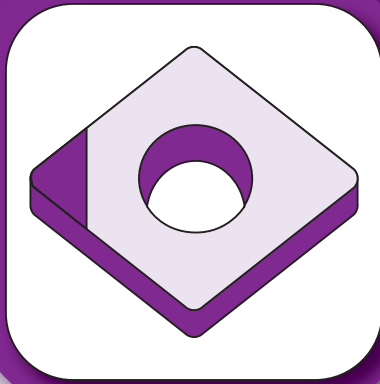


CBN & PCD Tools



C1~C28

MEGACOAT CBN (MEGACOAT)

C2~C3

Application Map	C2
Recommended Cutting Conditions	C3

CBN & PCD Tools Identification System

C4

CBN Tools

C5~C16

Turning Negative Inserts	C5~C8
Negative Inserts (Solid)	C9
Turning Positive Inserts	C10~C15
Grooving Inserts	C16
Tip-Bars	C16

PCD Tools

C17~C28

Turning Negative Inserts	C17
Turning Positive Inserts	C18~C23
Grooving Inserts	C24~C25
For Aluminum Wheel	C25
System Tip-Bars	C26
Tip-Bars	C26
Milling Inserts	C27
PCD Grades and Features	C28
Recommended Cutting Conditions	C28

MEGACOAT CBN

C



CBN



Extended
Tool Life

Stability

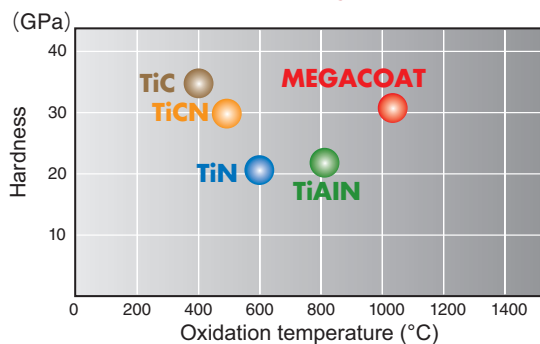
High Speed
availability

Kyocera's new innovative CBN tools.
CBN Variation and Features ➡ See page A15.

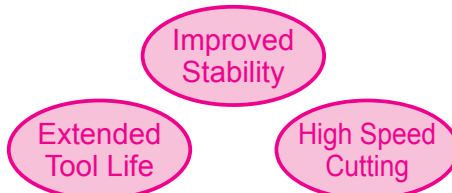
Eight grades in the lineup to accommodate a wide range of workpiece materials

MEGACOAT CBN

Properties of PVD coated layer



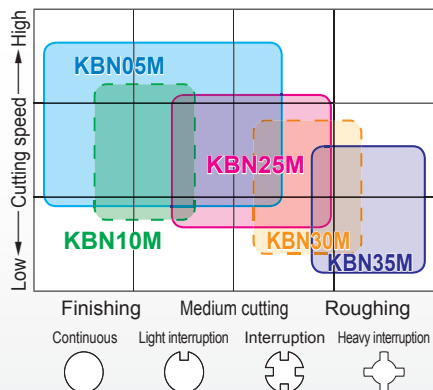
Advantages of MEGACOAT



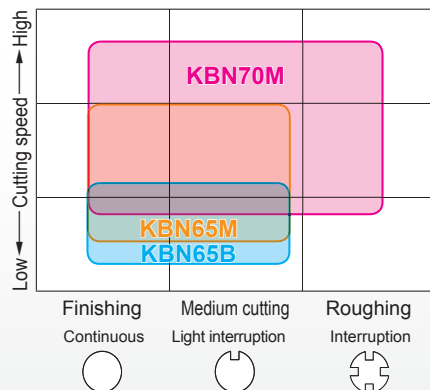
- Long tool life and stable cutting due to superior heat-resistance and hardness.
- Improvement of crater wear resistance.

Application Map

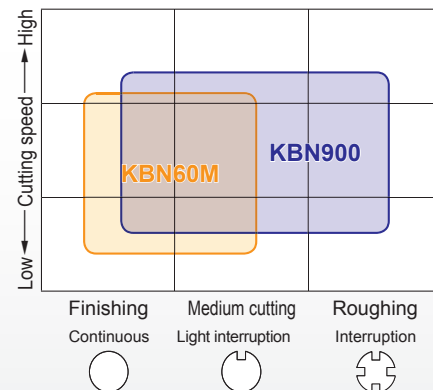
Hardened Materials



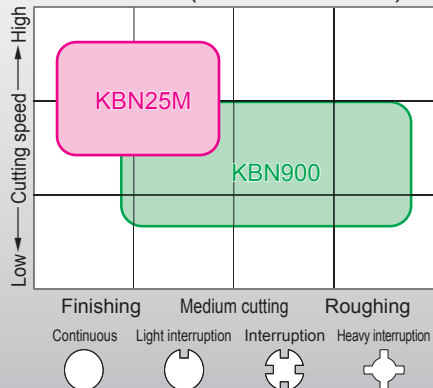
Sintered Steel



Cast Iron



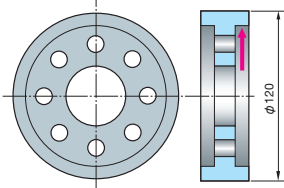
Roll Materials (Chilled Cast Iron)



■ Case Studies

17Cr3 (SCr420H) (58HRC)	
• Gear • External and Face machining and Chamfering • $V_c=130$ m/min • $a_p=0.6$ mm • $f=0.12$mm/rev • WET • CNGA120408S01225ME (KBN05M)	
KBN05M	300 pcs/edge
Compe.A	200 pcs/edge
•KBN05M achieved 1.5 times longer tool life than Competitor A. ⇒Its longer tool life contributes to cost-cutting.	
(Evaluation by the user)	

15CrMo4 (SCM415) (55HRC)	
• Stator • Internal machining • $V_c=170$ m/min • $a_p=0.4$ mm • $f=0.1$mm/rev • WET • CNGA120408S01225ME (KBN05M)	
KBN05M	600 pcs/edge
Compe.B	300 pcs/edge
• KBN05M achieved twice longer tool life than Competitor B. ⇒ Its longer tool life contributes to cost-cutting.	
(Evaluation by the user)	

25CrMo4 (SCM420) (60HRC)	
• Gear Parts • Interrupted face machining • $V_c=90\text{m/min}$ • $a_p=0.5\text{mm}$ • $f=0.12\text{mm/rev}$ • Wet $\Rightarrow$ Dry • CNGA120412S01225ME (KBN25M)	
KBN25M	70 pcs/edge
Compe.C (CBN tool)	30 pcs/edge (Unstable)
KBN25M improved tool life up to 70 pieces/edge than is two times more than competitor's (CBN tool) B. Also, KBN25M has increased its tool life up to 250 pieces/edge by changing from wet machining to dry machining. (Evaluation by the user)	

25CrMo4 (SCM420) (58HRC)	
• Sleeve • Internal machining (Heavy interrupted) • $V_c=100$ m/min • $a_p=0.5$ mm • $f=0.1$mm/rev • Wet • TPGB110308S01035MET (KBN35M)	
KBN35M	115 pcs/edge
Compe.D	100 pcs/edge
•KBN35M achieved 15% longer tool life in heavy interrupted machining compared with Competitor D. •Furthermore it still keeps the insert tip in a good condition and so provides stable machining result. ⇒Its longer tool life and capability of providing stable result can contribute to cost-cutting and improved efficiency in machining. (Evaluation by the user)	

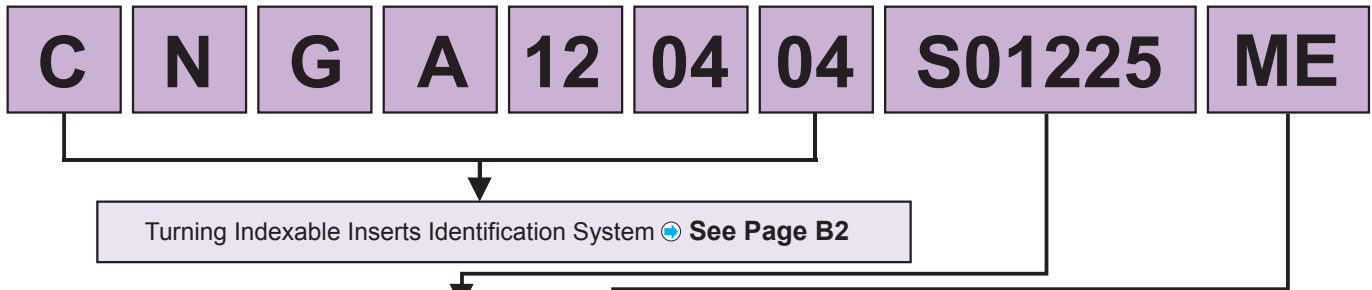
■ Recommended Cutting Conditions

Workpiece Material	Hardness	Application		Insert Grade	Cutting Conditions		
					Vc (m/min)	ap (mm)	f (mm/rev)
Heat Treated Steel	Over 55HRC	General Finishing	Continuous~ Light interruption	KBN05M	100 - 150 - 200	0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1
		High Efficient Stable Cutting	Continuous~ Interruption	KBN25M	80 - 120 - 160	0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1
		Interrupted (Small ap)	Interrupted~ Heavy interruption	KBN35M	60 - 100 - 150	0.05 - 0.2 - 0.4	0.05 - 0.08 - 0.1
		Heavy Cutting	Continuous~ Interruption	KBN900	70 - 90 - 110	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2
	Under 55HRC	Finishing	Continuous	PT600M	60 - 80 - 120	0.2 - 0.5 - 0.7	0.05 - 0.1 - 0.15
Gray Cast Iron	Under 250HB	Finishing	Continuous~ Light interruption	KBN60M	300 - 600 - 800	0.05 - 0.2 - 0.5	0.03 - 0.05 - 0.1
		High Efficient Finishing	Continuous~ Light interruption	KBN900	500 - 900 - 1200	0.1 - 0.5 - 1.0	0.05 - 0.1 - 0.2
		Heavy Cutting	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 Cutting	Continuous~ Interruption	KBN900	70 - 90 - 110	0.3 - 0.7 - 1.0	0.05 - 0.1 - 0.15
Sintered steel	Under 35HRC	Finishing	Continuous~ Light interruption	KBN65M	50 - 150 - 200	0.05 - 0.2 - 0.3	0.05 - 0.1 - 0.2
	Over 35HRC	Finishing	Continuous~ Interruption	KBN70M	100 - 200 - 250	0.05 - 0.2 - 0.3	0.05 - 0.1 - 0.2

CBN & PCD Tools Identification System

Turning Insert

Identification System



Insert Type	Example of type	*Edge Preparation	Manufacture's Option	Feature of insert		No. of Edges
				Cutting Edge Length	Strengthening of edge	
Negative	CNGA120404S01225	S01225	Without Indication	Long	Standard specification (Specification is different from materials)	1
	CNGA120404T01215	T01215				1
	CNMN120404S02020	S02020	Without Indication (Only KBN900)		Standard specification	4
	CNGA120404S01225SE	S01225	SE	1		
	CNGA120404S01225ME	S01225	ME	2		
	CNGA120404S01730SET	S01730	SET (SE-T)	Short (Small Edge)	Tough Edge	1
	CNGA120404S01730MET	S01730	MET (ME-T)		Tough Edge	2
	CNGM120404S00825BB1 CNGM120404S01225BB2 CNGM120404S01625BB3	S00825 S01225 S01625	BB1 BB2 BB3		With chipbeaker (Specification is different from chipbreaker)	1
	Positive	CPGB090304T00815	T00815	Without Indication	Long	Standard specification
CPGB090304T00815SE		T00815	SE	Short (Small Edge)	1	
CPGB090304T00815ME		T00815	ME		2	
CPGB090304S01035SET		S01035	SET (SE-T)		Tough Edge	1
CPGB090304S01035MET		S01035	MET (ME-T)		Tough Edge	2

*No edge specification because all PCD inserts have sharp edges.
 • See Page B3 for insert color

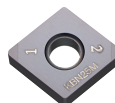
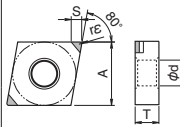
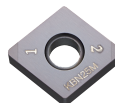
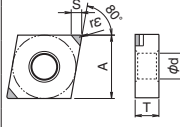
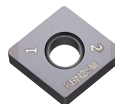
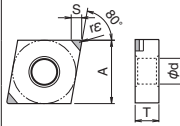
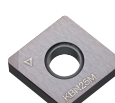
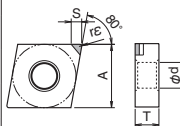
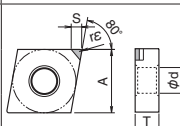
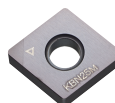
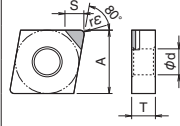
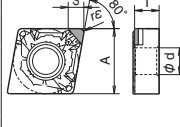
How to identify edge specification

Edge Preparation				
Symbol	Cutting Edge Spec.	Example		Shape
E	Honed Cutting Edge	E008	R0.08mm Honed	 External Grooving
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	 Small Edge
S	Chamfered + Honed Cutting Edge	S01225	0.12mm X 25° Chamfered + Honed Cutting Edge	 Multi Edge

80° Rhombic / Negative

(mm)

Description	A	T	φd
CNGA 1204	12.70	4.76	5.16
CNGM 1204			

Edge Prep.				Classification of usage				Material Compatibility										Ref. Page for Toolholder		
Symbol	Cutting Edge Spec.	Example		✱: Interruption / 1st Choice	✱✱: Interruption / 2nd Choice	☉: Light Interruption / 1st Choice	☉☉: Light Interruption / 2nd Choice	K Gray Cast Iron (With Scale) Gray Cast Iron (Without Scale) Nodular Cast Iron (Without Scale) Sintered Steel											H Hard Materials (Roughing) Hard Materials (Finishing) Hard Materials (Chip Control)	
E	R Honed	E008	R0.08mm Honed																	
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge																	
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge																	
Insert		Description		(Previous Description)	Edge Prep.	Dimension (mm)		No. of Edges	CBN										PVD Coated CBN	
						rε	S		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	
		CNGA 120404S01215MEW	CNGA 120404MEW			0.4	2.6		●	●		●	●	●	●					
		120408S01215MEW	120408MEW	S01215	0.8	2.5	2		●	●		●	●	●	●					
		120412S01215MEW	120412MEW		1.2	2.5			●	●		●	●	●	●					
		CNGA 120402S01225ME	CNGA 120402ME			0.2	2.6		●	●		●	●	●	●					
		120404S01225ME	120404ME	S01225	0.4	2.5	2		●	●		●	●	●	●					
		120408S01225ME	120408ME		0.8	2.6			●	●		●	●	●	●					
		120412S01225ME	120412ME		1.2	2.5			●	●		●	●	●	●					
		CNGA 120404T01215ME	CNGA 120404ME		0.4	2.5											●	●		
		120408T01215ME	120408ME	T01215	0.8	2.6	2										●	●		
		CNGA 120404S01730MET	CNGA 120404ME-T			0.4	2.5			●		●	●	●	●					
		120408S01730MET	120408ME-T	S01730	0.8	2.6	2			●		●	●	●	●					
		120412S01730MET	120412ME-T		1.2	2.5				●		●	●	●	●					
		CNGA 120402S01225SE	CNGA 120402SE			0.2	2.6		●	●		●	●							
		120404S01225SE	120404SE	S01225	0.4	2.5	1		●	●		●	●							
		120408S01225SE	120408SE		0.8	2.6			●	●		●	●							
		120412S01225SE	120412SE		1.2	2.5				●		●	●							
		CNGA 120404T01215SE	CNGA 120404SE		0.4	2.5			●											
		120408T01215SE	120408SE	T01215	0.8	2.6	1		●											
		CNGA 120404S01730SET	CNGA 120404SE-T			0.4	2.6			●		●								
		120408S01730SET	120408SE-T	S01730	0.8	2.6	1			●		●								
		120412S01730SET	120412SE-T		1.2	2.5				●		●								
		CNGA 120404S01225	CNGA 120404			0.4	3.7					□	□							
		120408S01225	120408	S01225	0.8	3.6	1					□	□							
		120412S01225	120412		1.2	3.6							□	□						
		CNGA 120404T01215	CNGA 120404		0.4	3.7			□											
		120408T01215	120408	T01215	0.8	3.6	1		□											
		120412T01215	120412		1.2	3.6			□											
		CNGM 120404S00825BB1	CNGM 120404BB1			0.4	1.8					●	●							
		120408S00825BB1	120408BB1	S00825	0.8	2.0	1					●	●							
		120412S00825BB1	120412BB1		1.2	2.2						●	●							
		CNGM 120404S01225BB2	CNGM 120404BB2		0.4	2.2						●	●							
		120408S01225BB2	120408BB2	S01225	0.8	2.4	1					●	●							
		120412S01225BB2	120412BB2		1.2	2.6						●	●							
		CNGM 120404S01625BB3	CNGM 120404BB3		0.4	2.6						●	●							
		120408S01625BB3	120408BB3	S01625	0.8	2.8	1					●	●							
		120412S01625BB3	120412BB3		1.2	3.0						●	●							

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

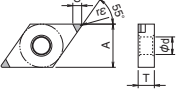
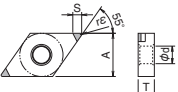
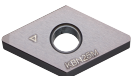
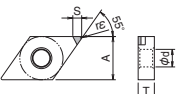
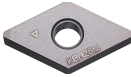
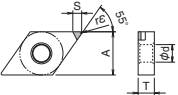
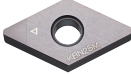
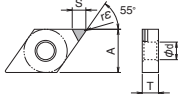
CBN & PCD Tools are sold in 1 piece boxes.

55° Rhombic / Negative

(mm)

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



Edge Prep.				Classification of usage		Gray Cast Iron (With Scale)														Ref. Page for Toolholder				
Symbol	Cutting Edge Spec.	Example		✱: Interruption / 1st Choice	✱✱: Interruption / 2nd Choice	Gray Cast Iron (Without Scale)																		
E	R Honed	E008	R0.08mm Honed	☉: Light Interruption / 1st Choice	☉☉: Light Interruption / 2nd Choice	Nodular Cast Iron (Without Scale)																		
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	☉: Light Interruption / 2nd Choice	●: Continuous / 1st Choice	Sintered Steel																		
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	○: Continuous / 2nd Choice		Hard Materials (Roughing)																		
						Hard Materials (Finishing)																		
						Hard Materials (Chip Control)																		
Insert				Description		(Previous Description)		Edge Prep.		Dimension (mm)		No. of Edges		CBN		MEGACOAT CBN						PVD Coated CBN		
										ℓ _E	S			KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M		KBN30M			KBN35M
 Multi Edge				DNGA 150401S01225ME	DNGA 150401ME	S01225	0.1	2.2	2				●	●	●		●	●						
				150402S01225ME	150402ME		0.2	2.5		●	●	●	●	●	●	●								
				150404S01225ME	150404ME		0.4	2.3		●	●	●	●	●	●	●								
				150408S01225ME	150408ME		0.8	1.9		●	●	●	●	●	●	●								
				150412S01225ME	150412ME		1.2	1.9				●	●	●	●	●	●							
				DNGA 150404T01215ME		DNGA 150404ME		T01215	0.4	2.3	2										●	●		
									0.8	1.9										●	●			
									1.2	1.9											●			
				DNGA 150604S01225ME		DNGA 150604ME		S01225	0.4	2.3	2	●	●	●	●	●	●	●	●	●				
									0.8	1.9		●	●	●	●	●	●	●	●					
1.2	1.9	●	●						●	●		●	●	●										
DNGA 150604T01215ME		DNGA 150604ME		T01215	0.4	2.3	2										●	●						
					0.8	1.9											●	●						
					1.2	1.9												●						
 Multi Edge / Tough				DNGA 150404S01730MET	DNGA 150404ME-T	S01730	0.4	2.3	2			●		●	●	●	●							
				150408S01730MET	150408ME-T		0.8	1.9		●		●	●	●	●									
				150412S01730MET	150412ME-T		1.2	1.9				●	●	●	●	●								
DNGA 150604S01730MET		DNGA 150604ME-T		S01730	0.4	2.3	2			●		●	●	●	●									
					0.8	1.9		●		●	●	●	●											
					1.2	1.9		●		●	●	●	●											
 Small Edge				DNGA 150401S01225SE	DNGA 150401SE	S01225	0.1	2.2	1					●										
				150402S01225SE	150402SE		0.2	2.5		●	●			●										
				150404S01225SE	150404SE		0.4	2.3		●	●			●	●									
				150408S01225SE	150408SE		0.8	1.9				●	●											
				150412S01225SE	150412SE		1.2	1.9				●		●										
				DNGA 150404T01215SE		DNGA 150404SE		T01215	0.4	2.3	1	●												
									0.8	1.9		●												
									DNGA 150604S01225SE			DNGA 150604SE		S01225	0.4	2.3	1			●	●			
				0.8	1.9	●	●	●			●													
				1.2	1.9	●	●	●			●													
 Small Edge / Tough				DNGA 150404S01730SET	DNGA 150404SE-T	S01730	0.4	2.3			1							●						
				150408S01730SET	150408SE-T		0.8	1.9	●				●											
				150412S01730SET	150412SE-T		1.2	1.9				●												
 Chip Control				DNGA 150404S01225	DNGA 150404	S01225	0.4	5.8	1					□	□									
				150408S01225	150408		0.8	5.5						□	□									
				DNGA 150404T01215		DNGA 150404		T01215	0.4	5.8	1	□												
									0.8	5.5		□												
 Chip Control		DNGM 150404S00825BB1		DNGM 150404BB1		S00825	0.4	1.6	1				●	●										
							0.8	1.6		●	●													
							1.2	1.8				●	●											
		DNGM 150404S01225BB2		DNGM 150404BB2		S01225	0.4	1.8	1				●	●										
							0.8	2.0		●	●													
							1.2	2.1				●	●											
DNGM 150404S01625BB3		DNGM 150404BB3		S01625	0.4	2.2	1				●	●												
					0.8	2.5		●	●															
					1.2	2.5				●	●													

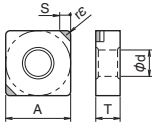
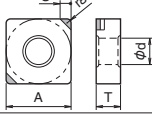
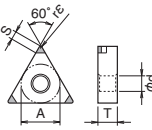
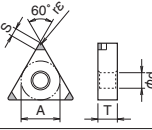
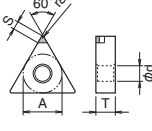
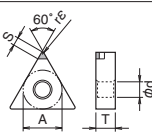
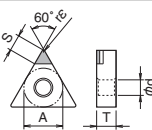
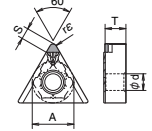
● : Std. Item (1 pc boxes)
□ : Check Availability

CBN & PCD Tools are sold in 1 piece boxes.

90° Square / 60° Triangle / Negative

(mm)

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

Edge Prep.				Classification of usage		K												Ref. Page for Toolholder			
Symbol	Cutting Edge Spec.	Example		✱: Interruption / 1st Choice	✱✱: Interruption / 2nd Choice	Gray Cast Iron (With Scale)															
E	R Honed	E008	R0.08mm Honed	✱✱: Interruption / 2nd Choice	☉: Light Interruption / 1st Choice	Gray Cast Iron (Without Scale)															
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	☉☉: Light Interruption / 2nd Choice	●: Continuous / 1st Choice	Nodular Cast Iron (Without Scale)															
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●☉: Continuous / 1st Choice	○: Continuous / 2nd Choice	Sintered Steel															
				H		Hard Materials (Roughing)															
						Hard Materials (Finishing)															
						Hard Materials (Chip Control)															
Insert		Description		(Previous Description)		Edge Prep.		Dimension (mm)		No. of Edges		CBN		MEGACOAT CBN						PVD Coated CBN	
								rε	S			KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M
		SNGA 120404S01225ME	SNGA 120404ME	S01225	0.4	1.8	2	●	●	●	●	●	●	●	●	●	●				
		120408S01225ME	120408ME		0.8	1.8	2	●	●	●	●	●	●	●	●	●	●				
		SNGA 120404T01215ME	SNGA 120404ME	T01215	0.4	1.8	2										●	●			
		120408T01215ME	120408ME		0.8	1.8	2										●	●			
		120412T01215ME	120412ME		1.2	2.2											●				
		SNGA 120404S01730MET	SNGA 120404ME-T	S01730	0.4	1.8	2		●		●	●									
		120408S01730MET	120408ME-T		0.8	1.8	2		●		●	●	●	●							
		120412S01730MET	120412ME-T		1.2	2.2			●		●	●	●	●							
		TNGA 160401S01225ME	TNGA 160401ME	S01225	0.1	2.6	3				●	●	●		●						
		160402S01225ME	160402ME		0.2	2.5	3	●	●	●	●	●	●	●	●	●					
		160404S01225ME	160404ME		0.4	2.4	3	●	●	●	●	●	●	●	●	●					
		160408S01225ME	160408ME		0.8	2.4	3	●	●	●	●	●	●	●	●	●					
		160412S01225ME	160412ME		1.2	2.1	3	●	●	●	●	●	●	●	●	●					
		TNGA 160404T01215ME	TNGA 160404ME	T01215	0.4	2.4	3										●	●			
		160408T01215ME	160408ME		0.8	2.4	3									●	●				
		160412T01215ME	160412ME		1.2	2.1	3										●	●			
		TNGA 160404S01730MET	TNGA 160404ME-T	S01730	0.4	2.4	3		●		●	●	●	●							
		160408S01730MET	160408ME-T		0.8	2.4	3		●		●	●	●	●							
		160412S01730MET	160412ME-T		1.2	2.1	3		●		●	●	●	●							
		TNGA 160401S01225SE	TNGA 160401SE	S01225	0.1	2.6	1		●		●										
		160402S01225SE	160402SE		0.2	2.9	1	●	●		●										
		160404S01225SE	160404SE		0.4	2.7	1	●	●		●										
		160408S01225SE	160408SE		0.8	2.4	1	●	●		●										
		160412S01225SE	160412SE		1.2	2.1	1	●													
		TNGA 160404T01215SE	TNGA 160404SE	T01215	0.4	2.4	1														
		160408T01215SE	160408SE		0.8	2.4	1														
		160412T01215SE	160412SE		1.2	2.2	1	●													
		TNGA 160404S01730SET	TNGA 160404SE-T	S01730	0.4	2.7	1		●		●										
		160408S01730SET	160408SE-T		0.8	2.4	1		●		●										
		160412S01730SET	160412SE-T		1.2	2.1	1		●												
		TNGA 160404S01225	TNGA 160404	S01225	0.4	3.8	1														
		160408S01225	160408		0.8	3.5	1														
		TNGA 160404T01215	TNGA 160404	T01215	0.4	3.8	1														
		160408T01215	160408		0.8	3.5	1														
		TNGM 160404S00825BB1	TNGM 160404BB1	S00825	0.4	1.5	1				●	●									
		160408S00825BB1	160408BB1		0.8	1.7	1				●	●									
		160412S00825BB1	160412BB1		1.2	1.9	1				●	●									
		TNGM 160404S01225BB2	TNGM 160404BB2	S01225	0.4	1.9	1				●	●									
		160408S01225BB2	160408BB2		0.8	2.1	1				●	●									
		160412S01225BB2	160412BB2		1.2	2.2	1				●	●									
		TNGM 160404S01625BB3	TNGM 160404BB3	S01625	0.4	2.2	1				●	●									
		160408S01625BB3	160408BB3		0.8	2.4	1				●	●									
		160412S01625BB3	160412BB3		1.2	2.6	1				●	●									

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

CBN & PCD Tools are sold in 1 piece boxes.

C



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C7

35° Rhombic / 80° Trigon / Negative

(mm)

Description	A	T	φd
VNGA 1604_	9.525	4.76	3.81
WNGA 0804_	12.70	4.76	5.16

C



CBN

Edge Prep.				Classification of usage		Gray Cast Iron (With Scale)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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● : Std. Item (1 pc boxes)

□ : Check Availability

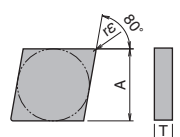
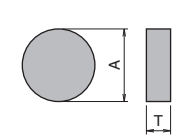
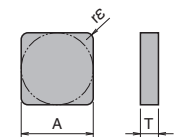
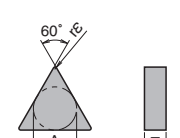
CBN & PCD Tools are sold in 1 piece boxes.

Negative (Solid)

Description	A (mm)	T (mm)
CNMN 0903	9.525	3.18
1204	12.70	4.76

Description	A (mm)	T (mm)
RNMN 0603	6.35	3.18
0903	9.525	
1203	12.70	
1204		4.76

Description	A (mm)	T (mm)
SNMN 0903	9.525	3.18
1203	12.70	3.18
1204		4.76
TNMN 1103	6.35	3.18
1604	9.525	4.76

Edge Prep.				Classification of usage ✱: Interruption / 1st Choice ✱✱: Interruption / 2nd Choice ☉: Light Interruption / 1st Choice ☉☉: Light Interruption / 2nd Choice ●: Continuous / 1st Choice ○: Continuous / 2nd Choice		K	Gray Cast Iron (With Scale)		✱	Ref. Page for Toolholder
Symbol	Cutting Edge Spec.	Example					Gray Cast Iron (Without Scale)		✱	
E	R Honed	E008	R0.08mm Honed				Nodular Cast Iron (Without Scale)			
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge				Sintered Steel			
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge			H	Hard Materials (Roughing)			
							Hard Materials (Finishing)		☉	
							Hard Materials (Chip Control)			
Insert			Description	(Previous Description)	Edge Prep.	Dimension (mm)	No. of Edges	PVD Coated CBN		
						rε		KBN900		
 Solid		CNMN 090308S02020	CNMN 090308	S02020	0.8	4	●	D32		
		090312S02020	090312	S02020	1.2		●	F75		
		CNMN 120408S02020	CNMN 120408	S02020	0.8		●	D22		
		120412S02020	120412		1.2		●			
		120416S02020	120416		1.6		●			
CNMN 120412S04015	CNMN 120412S04015	S04015	1.2	□	●					
120416S04015	120416S04015	S04015	1.6	●						
 Solid		RNMN 060300S02020	RNMN 060300	S02020	Depends on ap		●	-		
		RNMN 090300S02020	RNMN 090300				●	D33		
		RNMN 120300S02020	RNMN 120300				●			
		RNMN 120400S02020	RNMN 120400				●		D27	
		RNMN 120400S04015	RNMN 120400S04015	S04015	●	D33				
 Solid		SNMN 090308S02020	SNMN 090308	S02020	0.8	8	●	D34		
		090312S02020	090312		1.2		●	D35 F75		
		SNMN 120308S02020	SNMN 120308	S02020	0.8		●	D34 D35		
		120312S02020	120312		1.2		●			
		SNMN 120408S02020	SNMN 120408	S02020	0.8		●	D25 D34 D35 F73		
		120412S02020	120412		1.2		●			
		120416S02020	120416		1.6		●			
		120420S02020	120420		2.0		●			
		SNMN 120412S04015	SNMN 120412S04015	S04015	1.2		□			
		120416S04015	120416S04015		1.6		●			
120432S04015	120432S04015	3.2	□							
 Solid		TNMN 110308S02020	TNMN 110308	S02020	0.8	6	●	D36 F75		
		110312S02020	110312		1.2		□			
		TNMN 160408S02020	TNMN 160408	S02020	0.8		●	D26		
		160412S02020	160412		1.2		●			
		160416S02020	160416		1.6		●			
		160420S02020	160420		2.0		□			

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

CBN & PCD Tools are sold
in 1 piece boxes.

C



CBN



C9

CBN Tools

80°Rhombic / Positive

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

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

C



CBN

Edge Prep.				Classification of usage		Material Compatibility										Ref. Page for Toolholder					
Symbol	Cutting Edge Spec.	Example		✱: Interruption / 1st Choice	✱: Interruption / 2nd Choice																
E	R Honed	E008	R0.08mm Honed	✱: Interruption / 1st Choice	✱: Interruption / 2nd Choice																
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	☺: Light Interruption / 1st Choice	☺: Light Interruption / 2nd Choice																
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●: Continuous / 1st Choice	○: Continuous / 2nd Choice																
				K	Gray Cast Iron (With Scale)																
					Gray Cast Iron (Without Scale)																
					Nodular Cast Iron (Without Scale)	●															
					Sintered Steel													●	✱		
				H	Hard Materials (Roughing)																
					Hard Materials (Finishing)		○	☺	●	○	●										
					Hard Materials (Chip Control)																
Insert		Description		(Previous Description)	Edge Prep.	Dimension (mm)		No. of Edges	CBN		MEGACOAT CBN						PVD coated CBN				
						rε	S		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M		
		CCMW 060202T00815ME	CCMW060202ME	T00815	0.2	2.0	2	●	●	●	●	●	●	●	●	●				E20	
		060204T00815ME	060204ME		0.4	1.9		●	●	●	●	●	●	●	●	●	●			E21	
		060208T00815ME	060208ME		0.8	1.8		●	●	●	●	●	●	●	●	●	●			F27	
		CCMW 09T302T00815ME	CCMW09T302ME	T00815	0.2	2.0	2	●	●	●	●	●	●	●	●	●	●			E20	
		09T304T00815ME	09T304ME		0.4	1.9		●	●	●	●	●	●	●	●	●	●			E21	
		09T308T00815ME	09T308ME		0.8	1.8		●	●	●	●	●	●	●	●	●	●			E33	
		CCMW 09T304S01035MET	CCMW09T304ME-T	S01035	0.4	1.9	2		●		●	●		●						F27	
		09T308S01035MET	09T308ME-T		0.8	1.8					●	●	●							F66	
		CCMW 030102T00815SE	CCMW030102SE	T00815	0.2	1.4	1	●	●		●	●								F27	
		030104T00815SE	030104SE		0.4	1.4		●	●		●	●								F29	
		CCMW 040102T00815SE	CCMW040102SE	T00815	0.2	1.4	1	●	●		●	●								E20	
		040104T00815SE	040104SE		0.4	1.4		●	●		●	●							E21		
		CCMW 060202T00815SE	CCMW060202SE	T00815	0.2	2.0	1	●	●				●							E33	
		060204T00815SE	060204SE		0.4	1.9		●	●				●						F27		
		CCMW 09T302T00815SE	CCMW09T302SE	T00815	0.2	2.0	1	●	●		●									F29	
		09T304T00815SE	09T304SE		0.4	1.9		●	●		●								F66		
		CCMW 030102S01035SET	CCMW030102SE-T	S01035	0.2	1.4	1				●	●								F27	
		030104S01035SET	030104SE-T		0.4	1.4					●	●								F29	
		CCMW 040102S01035SET	CCMW040102SE-T	S01035	0.2	1.4	1				●	●								E20	
		040104S01035SET	040104SE-T		0.4	1.4					●	●							E21		
		CCMW 060204S01035SET	CCMW060204SE-T	S01035	0.4	1.9	1		●											E33	
		CCMW 09T304S01035SET	CCMW09T304SE-T		0.4	1.9			●										F27		
		CCMW 09T304S01035SET	CCMW09T304SE-T	S01035	0.4	1.9	1		●											F66	
		CCMW 09T304S01035SET	CCMW09T304SE-T		0.4	1.9			●											F66	
		CPGB 080204T00815ME	CPGB 080204ME	T00815	0.4	1.9	2	●	●	●	●	●	●	●	●	●				F31 F33	
		CPGB 090302T00815ME	CPGB 090302ME		0.2	1.9		●	●	●	●	●	●	●	●	●	●				
		090304T00815ME	090304ME	T00815	0.4	1.9	●	●	●	●	●	●	●	●	●	●					
		CPGB 080204S01035MET	CPGB 080204ME-T	S01035	0.4	1.9	2		●		●	●		●							
		080208S01035MET	080208ME-T		0.8	2.2					●	●		●							
		CPGB 090304S01035MET	CPGB 090304ME-T	S01035	0.4	1.9	2				●	●		●							
090308S01035MET	090308ME-T	0.8	2.5						●	●		●									
		CPGB 080202T00815SE	CPGB 080202SE	T00815	0.2	1.9	1	●	●												
		080204T00815SE	080204SE		0.4	1.9		●	●												
		CPGB 090302T00815SE	CPGB 090302SE	T00815	0.2	1.9	1	●	●												
090304T00815SE	090304SE	0.4	1.9		●	●			●												
		CPGB 080204S01035SET	CPGB 080204SE-T	S01035	0.4	1.9	1		●			●									
		CPGB 090304S01035SET	CPGB 090304SE-T		0.4	1.9			●												
		CPGB 090304T00815	CPGB 090304	T00815	0.4	3.7	1	□	□												
		090308T00815	090308		0.8	3.6		□	□												

C10

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

CBN & PCD Tools are sold in 1 piece boxes.

55°Rhombic / Positive

(mm)

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

Edge Prep.				Classification of usage		Material										Ref. Page for Toolholder
Symbol	Cutting Edge Spec.	Example		✱: Interruption / 1st Choice	✱✱: Interruption / 2nd Choice	K	Gray Cast Iron (With Scale)	Gray Cast Iron (Without Scale)	Nodular Cast Iron (Without Scale)	Sintered Steel	H	Hard Materials (Roughing)	Hard Materials (Finishing)	Hard Materials (Chip Control)		
E	R Honed	E008	R0.08mm Honed	●: Light Interruption / 1st Choice	○: Light Interruption / 2nd Choice		○: Continuous / 1st Choice	○: Continuous / 2nd Choice								
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●: Continuous / 1st Choice	○: Continuous / 2nd Choice											
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge													

Description	Ref. Page for Toolholder
DC..07 type	E22~E25, F35~F39
DC..11 type	E22~E25, F35~F39, F66

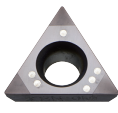
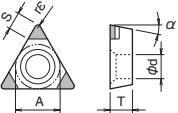
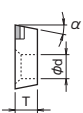
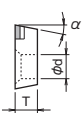
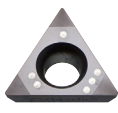
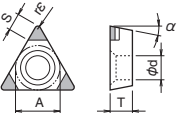
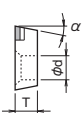
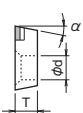
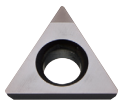
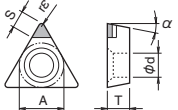
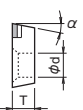
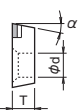
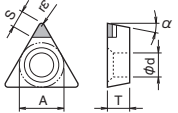
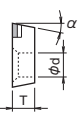
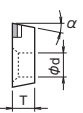
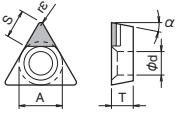
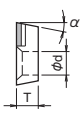
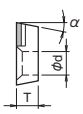
● : Std. Item (1 pc boxes)
□ : Check Availability

CBN & PCD Tools are sold in 1 piece boxes.

60°Triangle / Positive

(mm)					(mm)				
Description	A	T	ød	α	Description	A	T	ød	α
TPGB 0802_	4.76	2.38	2.5	11°	TPGB 1103_	6.35	3.18	3.5	11°
0902_	5.56		3.0		1603_	9.525		4.5	



Edge Prep.				Classification of usage		Material												Ref. Page for Toolholder												
Symbol	Cutting Edge Spec.	Example				K																								
E	R Honed	E008	R0.08mm Honed	✱: Interruption / 1st Choice	✱: Interruption / 2nd Choice	Gray Cast Iron (With Scale)																								
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●: Light Interruption / 1st Choice	○: Light Interruption / 2nd Choice	Gray Cast Iron (Without Scale)																								
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●: Continuous / 1st Choice	○: Continuous / 2nd Choice	Nodular Cast Iron (Without Scale)																								
						Sintered Steel																								
						Hard Materials (Roughing)																								
						Hard Materials (Finishing)																								
						Hard Materials (Chip Control)																								
Insert		Description		(Previous Description)		Edge Prep.		Dimension (mm)		No. of Edges	CBN						MEGACOAT CBN		PVD coated CBN											
								ℓE	S		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M		KBN60M	KBN65M	KBN70M								
 Multi Edge				TPGB	110302T00815ME	TPGB	110302ME	T00815	0.2	2.3	3	●	●	●	●	●	●	●	●	●	●									
												110304T00815ME	110304ME	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
														110308T00815ME	110308ME	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
																TPGB	160304T00815ME	TPGB	160304ME	0.4	1.8	3			●	●	●	●	●	●
 Multi Edge / Tough				TPGB	110302S01035MET	TPGB	110302ME-T	S01035	0.2	2.3	3				●	●	●	●	●	●										
												110304S01035MET	110304ME-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
														110308S01035MET	110308ME-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
																TPGB	160304S01035MET	TPGB	160304ME-T	0.4	1.8	3		●	●	●	●	●	●	●
 Small Edge				TPGB	080202T00815SE	TPGB	080202SE	T00815	0.2	1.8	1	●	●	●	●	●	●	●	●	●										
												080204T00815SE	080204SE	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
				TPGB	090202T00815SE	TPGB	090202SE	T00815	0.2	1.8	1			●	●	●	●	●	●	●	●	●								
												090204T00815SE	090204SE	●	●	●	●	●	●	●	●	●	●	●	●					
				TPGB	110302T00815SE	TPGB	110302SE	T00815	0.2	1.9	1			●	●	●	●	●	●	●	●	●								
												110304T00815SE	110304SE	●	●	●	●	●	●	●	●	●	●	●	●	●				
				110308T00815SE	110308SE	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●								
						TPGB	160302T00815SE	TPGB	160302SE	T00815	0.2	1.9	1	●	●	●	●	●	●	●	●	●								
				160304T00815SE	160304SE									●	●	●	●	●	●	●	●	●	●	●	●	●				
						 Small Edge / Tough				TPGB	080202S01035SET	TPGB	080202SE-T	S01035	0.2	1.8	1				●	●								
				080204S01035SET	080204SE-T													●	●	●	●	●	●	●	●	●	●	●	●	●
										TPGB	090202S01035SET	TPGB	090202SE-T	S01035	0.2	1.8	1				●	●								
090204S01035SET	090204SE-T	●	●	●	●													●	●	●	●	●	●	●	●	●				
		TPGB	110304S01035SET	TPGB	110304SE-T					S01035	0.4	1.8	1		●															
110308S01035SET	110308SE-T													●	●															
		TPGB	160304S01035SET	TPGB	160304SE-T					S01035	0.4	1.8	1		●															
160308S01035SET	160308SE-T													●	●															
		 Small Edge / Tough				TPGB	080202T00815	TPGB	080202	T00815	0.2	2.4	1	□	□															
080204T00815	080204													□	□															
						TPGB	090202T00815	TPGB	090202	T00815	0.2	2.9	1	□	□															
090204T00815	090204													□	□															
						TPGB	110302T00815	TPGB	110302	T00815	0.2	3.9	1	□	□															
110304T00815	110304													□	□															
						110308T00815	110308	□	□																					
TPGB	160302T00815							TPGB	160302	T00815	0.2	4.0	1	□	□															
		160304T00815	160304	□	□																									
160308T00815	160308			□	□																									

(mm)

Description	A	T	ød	α
TPGW 1604_	9.525	4.76	4.4	11°

Edge Prep.				Classification of usage														Ref. Page for Toolholder	
Symbol	Cutting Edge Spec.	Example																	
E	R Honed	E008	R0.08mm Honed	✱: Interruption / 1st Choice	✱: Interruption / 2nd Choice														
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●: Light Interruption / 1st Choice	⦿: Light Interruption / 2nd Choice														
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●: Continuous / 1st Choice	○: Continuous / 2nd Choice														
																		Ref. Page for Toolholder	

35°Rhombic / Positive

(mm)

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

C



CBN

Edge Prep.				Classification of usage		K		Gray Cast Iron (With Scale)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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80°Trigon / Positive

(mm)

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

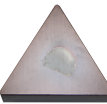
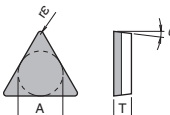
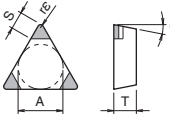
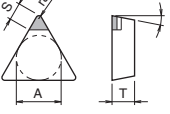
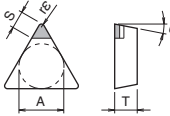
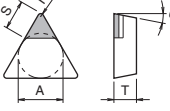
Edge Prep.				Classification of usage												Ref. Page for Toolholder	
Symbol	Cutting Edge Spec.	Example		✱: Interruption / 1st Choice	✱✱: Interruption / 2nd Choice												
E	R Honed	E008	R0.08mm Honed	●: Light Interruption / 1st Choice	○: Light Interruption / 2nd Choice												
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●: Continuous / 1st Choice	○: Continuous / 2nd Choice												
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge														

60°Triangle / Positive without Hole

(mm)

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

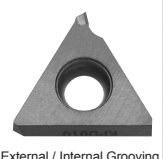
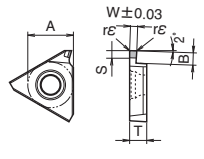
Edge Prep.				Classification of usage		K											Ref. Page for Toolholder
Symbol	Cutting Edge Spec.	Example	✱: Interruption / 1st Choice	✱✱: Interruption / 2nd Choice	Gray Cast Iron (With Scale)												
E	R Honed	E008	R0.08mm Honed	✱✱: Interruption / 2nd Choice	●: Light Interruption / 1st Choice		Gray Cast Iron (Without Scale)										
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	○: Light Interruption / 2nd Choice	●: Continuous / 1st Choice		Nodular Cast Iron (Without Scale)										
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	○: Continuous / 2nd Choice	○: Continuous / 2nd Choice		Sintered Steel										
						H	Hard Materials (Roughing)										
						Hard Materials (Finishing)		○	○	●							
						Hard Materials (Chip Control)											

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm)		Nc. of Edges	CBN			MEGACOAT CBN						PVD coated CBN	Ref. Page for Toolholder	
					rε	S		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M		KBN70M
		TBGN 060102T00815	TBGN 060102		0.2	-		●	●		●								
		060104T00815	060104	T00815	0.4	-	3	●	●		●								
		060108T00815	060108		0.8	-		●	●		●								
		TPGN 110302T00815ME	TPGN 110302ME		0.2	2.6		●	●										
		110304T00815ME	110304ME	T00815	0.4	2.5	3	●	●										
		110308T00815ME	110308ME		0.8	2.4		●	●										
		TPGN 110302T00815SE	TPGN 110302SE		0.2	2.6		●	●										
		110304T00815SE	110304SE	T00815	0.4	2.5	1	●	●										
		110308T00815SE	110308SE		0.8	2.4			●										
		TPGN 160302T00815SE	TPGN 160302SE		0.2	2.6		●	●										
		160304T00815SE	160304SE	T00815	0.4	2.4	1	●	●										
		160308T00815SE	160308SE		0.8	2.1			●										
		TPGN 110304S01035SET	TPGN 110304SE-T	S01035	0.4	2.5	1			●									
		110308S01035SET	110308SE-T		0.8	2.4			●										
		TPGN 160304S01035SET	TPGN 160304SE-T	S01035	0.4	2.4	1			●									
		160308S01035SET	160308SE-T		0.8	2.1			●										
		TPGN 110304T00815	TPGN 110304	T00815	0.4	3.8	1												
		110308T00815	110308		0.8	3.5													
		TPGN 160304T00815	TPGN 160304		0.4	3.9													
		160308T00815	160308	T00815	0.8	3.6	1												
		160312T00815	160312		1.2	3.3													

- : Std. Item (1 pc boxes)
- L : Std. Item (L-hand Only)
- : Check Availability

CBN & PCD Tools are sold in 1 piece boxes.

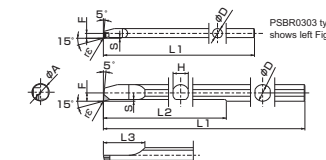
Grooving Inserts (1-Edge)

Edge Prep.				Classification of usage		K		Gray Cast Iron (With Scale)						Ref. Page for Toolholder					
Symbol	Cutting Edge Spec.	Example																	
E	R Honed	E008	R0.08mm Honed	✱: Interruption / 1st Choice ✱✱: Interruption / 2nd Choice															
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●: Light Interruption / 1st Choice ○: Light Interruption / 2nd Choice															
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●: Continuous / 1st Choice ○: Continuous / 2nd Choice	H		Gray Cast Iron (Without Scale)												
				Nodular Cast Iron (Without Scale)															
				Sintered Steel															
						Hard Materials (Roughing)													
						Hard Materials (Finishing)		○		●									
						Hard Materials (Chip Control)													
Insert		Description		(Previous Description)	Edge Prep.	Dimension (mm)										No. of Edges	CBN		
						W	B	r _E	A	T	ød	S					KBN510	KBN525	
Handed Insert shows Right-hand																			
		GBA43 ^{5/8} L	125-020	GBA43 ^{5/8} L	125	E008	1.25	2.0									●	●	G13 G15 G55
			150-020		150	E008	1.50	3.5									●	●	
			200-020		200	E008	2.00	3.5	0.2	12.70	4.76	5.5	1.9				●	●	
			250-020		250	E008	2.50	4.0									●	●	
			300-020		300	E008	3.00	4.0									●	●	

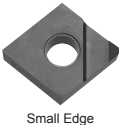
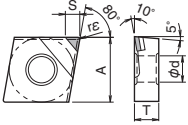
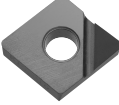
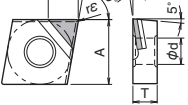
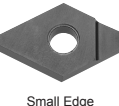
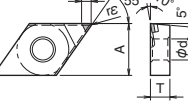
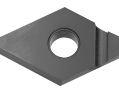
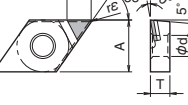
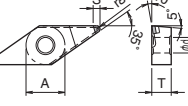
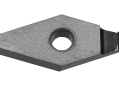
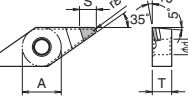
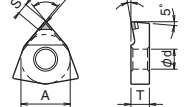
Deep Grooving Inserts (1-Edge)

Edge Prep.				Classification of usage		K Gray Cast Iron (With Scale) Gray Cast Iron (Without Scale) Nodular Cast Iron (Without Scale) Sintered Steel															
Symbol	Cutting Edge Spec.	Example																			
E	R Honed	E008	R0.08mm Honed	✱: Interruption / 1st Choice ✱✱: Interruption / 2nd Choice	H	Hard Materials (Roughing)															
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●: Light Interruption / 1st Choice ○: Light Interruption / 2nd Choice		Hard Materials (Finishing)										○		●			
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●: Continuous / 1st Choice ○: Continuous / 2nd Choice		Hard Materials (Chip Control)															
Insert			Description		(Previous Description)	Edge Prep.	Dimension (mm)										No. of Edges		CBN		Ref. Page for Toolholder
							W	B	r ϵ	A	T	ϕ d	S			KBN510	KBN525				
 External Grooving			GMN	2	-	E008	2.0	0.2	0.4	20	4.3	1.8	2.9			1	●	●	G36, G37		
				3	-	E008	3.0	2.3				●					●	G36			
				4	-	E008	4.0	3.3				●					●	G37			
				5	-	E008	5.0	4.2				●					●	G38			
				6	-	E008	6.0	5.2				●					●	G37, G38			

Tip-Bars

Edge Prep.				Classification of usage												Ref. Page for Toolholder		
Symbol	Cutting Edge Spec.	Example																
E	R Honed	E008	R0.08mm Honed	✱: Interruption / 1st Choice ✱✱: Interruption / 2nd Choice	K	Gray Cast Iron (With Scale)												
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge	●:Light Interruption / 1st Choice ○:Light Interruption / 2nd Choice		Gray Cast Iron (Without Scale)												
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge	●:Continuous / 1st Choice ○:Continuous / 2nd Choice		Nodular Cast Iron (Without Scale)												
						Sintered Steel												
					H	Hard Materials (Roughing)												
						Hard Materials (Finishing)										○	●	
						Hard Materials (Chip Control)												
Insert		Description		(Previous Description)	Edge Prep.	Min.Bore Dia.	Dimension (mm)									No. of Edges	CBN	
							øA	øD	H	L1	L2	L3	F	S	rE		KBN510	KBN525
Handed Insert shows Right-hand																		
		PSBR	0303-50NBS	-	T00815	3	2.8	-	50	25	7	1.4	0.15	0.05	1	●	●	F25
			0404-60NBS	-	T00815	4	3.8	3.6	60	30	10	1.9	0.3			●	●	
			0505-70NBS	-	T00815	5	4.8	4.4	70	40		2.4				●	●	
			0606-70NBS	-	T00815	6	5.8	5.2	70	45	12	2.9	0.5			●	●	
			0707-80NBS	-	T00815	7	6.8	6.2	80	50		3.4				●	●	

Negative

Negative			Classification of usage		N	Non-ferrous Metals (with interruption)				Ref. Page for Toolholder					
Edge Prep.			☘ : Light Interruption / 1st Choice		S	Non-ferrous Metals (without interruption)									
All Items			☹ : Light Interruption / 2nd Choice			Titanium Alloy (with interruption)									
Sharp Edge			● : Continuous / 1st Choice			Titanium Alloy (without interruption)									
Insert			Description		Dimension (mm)					Angle (°)	No. of Edges	PCD			
					A	T	ød	rε	S	α		KPD001	KPD010		
		CNMM	120402M-SE	120404M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●	D8 E18 F64 F68	
			120408M-SE				0.4	2.8			●	●			
							0.8	2.7			●	●			
		CNMM	120402M-NE	120404M-NE	12.70	4.76	5.16	0.2	5.1	-	1	●			
			120408M-NE					0.4	5.0			●			
								0.8	4.9			●			
		CNMM	120402M					0.2	5.8			●	●		
			120404M					0.4	5.8			●	●		
			120408M					0.8	5.7			●	●		
			120412M		1.2	5.6	●	●							
		DNMM	150402M-SE	150404M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●	D10 D11 F65	
			150408M-SE				0.4	2.6			●	●			
							0.8	2.2			●	●			
		DNMM	150402M-NE	150404M-NE	12.70	4.76	5.16	0.2	5.2	-	1	●			
			150408M-NE					0.4	5.0			●			
								0.8	4.6			●			
		DNMM	150402M					0.2	5.9			●	●		
			150404M					0.4	5.8			●	●		
			150408M					0.8	5.4			●	●		
			150412M		1.2	5.0	●	●							
		TNMM	160402M-SE	160404M-SE	9.525	4.76	3.81	0.2	2.7	-	1	●	●	D14 D15 E19 F65 F70	
			160408M-SE				0.4	2.6			●	●			
							0.8	2.3			●	●			
		TNMM	160402M-NE	160404M-NE	9.525	4.76	3.81	0.2	3.2	-	1	●			
			160408M-NE					0.4	3.1			●			
								0.8	2.8			●			
		TNMM	160402M					0.2	3.8			●	●		
			160404M					0.4	3.6			●	●		
			160408M					0.8	3.3			●	●		
			160412M		1.2	3.0	●	●							
		VNMM	160402M-SE	160404M-SE	9.525	4.76	3.81	0.2	2.9	-	1	●	●	D16 D17 D18	
			160408M-SE				0.4	2.5			●	●			
							0.8	1.6			●	●			
		VNMM	160402M-NE	160404M-NE	9.525	4.76	3.81	0.2	4.7	-	1	●			
			160408M-NE					0.4	4.2			●			
								0.8	3.4			●			
		VNMM	160402M					0.2	5.3			●	●		
			160404M					0.4	4.8			●	●		
			160408M					0.8	4.0			●	●		
			160412M		1.2	3.1	●	●							
		WNMM	080402M-SE	080404M-SE	12.70	4.76	5.16	0.2	2.8	-	1		●	D20 F72	
			080408M-SE				0.4	2.8				●			
							0.8	2.7							
		WNMM	080402M-NE	080404M-NE	12.70	4.76	5.16	0.2	5.0	-	1	●			
								0.4	5.0			●			
		WNMM	080402M					0.2	5.8				●		
			080404M					0.4	5.8				●		

• SE: Small Edge / NE: New Value Edge.

● : Std. Item (1 pc boxes)

CBN & PCD Tools are sold in 1 piece boxes.

Positive

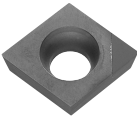
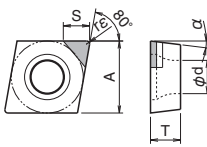
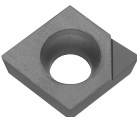
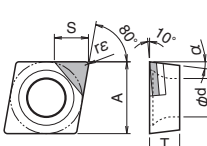
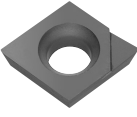
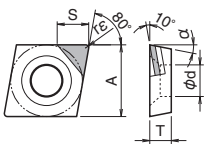
C



PCD

Classification of usage	
●	Light Interruption / 1st Choice
○	Light Interruption / 2nd Choice
●	Continuous / 1st Choice
○	Continuous / 2nd Choice

N	Non-ferrous Metals (with interruption)	●	
N	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloy (with interruption)	●	
S	Titanium Alloy (without interruption)	●	

Edge Prep.				Non-ferrous Metals (without interruption)						Ref. Page for Toolholder							
All Items		Sharp Edge				S		Titanium Alloy (with interruption)									
								Titanium Alloy (without interruption)									
Insert		Description		Dimension (mm)					Angle (°)	No. of Edges	PCD						
				A	T	ød	rε	S	α		KPD001	KPD010					
		CCGW	040101NE	4.3	1.8	2.3	0.1	1.7	7°	1	●		F27				
			040102NE				0.2	1.6			●			F29			
			040104NE				0.4	1.6			●						
		CCGW	040101		0.1	1.9	●	□			E20						
			040102		0.2	1.9	●	●				E21					
			040104		0.4	1.9	●	●					E33				
		CCGW	060201NE	6.35	2.38	2.8	0.1	3.1			●				F27		
			060202NE				0.2	3.0			●			F29			
			060204NE				0.4	3.0			●						
		CCGW	060202SE		0.2	1.9	●	□			E20						
			060204SE		0.4	1.9	●	□				E21					
			060208SE		0.8	1.8	●	□					E33				
		CCGW	060201	9.525	3.97	4.4	0.1	3.5			●			●	F27		
			060202				0.2	3.5			●	●		F29			
			060204				0.4	3.5			●	●	F66				
		CCGW	09T301NE		3.97	4.4	0.1	3.4			●				E20		
			09T302NE				0.2	3.4			●			E21			
			09T304NE				0.4	3.4			●		E33				
CCGW	09T308NE	9.525	3.97	4.4	0.8	3.3	●		F27								
	09T304SE				0.4	1.9	●	□		F29							
	09T308SE				0.8	1.8	●	□			F66						
CCGW	09T301		3.97	4.4	0.1	3.8	●	●	E20								
	09T302				0.2	3.8	●	●		E21							
	09T304				0.4	3.7	●	●			E33						
		CCMT	060201NE	6.35	2.38	2.8	0.1	2.8	7°			1	●		E20		
			060202NE				0.2	2.8		●				E21			
			060204NE				0.4	2.8		●			E33				
		CCMT	060201		0.1	3.3	●	●		F27							
			060202		0.2	3.3	●	●			F29						
			060204		0.4	3.2	●	●									
		CCMT	09T301NE	9.525	3.97	4.4	0.1	3.4		●				E20			
			09T302NE				0.2	3.4		●			E21				
			09T304NE				0.4	3.4		●					E33		
		CCMT	09T308NE	9.525	3.97	4.4	0.8	3.3		●				F27			
			09T304SE				0.4	1.9		●	□		F29				
			09T308SE				0.8	1.8		●	□				F66		
		CCMT	09T301		3.97	4.4	0.1	3.9		●	●			E20			
			09T302				0.2	3.9		●	●		E21				
			09T304				0.4	3.9		●	●				E33		
		CCMT	09T308	12.70	4.76	5.16	0.8	3.8		●				F27			
			120404SE				0.4	2.8		●	□		F29				
			120408SE				0.8	2.7		●	□				F66		
		CPMH	080201NE	7.94	2.38	3.5	0.1	3.2	11°	1	□			F31			
			080202NE				0.2	3.2			●		F33				
			080204NE				0.4	3.2			●				F33		
		CPMH	080208NE		0.8	3.2	●	□			F31						
			080201		0.1	3.7	●	●				F33					
			080202		0.2	3.7	●	●					F33				
		CPMH	080204	9.525	3.18	4.5	0.4	3.7			●			●	F31		
			080208				0.8	3.5			●	●		F33			
			090301NE				0.1	3.4			●		F31				
		CPMH	090302NE	9.525	3.18	4.5	0.2	3.4			●				F33		
			090304NE				0.4	3.4			●			F33			
			090308NE				0.8	3.3			●		F33				
		CPMH	090301		3.18	4.5	0.1	4.0			●	□			F31		
			090302				0.2	3.9			●	●		F33			
			090304				0.4	3.9			●	●	F33				
		CPMH	090308	9.525	3.18	4.5	0.8	3.8			●	●			F31		

• SE: Small Edge / NE: New Value Edge.

C18 ● : Std. Item (1 pc boxes)
□ : Check Availability

CBN & PCD Tools are sold
in 1 piece boxes.

Positive

Positive		Edge Prep.		Classification of usage		N		S		Ref. Page for Toolholder		
All Items		Sharp Edge		Non-ferrous Metals (with interruption)		Non-ferrous Metals (without interruption)		Titanium Alloy (with interruption)		Titanium Alloy (without interruption)		
Insert		Description		Dimension (mm)		Angle (°)		No. of Edges		PCD		
Handed insert indicates Left-hand				A	T	ød	rε	S	α	KPD001	KPD010	
		DCMT	070201NE	6.35	2.38	2.8	0.1	3.4	7°	1	●	
			070202NE				0.2	3.4			●	
			070204NE				0.4	3.2			●	
		DCMT	070202SE				0.2	2.5			□	
			070204SE				0.4	2.4			□	
		DCMT	070201				0.1	4.0			●	●
			070202	0.2	3.9	●	●					
			070204	0.4	3.7	●	●					
		DCMT	11T301NE	9.525	3.97	4.4	0.1	3.4			●	●
			11T302NE				0.2	3.3			●	●
			11T304NE				0.4	3.2			●	●
			11T308NE				0.8	2.8			●	●
		DCMT	11T304SE				0.4	2.2			□	
			11T308SE				0.8	2.0			□	
	11T301	0.1	4.0	●	●							
	11T302	0.2	3.9	●	●							
	11T304	0.4	3.7	●	●							
	11T308	0.8	3.3	●	●							
		DCMT	070202 ^{R/L} -NE	6.35	2.38	2.8	0.2	3.3	●			
			070204 ^{R/L} -NE				0.4	3.2	●			
		DCMT	11T302 ^{R/L} -NE	9.525	3.97	4.4	0.2	3.3	●			
			11T304 ^{R/L} -NE				0.4	3.2	●			
		TBGW	060102NE	3.97	1.59	2.3	0.2	2.1	5°	1	●	
			060104NE				0.4	1.9			●	
		TBGW	060102				0.2	2.4			●	●
			060104				0.4	2.2			●	●
		TCGW	110302SE	6.35	3.18	2.8	0.2	2.5	7°	1		●
			110304SE				0.4	2.4				●
		TCGW	110302NE				0.2	3.3			●	
			110304NE				0.4	3.2			●	
			110308NE	0.8	2.9	●						
		TCGW	110302	0.2	3.9		●					
		110304	0.4	3.7		●						
		110308	0.8	3.4		□						
		TBMT	060101NE	3.97	1.59	2.3	0.1	2.2	5°	1	●	
			060102NE				0.2	2.1			●	
			060104NE				0.4	2.0			●	
			060108NE				0.8	1.7			●	
		TBMT	060101	0.1	2.6	□	●					
			060102	0.2	2.5	□	●					
			060104	0.4	2.3	□	●					
			060108	0.8	2.0	□	●					
		TCMT	080202NE	4.76	2.38	2.3	0.2	2.1	7°	1	□	
			080204NE				0.4	2.0			□	
			080208NE				0.8	1.7			□	
		TCMT	080202				0.2	2.4				●
	080204	0.4	2.2					●				
	080208	0.8	1.9					●				

• SE: Small Edge / NE: New Value Edge.

Insert Description	Ref. Page for Toolholder
DC..07 type	E22~25,E35~39
DC..11 type	E22~25,F35~39,F66

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

CBN & PCD Tools are sold in 1 piece boxes.

PCD Tools

Positive

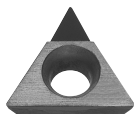
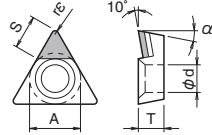
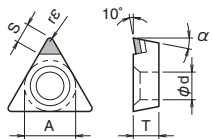
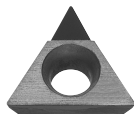
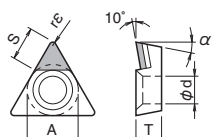
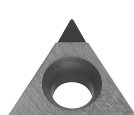
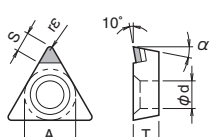
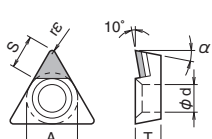
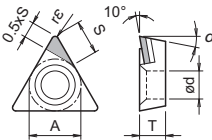
C



PCD

Edge Prep.		Classification of usage		N		S		Ref. Page for Toolholder	
All Items		Sharp Edge		●: Light Interruption / 1st Choice		○: Light Interruption / 2nd Choice		Non-ferrous Metals (with interruption)	
Insert		Description		●: Continuous / 1st Choice		○: Continuous / 2nd Choice		Non-ferrous Metals (without interruption)	
								Titanium Alloy (with interruption)	
								Titanium Alloy (without interruption)	

Positive

Positive		Classification of usage		N		S		Ref. Page for Toolholder							
Edge Prep.		● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice		Non-ferrous Metals (with interruption) Non-ferrous Metals (without interruption) Titanium Alloy (with interruption) Titanium Alloy (without interruption)											
All Items		Sharp Edge													
Insert	Description	Dimension (mm)					Angle (°)	No. of Edges	PCD		Ref. Page for Toolholder				
		A	T	ød	rε	S	α		KPD001	KPD010					
Handed insert indicates Left-hand															
		TPMH	080201NE	4.76	2.38	2.3	0.1	2.3	11°	1	●		E27 F45 F48		
			080202NE				0.2	2.2			●				
			080204NE				0.4	2.1			●				
			080208NE				0.8	1.8			□				
		TPMH	080201	5.56	2.38	3.0	0.1	2.6			●		F43 F45 F48		
			080202				0.2	2.5			●	●			
			080204				0.4	2.3			●	●			
			080208				0.8	2.0			□	□			
		TPMH	090201NE	5.56	2.38	3.0	0.1	2.7			●		F43 F45 F48		
			090202NE				0.2	2.6			●				
			090204NE				0.4	2.5			●				
			090208NE				0.8	2.2			●				
TPMH	090201	5.56	2.38	3.0	0.1	3.0	●	●	F43 F45 F48						
	090202				0.2	2.9	●	●							
	090204				0.4	2.8	●	●							
	090208				0.8	2.5	□	●							
		TPMH	110301SE	6.35	3.18	3.3	0.1	2.7	11°	1	□	●	E27 F43 F45 F47		
			110302SE				0.2	2.6			●	●			
			110304SE				0.4	2.5			●	●			
		TPMH	110301NE	6.35	3.18	3.3	0.1	3.4			11°	1	●		E27 F43 F45 F47
			110302NE				0.2	3.3					●		
			110304NE				0.4	3.2					●		
110308NE	0.8		2.9				●								
TPMH	110301	6.35	3.18	3.3	0.1	3.9	●	●					F43 F45 F47		
	110302				0.2	3.9	●	●							
	110304				0.4	3.7	●	●							
	110308				0.8	3.4	□	●							
		TPMH	160301SE	9.525	3.18	4.5	0.1	2.6					11°	1	□
			160302SE				0.2	2.6	●	●					
			160304SE				0.4	2.4	●	●					
		TPMH	160301NE	9.525	3.18	4.5	0.1	3.5	11°	1					●
			160302NE				0.2	3.4			●				
			160304NE				0.4	3.3			●				
			160308NE				0.8	3.0			●				
TPMH	160301	9.525	3.18	4.5	0.1	4.1	□	□			F43 F45 F47				
	160302				0.2	4.0	●	●							
	160304				0.4	3.8	●	●							
	160308				0.8	3.6	□	●							
		TPMH	110302 ^{R/L} -NE	6.35	3.18	3.3	0.2	3.8			11°	1			L
			110304 ^{R/L} -NE				0.4	3.6					L		

• SE: Small Edge / NE: New Value Edge.

- : Std. Item (1 pc boxes)
- L : Std. Item (L-hand Only)
- : Check Availability

CBN & PCD Tools are sold
in 1 piece boxes.

Positive

C

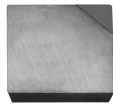
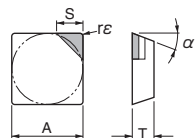
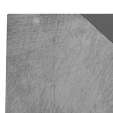
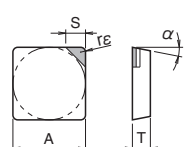
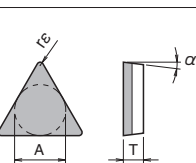
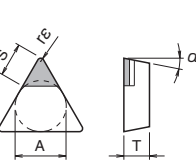
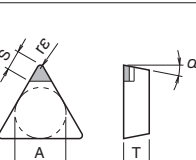
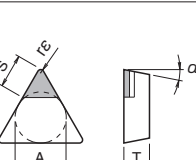
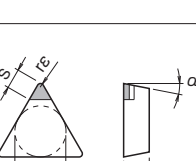
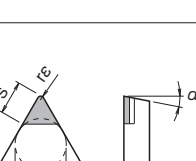


PCD

Classification of usage		N	Non-ferrous Metals (with interruption)		S	Non-ferrous Metals (without interruption)		Titanium Alloy (with interruption)		Titanium Alloy (without interruption)		Ref. Page for Toolholder		
● : Light Interruption / 1st Choice			●			●		●						
☉ : Light Interruption / 2nd Choice														
● : Continuous / 1st Choice														
○ : Continuous / 2nd Choice														
Dimension (mm)						Angle (°)	No. of Edges	PCD						
A	T	ød	rε	S	α	KPD001		KPD010						
6.35	3.18	2.8	0.1	2.6	5 °	1	●		E28	E29	E35			
			0.2	2.4			●					F51	F53	F55
			0.4	2.0			●							
			0.8	3.1			●							
			0.1	3.0			●	●						
			0.2	2.8			●	●						
			0.4	2.4			●	●						
			0.8	3.5			●	●						
9.525	4.76	4.4	0.1	2.8	5 °	1	●		E28	E29	F51			
			0.2	2.6			●					F53	F55	
			0.4	2.2			●							
			0.8	3.0			●							
			0.4	2.0			●	●						
			0.1	3.2			●	●						
			0.2	3.0			●	●						
			0.4	2.6			●	●						
4.76	2.38	2.3	0.1	1.7	7 °	1	●		E35	F51	F53			
			0.2	1.7			●					F55		
			0.4	1.8			●							
			0.8	1.9			●							
			0.1	2.0			●	●						
			0.2	2.0			●	●						
			0.4	2.1			●	●						
			0.8	2.2			●	●						
3.97	1.59	2.3	0.1	1.7	5 °	1	●		F57	F59				
			0.2	1.6			●							
			0.4	1.6			●							
			0.1	1.9			●	●						
			0.2	1.9			●	●						
			0.4	1.9			●	●						
4.76	2.38	2.3	0.2	2.1	5 °	1	●		F57	F59				
			0.4	2.1			●							
			0.2	2.4			●	●						
			0.4	2.3			●	●						
			0.1	2.7			□							
			0.2	2.7			●							
6.35	2.38	2.8	0.4	2.7	11 °	1	●		F57	F59				
			0.1	3.0			□							
			0.2	3.1			●							
			0.4	3.1			□							
			0.1	3.0			□							
			0.2	3.1			●							

• SE: Small Edge / NE: New Value Edge.

Positive

Positive		Classification of usage		N		S		Ref. Page for Toolholder					
Edge Prep.				Non-ferrous Metals (with interruption)		Non-ferrous Metals (without interruption)							
All Items		Sharp Edge		Titanium Alloy (with interruption)		Titanium Alloy (without interruption)							
Insert		Description		Dimension (mm)					Angle (°)	No. of Edges	PCD		
				A	T	ød	rε	S	α		KPD001	KPD010	
		SEGN	120304NE 120304	12.70	3.18	-	0.4	3.6 4.2	20 °	1			-
		SPGN	120304NE 120304	12.70	3.18	-	0.4	3.6 4.2	11 °	1			E36 F60
		TBGN	060102 060104	3.97	1.59	-	0.2 0.4	-	5 °	3			-
		TPGN	090202NE 090204NE 090208NE	5.56	2.38	-	0.2 0.4 0.8	3.3 3.2 2.9					F61
	TPGN	090202 090204 090208	0.2 0.4 0.8				3.9 3.7 3.4						
		TPGN	110301SE 110302SE 110304SE	6.35	3.18	-	0.1 0.2 0.4	2.6 2.5 2.4	11 °	1			E37 F61
		TPGN	110302NE 110304NE 110308NE	9.525	3.18	-	0.2 0.4 0.8	3.4 3.2 2.9					
		TPGN	110302 110304 110308				0.2 0.4 0.8	3.9 3.7 3.4					
		TPGN	160301SE 160302SE 160304SE			-	0.1 0.2 0.4	2.6 2.6 2.4					
		TPGN	160302NE 160304NE 160308NE			-	0.2 0.4 0.8	3.3 3.2 2.9					
		TPGN	160302 160304 160308				0.2 0.4 0.8	3.9 3.7 3.4					

• SE: Small Edge / NE: New Value Edge.

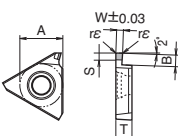
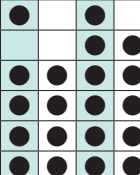
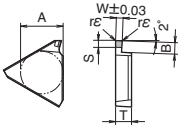
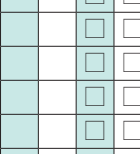
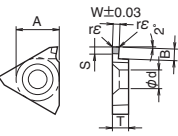
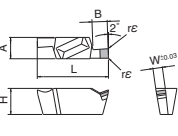
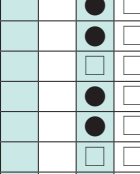
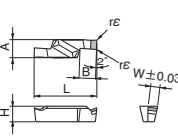
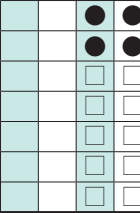
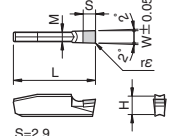
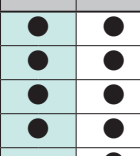
● : Std. Item (1 pc boxes)
□ : Check Availability

CBN & PCD Tools are sold
in 1 piece boxes.

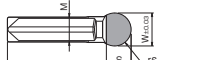
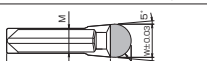
Grooving Inserts (1-Edge)

Classification of usage		N	Non-ferrous Metals (with interruption)	●	
			Non-ferrous Metals (without interruption)	●	
		S	Titanium Alloy (with interruption)	●	
			Titanium Alloy (without interruption)	●	

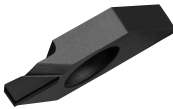
● : Light Interruption / 1st Choice
 ○ : Light Interruption / 2nd Choice
 ● : Continuous / 1st Choice
 ○ : Continuous / 2nd Choice

Edge Prep.														Non-ferrous Metals (without interruption)						Ref. Page for Toolholder
All Items		Sharp Edge												S Titanium Alloy (with interruption)						
														Titanium Alloy (without interruption)						
Insert		Description		(Previous Description)		Dimension (mm)							No. of Edges	PCD						
Handed Insert shows Right-hand						W	B	rε	A	T	ød	S		KPD001		KPD010				
														R	L	R	L			
 External / Internal Grooving		GBA32 ^{R/L}	125-010	GBA32 ^{R/L}	125	1.25	2.0	0.1	9.525	3.18	4.4	1.7	1							
			150-010		150	1.50														
		GBA43 ^{R/L}	125-010	GBA43 ^{R/L}	125	1.25	2.0	0.1	12.70	4.76	5.5	1.9								
			150-010		150	1.50														
			200-010		200	2.00	3.5													
			250-010		250	2.50														
	300-010		300	3.00	4.0															
 External Grooving		GB43 ^{R/L}	125	-	1.25	2.0	0.1	12.70	4.76	-	1.9	1								
			150	-	1.50	3.5														
			200	-	2.00		4.0													
			250	-	2.50															
			300	-	3.00															
 External Grooving		TGF32 ^{R/L}	125-010	-	1.25	2.0	0.1	9.525	3.18	4.5	1.7	1								
			150-010	-	1.50															
			200-010	-	2.00	2.5	1.9													
		TGF32 ^{R/L}	125	-	1.25	2.0		C0.1	9.525	3.18	4.5	1.7								
			150	-	1.50															
			200	-	2.00	2.5	1.9													
 Internal Grooving		GV ^{R/L}	145-020A	GV ^{R/L}	145A	1.45	2.3	0.2	4.0	12	5.0	1								
			200-020A		200A	2.00														
			300-020A		300A	3.00														
		GV ^{R/L}	200-020B	GV ^{R/L}	200B	2.00	3.2	0.2	4.5	15	5.5									
			250-020B		250B	2.50														
			300-020B		300B	3.00	4.2													
 Face Grooving		GVF ^{R/L}	250-020B	GVF ^{R/L}	250B	2.50	4.8	0.2	5.8	20	5.0	1								
			300-020B		300B	3.00	4.8													
			400-020B		400B	4.00	5.3													
		GVF ^{R/L}	350-020C	-	3.50	6.8	0.2	7.0	27	7.0										
			400-020C	-	4.00	6.8														
		GVF ^{R/L}	350-040C	GVF ^{R/L}	350C	3.50	6.8	0.4	7.0	27	7.0									
			400-040C		400C	4.00	6.8													
 External Grooving		GMN	2	-	2.0	0.2	20	4.3	1.8	2.9	1									
			3	-	3.0											2.3				
			4	-	4.0	3.3														
			5	-	5.0		4.2													
			6	-	6.0	5.2														

For Aluminum Wheel (1-Edge)

For Aluminum Wheel (1-Edge)				Classification of usage				N		S		Ref. Page for Toolholder	
Edge Prep.				● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice				Non-ferrous Metals (with interruption)		Non-ferrous Metals (without interruption)			
All Items		Rounded Cutting Edge (Hone)		Dimension (mm)						No. of Edges	PCD		
Insert		Description		W	rε	L	H	M	S		KPD001	KPD010	
		GMGW	6030-30R	6	3	30	5.5	5	4.5	1	☐		G40
			8030-40R	8	4			6	6		☐		
		GMGW	8030-40R-HR	8	4	30	5.5	6	5		☐		
													

Traversing / Grooving Inserts (1-Edge)

Traversing / Grooving Inserts (1-Edge)										Classification of usage		N		S		Ref. Page for Toolholder									
Edge Prep.										● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice		Non-ferrous Metals (with interruption)		Non-ferrous Metals (without interruption)			Titanium Alloy (with interruption)		Titanium Alloy (without interruption)						
All Items					Sharp Edge					Dimension (mm)							Angle (°)	No. of Edges	PCD						
Insert Handed Insert shows Right-hand					Description					W øD max rε T H ød S θ°						θ°	No. of Edges	KPD001				KPD010			
																		R		L		R		L	
 Grooving Inserts					TKF12 ^{R/L} 200-AS					2.0	10	0.1 ^{+0.05 -0.05}	3	8.7	5	5.0	0°	1	●	●					
					250-AS					2.5	10					5.5			●	●					
					TKF16 ^{R/L} 250-AS					2.5	16		4	9.5	5	6.5	0°	1	●	●					
 External Grooving (Traversing)					TKF12 ^{R/L} 150-NB					1.5	7	0.1 ^{+0.05 -0.05}	3	8.7	5	2.0	0°	1	●	●					
					200-NB					2.0	8					3.0			●	●					
					250-NB					2.5	8					3.0			●	□					
					250-NB4.5					2.5	10					4.5			●	□					

* Relief angle (Front cutting edge angle: θ) represents the angle when installed in the toolholder.

Note 1) The cutting edge of the TKF...-AS will be 1 mm lower than the center line when attached to the KTKF toolholder (See Fig.1). Adjust the height by making NC lathe parameter settings or inserting a plate.

2) If the 1 mm adjustment is not possible on your automatic lathe, use the TKF...-NB. (See Fig.2.)

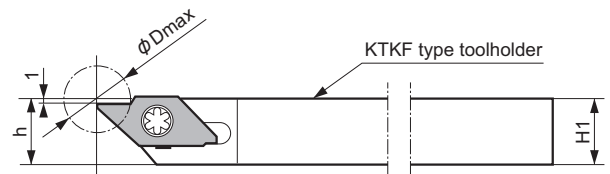


Fig.1 When a TKF-AS insert is attached
(The cutting edge is 1 mm lower than the center line.)

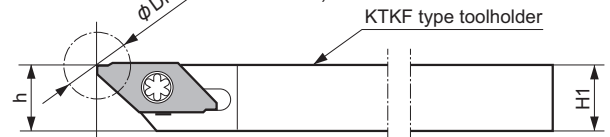


Fig.2 When a TKF-NB insert is attached

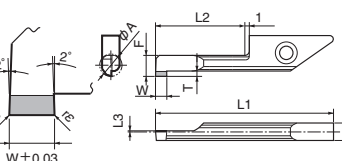
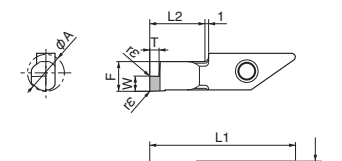
PCD Tools

System Tip-Bars

Edge Prep.					S		Non-ferrous Metals (without interruption)		●																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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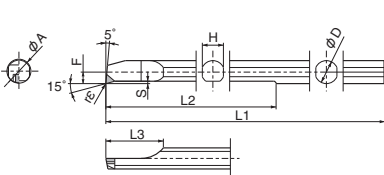
Classification of usage		N	Non-ferrous Metals (with interruption)	●	
●: Light Interruption / 1st Choice			Non-ferrous Metals (without interruption)	●	
○: Light Interruption / 2nd Choice			Titanium Alloy (with interruption)	●	
●: Continuous / 1st Choice		S	Titanium Alloy (without interruption)	●	
○: Continuous / 2nd Choice					

System Tip-Bars

Edge Prep.		Min.Bore Dia.	Dimension (mm)										No. of Edges	PCD		Ref. Page for Toolholder
All Items	Sharp Edge		øA	W	rε	H	L1	L2	L3	F	T			KPD001	KPD010	
Insert	Description	øA	W	rε	H	L1	L2	L3	F	T						
Handed Insert shows Right-hand																
 Micro Grooving	VNGR 0410-11NB	4	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8		1				F16 F17 F18
	0420-11NB		2.0	0.10												
	VNGR 0510-11NB	5	1.0	0.05	3.9	30.8	11	0.1	4.4	1.0						
	0520-11NB		2.0	0.10												
	VNGR 0610-20NB	6	1.0	0.05	3.9	39.8	20	0.3	5.2	1.8						
	0620-20NB		2.0	0.10												
 Micro Face Grooving	VNGR 0710-20NB	7	1.0	0.05	3.9	39.8	20	0.3	6.2	2.0		1				F16 F17 F18
	0720-20NB		2.0	0.10												
	VNFR 0820-10NB	8	2.0								2.0					
	0830-10NB	8	3.0		0.05	3.9	39.8	10	-	7.3	3.0					

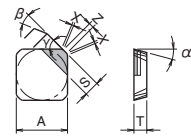
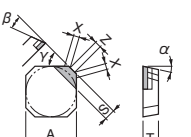
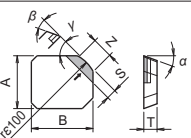
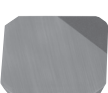
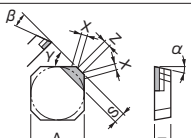
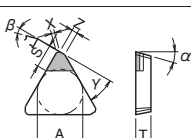
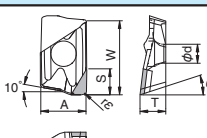
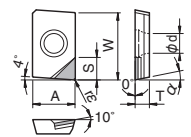
Classification of usage		N	Non-ferrous Metals (with interruption)
●: Light Interruption / 1st Choice			Non-ferrous Metals (without interruption)
○: Light Interruption / 2nd Choice		S	Titanium Alloy (with interruption)
●: Continuous / 1st Choice			Titanium Alloy (without interruption)
○: Continuous / 2nd Choice			

Tip-Bars

Tip-Bars		Classification of usage		N		S		Ref. Page for Toolholder						
Edge Prep.		● : Light Interruption / 1st Choice		● : Non-ferrous Metals (with interruption)		● : Non-ferrous Metals (without interruption)								
All Items		○ : Light Interruption / 2nd Choice		● : Titanium Alloy (with interruption)		● : Titanium Alloy (without interruption)								
		● : Continuous / 1st Choice												
		○ : Continuous / 2nd Choice												
Insert	Description	Min.Bore Dia.	Dimension (mm)								No. of Edges	PCD		
		øA	øD	H	L1	L2	L3	F	S	rε		KPD001	KPD010	
Handed Insert shows Right-hand														
	PSB ^{R/L} 0404-60NBS	4	3.8	3.6	60	30	10	1.9	0.3	0.05	1	R	R	F25
	0505-70NBS	5	4.8	4.4	70	40	12	2.4	0.5			R	R	
	0606-70NBS	6	5.8	5.2		45		2.9				R	R	
	0707-80NBS	7	6.8	6.2	80	50	3.4	R	R					

Classification of usage		N	Non-ferrous Metals (with interruption)
●: Light Interruption / 1st Choice			Non-ferrous Metals (without interruption)
○: Light Interruption / 2nd Choice			Titanium Alloy (with interruption)
●: Continuous / 1st Choice		S	Titanium Alloy (without interruption)
○: Continuous / 2nd Choice			

Milling Inserts

Edge Prep.			Classification of usage			N Non-ferrous Metals (with interruption)								Ref. Page for Toolholder			
All Items		Sharp Edge	■ : Light Interruption / 1st Choice			□ : Light Interruption / 2nd Choice			S Titanium Alloy (with interruption)								
Insert		Description	Dimension (mm)					Angle (°)			No. of Edges	PCD					
			A	T	X	Z	S		α	β		γ	KPD001		KPD010	KPD230	
		SDKN 1203AUFN-NE 1203AUFN	12.70	3.18	0.5	1.2	3.1 3.6		15°	23°	45°	1	●	●		M35	
		SEEN 1203AFFN-NE 1203AFFN	12.70	3.18	0.5	1.4	3.0 3.5		20°	25°	45°	1	●	●		M30 M31 M32	
 With Wiper Edge		SEEN 1203AFFR-W	12.50	3.18	-	3.5	1.7 B=14.56		20°	25°	45°	1	●			M32	
		SOKN 13T3AXFN-NE	13.494	3.97	0.4	1.1	3.0		27°	32°	45°	1			●	M36	
		TEEN 1603PTFR-NE 1603PTFR	9.525	3.18	0.6	1.4	4.1 4.7		20°	22°	30°	1	●	●	●	M95	
		TEKN 2204PTFR-NE 2204PTFR	12.70	4.76	0.7	1.8	4.2 4.8		20°	22°	30°	1	●	●	●	M44 M45	
Insert		Description	Dimension (mm)					Angle (°)			No. of Edges	PCD			Ref. Page for Toolholder		
			A	T	ød	W	rε	S	α	β			KPD001	KPD010		KPD230	
		BDMT 11T302FR 11T304FR	6.7	3.8	2.8	11.0	0.2 0.4	3.6	18°	13°		1	●	●	●	M48 M49	
		BDMT 170402FR 170404FR	9.6	4.9	4.4	17.0	0.2 0.4	4.4	18°	13°		1	●	●	●	M50	
		NDCW 150302FRX-NE 150302FRX	9.525	3.18	4.4	15.0	0.2	5.1 5.7	15°	-		1	●	●		M93	

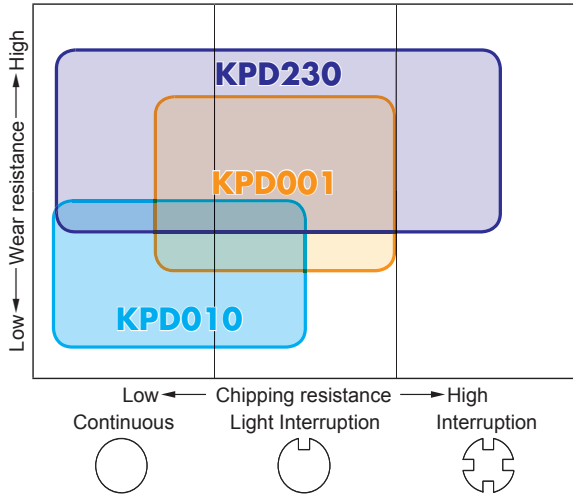
• SE: Small Edge / NE: New Value Edge.

● : Std. Item (1 pc boxes)

CBN & PCD Tools are sold
in 1 piece boxes.

Recommended Cutting Conditions

Application Map



Insert Grade	Applications	Features	Insert Grade	Applications	Features
KPD001 (Ave. Grain Size under 0.5μm)	- High speed machining of non-ferrous metals and brass - High speed machining of glass fiber and plastics - Machining of carbide and ceramics	- The world highest level micro-grain diamond - High edge strength, and superior to wear resistance, chipping resistance and edge sharpening performance	KPD010 (Ave. Grain Size 10μm)	- High speed machining of non-ferrous metals and brass - High speed machining of glass fiber and plastics - Machining of carbide and ceramics	- Good balance of wear resistance and flexural strength - General Purpose
KPD230 (Mixture of fine grain with the ave. grain size 2-30μm and rough grain)	- High speed milling of aluminum alloy and non ferrous metals such as brass - High speed milling of glass fiber and plastics	High-density carbide with mixture of rough and fine grains features excellent abrasive wear resistance and chipping resistance.			

Recommended Cutting Conditions (Turning)

Workpiece Material	Insert Grade		Cutting Conditions				Remarks
	KPD001	KPD010	Vc (m/min)	ap (mm)		f (mm/rev)	
				Small edge and Positive (Insert)	Negative (Inserts)		
Aluminum Alloys Zinc Alloys	★	☆	300~1500	~1.0	~2.0	0.03~0.5	Both Dry and Coolant Available
Copper, Brass, Bronze	★	☆	300~1000	~1.0	~2.0	0.03~0.5	
Magnesium Alloys	★	☆	400~1200	~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 Plastic 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