CBN & PCD Tools

C1~C35

C

CBN Tools

Extended Tool Life | Improved Stability | High Speed Machining

Kyocera's innovative CBN tools.

CBN Variation and Features ⇨ Ref. to Page A16

Various edge preparations are added in high performance MEGACOAT CBN inserts.

Identification System (Turning Insert)

C	N	G	A	12	04	04	S01225	ME

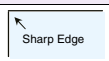
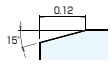
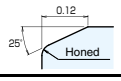
"Turning Indexable Inserts Identification System" ⇨ Refer to Page B2

Insert Type	Description	Edge Prep.	Manufacture's Option	Length of cutting edge	No. of Edges	re-grinding
Negative	CNGA120404MEF	F	MEF	Short (Small Edge)	2	Not Recommended
	CNGA120404S01225ME	S01225	ME		2	
	CNGA120404S00545MEP	S00545	MEP		2	
	CNGA120404S01225SE	S01225	SE		1	
	CNMN120404S02020	S02020	No 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	

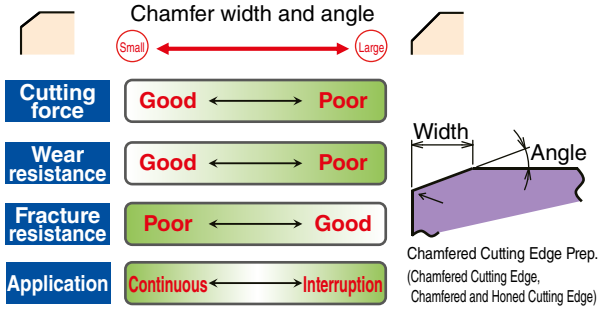
●About re-grinding
1) Regrinding is possible for inserts without any indication in manufacturer's option. Regrinding can not be available depending on the edge condition.
2) Regrinding is not recommended for inserts with manufacturer's symbol like "ME" or "SE".

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

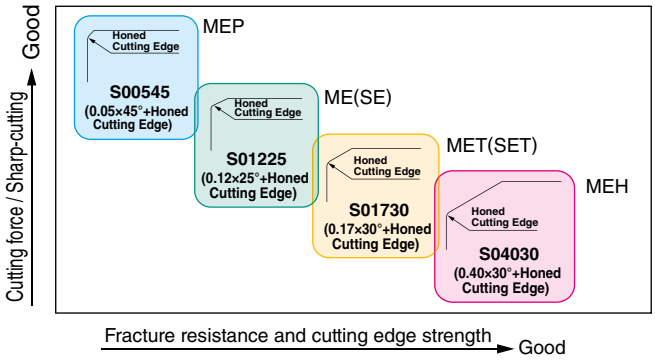
● How to identify edge preparation

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

● Features of chamfer width and angle

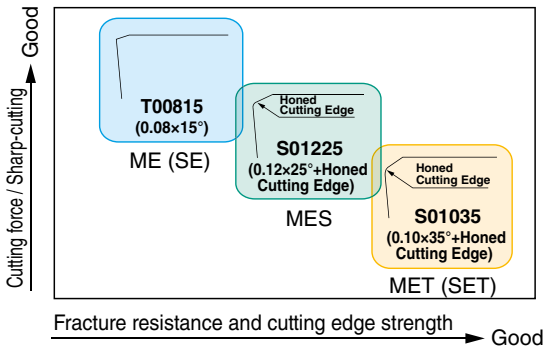


(1) Standard cutting edge prep. of negative inserts (Machining of hard materials)



Manufacture's Option	Edge Prep.		Application and Features
MEP	S00545	0.05mm×45°+Honed Cutting Edge	High speed, continuous machining 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

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

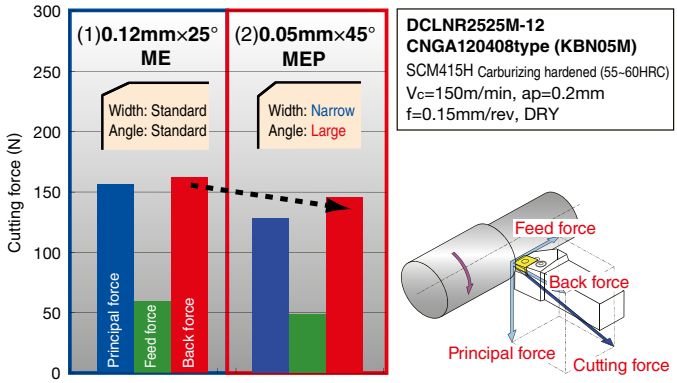


Manufacture's Option	Edge Prep.		Application and Features
ME	T00815	0.08mm×15°	Chamfered Sharp-cutting oriented, less burring
MES	S01225	0.12mm×25°+Honed Cutting Edge	General purpose
MET	S01035	0.10mm×35°+Honed Cutting Edge	Interrupted machining Stable machining Oriented

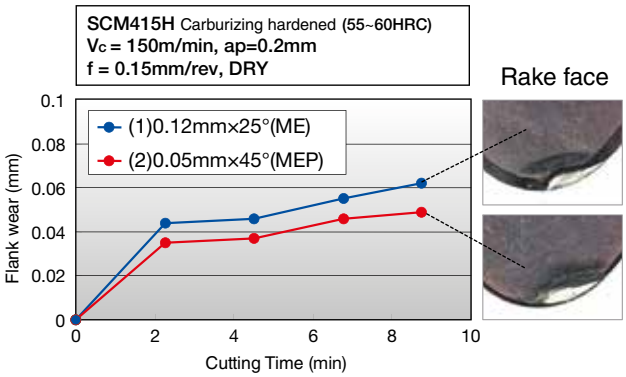
■ Negative Inserts, Features of new edge prep. (Machining of hard materials)

(1) MEP (High speed / continuous machining)

●Cutting Force comparison



●Wear comparison



MEP performs lower cutting force than ME

⇨Sharp cutting!

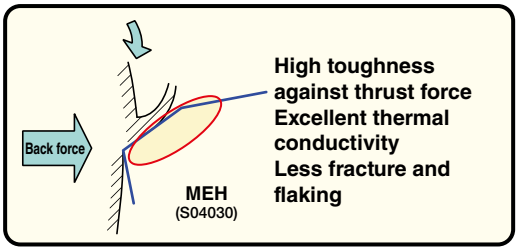
MEP prevents the Flank wear, compared to ME

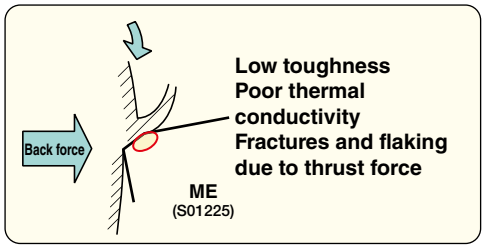
⇨Prevents crater wear!

(2) MEH (Interruption / High feed machining)

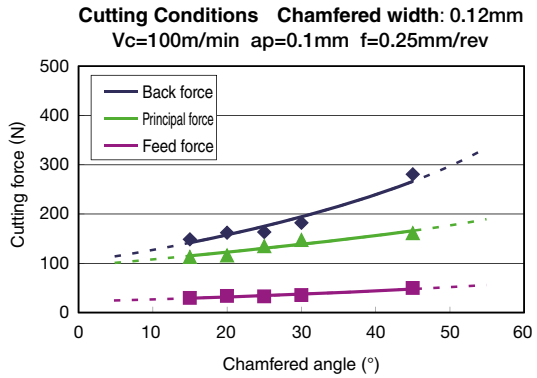
●Toughness and Controls flaking

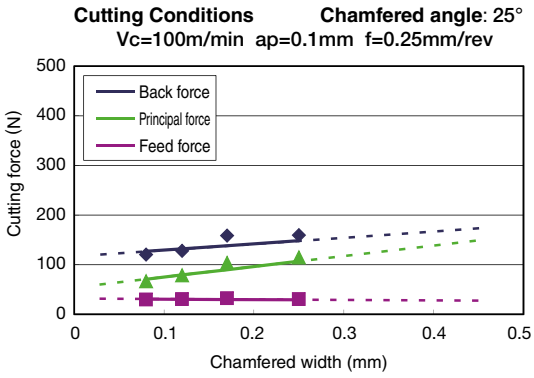
Prevention of flaking





● Cutting force and chamfered angle / width

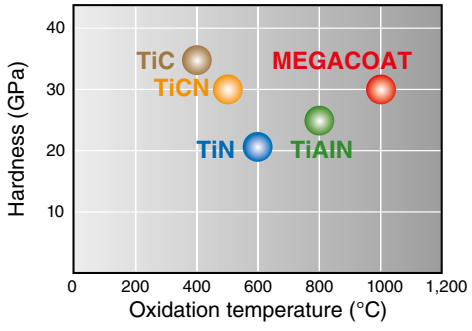




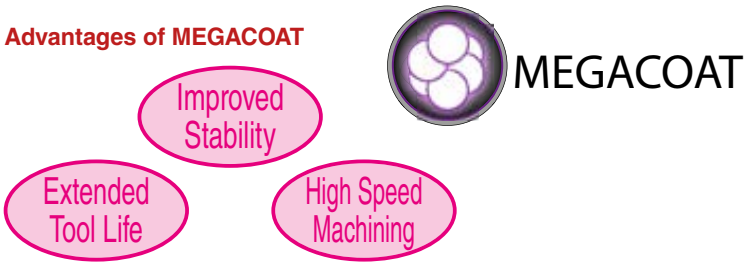
Cutting force is influenced by chamfered angle more than chamfered width.
Though enlarging chamfered angle is more effective for fracture resistance improvement than changing chamfered width, the cutting force increases as well. Please refer to the graph for details.

■ MEGACOAT CBN

● Properties of PVD Coating



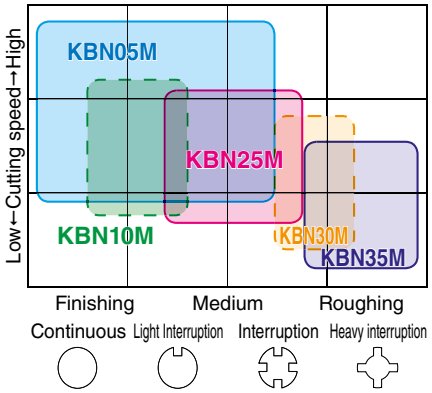
● Advantages of MEGACOAT



- 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

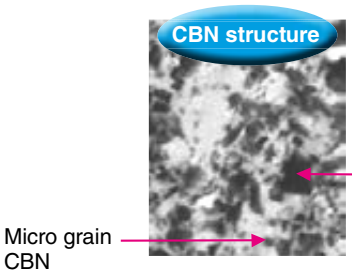
● Hard materials



● Hybrid Grain Structure (KBN05M)

Mixed structure of micro grain CBN and coarse grain CBN

CBN that possess High hardness, toughness and thermal resistance characteristics

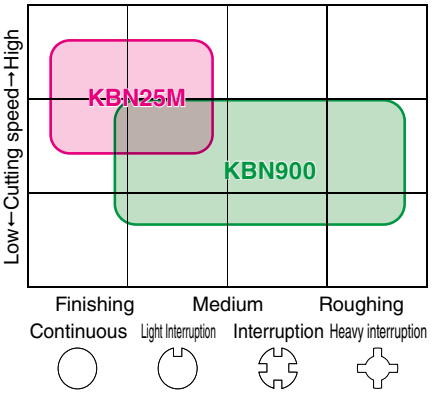


Heat diffusion is promoted by coarse grain CBN ⇨ High thermal conductivity

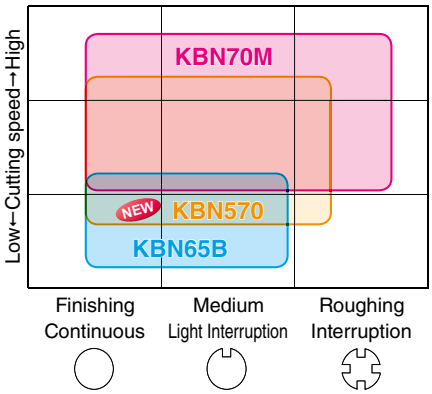
KBN05M is 1st recommended grade for a wide range of application from continuous (high speed finishing) to interrupted machining.

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

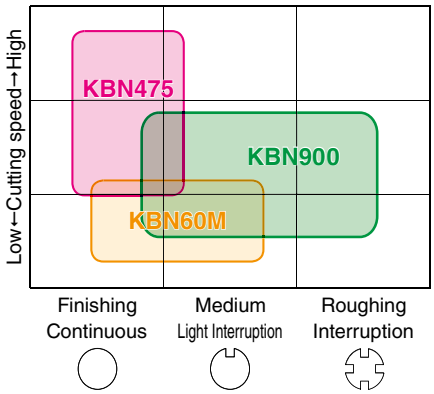
● Roll Materials (Chilled Cast Iron)



● Sintered Steel



● Cast Iron



Recommended Cutting Conditions

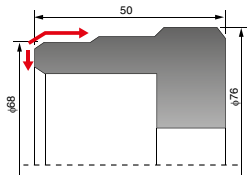
Workpiece Material	Hardness	Applications		Recommended Insert Grade	Cutting Conditions		
					Vc (m/min)	ap (mm)	f (mm/rev)
Heat Treated Steel	Over 55HRC	General Finishing	Continuous~Interruption	KBN05M	100 - **150** - 200	0.05 - **0.3** - 0.5	0.05 - **0.08** - 0.1
		High Efficient Stable Machining	Light 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** - 1200	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** - 1200	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

17Cr3 (58HRC)

· Gear
· External and Face machining and Chamfering
· Vc=130 m/min
· ap=0.6 mm
· f=0.12mm/rev
· WET
· CNGA120408S01225ME (KBN05M)



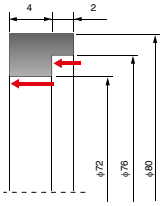
KBN05M	300 pcs/edge
Competitor C	200 pcs/edge

· KBN05M achieved 1.5 times longer tool life than competitor C.
⇨Its longer tool life contributes to cost-cutting.

(Evaluation by the user)

15CrMo4 (55HRC)

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



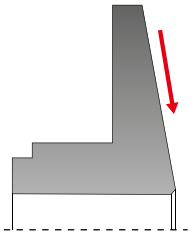
KBN05M	600 pcs/edge
Competitor D	300 pcs/edge

· KBN05M achieved twise longer tool life than competitor D.
⇨Its longer tool life contributes to cost-cutting.

(Evaluation by the user)

17Cr3 (58HRC)

· Pulley
· Face machining (Continuous)
· Vc=120 m/min
· ap=0.15~0.2 mm
· f=0.24mm/rev
· WET
· DNGA120408S00545MEP (KBN05M)



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

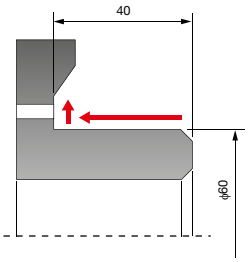
· Tool life of KBN05M-ME type (Edge prep.: 0.12×25° Chamfered + R honed) is same as competitor E.'s.
· KBN05M-MEP (Edge prep.: 0.05×45° Chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.

KBN05M-MEP | KBN05M-ME | Competitor E

(Evaluation by the user)

Low Alloyed Steel (SCr20) (61~65HRC)

· Gear
· External and Face machining (Interrupted)
· Vc=120 m/min
· ap=0.15 mm
· f=0.1~0.15mm/rev (External)
· WET
· CNGA120408S04030MEH (KBN05M)



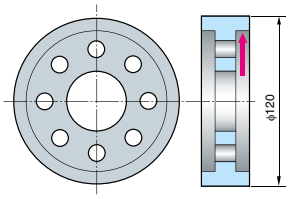
KBN05M-MEH (Edge Preparation : 0.40×30°)	150 pcs/edge
Competitor F	100 pcs/edge

· 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 (Comp. 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)

25CrMo4 (60HRC)

· Gear Parts
· Face machining (Interrupted)
· Vc=90m/min
· ap=0.5mm
· f=0.12mm/rev
· WET⇨DRY
· CNGA120412S01225ME (KBN25M)



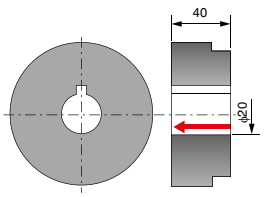
KBN25M	70 pcs/edge
Competitor G	30 pcs/edge (Unstable)

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)

25CrMo4 (58HRC)

· Sleeve
· Internal machining (Heavy interrupted)
· Vc=100 m/min
· ap=0.5 mm
· 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)

80° Rhombic / Negative

(mm)

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 0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225 0.12mm x 25° Chamfered and 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	(Previous 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	CNGA 120404MEW		0.4	2.6		●	●	●	●	●				●	●				
	120408S01215MEW	120408MEW	S01215	0.8	2.5	2	●	●	●	●	●				●	●				
	120412S01215MEW	120412MEW		1.2	2.5		●	●	●	●	●				●	●				
NEW Multi Edge / Finishing	CNGA 120404S00545MEP	-		0.4	2.6		●													
	120408S00545MEP	-		0.8	2.6		●													
	120412S00545MEP	-		1.2	2.5		●													
	120416S00545MEP	-	S00545	1.6	3.4	2	●													
	120420S00545MEP	-		2.0	3.4		●													
	120424S00545MEP	-		2.4	3.3		●													
NEW Multi Edge / Sharp Edge	CNGA 120404MEF	-		0.4	2.6												●		●	
	120408MEF	-	F	0.8	2.6	2											●		●	
	120412MEF	-		1.2	2.5												●		●	
Multi Edge	CNGA 120402S01225ME	CNGA 120402ME		0.2	2.6		●	●	●		●	●			●	●				D8
	120404S01225ME	120404ME		0.4	2.6		●	●	●	●	●	●			●	●	●			F61
	120408S01225ME	120408ME		0.8	2.6		●	●	●	●	●	●			●	●	●			F65
	120412S01225ME	120412ME	S01225	1.2	2.5	2	●	●	●	●	●	●			●	●	●			F66
NEW	120416S01225ME	-		1.6	3.4		●													
	120420S01225ME	-		2.0	3.4		●													
	120424S01225ME	-		2.4	3.3		●													
	CNGA 120404T01215ME	CNGA 120404ME		0.4	2.6								●	●			●			
	120408T01215ME	120408ME	T01215	0.8	2.6	2							●	●			●			
	120412T01215ME	120412ME		1.2	2.5								●	●			●			
Multi Edge / Tough	CNGA 120404S01730MET	CNGA 120404ME-T		0.4	2.6		●	●	●	●	●					●				
	120408S01730MET	120408ME-T		0.8	2.6		●	●	●	●	●					●				
	120412S01730MET	120412ME-T	S01730	1.2	2.5	2	●	●	●	●	●					●				
NEW	120416S01730MET	-		1.6	3.4		●													
	120420S01730MET	-		2.0	3.4		●													
	120424S01730MET	-		2.4	3.3		●													
NEW Multi Edge / Interruption	CNGA 120404S04030MEH	-		0.4	2.6		●													
	120408S04030MEH	-		0.8	2.6		●													
	120412S04030MEH	-		1.2	2.5		●													
	120416S04030MEH	-	S04030	1.6	3.4	2	●													
	120420S04030MEH	-		2.0	3.4		●													
	120424S04030MEH	-		2.4	3.3		●													
Small Edge	CNGA 120402S01225SE	CNGA 120402SE		0.2	2.6			●	●							●				
	120404S01225SE	120404SE		0.4	2.6			●	●						●	●				
	120408S01225SE	120408SE	S01225	0.8	2.6	1		●	●						●	●				
	120412S01225SE	120412SE		1.2	2.5			●	●											
	CNGA 120404T01215SE	CNGA 120404SE		0.4	2.6													●		
	120408T01215SE	120408SE	T01215	0.8	2.6	1												●		
	120412T01215SE	120412SE		1.2	2.5													●		
Small Edge / Tough	CNGA 120404S01730SET	CNGA 120404SE-T		0.4	2.6				●							●				
	120408S01730SET	120408SE-T	S01730	0.8	2.6	1			●							●				

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

CBN & PCD Inserts are sold in 1 piece boxes.

80° Rhombic / Negative

(mm)

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

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 0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225 0.12mm x 25° Chamfered and 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	K	K	H	H	H	
Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M
Chip Control	CNGM 120404S00825BB1	CNGM 120404BB1		0.4	1.8			
	CNGM 120408S00825BB1	CNGM 120408BB1	S00825	0.8	2.0	1		
	CNGM 120412S00825BB1	CNGM 120412BB1		1.2	2.2			
	CNGM 120404S01225BB2	CNGM 120404BB2		0.4	2.2			
	CNGM 120408S01225BB2	CNGM 120408BB2	S01225	0.8	2.4	1		
	CNGM 120412S01225BB2	CNGM 120412BB2		1.2	2.6			
	CNGM 120404S01625BB3	CNGM 120404BB3		0.4	2.6			○
	CNGM 120408S01625BB3	CNGM 120408BB3	S01625	0.8	2.8	1		●
	CNGM 120412S01625BB3	CNGM 120412BB3		1.2	3.0			

MEGACOAT CBN KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Ref. to Page for Applicable Toolholders
●											D8 F61 F65 F66
●											
●											
●											
●											
●											
●											
●											
●											

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

CBN & PCD Inserts are sold in 1 piece boxes.

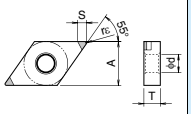
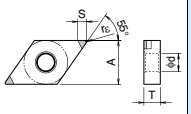
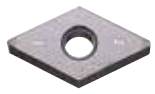
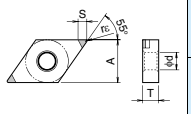
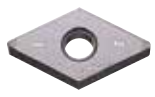
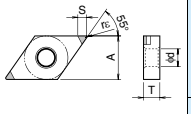
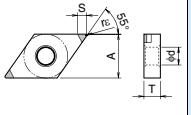
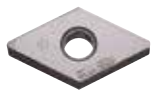
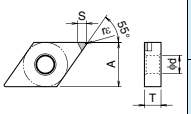
(mm)

Description		A	T	φd
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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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	●												
		150408S00545MEP	-		0.8	2.2		●												
		150412S00545MEP	-		1.2	1.9		●												
		150416S00545MEP	-		1.6	3.8		●												
		150420S00545MEP	-		2.0	3.5		●												
		150424S00545MEP	-		2.4	3.1		●												
NEW  Multi Edge / Sharp Edge		DNGA 150404MEF	-	F	0.4	2.6	2										●		●	D10 D11 F62
		150408MEF	-		0.8	2.2											●		●	
		150412MEF	-		1.2	1.9											●			
 Multi Edge		DNGA 150401S01225ME	DNGA 150401ME	S01225	0.1	2.8	2	●	●	●						●	●				D10 D11 F62 F68 F69
		150402S01225ME	150402ME		0.2	2.7		●	●	●			●			●	●				
		150404S01225ME	150404ME		0.4	2.6		●	●	●	●	●	●			●	●	●			
		150408S01225ME	150408ME		0.8	2.2		●	●	●	●	●	●			●	●	●			
		150412S01225ME	150412ME		1.2	1.9		●	●	●	◌	●						●			
		NEW 150416S01225ME	-		1.6	3.8		●													
		150420S01225ME	-		2.0	3.5		●													
		150424S01225ME	-		2.4	3.1		●													
		DNGA 150404T01215ME	DNGA 150404ME	T01215	0.4	2.6	2							●	●			●			
		150408T01215ME	150408ME		0.8	2.2								●	●			●			
		150412T01215ME	150412ME		1.2	1.9								●				●			
		DNGA 150604S01225ME	DNGA 150604ME	S01225	0.4	2.6	2	●	●	●	●	●				●					
		150608S01225ME	150608ME		0.8	2.2		●	●	●	●	●	●			●					D10 D11
		150612S01225ME	150612ME		1.2	1.9		●		●	●	●	●								
		DNGA 150604T01215ME	DNGA 150604ME	T01215	0.4	2.6	2							●							F62
Multi Edge		150608T01215ME	150608ME		0.8	2.2								●	●						
 Multi Edge / Tough		DNGA 150404S01730MET	DNGA 150404ME-T	S01730	0.4	2.6	2	●	●	●	●	●				●					D10 D11 F62 F68 F69
		150408S01730MET	150408ME-T		0.8	2.2		●	●	●	●	●				●					
		150412S01730MET	150412ME-T		1.2	1.9		●	●	●	●	●				●					
		NEW 150416S01730MET	-		1.6	3.8		●													
		150420S01730MET	-		2.0	3.5		●													
		150424S01730MET	-		2.4	3.1		●													
		DNGA 150604S01730MET	DNGA 150604ME-T	S01730	0.4	2.6	2	●	●	●	◌	●				●					D10 D11 F62
		150608S01730MET	150608ME-T		0.8	1.9		●	●	●	●	●				●					
		150612S01730MET	150612ME-T		1.2	1.9		●	●	●	◌	◌									
NEW  Multi Edge / Interruption		DNGA 150404S04030MEH	-	S04030	0.4	2.6	2	●													
		150408S04030MEH	-		0.8	2.2		●													
		150412S04030MEH	-		1.2	1.9		●													
		150416S04030MEH	-		1.6	3.8		●													
		150420S04030MEH	-		2.0	3.5		●													D10
		150424S04030MEH	-		2.4	3.1		●													D11
 Small Edge		DNGA 150401S01225SE	DNGA 150401SE	S01225	0.1	2.2	1			●											F62
		150402S01225SE	150402SE		0.2	2.5				●					●	●					F68
		150404S01225SE	150404SE		0.4	2.3			●	●					●	●					F69
		150408S01225SE	150408SE		0.8	1.9			●	●						●					
		150412S01225SE	150412SE		1.2	1.9				●											
		DNGA 150404T01215SE	DNGA 150404SE	T01215	0.4	2.3	1											●			
		150408T01215SE	150408SE		0.8	1.9												●			
		DNGA 150604S01225SE	DNGA 150604SE	S01225	0.4	2.3	1		●	●											D10
		150608S01225SE	150608SE		0.8	1.9			●	●					●						D11
		150612S01225SE	150612SE		1.2	1.9				◌											F62

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

CBN & PCD Inserts are sold in 1 piece boxes.

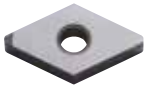
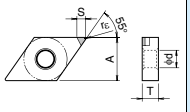
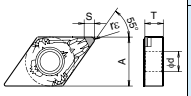
55° Rhombic / Negative

(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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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 / Tough		DNGA 150404S01730SET	DNGA 150404SE-T	S01730	0.4	2.3	1										●				
		DNGA 150408S01730SET	DNGA 150408SE-T		0.8	1.9											●				
 Chip Control		DNGM 150404S00825BB1	DNGM 150404BB1		0.4	1.6			●	●											D10
		DNGM 150408S00825BB1	DNGM 150408BB1	S00825	0.8	1.6	1		●	●											D11
		DNGM 150412S00825BB1	DNGM 150412BB1		1.2	1.8				○											F62
		DNGM 150404S01225BB2	DNGM 150404BB2		0.4	1.8				●											F68
		DNGM 150408S01225BB2	DNGM 150408BB2	S01225	0.8	2.0	1		●	●											F69
		DNGM 150412S01225BB2	DNGM 150412BB2		1.2	2.1				●											
		DNGM 150404S01625BB3	DNGM 150404BB3		0.4	2.2			●	●											
		DNGM 150408S01625BB3	DNGM 150408BB3	S01625	0.8	2.5	1		●	●											
		DNGM 150412S01625BB3	DNGM 150412BB3		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.

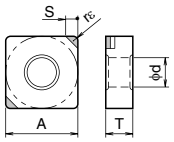
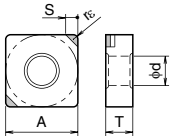
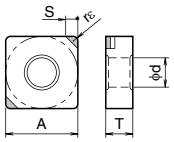
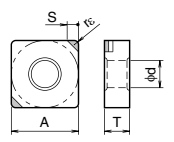
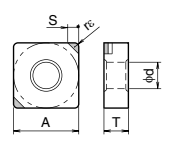
90° Square / Negative

(mm)

Description	A	T	ϕd
SNGA 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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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 SNGA 120412S00545MEP	-	S00545	0.8 1.2	1.8 2.2	2	● ●												D12 D13 F71
NEW  Multi Edge / Sharp Edge		SNGA 120408MEF SNGA 120412MEF	- -	F	0.8 1.2	1.8 2.2	2										● ●			
 Multi Edge		SNGA 120404S01225ME SNGA 120408S01225ME SNGA 120412S01225ME	SNGA 120404ME SNGA 120408ME -	S01225	0.4 0.8 1.2	1.8 1.8 1.8	2	● ● ●	● ● ●	● ● ●	● ● ◌	◌ ●				● ● ●	● ● ●			
		SNGA 120404T01215ME SNGA 120408T01215ME SNGA 120412T01215ME	SNGA 120404ME SNGA 120408ME SNGA 120412ME	T01215	0.4 0.8 1.2	1.8 1.8 1.8	2						● ●	● ◌			● ●			
 Multi Edge / Tough		SNGA 120404S01730MET SNGA 120408S01730MET SNGA 120412S01730MET	SNGA 120404ME-T SNGA 120408ME-T SNGA 120412ME-T	S01730	0.4 0.8 1.2	1.8 1.8 2.2	2	● ● ●		● ● ●	● ●	● ●				● ●				
NEW  Multi Edge / Interruption		SNGA 120408S04030MEH SNGA 120412S04030MEH	- -	S04030	0.8 1.2	1.8 2.2	2	● ●												

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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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	TNGA 160404S00545MEP	-		0.4	2.7		●													
	TNGA 160408S00545MEP	-	S00545	0.8	2.4	3	●													
	TNGA 160412S00545MEP	-		1.2	2.1		●													
NEW Multi Edge / Sharp Edge	TNGA 160404MEF	-		0.4	2.7												●		●	
	TNGA 160408MEF	-	F	0.8	2.4	3											●		●	
	TNGA 160412MEF	-		1.2	2.1												●		●	
Multi Edge	TNGA 160401S01225ME	TNGA 160401ME		0.1	2.9		●	●	●											
	TNGA 160402S01225ME	TNGA 160402ME		0.2	2.8		●	●	●		●	●			●	●				
	TNGA 160404S01225ME	TNGA 160404ME	S01225	0.4	2.7	3	●	●	●	●	●	●			●	●	●			
	TNGA 160408S01225ME	TNGA 160408ME		0.8	2.4		●	●	●	●	●	●			●	●	●			
	TNGA 160412S01225ME	TNGA 160412ME		1.2	2.1		●	●	●	●	●	●			●	●	●			
	TNGA 160404T01215ME	TNGA 160404ME		0.4	2.7								●	●			●			
	TNGA 160408T01215ME	TNGA 160408ME	T01215	0.8	2.4	3							●	●			●			
	TNGA 160412T01215ME	TNGA 160412ME		1.2	2.1								●	●			●			
Multi Edge / Tough	TNGA 160404S01730MET	TNGA 160404ME-T		0.4	2.7		●	●	●	●	●					●				
	TNGA 160408S01730MET	TNGA 160408ME-T	S01730	0.8	2.4	3	●	●	●	●	●					●				
	TNGA 160412S01730MET	TNGA 160412ME-T		1.2	2.1		●		●	●	●					●				
NEW Multi Edge / Interruption	TNGA 160404S04030MEH	-		0.4	2.7		●													
	TNGA 160408S04030MEH	-	S04030	0.8	2.4	3	●													
	TNGA 160412S04030MEH	-		1.2	2.1		●													
Small Edge	TNGA 160401S01225SE	TNGA 160401SE		0.1	2.6				●							●				
	TNGA 160402S01225SE	TNGA 160402SE		0.2	2.9			●	●						●	●				
	TNGA 160404S01225SE	TNGA 160404SE	S01225	0.4	2.7	1		●	●						●	●				
	TNGA 160408S01225SE	TNGA 160408SE		0.8	2.4			●	●						●	●				
	TNGA 160404T01215SE	TNGA 160404SE		0.4	2.7													□		
	TNGA 160408T01215SE	TNGA 160408SE	T01215	0.8	2.4	1												□		
	TNGA 160412T01215SE	TNGA 160412SE		1.2	2.2													●		
Small Edge / Tough	TNGA 160404S01730SET	TNGA 160404SE-T	S01730	0.4	2.7	1			●							●				
	TNGA 160408S01730SET	TNGA 160408SE-T		0.8	2.4				●							●				
Chip Control	TNGM 160404S00825BB1	TNGM 160404BB1		0.4	1.5			●	●											
	TNGM 160408S00825BB1	TNGM 160408BB1	S00825	0.8	1.7	1		●	●											
	TNGM 160412S00825BB1	TNGM 160412BB1		1.2	1.9				●											
	TNGM 160404S01225BB2	TNGM 160404BB2		0.4	1.9				●											
	TNGM 160408S01225BB2	TNGM 160408BB2	S01225	0.8	2.1	1			●											
	TNGM 160412S01225BB2	TNGM 160412BB2		1.2	2.2				○											
	TNGM 160404S01625BB3	TNGM 160404BB3		0.4	2.2			○	●											
	TNGM 160408S01625BB3	TNGM 160408BB3	S01625	0.8	2.4	1			○											
	TNGM 160412S01625BB3	TNGM 160412BB3		1.2	2.6				○											

D14
D15
F62
F72
F73

● : 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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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												●		●	
Multi Edge	VNGA 160401S01225ME	VNGA 160401ME	S01225	0.1	2.6	2		●	●											
	VNGA 160402S01225ME	VNGA 160402ME		0.2	2.3		●	●	●		●	●			●	●				
	VNGA 160404S01225ME	VNGA 160404ME		0.4	2.0		●	●	●	●	●	●			●	●	●			
	VNGA 160408S01225ME	VNGA 160408ME		0.8	1.8		●	●	●	●	●	●					●			
	VNGA 160404T01215ME	VNGA 160404ME	T01215	0.4	2.0	2							●	●			●			
	VNGA 160408T01215ME	VNGA 160408ME		0.8	1.8								●	●			●			
Multi Edge / Tough	VNGA 160404S01730MET	VNGA 160404ME-T	S01730	0.4	2.0	2	●	●	●	●	●					●				
	VNGA 160408S01730MET	VNGA 160408ME-T		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	VNGA 160401SE	S01225	0.1	2.6	1			●							●				
	VNGA 160402S01225SE	VNGA 160402SE		0.2	2.3			●	●						●	●				
	VNGA 160404S01225SE	VNGA 160404SE		0.4	1.9			●	●						●	●				
	VNGA 160408S01225SE	VNGA 160408SE		0.8	2.7			●	●						●	●				
	VNGA 160404T01215SE	VNGA 160404SE	T01215	0.4	1.9	1												●		
	VNGA 160408T01215SE	VNGA 160408SE		0.8	2.7													●		
Small Edge / Tough	VNGA 160404S01730SET	VNGA 160404SE-T	S01730	0.4	1.9	1			●							●				
	VNGA 160408S01730SET	VNGA 160408SE-T		0.8	2.7				●							●				

CBN & PCD Inserts are sold in 1 piece boxes.

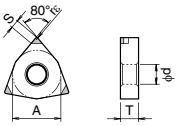
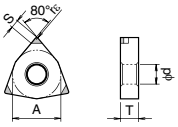
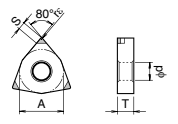
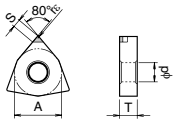
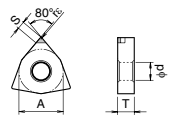
80°Trigon / Negative

(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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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	-	F	0.4	2.0	3										●			D20 F75 F76
		WNGA 080408MEF	-		0.8	2.6											●			
 Multi Edge		WNGA 080404S01225ME	WNGA 080404ME	S01225	0.4	2.0	3	●	●	●	○	●	●			●	●	●		
		WNGA 080408S01225ME	WNGA 080408ME		0.8	2.6		●	●	●	●	●	●			●	●	●		
		WNGA 080412S01225ME	WNGA 080412ME		1.2	2.5		●		●	○	●								
		WNGA 080404T01215ME	WNGA 080404ME	T01215	0.4	2.0	3						●	●			●			
		WNGA 080408T01215ME	WNGA 080408ME		0.8	2.6							●	●			●			
		WNGA 080412T01215ME	WNGA 080412ME		1.2	2.5							●							
 Multi Edge / Tough		WNGA 080404S01730MET	WNGA 080404ME-T	S01730	0.4	2.0	3		●	●	●	●								
		WNGA 080408S01730MET	WNGA 080408ME-T		0.8	2.6			●	●	●	●								
		WNGA 080412S01730MET	WNGA 080412ME-T		1.2	2.5			●	●	○	●								
 Small Edge		WNGA 080404S01225SE	WNGA 080404SE	S01225	0.4	2.0	1		●											
		WNGA 080408S01225SE	WNGA 080408SE		0.8	1.9			●											
 Small Edge / Tough		WNGA 080404S01730SET	WNGA 080404SE-T	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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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 09T308MEF	- -	F	0.4 0.8	1.9 1.8	2											● ●		● ●	Ref. to the table below C15
Multi Edge	CCMW 060202T00815ME 060204T00815ME 060208T00815ME	CCMW 060202ME 060204ME 060208ME	T00815	0.2 0.4 0.8	2.0 1.9 1.8	2	● ● ●	● ● ●	● ● ●		● ● ●	 ● ●			● ● ●	● ● ●	 ● ●			
	CCMW 09T302T00815ME 09T304T00815ME 09T308T00815ME	CCMW 09T302ME 09T304ME 09T308ME	T00815	0.2 0.4 0.8	2.0 1.9 1.8	2	● ● ●	● ● ●	● ● ●	 ● ●	● ● ●	● ● ●	 ● ●	 ● ●	● ● ●	● ● ●	 ● ●			
NEW Multi Edge / General Purpose	CCMW 060204S01225MES 060208S01225MES	- -	S01225	0.4 0.8	1.9 1.8	2	● ●													
	CCMW 09T304S01225MES 09T308S01225MES	- -	S01225	0.4 0.8	1.9 1.8	2	● ●										● ●			
Multi Edge / Tough	CCMW 09T304S01035MET 09T308S01035MET	CCMW 09T304ME-T 09T308ME-T	S01035	0.4 0.8	1.9 1.8	2	● ●	● ●	● ●		● ●					● ●				
Small Edge	*CCMW 030102T00815SE 030104T00815SE	CCMW 030102SE 030104SE	T00815	0.2 0.4	1.4 1.4	1		● ●	● ●						● ●	● ●				F18
	*CCMW 040102T00815SE 040104T00815SE	CCMW 040102SE 040104SE	T00815	0.2 0.4	1.4 1.4	1		● ●	● ●						● ●	● ●				F37
	CCMW 060202T00815SE 060204T00815SE	CCMW 060202SE 060204SE	T00815	0.2 0.4	2.0 1.9	1			 ●						● ●	● ●				Ref. to the table below C15
	CCMW 09T302T00815SE 09T304T00815SE	CCMW 09T302SE 09T304SE	T00815	0.2 0.4	2.0 1.9	1		● ●							● ●	● ●				
Small Edge / Tough	*CCMW 030102S01035SET 030104S01035SET	CCMW 030102SE-T 030104SE-T	S01035	0.2 0.4	1.4 1.4	1		● ●	● ●							● ●				F18
	*CCMW 040102S01035SET 040104S01035SET	CCMW 040102SE-T 040104SE-T	S01035	0.2 0.4	1.4 1.4	1		● ●	● ●							● ●				F37
	CCMW 060204S01035SET	CCMW 060204SE-T	S01035	0.4	1.9	1										● ●				Ref. to the table below C15
	CCMW 09T304S01035SET	CCMW 09T304SE-T	S01035	0.4	1.9	1										● ●				
Multi Edge	CPGB 080204T00815ME	CPGB 080204ME	T00815	0.4	1.9	2	●	●	●		●				●	●	●			Ref. to the table below C15
	CPGB 090302T00815ME 090304T00815ME 090308T00815ME	CPGB 090302ME 090304ME -	T00815	0.2 0.4 0.8	1.9 1.9 2.5	2	● ●	● ●	● ●		● ●	● ●			● ●	● ●	 ●			
NEW Multi Edge / General Purpose	CPGB 090304S01225MES 090308S01225MES	- -	S01225	0.4 0.8	1.9 2.5	2	● ●													
Multi Edge / Tough	CPGB 080204S01035MET 080208S01035MET	CPGB 080204ME-T 080208ME-T	S01035	0.4 0.8	1.9 2.2	2		● ●	● ●		○					● ●				F39
	CPGB 090304S01035MET 090308S01035MET	CPGB 090304ME-T 090308ME-T	S01035	0.4 0.8	1.9 2.5	2	● ●	● ●	● ●		● ●					● ●				
Small Edge	CPGB 080202T00815SE 080204T00815SE	CPGB 080202SE 080204SE	T00815	0.2 0.4	1.9 1.9	1									● ●	● ●				
	CPGB 090302T00815SE 090304T00815SE	CPGB 090302SE 090304SE	T00815	0.2 0.4	1.9 1.9	1			● ●						● ●	● ●				
Small Edge / Tough	CPGB 080204S01035SET	CPGB 080204SE-T	S01035	0.4	1.9	1			● ●											
	CPGB 090304S01035SET	CPGB 090304SE-T	S01035	0.4	1.9	1										● ●				

CBN & PCD Inserts are sold in 1 piece boxes.

(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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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
NEW Multi Edge / Sharp Edge	DCMW 11T304MEF	-	F	0.4	1.7	2											●		●
	DCMW 11T308MEF	-		0.8	1.9												●		●
Multi Edge	DCMW 070202T00815ME	DCMW 070202ME	T00815	0.2	1.9	2	●	●	●		●	●			●	●	●		
	DCMW 070204T00815ME	DCMW 070204ME		0.4	1.7		●	●	●		●	●			●	●	●		
	DCMW 070208T00815ME	DCMW 070208ME		0.8	1.9		●	●	●		●					●			
	DCMW 11T302T00815ME	DCMW 11T302ME	T00815	0.2	1.9		●	●	●		●	●			●	●			
	DCMW 11T304T00815ME	DCMW 11T304ME		0.4	1.7		●	●	●	●	●	●	●	●	●	●	●		
	DCMW 11T308T00815ME	DCMW 11T308ME		0.8	1.9		●	●	●	●	●	●	●	●	●	●	●		
	DCMW 11T312T00815ME	DCMW 11T312ME		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	DCMW 070202ME-T	S01035	0.2	1.9	2			●	●	●								
	DCMW 070204S01035MET	DCMW 070204ME-T		0.4	1.7				●	●	●								
	DCMW 070208S01035MET	DCMW 070208ME-T		0.8	1.9					●	●								
	DCMW 11T302S01035MET	DCMW 11T302ME-T	S01035	0.2	1.9	2	●	●	●		●					●			
	DCMW 11T304S01035MET	DCMW 11T304ME-T		0.4	1.7		●	●	●		●					●			
	DCMW 11T308S01035MET	DCMW 11T308ME-T		0.8	1.9			●	●		●					●			
	DCMW 11T312S01035MET	DCMW 11T312ME-T		1.2	1.9			●	●		●								
Small Edge	DCMW 070202T00815SE	DCMW 070202SE	T00815	0.2	1.9	1		●	●						●	●			
	DCMW 070204T00815SE	DCMW 070204SE		0.4	1.7			●	●						●	●			
	DCMW 11T302T00815SE	DCMW 11T302SE	T00815	0.2	1.9										●	●			
	DCMW 11T304T00815SE	DCMW 11T304SE		0.4	1.7	1									●	●			
	DCMW 11T308T00815SE	DCMW 11T308SE		0.8	1.9				●							●			
Small Edge / Tough	DCMW 070204S01035SET	DCMW 070204SE-T	S01035	0.4	1.7	1										●			
	DCMW 11T302S01035SET	DCMW 11T302SE-T	S01035	0.2	1.9	1										●			
	DCMW 11T304S01035SET	DCMW 11T304SE-T		0.4	1.7											●			
	DCMW 11T308S01035SET	DCMW 11T308SE-T		0.8	1.9											●			

Ref. to Page for Applicable Toolholders

Ref. to the table below

Insert Description	Ref. to Page for Applicable Toolholders
DC..07 type	**E24~E27,E35,F41~F43**
DC..11 type	**E20,E24~E27,E35,F41~F43,F63**

● CC type / TP type

Insert Description	Ref. to Page for Applicable Toolholders
CC..0602 type	**E22,E23,E34,F37**
CC..09T3 type	**E22,E23,E34,F37,F63**

Insert Description	Ref. to Page for Applicable Toolholders
TP..0802 type	**E29,F47,F49**
TP..0902 type	**F47,F49**

Insert Description	Ref. to Page for Applicable Toolholders
TP..1103 type	**E29,F47,F48**
TP..1603 type	**F47,F48**

● : 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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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	TPGB 110304MEF 110308MEF	- -	F	0.4 0.8	2.1 1.8	3											● ●		● ●	Ref. to the table below C15
Multi Edge	TPGB 110302T00815ME 110304T00815ME 110308T00815ME	TPGB 110302ME 110304ME 110308ME	T00815	0.2 0.4 0.8	2.3 2.1 1.8	3	● ● ●	● ● ●	● ● ●		● ● ●	● ● ●			● ● ●	● ● ●	● ● ●			
	TPGB 160304T00815ME 160308T00815ME	TPGB 160304ME 160308ME	T00815	0.4 0.8	1.8 1.5	3	● ●	● ○	● ●		● ○	● ●					● ●			
NEW Multi Edge / General Purpose	TPGB 110304S01225MES 110308S01225MES	- -	S01225	0.4 0.8	2.1 1.8	3	● ●										● ●			
Multi Edge / Tough	TPGB 110302S01035MET 110304S01035MET 110308S01035MET	TPGB 110302ME-T 110304ME-T 110308ME-T	S01035	0.2 0.4 0.8	2.3 2.1 1.8	3	 ● ●	● ● ●	● ● ●		● ● ●									
	TPGB 160304S01035MET 160308S01035MET	TPGB 160304ME-T 160308ME-T	S01035	0.4 0.8	1.8 1.5	3		● ●	● ●		● ●					● ●				
Small Edge	TPGB 080202T00815SE 080204T00815SE	TPGB 080202SE 080204SE	T00815	0.2 0.4	1.8 1.6	1		● ●	● ●						● ●	● ●				
	TPGB 090202T00815SE 090204T00815SE	TPGB 090202SE 090204SE	T00815	0.2 0.4	1.8 1.6	1		● ●	● ●						● ●	● ●				
	TPGB 110302T00815SE 110304T00815SE 110308T00815SE	TPGB 110302SE 110304SE 110308SE	T00815	0.2 0.4 0.8	1.9 1.8 1.5	1		● ●							● ●	● ● ●				
	TPGB 160302T00815SE 160304T00815SE	TPGB 160302SE 160304SE	T00815	0.2 0.4	1.9 1.8	1		● ●							● ●	● ●				
Small Edge / Tough	TPGB 080202S01035SET 080204S01035SET	TPGB 080202SE-T 080204SE-T	S01035	0.2 0.4	1.8 1.6	1		● ●	● ●							 ●				
	TPGB 090202S01035SET 090204S01035SET	TPGB 090202SE-T 090204SE-T	S01035	0.2 0.4	1.8 1.6	1		● ●	● ●							 ●				
	TPGB 110304S01035SET 110308S01035SET	TPGB 110304SE-T 110308SE-T	S01035	0.4 0.8	1.8 1.5	1										● ●				
	TPGB 160304S01035SET 160308S01035SET	TPGB 160304SE-T 160308SE-T	S01035	0.4 0.8	1.8 1.5	1										● ●				
Multi Edge	TPGW 160404T00815ME 160408T00815ME	TPGW 160404ME 160408ME	T00815	0.4 0.8	1.8 1.5	3		● ●	● ●											-
Multi Edge / Tough	TPGW 160404S01035MET 160408S01035MET	TPGW 160404ME-T 160408ME-T	S01035	0.4 0.8	1.8 1.5	3		● ●	● ●							 ●				
Small Edge	TPGW 160404T00815SE	TPGW 160404SE	T00815	0.4	1.8	1										● ●				
Small Edge / Tough	TPGW 160404S01035SET	TPGW 160404SE-T	S01035	0.4	1.9	1										● ●				

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

CBN & PCD Inserts are sold in 1 piece boxes.

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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous 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		VBGW 110304MEF	-	F	0.4	2.0	2										●		●	Ref. to the table below
		110308MEF	-		0.8	1.7											●		●	
		VBGW 160404MEF	-		0.4	2.0	2										●		●	
		160408MEF	-		0.8	1.7											●		●	
Multi Edge		VBGW 110302T00815ME	VBGW 110302ME	T00815	0.2	2.4	2	●	●	●		●	●			●	●	●		
		110304T00815ME	110304ME		0.4	2.0		●	●	●	○	●	●	●	●	●	●	●		
		110308T00815ME	110308ME		0.8	1.7		●	●	●	○			●		●	●			
		VBGW 160402T00815ME	VBGW 160402ME	T00815	0.2	2.4	2	●	●	●		●			●	●				
		160404T00815ME	160404ME		0.4	2.0		●	●	●	●	●	●	●	●	●	●			
		160408T00815ME	160408ME		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	VBGW 110302ME-T	S01035	0.2	2.4	2		●	●		●								
		110304S01035MET	110304ME-T		0.4	2.0		●	●	●		●				●				
		110308S01035MET	110308ME-T		0.8	1.7			●	●		●								
		VBGW 160402S01035MET	VBGW 160402ME-T	S01035	0.2	2.4	2		●	●		●								
		160404S01035MET	160404ME-T		0.4	2.0		●	●	●		●				●				
		160408S01035MET	160408ME-T		0.8	1.7			●	●		●								
Small Edge		VBGW 110302T00815SE	VBGW 110302SE	T00815	0.2	2.8	1		●	●					●	●				
		110304T00815SE	110304SE		0.4	2.4			●	●					●	●				
		110308T00815SE	110308SE		0.8	1.7			●						●					
		VBGW 160402T00815SE	VBGW 160402SE	T00815	0.2	2.4	1								●	●				
		160404T00815SE	160404SE		0.4	2.0			●						●	●				
		160408T00815SE	160408SE		0.8	1.7									●	●				
Small Edge / Tough		VBGW 110304S01035SET	VBGW 110304SE-T	S01035	0.4	2.0	1									●				
		110308S01035SET	110308SE-T		0.8	1.7				●										
		VBGW 160404S01035SET	VBGW 160404SE-T	S01035	0.4	2.0	1									●				
		160408S01035SET	160408SE-T		0.8	1.7										●				
Multi Edge		VCGW 080202T00815ME	VCGW 080202ME	T00815	0.2	2.0	2	●	●	●		●			●	●	●			E36 F53 F57
		080204T00815ME	080204ME		0.4	2.0		●	●	●	○	●			●	●	●			
		080208T00815ME	080208ME		0.8	1.7		●				●					●			
Multi Edge / Tough		VCGW 080202S01035MET	VCGW 080202ME-T	S01035	0.2	2.0	2		●	●										
		080204S01035MET	080204ME-T		0.4	2.0			●	●										
		080208S01035MET	080208ME-T		0.8	1.7				●										
Small Edge		VCGW 080202T00815SE	VCGW 080202SE	T00815	0.2	2.4	1		●	●					●	●				
		080204T00815SE	080204SE		0.4	2.0			●						●	●				
Small Edge / Tough		VCGW 080204S01035SET	VCGW 080204SE-T	S01035	0.4	2.0	1									●				
		080208S01035SET	080208SE-T		0.8	1.8										●				

Insert Description	Ref. to Page for Applicable Toolholders
VB..1103 type	E30,E31,E36,F52,F55
VB..1604 type	E30,E31,F52,F55

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

CBN & PCD Inserts are sold in 1 piece boxes.

(mm)

80° Trigon / Positive

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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge

	Workpiece
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

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	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	WBGW 060102T00815L-SE	WBGW 060102L-SE	T00815	0.2	1.9	1		L	L						L	L				F57
	WBGW 060104T00815L-SE	WBGW 060104L-SE		0.4	1.9			L	L						L	L				
	WBGW 080202T00815L-SE	WBGW 080202L-SE	T00815	0.2	2.3	1		L	L						L	L				
	WBGW 080204T00815L-SE	WBGW 080204L-SE		0.4	2.3			L	L						L	L				
 Small Edge / Tough	WBGW 060102S01035LSET	WBGW 060102L-SE-T	S01035	0.2	1.9	1		L	L											
	WBGW 060104S01035LSET	WBGW 060104L-SE-T		0.4	1.9			L	L							L				
	WBGW 080202S01035LSET	WBGW 080202L-SE-T	S01035	0.2	2.3	1		L	L											
	WBGW 080204S01035LSET	WBGW 080204L-SE-T		0.4	2.3			L	L							L				

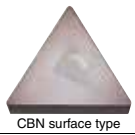
(mm)

60° Triangle / Positive without Hole

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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge

	Workpiece
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

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	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  CBN surface type/Sharp Edge	TBGN 060104F	-	F	0.4	-	3													●	-
 CBN surface type	TBGN 060102T00815	TBGN 060102	T00815	0.2	-	3		●								●				
	060104T00815	060104		0.4	-			●							●	●				
	060108T00815	060108		0.8	-			●							●	○				
 Multi Edge	TPGN 110302T00815ME	TPGN 110302ME	T00815	0.2	2.6	3										●				
	110304T00815ME	110304ME		0.4	2.5											●				
	110308T00815ME	110308ME		0.8	2.4											●				
 Small Edge	TPGN 110302T00815SE	TPGN 110302SE	T00815	0.2	2.6	1									●	●				E43
	110304T00815SE	110304SE		0.4	2.5										●	●				
	110308T00815SE	110308SE		0.8	2.4											●				
	TPGN 160302T00815SE	TPGN 160302SE	T00815	0.2	2.6	1									●	●				F59
	160304T00815SE	160304SE		0.4	2.4										●	●				
	160308T00815SE	160308SE		0.8	2.1											●				
 Small Edge / Tough	TPGN 110304S01035SET	TPGN 110304SE-T	S01035	0.4	2.5	1										●				
	110308S01035SET	110308SE-T		0.8	2.4											●				
	TPGN 160304S01035SET	TPGN 160304SE-T	S01035	0.4	2.4	1										●				
	160308S01035SET	160308SE-T		0.8	2.1											●				

CBN & PCD Inserts are sold in 1 piece boxes.

Negative (Solid)

(mm)

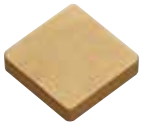
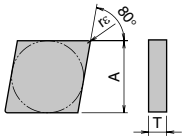
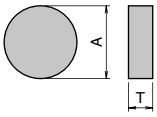
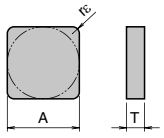
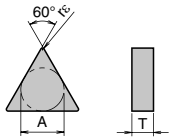
Description		A	T
CNMN	0903_	9.525	3.18
	1204_	12.70	4.76
RNMN	0903_	9.525	3.18
	1203_	12.70	3.18
	1204_		4.76

(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	0.12mm x 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and 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	(Previous Description)	Edge Prep.	Dimension (mm) rε	No. of Edges	PVD Coated CBN KBN900	Ref. to Page for Applicable Toolholders
 Solid		CNMN 090308S02020	CNMN 090308	S02020	0.8	4	●	D32
		090312S02020	090312		1.2		●	F79
		CNMN 120408S02020	CNMN 120408	S02020	0.8		●	D22
		120412S02020	120412		1.2		●	
		120416S02020	120416		1.6		●	
 Solid		RNMN 090300S02020	RNMN 090300	S02020	-	Depends on ap	●	D33
		RNMN 120300S02020	RNMN 120300	S02020			●	
		RNMN 120400S02020	RNMN 120400	S02020			●	D27 D33
 Solid		SNMN 090308S02020	SNMN 090308	S02020	0.8	8	●	D34 D35
		090312S02020	090312		1.2		●	
		SNMN 120308S02020	SNMN 120308	S02020	0.8		●	
		120312S02020	120312		1.2		●	
		SNMN 120408S02020	SNMN 120408	S02020	0.8		●	D25
		120412S02020	120412		1.2		●	D34
		120416S02020	120416		1.6		●	D35
		120420S02020	120420		2.0		●	F77
 Solid		TNMN 110308S02020	TNMN 110308	S02020	0.8	6	●	D36 F79
		TNMN 160408S02020	TNMN 160408	S02020	0.8		●	D26
		160412S02020	160412		1.2		●	
		160416S02020	160416		1.6		●	

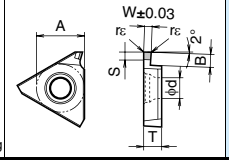
● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example		Ref. to Page for Applicable Toolholders
F	Sharp Edge	F	Sharp Edge	
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge	

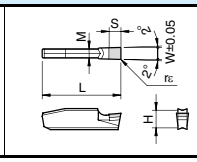
	Gray Cast Iron (With Scale)		
K	Gray Cast Iron (Without Scale)		
	Nodular Cast Iron (With Scale)		
	Hard Materials (Roughing)		
H	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Sintered Steel		

Insert (Handed Insert shows Right-hand)	Description	(Previous Description)	Edge Prep.	Dimension (mm) W	B	rε	A	T	ϕd	S	No. of Edges	CBN KBN510	KBN525	Ref. to Page for Applicable Toolholders
 External / Internal Grooving 	GBA43R/L 125-020	GBA43R/L 125	E008	1.25	2.0	0.2	12.70	4.76	5.5	1.9	1	●	●	G9
	150-020	150	E008	1.50	3.5							●	●	G11
	200-020	200	E008	2.00	3.5							●	●	G54
	250-020	250	E008	2.50	4.0							●	●	
	300-020	300	E008	3.00	4.0							●	●	

Deep Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example		Ref. to Page for Applicable Toolholders
F	Sharp Edge	F	Sharp Edge	
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge	

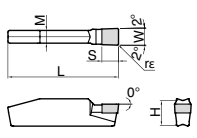
	Gray Cast Iron (With Scale)		
K	Gray Cast Iron (Without Scale)		
	Nodular Cast Iron (With Scale)		
	Hard Materials (Roughing)		
H	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Sintered Steel		

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) W	rε	L	H	M	S	No. of Edges	CBN 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	●	●	G32,G33
	3	-	E008	3.0	0.4			2.3			●	●	G32
	4	-	E008	4.0				3.3			●	●	G33
	5	-	E008	5.0				4.2			●	●	G34
	6	-	E008	6.0				5.2			●	●	G32,G33

Deep Grooving Inserts (1-edge)

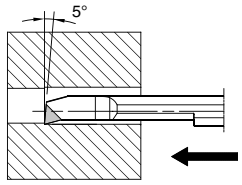
Edge Prep. Symbol	Cutting Edge Spec.	Example		Ref. to Page for Applicable Toolholders
F	Sharp Edge	F	Sharp Edge	
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge	

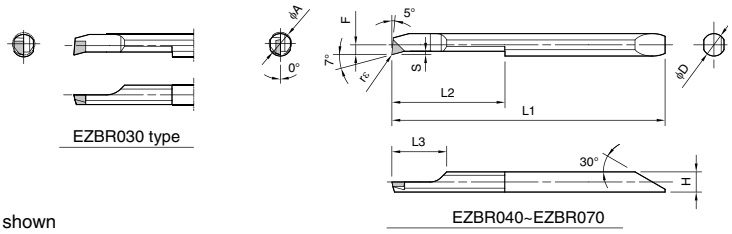
	Gray Cast Iron (With Scale)		
K	Gray Cast Iron (Without Scale)		
	Nodular Cast Iron (With Scale)		
	Hard Materials (Roughing)		
H	Hard Materials (Finishing)	●	
	Hard Materials (Chip Control)		
	Sintered Steel		●

Insert	Description	Edge Prep.	Dimension (mm) 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	●		G19 ~ G23
		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					●		G20 ~ G23
		E002										●	
	6020N-040NB	E008	6.0			5.2					●		
		E002										●	

CBN & PCD Inserts are sold in 1 piece boxes.

EZ Bars (EZB-NB:CBN) NEW





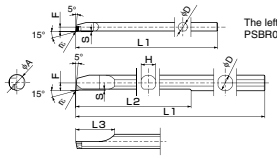
•Right-hand shown

EZ Bars Dimensions

Edge Prep. Symbol	Cutting Edge Spec.	Example		Description	Edge Prep.	Min. Bore Dia. ϕA	ϕD	H	L1	L2	L3	F	S	rε	No. of Edges	MEGACOAT CBN KBN05M		Ref. to Page for Applicable Sleeves
F	Sharp Edge	F	Sharp Edge	EZBR 030030-003NB	T00815	3	3	2.6	38.8	13	6.8	1.25	0.3	0.035 ±0.015	1	●		F20 ~ F25
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge	040040-003NB	T00815	4	4	3.6	48.8	20	9.8	1.75	0.5			●		
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge	050050-003NB	T00815	5	5	4.6	58.1	25	9.8	2.25	0.5			●		
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge	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			●		

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

Tip-Bars

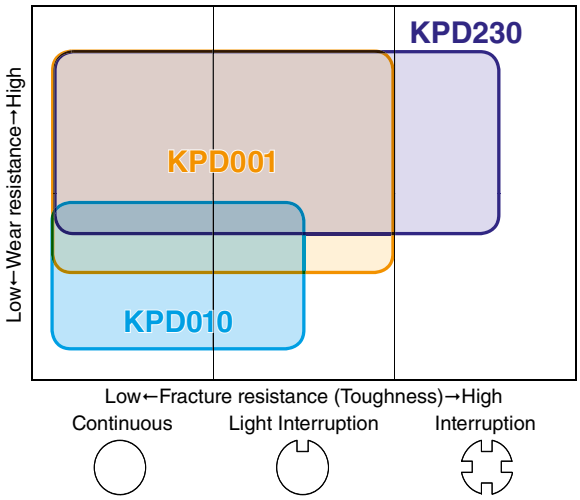
Edge Prep. Symbol	Cutting Edge Spec.	Example		Insert (Handed Insert shows Right-hand)	Description	(Previous Description)	Edge Prep.	Min. Bore Dia. ϕA	ϕD	H	L1	L2	L3	F	S	rε	No. of Edges	CBN KBN510	KBN525	Ref. to Page for Applicable Sleeves
F	Sharp Edge	F	Sharp Edge		PSBR 0303-50NBS	-	T00815	3	2.8	-	50	25	7	1.4	0.15	0.05	1	○	○	F82
E	Honed Cutting Edge	E008	R0.08mm Honed Cutting Edge		0404-60NBS	-	T00815	4	3.8	3.6	60	30	10	1.9	0.3			○	○	
T	Chamfered Cutting Edge	T01215	0.12mm x 15° Chamfered Cutting Edge		0505-70NBS	-	T00815	5	4.8	4.4	70	40	12	2.4	0.5			○	○	
S	Chamfered and Honed Cutting Edge	S01225	0.12mm x 25° Chamfered and Honed Cutting Edge		0606-70NBS	-	T00815	6	5.8	5.2	70	45		2.9				○	○	
					0707-80NBS	-	T00815	7	6.8	6.2	80	50		3.4				○	○	

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

● : 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 1μm)	●High speed machining of non-ferrous metals and brass ●High speed machining of glass fiber and 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 glass fiber and 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 glass fiber and plastics	●High density PCD with mixture of rough 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	●Rough 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

Refer to Page **B2** for "Turning Indexable Inserts Identification System"

Insert Type	Description	Manufacture's Option 1	Manufacture's Option 2	Series Name	Length of cutting edge	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		No Indication	-	Long	1	
Positive	CCGW040101SE	-	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CCGW040101NE		NE	New Value Edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CCGW040101		No Indication	-	Long	1	

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

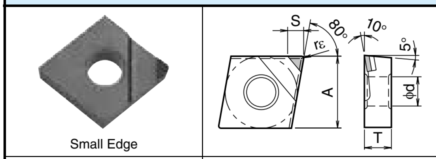
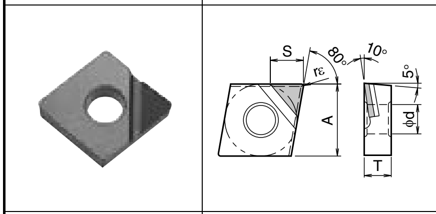
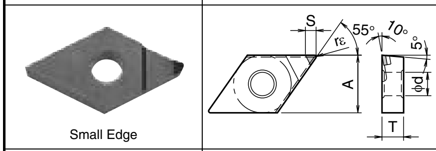
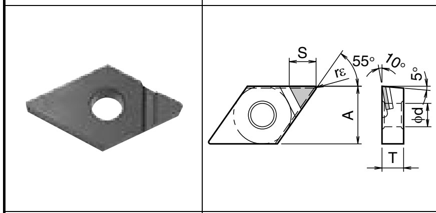
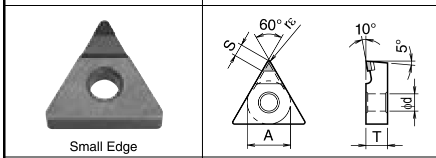
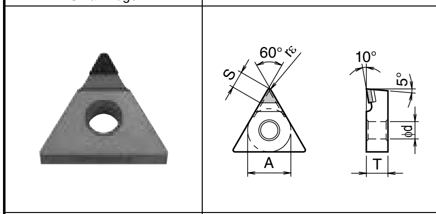
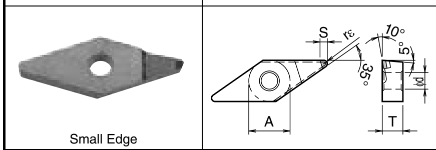
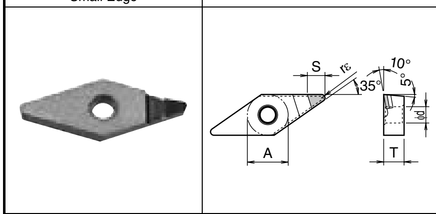
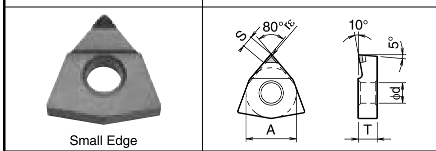
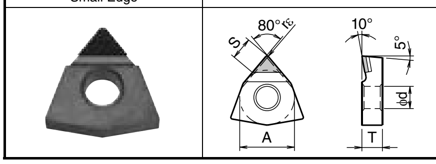
Recommended Cutting Conditions (Turning)

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 Cutting Available
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

		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)					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				0.2	2.8			●	●			D8 F61 F65 F66
		120404M-SE	12.70	4.76	5.16	0.4	2.8	-	1	●	●			
		120408M-SE				0.8	2.7			●	●			
	CNMM	120402M-NE				0.2	5.1			●				
		120404M-NE				0.4	5.0			●				
		120408M-NE				0.8	4.9			●				
	CNMM	120402M	12.70	4.76	5.16	0.2	5.8	-	1	●	●			
		120404M				0.4	5.8			●	●			
		120408M				0.8	5.7			●	●			
		120412M				1.2	5.6				●			
 Small Edge	DNMM	150402M-SE				0.2	2.8			●	●			D10 D11 F62 F68 F69
		150404M-SE	12.70	4.76	5.16	0.4	2.6	-	1	●	●			
		150408M-SE				0.8	2.2			●	●			
	DNMM	150402M-NE				0.2	5.2			●				
		150404M-NE				0.4	5.0			●				
		150408M-NE				0.8	4.6			●				
	DNMM	150402M	12.70	4.76	5.16	0.2	5.9	-	1	●	●			
		150404M				0.4	5.8			●	●			
		150408M				0.8	5.4			●	●			
		150412M				1.2	5.0				●			
 Small Edge	TNMM	160402M-SE				0.2	2.7			●	●			D14 D15 F62 F72 F73
		160404M-SE	9.525	4.76	3.81	0.4	2.6	-	1	●	●			
		160408M-SE				0.8	2.3			●	●			
	TNMM	160402M-NE				0.2	3.2			●				
		160404M-NE				0.4	3.1			●				
		160408M-NE				0.8	2.8			●				
	TNMM	160402M	9.525	4.76	3.81	0.2	3.8	-	1	●	●			
		160404M				0.4	3.6			●	●			
		160408M				0.8	3.3			●	●			
		160412M				1.2	3.0				●			
 Small Edge	VNMM	160402M-SE				0.2	2.9			●	●			D16 D17 D18
		160404M-SE	9.525	4.76	3.81	0.4	2.5	-	1	●	●			
		160408M-SE				0.8	1.6			●	●			
	VNMM	160402M-NE				0.2	4.7			●				
		160404M-NE				0.4	4.2			●				
		160408M-NE				0.8	3.4			●				
	VNMM	160402M	9.525	4.76	3.81	0.2	5.3	-	1	●	●			
		160404M				0.4	4.8			●	●			
		160408M				0.8	4.0			●	●			
		160412M				1.2	3.1				●			
 Small Edge	WNMM	080402M-SE				0.2	2.8			●	●			D20 F75 F76
		080404M-SE	12.70	4.76	5.16	0.4	2.8	-	1	●	●			
		080408M-SE				0.8	2.7				●			
	WNMM	080402M-NE				0.2	5.0			●				
		080404M-NE	12.70	4.76	5.16	0.4	5.0	-	1	●				
	WNMM	080402M				0.2	5.8				●			
		080404M				0.4	5.8				●			

· SE: Small Edge / NE: New Value Edge

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

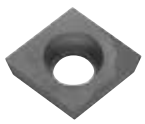
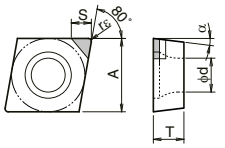
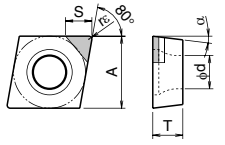
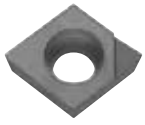
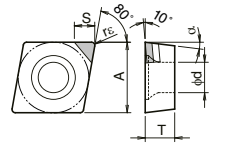
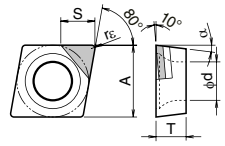
CBN & PCD Inserts are sold in 1 piece boxes.

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

Positive

*Thickness of CC_0301_ and CC_0401_ are different

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

Edge Prep.			Dimension (mm)					Angle (°)	No. of Edges	PCD				Ref. to Page for Applicable Toolholders
PCD all items	Sharp Edge		A	T	ϕd	rε	S	α		KPD001	KPD010	KPD230	KPD250	
Insert	Description													
		CCGW 040101SE NEW 040102SE 040104SE	4.3	1.8	2.3	0.1 0.2 0.4	1.3 1.3 1.3	7°	1	● ● ●				F18 F37
		CCGW 060201SE NEW 060202SE 060204SE	6.35	2.38	2.8	0.1 0.2 0.4	2.3 2.3 2.3	7°	1	● ● ●	 ●			Ref. to the table below
		CCGW 09T302SE NEW 09T304SE 09T308SE	9.525	3.97	4.4	0.2 0.4 0.8	2.7 2.7 2.7	7°	1	● ● ●	 ●			
		*CCGW 040101NE 040102NE 040104NE	4.3	1.8	2.3	0.1 0.2 0.4	1.7 1.6 1.6	7°	1	● ● ●				F18 F37
		CCGW 060201NE 060202NE 060204NE	6.35	2.38	2.8	0.1 0.2 0.4	3.1 3.0 3.0	7°	1	● ● ●				Ref. to the table below
		CCGW 09T301NE 09T302NE 09T304NE 09T308NE	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.4 3.4 3.4 3.3	7°	1	● ● ● ●				
		*CCGW 040101 040102 040104	4.3	1.8	2.3	0.1 0.2 0.4	1.9 1.9 1.9	7°	1	● ● ●	 ● ●			F18 F37
		CCGW 060201 060202 060204	6.35	2.38	2.8	0.1 0.2 0.4	3.5 3.5 3.5	7°	1		● ● ●			Ref. to the table below
		CCGW 09T301 09T302 09T304 09T308	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.8 3.8 3.7 3.6	7°	1	● ● ●	● ● ● ●			
		CCMT 060202SE NEW 060204SE	6.35	2.38	2.8	0.2 0.4	2.2 2.2	7°	1	● ●				
		CCMT 09T301SE NEW 09T302SE 09T304SE 09T308SE	9.525	3.97	4.4	0.1 0.2 0.4 0.8	2.7 2.7 2.7 2.7	7°	1	● ● ● ●	 ●			
		CCMT 060201NE 060202NE 060204NE	6.35	2.38	2.8	0.1 0.2 0.4	2.8 2.8 2.8	7°	1	● ● ●				Ref. to the table below
		CCMT 09T301NE 09T302NE 09T304NE 09T308NE	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.4 3.4 3.4 3.3	7°	1	● ● ● ●				
		CCMT 060201 060202 060204	6.35	2.38	2.8	0.1 0.2 0.4	3.3 3.3 3.2	7°	1	● ● ●	● ● ●			
		CCMT 09T301 09T302 09T304 09T308	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.9 3.9 3.9 3.8	7°	1	● ● ●	● ● ● ●			

· SE: Small Edge / NE: New Value Edge

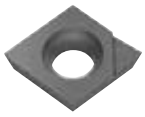
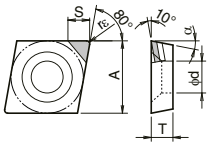
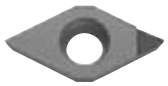
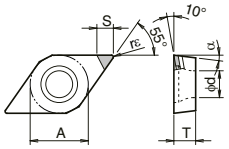
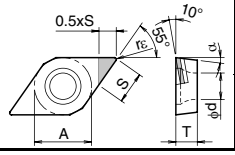
Insert Description	Ref. to Page for Applicable Toolholders
CC..0602 type	**E22,E23,E34,F37**
CC..09T3 type	**E22,E23,E34,F37,F63**

CBN & PCD Inserts are sold in 1 piece boxes.

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 (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	●				F39
		NEW	090304SE				0.4	2.7			●				
		CPMH	080202NE	7.94	2.38	3.5	0.2	3.2	11°	1	●				
			080204NE				0.4	3.2			●				
		CPMH	090301NE	9.525	3.18	4.5	0.1	3.4			●				
			090302NE				0.2	3.4			●				
			090304NE				0.4	3.4			●				
			090308NE				0.8	3.3			●				
		CPMH	080201	7.94	2.38	3.5	0.1	3.7	11°	1	●	●			
			080202				0.2	3.7			●	●			
			080204				0.4	3.7			●	●			
		CPMH	090301	9.525	3.18	4.5	0.1	4.0				●			
			090302				0.2	3.9			●	●			
			090304				0.4	3.9			●	●			
			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	070202SE				0.2	2.7			●				
			070204SE				0.4	2.7			●				
		DCMT	11T301SE	9.525	3.97	4.4	0.1	2.7			●				
		NEW	11T302SE				0.2	2.7			●				
			11T304SE				0.4	2.7			●				
			11T308SE				0.8	2.7			●				
		DCMT	070201NE	6.35	2.38	2.8	0.1	3.4			●				
			070202NE				0.2	3.4			●				
			070204NE				0.4	3.2			●				
		DCMT	11T301NE	9.525	3.97	4.4	0.1	3.4			●				
			11T302NE				0.2	3.3			●				
			11T304NE				0.4	3.2			●				
			11T308NE				0.8	2.8			●				
		DCMT	070201	6.35	2.38	2.8	0.1	4.0			●	●			
			070202				0.2	3.9			●	●			
			070204				0.4	3.7			●	●			
		DCMT	11T301	9.525	3.97	4.4	0.1	4.0			●	●			
			11T302				0.2	3.9			●	●			
			11T304				0.4	3.7			●	●			
			11T308				0.8	3.3			●	●			
		DCMT	070202R/L-NE	6.35	2.38	2.8	0.2	3.3	7°	1	●				
			070204R/L-NE				0.4	3.2			●				
		DCMT	11T302R/L-NE	9.525	3.97	4.4	0.2	3.3			●				
			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,F41~F43**
DC..11 type	**E20,E24~E27,E35,F41~F43,F63**

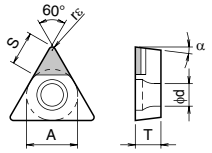
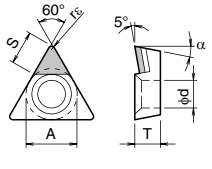
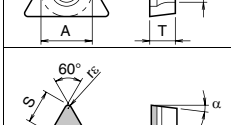
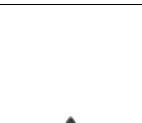
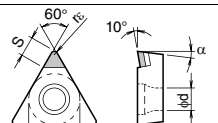
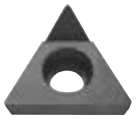
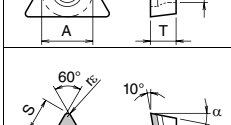
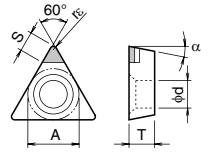
● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

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
 	TBGW	060102NE	3.97	1.59	2.3	0.2	2.1	5°	1	●				
		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	●				F47 F49
		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		●			
		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		●			E29
		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	2.38	2.8	0.2	3.9				●			
 	TPGB	090202SE	5.56	2.38	3.0	0.2	2.1	11°	1	●				Ref. to the table below
	NEW	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,F47,F49**
TP..0902 type	**F47,F49**

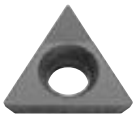
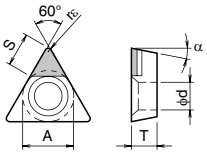
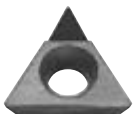
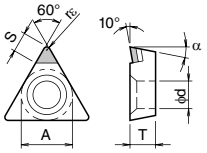
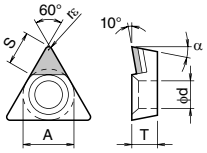
Insert Description	Ref. to Page for Applicable Toolholders
TP..1103 type	**E29,F47,F48**
TP..1603 type	**F47,F48**

CBN & PCD Inserts are sold in 1 piece boxes.

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

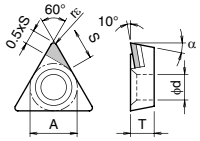
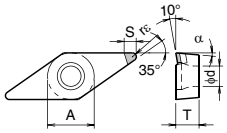
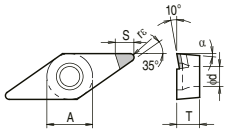
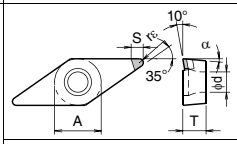
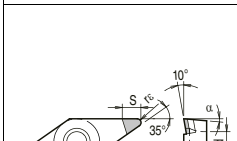
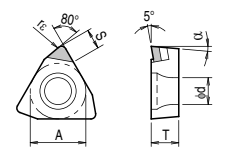
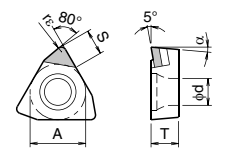
● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

Positive

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	L				Ref. to the table below C26
			110304L-NE				0.4	3.6			L				
		VBMT	110301SE	6.35	3.18	2.8	0.1	2.5	5°	1	●				Ref. to the table below
		NEW	110302SE				0.2	2.3			●				
			110304SE				0.4	1.9			●				
			110308SE				0.8	1.9			●				
		VBMT	160401SE	9.525	4.76	4.4	0.1	2.7			●				
		NEW	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	080202SE	4.76	2.38	2.3	0.2	1.4	7°	1	●				E36 F50 F52 F55
		NEW	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	060102L-SE	3.97	1.59	2.3	0.2	1.3	5°	1	L				F57
		NEW													
		WBMT	060101L-NE	3.97	1.59	2.3	0.1	1.7	5°	1	L				
			060102L-NE				0.2	1.6			L				
			060104L-NE				0.4	1.6			L				
		WBMT	060101L	3.97	1.59	2.3	0.1	1.9	5°	1	L	L			
			060102L				0.2	1.9			L	L			
			060104L				0.4	1.9			L	L			

· SE: Small Edge / NE: New Value Edge

Insert Description	Ref. to Page for Applicable Toolholders
VB..1103 type	**E30,E31,E36,F52,F55**
VB..1604 type	**E30,E31,F52,F55**

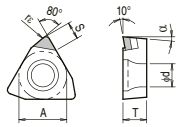
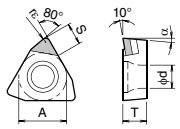
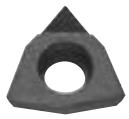
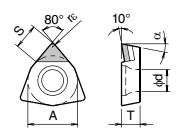
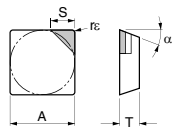
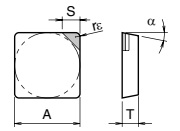
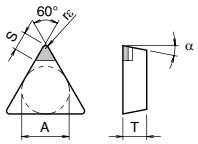
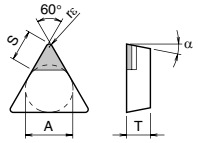
● : Std. Item (1 pc boxes) L : Std. Item (Left-hand Only) □ : Deleted from the next catalogue

CBN & PCD Inserts are sold in 1 piece boxes.

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 (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
		WBMT NEW	080202L-SE	4.76	2.38	2.3	0.2	1.6	5°	1	L				F57
		WBMT	080202L-NE	4.76	2.38	2.3	0.2	2.1	5°	1	L				
			080204L-NE				0.4	2.1			L				
		WBMT	080202L	4.76	2.38	2.3	0.2	2.4	5°	1	L	L			
			080204L				0.4	2.3			L	L			
		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 F58
		SPGN	120304					4.2				●			
		TPGN	110301SE	6.35	3.18	-	0.1	2.6	11°	1	●				
			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	●				E43 F59
			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) L : Std. Item (Left-hand Only) □ : Deleted from the next catalogue

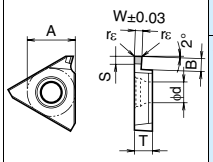
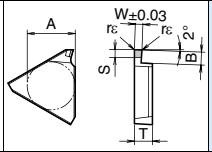
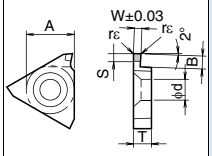
CBN & PCD Inserts are sold in 1 piece boxes.

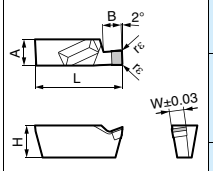
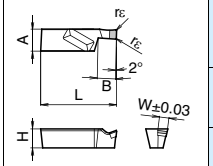
Grooving Inserts (1-edge)

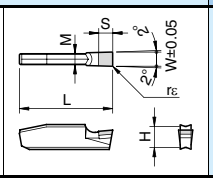
N	Non-ferrous Metals (With interruption)	●
	Non-ferrous Metals (Without interruption)	●
S	Titanium Alloys (With interruption)	●
	Titanium Alloys (Without interruption)	●

Edge Prep.

PCD all items | **Sharp Edge**

Insert (Handed Insert shows Right-hand)		Description		(Previous 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**	**GBA32R**	**125**	1.25	2.0	0.1	9.525	3.18	4.4	1.7	1			●		
			150-010		**150**	1.50								●		●		
		GBA43R/L	**125-010**	**GBA43R/L**	**125**	1.25	2.0									●	●	**G9**
			150-010		**150**	1.50	3.5							●	●	●	●	**G11**
			200-010		**200**	2.00		0.1	12.70	4.76	5.5	1.9		●	●	●	●	**G54**
			250-010		**250**	2.50	4.0							●	●	●	●	
			300-010		**300**	3.00								●	●	●	●	
 External Grooving		**GB43R/L**	**125**		**-**	1.25	2.0									△		
			150		**-**	1.50	3.5									△		
			200		**-**	2.00		0.1	12.70	4.76	-	1.9	1			△		**G11**
			250		**-**	2.50	4.0									△		
			300		**-**	3.00										△	△	
 External Grooving		**TGF32R**	**125-010**		**-**	1.25	2.0					1.7		●				
			150-010		**-**	1.50		0.1	9.525	3.18	4.5		1	●				**G12 G13**
			200-010		**-**	2.00	2.5					1.9		●				

Insert (Handed Insert shows Right-hand)		Description		(Previous 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**	**GVR/L**	**145A**	1.45	2.3	0.2	4.0	12	5.0	1			●	MTO	**G53**
			200-020A		**200A**	2.00									●	MTO	
			300-020A		**300A**	3.00									MTO	MTO	
		GVR/L	**200-020B**	**GVR/L**	**200B**	2.00	3.2	0.2	4.5	15	5.5				●	MTO	
			250-020B		**250B**	2.50									●	MTO	
			300-020B		**300B**	3.00	4.2								MTO	MTO	
		GVR/L	**300-020C**	**GVR/L**	**300C**	3.00	4.5	0.2	5.8	21	6.5				MTO	MTO	
			400-020C		**400C**	4.00	5.5								MTO	MTO	
 Face Grooving		**GVFR/L**	**250-020B**	**GVFR/L**	**250B**	2.50	4.8	0.2	5.8	20	5.0	1			●	●	**G86** ~ **G89 G96**
			300-020B		**300B**	3.00	4.8								●	●	
			400-020B		**400B**	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**	**GVFR/L**	**350C**	3.50	6.8	0.4	7.0	27	7.0				MTO	MTO	
			400-040C		**400C**	4.00	6.8								MTO	MTO	

Insert		Description		(Previous 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	●	●	G32,G33
			3		**-**	3.0				2.3			●	●	**G32**
			4		**-**	4.0				3.3			●	●	**G33**
			5		**-**	5.0				4.2			●	●	**G34**
			6		**-**	6.0				5.2				●	G32,G33

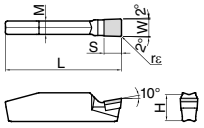
● : Std. Item (1 pc boxes)
MTO : Made to order
△ : Will be switched to new item (Check Availability)

CBN & PCD Inserts are sold in 1 piece boxes.

Deep Grooving Inserts (1-edge)

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

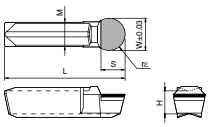
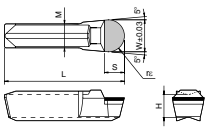
Edge Prep.	
PCD all items	Sharp Edge

Insert		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	●		G19 ~ G23
			3020N-020NB	3.0		0.2	2.3					●		
			4020N-020NB	4.0		0.2	3.3					●		
			5020N-020NB	5.0		0.2	4.2					●		G20 ~ G23
			6020N-020NB	6.0		0.2	5.2					●		

For Aluminum Wheel (1-edge)

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

Edge Prep.	
GMGW	Honed Cutting Edge

Insert		Description		Dimension (mm) 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	●		G38
			8030-40R	8	4			6	6		●		
		GMGW	8030-40R-HR	8	4	30	5.5	6	5		●		

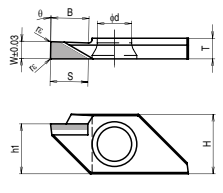
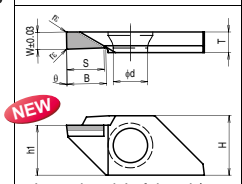
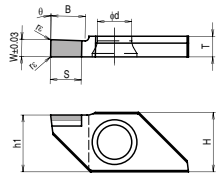
● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes.

Turning / Grooving 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	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	5.5	0°	1	●	●	E12
			250-AS	2.5	5									●	●	
		TKF16R/L	250-AS	2.5	8		4	9.5	8.0		6.5			●	●	
	 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	5.5	0°	1		●	
			250-ASR	2.5	5										●	
		TKF16L	250-ASR	2.5	8		4	9.5	8.0		6.5				●	
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.

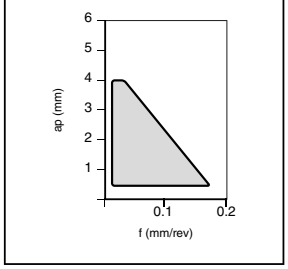
◆Inserts Identification System

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

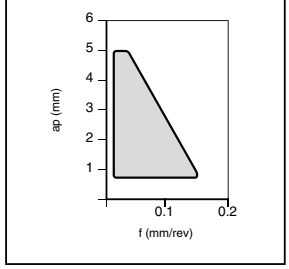
- Insert Type
- Insert Size
- Insert Hand: R: Right-hand; L: Left-hand
- Width (Edge Width)
- Name of Chipbreaker: AS: AS Chipbreaker; NB: Without Chipbreaker
- PCD insert hand: Without Indication: The edge hand is same as the insert hand; R: Right-hand

●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.)

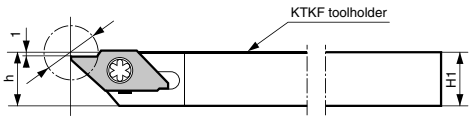


Fig.1 When a TKF-AS/-ASR insert is attached
(The cutting edge is 1mm lower than the center line.)

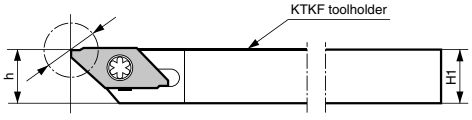
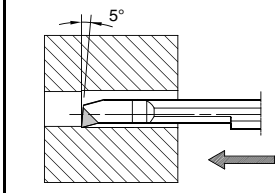
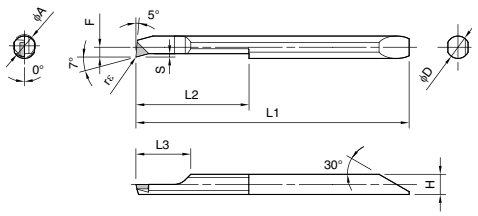


Fig.2 When a TKF-NB insert is attached

CBN & PCD Inserts are sold in 1 piece boxes.

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	●		F20 ~ F25
	050050-003NB	5	5	4.6	58.1	25	9.8	2.25	0.5				●		
	060060-003NB	6	6	5.6	66.1	30	11.8	2.75	0.5				●		
	070070-003NB	7	7	6.6	74.1	35	11.8	3.25	0.5				●		

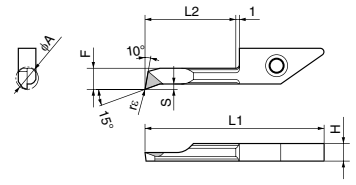
● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes.

System Tip-Bars

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

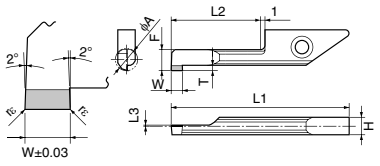
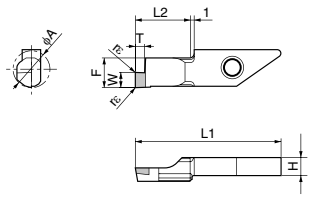
Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed Insert shows Right-hand)	Description		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	●	●	F28 F29
		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

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

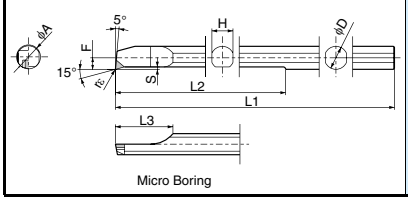
Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed Insert shows Right-hand)	Description		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	
 Micro Grooving	VNGR	0410-11NB	4	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8	1	MTO	MTO	F28 F29
		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

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		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	KPD010	
 Micro Boring	PSB R/L	0404-60NBS	4	3.8	3.6	60	30	10	1.9	0.3	0.05	1	R	R	F82
		0505-70NBS	5	4.8	4.4	70	40	12	2.4	0.5			R	○	
		0606-70NBS	6	5.8	5.2		45		2.9				R	R	
		0707-80NBS	7	6.8	6.2	80	50		3.4				R	R	

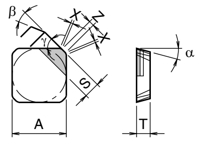
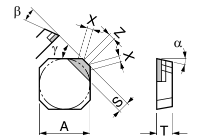
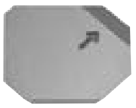
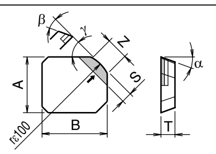
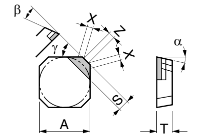
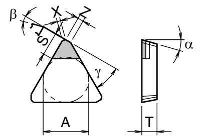
● : Std. Item (1 pc boxes)
○ : Check Availability
R : Right-hand Only (Check Availability)
MTO : Made to order

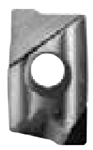
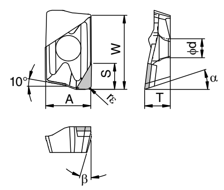
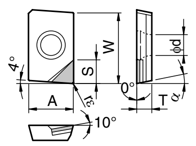
CBN & PCD Inserts are sold in 1 piece boxes.

How to read pages of “Turning Inserts” ➔ B13

Milling Inserts

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

Insert		Description	Dimension (mm) A	T	X	Z	S		Angle (°) α	β	γ	No. of Edges	PCD KPD001	KPD010	KPD230	Ref. to Page for Applicable Toolholders
		SDKN 1203AUFN-NE	12.70	3.18	0.5	1.2	3.1		15°	23°	45°	1	●			M41
		1203AUFN					3.6						●	●		
		SEEN 1203AFFN-NE	12.70	3.18	0.5	1.4	3.0		20°	25°	45°	1	●			M36 M37 M38
		1203AFFN					3.5						●	●		
 With Wiper Edge		SEEN 1203AFFR-W	12.50	3.18	-	3.5	1.7	B=14.56	20°	25°	45°	1	●			M38
		SOKN 13T3AXFN-NE	13.494	3.97	0.4	1.1	3.0		27°	32°	45°	1			●	M42
		TEEN 1603PTFR-NE	9.525	3.18	0.6	1.4	4.1		20°	22°	30°	1	●		●	M111
		1603PTFR					4.7						●	●		
		TEKN 2204PTFR-NE	12.70	4.76	0.7	1.8	4.2		20°	22°	30°	1	●		●	M66 M67
		2204PTFR					4.8						●	●		

Insert		Description	Dimension (mm) A	T	ϕd	W	rε	S	Angle (°) α	β		No. of Edges	PCD KPD001	KPD010	KPD230	Ref. to Page for Applicable Toolholders
		BDMT 11T302FR	6.7	3.8	2.8	11.0	0.2	3.6	18°	13°		1	●		●	M70 M71 M72 M73
		11T304FR					0.4						●		●	
		BDMT 170402FR	9.6	4.9	4.4	17.0	0.2	4.4	18°	13°		1	●		●	
		170404FR					0.4						●		●	
		NDCW 150302FRX-NE	9.525	3.18	4.4	15.0	0.2	5.1	15°	-		1	●		●	M109
		150302FRX						5.7					●	●		

● : Std. Item (1 pc boxes)

CBN & PCD Inserts are sold in 1 piece boxes.