..1103 type	**E30,E31,E36,F52,F54,F57**
VB..1604 type	**E30,E31,F52,F54,F57**

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

Positive

		KPD001	KPD010	KPD230	KPD250
N	Non-ferrous Metals (With interruption)	◐			
	Non-ferrous Metals (Without interruption)	●			
S	Titanium Alloys (With interruption)	◐			
	Titanium Alloys (Without interruption)	●			

Edge Prep.: PCD all items		Sharp Edge		Dimension (mm)					Angle		PCD				
Insert (Handed Insert shows Left-hand)		Description		A	T	φd	rε	S	α	No. of Edges	KPD001	KPD010	KPD230	KPD250	Ref. to Page for Applicable Toolholders
		WBMT	080202L-SE NEW	4.76	2.38	2.3	0.2	1.6	5°	1	●				F59
		WBMT	080202L-NE	4.76	2.38	2.3	0.2	2.1	5°	1	●				
			080204L-NE				0.4	2.1			●				
		WBMT	080202L	4.76	2.38	2.3	0.2	2.4	5°	1	●	●			
			080204L				0.4	2.3			●	●			
		WPMT	110202SE	6.35	2.38	2.8	0.2	2.1	11°	1	●				
		WPMT	110202NE				0.2	2.7			●				
		WPMT	110202				0.2	3.1				●			
		SEGN	120304NE	12.70	3.18	-	0.4	3.6	20°	1	☐				-
		SPGN	120304NE	12.70	3.18	-	0.4	3.6	11°	1	●				E42 F60
		SPGN	120304					4.2				●			
		TPGN	110301SE	6.35	3.18	-	0.1	2.6	11°	1	●				E43 F61
			110302SE				0.2	2.5			●	●			
			110304SE				0.4	2.4			●	●			
		TPGN	160301SE	9.525	3.18		0.1	2.6				●			
			160302SE				0.2	2.6			●	●			
			160304SE				0.4	2.4			●	●			
		TPGN	160304NE	9.525	3.18	-	0.4	3.2	11°	1	●				
			160308NE				0.8	2.9			●				
		TPGN	110302	6.35	3.18		0.2	3.9			●	●			
			110304				0.4	3.7			●	●			
			110308				0.8	3.4				●			
		TPGN	160302	9.525	3.18		0.2	3.9			●	●			
			160304				0.4	3.7			●	●			
			160308				0.8	3.4				●			

· **SE:** Small Edge **/ NE:** New Value Edge

● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

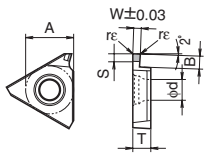
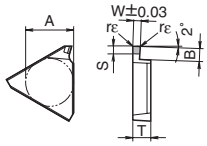
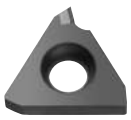
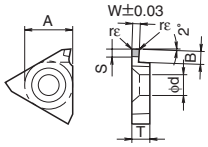
CBN & PCD Inserts are sold in 1 piece boxes.

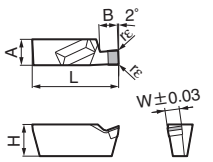
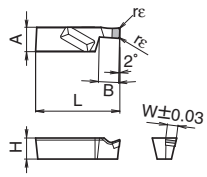
Grooving Inserts (1-edge)

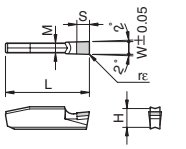
N	Non-ferrous Metals (With interruption)	●	
	Non-ferrous Metals (Without interruption)	●	
S	Titanium Alloys (With interruption)	●	
	Titanium Alloys (Without interruption)	●	

Edge Prep.

PCD all items | **Sharp Edge**

Insert (Handed Insert shows Right-hand)		Description		Dimension (mm) W	B	rε	A	T	φd	S	No. of Edges	PCD KPD001 R	KPD001 L	KPD010 R	KPD010 L	Ref. to Page for Applicable Toolholders
 External / Internal Grooving		GBA32R	125-010	1.25	2.0	0.1	9.525	3.18	4.4	1.7	1			●		
			150-010	1.50								●		●		
		GBA43R/L	125-010	1.25	2.0	0.1	12.70	4.76	5.5	1.9				●	●	G9
			150-010	1.50	3.5							●	●	●	●	G11
			200-010	2.00								●	●	●	●	G56
			250-010	2.50	4.0							●	●	●	●	
			300-010	3.00								●	●	●	●	
 External Grooving		GB43R/L	125	1.25	2.0	0.1	12.70	4.76	-	1.9	1			○		G11
			150	1.50	3.5									○		
			200	2.00										○		
			250	2.50	4.0									○		
			300	3.00										○	○	
 External Grooving		TGF32R	125-010	1.25	2.0	0.1	9.525	3.18	4.5	1.7	1	●				G14 G15
			150-010	1.50								●				
			200-010	2.00	2.5					1.9		●				

Insert (Handed Insert shows Right-hand)		Description		Dimension (mm) W	B	rε	A	L	H	No. of Edges	PCD KPD001 R	KPD001 L	KPD010 R	KPD010 L	Ref. to Page for Applicable Toolholders
 Internal Grooving		GVR/L	145-020A	1.45	2.3	0.2	4.0	12	5.0	1			●	MTO	G55
			200-020A	2.00									●	MTO	
			300-020A	3.00									MTO	MTO	
		GVR/L	200-020B	2.00	3.2	0.2	4.5	15	5.5				●	MTO	
			250-020B	2.50									●	MTO	
			300-020B	3.00	4.2								MTO	MTO	
		GVR/L	300-020C	3.00	4.5	0.2	5.8	21	6.5				MTO	MTO	
			400-020C	4.00	5.5								MTO	MTO	
 Face Grooving		GVFR/L	250-020B	2.50	4.8	0.2	5.8	20	5.0	1			●	●	G90 ~ G93 G100
			300-020B	3.00	4.8								●	●	
			400-020B	4.00	5.3								MTO	MTO	
		GVFR/L	350-020C	3.50	6.8	0.2	7.0	27	7.0				MTO	MTO	
			400-020C	4.00	6.8								MTO	MTO	
		GVFR/L	350-040C	3.50	6.8	0.4	7.0	27	7.0				MTO	MTO	
			400-040C	4.00	6.8								MTO	MTO	

Insert		Description		Dimension (mm) W	rε	L	H	M	S	No. of Edges	PCD KPD001	KPD010	Ref. to Page for Applicable Toolholders
 External Deep Grooving		GMN	2	2.0	0.2	20	4.3	1.8	2.9	1	●	●	G34,G35
			3	3.0				2.3			●	●	G34
			4	4.0				3.3			●	●	G35
			5	5.0				4.2			●	●	G36
			6	6.0				5.2				●	G34,G35

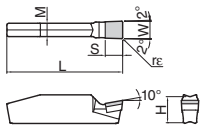
● : Std. Item (1 pc boxes)
○ : Check Availability
MTO : Made to order

CBN & PCD Inserts are sold in 1 piece boxes.

Deep Grooving Inserts (1-edge)

N	Non-ferrous Metals (With interruption)	●		Ref. to Page for Applicable Toolholders
	Non-ferrous Metals (Without interruption)	●		
S	Titanium Alloys (With interruption)	◕		
	Titanium Alloys (Without interruption)	●		

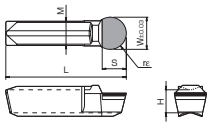
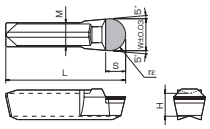
Edge Prep.	
PCD all items	Sharp Edge

Insert	Description		Dimension (mm) W	Tolerance	rε	M	L	H	S	No. of Edges	PCD KPD001		Ref. to Page for Applicable Toolholders
NEW  External Deep Grooving 	GDGS	2020N-020NB	2.0	±0.03	0.2	1.8	20	4.3	2.9	1	●		G21 ~ G25
		3020N-020NB	3.0			2.3					●		
		4020N-020NB	4.0			3.3					●		
		5020N-020NB	5.0			4.2					●		G22 ~ G25
		6020N-020NB	6.0			5.2					●		

For Aluminum Wheel (1-edge)

N	Non-ferrous Metals (With interruption)	●		Ref. to Page for Applicable Toolholders
	Non-ferrous Metals (Without interruption)	●		
S	Titanium Alloys (With interruption)	◕		
	Titanium Alloys (Without interruption)	●		

Edge Prep.	
GMGW	Honed Cutting Edge

Insert	Description		W	rε	L	H	M	S	No. of Edges	PCD KPD001	KPD010	Ref. to Page for Applicable Toolholders
 	GMGW	6030-30R	6	3	30	5.5	5	4.5	1	●		G40
		8030-40R	8	4			6	6		●		
	GMGW	8030-40R-HR	8	4	30	5.5	6	5		●		

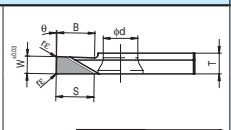
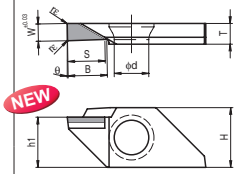
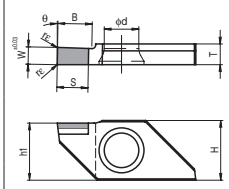
● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes.

Turning / Grooving (1-edge)

Edge Prep.	
PCD all items	Sharp Edge

N	Non-ferrous Metals (With interruption)	●
	Non-ferrous Metals (Without interruption)	●
S	Titanium Alloys (With interruption)	●
	Titanium Alloys (Without interruption)	●

Insert (Handed Insert shows Right-hand)	Description		Dimension (mm) W	B	rε	T	H	h1	ϕd	S	Angle θ	No. of Edges	PCD KPD001 R	L	Ref. to Page for Applicable Toolholders
 Turning / Grooving		TKF12R/L 200-AS	2.0	5	+0 −0.05 0.1	3	8.7	7.3	5	5.3	0°	1	●	●	E12
		250-AS	2.5	5									●	●	
		TKF16R/L 250-AS	2.5	8		4	9.5	8.0		6.3			●	●	
	 NEW ● Insert hand: Left-hand / PCD edge hand: Right-hand	TKF12L 200-ASR	2.0	5	+0 −0.05 0.1	3	8.7	7.3	5	5.3	0°	1		●	
		250-ASR	2.5	5										●	
		TKF16L 250-ASR	2.5	8		4	9.5	8.0		6.3				●	
 External Grooving (Turning is possible)		TKF12R/L 150-NB	1.5	3.5	+0 −0.05 0.1	3	8.7	8.3	5	2.0	0°	1	●	●	
		200-NB	2.0	4						3.0			●	●	
		250-NB	2.5	4									●		
		250-NB4.5	2.5	5						4.5			●		

* Lead angle (Front cutting edge angle: θ) shows the angle when installed in toolholder.
* PCD Inserts of TKF type only for Turning and Grooving.
* Cut-off is not recommended.
* Dimension B: shows available grooving depth.

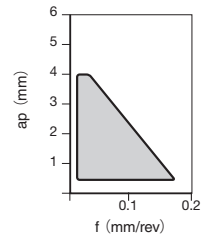
Inserts Identification System

TKF	12	R	200	-	AS	
TKF	12	L	200	-	AS	R

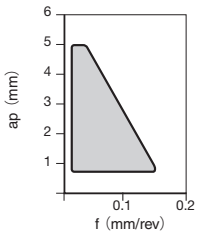
- TKF — Insert Type
- 12 — Insert Size
- R / L — Insert Hand (R: Right-hand, L: Left-hand)
- 200 — Width (Edge Width)
- AS — Name of Chipbreaker (AS : AS Chipbreaker; NB: Without Chipbreaker)
- R — PCD insert hand (Without Indication: The edge hand is same as the insert hand; R: Right-hand)

Applicable Range

TKF12-AS/-ASR



TKF16-AS/-ASR



* PCD Inserts of TKF type only for Turning and Grooving.
* Cut-off is not recommended.

Note 1) The cutting edge of the TKF-AS/-ASR will be 1mm lower than the center line when attached to the KTKF toolholder (Ref. to 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-NB. (Ref. to Fig.2.)

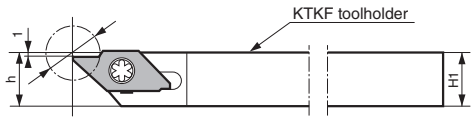


Fig.1 When a TKF-AS/-ASR insert is attached
(The cutting edge is 1mm lower than the center line.)

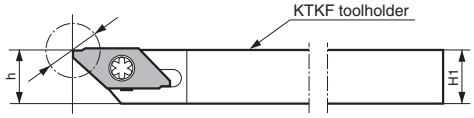
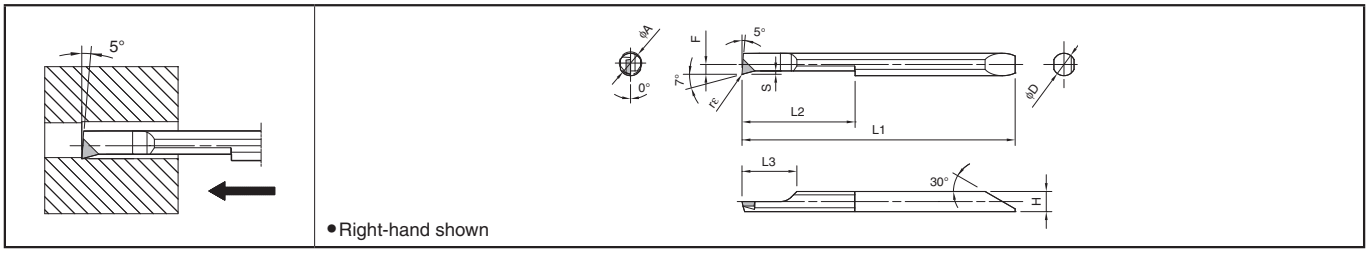


Fig.2 When a TKF-NB insert is attached

CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes)

EZ Bars (EZB-NB type: PCD) NEW



● Right-hand shown

● EZ Bars Dimensions

N	Non-ferrous Metals (With interruption)	◕
	Non-ferrous Metals (Without interruption)	●
S	Titanium Alloys (With interruption)	◕
	Titanium Alloys (Without interruption)	●

Edge Prep.	
PCD all items	Sharp Edge

Description		Min. Bore Dia.	Dimension (mm)									No. of Edges	PCD		Ref. to Page for Applicable Sleeves
		φA	φD	H	L1	L2	L3	F	S	rε			KPD001		
EZBR	040040-003NB	4	4	3.6	48.8	20	9.8	1.75	0.5	0.035 $^{\pm 0.015}$		1	●		F22 ~ F27
	050050-003NB	5	5	4.6	58.1	25		2.25					●		
	060060-003NB	6	6	5.6	66.1	30	11.8	2.75					●		
	070070-003NB	7	7	6.6	74.1	35		3.25					●		

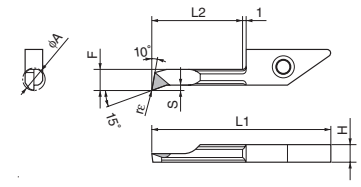
● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes.

System Tip-Bars

Edge Prep.	
PCD all items	Sharp Edge

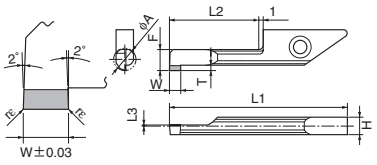
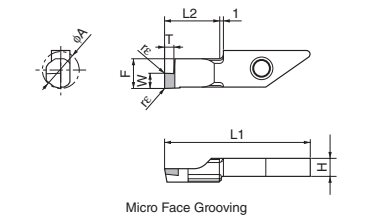
N	Non-ferrous Metals (With interruption) ◕
	Non-ferrous Metals (Without interruption) ●
S	Titanium Alloys (With interruption) ◕
	Titanium Alloys (Without interruption) ●

Insert (Handed Insert shows Right-hand)	Description		Min. Bore Dia.	Dimension (mm)							No. of Edges	PCD		Ref. to Page for Applicable Toolholders
			ϕA	H	L1	L2	F	S	rε			KPD001	KPD010	
 Micro Boring	VNBR	0411-02NB	4	3.9	30.8	11	3.5	0.5	0.2		1	●	●	F30 F31
		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.	
PCD all items	Sharp Edge

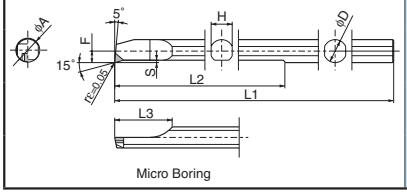
N	Non-ferrous Metals (With interruption) ◕
	Non-ferrous Metals (Without interruption) ●
S	Titanium Alloys (With interruption) ◕
	Titanium Alloys (Without interruption) ●

Insert (Handed Insert shows Right-hand)	Description		Min. Bore Dia.	Dimension (mm)									No. of Edges	PCD		Ref. to Page for Applicable Toolholders
			ϕA	W	rε	H	L1	L2	L3	F	T			KPD001	KPD010	
 W±0.03 Micro Grooving	VNGR	0410-11NB	4	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8	1		MTO	MTO	F30 F31
		0420-11NB		2.0	0.10									MTO	MTO	
	VNGR	0510-11NB	5	1.0	0.05	3.9	30.8	11	0.1	4.4	1.0			MTO	MTO	
		0520-11NB		2.0	0.10									MTO	MTO	
	VNGR	0610-20NB	6	1.0	0.05	3.9	39.8	20	0.3	5.2	1.8			MTO	MTO	
		0620-20NB		2.0	0.10									MTO	MTO	
	VNGR	0710-20NB	7	1.0	0.05	3.9	39.8	20	0.3	6.2	2.0			MTO	MTO	
		0720-20NB		2.0	0.10									MTO	MTO	
 Micro Face Grooving	VNFGR	0820-10NB	8	2.0	0.05	3.9	39.8	10	-	7.3	2.0	1		MTO	MTO	
		0830-10NB	8	3.0							3.0			MTO	MTO	

Tip-Bars

Edge Prep.	
PCD all items	Sharp Edge

N	Non-ferrous Metals (With interruption) ◕
	Non-ferrous Metals (Without interruption) ●
S	Titanium Alloys (With interruption) ◕
	Titanium Alloys (Without interruption) ●

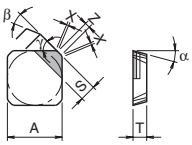
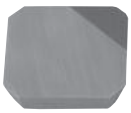
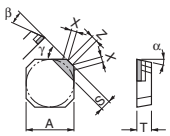
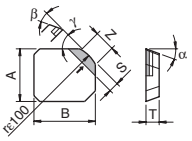
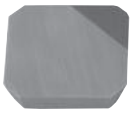
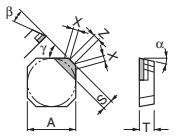
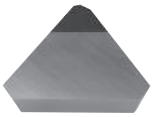
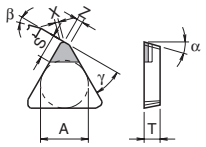
Insert (Handed Insert shows Right-hand)	Description		Min. Bore Dia.	Dimension (mm)							No. of Edges	PCD				Ref. to Page for Applicable Sleeves
			ϕA	ϕD	H	L1	L2	L3	F	S		KPD001		KPD010		
												R	L	R	L	
 Micro Boring	PSB$^{R}_{L}$	0404-60NBS	4	3.8	3.6	60	30	10	1.9	0.3	1	○		○		F84
		0505-70NBS	5	4.8	4.4	70	40	12	2.4	0.5		○		○	○	
		0606-70NBS	6	5.8	5.2		45		2.9			○		○		
		0707-80NBS	7	6.8	6.2	80	50		3.4			○		○		

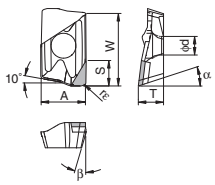
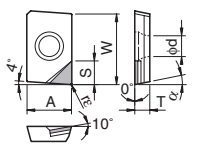
CBN & PCD Inserts are sold in 1 piece boxes.

● : Std. Item (1 pc boxes)
○ : Check Availability
MTO : Made to order

Milling Inserts

Edge Prep.		N	Non-ferrous Metals (With interruption)	○		●
PCD all items	Sharp Edge	S	Titanium Alloys (With interruption)	○		●

Insert		Description		Dimension (mm)						Angle			No. of Edges	PCD			Ref. to Page for Applicable Toolholders
				A	T	X	Z	S		α	β	γ		KPD001	KPD010	KPD230	
		SDKN	1203AUFN-NE	12.70	3.18	0.5	1.2	3.1		15°	23°	45°	1	●			M43
			1203AUFN					3.6						●	●		
		SEEN	1203AFFN-NE	12.70	3.18	0.5	1.4	3.0		20°	25°	45°	1	●			M38 M39 M40
			1203AFFN					3.5						●	●		
 With Wiper Edge		SEEN	1203AFFR-W	12.50	3.18	-	3.5	1.7	B= 14.56	20°	25°	45°	1	●			M40
		SOKN	13T3AXFN-NE	13.494	3.97	0.4	1.1	3.0		27°	32°	45°	1			○	M44
		TEEN	1603PTFR-NE	9.525	3.18	0.6	1.4	4.1		20°	22°	30°	1	●		●	M113
			1603PTFR					4.7						●	●		
		TEKN	2204PTFR-NE	12.70	4.76	0.7	1.8	4.2		20°	22°	30°	1	●		●	M94
			2204PTFR					4.8						●	●		M95

Insert		Description		Dimension (mm)						Angle		No. of Edges	PCD			Ref. to Page for Applicable Toolholders
				A	T	ϕd	W	rε	S	α	β		KPD001	KPD010	KPD230	
		BDMT	11T302FR	6.7	3.8	2.8	11.0	0.2	3.6	18°	13°	1	●		●	
			11T304FR					0.4					●		●	M62 M63
		BDMT	170402FR	9.6	4.9	4.4	17.0	0.2	4.4	18°	13°	1	●		●	M64 M65
			170404FR					0.4					●		●	
		NDCW	150302FRX-NE	9.525	3.18	4.4	15.0	0.2	5.1	15°	-	1	●		●	M111
			150302FRX						5.7				●	●		

● : Std. Item (1 pc boxes) ○ : Check Availability

CBN & PCD Inserts are sold in 1 piece boxes.