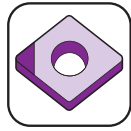


CBN & PCD Tools



C

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 / WP type	C51
Grooving inserts	GBA / TGF	C52
	GV / GVF	C53
	GDGS	C54
	GMN	C55
	GMGW	C56
	TKF	C57
Solid bar	EZB-NB	C58
	VNBR-NB	C59
	VNGR-NB	C60
	VNFR-NB	C61
Milling inserts		C62

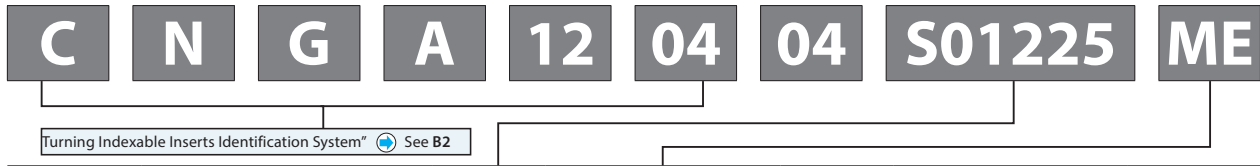
Identification system (Turning insert / CBN)



CBN & PCD Tools

CBN

PCD



Insert type	Description	Edge preparation	Manufacturer'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 ←→ Large

Cutting force: Good ←→ Poor

Wear resistance: Good ←→ Poor

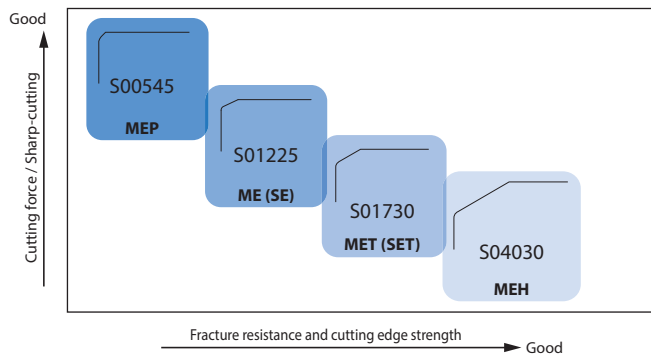
Fracture resistance: Poor ←→ Good

Application: Continuous ←→ Interruption

Chamfered cutting edge (chamfered + honed)

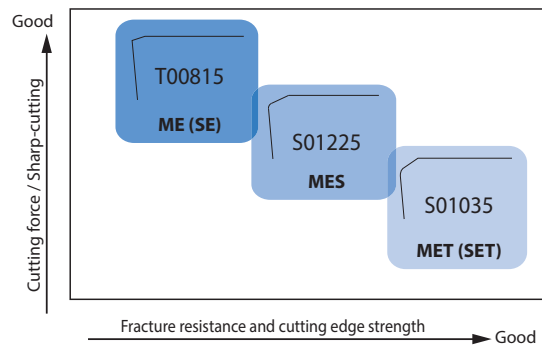
Standard cutting edge preparation

Negative type (machining of hard materials)



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

Positive type (machining of hard materials)



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

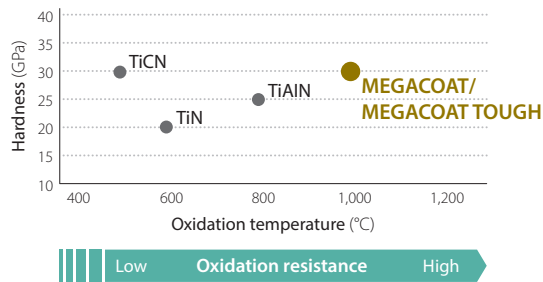


CBN & PCD Tools

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

MEGACOAT CBN

Properties of PVD coating



Advantages of MEGACOAT

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

New Coated CBN for Machining Hardened Material

KBN020

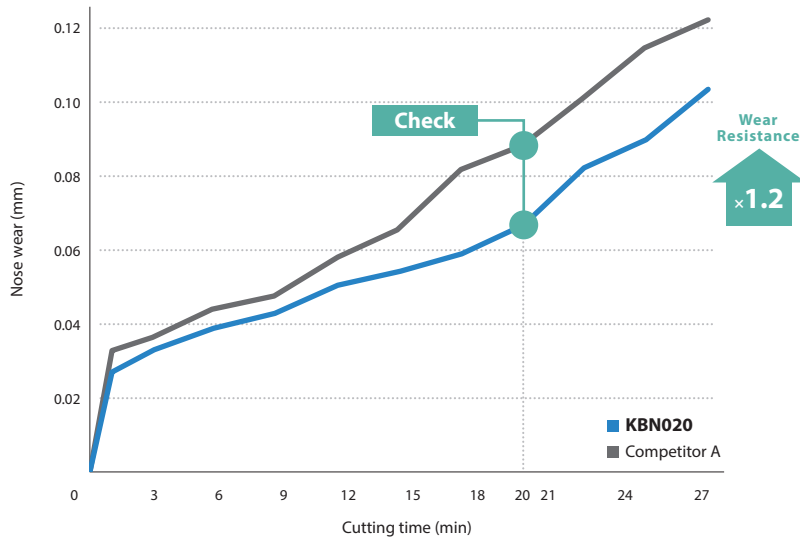
Long tool life and stable machining results with wear resistance and fracture resistance.
Supports a wide range of applications and reduces the cost of machining hardened materials.

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

Wear Resistance

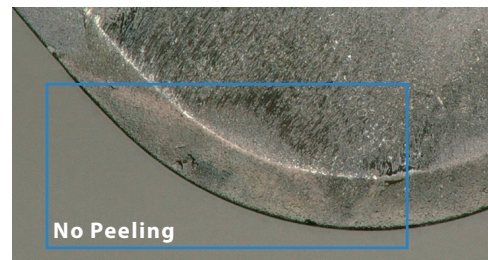
New coating "MEGACOAT TOUGH" suppresses layer peeling.
Excellent wear resistance

Wear Resistance Comparison (In-house evaluation)

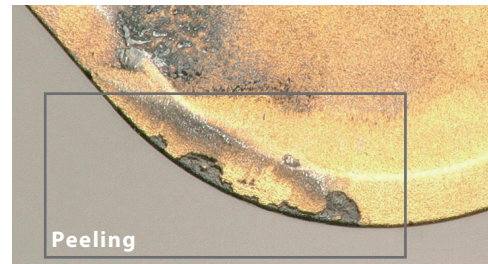


Cutting conditions: $V_c = 150$ m/min, $a_p = 0.2$ mm, $f = 0.1$ mm/rev, Wet
Workpiece material: SCM415 (H) 60HRC

KBN020



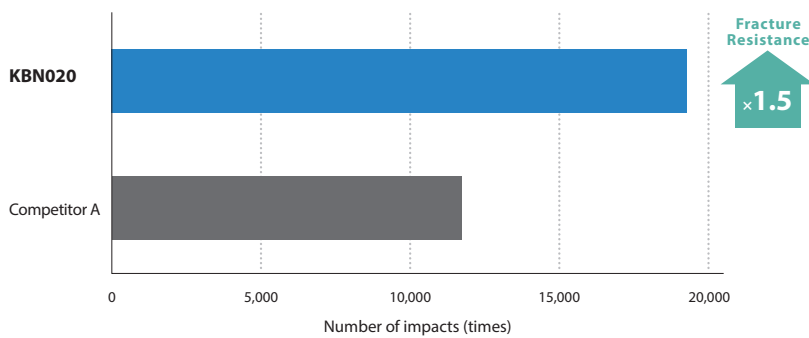
Competitor A



Fracture Resistance

High content CBN and high purity TiN binder improves strength of CBN.
Excellent fracture resistance

Continuous to Interrupted Machining Comparison (In-house evaluation)



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

C4

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.



CBN & PCD Tools

High Wear Resistance Layer with TiAlN + Oxidation Resistance Components.
Suppresses oxidation/diffusional wear

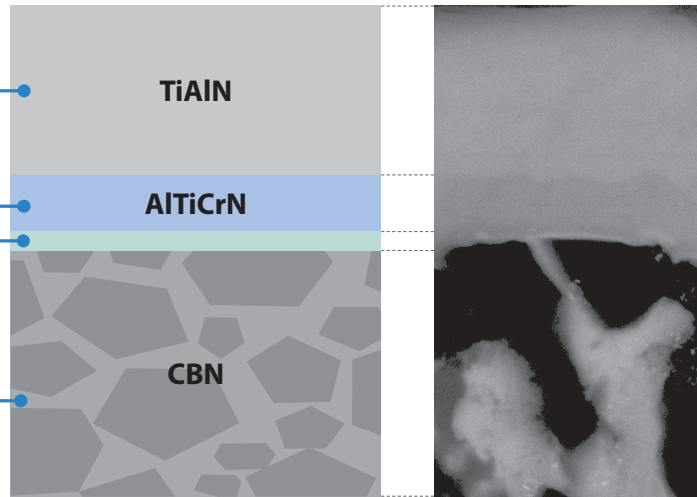
Check New Technology

Interlayer for stress relief

High adhesion layer

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

High content CBN with high purity TiN binder
Improved CBN strength



Layer image

Solution for Automotive Parts

CVT Shaft

Workpiece

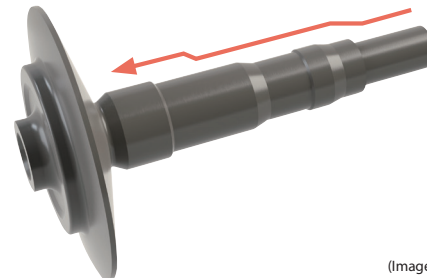
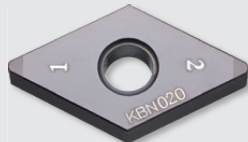
S42Cr420H

Insert

DNGA150404S01225ME

Applications

External finishing



(Image)

Sun Gear

Workpiece

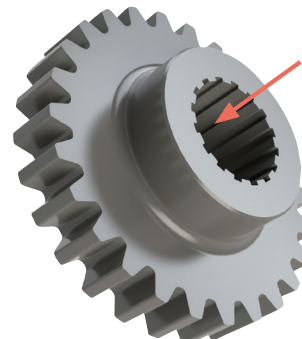
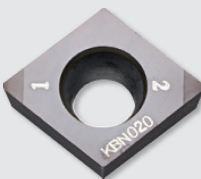
S45C (Carburizing and quenching)

Insert

CCMW09T308S01035MET

Applications

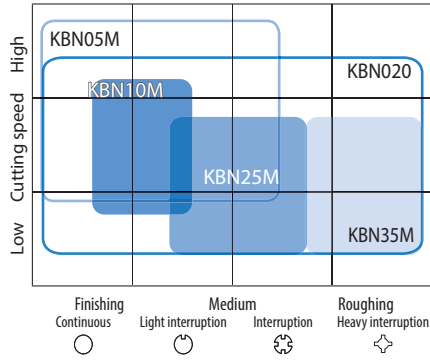
Boring finishing for spline part (Interruption)



(Image)

Application map

Hard materials

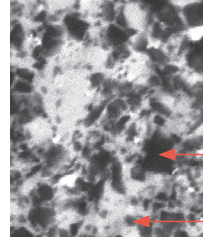


Hybrid grain structure (KBN05M)

Mixed structure of micro grain CBN and coarse grain CBN

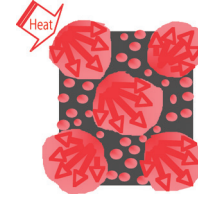
CBN that possess High hardness, toughness and thermal resistance characteristics

CBN structure



Coarse grain CBN

Micro grain CBN



Heat diffusion is promoted by coarse grain CBN High thermal conductivity

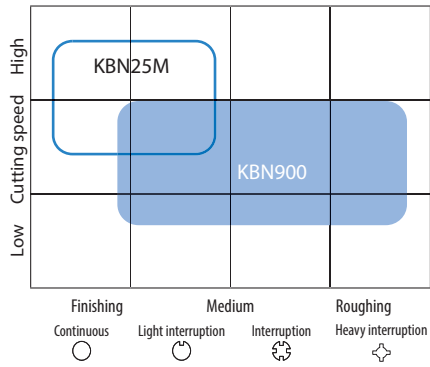
KBN020 : 1st recommended grade for a wide range of application from continuous (high speed finishing) to interrupted machining.

KBN05M : Applicable for continuous (high speed finishing) to interrupted machining. With chipbreaker Inserts are available.

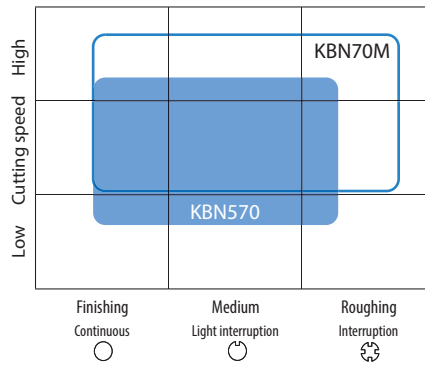
KBN25M : High stability for general machining.

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

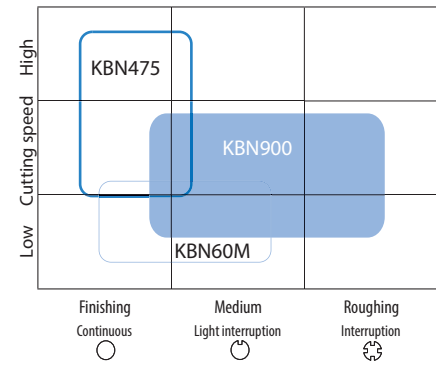
Roll materials (Chilled cast iron)



Sintered steel



Cast iron



Recommended cutting conditions

Workpiece material	Hardness	Applications		Recommended insert grade	Cutting conditions		
					Vc: (m/min)	ap: (mm)	f: (mm/rev)
Hardened steel	Over 55HRC	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
	Under 55HRC	Heavy machining	Continuous ~ Interruption	KBN900	70 - 90 - 110	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2
		HL chipbreaker for hardened steel finishing	Continuous ~ Interruption	KBN05M	100 - 150 - 200	0.1 - 0.2 - 0.3	0.1 - 0.15 - 0.25
		Removing the carburized layer	Finishing	Continuous	*PT600M	60 - 80 - 120	0.2 - 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)	
<ul style="list-style-type: none"> • Gear • External, facing & chamfering • Vc = 130 m/min • ap = 0.6 mm • f = 0.12 mm/rev • Wet • CNGA120408S01225ME (KBN05M) 	
KBN05M	300 pcs/edge
Competitor C	200 pcs/edge
<ul style="list-style-type: none"> • 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)	
<ul style="list-style-type: none"> • Stator • Boring • Vc = 170 m/min • ap = 0.4 mm • f = 0.1 mm/rev • Wet • CNGA120408S01225ME (KBN05M) 	
KBN05M	600 pcs/edge
Competitor D	300 pcs/edge
<ul style="list-style-type: none"> • KBN05M achieved twice longer tool life than competitor D. • Its longer tool life contributes to cost-cutting. 	
Evaluation by the user	

SCr420H (58HRC)	
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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. 	
Evaluation by the user	

SCr20 (61~65HRC)	
<ul style="list-style-type: none"> • Gear • External & facing (Interrupted) • Vc = 120 m/min • ap = 0.15 mm • f = 0.1~0.15 mm/rev (External) • Wet • CNGA120408S04030MEH (KBN05M) 	
KBN05M-MEH (Edge preparation: 0.40 × 30°)	150 pcs/edge
Competitor F	100 pcs/edge
<ul style="list-style-type: none"> • Compared to competitor F, KBN05M-MEH type (Edge prep.: 0.40 × 30° chamfered + R honed) achieved 1.5 times longer tool life. • No chipping in interrupted machining, and improved productivity. Competitor F's cutting edge got many chipping. • Feed rate could be increased from 0.15 to 0.25 mm/rev in facing. • Achieved cycle time and cost reduction. 	
Evaluation by the user	

SCM440 Hardened Steel (55 ~ 62HRC)	
<ul style="list-style-type: none"> • Pinion • Vc = 130 m/min • ap = 0.05 mm • f = 0.08 mm/rev • Dry • CNGM120408ME-HH (KBN05M) 	
KBN05M HH Chipbreaker	70 pcs/edge
Competitor G	30 pcs/edge
<p>The HH chipbreaker maintained 2.3 times longer tool life than Competitor F. The molded chipbreaker provided stable chip control.</p>	
Evaluation by the user	


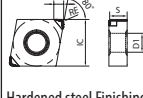

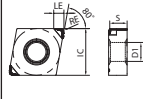

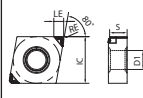
SCr420H (59HRC)	
<ul style="list-style-type: none"> • Clutch • Vc = 100 m/min • ap = 0.15 mm • f = 0.10 mm/rev • Wet • WNGA080408S01225ME (KBN020) 	
KBN020	650 pcs/edge
Competitor H	400 pcs/edge
<p>KBN020 can be stable machining and long tool life.</p>	
Evaluation by the user	



CBN & PCD Tools

80° Rhombic

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

Cutting edge preparation				Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)		Hard materials (Chip control)		Sintered steel	
Symbol	Specification	Example															
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														
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN	PVD	Applicable toolholder						
				IC	S	D1	RE	LE									
  Hardened steel Finishing (55HRC or more)	CNGM 120404ME-HH 120408ME-HH 120412ME-HH	E	2	12.7	4.76	5.16	0.4	2.6	●	D8~D10 F116 F125 F126							
							0.8	2.6	●								
							1.2	2.5	●								
  Hardened steel Finishing (55HRC or less)	CNGM 120404ME-HL 120408ME-HL 120412ME-HL	E	2	12.7	4.76	5.16	0.4	2.6	●								
							0.8	2.6	●								
							1.2	2.5	●								
  Removing the Carburized Layer	CNGM 120404ME-HD 120408ME-HD 120412ME-HD	S01235	2	12.7	4.76	5.16	0.4	2.6	●								
							0.8	2.6	●								
							1.2	2.5	●								

● : Standard item


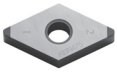
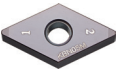

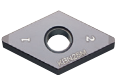
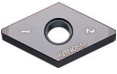
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

55° Rhombic

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

Cutting edge preparation			Material compatibility										Applicable toolholder							
Symbol	Specification	Example	Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)		Hard materials (Chip control)		Sintered steel		K			
F	Sharp edge	F Sharp edge							✱								H			
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															-			
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN							Applicable toolholder				
				IC	S	D1	RE	LE	PVD			-								
 Finishing	DNGA 150404S00545MEP 150408S00545MEP 150412S00545MEP 150416S00545MEP 150420S00545MEP 150424S00545MEP	S00545	2	12.7	4.76	5.16	0.4	2.6	●									D13~D17 F118, F130 F132~F134		
							0.8	2.2	●											
							1.2	1.9	●											
							1.6	3.8	●											
							2	3.5	●											
 Sharp edge	DNGA 150404MEF 150408MEF 150412MEF	F	2	12.7	4.76	5.16	0.4	2.6										D13~D17 F118, F130 F132~F134		
							0.8	2.2												
							1.2	1.9												
 Double-sided	DNGA 150404ME4 150408ME4 150412ME4	S01225	4	12.7	4.76	5.16	0.4	2.6	●									D13~D17 F118, F130 F132~F134		
							0.8	2.2	●											
							1.2	1.9	●											
 Grooving	DNGA 150404T01215ME 150408T01215ME 150412T01215ME	T01215	2	12.7	4.76	5.16	0.4	2.6										D13~D17 F118		
							0.8	2.2												
	DNGA 150604T01215ME DNGA 150401S01225ME 150402S01225ME 150404S01225ME 150408S01225ME 150412S01225ME 150416S01225ME 150420S01225ME 150424S01225ME	T01215	2	12.7	4.76	5.16	0.4	2.6	●									D13~D17 F118, F130 F132~F134		
							0.8	2.2	●											
							1.2	1.9	●											
							1.6	3.8	●											
DNGA 150604S01225ME 150608S01225ME 150612S01225ME	S01225	2	12.7	6.35	5.16	0.4	2.6	●										D13~D17 F118		
						0.8	2.2	●												
						1.2	1.9	●												
 Tough	DNGA 150404S01730MET 150408S01730MET 150412S01730MET 150416S01730MET 150420S01730MET 150424S01730MET	S01730	2	12.7	4.76	5.16	0.4	2.6	●									D13~D17 F118, F130 F132~F134		
							0.8	2.2	●											
							1.2	1.9	●											
							1.6	3.8	●											
							2	3.5	●											
 Interruption	DNGA 150404S04030MEH 150408S04030MEH 150412S04030MEH 150416S04030MEH 150420S04030MEH 150424S04030MEH	S04030	2	12.7	4.76	5.16	0.4	2.6	●									D13~D17 F118, F130 F132~F134		
							0.8	2.2	●											
							1.2	1.9	●											

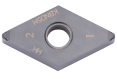

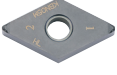

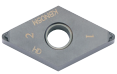

● : Standard item ○ : Check availability

CBN & PCD Inserts are sold in 1 piece boxes

C10

55° Rhombic

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

Cutting edge preparation				Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)		Hard materials (Chip control)		Sintered steel	
Symbol	Specification	Example		K		H		-		-		-		-		-	
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														
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN	PVD	KBN05M	Applicable toolholder					
				IC	S	D1	RE	LE									
	 DNGM 150404ME-HH 150408ME-HH 150412ME-HH Hardened steel Finishing (55HRC or more)	E	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.2 1.9	● ● ●								
	 DNGM 150404ME-HL 150408ME-HL 150412ME-HL Hardened steel Finishing (55HRC or less)	E	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.2 1.9	● ● ●		D13~D17 F118, F130 F132~F134						
	 DNGM 150404ME-HD 150408ME-HD 150412ME-HD Removing the Carburized Layer	S01235	2	12.7	4.76	5.16	0.4 0.8 1.2	2.6 2.2 1.9	● ● ●								




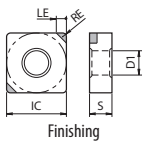

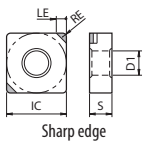

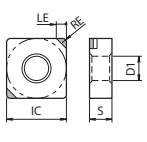

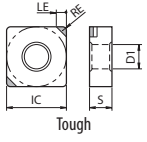

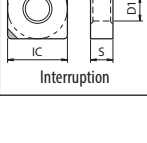


CBN & PCD Tools

● : 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			Gray cast iron (with scale)										K			
Symbol	Specification	Example	Gray cast iron (without scale)										K			
F	Sharp edge	F Sharp edge	Nodular cast iron (with scale)										K			
E	R-honed	E008 R0.08mm honed	Hard materials (Roughing)										H			
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)										H			
			Sintered steel										-			
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN					Applicable toolholder		
				IC	S	D1	RE	LE	PVD		-					
	 Finishing	SNGA	120408S00545MEP 120412S00545MEP	S00545	2	12.7	4.76	5.16	0.8 1.2	1.8 2.2	● ●					
	 Sharp edge	SNGA	120408MEF 120412MEF	F	2	12.7	4.76	5.16	0.8 1.2	1.8 2.2			● ●			
	 Tough	SNGA	120408T01215ME 120412T01215ME	T01215	2	12.7	4.76	5.16	0.8 1.2	1.8			● ●			
	 Tough	SNGA	120404S01225ME 120408S01225ME 120412S01225ME	S01225	2	12.7	4.76	5.16	0.4 0.8 1.2	1.8	● ● ●	● ● ●	● ● ●			
	 Tough	SNGA	120404S01730MET 120408S01730MET 120412S01730MET	S01730	2	12.7	4.76	5.16	0.4 0.8 1.2	1.8 1.8 2.2	● ● ●	● ● ●	● ● ●			
	 Interruption	SNGA	120408S04030MEH 120412S04030MEH	S04030	2	12.7	4.76	5.16	0.8 1.2	1.8 2.2	● ●					

CBN & PCD Tools

CBN

PCD

Negative

C

D

S

T

V

W

Solid

Grooving

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C12

60° Triangle

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

Cutting edge preparation			Material compatibility													Applicable toolholder											
Symbol	Specification	Example	Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Hard materials (Roughing)	Hard materials (Finishing)	Hard materials (Chip control)	Sintered steel	CBN							Applicable toolholder										
										PVD																	
			No. of edges	IC	S	D1	RE	LE	KBN020	KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN475		KBN510	KBN525	KBN570							
	Finishing	TNGA 160404S00545MEP 160408S00545MEP 160412S00545MEP	S00545	3	9.525	4.76	3.81	0.4 0.8 1.2	2.7 2.4 2.1	●	●	●															
	Sharp edge	TNGA 160404MEF 160408MEF 160412MEF	F	3	9.525	4.76	3.81	0.4 0.8 1.2	2.7 2.4 2.1								●	●	●								
	Double-sided	TNGA 160404ME6 160408ME6 160412ME6	S01225	6	9.525	4.76	3.81	0.4 0.8 1.2	2.7 2.4 2.1	●	●	●															
		TNGA 160404T01215ME 160408T01215ME 160412T01215ME	T01215	3	9.525	4.76	3.81	0.4 0.8 1.2	2.7 2.4 2.1								●	●	●	●							
		TNGA 160401S01225ME 160402S01225ME 160404S01225ME 160408S01225ME 160412S01225ME	S01225	3	9.525	4.76	3.81	0.1 0.2 0.4 0.8 1.2	2.9 2.8 2.7 2.4 2.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Tough	TNGA 160404S01730MET 160408S01730MET 160412S01730MET	S01730	3	9.525	4.76	3.81	0.4 0.8 1.2	2.7 2.4 2.1	●	●	●	●	●	●	●											
	Interruption	TNGA 160404S04030MEH 160408S04030MEH 160412S04030MEH	S04030	3	9.525	4.76	3.81	0.4 0.8 1.2	2.7 2.4 2.1	●	●	●	●	●	●	●											

● : Standard item ○ : Check availability

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			Material compatibility										Applicable toolholder				
Symbol	Specification	Example	Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)			Hard materials (Chip control)		Sintered steel	
F	Sharp edge	F Sharp edge							✖							K	
E	R-honed	E008 R0.08mm honed														H	
T	Chamfered	T01215 0.12mm x 15° chamfered														-	
S	Chamfered and R-honed	S01225 0.12mm x 25° chamfered and R-honed														-	
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN								
				IC	S	D1	RE	LE	PVD				-				
	 Finishing	VNGA	160404S00545MEP 160408S00545MEP	S00545	2	9.525	4.76	3.81	0.4 0.8	2 1.8	●	●					
	 Sharp edge	VNGA	160404MEF 160408MEF	F	2	9.525	4.76	3.81	0.4 0.8	2 1.8							●
	 Double-sided	VNGA	160404ME4 160408ME4	S01225	4	9.525	4.76	3.81	0.4 0.8	2 1.8	●	●					
	 Chamfered	VNGA	160404T01215ME 160408T01215ME	T01215	2	9.525	4.76	3.81	0.4 0.8	2 1.8							●
	 Chamfered	VNGA	160401S01225ME 160402S01225ME 160404S01225ME 160408S01225ME	S01225	2	9.525	4.76	3.81	0.1 0.2 0.4 0.8	2.6 2.3 2 1.8	●	○	●	●	●	●	●
	 Tough	VNGA	160404S01730MET 160408S01730MET	S01730	2	9.525	4.76	3.81	0.4 0.8	2 1.8	●	●	●	●			●
	 Interruption	VNGA	160404S04030MEH 160408S04030MEH	S04030	2	9.525	4.76	3.81	0.4 0.8	2 1.8	●	●					



CBN & PCD Tools

CBN

PCD

Negative



Solid

Grooving

● : Standard item ○ : Check availability

CBN & PCD Inserts are sold in 1 piece boxes

C14

80° Trigon

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

Cutting edge preparation				Material compatibility										Applicable toolholder		
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Hard materials (Roughing)	Hard materials (Finishing)	Hard materials (Chip control)	Sintered steel	CBN					Applicable toolholder
F	Sharp edge	F	Sharp edge							K						
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													
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN							
				IC	S	D1	RE	LE	PVD							
									KBN020	KBN05M	KBN25M	KBN35M	KBNG0M	KBN475	KBNS25	
	WNGA 080404MEF 080408MEF	F	3	12.7	4.76	5.16	0.4 0.8	2 2.6								D43~D46 F140 F142 F143
	WNGA 080404T01215ME 080408T01215ME	T01215	3	12.7	4.76	5.16	0.4 0.8	2 2.6								
	WNGA 080404S01225ME 080408S01225ME 080412S01225ME	S01225	3	12.7	4.76	5.16	0.4 0.8 1.2	2 2.6 2.5	●	●	●	●	●	●	●	
	WNGA 080404S01730MET 080408S01730MET 080412S01730MET	S01730	3	12.7	4.76	5.16	0.4 0.8 1.2	2 2.6 2.5	●	●	●	●	●	●	●	

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

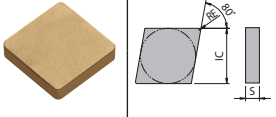


CBN & PCD Tools

80° Rhombic / Solid

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

Cutting edge preparation				Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)		Hard materials (Chip control)		Sintered steel	
Symbol	Specification	Example		K		K		H		H		-		-		-	
F	Sharp edge	F	Sharp edge														
E	R-honed	E08	R0.08mm honed														
T	Chamfered	T01215	0.12mm × 15° chamfered														
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed														

Insert	Description	Edge preparation type	No. of edges	Dimension (mm)			Applicable toolholder
				IC	S	RE	
	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



CBN & PCD Tools

CBN

PCD

Negative



Solid

Grooving

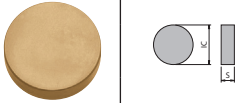
● : Standard item

C16

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
Symbol	Specification	Example		Gray cast iron (without scale)		✳		
F	Sharp edge	F	Sharp edge	Nodular cast iron (with scale)				
E	R-honed	E08	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	Dimension (mm)		CBN	PVD	KBN900	Applicable toolholder
			IC	S				
	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

90° Square / Solid

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

Cutting edge preparation				Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)		Hard materials (Chip control)		Sintered steel	
Symbol	Specification	Example		K		K		H		H		H		-			
F	Sharp edge	F	Sharp edge														
E	R-honed	E08	R0.08mm honed														
T	Chamfered	T01215	0.12mm × 15° chamfered														
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed														

Insert	Description	Edge preparation type	No. of edges	Dimension (mm)			Applicable toolholder	
				IC	S	RE		
	SNMN 090308S02020	S02020	8	9.525	3.18	0.8	D63, D64	
	090312S02020					1.2		
	SNMN 120308S02020	S02020	8	12.7	3.18	0.8		
	120312S02020					1.2		
	SNMN 120412S02020	S02020	8	12.7	4.76	1.2		D52~D54 D63, D64
	120416S02020					1.6		
	120420S02020					2		



CBN & PCD Tools

CBN

PCD

Negative

C

D

S

T

V

W

Solid

Grooving


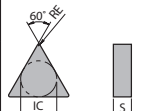
● : Standard item

C18

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)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Hard materials (Roughing)		Hard materials (Finishing)		Hard materials (Chip control)		Sintered steel	
Symbol	Specification	Example		K		H		-		K		H		-			
F	Sharp edge	F	Sharp edge														
E	R-honed	E08	R0.08mm honed														
T	Chamfered	T01215	0.12mm × 15° chamfered														
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, F146									
	TNMN 160408S02020 160412S02020	S02020	6	9.525	4.76	0.8 1.2	● ●	D56									




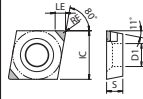

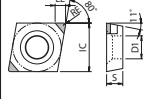
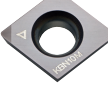
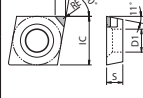
CBN & PCD Tools

● : 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				Material compatibility												Applicable toolholder		
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Hard materials (Roughing)	Hard materials (Finishing)	Hard materials (Chip control)	Sintered steel	CBN						Applicable toolholder	
				Dimension (mm)						PVD								
				IC	S	D1	RE	LE	KBN020	KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN475	KBN510		KBN525
		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	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
		CPGB	090304S01225MES 090308S01225MES	S01225	2	9.525	3.18	4.5	0.4 0.8	1.9 2.5	● ●	● ●	● ●	● ●	● ●	● ●	● ●	
	 <p>General purpose</p>	CPGB	080204S01035MET 080208S01035MET	S01035	2	7.94	2.38	3.5	0.4 0.8	1.9 2.2	● ●	● ●	● ●	● ●	● ●	● ●	● ●	F64 F65
		CPGB	090304S01035MET 090308S01035MET	S01035	2	9.525	3.18	4.5	0.4 0.8	1.9 2.5	● ●	● ●	● ●	● ●	● ●	● ●	● ●	
	 <p>Tough</p>	CPGB	080202T00815SE 080204T00815SE	T00815	1	7.94	2.38	3.5	0.2 0.4	1.9	●	●	●	●	●	●	●	F64 F65
		CPGB	090302T00815SE 090304T00815SE	T00815	1	9.525	3.18	4.5	0.2 0.4	1.9	●	●	●	●	●	●	●	

● : Standard item ○ : Check availability

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			Material										Applicable toolholder																
Symbol	Specification	Example	Gray cast iron (with scale)										K																
			Gray cast iron (without scale)																										
			Nodular cast iron (with scale)										H																
			Hard materials (Roughing)																										
			Hard materials (Finishing)																										
			Hard materials (Chip control)																										
			Sintered steel										-																
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					CBN							Applicable toolholder													
				IC	S	D1	RE	LE	PVD			-																	
								KBN020	KBN05M	KBN10M	KBN25M	KBN35M	KBN60M	KBN70M	KBN475	KBN510	KBN525	KBN570											
	DCMW 11T304MEF 11T308MEF	F	2	9.525	3.97	4.4	0.4	1.7	1.9	●	○	●	●	●	●	●	●	●	●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F123									
																					●	○	●	●	●	●	●	●	●
	DCMW 070202T00815ME 070204T00815ME 070208T00815ME	T00815	2	6.35	2.38	2.8	0.2	1.9	1.7	1.9	●	○	●	●	●	●	●	●	●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76									
																					●	○	●	●	●	●	●	●	●
																					●	○	●	●	●	●	●	●	●
	DCMW 11T302T00815ME 11T304T00815ME 11T308T00815ME 11T312T00815ME	T00815	2	9.525	3.97	4.4	0.2	1.9	0.4	1.7	0.8	1.9	1.2	1.9	●	○	●	●	●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F123									
																					●	○	●	●	●	●	●	●	●
																					●	○	●	●	●	●	●	●	●
																					●	○	●	●	●	●	●	●	●
	DCMW 11T302S01225MES 11T304S01225MES 11T308S01225MES	S01225	2	9.525	3.97	4.4	0.2	1.9	0.4	1.7	0.8	1.9	1.9	●	○	●	●	●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F123										
																				●	○	●	●	●	●	●	●		
																				●	○	●	●	●	●	●	●	●	
	DCMW 070202S01035MET 070204S01035MET 070208S01035MET	S01035	2	6.35	2.38	2.8	0.2	1.9	0.4	1.7	0.8	1.9	1.9	●	○	●	●	●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76										
																				●	○	●	●	●	●	●	●		
																				●	○	●	●	●	●	●	●	●	
	DCMW 11T302S01035MET 11T304S01035MET 11T308S01035MET 11T312S01035MET	S01035	2	9.525	3.97	4.4	0.2	1.9	0.4	1.7	0.8	1.9	1.2	1.9	●	○	●	●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F123										
																				●	○	●	●	●	●	●	●		
																				●	○	●	●	●	●	●	●	●	
																				●	○	●	●	●	●	●	●	●	
	DCMW 070202T00815SE 070204T00815SE	T00815	1	6.35	2.38	2.8	0.2	1.9	0.4	1.7	1.7	1.7	1.7	●	○	●	●	●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76										
																				●	○	●	●	●	●	●	●		
	DCMW 11T302T00815SE 11T304T00815SE	T00815	1	9.525	3.97	4.4	0.2	1.9	0.4	1.7	1.7	1.7	1.7	●	○	●	●	●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F123										
																				●	○	●	●	●	●	●	●		
	DCMW 070204S01035SET	S01035	1	6.35	2.38	2.8	0.4	1.7	1.7	1.7	1.7	1.7	1.7	●	○	●	●	●	E29, E31, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76										
																				●	○	●	●	●	●	●	●		
	DCMW 11T302S01035SET 11T304S01035SET	S01035	1	9.525	3.97	4.4	0.2	1.9	0.4	1.7	1.7	1.7	1.7	●	○	●	●	●	E23, E29~E32, E34 E35, E55, E56 F66~F68 F70~F72 F74~F76, F123										
																				●	○	●	●	●	●	●	●		

● : Standard item ○ : Check availability

CBN & PCD Inserts are sold in 1 piece boxes

C22

60° Triangle

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

Cutting edge preparation				Material										Applicable toolholder
Symbol	Specification	Example												K
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					
	TPGW 160404T00815ME 160408T00815ME	T00815	3	9.525	4.76	4.4	0.4 0.8	1.8 1.5						
	TPGW 160404S01035MET 160408S01035MET	S01035	3	9.525	4.76	4.4	0.4 0.8	1.8 1.5	●	●	●	●		
	TPGW 160404T00815SE	T00815	1	9.525	4.76	4.4	0.4	1.8					●	



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving

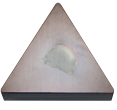
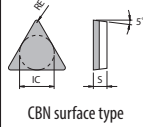

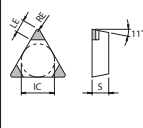

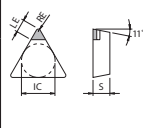

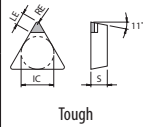

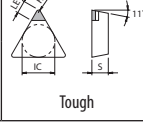

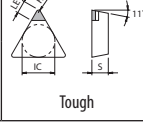
● : Standard item ○ : Check availability

CBN & PCD Inserts are sold in 1 piece boxes

C24

60° Triangle

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

Cutting edge preparation				Gray cast iron (with scale)				Gray cast iron (without scale)				K			
Symbol	Specification	Example		Nodular cast iron (with scale)				Hard materials (Roughing)				H			
F	Sharp edge	F	Sharp edge	Hard materials (Finishing)				Hard materials (Chip control)				-			
E	R-honed	E008	R0.08mm honed	Sintered steel											
T	Chamfered	T01215	0.12mm x 15° chamfered												
S	Chamfered and R-honed	S01225	0.12mm x 25° chamfered and R-honed												
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)				CBN			Applicable toolholder				
				IC	S	RE	LE	PVD							
								KBN10M	KBN510	KBN525					
	 TBN 060102T00815 060104T00815 060108T00815 CBN surface type	T00815	3	3.97	1.59	0.2 0.4 0.8	-	●	●	●	-				
	 TPGN 110304T00815ME T00815 3 6.35 3.18 0.4 2.5 ●	T00815	3	6.35	3.18	0.4	2.5				●				
	 TPGN 110304T00815SE T00815 1 6.35 3.18 0.4 2.5 ●	T00815	1	6.35	3.18	0.4	2.5				●				
	 TPGN 160302T00815SE 160304T00815SE 160308T00815SE T00815 1 9.525 3.18 0.4 2.4 0.8 2.1 ●	T00815	1	9.525	3.18	0.4	2.4 0.8	2.6 2.1	●	●	●	F113			
	 TPGN 110304S01035SET S01035 1 6.35 3.18 0.4 2.5 ●	S01035	1	6.35	3.18	0.4	2.5				●	F113			
	 TPGN 160304S01035SET S01035 1 9.525 3.18 0.4 2.4 ●	S01035	1	9.525	3.18	0.4	2.4				●				

● : Standard item ○ : Check availability

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			Material										Applicable toolholder						
Symbol	Specification	Example	Gray cast iron (with scale)										K						
F	Sharp edge	F Sharp edge	Gray cast iron (without scale)																
E	R-honed	E008 R0.08mm honed	Nodular cast iron (with scale)										H						
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										
									KB020	KB05M	KB10M	KB25M	KB35M	KB60M	KB70M		KB475	KB510	KB525
	VBGW 110304MEF 110308MEF	F	2	6.35	3.18	2.8	0.4 0.8	2 1.7											E40~E43, E58 F90, F91 F94~F99
	VBGW 160404MEF 160408MEF	F	2	9.525	4.76	4.4	0.4 0.8	2 1.7											E41~E43 F90, F91 F94~F99
	VBGW 110302T00815ME 110304T00815ME 110308T00815ME	T00815	2	6.35	3.18	2.8	0.2 0.4 0.8	2.4 2 1.7	●	○	●					●	●	●	E40~E43, E58 F90, F91 F94~F99
	VBGW 160402T00815ME 160404T00815ME 160408T00815ME	T00815	2	9.525	4.76	4.4	0.2 0.4 0.8	2.4 2 1.7	●	○	●	●				●	●	●	E41~E43 F90, F91 F94~F99
	VBGW 110304S01225MES 110308S01225MES	S01225	2	6.35	3.18	2.8	0.4 0.8	2 1.7	●	●						●			E40~E43, E58 F90, F91 F94~F99
	VBGW 160404S01225MES 160408S01225MES	S01225	2	9.525	4.76	4.4	0.4 0.8	2 1.7	●	●						●			E41~E43 F90, F91 F94~F99
	VBGW 110302S01035MET 110304S01035MET 110308S01035MET	S01035	2	6.35	3.18	2.8	0.2 0.4 0.8	2.4 2 1.7	●	○	●					●			E40~E43, E58 F90, F91 F94~F99
	VBGW 160402S01035MET 160404S01035MET 160408S01035MET	S01035	2	9.525	4.76	4.4	0.2 0.4 0.8	2.4 2 1.7	●	○	●	●				●			E41~E43 F90, F91 F94~F99
	VBGW 110302T00815SE 110304T00815SE	T00815	1	6.35	3.18	2.8	0.2 0.4	2.8 2.4		○	●					●	●	●	E40~E43, E58 F90, F91 F94~F99
	VBGW 160402T00815SE 160404T00815SE 160408T00815SE	T00815	1	9.525	4.76	4.4	0.2 0.4 0.8	2.4 2 1.7		○						●	●	●	E41~E43 F90, F91 F94~F99
	VBGW 110304S01035SET 110308S01035SET	S01035	1	6.35	3.18	2.8	0.4 0.8	2 1.7			●					●			E40~E43, E58 F90, F91 F94~F99
	VBGW 160404S01035SET 160408S01035SET	S01035	1	9.525	4.76	4.4	0.4 0.8	2 1.7								●	●		E41~E43 F90, F91 F94~F99

● : Standard item ○ : Check availability

CBN & PCD Inserts are sold in 1 piece boxes

C26

35° Rhombic

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

Cutting edge preparation				Material compatibility												Applicable toolholder	
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Hard materials (Roughing)	Hard materials (Finishing)	Hard materials (Chip control)	Sintered steel	CBN						Applicable toolholder
				Dimension (mm)						PVD							
				IC	S	D1	RE	LE	KBND20	KBND5M	KBND10M	KBND25M	KBND60M	KBND75	KBND10	KBND25	
		VCGW	080202T00815ME 080204T00815ME 080208T00815ME	T00815	2	4.76	2.38	2.3	0.2 0.4 0.8	2 2 1.7	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	E59 F90, F91 F94~F99
	 Tough	VCGW	080202S01035MET 080204S01035MET 080208S01035MET	S01035	2	4.76	2.38	2.3	0.2 0.4 0.8	2 2 1.7	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
		VCGW	080202T00815SE 080204T00815SE	T00815	1	4.76	2.38	2.3	0.2 0.4	2.4 2	○ ○	○ ○	○ ○	○ ○	○ ○	○ ○	
	 Tough	VCGW	080204S01035SET 080208S01035SET	S01035	1	4.76	2.38	2.3	0.4 0.8	2 1.8	○ ○	○ ○	○ ○	○ ○	○ ○	○ ○	

● : Standard item ○ : Check availability

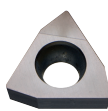
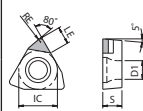
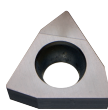
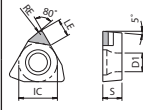
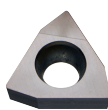
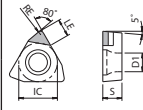
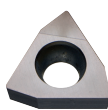
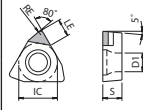
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

80° Trigon

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

Cutting edge preparation				Material										Applicable toolholder
Symbol	Specification	Example												
F	Sharp edge	F	Sharp edge											K
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
				Hard materials (Roughing)										
				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	-				
		WBGW	060102T00815L-SE 060104T00815L-SE	T00815	1	3.97	1.59	2.3	0.2 0.4	1.9	PVD			F36 F100~F102
											●	●	●	
	 Tough	WBGW	080202T00815L-SE 080204T00815L-SE	T00815	1	4.76	2.38	2.3	0.2 0.4	2.3	PVD			F36 F100~F102
											●	●	●	
	 Tough	WBGW	060102S01035LSET 060104S01035LSET	S01035	1	3.97	1.59	2.3	0.2 0.4	1.9	PVD			F36 F100~F102
											●	●	●	
	 Tough	WBGW	080202S01035LSET 080204S01035LSET	S01035	1	4.76	2.38	2.3	0.2 0.4	2.3	PVD			F36 F100~F102
											●	●	●	



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving


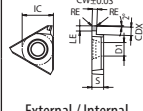
● : Standard item ○ : Check availability

CBN & PCD Inserts are sold in 1 piece boxes

C28

GBA

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

Cutting edge preparation														K	
Symbol	Specification	Example												H	
F	Sharp edge	F	Sharp edge												
E	R-honed	E008	R0.08mm honed												
T	Chamfered	T01215	0.12mm x 15° chamfered												
S	Chamfered and R-honed	S01225	0.12mm x 25° chamfered and R-honed												
				Hard materials (Roughing)											
				Hard materials (Finishing)											
				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.	KBN510	KBN525	
  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								●		
	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


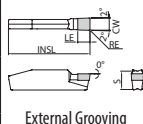
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

GDGS

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

Cutting edge preparation														K			
Symbol	Specification	Example												H			
F	Sharp edge	F	Sharp edge														
E	R-honed	E08	R0.08mm honed														
T	Chamfered	T01215	0.12mm × 15° chamfered														
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed														
				Hard materials (Roughing)													
				Hard materials (Finishing)										●			
				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	E008	1	2	4.3	0.2	20	2.9	-0.03	+0.03	●	-	G34~G42				
														E002	3	4.3	0.4
		E008	1	4	4.3	0.4	20	2.9	-0.03	+0.03	●	-		G34 G40~G42			
															E002	5	4.3
		E008	1	6	4.3	0.4	20	2.9	-0.03	+0.03	●	-			G34 G40~G42		
																E002	6
		GDGS	2020N-020NB	E008	1	2	4.3	0.2	20	2.9	-0.03	+0.03	●			-	G34~G42
				E002	1	3	4.3	0.4	20	2.9	-0.03	+0.03	●			-	
		GDGS	3020N-040NB	E008	1	3	4.3	0.4	20	2.9	-0.03	+0.03	●	-			
				E002	1	4	4.3	0.4	20	2.9	-0.03	+0.03	●	-			
		GDGS	4020N-040NB	E008	1	4	4.3	0.4	20	2.9	-0.03	+0.03	●	-			
				E002	1	5	4.3	0.4	20	2.9	-0.03	+0.03	●	-			
GDGS	5020N-040NB	E008	1	5	4.3	0.4	20	2.9	-0.03	+0.03	●	-	G34 G40~G42				
		E002	1	6	4.3	0.4	20	2.9	-0.03	+0.03	●	-					
GDGS	6020N-040NB	E008	1	6	4.3	0.4	20	2.9	-0.03	+0.03	●	-	G34 G40~G42				
		E002	1	6	4.3	0.4	20	2.9	-0.03	+0.03	●	-					



CBN & PCD Tools

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

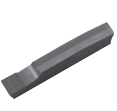
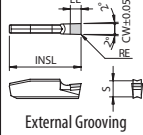

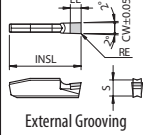

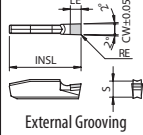
● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C30

GMN

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

Cutting edge preparation															
Symbol	Specification	Example													
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												
				Gray cast iron (with scale)										K	
				Gray cast iron (without scale)										K	
				Nodular cast iron (with scale)										K	
				Hard materials (Roughing)										H	
				Hard materials (Finishing)										H	
				Hard materials (Chip control)										H	
				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.	KBN510	KBN523			
	 External Grooving	GMN 2	E008	1	2	4.3	0.2	20	2.9	-0.05	+0.05	○	○	G55 G57	
	 External Grooving	GMN 3	E008	1	3	4.3	0.4	20	2.9	-0.05	+0.05	○	○	G55~G58	
	 External Grooving	GMN 4	E008	1	4	4.3	0.4	20	2.9	-0.05	+0.05	○	○	G55~G58	

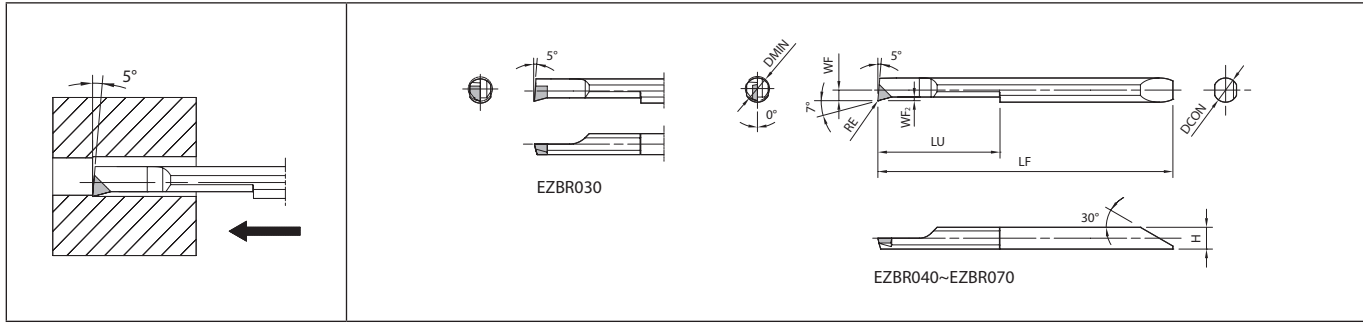
○ : Check availability

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				Material										Tolerance (mm)		Applicable sleeve	
Symbol	Specification	Example												CBN	PVD	F38~F43	
F	Sharp edge	F	Sharp edge	Gray cast iron (with scale)												K	
E	R-honed	E008	R0.08mm honed	Gray cast iron (without scale)												K	
T	Chamfered	T01215	0.12mm × 15° chamfered	Nodular cast iron (with scale)												K	
S	Chamfered and R-honed	S01225	0.12mm × 25° chamfered and R-honed	Hard materials (Roughing)										●		H	
				Hard materials (Finishing)												H	
				Hard materials (Chip control)												H	
				Sintered steel												-	
Description	Edge preparation type	No. of edges	Dimension (mm)									Tolerance (mm)		CBN	PVD	Applicable sleeve F38~F43	
			DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.					
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...		

CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

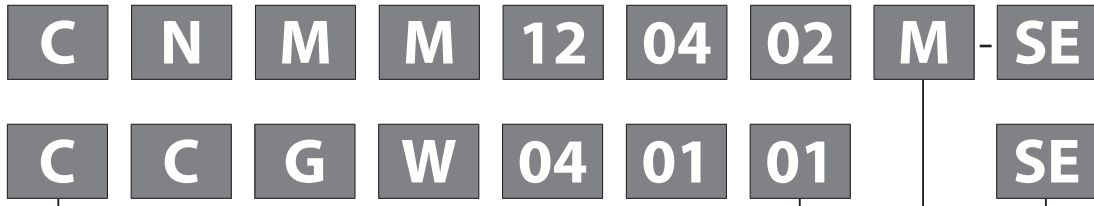
Grooving

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C32

Identification system (Turning insert / PCD)



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

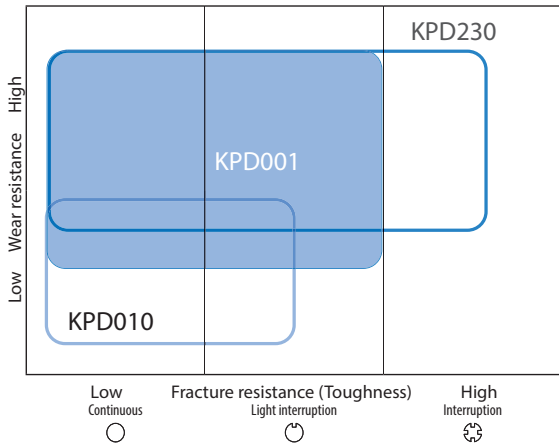
Insert type	Description	Manufacture's option 1	Manufacture's option 2	Series name	Edge length	Number of edges	Re-grinding
Negative	CNMM120402M-SE	M (Indicates the tool is for negative inserts/toolholders)	SE	Small edge	Short (Small edge)	1	Not recommended
	CNMM120402M-NE		NE	New value edge	Long (85% 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	<ul style="list-style-type: none"> • High speed machining of non-ferrous metals and brass • High speed machining of plastics • Machining of carbide 	<ul style="list-style-type: none"> • The world highest level micro-grain diamond • High edge strength, and superior to wear resistance, fracture resistance and edge sharpening performance
KPD010 Average grain size 10 μm	<ul style="list-style-type: none"> • High speed machining of non-ferrous metals and brass • High speed machining of plastics • Machining of carbide 	<ul style="list-style-type: none"> • Good balance of wear resistance and flexural strength • General purpose
KPD230 Mixture of fine grain with average grain size 2~30 μm and coarse grain	<ul style="list-style-type: none"> • High speed machining of non-ferrous metals and brass • High speed machining of plastics 	<ul style="list-style-type: none"> • High density PCD with mixture of coarse and fine grains features excellent abrasive wear resistance and fracture resistance
KPD250 Average grain size 25 μm Made to order	<ul style="list-style-type: none"> • High speed machining of high silicon aluminium alloy • Machining of carbide 	<ul style="list-style-type: none"> • 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)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		N	
PCD all items	F	Sharp edge									S	
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder		
				IC	S	D1	RE	LE				
				KPD001			KPD010					
	CNMM 120402M-SE 120404M-SE 120408M-SE Small Edge	F	1	12.7	4.76	5.16	0.2 0.4 0.8	2.8 2.8 2.7	●● ●● ●●	D8~D10 F116 F125 F126		
	CNMM 120402M-NE 120404M-NE 120408M-NE New Value Edge	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	●● ●● ●● ●●			

CBN & PCD Tools

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

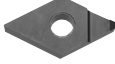
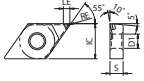
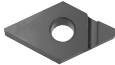
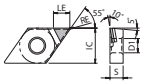
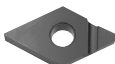
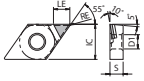
● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C34

55° Rhombic

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

Cutting edge preparation			Non-ferrous metals (with interruption)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		N		S	
PCD all items	F	Sharp edge												
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	●● ●● ●●			
	 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	● ● ●	D13~D17 F118, F130 F132~F134		
		DNMM	150402M 150404M 150408M	F	1	12.7	4.76	5.16	0.2 0.4 0.8	5.9 5.8 5.4	●● ●● ●●			



CBN & PCD Tools

● : 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	
PCD all items			F		Non-ferrous metals (without interruption)					●			
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			
	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 F120 F137 F138		
	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	●● ●● ●● ●				

C

CBN & PCD Tools

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

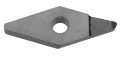
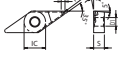
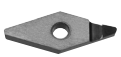
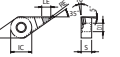
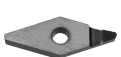
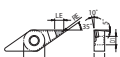
● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C36

35° Rhombic

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

Cutting edge preparation			Non-ferrous metals (with interruption)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		PCD		Applicable toolholder	
PCD all items	F	Sharp edge												
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder				
				IC	S	D1	RE	LE						
				KPD001		KPD010								
	 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	
	 Value Edge New	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	●● ●● ●●			



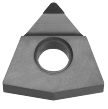
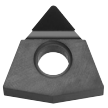
CBN & PCD Tools

● : 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
PCD all items			F		Non-ferrous metals (without interruption)					●		
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								
	WNMM 080402M-SE 080404M-SE 080408M-SE Small Edge	F	1	12.7	4.76	5.16	0.2 0.4 0.8	2.8 2.8 2.7	● ● ●	D43~D46 F140 F142 F143		
	WNMM 080402M-NE 080404M-NE New Value Edge	F	1	12.7	4.76	5.16	0.2 0.4	5	● ●			



CBN & PCD Tools

CBN

PCD

Negative
Positive

C

D

S

T

V

W

Solid

Grooving

● : Standard item

C38

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)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		N		S	
PCD all items			F		Sharp edge									
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder				
				IC	S	D1	RE	LE						
										KPD001	KPD010			
	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				
	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 F122				
	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				
	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 F122				
	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				
	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 F122				
	CCMT 060202SE 060204SE	F	1	6.35	2.38	2.8	0.2 0.4	2.2	● ●	E26, E28, E54 F31, F32 F60~F62				
	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 F122				
	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				
	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 F122				
	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				
	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 F122				

● : Standard item

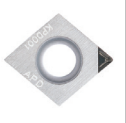
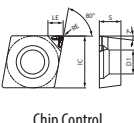
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

80° Rhombic

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

Cutting edge preparation			Non-ferrous metals (with interruption)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		PCD		Applicable toolholder	
PCD all items	F	Sharp edge									N			
											S			
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder				
				IC	S	D1	RE	LE						
	 Chip Control	F	1	9.525	3.97	4.4	0.2 0.4 0.8	2.7	● ● ●	E26~E28, E54 F60~F62 F122				



CBN & PCD Tools

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

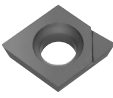

● : Standard item

C40

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		
PCD all items			F	Sharp edge	Non-ferrous metals (without interruption)										S
					Titanium alloys (with interruption)										
					Titanium alloys (without interruption)										
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder					
				IC	S	D1	RE	LE							
				KPD001		KPD010									
	CPMH 090302SE 090304SE	F	1	9.525	3.18	4.5	0.2 0.4	2.7	●	●	F64 F65				
	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	●	●	F64 F65				
	CPMH 080201 080202 080204	F	1	7.94	2.38	3.5	0.1 0.2 0.4	3.7	●	●					
	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	●	●					
										●		●			






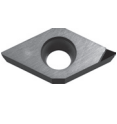

CBN & PCD Tools

● : 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)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		N		S	
		PCD all items	F	Sharp edge									
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			
	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, F123			
	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			
	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, F123			
	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			
	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, F123			
	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			
	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, F123			
	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, F123			


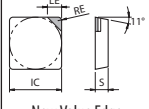

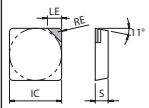
● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C42

90° Square

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						S
					Non-ferrous metals (without interruption)						S
					Titanium alloys (with interruption)						
					Titanium alloys (without interruption)						
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)				PCD	Applicable toolholder		
				IC	S	RE	LE				
		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	●	






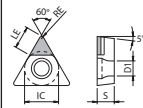
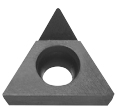
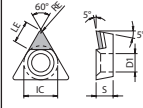

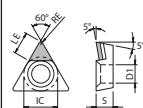
CBN & PCD Tools

● : 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	
PCD all items			F		Non-ferrous metals (without interruption)					●			
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	● ● ●		



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving

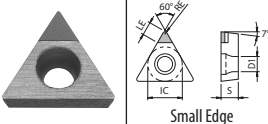
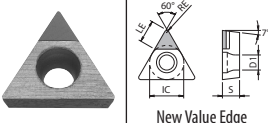
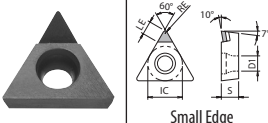
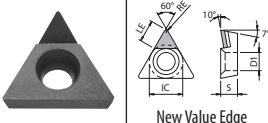
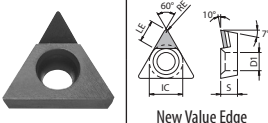
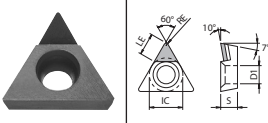
● : Standard item

C44

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

● : Standard item

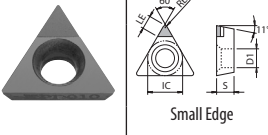
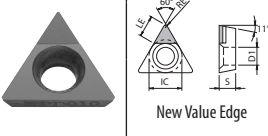
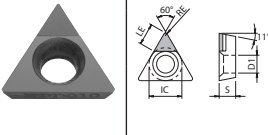
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

60° Triangle

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

Cutting edge preparation			Non-ferrous metals (with interruption)							N	
PCD all items			F							Sharp edge	
			Non-ferrous metals (without interruption)							S	
			Titanium alloys (with interruption)								
			Titanium alloys (without interruption)								
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder	
				IC	S	D1	RE	LE			
				KPD001			KPD010				
 <p>Small Edge</p>	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	
 <p>New Value Edge</p>	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	

CBN & PCD Tools

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

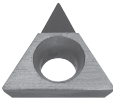
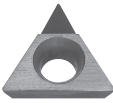
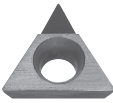


● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C46

60° Triangle

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

Cutting edge preparation			Non-ferrous metals (with interruption)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		PCD		Applicable toolholder	
PCD all items			F		Sharp edge						N		S	
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder				
				IC	S	D1	RE	LE						
											KPD001	KPD010		
 <p>Small Edge</p>	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				
 <p>New Value Edge</p>	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	●					
 <p>New Value Edge</p>	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				
 <p>Chip Control</p>	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)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		N	
		PCD all items	F	Sharp edge							S
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)				PCD	Applicable toolholder		
				IC	S	RE	LE				
 Small Edge	TPGN 110301SE	F	1	6.35	3.18	0.1	2.6	●●	F113		
	110302SE					0.2	2.5				
	110304SE					0.4	2.4				
 New Value Edge	TPGN 160301SE	F	1	9.525	3.18	0.1	2.6	●●			
	160302SE					0.2	2.6				
	160304SE					0.4	2.4				
 New Value Edge	TPGN 160304NE	F	1	9.525	3.18	0.4	3.2	●●			
	160308NE					0.8	2.9				
	TPGN 110302	F	1	6.35	3.18	0.2	3.9	●●			
	110304					0.4	3.7				
	TPGN 160304	F	1	9.525	3.18	0.4	3.7	●●			
	160308					0.8	3.4				



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving

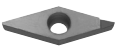
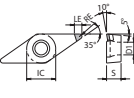

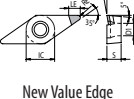

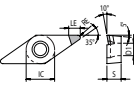
● : Standard item

C48

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)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		PCD		Applicable toolholder	
PCD all items	F	Sharp edge												
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder				
				IC	S	D1	RE	LE						
										KPD001	KPD010			
  Small Edge	VBMT 110301SE	F	1	6.35	3.18	2.8	0.1	2.5	●	E40~E43 E58 F90, F91 F94~F99				
	110302SE						0.2	2.3	●					
	110304SE						0.4	1.9	●					
	110308SE						0.8	1.9	●					
	VBMT 160401SE						0.1	2.7	●					
	160402SE	0.2	2.5	●										
160404SE	0.4	2.1	●											
160408SE	0.8	2	●											
  New Value Edge	VBMT 110301NE	F	1	6.35	3.18	2.8	0.1	2.6	●	E40~E43 E58 F90, F91 F94~F99				
	110302NE						0.2	2.4	●					
	110304NE						0.4	2	●					
	110308NE						0.8	3.1	●					
	VBMT 160401NE						0.1	2.8	●					
	160402NE	0.2	2.6	●										
160404NE	0.4	2.2	●											
160408NE	0.8	3	●											
 	VBMT 110301	F	1	6.35	3.18	2.8	0.1	3	●●	E40~E43 E58 F90, F91 F94~F99				
	110302						0.2	2.8	●●					
	110304						0.4	2.4	●●					
	110308						0.8	3.5	●●					
	VBMT 160401						0.1	3.2	●●					
	160402	0.2	3	●●										
160404	0.4	2.6	●●											
160408	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	
PCD all items			F		Non-ferrous metals (without interruption)					●			
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									
	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			
	VCMT 080201NE 080202NE 080204NE 080208NE	F	1	4.76	2.38	2.3	0.1 0.2 0.4 0.8	1.7 1.8 1.9	● ● ● ●				
	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	● ● ● ●				



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving

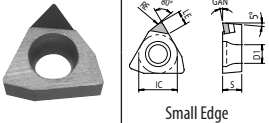
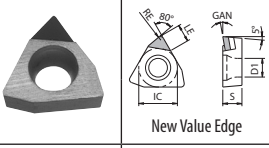
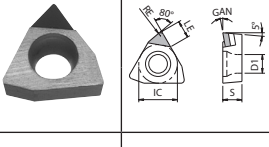
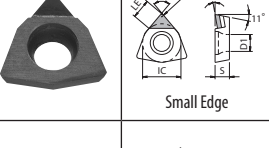
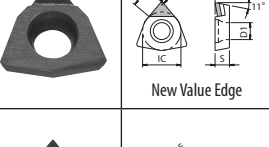
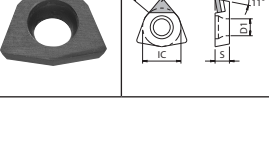
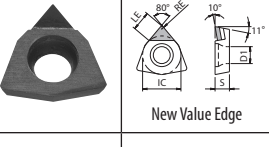
● : Standard item

C50

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	
PCD all items			Non-ferrous metals (without interruption)										S	
F			Titanium alloys (with interruption)										S	
Sharp edge			Titanium alloys (without interruption)										S	
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					PCD	Applicable toolholder				
				IC	S	D1	RE	LE						
										KPD001	KPD010			
	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	●					
	WBMT 060101L-NE	F	1	3.97	1.59	2.3	0.1	1.7	●					
	060102L-NE	F	1	3.97	1.59	2.3	0.2	1.6	●					
	060104L-NE	F	1	3.97	1.59	2.3	0.4	1.6	●					
	WBMT 080202L-NE	F	1	4.76	2.38	2.3	0.2	2.1	●					
	080204L-NE	F	1	4.76	2.38	2.3	0.4	2.1	●					
	WBMT 060101L	F	1	3.97	1.59	2.3	0.1	1.9	●					
	060102L	F	1	3.97	1.59	2.3	0.2	1.9	●					
	060104L	F	1	3.97	1.59	2.3	0.4	1.9	●					
	WBMT 080202L	F	1	4.76	2.38	2.3	0.2	2.4	●					
	080204L	F	1	4.76	2.38	2.3	0.4	2.3	●					
	WPMT 110202SE	F	1	6.35	2.38	2.8	0.2	2.1	●	F100~F102				
	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

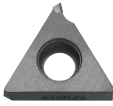
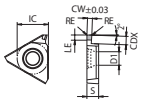

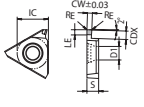

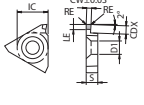

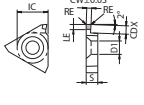
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

GBA/TGF

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		S	
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	
	 GBA32R 125-010 150-010 200-010	F	1	1.25	2	9.525	3.18	4.4	0.1	1.7	-0.03	+0.03	●	●	G13~G17 G89		
				1.5	2								●	●			
				2	2.5								●	●			
	 GBA43R 125-010 150-010 200-010 250-010 300-010	F	1	1.25	2	12.7	4.76	5.5	0.1	1.9	-0.03	+0.03	●	●	G13~G17 G89		
				1.5	3.5								●	●			
				2	3.5								●	●			
	2.5			4	●								●				
	3			4	●								●				
	3			4	●								●				
	 GBA43L 125-010 150-010 200-010 250-010 300-010	F	1	1.25	2	9.525	3.18	4.6	0.1	1.7	-0.03	+0.03	●	●	KTGFR...-16 KTGFR...-16F S...-KTGFL16		
				1.5	3.5								●	●			
				2	3.5								●	●			
				2.5	4								●	●			
				3	4								●	●			
				3	4								●	●			
	 TGF32R 125-010 150-010 200-010	F	1	1.25	2	9.525	3.18	4.6	0.1	1.7	-0.03	+0.03	□	□	KTGFR...-16 KTGFR...-16F S...-KTGFL16		
				1.5	2								□	□			
				2	2.5								□	□			

CDX shows available grooving depth.
Right-hand shown

CBN & PCD Tools

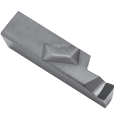
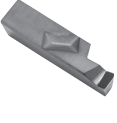
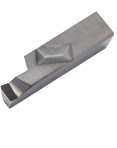
- CBN
- PCD
- Positive
- C
- D
- S
- T
- V
- W
- Solid
- Grooving

● : 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)										●	S
					Titanium alloys (with interruption)										●	
					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.	KP0010				
	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	● ●	G86~G88			
	GVFR 250-020B 300-020B 400-020B	F	1	2.5	4.8	5	0.2	20	5.8	-0.03	+0.03	● ● MTO	G127~G130 G133			
	GVFL 250-020B 300-020B 400-020B			3 4	4.8 5.3							● ● MTO				
				2.5 3 4	4.8 4.8 5.3							● ● MTO				
	GVFR 350-040C			3.5	6.8							7		0.4	27	7

CDX shows available grooving depth.
Right-hand shown

● : Standard item MTO : Made to order


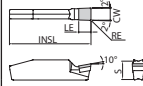
CBN & PCD Inserts are sold in 1 piece boxes



CBN & PCD Tools

GDGS

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										● <td colspan="1">S</td>	S
Insert	Description	Edge preparation type	No. of edges	Dimension (mm)					Tolerance (mm)		PCD	Applicable toolholder			
				CW	S	RE	INSL	LE	CW min.	CW max.					
 	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	●				



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving


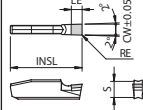

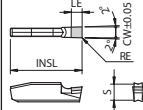

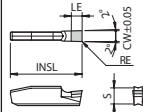
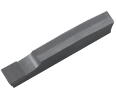
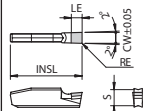
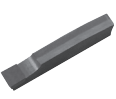
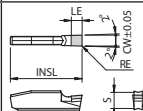
● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C54

GMN

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

Cutting edge preparation			Non-ferrous metals (with interruption)										N	
PCD all items			Non-ferrous metals (without interruption)										S	
F			Titanium alloys (with interruption)										S	
Sharp edge			Titanium alloys (without interruption)										S	
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

○: Check availability

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
GMGW		R-honed										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	KPD001	Applicable toolholder		
				CW	S	RE	INSL	LE	CW min.	CW max.					
	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.

C

CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

Grooving





● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

C56

TKF

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)														●		S
					Titanium alloys (with interruption)														●		
					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%	CW min.		CW max.	RE (+/-) min.	RE (+/-) max.				
	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 TKF12L 200-AS TKF12R 250-AS	F	1	2 2 2.5	5	8.7	7.3	5	0.1	5.3	3	0	-0.03	+0.03	-0.05	0	●	●			
	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

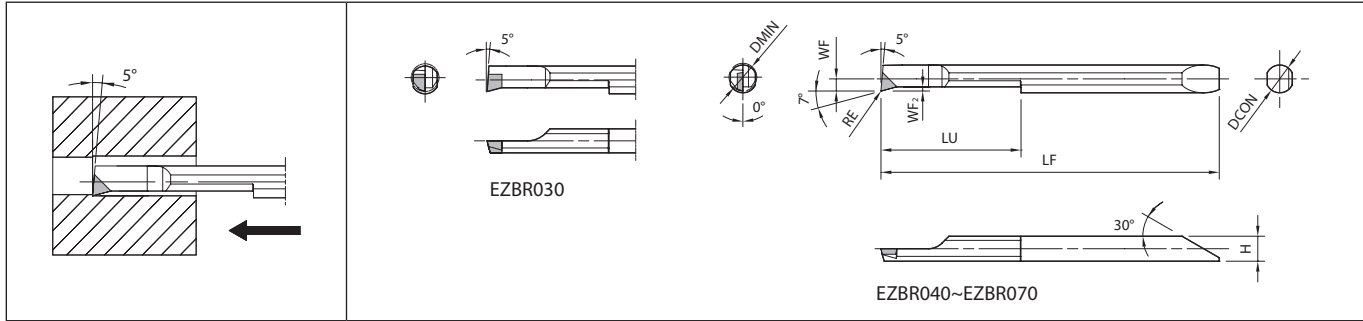


CBN & PCD Tools

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

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			Non-ferrous metals (without interruption)											
F			Titanium alloys (with interruption)		●	S								
Sharp edge			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...	

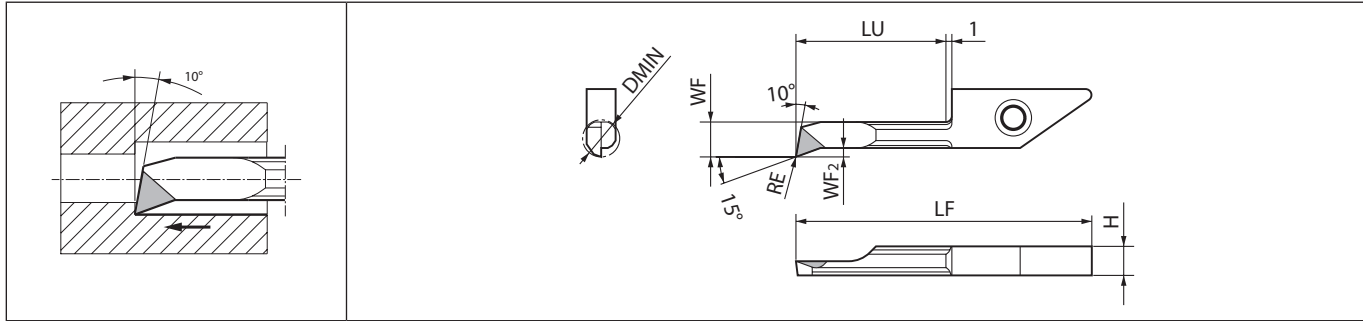
CBN & PCD Tools

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

● : Standard item

CBN & PCD Inserts are sold in 1 piece boxes

VNB-NB (Boring)



Right-hand shown



CBN & PCD Tools

Dimensions

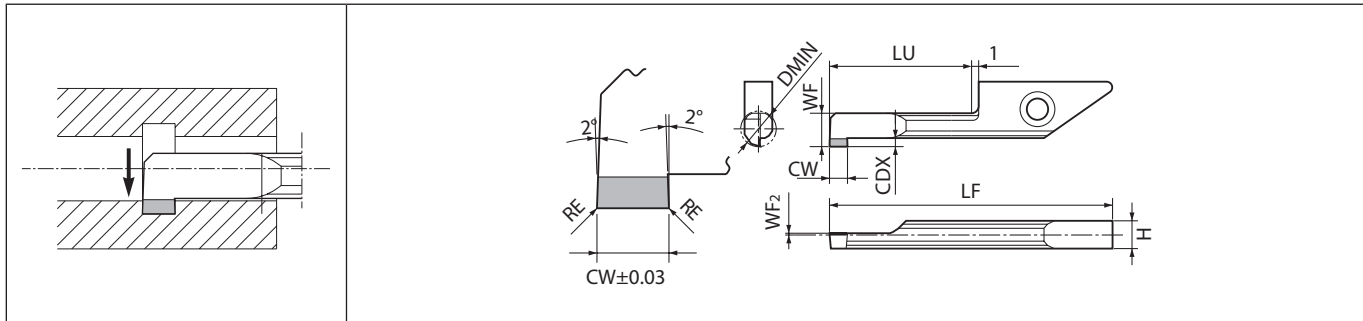
How to read pages of "Turning inserts" See page B15

Cutting edge preparation			Dimension (mm)							PCD	Applicable toolholder
PCD all items	F	Sharp edge	DMIN	H	LF	LU	WF	WF ₂	RE		
										●	N
										●	
										●	S
										●	
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		
PCD all items		F	Sharp edge	Non-ferrous metals (without interruption)											●	S
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.	RPD001		
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		
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.

C



CBN & PCD Tools

CBN

PCD

Positive

C

D

S

T

V

W

Solid

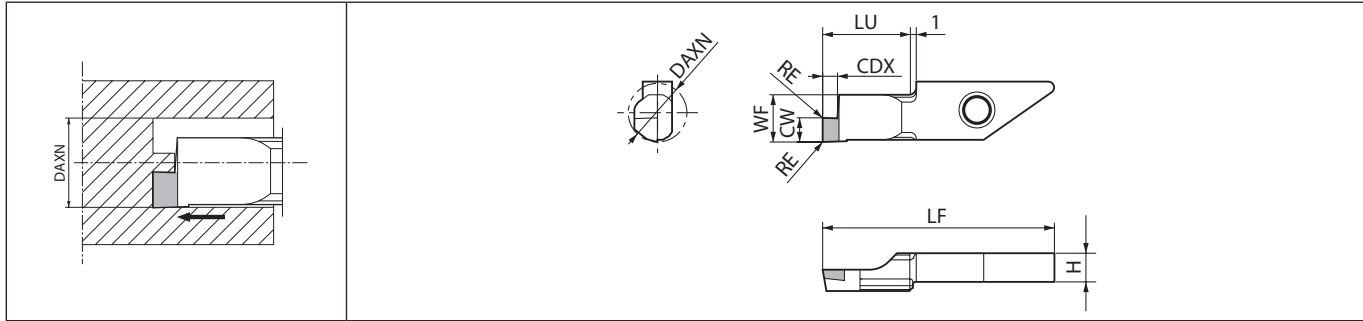
Grooving

MT0 : Made to order

CBN & PCD Inserts are sold in 1 piece boxes

C60

VNFG (Face grooving)



Right-hand shown



CBN & PCD Tools

Dimensions

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

Cutting edge preparation			Non-ferrous metals (with interruption)		Non-ferrous metals (without interruption)		Titanium alloys (with interruption)		Titanium alloys (without interruption)		PCD		Applicable toolholder
PCD all items	F	Sharp edge	●		●		●		●		-		
			N		S								
Description	No. of edges	External dia. of the groove (mm)		Dimension (mm)								PCD	
		DAXN (min.)	DAXX (max.)	CW	CDX	H	LF	LU	WF	RE	KPD001		
VNFGR 0820-10NB	1			2	2	3.9	29.6	10	7.3	0.05	MT0		F48 F50 F51
VNFGR 0830-10NB	1	8 (0)	∞ (∞)	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)												Non-ferrous metals (without interruption)			Titanium alloys (with interruption)			Titanium alloys (without interruption)			N					
PCD all items			F			Sharp edge																							
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	●	●	●	●	M64~M68											
	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	●	●	●	●	M65~M68											
	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	●	●			M149											
	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

C62