

CBN Lineup		C2
Negative inserts	CN type	C8
	DN type	C10
	SN type	C12
	TN type	C13
	VN type	C14
	WN type	C15
	CN type / Solid	C16
	RN type / Solid	C17
	SN type / Solid	C18
	TN type / Solid	C19
Positive inserts	CC type	C20
	CP type	C21
	DC type	C22
	TP type	C23
	VB type	C26
	VC type	C27
	WB type	C28
Grooving inserts	GBA	C29
	GDGS	C30
	GMN	C31
Solid bar	EZB-NB	C32
PCD Lineup		C33
Negative inserts	CN type	C34
	DN type	C35
	TN type	C36
	VN type	C37
	WN type	C38
Positive inserts	CC type	C39
	CP type	C41
	DC type	C42
	SP type	C43
	TB type	C44
	TC type	C45
	TP type	C46
	VB type	C49
	VC type	C50
	WB type	C51
	WP type	C52
	ZB type	C53
Grooving inserts	GBA	C54
	GV / GVF	C55
	GDGS	C56
	GMN	C57
	GMGW	C58
	TKF	C59
	EZB-NB	C60
Solid bar	VNBR-NB	C61
	VNGR-NB	C62
	VNFR-NB	C63
Milling inserts		C64

Identification system (Turning insert / CBN)

C **N** **G** **A** **12** **04** **04** **S01225** **ME**

Turning Indexable Inserts Identification System* [See B2](#)

Insert type	Description	Edge preparation	Manufacture's option	Edge length	Number of edges	Re-grinding
Negative	CNGA120404MEF	F	MEF	Short (Small edge)	2	Not recommended
	CNGA120404ME4	S01225	ME4		4 (Multi edge double-sided)	
	CNGA120404S01225ME		ME		2	
	CNGA120404S00545MEP	S00545	MEP		2	
	CNGA120404S01225SE	S01225	SE		1	
	CNMN120404S02020	S02020	Without indication (Only KBN900)	Long	Multi 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

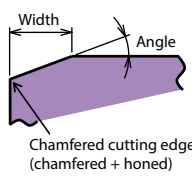
- Re-grinding is possible for inserts without any indication in manufacturer's option. Regrinding can not be available depending on the edge condition.
- Re-grinding is not recommended for inserts with manufacturer's symbol like "ME" or "SE"

Edge preparation identification system

Edge preparation				
Symbol	Cutting edge spec.	Example		Shape
F	Sharp edge	F	Sharp edge	
E	Honed cutting edge	E008	R0.08 mm honed cutting edge	
T	Chamfered cutting edge	T01215	0.12 mm x 15° chamfered cutting edge	
S	Chamfered and honed cutting edge	S01225	0.12 mm x 25° chamfered and honed cutting edge	

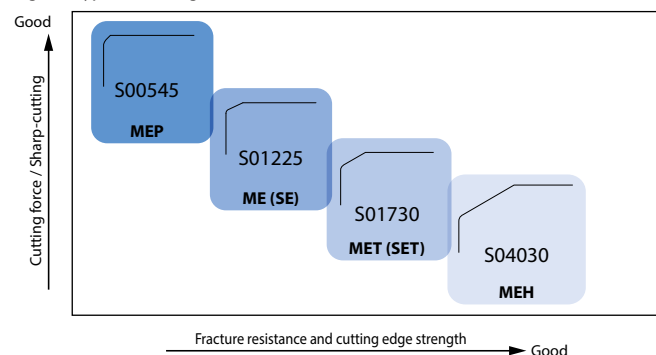
Features of chamfer width and angle

Chamfer width and angle	
	Small $\longleftrightarrow$ Large 
Cutting force	Good $\longleftrightarrow$ Poor
Wear resistance	Good $\longleftrightarrow$ Poor
Fracture resistance	Poor $\longleftrightarrow$ Good
Application	Continuous $\longleftrightarrow$ Interruption

 Chamfered cutting edge (chamfered + honed)

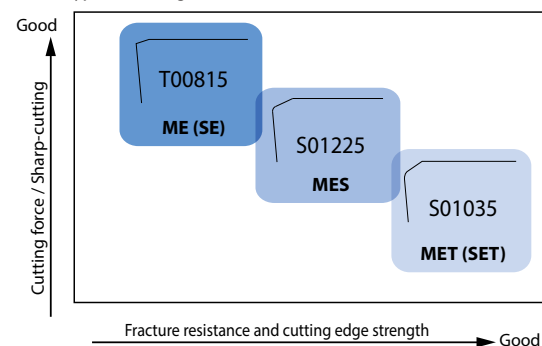
Standard cutting edge preparation

Negative type (machining of hard materials)



Manufacture's option	Edge preparation		Application and features
MEP	S00545	0.05 mm x 45° + Honed cutting edge	High speed, continuous cut. Excellent crater wear resistance.
ME	S01225	0.12 mm x 25° + Honed cutting edge	General purpose.
MET	S01730	0.17 mm x 30° + Honed cutting edge	Superior fracture resistance.
MEH	S04030	0.40 mm x 30° + Honed cutting edge	Interrupted high feed machining. Prevention of flaking.

Positive type (machining of hard materials)

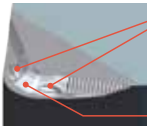
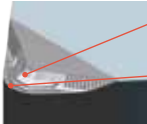
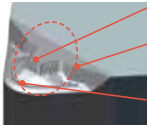


Manufacture's option	Edge preparation		Application and features
ME	T00815	0.08 mm x 15°	Chamfered type. Sharp-cutting oriented, less burring.
MES	S01225	0.12 mm x 25° + Honed cutting edge	General purpose.
MET	S01035	0.10 mm x 35° + Honed cutting edge	Interrupted machining. Stable machining oriented.

CBN inserts for machining hardened material

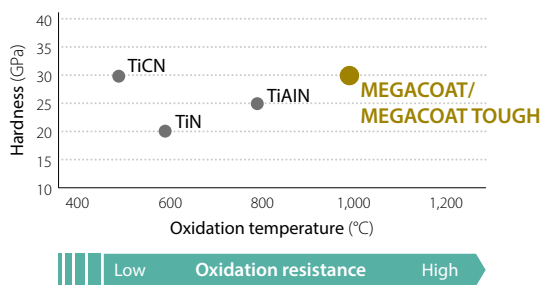
H chipbreaker series

Unique molded chipbreaker provides excellent chip control when machining hardened material. 3 Chipbreaker styles for a wide range of machining applications.

Chipbreaker	Application	Recommended cutting range
HH 1st Recommendation  Twin Dots Breaks chips into small pieces Wide Bump Provides stable chip curls	Hardened steel finishing 55HRC or more	Small D.O.C. $ap = 0.1 \sim 0.3 \text{ mm}$
HL  Wide Bump Rake Surface Stable chip control for softer interior of hard materials	Hardened steel finishing 55HRC or less	
HD  Wide Bump Multi-step Structure Good for a wide range of conditions Rake Surface Stable chip control for softer interior of hard materials	Removing carburized layer From carburized layer to unhardened layer	Large D.O.C. $ap = 0.3 \sim 0.7 \text{ mm}$

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.



New coated CBN for machining hardened material

KBN010/KBN020

Long tool life and stable machining results with wear resistance and fracture resistance.

Supports a wide range of applications and reduces the cost of machining hardened materials.

1

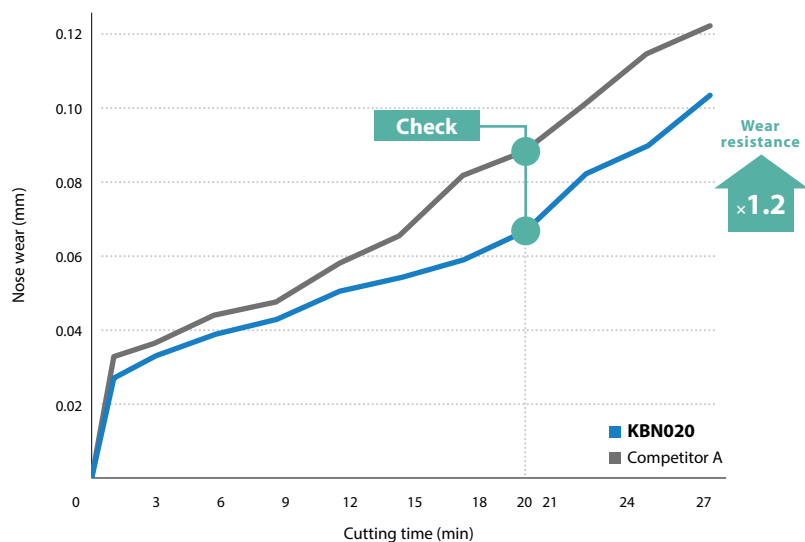
Combination of new coating technology and high content CBN provides exceptional wear resistance and fracture resistance

Wear resistance

New coating "MEGACOAT TOUGH" suppresses layer peeling.

Excellent wear resistance

Wear resistance comparison (Internal evaluation)

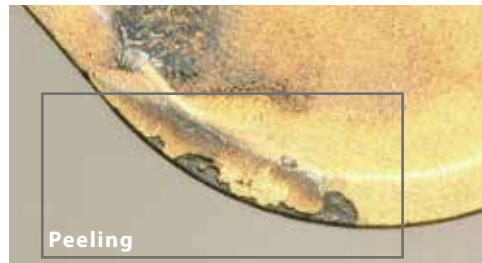


Cutting conditions: $V_c = 150$ m/min, $a_p = 0.2$ mm, $f = 0.1$ mm/rev, Wet
Workpiece material: SCM415 H 60HRC

KBN020



Competitor A



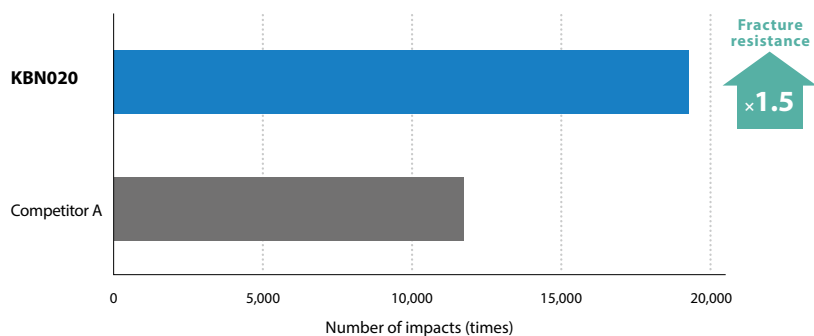
Fracture resistance

KBN010 : Mixed structure of micro grain CBN and coarse grain CBN

KBN020 : High content CBN and high purity TiN binder improves strength of CBN.

Excellent fracture resistance

Continuous to interrupted machining comparison (Internal evaluation)



Cutting conditions: $V_c = 150$ m/min, $a_p = 0.2$ mm, $f = 0.2$ mm/rev, Dry
Workpiece material: SCM415 H 60HRC

2

Newly developed coating "MEGACOAT TOUGH"

Features

- An adhesion layer is laminated between the high wear resistance layer and the CBN.
- Reduces layer peeling to achieve long tool life and stable machining.



High wear resistance layer with TiAlN + Oxidation resistance components.
Suppresses oxidation/diffusional wear

Check New technology

Interlayer for stress relief

High adhesion layer

Two layers dedicated to CBN.
Improved adhesion between CBN and high wear resistant layer.
Suppressed layer peeling.

Check

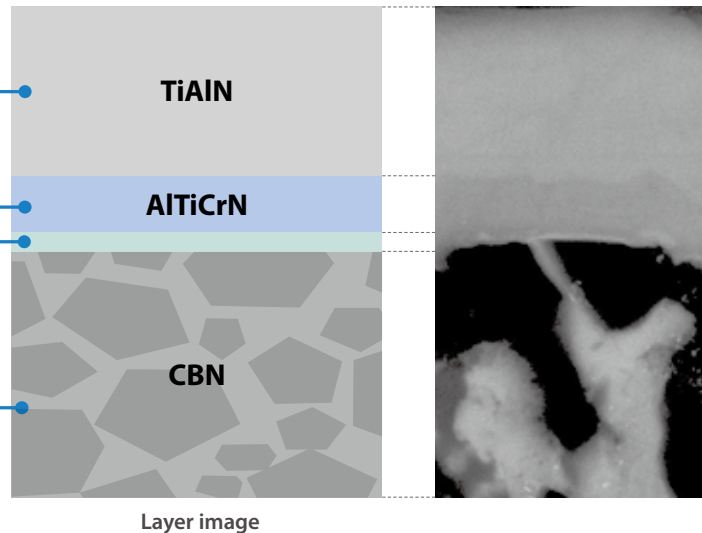
High content CBN

KBN010 : Mixed structure of micro grain CBN and coarse grain CBN

Improved wear resistance in high speed machining

KBN020 : High content CBN with high purity TiN binder

Improved heat resistance and toughness



Solution for Automotive parts

CVT shaft

Workpiece

SCr420H

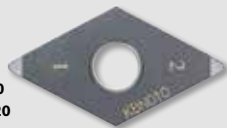
Insert

1st recommendation : KBN010
2nd recommendation : KBN020

DNGA150404S01225ME

Applications

External finishing



(Image)

Sun gear

Workpiece

S45C (Carburizing and quenching)

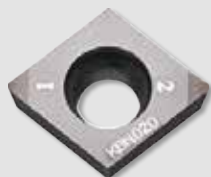
Insert

1st recommendation : KBN020

CCMW09T308S01035MET

Applications

Boring finishing for spline part (Interruption)

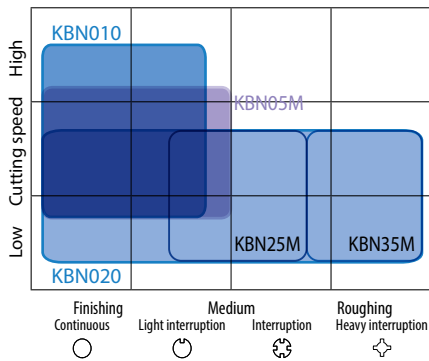


(Image)



Application map

Hard materials



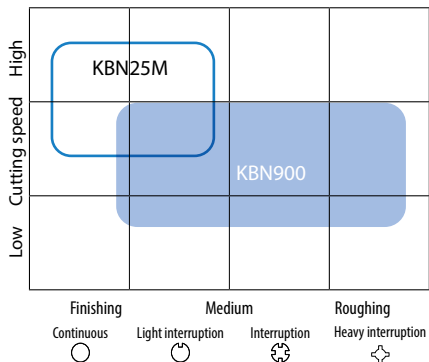
KBN010 : High wear resistance for continuous, high-speed finishing
KBN020 : 1st recommended grade for a wide range of application from continuous (high speed finishing) to interrupted machining.
KBN05M : Applicable for continuous (high speed finishing) to interrupted machining. With chipbreaker Inserts are available.
KBN25M : General machining.
KBN35M : Honeycomb structure CBN (Superior fracture resistance in heavy interrupted machining).

Coolant for KBN010/KBN020

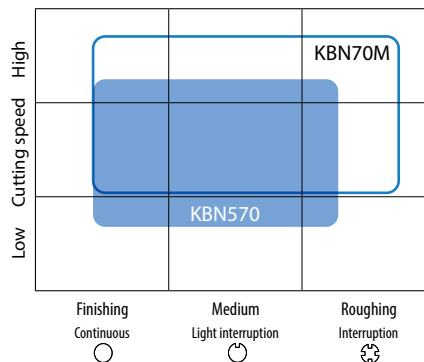
Application	Wet	Dry
Continuous	✓	✗
Interruption	Partially*	✓

*Use KBN05M when using coolant.

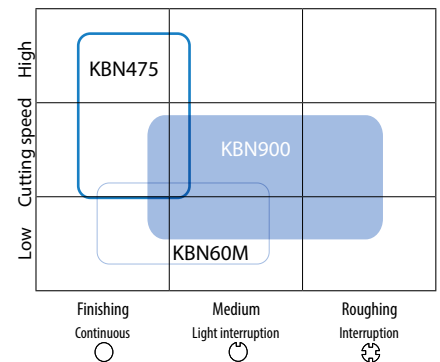
Roll materials (Chilled cast iron)



Sintered steel



Cast iron



Recommended cutting conditions

Workpiece material	Hardness	Applications		Recommended insert grade	Cutting conditions		
					Vc: (m/min)	ap: (mm)	f: (mm/rev)
Hardened steel	Over 55HRC	High speed finishing	Continuous	KBN010	80 - 180 - 230	0.05 - 0.2 - 0.35	0.05 - 0.15 - 0.3
		General finishing	Continuous ~ Interruption	KBN020	80 - 150 - 200	0.05 - 0.2 - 0.5	0.05 - 0.2 - 0.45
		HH chipbreaker for hardened steel finishing	Continuous ~ Interruption	KBN05M	100 - 150 - 200	0.1 - 0.2 - 0.3	0.1 - 0.15 - 0.25
		High efficient stable machining	Light interruption ~ Interruption	KBN020	80 - 150 - 200	0.05 - 0.2 - 0.5	0.05 - 0.2 - 0.45
		Interruption (Small ap)	Interruption ~ Heavy interruption	KBN020	80 - 130 - 180	0.05 - 0.2 - 0.5	0.05 - 0.2 - 0.4
		Heavy machining	Continuous ~ Interruption	KBN900	70 - 90 - 110	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2
	Under 55HRC	HL chipbreaker for hardened steel finishing	Continuous ~ Interruption	KBN05M	100 - 150 - 200	0.1 - 0.2 - 0.3	0.1 - 0.15 - 0.25
		Finishing	Continuous	*PT600M	60 - 80 - 120	0.2 - 0.5 - 0.7	0.05 - 0.1 - 0.15
		Removing the carburized layer	HD chipbreaker	Continuous ~ Interruption	KBN05M	100 - 150 - 200	0.3 - 0.5 - 0.7
Gray cast iron	Under 250HB	Finishing	Continuous ~ Light interruption	KBN475	400 - 800 - 1,200	0.05 - 0.2 - 0.5	0.1 - 0.2 - 0.3
		Finishing	Continuous ~ Light interruption	KBN60M	300 - 500 - 700	0.05 - 0.2 - 0.5	0.1 - 0.2 - 0.3
		High efficient finishing	Continuous~Light interruption	KBN900	500 - 900 - 1,200	0.1 - 0.5 - 1.0	0.05 - 0.1 - 0.2
		Heavy machining	Continuous ~ interruption	KBN900	500 - 700 - 900	0.5 - 1.5 - 3.0	0.1 - 0.3 - 0.5
Roll materials (Chilled cast iron)	Over 55HRC	Finishing	Continuous ~ interruption	KBN25M	80 - 120 - 160	0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1
		Heavy machining	Continuous ~ interruption	KBN900	70 - 90 - 110	0.3 - 0.7 - 1.0	0.05 - 0.1 - 0.15
Sintered steel	-	Finishing	Continuous ~ Light interruption	KBN570	50 - 150 - 250	0.05 - 0.15 - 0.25	0.03 - 0.1 - 0.2
	-	Finishing	Continuous ~ Interruption	KBN70M	100 - 200 - 250	0.05 - 0.2 - 0.3	0.05 - 0.15 - 0.25

*PT600M: MEGACOAT on Al₂O₃+TiC ceramic

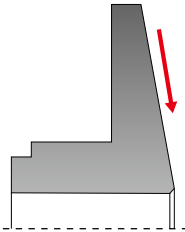
Case studies

SCr420H (58HRC)	
• Gear • External , facing & chamfering • $V_c = 130 \text{ m/min}$ • $a_p = 0.6 \text{ mm}$ • $f = 0.12 \text{ mm/rev}$ • Wet • CNGA120408S01225ME (KBN05M)	
KBN05M	300 pcs/edge
Competitor C	200 pcs/edge
• KBN05M achieved 1.5 times longer tool life than competitor C. • Its longer tool life contributes to cost-cutting.	

Evaluation by the user

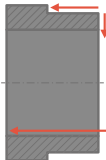
SCM415 (55HRC)	
• Stator • Boring • $V_c = 170 \text{ m/min}$ • $a_p = 0.4 \text{ mm}$ • $f = 0.1 \text{ mm/rev}$ • Wet • CNGA120408S01225ME (KBN05M)	
KBN05M	600 pcs/edge
Competitor D	300 pcs/edge
• KBN05M achieved twice longer tool life than competitor D. • Its longer tool life contributes to cost-cutting.	

Evaluation by the user

SCr420H (58HRC)		
• Pulley • Facing (Continuous) • Vc = 120 m/min • ap = 0.15 ~ 0.2 mm • f = 0.24 mm/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 comp. E's. • KBN05M-MEP (Edge prep.: 0.05 × 45° chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.		
		
KBN05M-MEP	KBN05M-ME	Competitor E

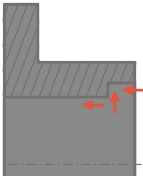
Evaluation by the user

SCr20 (61~65HRC)	
• Gear • External & facing (Interrupted) • $V_c = 120 \text{ m/min}$ • $a_p = 0.15 \text{ mm}$ • $f = 0.1 \sim 0.15 \text{ mm/rev}$ (External) • Wet • CNGA120408S04030MEH (KBN05M)	
KBN05M-MEH (Edge preparation: $0.40 \times 30^\circ$)	150 pcs/edge
Competitor F	100 pcs/edge
• Compared to competitor F, KBN05M-MEH type (Edge prep.: $0.40 \times 30^\circ$ chamfered + R honed) achieved 1.5 times longer tool life. • No chipping in interrupted machining, and improved productivity. Competitor F's cutting edge got many chipping. • Feed rate could be increased from 0.15 to 0.25 mm/rev in facing. • Achieved cycle time and cost reduction.	

SCM440 Hardened Steel (55 ~ 62HRC)	
• Pinion • $V_c = 130 \text{ m/min}$ • $a_p = 0.05 \text{ mm}$ • $f = 0.08 \text{ mm/rev}$ • Dry • CNGM120408ME-HH (KBN05M)	
KBN05M HH Chipbreaker	70 pcs/edge
Competitor G	30 pcs/edge

The HH chipbreaker maintained 2.3 times longer tool life than Competitor F.
The molded chipbreaker provided stable chip control.

Evaluation by the user

Scr420H (59HRC)	
• Clutch • $V_c = 100 \text{ m/min}$ • $a_p = 0.15 \text{ mm}$ • $f = 0.10 \text{ mm/rev}$ • Wet • WNGA080408S01225ME (KBN020)	
KBN020	650 pcs/edge
Competitor H	400 pcs/edge
KBN020 can be stable machining and long tool life.	

Evaluation by the user

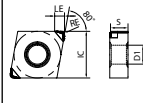
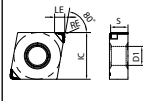
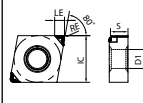
How to read pages of "Turning inserts" ➡ See page **B15**

●: Standard item ○: Will be replaced with a new product

CBN & PCD Inserts are
sold in 1 piece boxes

80° Rhombic

How to read pages of "Turning inserts" ➡ See page B15

Cutting edge preparation				Gray cast iron (with scale)								K
Symbol	Specification	Example		Gray cast iron (without scale)								
F	Sharp edge	F	Sharp edge	Nodular cast iron (with scale)								
E	R-honed	E008	R0.08mm honed	Hard materials (Roughing)								H
T	Chamfered	T01215	0.12mm × 15° chamfered	Hard materials (Finishing)						●		
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed	Hard materials (Chip control)						●		
				Sintered steel								-
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					CBN	Applicable toolholder
						IC	S	D1	RE	LE	PVD	
											KBN05M	
	 Hardened steel Finishing (55HRC or more)	CNGM	120404ME-HH 120408ME-HH 120412ME-HH	E	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.6 2.5	● ● ●	D8~D10 F118 F131 F132
	 Hardened steel Finishing (55HRC or less)	CNGM	120404ME-HL 120408ME-HL 120412ME-HL	E	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.6 2.5	● ● ●	
	 Removing the Carburized Layer	CNGM	120404ME-HD 120408ME-HD 120412ME-HD	S01235	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.6 2.5	● ● ●	

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

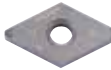
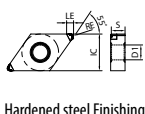
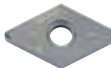
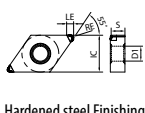
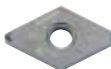
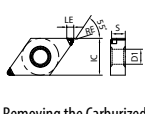
How to read pages of "Turning inserts" ➡ See page **B15**

●: Standard item ○: Will be replaced with a new product

CBN & PCD Inserts are sold in 1 piece boxes

55° Rhombic

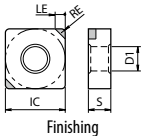
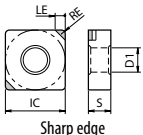
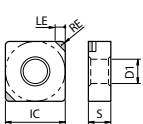
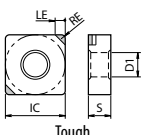
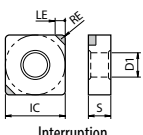
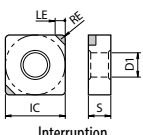
How to read pages of "Turning inserts" ➡ See page B15

Cutting edge preparation														K	
Symbol	Specification	Example													
F	Sharp edge	F	Sharp edge												
E	R-honed	E008	R0.08mm honed											H	
T	Chamfered	T01215	0.12mm × 15° chamfered												
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed												
				Sintered steel										-	
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					CBN	Applicable toolholder			
						IC	S	D1	RE	LE	PVD				
	 Hardened steel Finishing (55HRC or more)	DNGM	150404ME-HH 150408ME-HH 150412ME-HH	E	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.2 1.9	● ● ●	D13~D17 F120, F136 F138~F140			
	 Hardened steel Finishing (55HRC or less)	DNGM	150404ME-HL 150408ME-HL 150412ME-HL	E	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.2 1.9	● ● ●				
	 Removing the Carburized Layer	DNGM	150404ME-HD 150408ME-HD 150412ME-HD	S01235	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.2 1.9	● ● ●				

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

How to read pages of "Turning inserts" ➡ See page **B15**

Cutting edge preparation																			
Symbol	Specification	Example																K	
F	Sharp edge	F	Sharp edge																
E	R-honed	E008	R0.08mm honed																
T	Chamfered	T01215	0.12mm × 15° chamfered																
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed															H	
																		-	
Insert				Description		Edge preparation type	No. of edges	Dimension (mm)					CBN					Applicable toolholder	
								IC	S	D1	RE	LE	PVD				-		
													KBN010	KBN020	KBN03M	KBN025M			KBN035M
		SNGA	120408S00545MEP 120412S00545MEP	S00545	2	12.7	4.76	5.16	0.8 1.2	1.8 2.2		●							
		SNGA	120408MEF 120412MEF	F	2	12.7	4.76	5.16	0.8 1.2	1.8 2.2						●	●		
		SNGA	120408T01215ME 120412T01215ME	T01215	2	12.7	4.76	5.16	0.8 1.2	1.8						●	●		
		SNGA	120404S01225ME 120408S01225ME 120412S01225ME	S01225	2	12.7	4.76	5.16	0.4 0.8 1.2	1.8	●	●	●	●		●	●		
		SNGA	120404S01730MET 120408S01730MET 120412S01730MET	S01730	2	12.7	4.76	5.16	0.4 0.8 1.2	1.8 1.8 2.2	●	●	●	●	●				
		SNGA	120408S04030MEH 120412S04030MEH	S04030	2	12.7	4.76	5.16	0.8 1.2	1.8 2.2		●	●						

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

How to read pages of "Turning inserts" ➡ See page **B15**

CBN & PCD Tools

C13

How to read pages of "Turning inserts" ➡ See page **B15**

●: Standard item ○: Will be replaced with a new product

CBN & PCD Inserts are sold in 1 piece boxes

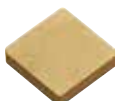
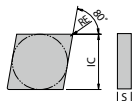
How to read pages of "Turning inserts" ➡ See page **B15**

CBN & PCD Tools

C15

80° Rhombic / Solid

How to read pages of "Turning inserts" ➡ See page B15

Cutting edge preparation				Gray cast iron (with scale)		✖		K		
				Gray cast iron (without scale)		✖				
				Nodular cast iron (with scale)		✖				
Symbol	Specification	Example		Hard materials (Roughing)				H		
F	Sharp edge	F	Sharp edge	Hard materials (Finishing)		●				
E	R-honed	E008	R0.08mm honed	Hard materials (Chip control)						
T	Chamfered	T01215	0.12mm × 15° chamfered	Sintered steel				-		
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed							
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)			CBN	Applicable toolholder
						IC	S	RE	PVD	
								KB9000		
		CNMN 090308S02020	090312S02020	S02020	4	9.525	3.18	0.8 1.2	● ●	D60
		CNMN 120412S02020	120416S02020	S02020	4	12.7	4.76	1.2 1.6	● ● ●	D49

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

Round / Solid

How to read pages of "Turning inserts" ➡ See page B15

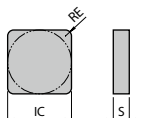
Cutting edge preparation				Gray cast iron (with scale)		✖	K	
				Gray cast iron (without scale)		✖		
Symbol	Specification	Example		Nodular cast iron (with scale)				
F	Sharp edge	F	Sharp edge	Hard materials (Roughing)			H	
E	R-honed	E008	R0.08mm honed	Hard materials (Finishing)		●		
T	Chamfered	T01215	0.12mm×15° chamfered	Hard materials (Chip control)				
S	Chamfered and R-honed	S01225	0.12mm×25° chamfered and R-honed	Sintered steel			-	
Insert		Description		Edge preparation type	Dimension (mm)		CBN	Applicable toolholder
					IC	S	PVD	
				KB9000				
		RNMN 090300S02020	S02020	9.525	3.18	●	D61	
		RNMN 120300S02020	S02020	12.7	3.18	●		
		RNMN 120400S02020	S02020	12.7	4.76	●	D58, D61	

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

How to read pages of "Turning inserts" ➡ See page **B15**

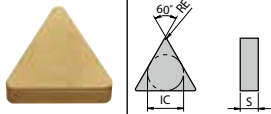
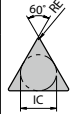
Cutting edge preparation				Gray cast iron (with scale)			✖	K	
Symbol	Specification	Example		Gray cast iron (without scale)			✖		
		F	Sharp edge	Nodular cast iron (with scale)					
F	Sharp edge			Hard materials (Roughing)				H	
E	R-honed	E008	R0.08mm honed	Hard materials (Finishing)			●		
T	Chamfered	T01215	0.12mm×15° chamfered	Hard materials (Chip control)					
S	Chamfered and R-honed	S01225	0.12mm×25° chamfered and R-honed	Sintered steel				-	
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)			CBN	Applicable toolholder
					IC	S	RE	PVD	
							KB9000		
		SNMN 090308S02020 090312S02020	S02020	8	9.525	3.18	0.8 1.2	● ●	D63, D64
		SNMN 120308S02020 120312S02020	S02020	8	12.7	3.18	0.8 1.2	● ●	
		SNMN 120412S02020 120416S02020 120420S02020	S02020	8	12.7	4.76	1.2 1.6 2	● ● ●	D52~D54 D63, D64

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

60° Triangle / Solid

How to read pages of "Turning inserts" ➡ See page B15

Cutting edge preparation				Gray cast iron (with scale)				✖			
Symbol				Gray cast iron (without scale)				✖			
Specification				Nodular cast iron (with scale)							
Example				Hard materials (Roughing)							
F	Sharp edge	F	Sharp edge	Hard materials (Finishing)				●			
E	R-honed	E008	R0.08mm honed	Hard materials (Chip control)							
T	Chamfered	T01215	0.12mm × 15° chamfered	Sintered steel				-			
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed								
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)			CBN	PVD	Applicable toolholder
						IC	S	RE			
		TNMN	110308S02020	S02020	6	6.35	3.18	0.8	●		D66, F152
			160408S02020 160412S02020	S02020	6	9.525	4.76	0.8 1.2	● ●		D56

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

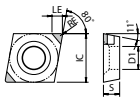
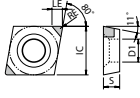
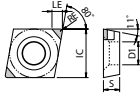
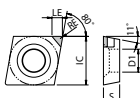
How to read pages of "Turning inserts" ➡ See page **B15**

● : Standard item ○ : Will be replaced with a new product

CBN & PCD Inserts are sold in 1 piece boxes

80° Rhombic

How to read pages of "Turning inserts" See page B15

Cutting edge preparation														K						
Symbol	Specification	Example		Gray cast iron (with scale)																
F	Sharp edge	F	Sharp edge	Gray cast iron (without scale)																
E	R-honed	E008	R0.08mm honed	Nodular cast iron (with scale)																
T	Chamfered	T01215	0.12mm × 15° chamfered	Hard materials (Roughing)																
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed	Hard materials (Finishing)																
				Hard materials (Chip control)																
				Sintered steel																
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					CBN										Applicable toolholder
					IC	S	D1	RE	LE	PVD					-					
										KB010	KB020	KB05M	KB10M	KB25M	KB35M	KB60M	KB475	KB510	KB525	
		CPGB 080204T00815ME	T00815	2	7.94	2.38	3.5	0.4	1.9	●	●	●	●	●	●	●	●	●	F64 F65	
CPGB 090302T00815ME 090304T00815ME 090308T00815ME	T00815	2	9.525	3.18	4.5	0.2 0.4 0.8	1.9 1.9 2.5	●	●	●	●	●	●	●	●	●	●			
								●	●	●	●	●	●	●	●	●	●	●		●
								●	●	●	●	●	●	●	●	●	●	●		●
	 General purpose	CPGB 090304S01225MES 090308S01225MES	S01225	2	9.525	3.18	4.5	0.4 0.8	1.9 2.5	●	●	●	●	●	●	●	●	●		
	 Tough	CPGB 080204S01035MET 080208S01035MET	S01035	2	7.94	2.38	3.5	0.4 0.8	1.9 2.2	●	●	●	●	●	●	●	●	●		
		CPGB 090304S01035MET 090308S01035MET	S01035	2	9.525	3.18	4.5	0.4 0.8	1.9 2.5	●	●	●	●	●	●	●	●	●		
		CPGB 080202T00815SE 080204T00815SE	T00815	1	7.94	2.38	3.5	0.2 0.4	1.9							●	●	●		
		CPGB 090302T00815SE 090304T00815SE	T00815	1	9.525	3.18	4.5	0.2 0.4	1.9								●	●		●

● : Standard item ○ : Will be replaced with a new product

CBN & PCD Inserts are
sold in 1 piece boxes

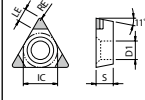
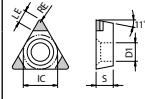
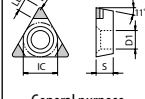
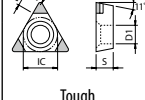
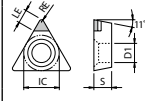
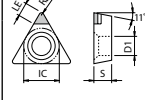
CBN & PCD Tools

How to read pages of "Turning inserts" ➡ See page **B15**

CBN & PCD Inserts are sold in 1 piece boxes

60° Triangle

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Gray cast iron (with scale)													K									
				Gray cast iron (without scale)																						
				Nodular cast iron (with scale)																						
Symbol	Specification	Example		Hard materials (Roughing)													H									
F	Sharp edge	F	Sharp edge	Hard materials (Finishing)																						
E	R-honed	E008	R0.08mm honed	Hard materials (Chip control)																						
T	Chamfered	T01215	0.12mm × 15° chamfered	Sintered steel													-									
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed														-									
Insert				Description	Edge preparation type	No. of edges	Dimension (mm)					CBN										Applicable toolholder				
							IC	S	D1	RE	LE	PVD					-									
												KBN010	KBN020	KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN475	KBN510	KBN525		KBN570			
		TPGB	110304MEF 110308MEF	F	3	6.35	3.18	3.3	0.4 0.8	2.1 1.8															E39 F80~F82 F84, F85	
		TPGB	110302T00815ME 110304T00815ME 110308T00815ME	T00815	3	6.35	3.18	3.3	0.2 0.4 0.8	2.3 2.1 1.8	●	●	●	○	●	●	●	●	●	●	●	●	●	●	E39 F80~F82 F84, F85	
		TPGB	160304T00815ME 160308T00815ME	T00815	3	9.525	3.18	4.5	0.4 0.8	1.8 1.5		●	●	●	●	●	●	●	●	●	●	●	●	●	F80~F82 F84	
		TPGB	110304S01225MES 110308S01225MES	S01225	3	6.35	3.18	3.3	0.4 0.8	2.1 1.8	●	●	●					●	●						E39 F80~F82 F84, F85	
		TPGB	110302S01035MET 110304S01035MET 110308S01035MET	S01035	3	6.35	3.18	3.3	0.2 0.4 0.8	2.3 2.1 1.8	●	●	○	●	●	●	●								E39 F80~F82 F84, F85	
		TPGB	160304S01035MET 160308S01035MET	S01035	3	9.525	3.18	4.5	0.4 0.8	1.8 1.5		●	●		●				●	●						F80~F82 F84
		TPGB	080202T00815SE 080204T00815SE	T00815	1	4.76	2.38	2.5	0.2 0.4	1.8 1.6				○	●	●	●	●	●	●	●	●	●	●	E39 F80~F82, F86	
		TPGB	090202T00815SE 090204T00815SE	T00815	1	5.56	2.38	3	0.2 0.4	1.8 1.6				○	●	●	●	●	●	●	●	●	●	●	F33, F34 F80~F82, F86	
		TPGB	110302T00815SE 110304T00815SE 110308T00815SE	T00815	1	6.35	3.18	3.3	0.2 0.4 0.8	1.9 1.8 1.5				○	●				●	●	●	●	●	●	●	E39 F80~F82 F84, F85
		TPGB	160302T00815SE 160304T00815SE	T00815	1	9.525	3.18	4.5	0.2 0.4	1.9 1.8									●	●	●	●	●	●	●	F80~F82 F84
		TPGB	080202S01035SET 080204S01035SET	S01035	1	4.76	2.38	2.5	0.2 0.4	1.8 1.6				●	●				●						E39 F80~F82, F86	
		TPGB	090202S01035SET 090204S01035SET	S01035	1	5.56	2.38	3	0.2 0.4	1.8 1.6				●	●				●						F33, F34 F80~F82, F86	
		TPGB	110304S01035SET 110308S01035SET	S01035	1	6.35	3.18	3.3	0.4 0.8	1.8 1.5									●	●	●	●	●	●	●	E39, F80~F82 F84, F85
		TPGB	160304S01035SET	S01035	1	9.525	3.18	4.5	0.4	1.8									●							F80~F82 F84

● : Standard item ○ : Will be replaced with a new product

CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

How to read pages of "Turning inserts" ➡ See page **B15**

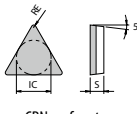
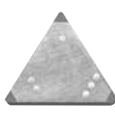
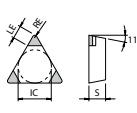
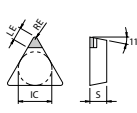
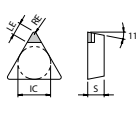
Cutting edge preparation									K
Symbol	Specification	Example							
F	Sharp edge	F	Sharp edge	Gray cast iron (with scale)					
E	R-honed	E008	R0.08mm honed	Gray cast iron (without scale)					
T	Chamfered	T01215	0.12mm × 15° chamfered	Nodular cast iron (with scale)					
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed	Hard materials (Roughing)					
				Hard materials (Finishing)	●	☺	☺	☺	H
				Hard materials (Chip control)					
				Cast iron (steel)					

●: Standard item ○: Will be replaced with a new product

CBN & PCD Inserts are sold in 1 piece boxes

60° Triangle

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				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 preparation type	No. of edges	Dimension (mm)				CBN			Applicable toolholder
				IC	S	RE	LE	PVD	-		
	 CBN surface type	TBGN 060102T00815 060104T00815 060108T00815	T00815	3	3.97	1.59	0.2 0.4 0.8	-		-	
		TPGN 110304T00815ME	T00815	3	6.35	3.18	0.4	2.5		F113	
		TPGN 110304T00815SE	T00815	1	6.35	3.18	0.4	2.5			
		TPGN 160302T00815SE 160304T00815SE 160308T00815SE	T00815	1	9.525	3.18	0.2 0.4 0.8	2.6 2.4 2.1			
							TPGN 110304S01035SET	S01035	1		6.35
	 Tough	TPGN 160304S01035SET	S01035	1	9.525	3.18	0.4	2.4			

● : Standard item ○ : Will be replaced with a new product

CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

How to read pages of "Turning inserts" ➡ See page **B15**

● : Standard item ○ : Will be replaced with a new product

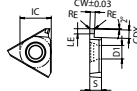
CBN & PCD Inserts are sold in 1 piece boxes

How to read pages of "Turning inserts" ➡ See page **B15**

CBN & PCD Inserts are sold in 1 piece boxes

GBA

How to read pages of "Turning inserts" ➔ See page B15

Cutting edge preparation				Gray cast iron (with scale)												K	
Symbol	Specification	Example		Gray cast iron (without scale)													
F	Sharp edge	F	Sharp edge	Nodular cast iron (with scale)													
E	R-honed	E008	R0.08mm honed	Hard materials (Roughing)													
T	Chamfered	T01215	0.12mm×15° chamfered	Hard materials (Finishing)										○	●	H	
S	Chamfered and R-honed	S01225	0.12mm×25° chamfered and R-honed	Hard materials (Chip control)													
				Sintered steel												-	
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)							Tolerance (mm)		CBN	Applicable toolholder	
						CW	CDX	IC	S	D1	RE	LE	CW min.	CW max.			KBNS10 KBNS25
	 External / Internal Grooving	GBA43R	125-020	E008	1	1.25	2	12.7	4.76	5.5	0.2	1.9	-0.03	+0.03	●	G13~G17 G89	
			150-020			1.5	3.5								●		
			200-020			2	3.5								●		
			250-020			2.5	4								●		
			300-020			3	4								●		
		GBA43L	125-020			1.25	2						-0.03	+0.03	●		
			150-020			1.5	3.5								●		
			200-020			2	3.5								●		
			250-020			2.5	4								●		
			300-020			3	4								●		

Right-hand shown

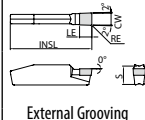
CDX shows available grooving depth.

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

GDGS

How to read pages of "Turning inserts" ➔ See page B15

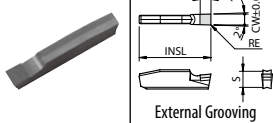
Cutting edge preparation				Gray cast iron (with scale)												K
Symbol	Specification	Example		Gray cast iron (without scale)												
F	Sharp edge	F	Sharp edge	Nodular cast iron (with scale)												
E	R-honed	E008	R0.08mm honed	Hard materials (Roughing)												H
T	Chamfered	T01215	0.12mm × 15° chamfered	Hard materials (Finishing)										●		
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed	Hard materials (Chip control)												
				Sintered steel										●		-
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					Tolerance (mm)		CBN		Applicable toolholder	
						CW	S	RE	INSL	LE	CW min.	CW max.	PVD	-		
  External Grooving		GDGS 2020N-020NB	E008	1	2	4.3	0.2	20	2.9	-0.03	+0.03	●		G34~G42		
			E002									●				
		GDGS 3020N-040NB	E008	1	3	4.3	0.4	20	2.9	-0.03	+0.03	●				
			E002									●				
		GDGS 4020N-040NB	E008	1	4	4.3	0.4	20	2.9	-0.03	+0.03	●				
			E002									●				
		GDGS 5020N-040NB	E008	1	5	4.3	0.4	20	2.9	-0.03	+0.03	●		G34 G40~G42		
			E002									●				
		GDGS 6020N-040NB	E008	1	6	4.3	0.4	20	2.9	-0.03	+0.03	●				
			E002									●				

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

GMN

How to read pages of "Turning inserts" ➔ See page B15

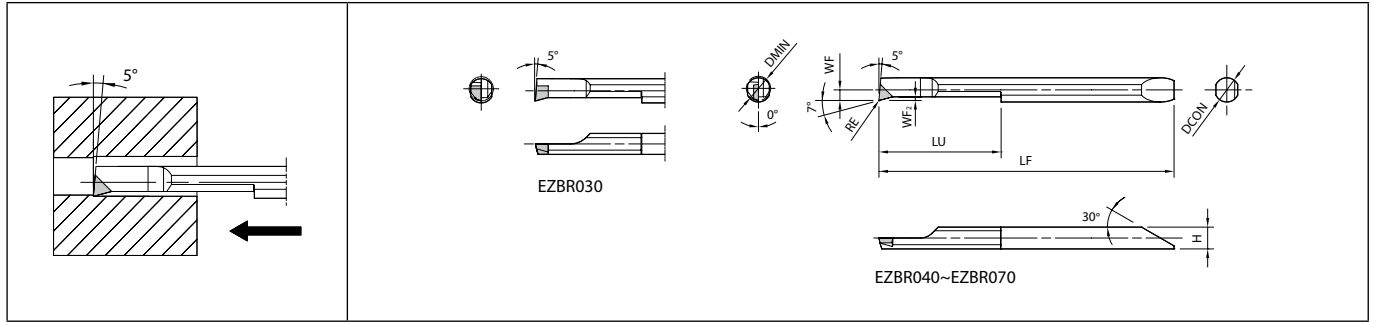
Cutting edge preparation				Gray cast iron (with scale)												K
Symbol	Specification	Example		Gray cast iron (without scale)												
F	Sharp edge	F	Sharp edge	Nodular cast iron (with scale)												
E	R-honed	E008	R0.08mm honed	Hard materials (Roughing)												H
T	Chamfered	T01215	0.12mm × 15° chamfered	Hard materials (Finishing)										○	●	
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed	Hard materials (Chip control)												
				Sintered steel												-
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					Tolerance (mm)		CBN	Applicable toolholder		
						CW	S	RE	INSL	LE	CW min.	CW max.	KBNS10 KBNS25			
																-
	GMN	2	E008	1	2	4.3	0.2	20	2.9	-0.05	+0.05	○	○	G55 G57		
	GMN	3	E008	1	3	4.3	0.4	20	2.9	-0.05	+0.05	○	○	G55~G58		
	GMN	4	E008	1	4	4.3	0.4	20	2.9	-0.05	+0.05	○	○			

○ : Will be replaced with a new product

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

EZB-NB (Boring)



Right-hand shown

Dimensions

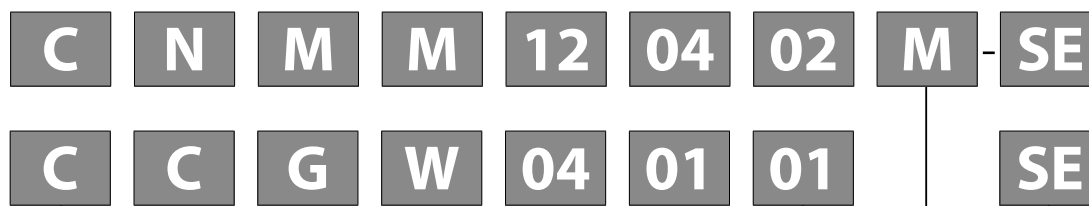
How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Gray cast iron (with scale)												K
Symbol	Specification	Example		Gray cast iron (without scale)												
F	Sharp edge	F	Sharp edge	Nodular cast iron (with scale)												
E	R-honed	E008	R0.08mm honed	Hard materials (Roughing)												H
T	Chamfered	T01215	0.12mm×15° chamfered	Hard materials (Finishing)										●		
S	Chamfered and R-honed	S01225	0.12mm×25° chamfered and R-honed	Hard materials (Chip control)												
				Sintered steel												-
Description		Edge preparation type	No. of edges	Dimension (mm)								Tolerance (mm)		CBN	Applicable sleeve 🌀 F38~F43	
				DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	KBN05M		
EZBR	030030-003NB	T00815	1	3	3	2.6	38.8	13	1.25	0.3	0.035	-0.015	+0.015	●	EZH030...	
EZBR	040040-003NB	T00815	1	4	4	3.6	48.8	20	1.75	0.5	0.035	-0.015	+0.015	●	EZH040...	
EZBR	050050-003NB	T00815	1	5	5	4.6	58.1	25	2.25	0.5	0.035	-0.015	+0.015	●	EZH050...	
EZBR	060060-003NB	T00815	1	6	6	5.6	66.1	30	2.75	0.5	0.035	-0.015	+0.015	●	EZH060...	
EZBR	070070-003NB	T00815	1	7	7	6.6	74.1	35	3.25	0.5	0.035	-0.015	+0.015	●	EZH070...	

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

Identification system (Turning insert / PCD)

Turning indexable inserts identification system [See B2](#)

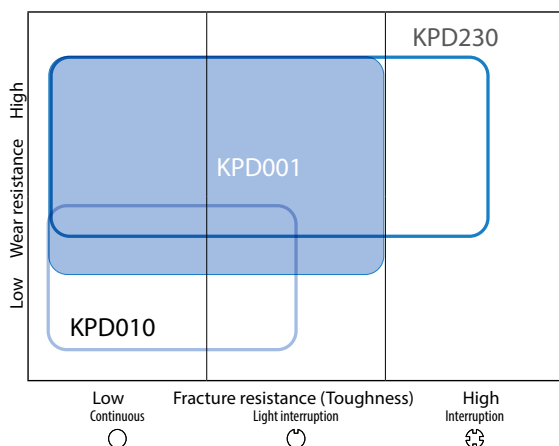
Insert type	Description	Manufacture's option 1	Manufacture's option 2	Series name	Edge length	Number of edges	Re-grinding
Negative	CNMM120402M-SE	M (Indicates the tool is for negative inserts/toolholders)	SE	Small edge	Short (Small edge)	1	Not recommended
	CNMM120402M-NE		NE	New value edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CNMM120402M		Without indication	-	Long	1	
Positive	CCGW040101SE	-	SE	Small edge	Short (Small edge)	1	Not recommended
	CCGW040101NE		NE	New value edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CCGW040101		Without indication	-	Long	1	

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

About re-grinding:

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

Application map



Grades	Applications	Features
KPD001 Average grain size under 0.5 μm	• High speed machining of non-ferrous metals and brass • High speed machining of plastics • Machining of carbide	• The world highest level micro-grain diamond • High edge strength, and superior to wear resistance, fracture resistance and edge sharpening performance
KPD010 Average grain size 10 μm	• High speed machining of non-ferrous metals and brass • High speed machining of plastics • Machining of carbide	• Good balance of wear resistance and flexural strength • General purpose
KPD230 Mixture of fine grain with average grain size 2~30 μm and coarse grain	• High speed machining of non-ferrous metals and brass • High speed machining of plastics	• High density PCD with mixture of coarse and fine grains features excellent abrasive wear resistance and fracture resistance
KPD250 Average grain size 25 μm Made to order	• High speed machining of high silicon aluminium alloy • Machining of carbide	• Coarse grain PCD • Ave. grain size 25 μm • Superior to wear resistance

Recommended cutting conditions

Workpiece material	Insert grades		Cutting conditions				Remarks
	KPD001	KPD010	Vc (m/min)	ap (mm)		f (mm/rev)	
				Small edge and positive inserts	Negative inserts		
Aluminum alloys Zinc alloys	●	○	300 ~ 1,500	~1.0	~2.0	0.03 ~ 0.5	Both: Dry and coolant
Copper, Brass, Bronze	●	○	300 ~ 1,000	~1.0	~2.0	0.03 ~ 0.5	
Magnesium alloys	●	○	400 ~ 1,200	~1.0	~2.0	0.03 ~ 0.5	
Carbide	●	○	10 ~ 30	~0.3	~0.3	0.03 ~ 0.1	
Titanium alloys	●	○	100 ~ 200	~1.0	~2.0	0.05 ~ 0.2	Coolant
Glass fiber reinforced plastics Carbon fiber	●	○	100 ~ 600	~1.0	~2.0	0.05 ~ 0.5	Dry
Silica filling plastic Particle board	●	○	400 ~ 800	~1.0	~2.0	0.05 ~ 0.5	

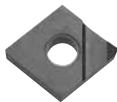
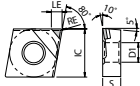
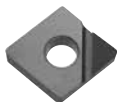
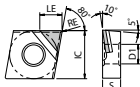
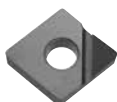
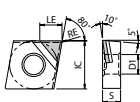
●: 1st Recommendation ○: 2nd Recommendation



CBN & PCD Tools

80° Rhombic

How to read pages of "Turning inserts" See page B15

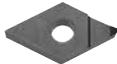
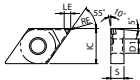
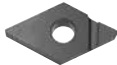
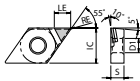
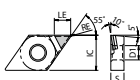
Cutting edge preparation			Non-ferrous metals (with interruption)					●		N		
			Non-ferrous metals (without interruption)					●				
PCD all items	F	Sharp edge	Titanium alloys (with interruption)					●		S		
			Titanium alloys (without interruption)					●				
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	-		
										KP001	KP010	
	 Small Edge	CNMM 120402M-SE 120404M-SE 120408M-SE	F	1	12.7	4.76	5.16	0.2 0.4 0.8	2.8 2.8 2.7	● ● ●	● ● ●	D8~D10 F118 F131 F132
	 New Value Edge	CNMM 120402M-NE 120404M-NE 120408M-NE	F	1	12.7	4.76	5.16	0.2 0.4 0.8	5.1 5 4.9	● ● ●		
		CNMM 120402M 120404M 120408M 120412M	F	1	12.7	4.76	5.16	0.2 0.4 0.8 1.2	5.8 5.8 5.7 5.6	● ● ● ●		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

55° Rhombic

How to read pages of "Turning inserts" See page B15

Cutting edge preparation			Non-ferrous metals (with interruption)							●●		N					
			Non-ferrous metals (without interruption)							●●							
			PCD all items		F	Sharp edge		Titanium alloys (with interruption)							●●		S
								Titanium alloys (without interruption)							●●		
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder				
						IC	S	D1	RE	LE	●●	●●					
														KPD001	KPD010		
	 Small Edge	DNMM	150402M-SE 150404M-SE 150408M-SE	F	1	12.7	4.76	5.16	0.2 0.4 0.8	2.8 2.6 2.2	●● ●● ●●	D13~D17 F120, F136 F138~F140					
	 New Value Edge	DNMM	150402M-NE 150404M-NE 150408M-NE	F	1	12.7	4.76	5.16	0.2 0.4 0.8	5.2 5 4.6	●● ●● ●●						
	 Sharp Edge	DNMM	150402M 150404M 150408M	F	1	12.7	4.76	5.16	0.2 0.4 0.8	5.9 5.8 5.4	●● ●● ●●						

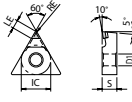
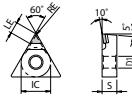
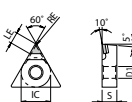
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

60° Triangle

How to read pages of "Turning inserts" See page B15

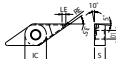
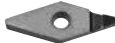
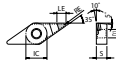
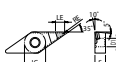
Cutting edge preparation			Non-ferrous metals (with interruption)					●		N		
			Non-ferrous metals (without interruption)					●				
PCD all items	F	Sharp edge	Titanium alloys (with interruption)					●		S		
			Titanium alloys (without interruption)					●				
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	-		
KP0001	KP0010											
	 Small Edge	TNMM 160402M-SE 160404M-SE 160408M-SE	F	1	9.525	4.76	3.81	0.2 0.4 0.8	2.7 2.6 2.3	●● ●● ●●	D22~D25 D27, D28 F122 F143 F144	
	 New Value Edge	TNMM 160402M-NE 160404M-NE 160408M-NE	F	1	9.525	4.76	3.81	0.2 0.4 0.8	3.2 3.1 2.8	●● ●● ●●		
		TNMM 160402M 160404M 160408M 160412M	F	1	9.525	4.76	3.81	0.2 0.4 0.8 1.2	3.8 3.6 3.3 3	●● ●● ●● ●		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

35° Rhombic

How to read pages of "Turning inserts" See page B15

Cutting edge preparation			Non-ferrous metals (with interruption)							●		N
			Non-ferrous metals (without interruption)							●		
PCD all items	F	Sharp edge	Titanium alloys (with interruption)							●		S
			Titanium alloys (without interruption)							●		
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	-		
										KP0001	KP0010	
	 Small Edge	VNMM 160402M-SE 160404M-SE 160408M-SE	F	1	9.525	4.76	3.81	0.2 0.4 0.8	2.9 2.5 1.6	● ● ●	● ● ●	D30~D39
	 New Value Edge	VNMM 160402M-NE 160404M-NE 160408M-NE	F	1	9.525	4.76	3.81	0.2 0.4 0.8	4.7 4.2 3.4	● ● ●	● ● ●	
		VNMM 160402M 160404M 160408M	F	1	9.525	4.76	3.81	0.2 0.4 0.8	5.3 4.8 4	● ● ●	● ● ●	

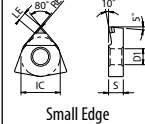
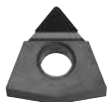
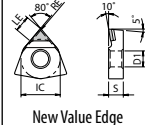
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

80° Trigon

How to read pages of "Turning inserts" See page B15

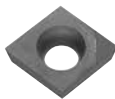
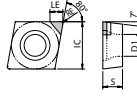
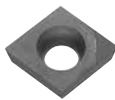
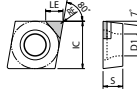
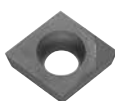
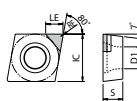
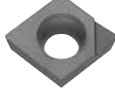
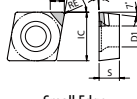
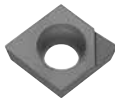
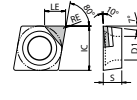
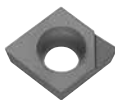
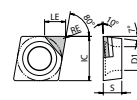
Cutting edge preparation			Non-ferrous metals (with interruption)					●		N					
			Non-ferrous metals (without interruption)					●							
			PCD all items			F	Sharp edge	Titanium alloys (with interruption)					●		S
			Titanium alloys (without interruption)					●							
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder		
						IC	S	D1	RE	LE	-				
											KPD001	KPD010			
	 Small Edge	WNMM	080402M-SE 080404M-SE 080408M-SE	F	1	12.7	4.76	5.16	0.2 0.4 0.8	2.8 2.8 2.7	● ● ●	D43~D46 F146 F148 F149			
	 New Value Edge	WNMM	080402M-NE 080404M-NE	F	1	12.7	4.76	5.16	0.2 0.4	5	● ●				

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

80° Rhombic

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)							●●		N		
				Non-ferrous metals (without interruption)											
PCD all items		F	Sharp edge		Titanium alloys (with interruption)							●●		S	
Titanium alloys (without interruption)		●●													
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder		
						IC	S	D1	RE	LE	●	●			
															KP0001
	 Small Edge	CCGW	040101SE 040102SE 040104SE	F	1	4.3	1.8	2.3	0.1 0.2 0.4	1.3	●●●	F31, F32 F60, F62			
		CCGW	060201SE 060202SE 060204SE	F	1	6.35	2.38	2.8	0.1 0.2 0.4	2.3	●●●	E26, E28, E54 F31, F32 F60~F62, F124			
		CCGW	09T302SE 09T304SE 09T308SE	F	1	9.525	3.97	4.4	0.2 0.4 0.8	2.7	●●●	E26~E28, E54 F60~F62 F124			
	 New Value Edge	CCGW	040101NE 040102NE	F	1	4.3	1.8	2.3	0.1 0.2	1.7 1.6	●●	F31, F32 F60, F62			
		CCGW	060201NE 060202NE 060204NE	F	1	6.35	2.38	2.8	0.1 0.2 0.4	3.1 3 3	●●●	E26, E28, E54 F31, F32 F60~F62, F124			
		CCGW	09T301NE 09T302NE 09T304NE 09T308NE	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.4 3.4 3.4 3.3	●●●●	E26~E28, E54 F60~F62 F124			
	 Small Edge	CCGW	040101 040102 040104	F	1	4.3	1.8	2.3	0.1 0.2 0.4	1.9	●●●	F31, F32 F60, F62			
		CCGW	060201 060202 060204	F	1	6.35	2.38	2.8	0.1 0.2 0.4	3.5	●●●	E26, E28, E54 F31, F32 F60~F62, F124			
		CCGW	09T301 09T302 09T304 09T308	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.8 3.8 3.7 3.6	●●●●	E26~E28, E54 F60~F62 F124			
	 Small Edge	CCMT	060202SE 060204SE	F	1	6.35	2.38	2.8	0.2 0.4	2.2	●●	E26, E28, E54 F31, F32 F60~F62, F124			
		CCMT	09T301SE 09T302SE 09T304SE 09T308SE	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	2.7	●●●●	E26~E28, E54 F60~F62 F124			
	 New Value Edge	CCMT	060201NE 060202NE 060204NE	F	1	6.35	2.38	2.8	0.1 0.2 0.4	2.8	●●●	E26, E28, E54 F31, F32 F60~F62, F124			
		CCMT	09T301NE 09T302NE 09T304NE 09T308NE	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.4 3.4 3.4 3.3	●●●●	E26~E28, E54 F60~F62 F124			
	 Small Edge	CCMT	060201 060202 060204	F	1	6.35	2.38	2.8	0.1 0.2 0.4	3.3 3.3 3.2	●●●	E26, E28, E54 F31, F32 F60~F62, F124			
		CCMT	09T301 09T302 09T304 09T308	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.9 3.9 3.9 3.8	●●●●	E26~E28, E54 F60~F62 F124			

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

80° Rhombic

How to read pages of "Turning inserts" ➔ See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)					●		N			
PCD all items				F		Sharp edge		Non-ferrous metals (without interruption)					●	
				Titanium alloys (with interruption)					●		S			
				Titanium alloys (without interruption)					●					
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder		
						IC	S	D1	RE	LE	-			
											KPD001			
														

CBN

PCD

Positive

C

D

S

T

V

W

Solid

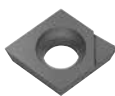
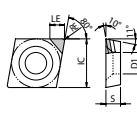
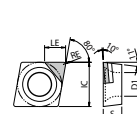
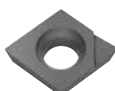
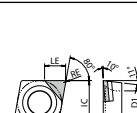
Grooving

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

80° Rhombic

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)						●		N
				Non-ferrous metals (without interruption)						●		
PCD all items	F	Sharp edge	Titanium alloys (with interruption)						●		S	
			Titanium alloys (without interruption)						●			
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	-		
										KP001	KP010	
	 Small Edge	CPMH 090302SE 090304SE	F	1	9.525	3.18	4.5	0.2 0.4	2.7	● ●	F64 F65	
	 New Value Edge	CPMH 080202NE 080204NE	F	1	7.94	2.38	3.5	0.2 0.4	3.2	● ●		
		CPMH 090301NE 090302NE 090304NE 090308NE	F	1	9.525	3.18	4.5	0.1 0.2 0.4 0.8	3.4 3.4 3.4 3.3	● ● ● ●		
		CPMH 080201 080202 080204	F	1	7.94	2.38	3.5	0.1 0.2 0.4	3.7	● ● ●		
	 New Value Edge	CPMH 090301 090302 090304 090308	F	1	9.525	3.18	4.5	0.1 0.2 0.4 0.8	4 3.9 3.9 3.8	● ● ● ●		

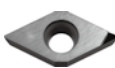
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

55° Rhombic

How to read pages of "Turning inserts" See page B15

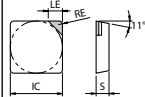
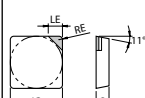
Cutting edge preparation				Non-ferrous metals (with interruption)					●		N	
				Non-ferrous metals (without interruption)					●			
PCD all items		F	Sharp edge		Titanium alloys (with interruption)					●		S
					Titanium alloys (without interruption)					●		
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	KPD001	KPD010	
	DCMT 070201SE 070202SE 070204SE	F	1	6.35	2.38	2.8	0.1 0.2 0.4	2.7	● ● ●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 11T301SE 11T302SE 11T304SE 11T308SE	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	2.7	● ● ● ●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 070201NE 070202NE 070204NE	F	1	6.35	2.38	2.8	0.1 0.2 0.4	3.4 3.4 3.2	● ● ●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 11T301NE 11T302NE 11T304NE 11T308NE	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	3.4 3.3 3.2 2.8	● ● ● ●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 070201 070202 070204	F	1	6.35	2.38	2.8	0.1 0.2 0.4	4 3.9 3.7	●● ●● ●●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 11T301 11T302 11T304 11T308	F	1	9.525	3.97	4.4	0.1 0.2 0.4 0.8	4 3.9 3.7 3.3	●● ●● ●● ●●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 070202R-NE 070202L-NE 070204R-NE 070204L-NE	F	1	6.35	2.38	2.8	0.2 0.2 0.4 0.4	3.3 3.3 3.2 3.2	● ● ● ●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 11T302R-NE 11T302L-NE 11T304R-NE 11T304L-NE	F	1	9.525	3.97	4.4	0.2 0.2 0.4 0.4	3.3 3.3 3.2 3.2	● ● ● ●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		
	DCMT 11T302APD 11T304APD 11T308APD	F	1	9.525	3.97	4.4	0.2 0.4 0.8	2.7	● ● ●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F125		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

90° Square

How to read pages of "Turning inserts" See page B15

Cutting edge preparation			Non-ferrous metals (with interruption)				●		N		
			Non-ferrous metals (without interruption)				●				
PCD all items	F	Sharp edge	Titanium alloys (with interruption)				●		S		
			Titanium alloys (without interruption)				●				
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)				PCD		Applicable toolholder
					IC	S	RE	LE	-		
									KPD001	KPD010	
		SPGN 120304NE	F	1	12.7	3.18	0.4	3.6	●		F112
		SPGN 120304	F	1	12.7	3.18	0.4	4.2	●		

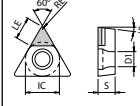
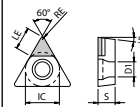
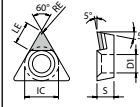
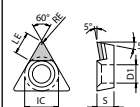
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

60° Triangle

How to read pages of "Turning inserts" See page B15

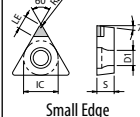
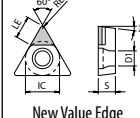
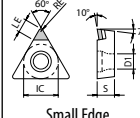
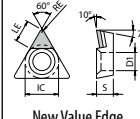
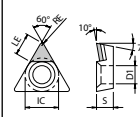
Cutting edge preparation				Non-ferrous metals (with interruption)						●		N
				Non-ferrous metals (without interruption)						●		
PCD all items	F	Sharp edge	Titanium alloys (with interruption)						●		S	
			Titanium alloys (without interruption)						●			
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	-		
										KPD001	KPD010	
	 New Value Edge	TBGW 060102NE 060104NE	F	1	3.97	1.59	2.4	0.2 0.4	2.1 1.9	● ●	F33, F34 F80~F82 F86, F87	
		TBGW 060102 060104	F	1	3.97	1.59	2.4	0.2 0.4	2.4 2.2	● ●		
	 New Value Edge	TBMT 060101NE 060102NE 060104NE 060108NE	F	1	3.97	1.59	2.4	0.1 0.2 0.4 0.8	2.2 2.1 2 1.7	● ● ● ●		
		TBMT 060102 060104 060108	F	1	3.97	1.59	2.4	0.2 0.4 0.8	2.5 2.3 2	● ● ●		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

60° Triangle

How to read pages of "Turning inserts" See page B15

Cutting edge preparation			Non-ferrous metals (with interruption)									N
			Non-ferrous metals (without interruption)									
PCD all items	F	Sharp edge	Titanium alloys (with interruption)									S
			Titanium alloys (without interruption)									
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE			
										KPD001	KPD010	
	 Small Edge	TCGW 110302SE 110304SE	F	1	6.35	3.18	2.8	0.2 0.4	2.5 2.4	● ●	E38	
	 New Value Edge	TCGW 110302NE 110304NE	F	1	6.35	3.18	2.8	0.2 0.4	3.3 3.2	● ●		
	 Small Edge	TCMT 110301SE 110302SE 110304SE	F	1	6.35	3.18	2.8	0.1 0.2 0.4	2.6 2.5 2.4	● ● ●		
	 New Value Edge	TCMT 080202NE	F	1	4.76	2.38	2.5	0.2	2.1	●		
		TCMT 110302NE	F	1	6.35	3.18	2.8	0.2	3.4	●		
	 New Value Edge	TCMT 080202 080204	F	1	4.76	2.38	2.5	0.2 0.4	2.4 2.2	● ●		

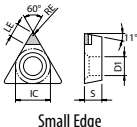
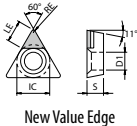
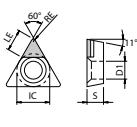
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

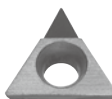
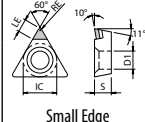
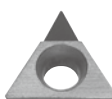
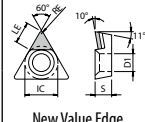
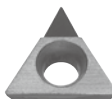
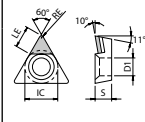
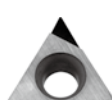
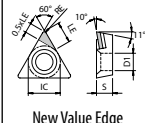
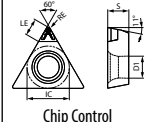
60° Triangle

How to read pages of "Turning inserts" See page B15

Cutting edge preparation			Non-ferrous metals (with interruption)							N		
			Non-ferrous metals (without interruption)									
PCD all items	F	Sharp edge	Titanium alloys (with interruption)							S		
			Titanium alloys (without interruption)									
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE			
										KPD001	KPD010	
	 Small Edge	TPGB 090202SE 090204SE 090208SE	F	1	5.56	2.38	3.2	0.2 0.4 0.8	2.1	● ● ●	F33, F34 F80~F82, F86	
		TPGB 110301SE 110302SE 110304SE	F	1	6.35	3.18	3.3	0.1 0.2 0.4	2.7 2.6 2.5	●● ●● ●●	E39 F80~F82 F84, F85	
		TPGB 160302SE 160304SE	F	1	9.525	3.18	4.7	0.2 0.4	2.6 2.4	●● ●●	F80~F82 F84	
	 New Value Edge	TPGB 080202NE 080204NE 080208NE	F	1	4.76	2.38	2.3	0.2 0.4 0.8	2.2 2.1 1.8	● ● ●	E39 F80~F82, F86	
		TPGB 090202NE 090204NE	F	1	5.56	2.38	3.2	0.2 0.4	2.7 2.6	● ●	F33, F34 F80~F82, F86	
		TPGB 110302NE 110304NE 110308NE	F	1	6.35	3.18	3.3	0.2 0.4 0.8	3.4 3.3 3	● ● ●	E39 F80~F82 F84, F85	
		TPGB 160304NE 160308NE	F	1	9.525	3.18	4.7	0.4 0.8	3.2 2.9	● ●	F80~F82 F84	
		TPGB 080202 080204	F	1	4.76	2.38	2.3	0.2 0.4	2.6 2.4	●● ●●	E39 F80~F82, F86	
		TPGB 090202 090204	F	1	5.56	2.38	3.2	0.2 0.4	3.2 3	● ●●	F33, F34 F80~F82, F86	
		TPGB 110302 110304 110308	F	1	6.35	3.18	3.3	0.2 0.4 0.8	3.9 3.7 3.4	●● ●● ●●	E39 F80~F82 F84, F85	

60° Triangle

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)							●		N	
				Non-ferrous metals (without interruption)							●			
PCD all items		F	Sharp edge		Titanium alloys (with interruption)							●		S
					Titanium alloys (without interruption)							●		
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder	
						IC	S	D1	RE	LE	-			
											KPD001	KPD010		
		TPMH	080202SE 080204SE	F	1	4.76	2.38	2.3	0.2 0.4	2 1.8	● ●	E39 F80~F82, F86		
		TPMH	090202SE 090204SE	F	1	5.56	2.38	3.2	0.2 0.4	2.4 2.2	● ●	F33, F34 F80~F82, F86		
		TPMH	110301SE 110302SE 110304SE	F	1	6.35	3.18	3.3	0.1 0.2 0.4	2.7 2.6 2.5	● ● ●	E39 F80~F82 F84, F85		
		TPMH	160302SE 160304SE	F	1	9.525	3.18	4.7	0.2 0.4	2.6 2.4	● ●	F80~F82 F84		
		TPMH	080201NE 080202NE 080204NE	F	1	4.76	2.38	2.3	0.1 0.2 0.4	2.3 2.2 2.1	● ● ●	E39 F80~F82, F86		
		TPMH	090201NE 090202NE 090204NE 090208NE	F	1	5.56	2.38	3.2	0.1 0.2 0.4 0.8	2.7 2.6 2.5 2.2	● ● ● ●	F33, F34 F80~F82, F86		
		TPMH	110301NE 110302NE 110304NE 110308NE	F	1	6.35	3.18	3.3	0.1 0.2 0.4 0.8	3.4 3.3 3.2 2.9	● ● ● ●	E39 F80~F82 F84, F85		
		TPMH	160304NE 160308NE	F	1	9.525	3.18	4.7	0.4 0.8	3.3 3	● ●	F80~F82 F84		
		TPMH	080202 080204	F	1	4.76	2.38	2.3	0.2 0.4	2.5 2.3	● ●	E39 F80~F82, F86		
		TPMH	090201 090202 090204	F	1	5.56	2.38	3.2	0.1 0.2 0.4	3 2.9 2.8	● ● ●	F33, F34 F80~F82, F86		
		TPMH	110301 110302 110304 110308	F	1	6.35	3.18	3.3	0.1 0.2 0.4 0.8	3.9 3.9 3.7 3.4	● ● ● ●	E39 F80~F82 F84, F85		
		TPMH	160302 160304 160308	F	1	9.525	3.18	4.7	0.2 0.4 0.8	4 3.8 3.6	● ● ●	F80~F82 F84		
		TPMH	110302L-NE 110304L-NE	F	1	6.35	3.18	3.3	0.2 0.4	3.8 3.6	● ●	E39 F80~F82 F84, F85		
		TPMT	110302APD 110304APD 110308APD	F	1	6.35	3.18	3.3	0.2 0.4 0.8	2.6 2.5 2.5	● ● ●	E39 F80~F82 F84, F85		

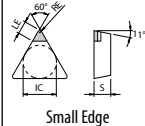
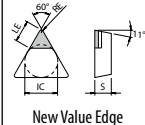
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

60° Triangle

How to read pages of "Turning inserts" See page B15

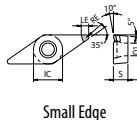
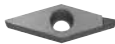
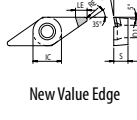
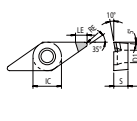
Cutting edge preparation				Non-ferrous metals (with interruption)				●		N		
				Non-ferrous metals (without interruption)				●				
PCD all items	F	Sharp edge	Titanium alloys (with interruption)				●		S			
			Titanium alloys (without interruption)				●					
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)				PCD		Applicable toolholder
						IC	S	RE	LE	-		
										KPD001	KPD010	
	 Small Edge	TPGN	110301SE 110302SE 110304SE	F	1	6.35	3.18	0.1 0.2 0.4	2.6 2.5 2.4	● ● ●	F113	
		TPGN	160301SE 160302SE 160304SE	F	1	9.525	3.18	0.1 0.2 0.4	2.6 2.6 2.4	● ● ●		
		TPGN	160304NE 160308NE	F	1	9.525	3.18	0.4 0.8	3.2 2.9	● ●		
	 New Value Edge	TPGN	110302 110304	F	1	6.35	3.18	0.2 0.4	3.9 3.7	● ●		
		TPGN	160304 160308	F	1	9.525	3.18	0.4 0.8	3.7 3.4	● ●		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

35° Rhombic

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)							N	
				Non-ferrous metals (without interruption)								
PCD all items	F	Sharp edge	Titanium alloys (with interruption)							S		
			Titanium alloys (without interruption)									
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder
					IC	S	D1	RE	LE	-		
										KPD001	KPD010	
	 Small Edge	VBMT	110301SE 110302SE 110304SE 110308SE	F	1	6.35	3.18	2.8	0.1	2.5	●	E40~E43 E58 F90, F91 F94~F99
									0.2	2.3	●	
									0.4	1.9	●	
									0.8	1.9	●	
		VBMT	160401SE 160402SE 160404SE 160408SE	F	1	9.525	4.76	4.4	0.1	2.7	●	E41~E43 F90, F91 F94~F99
									0.2	2.5	●	
									0.4	2.1	●	
									0.8	2	●	
	 New Value Edge	VBMT	110301NE 110302NE 110304NE 110308NE	F	1	6.35	3.18	2.8	0.1	2.6	●	E40~E43 E58 F90, F91 F94~F99
									0.2	2.4	●	
									0.4	2	●	
									0.8	3.1	●	
		VBMT	160401NE 160402NE 160404NE 160408NE	F	1	9.525	4.76	4.4	0.1	2.8	●	E41~E43 F90, F91 F94~F99
									0.2	2.6	●	
									0.4	2.2	●	
									0.8	3	●	
	 Standard	VBMT	110301 110302 110304 110308	F	1	6.35	3.18	2.8	0.1	3	●	E40~E43 E58 F90, F91 F94~F99
									0.2	2.8	●	
									0.4	2.4	●	
									0.8	3.5	●	
		VBMT	160401 160402 160404 160408	F	1	9.525	4.76	4.4	0.1	3.2	●	E41~E43 F90, F91 F94~F99
									0.2	3	●	
									0.4	2.6	●	
									0.8	3.5	●	

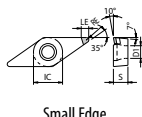
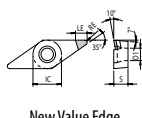
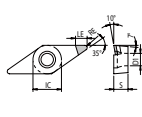
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

35° Rhombic

How to read pages of "Turning inserts" See page B15

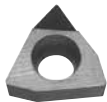
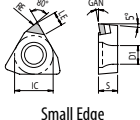
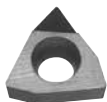
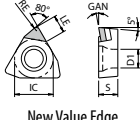
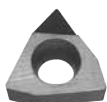
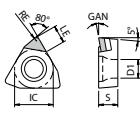
Cutting edge preparation			Non-ferrous metals (with interruption)					●		N	
			Non-ferrous metals (without interruption)					●			
PCD all items	F	Sharp edge	Titanium alloys (with interruption)					●		S	
			Titanium alloys (without interruption)					●			
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder
					IC	S	D1	RE	LE	-	
										KPD001	
	 Small Edge	VCMT 080202SE 080204SE 080208SE	F	1	4.76	2.38	2.3	0.2 0.4 0.8	1.4	● ● ●	E59 F90, F91 F94~F99
	 New Value Edge	VCMT 080201NE 080202NE 080204NE 080208NE	F	1	4.76	2.38	2.3	0.1 0.2 0.4 0.8	1.7 1.7 1.8 1.9	● ● ● ●	
	 New Value Edge	VCMT 080201 080202 080204 080208	F	1	4.76	2.38	2.3	0.1 0.2 0.4 0.8	2 2 2.1 2.2	● ● ● ●	

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

80° Trigon

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)							●		N	
				Non-ferrous metals (without interruption)							●			
PCD all items		F	Sharp edge		Titanium alloys (with interruption)							●		S
					Titanium alloys (without interruption)							●		
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder	
						IC	S	D1	RE	LE	-			
											KPD001	KPD010		
		Small Edge	WBMT	060102L-SE	F	1	3.97	1.59	2.3	0.2	1.3	●		F36 F100~F102
			WBMT	080202L-SE	F	1	4.76	2.38	2.3	0.2	1.6	●		
		New Value Edge	WBMT	060101L-NE 060102L-NE 060104L-NE	F	1	3.97	1.59	2.3	0.1 0.2 0.4	1.7 1.6 1.6	● ● ●		
			WBMT	080202L-NE 080204L-NE	F	1	4.76	2.38	2.3	0.2 0.4	2.1	● ●		
			WBMT	060101L 060102L 060104L	F	1	3.97	1.59	2.3	0.1 0.2 0.4	1.9	● ● ●	●	
			WBMT	080202L 080204L	F	1	4.76	2.38	2.3	0.2 0.4	2.4 2.3	● ●	●	

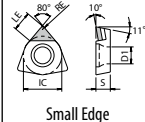
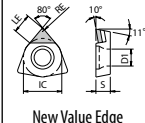
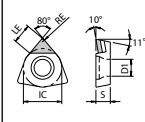
● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

80° Trigon

How to read pages of "Turning inserts" See page B15

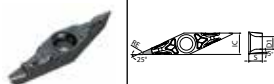
Cutting edge preparation				Non-ferrous metals (with interruption)						●		N		
				Non-ferrous metals (without interruption)						●				
PCD all items		F	Sharp edge		Titanium alloys (with interruption)						●		S	
					Titanium alloys (without interruption)						●			
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					PCD		Applicable toolholder	
						IC	S	D1	RE	LE	-			
											KPD001	KPD010		
	 Small Edge	WPMT	110202SE	F	1	6.35	2.38	2.8	0.2	2.1	●		F100~F102	
	 New Value Edge	WPMT	110202NE	F	1	6.35	2.38	2.8	0.2	2.7	●			
		WPMT	110202	F	1	6.35	2.38	2.8	0.2	3.1	●			

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

25° Rhombic

How to read pages of "Turning inserts" ➡ See page B15

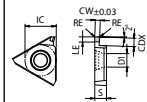
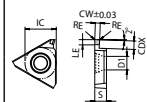
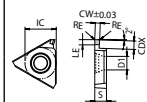
Cutting edge preparation												
PCD all items F Sharp edge			Non-ferrous metals (with interruption)									
			Non-ferrous metals (without interruption)									
			Titanium alloys (with interruption)									
			Titanium alloys (without interruption)									
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)				Angle (°)		PCD	Applicable toolholder
					IC	S	D1	RE	AN			
											KPD001	
 New Value Edge		ZBMT 13T301NE 13T302NE 13T304NE	F	1	6.35	3.97	3.7	0.1 0.2 0.4	5	● E52, E53 ● F106~F110		



CBN & PCD Tools

GBA

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)												N	
PCD all items		F	Sharp edge	Non-ferrous metals (without interruption)													
				Titanium alloys (with interruption)												S	
				Titanium alloys (without interruption)													
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)							Tolerance (mm)		PCD	Applicable toolholder	
						CW	CDX	IC	S	D1	RE	LE	CW min.	CW max.			KPD001 KPD010
				F	1	1.25 1.5 2	2 2 2.5	9.525	3.18	4.4	0.1	1.7	- 0.03	+ 0.03	● ● ●	G13~G17 G89	
				F	1	1.25 1.5 2 2.5 3	2 3.5 3.5 4 4	12.7	4.76	5.5	0.1	1.9	- 0.03	+0.03	● ● ● ● ● ● ● ● ● ● ●		
				F	1	1.25 1.5 2 2.5 3	2 3.5 3.5 4 4	12.7	4.76	5.5	0.1	1.9	- 0.03	+0.03	● ● ● ● ● ● ● ● ● ● ●		

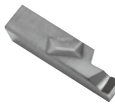
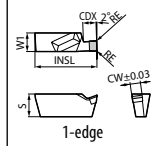
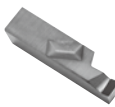
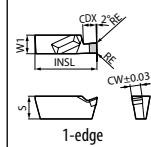
CDX shows available grooving depth.
Right-hand shown

● : Standard item □ : Deleted from the next catalog

CBN & PCD Inserts are
sold in 1 piece boxes

GV/GVF

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)											N		
PCD all items				F	Sharp edge	Non-ferrous metals (without interruption)											
						Titanium alloys (with interruption)											S
						Titanium alloys (without interruption)											
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)						Tolerance (mm)		PCD	Applicable toolholder		
						CW	CDX	S	RE	INSL	W1	CW min.	CW max.				
																-	
				GVR	145-020A 200-020A	F	1	1.45 2	2.3	5	0.2	12	4	-0.03 +0.03	● ●	G86~G88	
				GVR	200-020B 250-020B	F	1	2 2.5	3.2	5.5	0.2	15	4.5	-0.03 +0.03	● ●		
		GVFR 250-020B 300-020B 400-020B		F	1	2.5 3 4	4.8 4.8 5.3	5	0.2	20	5.8	-0.03 +0.03	● ● MTO	G127~G130 G133			
		GVFL 250-020B 300-020B 400-020B				2.5 3 4	4.8 4.8 5.3										
		GVFR 350-040C				F	1								3.5	6.8	7

CDX shows available grooving depth.
Right-hand shown

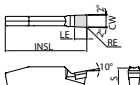
● : Standard item MTO : Made to order

CBN & PCD Inserts are
sold in 1 piece boxes



GDGS

How to read pages of "Turning inserts" ➡ See page B15

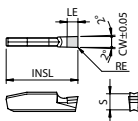
Cutting edge preparation				Non-ferrous metals (with interruption)								●		N
				Non-ferrous metals (without interruption)								●		
PCD all items		F	Sharp edge	Titanium alloys (with interruption)								●		S
				Titanium alloys (without interruption)								●		
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					Tolerance (mm)		PCD	Applicable toolholder	
					CW	S	RE	INSL	LE	CW min.	CW max.	KPD001		
		GDGS 2020N-020NB	F	1	2	4.3	0.2	20	2.9	- 0.03	+ 0.03	●	G34~G42	
		GDGS 3020N-020NB	F	1	3	4.3	0.2	20	2.9	- 0.03	+ 0.03	●		
		GDGS 4020N-020NB	F	1	4	4.3	0.2	20	2.9	- 0.03	+ 0.03	●		
		GDGS 5020N-020NB	F	1	5	4.3	0.2	20	2.9	- 0.03	+ 0.03	●	G34 G40~G42	
		GDGS 6020N-020NB	F	1	6	4.3	0.2	20	2.9	- 0.03	+ 0.03	●		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

GMN

How to read pages of "Turning inserts" ➔ See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)									●		N
				Non-ferrous metals (without interruption)									●		
PCD all items		F	Sharp edge	Titanium alloys (with interruption)									●		S
				Titanium alloys (without interruption)									●		
Insert		Description	Edge preparation type	No. of edges	Dimension (mm)					Tolerance (mm)		PCD		Applicable toolholder	
					CW	S	RE	INSL	LE	CW min.	CW max.	KPD001	KPD010		
		GMN 2	F	1	2	4.3	0.2	20	2.9	-0.05	+0.05	○	○	G55 G57	
		GMN 3	F	1	3	4.3	0.2	20	2.9	-0.05	+0.05	○	○	G55~G58	
		GMN 4	F	1	4	4.3	0.2	20	2.9	-0.05	+0.05	○	○		
		GMN 5	F	1	5	4.3	0.2	20	2.9	-0.05	+0.05	○	○		
		GMN 6	F	1	6	4.3	0.2	20	2.9	-0.05	+0.05	○	○	G56 G57	

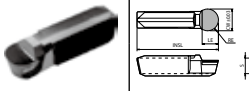
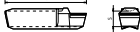
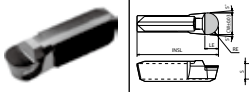
○ : Will be replaced with a new product

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

GMGW

How to read pages of "Turning inserts" See page B15

Cutting edge preparation		Non-ferrous metals (with interruption)										●	N										
		Non-ferrous metals (without interruption)												●									
GMGW		R-honed										Titanium alloys (with interruption)										●	S
												Titanium alloys (without interruption)											
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)					Tolerance (mm)		PCD	-	Applicable toolholder								
						CW	S	RE	INSL	LE	CW min.	CW max.											
																KPD001							
		GMGW	6030-30R	F	1	6	5.5	3	30	4.5	-0.03	+0.03	●	G67									
		GMGW	8030-40R	F	1	8	5.5	4	30	6	-0.03	+0.03	●										
		GMGW	8030-40R-HR	F	1	8	5.5	4	30	5	-0.03	+0.03	●										

GMGW inserts are exclusively used for KGMW toolholder. It cannot be used for other toolholder because of its different installation angle.

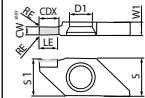
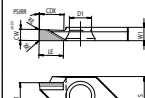
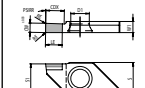
GMGW inserts Edge Preparation : R-honed Cutting Edge.

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

TKF

How to read pages of "Turning inserts" ➔ See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)												N				
				Non-ferrous metals (without interruption)																
PCD all items		F	Sharp edge		Titanium alloys (with interruption)												S			
					Titanium alloys (without interruption)															
Insert		Description		Edge preparation type	No. of edges	Dimension (mm)								Angle (°)	Tolerance (mm)				PCD	Applicable toolholder
						CW	CDX	S	S1	D1	RE	LE	W1		PSIR ⁹ %	CW min.	CW max.	RE (+/-) min.		
		TKF12R	200-AGT 250-AGT	F	1	2 2.5	4.8	8.7	8.3	5	0.1	4.2	3	0	-0.03	+0.03	-0.05	0	● ●	E15 E16
		TKF12R	200-AS	F	1	2	5	8.7	7.3	5	0.1	5.3	3	0	-0.03	+0.03	-0.05	0	●	
		TKF12L	200-AS			2													●	
		TKF12R	250-AS			2.5													●	
		TKF16R	250-AS																●	
		TKF16L	250-AS	F	1	2.5	8	9.5	8	5	0.1	6.3	4	0	-0.03	+0.03	-0.05	0	●	
		TKF12R	150-NB 200-NB 250-NB	F	1	1.5 2 2.5	3.5 4 4	8.7	8.3	5	0.1	2 3 3	3	0	-0.03	+0.03	-0.05	0	● ● ●	

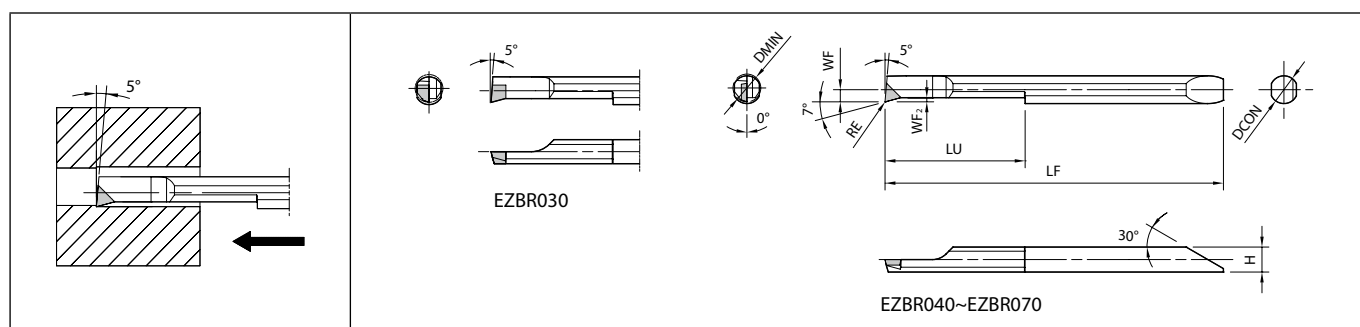
Right-hand shown

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

CBN & PCD Tools

EZB-NB (Boring)



Right-hand shown

Dimensions

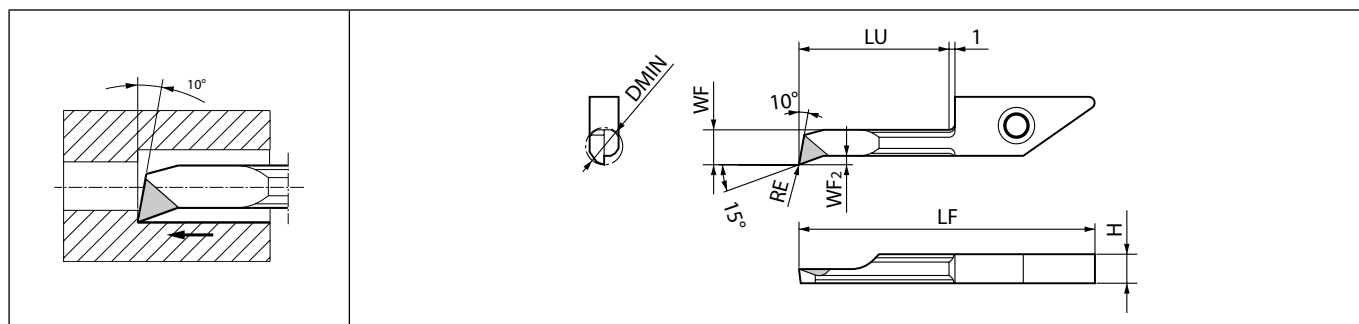
How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)										N
PCD all items		F	Sharp edge		Non-ferrous metals (without interruption)									
				Titanium alloys (with interruption)										S
				Titanium alloys (without interruption)										
Description		No. of edges	Dimension (mm)								Tolerance (mm)		PCD	Applicable sleeve ➡ F39 F41 F43
			DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	KPD001	
EZBR 040040-003NB		1	4	4	3.6	48.8	20	1.75	0.5	0.035	- 0.015	+ 0.015	●	EZH040...
EZBR 050050-003NB		1	5	5	4.6	58.1	25	2.25	0.5	0.035	- 0.015	+ 0.015	●	EZH050...
EZBR 060060-003NB		1	6	6	5.6	66.1	30	2.75	0.5	0.035	- 0.015	+ 0.015	●	EZH060...
EZBR 070070-003NB		1	7	7	6.6	74.1	35	3.25	0.5	0.035	- 0.015	+ 0.015	●	EZH070...

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

VNB-NB (Boring)



Right-hand shown

Dimensions

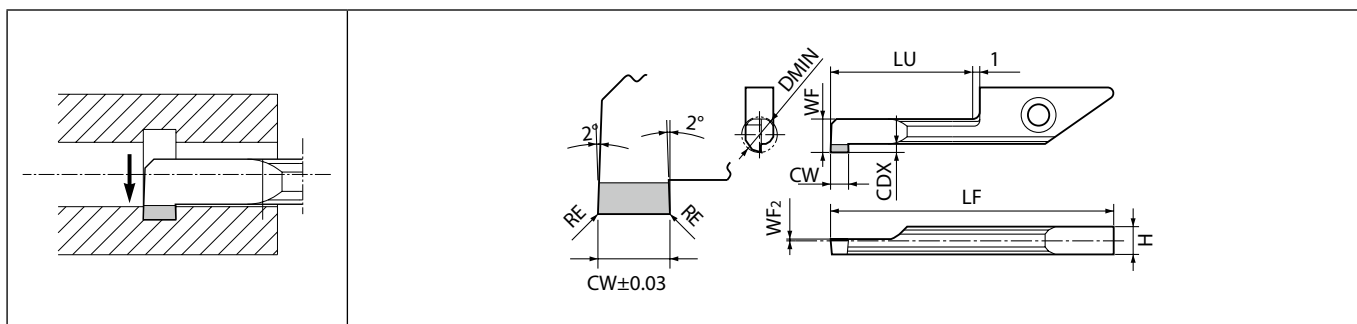
How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)					●	N	
				Non-ferrous metals (without interruption)					●		
PCD all items		F	Sharp edge		Titanium alloys (with interruption)					●	S
					Titanium alloys (without interruption)					●	
Description		No. of edges	Dimension (mm)							PCD	Applicable toolholder
			DMIN	H	LF	LU	WF	WF ₂	RE	-	
VNBR 0411-02NB	1	4	3.66	30.8	11	3.5	0.5	0.2	●	F48~F51	
VNBR 0420-02NB				39.8	20				●		
VNBR 0511-02NB	1	5	3.9	30.8	11	4.5	0.7	0.2	●		
VNBR 0520-02NB				39.8	20				●		
VNBR 0620-02NB	1	6	3.9	39.8	20	5.3	1	0.2	●		
VNBR 0630-02NB				49.8	30				●		
VNBR 0720-02NB	1	7	3.9	39.8	20	6.2	1	0.2	●		
VNBR 0730-02NB				49.8	30				●		

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

VNG (Internal grooving)



Right-hand shown

Dimensions

How to read pages of "Turning inserts" See page B15

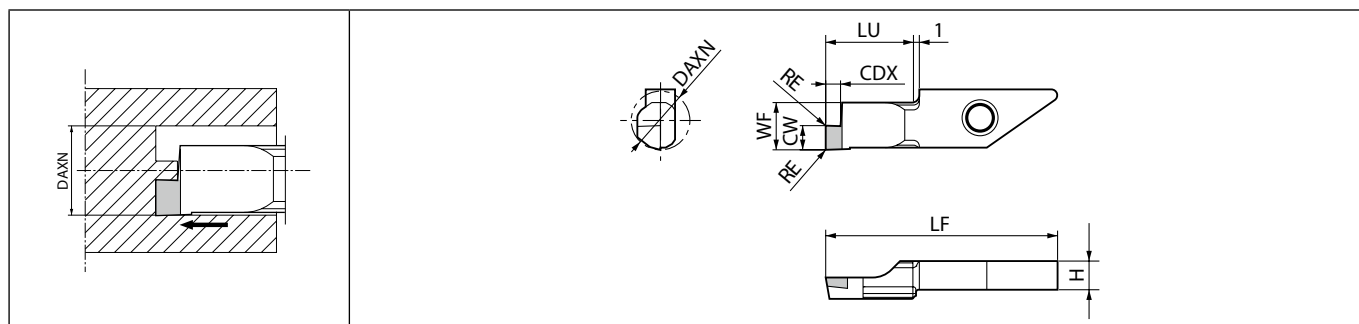
Cutting edge preparation			Non-ferrous metals (with interruption)										●		N
			Non-ferrous metals (without interruption)										●		
PCD all items	F	Sharp edge	Titanium alloys (with interruption)										●		S
			Titanium alloys (without interruption)										●		
Description	No. of edges	Dimension (mm)										Tolerance (mm)		PCD	Applicable toolholder
		DMIN	CW	CDX	H	LF	LU	WF	WF ₂	RE	CW min.	CW max.	-		
													KPD001		
VNGR 0410-11NB	1	4	1	0.8	3.9	30.8	11	3.5	0.1	0.05	-0.03	+0.03	MTO	F48~F51	Applicable toolholder
VNGR 0420-11NB			2										MTO		
VNGR 0510-11NB	1	5	1	1	3.9	30.8	11	4.4	0.1	0.05	-0.03	+0.03	MTO		
VNGR 0520-11NB			2										MTO		
VNGR 0610-20NB	1	6	1	1.8	3.9	39.8	20	5.2	0.3	0.05	-0.03	+0.03	MTO		
VNGR 0620-20NB			2										MTO		
VNGR 0710-20NB	1	7	1	2	3.9	39.8	20	6.2	0.3	0.05	-0.03	+0.03	MTO		
VNGR 0720-20NB			2										MTO		

CDX shows available grooving depth.

MTO : Made to order

CBN & PCD Inserts are
sold in 1 piece boxes

VNFG (Face grooving)



Right-hand shown

Dimensions

How to read pages of "Turning inserts" See page B15

Cutting edge preparation				Non-ferrous metals (with interruption)								●		N	
				Non-ferrous metals (without interruption)								●			
PCD all items		F	Sharp edge		Titanium alloys (with interruption)								●		S
					Titanium alloys (without interruption)								●		
Description		No. of edges	External dia. of the groove (mm)		Dimension (mm)								PCD	Applicable toolholder	
			DAXN (min.)	DAXX (max.)	CW	CDX	H	LF	LU	WF	RE	-			
												KPD001			
VNFR 0820-10NB	1	8 (0)	∞ (∞)	2	2	3.9	29.6	10	7.3	0.05	MT0	F48 F50 F51			
VNFR 0830-10NB	1			3	3	3.9	29.6	10	7.3	0.05	MT0				

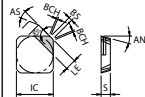
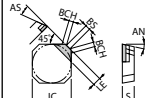
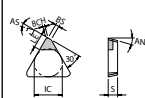
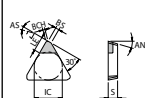
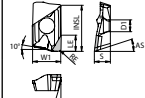
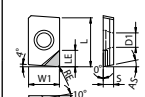
CDX shows available grooving depth.

External dia. of the groove DAXN (0) means that you can make the initial groove within DAXN ~ DAXX and then widen it to the center.

MT0 : Made to order

CBN & PCD Inserts are
sold in 1 piece boxes

Available inserts

Cutting edge preparation			Non-ferrous metals (with interruption)																N		
			Non-ferrous metals (without interruption)																		
PCD all items		F	Sharp edge		Titanium alloys (with interruption)																S
					Titanium alloys (without interruption)																
Insert		Description	No. of edges	Dimension (mm)										Angle (°)		PCD			Applicable toolholder		
				IC	S	D1	RE	INSL	LE	BCH	BS	W1	AN	AS	-						
															KPD001	KPD010	KPD230				
		SDKN 1203AUFN-NE 1203AUFN	1	12.7	3.18	-	-	-	3.1 3.6	0.5	1.2	-	15	23			-				
		SEEN 1203AFFN-NE 1203AFFN	1	12.7	3.18	-	-	-	3 3.5	0.5	1.4	-	20	25							
		TEEN 1603PTFR-NE 1603PTFR	1	9.525	3.18	-	-	-	4.1 4.7	0.6	1.4	-	20	22							
		TEKN 2204PTFR-NE 2204PTFR	1	12.7	4.76	-	-	-	4.2 4.8	0.7	1.8	-	20	22							
		BDGT 11T302FR 11T304FR 11T308FR	1	-	3.8	2.8	0.2 0.4 0.8	11.5	3.8	-	-	6.7	13	18							
		BDGT 11T302FR-LE 11T304FR-LE 11T308FR-LE	1	-	3.8	2.8	0.2 0.4 0.8	11.5	5.2	-	-	6.7	13	18							
		BDMT 11T302FR 11T304FR	1	-	3.8	2.8	0.2 0.4	11	3.6	-	-	6.7	13	18							
		BDMT 170402FR 170404FR	1	-	4.9	4.4	0.2 0.4	17	4.4	-	-	9.6	13	18							
		NDCW 150302FRX-NE	1	-	3.18	4.4	0.2	15	5.1	-	-	9.525	-	15							
		NDCW 150302FRX	1	-	3.18	4.4	0.2	15	5.7	-	-	9.525	-	15							

Handed insert shows Right-hand

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes