

External

D1~D38

External Turning Toolholders Identification System D3

Product Lineup D4~D5

Clamping System D6~D7

External Turning Toolholders D8~D23

CN□□ Insert	DCLN / DCLN-JCT	D8
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	PSSN / PSDN	D15
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Toolholders for Ceramic Tools D24~D29

CN□□ Insert	CCLN	D24
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EN□□ Insert	CELN	D25
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RNMN Insert	CRSN-A / CRDN-A	D31
SNMN Insert	CSRN-A / CSKN-A / CSYN-A	D32
	CSSN-A / CSDN-A	D33
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SNMF Insert	CBSN	D36

Technical Information D37~D38

Recommended Cutting Conditions D37

Parts Compatibility of Lever Lock Toolholders R54

Great for High Pressure Coolant Turning Toolholders

Double Clamp-JCT

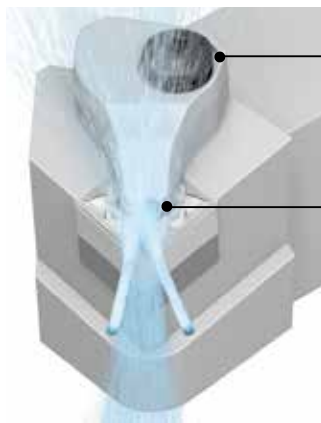
Discharges Coolant in Three Directions. Improved Chip Control and Longer Tool Life for a Wide Variety of Workpieces including Steel, Hard Materials and Difficult-to-Cut Material

D

External

Special Coolant Hole Design

Special coolant-through structure designed by careful simulation and analysis technology



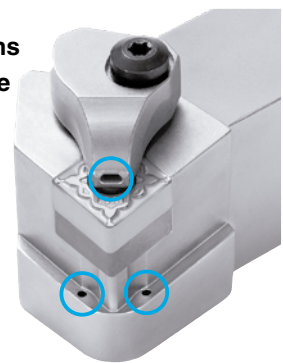
Double Clamp

Firm insert clamp and easy to use in single operations
High-density coolant supply close to the cutting edge

Unique Nozzle Shape

Provides coolant to a wide area of the insert surface

○ : Coolant Hole



Discharges Coolant in Three Directions
The Cutting Edge Stays Cool

Internal Coolant Benefits

Discharges Coolant towards the Cutting Edge

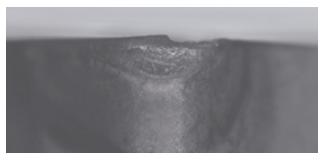
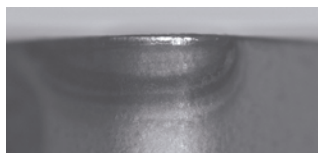
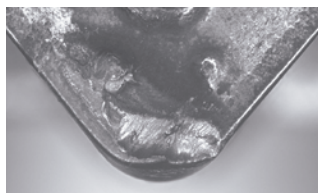
Internal Coolant Provides Longer Tool Life and Excellent Chip Control

Longer Tool Life

Wear Resistance Comparison (Internal evaluation)

Internal coolant (7MPa)

External coolant (0.4MPa)



Cutting Conditions : $V_c = 250$ m/min, $a_p = 2$ mm, $f = 0.3$ mm/rev, Wet
CNMG120408 type Workpiece Material : SCM435
External After Machining 42.2 min

Improved Chip Control

Chip Control Comparison (Internal evaluation)

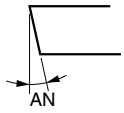
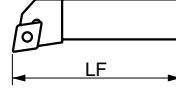
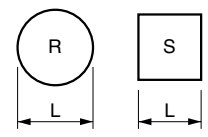
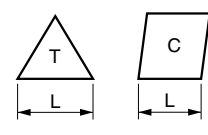
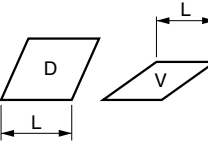
Internal coolant (7MPa)

External coolant (0.4MPa)



Cutting Conditions : $V_c = 200$ m/min, $a_p = 0.5$ mm, $f = 0.05$ mm/rev, Wet
DNMG150408 type Workpiece Material : SCM415 External

External Turning Toolholders Identification System (Square Shank)

A : Back Clamp C : Top Clamp D : Double Clamp M : Multi Lock P : Pin Lock or Lever Lock S : Screw Clamp W : Wedge Lock		C : 80° Rhombic D : 55° Rhombic R : Round S : 90° Square T : 60° Triangle V : 35° Rhombic W : 80° Trigon		R : Right-hand L : Left-hand N : Neutral		Shank Height (mm)		Shank Width (mm)		Manufacture's Option Optional Mark or Number																																													
Clamping System		Insert Shape		Hand of Tool		Shank Height		Shank Width		Others																																													
D		C		L		N		R		20																																													
20		K		12																																																			
Cutting Edge Angle				Insert Relief Angle		Toolholder Length				Insert Size																																													
<table border="1"> <tr> <td>A 90°</td> <td>B 75°</td> <td>C 90°</td> <td>D 45°</td> </tr> <tr> <td>E 60°</td> <td>F 90°</td> <td>G 90°</td> <td>H 107.5°</td> </tr> <tr> <td>J 93°</td> <td>K 75°</td> <td>L 95°</td> <td>N 63°</td> </tr> <tr> <td>P 117.5°</td> <td>R 75°</td> <td>S 45°</td> <td>T 60°</td> </tr> <tr> <td>U 93°</td> <td>V 72.5°</td> <td>W 60°</td> <td>Y 85°</td> </tr> </table>				A 90°	B 75°	C 90°	D 45°	E 60°	F 90°	G 90°	H 107.5°	J 93°	K 75°	L 95°	N 63°	P 117.5°	R 75°	S 45°	T 60°	U 93°	V 72.5°	W 60°	Y 85°	 B : 5° Positive C : 7° Positive D : 15° Positive E : 20° Positive N : 0° Negative P : 11° Positive		 (mm) <table border="1"> <tr> <td>A : 32</td> <td>J : 110</td> <td>R : 200</td> </tr> <tr> <td>B : 40</td> <td>JX : 120</td> <td>S : 250</td> </tr> <tr> <td>C : 50</td> <td>K : 125</td> <td>T : 300</td> </tr> <tr> <td>D : 60</td> <td>L : 140</td> <td>U : 350</td> </tr> <tr> <td>E : 70</td> <td>M : 150</td> <td>V : 400</td> </tr> <tr> <td>F : 80</td> <td>N : 160</td> <td>W : 450</td> </tr> <tr> <td>G : 90</td> <td>P : 170</td> <td>Y : 500</td> </tr> <tr> <td>H : 100</td> <td>Q : 180</td> <td>X : Special</td> </tr> </table>				A : 32	J : 110	R : 200	B : 40	JX : 120	S : 250	C : 50	K : 125	T : 300	D : 60	L : 140	U : 350	E : 70	M : 150	V : 400	F : 80	N : 160	W : 450	G : 90	P : 170	Y : 500	H : 100	Q : 180	X : Special	  	
A 90°	B 75°	C 90°	D 45°																																																				
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G : 90	P : 170	Y : 500																																																					
H : 100	Q : 180	X : Special																																																					

- Specification may change without any prior notice.
- Due to the installation size constraints on the machine, the toolholder length of some products may not match with the symbol.

Insert Grades	A
Turning Indexable Inserts	B
CSN & PCD Tools	C
External	D
Small Parts Machining	E
Boring	F
Grooving	G
Cut-off	H
Threading	J
Drilling	K
Solid Tools	L
Milling	M
Tools for Turning Mill	N
Spare Parts	P
Technical Information	R
Index	T

Product Lineup

External Turning Toolholders

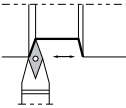
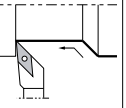
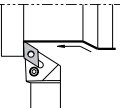
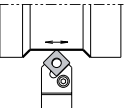
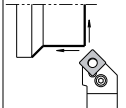
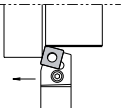
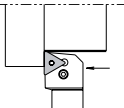
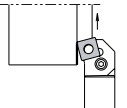
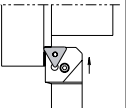
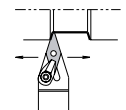
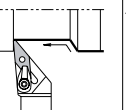
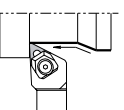
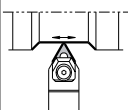
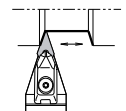
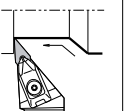
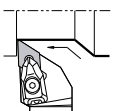
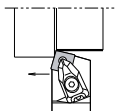
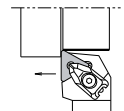
	CN..	WN..	TN..	DN..	RC..		RN..	VN..	
Applicable Insert Shape									
Applications	External / Facing		External / Facing / Copying						External / Facing / Copying / Undercutting
Cutting Edge Angle	95°		105°	107.5°	Special			117.5°	
Lever Lock (Pin Lock)									
See Page	D9	D23		D13	D21	D21	D21	D20	
Wedge Lock Multi Lock									
See Page		D23	D17						
Double Clamp (Coolant-through Holders)									
See Page	D8	D22		D12				D18	

Toolholders for Ceramic Tools

Applications	External / Facing			External / Copying			External / Chamfering	External / Facing / Chamfering	
Cutting Edge Angle	95°	97.5°	Special	93°	107.5°	Special	45°	45°	
Top Clamp									
See Page	D24	D25	D29	D25		D29	D27	D27	

Toolholders for Solid CBN Tools

Applications	External / Facing		External / Copying	External / Chamfering	External / Facing / Chamfering	External			
Cutting Edge Angle	95°	Special	Special	45°	45°	75°		93°	
Top Clamp									
See Page	D30	D31	D31	D33	D33	D30	D32	D34	

	VN.. 	DN..  TN.. 	SN.. 	TN.. 	SN.. 	SN.. 	TN.. 	SN.. 	TN.. 	
External / Copying			External / Chamfering		External / Facing / Chamfering	External		Facing		
	72.5°	95°	93°	45°	60°	45°	75°	91°	15°	-1°
	 PVVN (Pin Lock) D20	 PVLN (Pin Lock) D20	 PDJN D13	 PSDN D15		 PSSN D15	 PSBN D14	 PTGN D16	 PSKN D14	 PTFN D16
	 MVVN D19	 MVLN D19	 WTJN-N D17		 WTEN-N D17					
	 DVVN D18	 DVLN D18	 DDJN (-JCT) D12				 DSBN D14	 DTGN D16		

	External			Facing		
	75°	85°	93°	5°	15°	-3°
	 CSRN D27	 CS-N D27	 CTJN D28	 CSYN D27	 CSKN D27	 CTUN D28

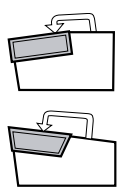
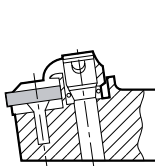
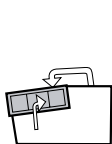
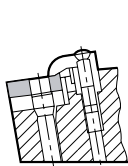
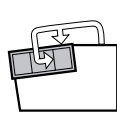
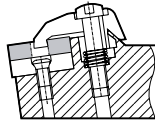
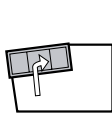
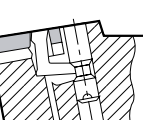
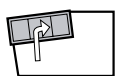
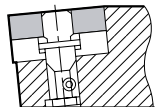
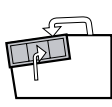
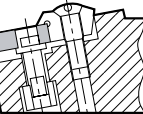
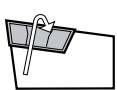
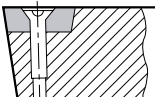
	Facing		
	5°	15°	-3°
	 CSYN-A D32	 CSKN-A D32	 CTUN-A D34

Toolholders for Bearing Machining

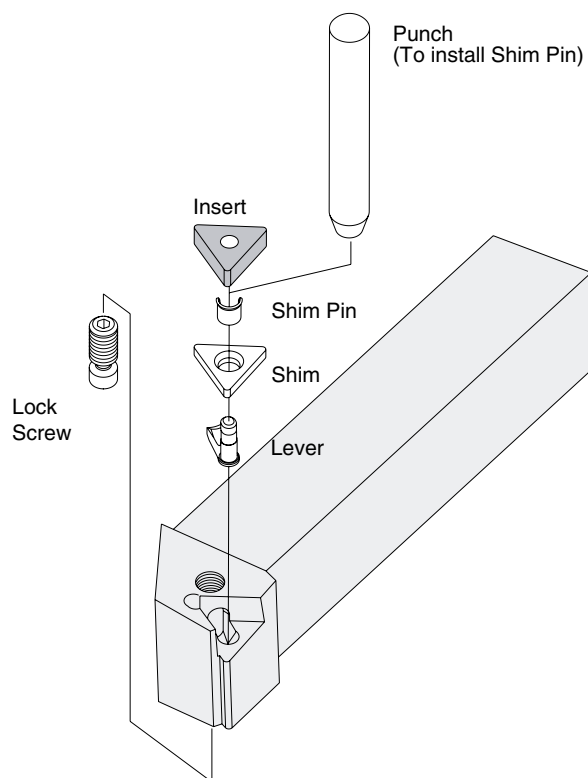
Applications	External	Facing	Applications	Round Chamfering
Cutting Edge Angle	Special	Special	Cutting Edge Angle	Special
Lever Lock	 PRGC-BE D35	 PRGC-BF D35	Top Clamp	 CBSN D36
See Page	D35	D35	See Page	D36

Clamping System

Clamping System

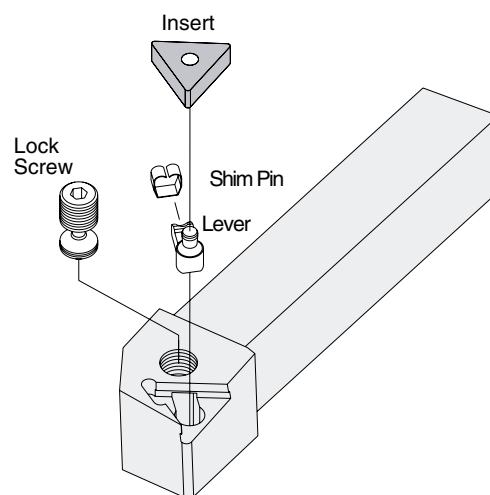
Series	Design		Features	Series	Design		Features
Top Clamp (C)			· Rigid Clamping · Negative Insert : Medium to Heavy Machining (Mainly for Ceramic Insert) · Positive Insert : Low Cutting Force	Multi Lock (M)			· Combination of Top Clamp and Pin Lock · Rigid Clamping · Heavy Machining
Double Clamp (D)			· Firmly clamp the insert in two directions with one action	Lever Lock (P)			· Easy Insert Replacement · General Use
Pin Lock (P)			· Easy Insert Replacement	Wedge Lock (W)			· Rigid Clamping · Heavy Machining
Screw Clamp (S)			· Simple Mechanism · Fewer Parts · Finishing to Medium Machining				

● Lever Lock



With Shim

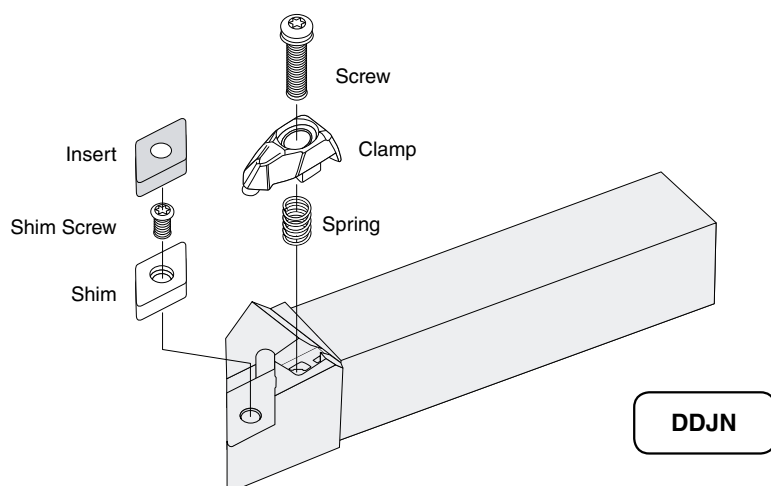
PCLN
PWLN
PTGN / PTFN / PTLN
PDJN / PDHN
PSBN / PSKN / PSSN / PSDN
PRGN
PRGC / PRXC



Without Shim

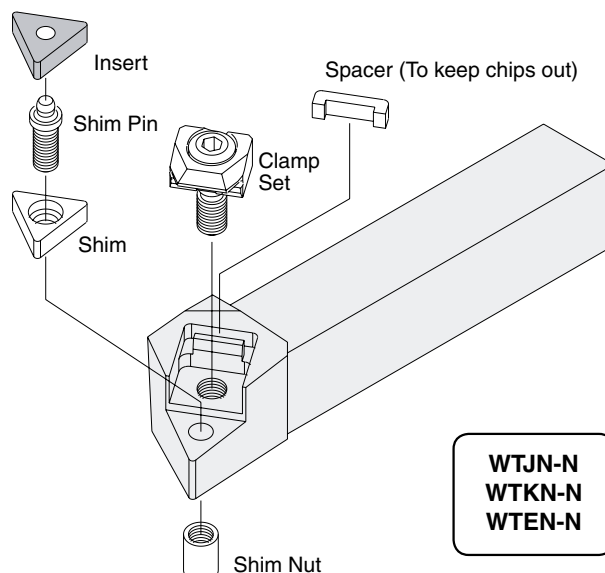
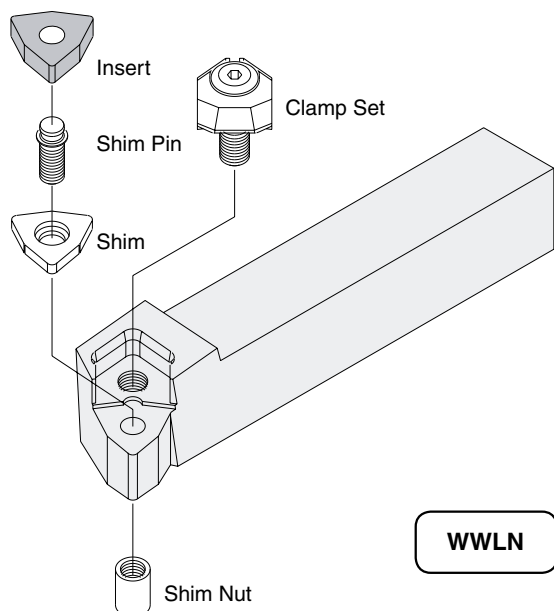
PTGN-11 / PTFN-11

● Double Clamp

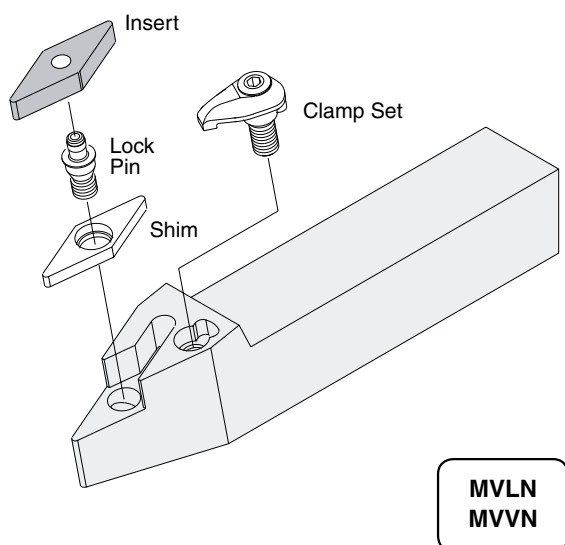


DCLN
DDJN / DDHN
DSBN
DTGN
DVLN / DVPN / DVVN
DWLN

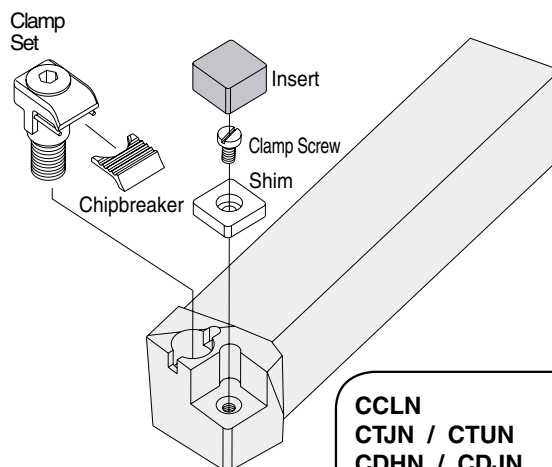
● Wedge Lock



● Multi Lock



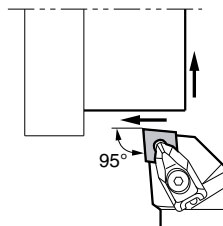
● Top Clamp



* A chipbreaker is not included with CRSN / CRDN.

Insert Grades	A
Turning Indexable Inserts	B
CRN & RCD Tools	C
External	D
Small Parts Machining	E
Boring	F
Grooving	G
Cut-off	H
Threading	J
Drilling	K
Solid Tools	L
Milling	M
Tools for Turning Mill	N
Spare Parts	P
Technical Information	R
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DCLN (External / Facing)



Side Rake Angle : -6°
Angle of Inclination : -6°

● Right-hand shown

● Applicable Inserts

Toolholder Description	Insert Description
DCLN ^{R/L} ...-12	CN ☐ A CN ☐ G CN ☐ M 1204..

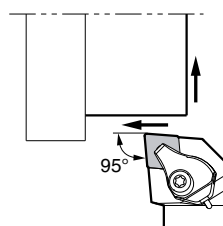
● Toolholder Dimensions

Description		Stock		Dimension (mm)					Std. Corner-R(RE)	Spare Parts							
		R	L	H	HF	B	LF	LH		WF	Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
																 For Clamp	 For Shim
DCLN ^{R/L}	2020K -12	●	●	20	20	20	125	33	25	0.8				*1DC-44		 For Clamp	 For Shim
	2525M -12	●	●	25	25	25	150	32	32					*2DC-44-C			

*1. When using inserts whose corner-R(RE) is greater than 1.6mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.
*2. When using the inserts with SX chipbreaker, prepare a shim separately.

DCLN-JCT (External / Facing and Coolant-through Holders)

Pressure Resistance : ~30MPa



Side Rake Angle : -6°
Angle of Inclination : -6°

2020K-12JCT

● Right-hand shown

● Applicable Inserts

Toolholder Description	Insert Description
DCLN ^{R/L} ...-12	CN ☐ A CN ☐ G CN ☐ M 1204..

● Toolholder Dimensions

Description	Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts						
	R	L	H	HF	B	LF	LH	WF	MHD		Clamp	Pipe Connection (*1 with O-ring)	Screw	Spring	Shim	Shim Screw	Wrench
																	
DCLN ^{R/L} 2020K -12JCT	●	●	20	20	20	125	27	25	109	0.8	CP-3D- ^{R/L} -JCT	FP-12	CS-3D-TR	SP-3D	*2DC-44 *3DC-44-C	SB-4085TR	FT-15
2525M -12JCT	●	●	25	25	25	150		32	134								

Please see page D10 and D11 for piping parts of coolant-through holders.

*1 It is possible to order just an O-ring (SS-035).

*2. When using inserts whose corner-R(RE) is greater than 1.6mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

*3. When using the inserts with SX chipbreaker, prepare a shim separately.

PCLN (External / Facing)

				Side Rake Angle : -6° Angle of Inclination : -6°
	● Applicable Inserts			
	Toolholder Description	Insert Description		
	PCLN ^{R/L} ...-09	CN□G	0904..	
	PCLN ^{R/L} ...-12	CN□A CN□G CN□M	1204..	
	PCLN ^{R/L} ...-16		1606..	
	PCLN ^{R/L} ...-19		1906..	

● Right-hand shown

● Toolholder Dimensions

Description		Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
		R	L	H	HF	B	LF	LH	WF		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PCLN ^{R/L}	1616H-09	●	●	16	16	16	100	22	20	0.8	LL-1N	LS-1N	LC-32N	LSP-1	PC-1	FH-2.5
	2020K-09	●	●	20	20	20	125		25							
	2525M-09	●	●	25	25	25	150		32							
	2020H-12 ^{*1}	●	●	20	20	20	100	27	25	0.8	LL-2N	LS-2N	LC-42N *2LC-42N-20 *3LC-42N-C	LSP-2	PC-2	LW-3
	2020K-12	●	●				125		32							
	2525M-12	●	●				150		32							
	3225P-12	●	●	32	32	25	170	32	32	0.8	LL-5N	LS-4N	LC-53N *3LC-53N-C	LSP-3	-	LW-3
	2525M-16	●	●	25	25	25	150		40							
	3232P-16	●	●	32	32	32	170		40							
	3232P-19	●	●	32	32	32	170	38	40	1.2	LL-6	LS-5	LC-63 *3LC-63-C	LSP-4	-	LW-4

*1. Indicates short shank type

*2. When using inserts whose corner-R(RE) is greater than 1.6mm, please purchase a shim and use it in order to prevent workpiece and shim from interfering each other.

*3. When using the inserts with SX chipbreaker, prepare a shim separately.

● Applicable Inserts

Applications	Finishing	Finishing - Medium	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert	WF(Wiper)	WE(Wiper)	PP	PQ	CQ	CJ	GS	PG	PS
Size	12	12	12	12	12,16	12,16	09,12	12	12,16
Page	B16	B16	B16	B16	B17	B17	B17	B17	B17
Applications	Medium - Roughing / High Feed Rate	Roughing	Roughing	Single-sided / Roughing / High Feed Rate	Finishing	Medium	Soft Steel / Small ap	Soft Steel / Finishing	Soft Steel / Medium
Insert	PT	Standard	PH	PX	^{R/L} -S	^{R/L}	XF	XP	XQ
Size	12,16	12,16,19	12,16,19	12,16,19	09	09,12	12	12	12
Page	B18	B18	B18	B19	B22	B22	B19	B19	B19
Applications	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Insert	XS	MQ	MS	MU	KQ	KG	KH	C	ZS
Size	12	12	12	12,16,19	12	12	12	12,16	12
Page	B19	B20	B20	B20	B21	B21	B21	B21	B21
Applications	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-resistant Alloys	Heat-resistant Alloys	Hard Materials
Insert	GC	Without Chipbreaker	Ceramic	A3	AH	PCD	SQ	^{R/L} -SX	CBN
Size	12	12	12	12	12	12	12,16,19	12,16,19	12
Page	B21	B21	B106	B22	B22	C23	B20	B21	C6, C7

Recommended Cutting Conditions ● D37~D38

● : Std. Item

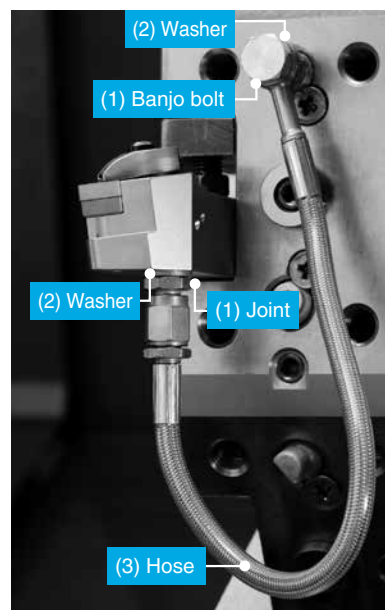
Insert Grades
Turning
Indexable Inserts
CN & PCD Tools
External
Small Parts
Machining
Boring
Grooving
Cut-off
Threading
Drilling
Solid Tools
Milling
Tools for Turning Mill
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Piping Parts for Coolant-through Holders

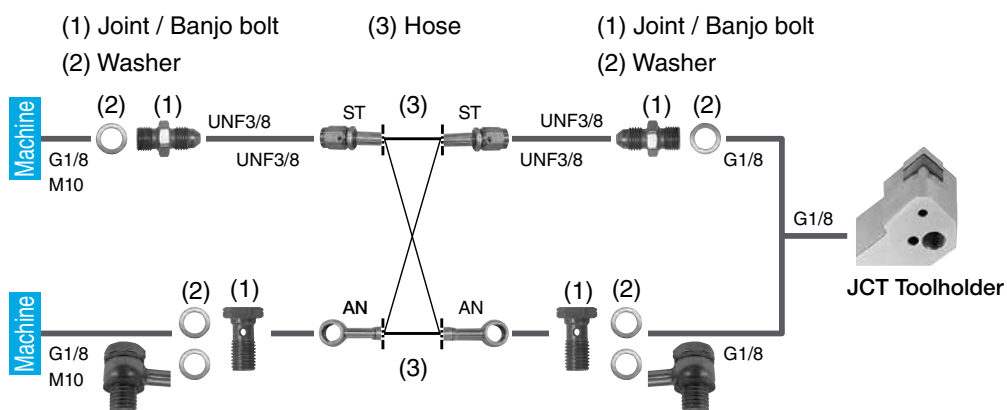
Easy Coolant Connections

Easy Connection with High Pressure Hose and Joint



- Even without a high pressure pump, internal coolant can be used at a normal pressure.
- Banjo bolt available for angled hose connection. Can be used in a variety of machines.

<Piping Installation Guide>



● Internal Coolant Benefits (Reference)

Coolant Pressure (MPa)	Tool Life	Chip Control	Remarks
~ 2 (Low Pressure)	○	-	Longer tool life under 1MPa
2 ~ 7 (Medium Pressure)	◎	○	Longer tool life and Improved chip control
7 ~ 15 (High Pressure)	◎	◎	Fine chip breaking
15 ~ 30 (Extra-high Pressure)	◎	◎	Fine chip breaking. High speed machining for heat-resistant alloys

Internal coolant under low pressure provides improved performance and stable machining

● Piping Parts

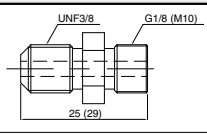
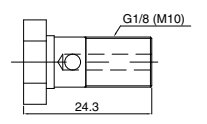
Optional Piping Parts Available (sold separately)

Choose among (1)(2)(3) based on the machine spec and piping configuration.

(1) Joint / Banjo bolt x 2 (2) Washer x 2-4 (3) Hose x 1

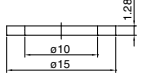
(1) Joint / Banjo bolt

Pressure Resistance : ~30MPa

Shape		Description	Stock	Thread Standard	
				Thread connection to the machine	
		J-G1/8-UNF3/8	●	G1/8	
		J-M10X1.5-UNF3/8	●	M10X1.5	
Banjo bolt (for angled hose) 		BB-G1/8	●	G1/8	
		BB-M10X1.5	●	M10X1.5	

(2) Washer

Pressure Resistance : ~30MPa

Shape	Description	Stock
 	WS-10	●

*Use 2 washers for a banjo bolt

(3) Hose

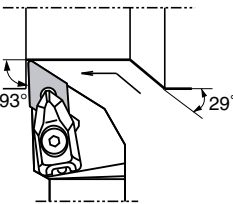
Pressure Resistance : ~30MPa

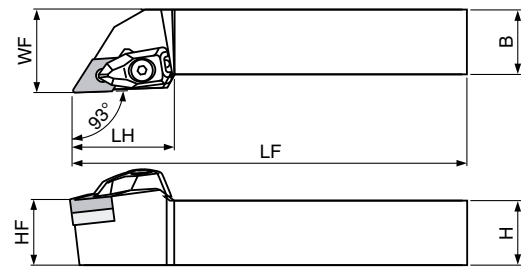
Shape	Description	Stock	Thread Standard		Dimension (mm)
					L
	HS-ST-ST-200	●	UNF3/8	UNF3/8	200
	HS-ST-ST-250	●			250
	HS-ST-AN-200	●	UNF3/8	- (Banjo bolt)	200
	HS-ST-AN-250	●			250
	HS-AN-AN-200	●	- (Banjo bolt)	- (Banjo bolt)	200
	HS-AN-AN-250	●			250

Cautions

1. Make sure machine door is completely closed before use of these parts.
2. Use appropriate seal for the male thread of the piping parts and make sure the connection is secure.
Use plugs to seal off unused coolant holes.
3. Connect and fasten the coolant hose firmly.
4. The use of copper washers may cause leakage but will have no effect on the performance.
5. Commercial piping parts can be used if the thread standards are same. Check the pressure resistance before use.
6. Regularly changing the coolant filter is recommended.

DDJN (External / Copying)





• Right-hand shown

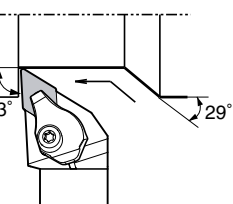
Side Rake Angle : -6°
Angle of Inclination : -7°

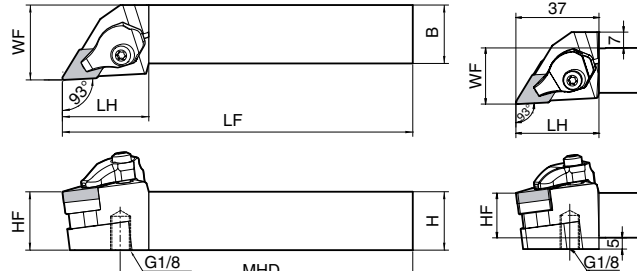
● Applicable Inserts

Toolholder Description	Insert Description	
DDJN ^{R/L} ...-1504	DN ☐ A DN ☐ G	1504.. (1506..)
DDJN ^{R/L} ...-1506	DN ☐ M DNMX	1506.. (1504..)

DDJN-JCT (External / Copying / Coolant-through Holders)

Pressure Resistance : ~30MPa





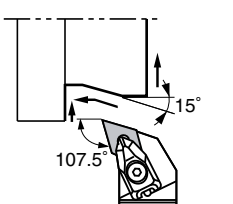
• Right-hand shown

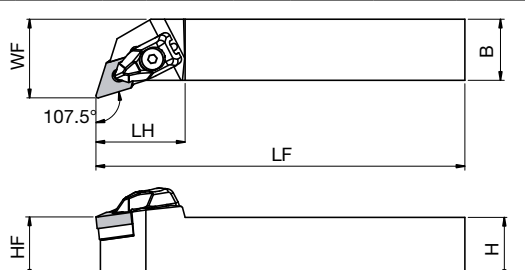
Side Rake Angle : -6°
Angle of Inclination : -7°

● Applicable Inserts

Toolholder Description	Insert Description	
DDJN ^{R/L} ...-15JCT	DN ☐ A DN ☐ G DN ☐ M DNMX	1504.. (1506..)

DDHN (External / Facing / Copying)





• Right-hand shown

Side Rake Angle : -6°
Angle of Inclination : -6°

● Applicable Inserts

Toolholder Description	Insert Description	
DDHN ^{R/L} ...-1504	DN ☐ A DN ☐ G	1504.. (1506..)
DDHN ^{R/L} ...-1506	DN ☐ M	1506.. (1504..)

● Toolholder Dimensions

Description	Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts							
	R	L	H	HF	B	LF	LH	WF	MHD		Clamp	Pipe Connection (*1 with O-ring)	Screw	Spring	Shim	Shim Screw	Wrench	Wrench
																		
DDJN^{R/L} 2020K -1504	●	●	20	20	20	125	39	25	-	0.8	CP-3D	-	CS-3D	SP-3D	*2 DD-44 (DD-43)	SB-4085TR	LW-3 (For Clamp)	FT-15 (For Shim sold separately)
2525M-1504	●	●	25	25	25	150		32										
DDJN^{R/L} 2020K -1506	●	●	20	20	20	125		25										
2525M-1506	●	●	25	25	25	150	32											
DDJN^{R/L} 2020K -15JCT	●	●	20	20	20	125	37	25	101		CP-4D- ^{R/L} -JCT	FP-12	CS-3D -TR		*2 DD-44 (DD-43)		-	FT-15
2525M-15JCT	●	●	25	25	25	150		32	126									
DDHN^{R/L} 2020K -1504	●	●	20	20	20	125	37	25	-		CP-3D	-	CS-3D	SP-3D	*2 DD-44 (DD-43)	SB-4085TR	LW-3 (For Clamp)	FT-15 (For Shim sold separately)
2525M-1504	●	●	25	25	25	150		32										
DDHN^{R/L} 2020K -1506	●	●	20	20	20	125		25										
2525M-1506	●	●	25	25	25	150	32											

Please see page D10 and D11 for piping parts of coolant-through holders.

Shims indicated within brackets () are not included with the toolholder. To change insert thickness, please purchase it separately.

*1 It is possible to order just an O-ring (SS-035).

*2. When using inserts whose corner-R(RE) is greater than 1.6mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

● : Std. Item

PDJN (External / Copying)

	Side Rake Angle : -6° Angle of Inclination : -7°	
	Applicable Inserts	
	Toolholder Description	Insert Description
	PDJN ^{R/L}-11	DN□A DN□G 1104..
	PDJN ^{R/L}-15	DN□A DN□G 1504..
	PDJN ^{R/L}-15U	DN□M DNMX 1506.. (1504..)
	• Right-hand shown	

PDHN (External / Facing / Copying)

	Side Rake Angle : -6° Angle of Inclination : -6°	
	Applicable Inserts	
	Toolholder Description	Insert Description
	PDHN ^{R/L}15	DN□A DN□G DN□M 1504.. (1506..)
	• Right-hand shown	

Toolholder Dimensions

Description	Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
	R	L	H	HF	B	LF	LH	WF		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PDJN ^{R/L}	1616H -11	●	●	16	16	16	100	20	0.4	LL-1DN	LS-1N	LD-32N	LSP-1	PC-1	FH-2.5
	2020K -11	●	●	20	20	20	125	25							
	2525M -11	●	●	25	25	25	150	32							
	2020H -15*1	●	●	20	20	20	100	25	0.8	LL-3N	LS-2N	LD-42 *2LD-42-20	LSP-2	PC-2	LW-3
	2020K -15	●	●	20	20	20	125	25							
	2525M -15	●	●	25	25	25	150	36							
	3225P -15	●	●	32	32	25	170	32	0.8	LL-4	LS-3	LD-42 *2LD-42-20 (LD-43) (*2LD-43-20)	LSP-2	PC-2	LW-3
	2525M -15U	●	●	25	25	25	150	34							
	3232P -15U	●	●	32	32	32	170	40							
PDHN ^{R/L}	2020K -15	●	●	20	20	20	125	35	0.8	LL-4	LS-3	LD-43 *2LD-43-20 (LD-42) (*2LD-42-20)	LSP-2	PC-2	LW-3
	2525M -15	●	●	25	25	25	150	34							

*1. Indicates short shank type

Shim : PDJN^{R/L}-15U ...LD-42 is attached to PDJN^{R/L}-15U. When using DN□□1504 type insert, please purchase LD-43 separately.
 PDHN ...LD-43 is attached to PDHN. When using DN□□1506 type Insert, please purchase LD-42 separately.

When using inserts whose corner-R(RE) is greater than 1.6mm, please purchase a shim*2 and use it in order to prevent workpiece and shim from interfering each other.

Applicable Inserts

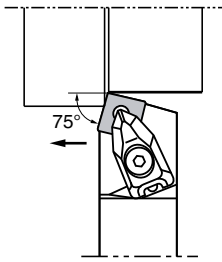
Applications	* Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing / High Feed Rate	Roughing	Roughing
Insert	WF(Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard	PH
Size	1504,1506	1504,1506	1504,1506	1504,1506	1504,1506	1104,1504,1506	1504,1506	1504,1506	1504,1506	1504,1506	1504,1506
Page	B23	B23	B23	B24	B24	B24	B25	B25	B25	B26	B26
Applications	Single-sided / Roughing / High Feed Rate	Finishing	Medium	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron
Insert	PX	^{R/L} -S	^{R/L}	XP	XQ	XS	MQ	MS	MU	TK	C
Size	1504,1506	1104	1104,1504	1504,1506	1504,1506	1504	1504,1506	1504,1506	1504,1506	1504,1506	1504,1506
Page	B26	B30	B30	B26	B26	B26	B27	B28	B28	B27	B29
Applications	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-resistant Alloys	Hard Materials
Insert	KQ	KG	KH	ZS	GC	Ceramic	^{R/L} -A3	AH	PCD	SQ	CBN
Size	1504,1506	1504,1506	1504,1506	1504,1506	1504,1506	1504,1506	1504	1504,1506	1504	1504,1506	1504,1506
Page	B29	B29	B29	B29	B29	B107	B30	B30	C23	B28	C8, C9

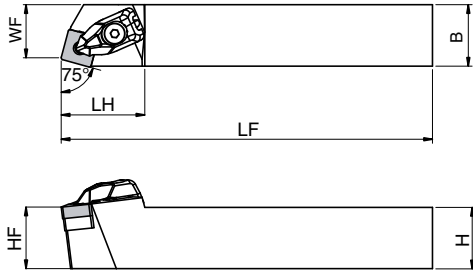
* When using the insert with WF chipbreaker, tool edge offset or program corrections are required. **R35**
 The insert with WF chipbreaker is not applicable for DDHN type and PDHN type toolholder.

● : Std. Item

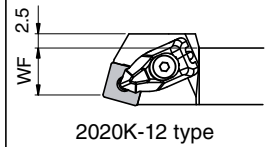
Recommended Cutting Conditions **D37~D38**

DSBN (External)





• Right-hand shown



2020K-12 type

Side Rake Angle : -4°
Angle of Inclination : -7°

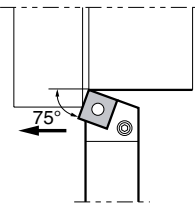
● Applicable Inserts

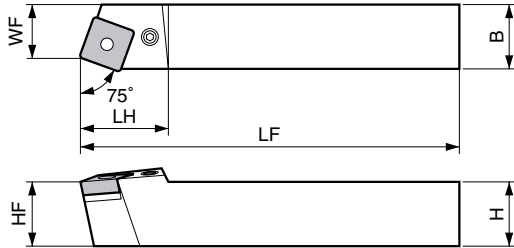
Toolholder Description	Insert Description
DSBN ^{R/L} ...-12	SN□A SN□G SN□M 1204..

Toolholder Dimensions

Description		Stock		Dimension (mm)					Std. Corner-R(RE)	Spare Parts							
		R	L	H	HF	B	LF	LH		WF	Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
																 For Clamp	 For Shim
DSBN ^{R/L}	2020K -12	●	●	20	20	20	125	34	17	0.8							
	2525M -12	●	●	25	25	25	150										

PSBN (External)

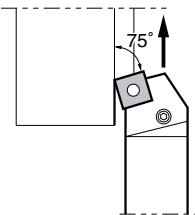


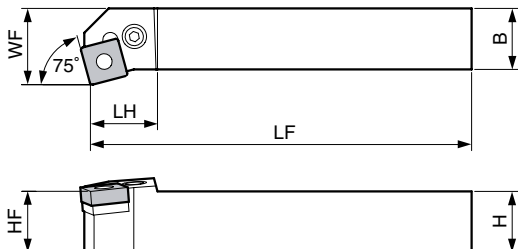


• Right-hand shown

Side Rake Angle : -4°
Angle of Inclination : -7°

PSKN (Facing)





• Right-hand shown

Side Rake Angle : -4°
Angle of Inclination : -7°

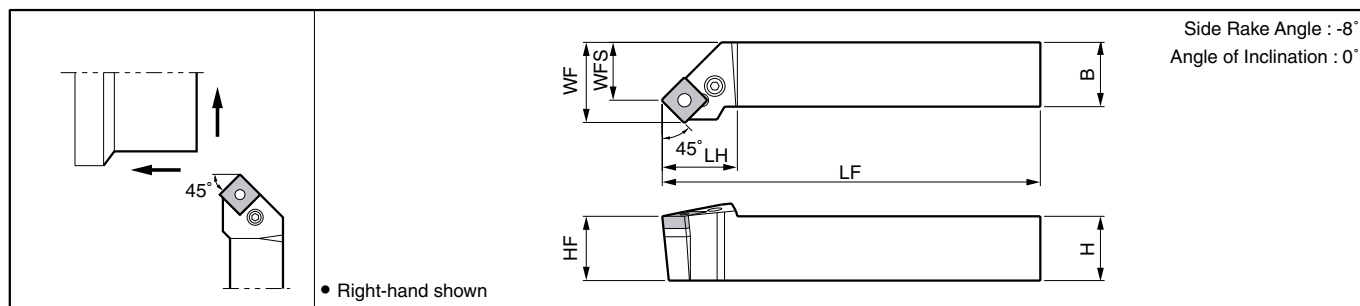
Toolholder Dimensions

Description		Stock		Dimension (mm)					Std. Corner-R(RE)	Spare Parts						
		R	L	H	HF	B	LF	LH		WF	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
																
PSBN ^{R/L}	1616H -09	●	●	16	16	16	100	21	13	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K -12	●	●	20	20	20	125	27	17	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M -12	●	●	25	25	25	150	24	22							
PSKN ^{R/L}	1616H -09	●	●	16	16	16	100	19	20	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K -12	●	●	20	20	20	125	22.5	25	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M -12	●	●	25	25	25	150		32							

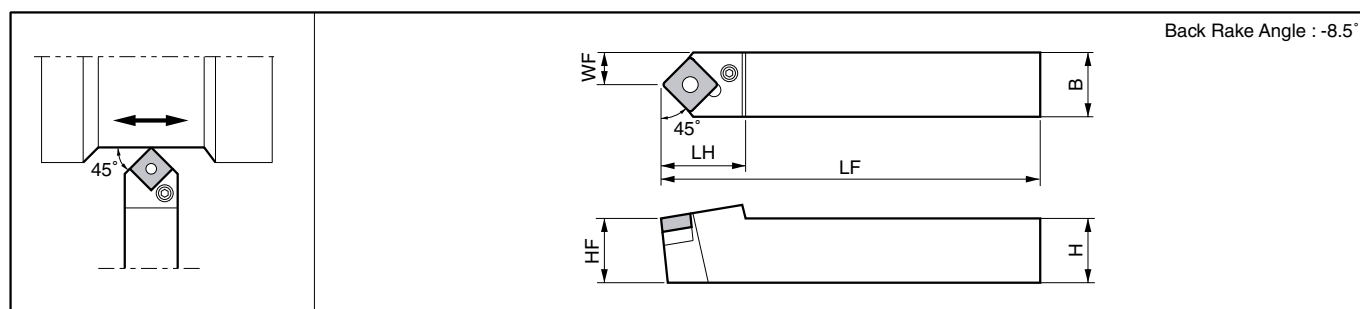
• PSKN^{R/L} : Left-hand Insert for Right-hand Toolholder,
Right-hand Insert for Left-hand Toolholder.

● : Std. Item

PSSN (External / Facing / Chamfering)



PSDN (External / Chamfering)



Toolholder Dimensions

Description		Stock			Dimension (mm)						Std. Corner-R(RE)	Spare Parts						
		R	N	L	H	HF	B	LF	LH	WF		WFS	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
																		
PSSN ^{R/L}	1616H-09	●		●	16	16	16	100	22	20	13.6	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K-12	●		●	20	20	20	125	29	25	16.4	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M-12	●		●	25	25	25	150		32	23.4							
PSDNN	1616H-09		●		16	16	16	100	21	8	-	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K-12		●		20	20	20	125	30	10	-	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M-12		●		25	25	25	150		12.5								

Applicable Inserts

Toolholder Description		Insert Description		Applications	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing / High Feed Rate	Roughing	Roughing	Single-sided / Roughing / High Feed Rate
PSBN ^{R/L} ...-09	SN□G	0903..	Insert									
PSKN ^{R/L} ...-09				Size	12	12	12	12	12	09, 12	12	12
PSSN ^{R/L} ...-09				Page	B32	B32	B32	B32	B32	B32	B33	B33
PSDNN...-09												
PSBN ^{R/L} ...-12	SN□A SN□G SN□M	1204..	Insert	Applications	Finishing - Roughing	Medium-Roughing / Low Cutting Force	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Cast Iron
PSKN ^{R/L} ...-12												
PSSN ^{R/L} ...-12				Size	09, 12	12	12	12	12	12	12	12
PSDNN...-12				Page	B35	B35	B33	B33	B33	B33	B34	B34
			Insert	Applications	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Hard Materials	
								Without Chipbreaker				
				Size	12	12	12	12	12	12	12	
				Page	B34	B34	B34	B34	B35	B109	C10	

• PSSN^{R/L}: When using handed inserts,
For External Turning, Right-hand Insert for Right-hand Toolholder,
Left-hand Insert for Left-hand Toolholder
For Facing, Left-hand Insert for Right-hand Toolholder,
Right-hand Insert for Left-hand Toolholder.

Recommended Cutting Conditions ● D37~D38

DTGN (External)

				Side Rake Angle : -6° Angle of Inclination : -6°		● Applicable Inserts <table><tr><th>Toolholder Description</th><th colspan="2">Insert Description</th></tr><tr><td rowspan="4">DTGN^{R/L}...-16</td><td>TN□A</td><td rowspan="4">1604..</td></tr><tr><td>TN□G</td></tr><tr><td>TN□M</td></tr><tr><td>TNMX</td></tr></table>		Toolholder Description	Insert Description		DTGN ^{R/L} ...-16	TN□A	1604..	TN□G	TN□M	TNMX
								Toolholder Description	Insert Description							
DTGN ^{R/L} ...-16	TN□A	1604..														
	TN□G															
	TN□M															
	TNMX															
● Right-hand shown																

Description	Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts						
	R	L	H	HF	B	LF	LH	WF		Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)

DTGN ^{R/L}	2020K -16	●	●	20	20	20	125	25	25	0.8	CP-2D	CS-2D	SP-2D	*DT-32	SB-3080TR	LW-2.5	FT-10
	2525M -16	●	●	25	25	25	150				32						

* When using inserts whose corner-R(RE) is greater than 1.6mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

• When using the insert with WF chipbreaker (wiper insert), tool edge offset or program corrections are required. **R35**

PTGN (External)

				Side Rake Angle : -6° Angle of Inclination : -6°	
				• Right-hand shown	

PTFN (Facing)

				Side Rake Angle : -6° Angle of Inclination : -6°	
				• Right-hand shown	

Description	Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
	R	L	H	HF	B	LF	LH	WF		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PTGN ^{R/L} 1212F -11	●	●	12	12	12	80	18	16	0.8	LL-03N	LS-03N	-	P-03	-	FH-2
1616H -11	●	□	16	16	16	100	20	20							
2020K -11	●	●	20	20	20	125	22	25	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
2525M -11	●	●	25	25	25	150		32							
1616H -16	●	●	16	16	16	100	20	20							
2020H -16*1	●	●	20	20	20	125	24	25	0.8	LL-1N	LS-1N	LT-32N *2LT-32N-20	LSP-1	PC-1	FH-2.5
2020K -16	●	●	20	20	20	125	22	25							
2525M -16	●	●	25	25	25	150		32							
2525M -22	●	●	25	25	25	150	29	32	0.8	LL-2N	LS-2N	LT-42N *2LT-42N-20	LSP-2	PC-2	LW-3
PTFN ^{R/L} 1212F -11	●	●	12	12	12	80	15	16	0.8	LL-03N	LS-03N	-	P-03	-	FH-2
1616H -11	●	●	16	16	16	100	20	20							
2020K -11	●	□	20	20	20	125	22.5	25	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
2525M -11	●	●	25	25	25	150		32							
2020K -16	●	●	20	20	20	125	22	25	0.8	LL-1N	LS-1N	LT-32N *2LT-32N-20	LSP-1	PC-1	FH-2.5
2525M -16	●	●	25	25	25	150	23	32							
2525M -22	●	●	25	25	25	150	28	32	0.8	LL-2N	LS-2N	LT-42N *2LT-42N-20	LSP-2	PC-2	LW-3

*1. Indicates short shank type

• When using inserts whose corner-R(RE) is greater than 1.6mm, please purchase a shim*2 and use it in order to prevent workpiece and shim from interfering each other.

• When using the insert with WF chipbreaker (wiper insert), tool edge offset or program corrections are required. **R35**

Applicable Inserts

Toolholder Description	Insert Description	Toolholder Description	Insert Description
PT□N ^{R/L} 12...-11	TN□□	PT□N ^{R/L} ...-16	TN□A TN□G TN□M TNMX
PT□N ^{R/L} ...-11	1103..	PT□N ^{R/L} ...-22	2204..

PTGN^{R/L} 1212F-11 }
 PTFN^{R/L} 1212F-11 } Insert applicable for above TN□□1103 type Insert is applicable.

*3. TNMX type insert is not applicable for PT□N^{R/L}...-22 toolholder.

● : Std. Item
 □ : Deleted from the next catalog

Side Rake Angle : -6°
Angle of Inclination : -6°

WTJN®/2020K types,
Shim Nut sticks out as
shown below.

• Right-hand shown

• Right-hand shown

Side Rake Angle : -6°
 Angle of Inclination : -6°
 WTKN/L 2020K types,
 Shim Nut sticks out as
 shown below.

Back Rake Angle : -8.5°

WTENN2020K types,
Shim Nut sticks out as
shown below.

Description		Stock			Dimension (mm)					Std. Corner-R(RE)	Spare Parts						
		R	N	L	H	HF	B	LF	LH		WF	Clamp Set	Shim	Shim Pin	Shim Nut	Wrench	Spacer
WTJN ^{R/L}	2020K -16N	●		●	20	20	20	125	32	25	0.8	WCS-1N	WTN-33 *WTN -33-20	WP-1S	WN-1	LW-3	WSP-1
	2525M-16N	●		●	25	25	25	150		32							
WTKN ^{R/L}	2020K -16N	●		●	20	20	20	125	32	25							
	2525M-16N	●		●	25	25	25	150		32							
WTENN	2020K -16N			●	20	20	20	125	32	10							
	2525M-16N			●	25	25	25	150		12.5							

● Applicable Inserts

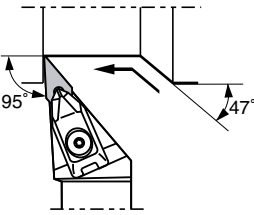
Toolholder Description		Insert Description		Applications																			
WTJN^R/L...-16N WTKN^R/...-16N WTENN...-16N		TN ☐ A TN ☐ G TN ☐ M	1604..	Applications		Finishing		Finishing - Medium		Finishing - Medium		Medium - Roughing		Medium - Roughing		Medium - Roughing / High Feed Rate		Medium - Roughing / High Feed Rate		Roughing			
				Insert		PP		PQ		CQ		GS		PG		PS		PT		GT		PH	
				Size		16		16		16,22		1104,16		16		16,22		16		16		16,22	
				Page		B36		B36		B36		B36		B36		B37		B37		B37		B37	
Applications		Single-sided / Roughing / High Feed Rate		Roughing		Finishing		Finishing - Roughing		Medium-Roughing / Low Cutting Force		Soft Steel / Small ap		Soft Steel / Finishing		Soft Steel / Medium		Soft Steel / Roughing					
Insert		PX		Standard		^R /L-S		^R /L- □		^R /L-25R		XF		XP		XQ		XS					
Size		16,22		16,22		1104,16		1103,1104,16,22		16		16		16		16		16					
Page		B38		B37		B42		B42,B43		B43		B38		B38		B38		B38					

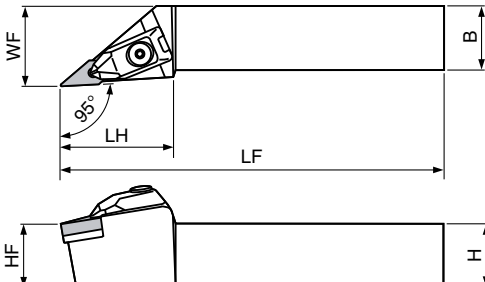
Applications	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
Insert													
Size	16	16	16	16	16	16	16	16	16	16	16	16	
Page	B39	B39	B39	B40	B40	B40	B40	B111	B41	B41	C23	C10,C11	

Recommended Cutting Conditions ➡ **D37~D38**

D17

DVLN (External / Copying)





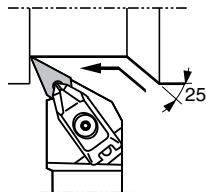
Side Rake Angle : -6°
Angle of Inclination : -9°

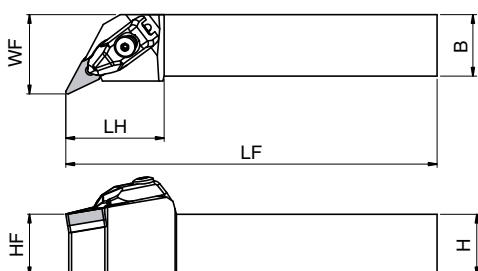
● Right-hand shown

● Applicable Inserts

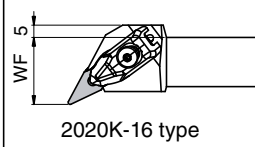
Toolholder Description	Insert Description
DVLN ^{R/L} ...-16	VN□A VN□G VN□M

DVPN (External / Facing / Copying / Undercutting)





● Right-hand shown



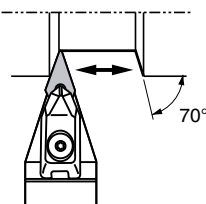
2020K-16 type

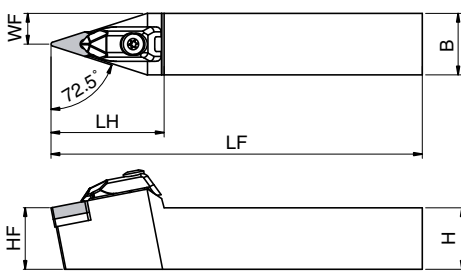
Side Rake Angle : -13°
Angle of Inclination : -10°

● Applicable Inserts

Toolholder Description	Insert Description
DVPN ^{R/L} ...-16	VN□A VN□G VN□M

DVVN (External / Copying)





Back Rake Angle : -11°

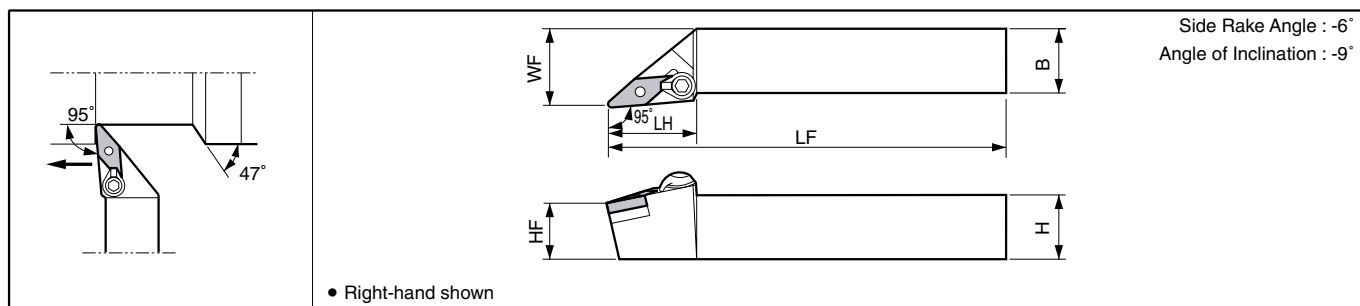
● Applicable Inserts

Toolholder Description	Insert Description
DVVNN...-16	VN□A VN□G VN□M

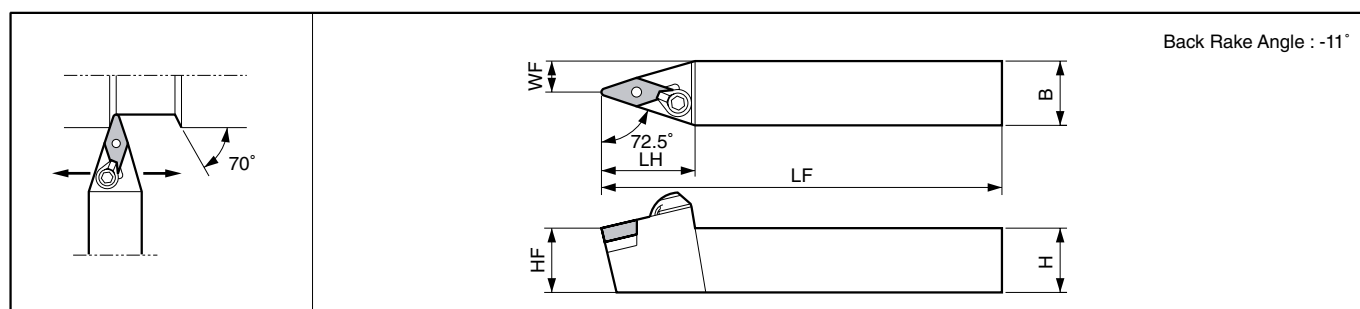
● Toolholder Dimensions

Description	Stock			Dimension (mm)						Std. Corner-R(RE)	Spare Parts						
	R	N	L	H	HF	B	LF	LH	WF		Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
DVLN ^{R/L}	2020K-16	●	●	20	20	20	125	45	25	0.8							
		●	●	25	25	25	150		32								
DVPN ^{R/L}	2020K-16	●	●	20	20	20	125	40	27								
		●	●	25	25	25	150		32								
DVLN ^{R/L}	2020K-16	●	●	20	20	20	125	46	10								
		●	●	25	25	25	150		12.5								

MVLN (External / Copying)



MVVN (External / Copying)



Toolholder Dimensions

Description	Stock			Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
	R	N	L	H	HF	B	LF	LH	WF		Clamp Set	Wrench	Shim	Lock Pin	Wrench	
MVLN ^{R/L} 2020K -16	●	●	●	20	20	20	125	38	25	0.8	CPS-5 ^{R/L}	FH-2.5	MVN-32	TS-3S	FH-2	
2525M-16	●	●	●	25	25	25	150	38	32	0.8						
MVVNN 2020K -16		●	●	20	20	20	125	39	10	0.8	CPS-5R	FH-2.5	MVN-32	TS-3S	FH-2	
2525M-16		●	●	25	25	25	150	39	12.5	0.8						

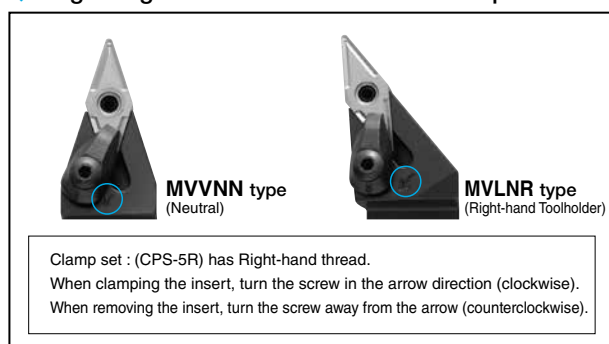
• Clamp Set : CPS-5R for Right-hand Toolholder, CPS-5L for Left-hand Toolholder.

Applicable Inserts

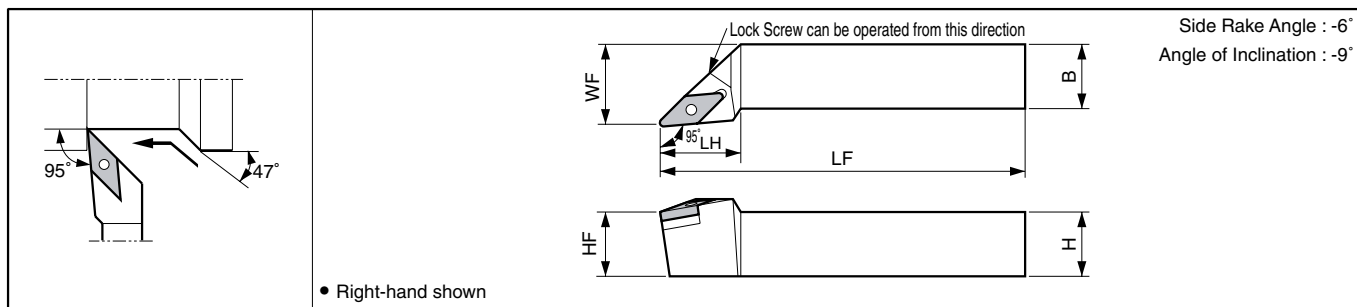
Toolholder Description	Insert Description		Applications	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium	Roughing	Finishing - Medium	Stainless Steel / Finishing
MVLN ^{R/L} ...-16	VN□A	1604..	Insert	PP	^{R/L} -VC	VF	PQ	TN-V	Standard	^{R/L}	MQ
MVVNN...-16	VN□G										
	VN□M										
			Size	16	16	16	16	16	16	16	16
			Page	B44	B44	B44	B44	B44	B44	B45	B45
			Applications	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Hard Materials
			Insert	MS	MU	KG	KH	Without Chipbreaker	Ceramic	PCD	CBN
			Size	16	16	16	16	16	16	16	16
			Page	B45	B45	B45	B45	B45	B112	C23	C12

Regarding rotation directions of the clamp set

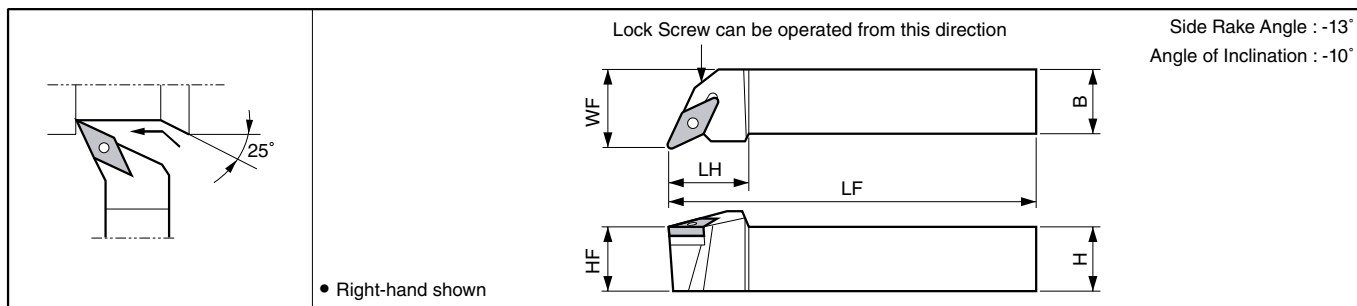
Recommended Cutting Conditions ◆ D37~D38



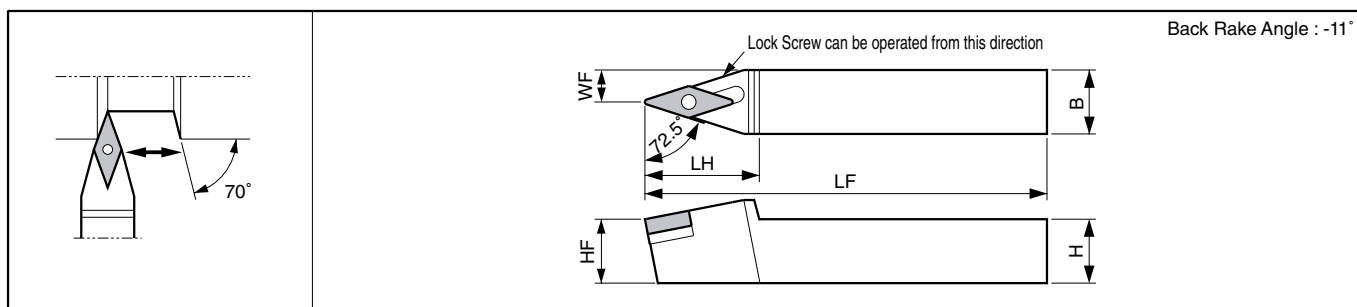
PVLN (External / Copying)



PVPN (External / Facing / Copying / Undercutting)



PVVN (External / Copying)



Toolholder Dimensions

Description	Stock			Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
	R	N	L	H	HF	B	LF	LH	WF		Lock Pin	Lock Screw	Shim	Wrench		
PVLN ^{R/L} 2525M-16Q	●	●	25	25	25	150	37	32	0.8	LP-6S	LS-15	KVN-32	LW-3			
PVPN ^{R/L} 2020K-16Q	●	●	20	20	20	125	30	25	0.8	LP-2S	LS-11	KVN-32	LW-3			
PVPN ^{R/L} 2525M-16Q	●	●	25	25	25	150	40	32	0.8	LP-6S	LS-15	KVN-32	LW-3			
PVVNN 2020K-16Q	●	●	20	20	20	125	35	10	0.8	LP-2S	LS-15	KVN-32	LW-3			
PVVNN 2525M-16Q	●	●	25	25	25	150	40	12.5	0.8	LP-6S	LS-15	KVN-32	LW-3			

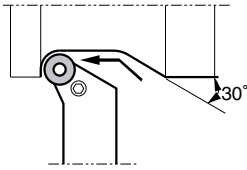
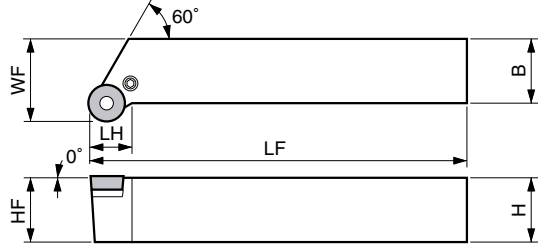
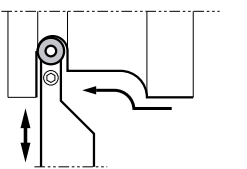
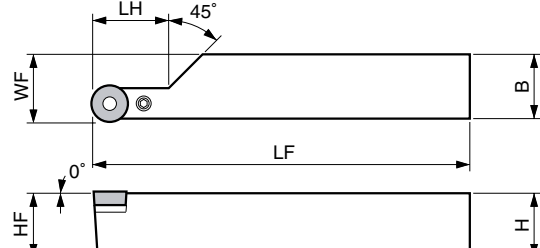
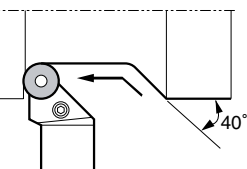
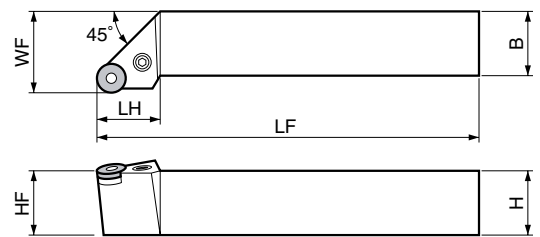
Applicable Inserts

Toolholder Description	Insert Description	Applications	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium	Roughing	Finishing - Medium	Stainless Steel / Finishing
PVLN ^{R/L} ...-16Q	VN□A	Insert	PP	^{R/L} -VC	VF	PQ	TN-V	Standard	^{R/L}	MQ
PVPN ^{R/L} ...-16Q	VN□G	Size	16	16	16	16	16	16	16	16
PVVNN...-16Q	VN□M	Page	B44	B44	B44	B44	B44	B44	B45	B45
		Applications	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Hard Materials
		Insert	MS	MU	KG	KH	Without Chipbreaker	Ceramic	PCD	CBN
		Size	16	16	16	16	16	16	16	16
		Page	B45	B45	B45	B45	B45	B112	C23	C12

Recommended Cutting Conditions ● D37~D38

● : Std. Item

PRGC / PRXC / PRGN (External / Facing / Copying)

PRGC 	 Side Rake Angle : 0° Angle of Inclination : 0° • Right-hand shown
PRXC 	 Side Rake Angle : 0° Angle of Inclination : 0° • Right-hand shown
PRGN 	 Side Rake Angle : -6° Angle of Inclination : -6° • Right-hand shown

Toolholder Dimensions

Description	Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
	R	L	H	HF	B	LF	LH	WF		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGC^{R/L}	●	●	20	20	20	125	15	25	-						
						150	17	32							
						125	14	25							
						150	17	32							
PRXC^{R/L}	●	●	20	20	20	125	25	20.5	-						
						150	30	25.5							
						125	25	20.5							
						180	30	25.5							
PRGN^{R/L}	●	●	20	20	20	125	19	25	-						
						150	26	32							
						125	19	25							
						150	26	32							

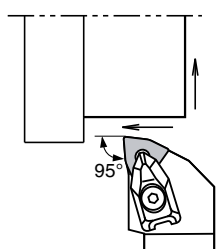
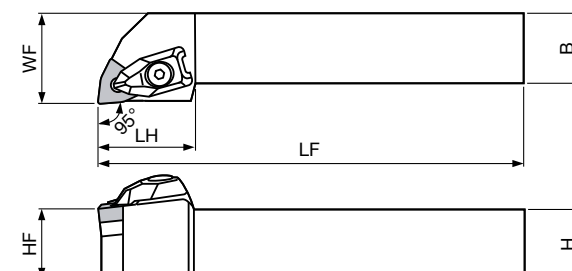
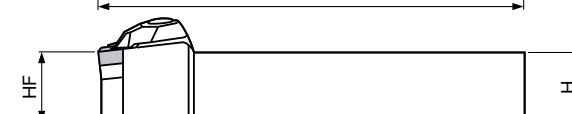
Applicable Inserts

Toolholder Description	Insert Description		Applications	Medium	Non-ferrous Metals						
PRGC^{R/L}...-10	RCGX	1003M0		Standard	AQ						
PRGC^{R/L}...-12		1204M0									
PRXC^{R/L}...-10		1003M0									
PRXC^{R/L}...-12		1204M0									
PRGN^{R/L}...-09	RNMG	090300		Standard							
PRGN^{R/L}...-12		120400									

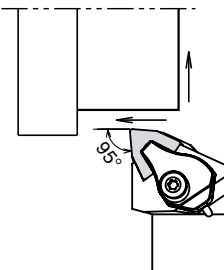
Recommended Cutting Conditions  D37~D38

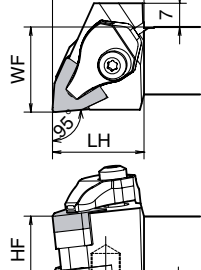
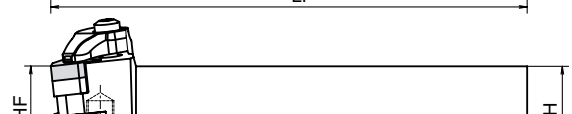
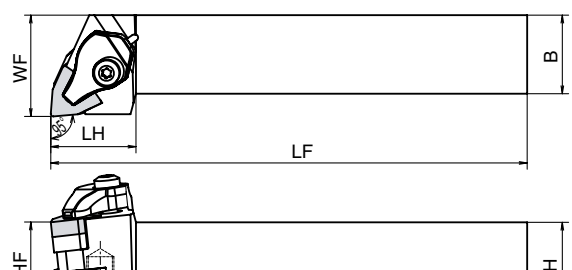
External Turning Toolholders [WN ☐ ☐ Insert]

DWLN (External / Facing)

									Side Rake Angle : -6° Angle of Inclination : -6°							
									● Applicable Inserts							
		● Right-hand shown							Toolholder Description		Insert Description					
									DWLN ^{R/L} ...-08		WN□A WN□G 0804... WN□M					
Description	Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts					
	R	L	H	HF	B	LF	LH	WF	Clamp		Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
DWLN ^{R/L} 2020K -08	●	●	20	20	20	125	34	25	0.8						 For Clamp	 For Shim
2525M -08	●	●	25	25	25	150				CP-3D	CS-3D	SP-3D	DW-44	SB-4085TR	LW-3	FT-15

DWLN-JCT (External / Facing and Coolant-through Holders)





2020K-08JCT

Side Rake Angle : -6°
Angle of Inclination : -6°

● Applicable Inserts

Toolholder Description	Insert Description
DWLN ^{R/L} ...-08JCT	WN□A WN□G 0804... WN□M

• Right-hand shown

Description		Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts						
		R	L	H	HF	B	LF	LH	WF	MHD		Clamp	Pipe Connection (*1 with O-ring)	Screw	Spring	Shim	Shim Screw	Wrench
DWLN ^{R/L}	2020K -08JCT	●	●	20	20	20	125	27	25	109	0.8							
	2525M -08JCT	●	●	25	25	25	150		32	134								

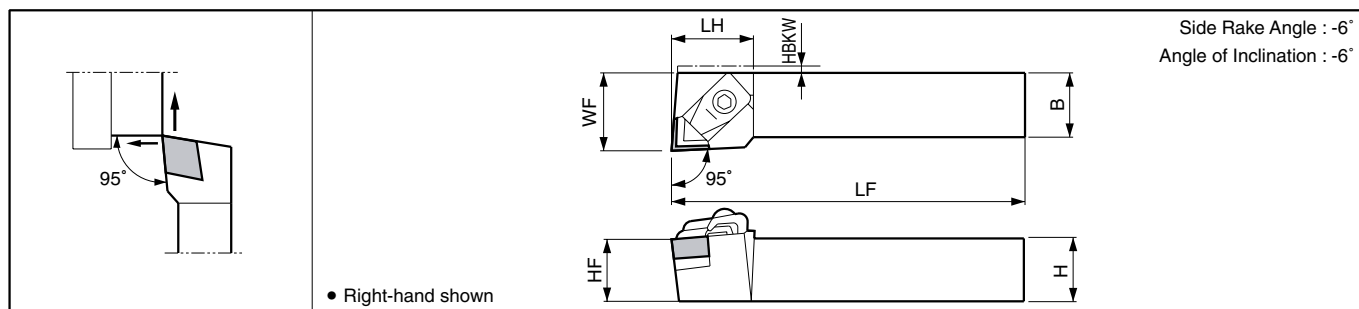
Please see page D10 and D11 for piping parts of coolant-through holders.

*1 It is possible to order just an O-ring (SS-035).

● : Std. Item

D23

CCLN (External / Facing)



Toolholder Dimensions

Description		Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts				
		R	L	H	HF	B	LF	LH	WF	HBKW		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
																
CCLN ^{R/L}	2020K -12	●	●	20	20	20	125	32	27	5	0.8					
	2525M -12	●	●	25	25	25	150		32	-		CB-16	CE-010	LW-4	SP-441 (SP-443)	M3X8 (M3X12)
	3225P -16	●	●	32	32	25	170	35	32	-	0.8	CB-17	CE-220	LW-4	SP-454	M4X10

Shim & Shim Screw : When using CN□□1204 Insert, please purchase spare parts in () separately.

Applicable Inserts

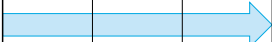
Applications See Page	Cast Iron / Hard Materials	Hard Materials / Cast Iron
Toolholder Description	B106	C19
	Ceramic 	CBN (KBN900)
CCLN^{R/L}...-12	CNGN1207..(CNGN1204..) CNMN1207	(CNMN1204)
CCLN^{R/L}...-16	CNGN1607..	-

Recommended Cutting Conditions **D37~D38**

Selection of Ceramic Insert

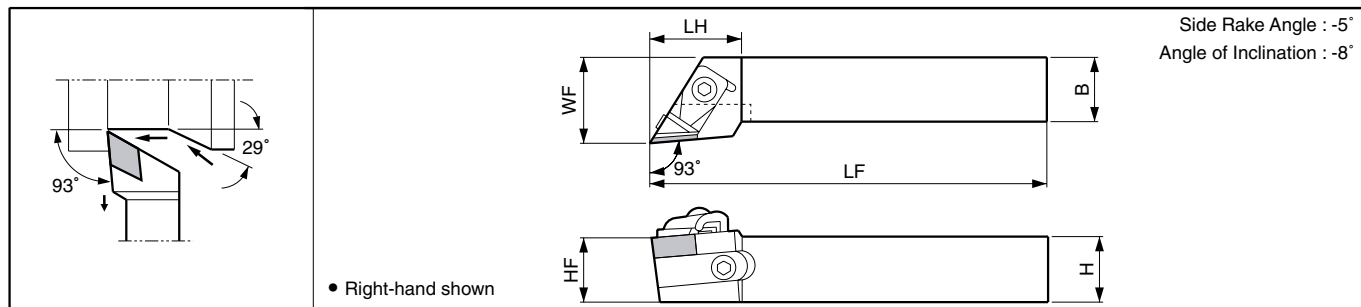
Select the suitable Ceramic Insert and Specifications (Corner-R(RE), Feed Rate, Chamfer, etc.) from the table below.

(FC250, Cutting Edge Angle: 0°~15°)

Insert Shape	Corner-R (RE)	f (mm/rev)										ap (mm)	
		0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60		
	RN	-											0.3~4
 	SN	2.0											0.3~4
		1.6											
	EN	1.2											
	CN	0.8											
		0.4											
 	TN	1.6											0.3~2
	DN	1.2											
		0.8											
Chamfer		0.05mm x 20°		(0.1~0.2)mm x (20° ~ 25°)				0.3mm x 30°				-	
Insert Thickness		7.94mm											

● : Std. Item

CDJN (External / Copying / Back Turning)



Toolholder Dimensions

Description		Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts				
		R	L	H	HF	B	LF	LH	WF		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
															
CDJN ^{R/L}	2525M-15	●	●	25	25	25	150	32	32	0.8					
	3225P-15	●	●	32	32		170								

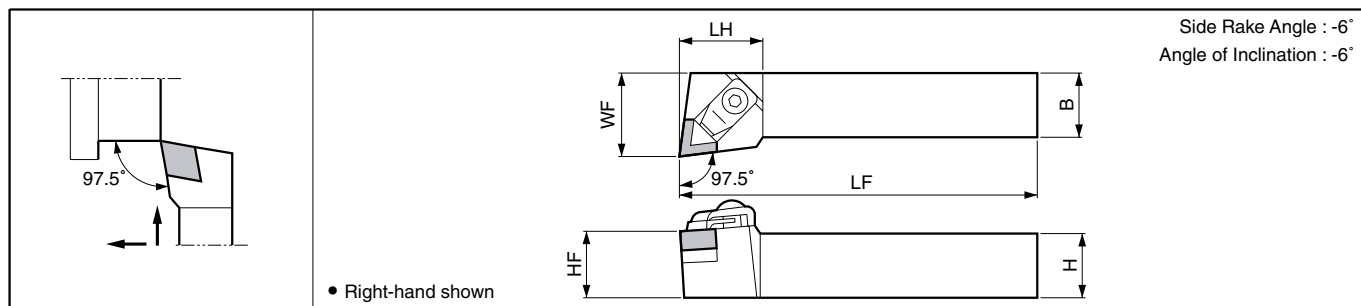
• Chipbreaker : CB-14 for Right-hand Toolholder, CB-15 for Left-hand Toolholder.
• Shim : 556CR for Right-hand Toolholder, 556CL for Left-hand Toolholder.

Applicable Inserts

Applications	Cast Iron / Hard Materials
See Page	B107
Insert	Ceramic
Toolholder Description	
CDJN^{R/L}...-15	DNGN1507..

Recommended Cutting Conditions **D37~D38**

CELN (External / Facing)



Toolholder Dimensions

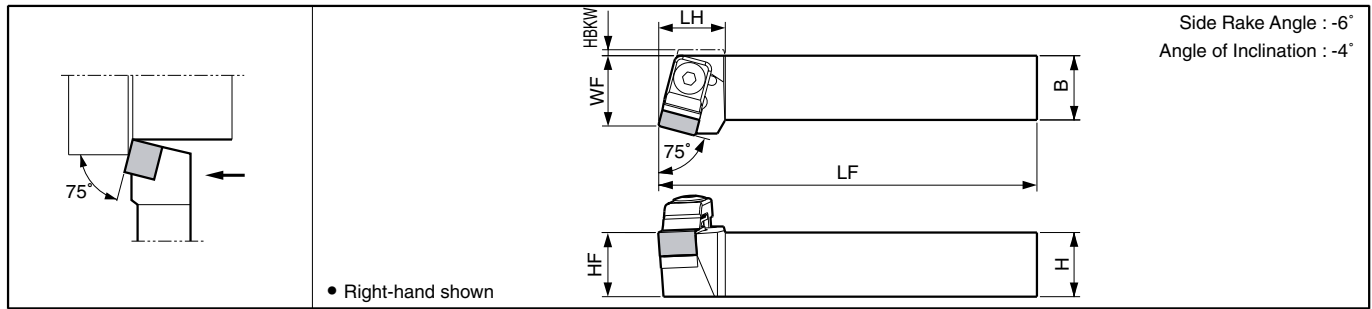
Description	Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts				
	R	L	H	HF	B	LF	LH	WF	Chipbreaker		Clamp Set	Wrench	Shim	Shim Screw	
															
CELN ^{R/L} 2525M-13	●	●	25	25	25	150	32	32	0.8	CB-16	CE-010	LW-4	SP-342	M3X8	

Applicable Inserts

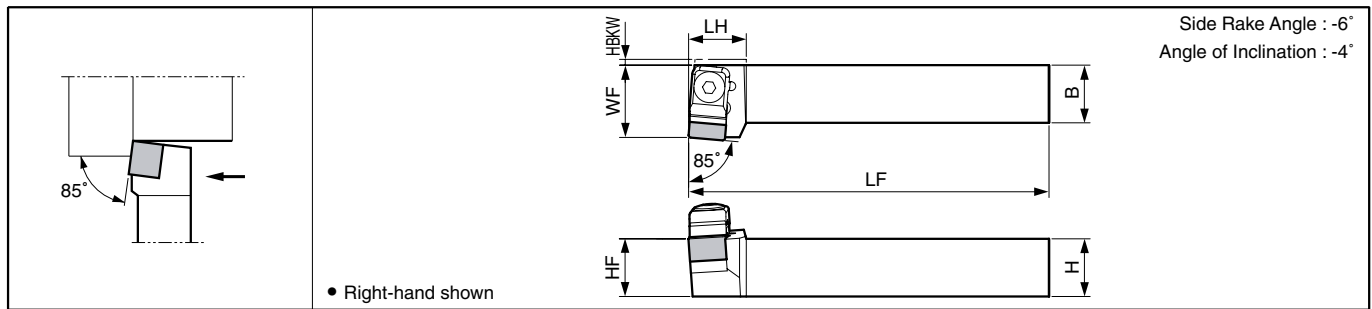
Applications	Cast Iron / Hard Materials
See Page	B107
Insert	Ceramic
Toolholder Description	
CELN^{R/L}...-13	ENG1307..

Recommended Cutting Conditions **D37~D38**

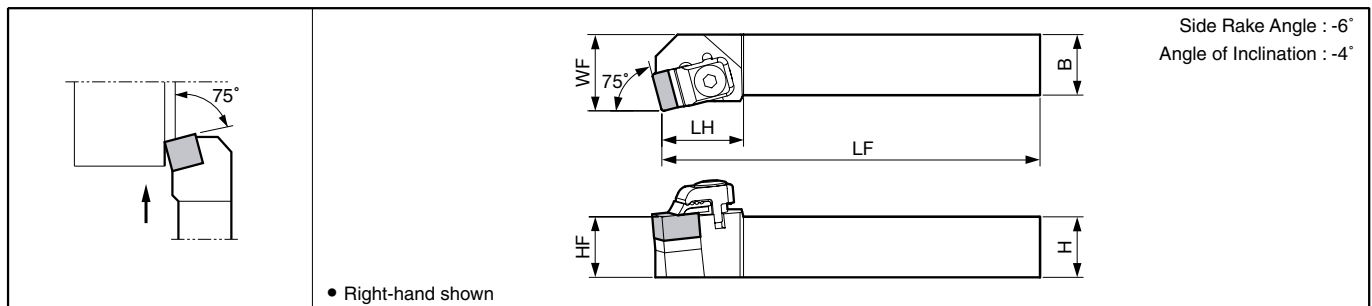
CSRN (External)



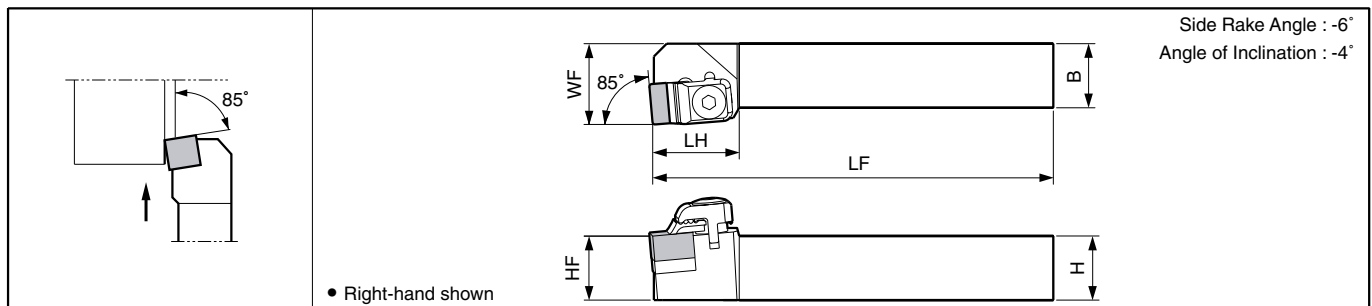
CS-N (External)



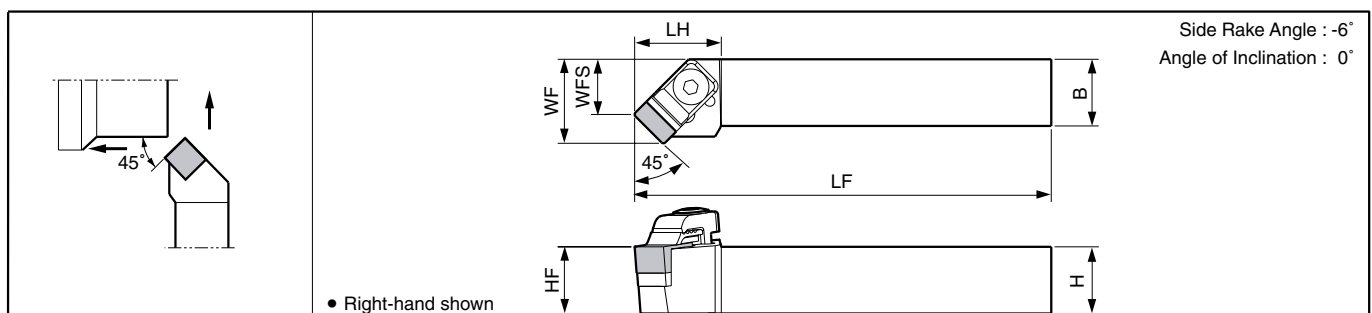
CSKN (Facing)



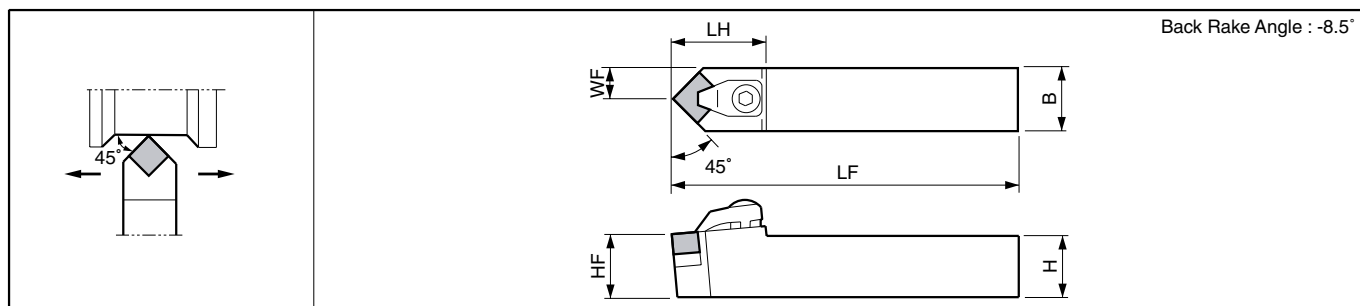
CSYN (Facing)



CSSN (External / Facing / Chamfering)



CSDN (External / Chamfering)



Toolholder Dimensions

Description		Stock			Dimension (mm)								Std. Corner-R(RE)	Spare Parts											
		R	N	L	H	HF	B	LF	LH	WF	HBKW	WFS		Chipbreaker	Clamp Set			Wrench	Shim	Shim Screw					
																									
CSRN ^{R/L}	2020K -12	●		●	20	20	20	125	22	22	2	-	0.8		CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)						
	2525M-12	●		●	25	25	25	150		27	-	-													
	3225P -12	●		●	32	32	25	170	30	32.4	-	-								0.8	CB-51	CE-220	LW-4	SP-162	M4X10
	3225P -15	●			32	32	25	170		43	-	-													
	4040R -15	●		●	40	40	40	200																	
CS-N ^{R/L}	2525M-12	●		●	25	25	25	150	20	32	-	-	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)							
CSKN ^{R/L}	2020K -12	●			20	20	20	125	27	25	-	-	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)							
	2525M-12	●		●	25	25	25	150		32															
	3225P -15	●			32	32	25	170		37									32	0.8	CB-51	CE-220	LW-4	SP-162	M4X10
CSYN ^{R/L}	2525M-12	●		●	25	25	25	150	27	32	-	-	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)							
CSSN ^{R/L}	2020K -12	●			20	20	20	125	26	25	-	16	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)							
	2525M-12	●		●	25	25	25	150		32									23						
CSDNN	2020K -12		●		20	20	20	125	32	10	-	-	0.8	-	CE-040	LW-4	SP-141 (SP-143)	M3X8 (M3X12)							
	2525M-12		●		25	25	25	150		12.5															
	3225P -12		●		32	32	25	170																	

Shim & Shim Screw : When using SN□□1204 Insert, please purchase spare parts in () separately.

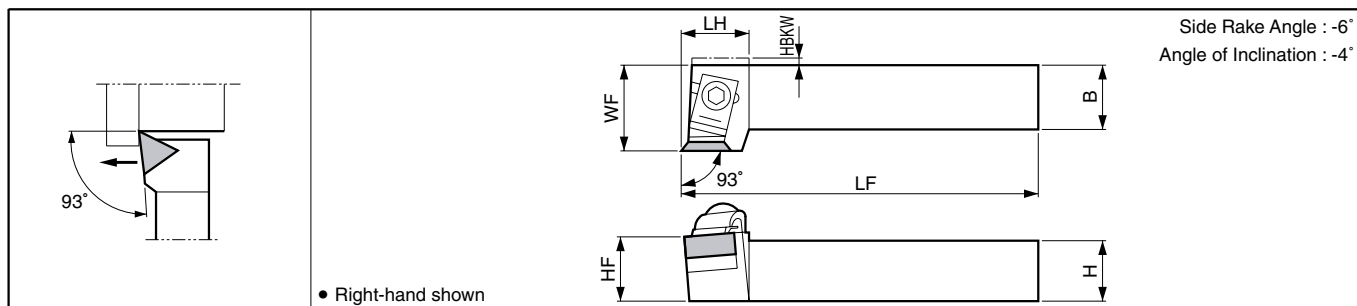
Applicable Inserts

Applications	Cast Iron / Hard Materials		Cast Iron
See Page	B109,B110		B35
Toolholder Description	Ceramic		Coated Carbide
CSRN ^{R/L} ...-12	SNGN1207..(SNGN1204..) SNMN1207..		(SNMN1204..)
CSRN ^{R/L} ...-15	SNGN1507..		-
CS-N ^{R/L} ...-12	SNGN1207..(SNGN1204..) SNMN1207..		(SNMN1204..)
CSKN ^{R/L} ...-12	SNGN1207..(SNGN1204..) SNMN1207..		(SNMN1204..)
CSKN ^{R/L} ...-15	SNGN1507..		-
CSYN ^{R/L} ...-12	SNGN1207..(SNGN1204..) SNMN1207..		(SNMN1204..)
CSSN ^{R/L} ...-12	SNGN1207..(SNGN1204..) SNMN1207..		(SNMN1204..)
CSDNN ...-12	SNGN1207..(SNGN1204..) SNMN1207..		(SNMN1204..)

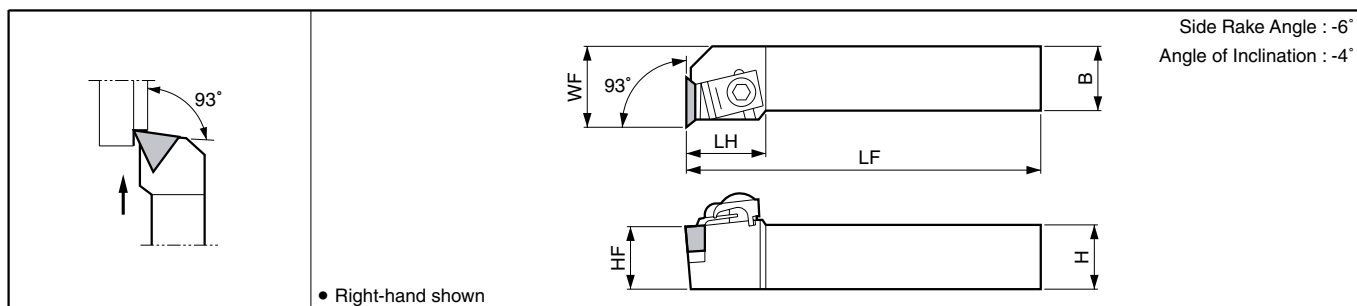
Hard Materials / Cast Iron	When using as toolholder for CBN tools (KBN900), please purchase spare parts below separately.		
C19	Clamp Set	Shim	Shim Screw
CBN (KBN900)			
(SNMN1204..)	CE-030A	SP-143	M3X12
-	-	-	-
(SNMN1204..)	CE-030A	SP-143	M3X12
(SNMN1204..)	CE-030A	SP-143	M3X12
-	-	-	-
(SNMN1204..)	CE-030A	SP-143	M3X12
(SNMN1204..)	CE-030A	SP-143	M3X12
(SNMN1204..)	* -	SP-143	M3X12

* CSDNN...-12 : Clamp Set CE-040 is used continuously.
Recommended Cutting Conditions ➡ D37~D38

CTJN (External)



CTUN (Facing)



Toolholder Dimensions

Description	Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts				
											Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
	R	L	H	HF	B	LF	LH	WF	HBKW						
CTJN ^{R/L} 2020K -16	●	●	20	20	20	125	21	25	2	0.8	CB-12/13	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
	●	●	25	25	25	150		32	-						
CTUN ^{R/L} 2020K -16	●	●	20	20	20	125	27	25	-	0.8	CB-13/12	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
	●	●	25	25	25	150		32	-						

CTJN (Chipbreaker) : CB-12 for Right-hand Toolholder, CB-13 for Left-hand Toolholder.

CTUN (Chipbreaker) : CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.

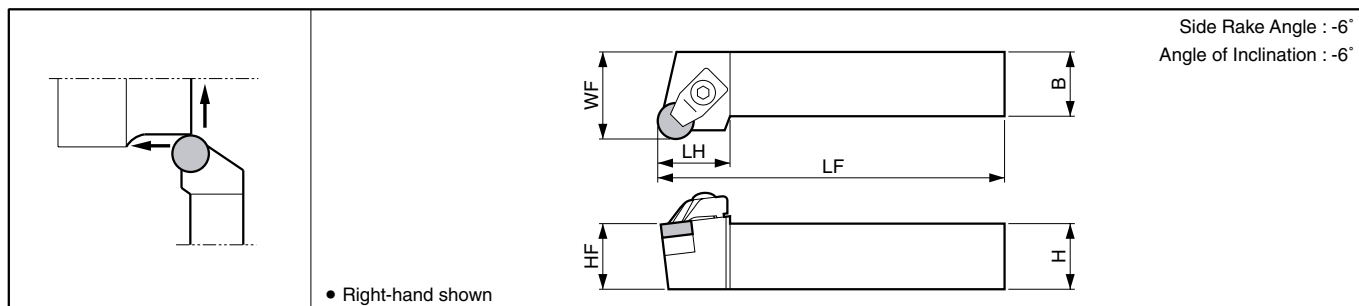
Shim & Shim Screw : When using TN□□1604 Insert, please purchase spare parts in () separately.

Applicable Inserts

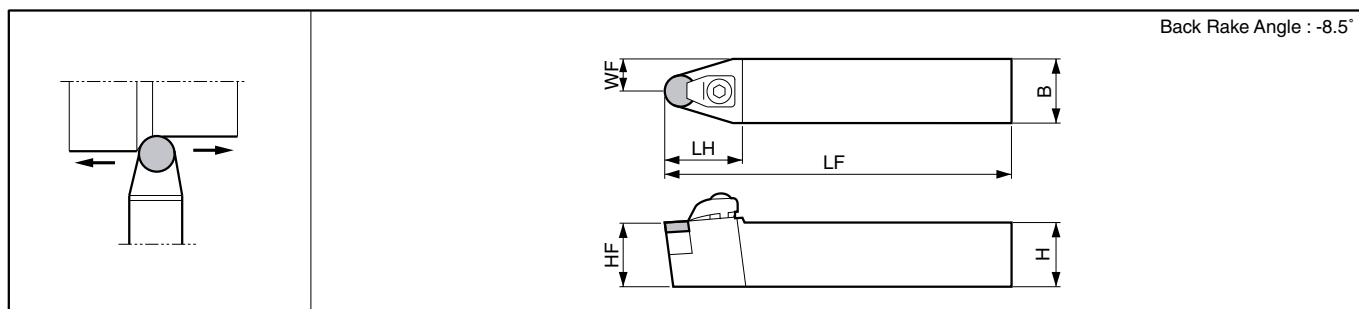
Applications	Cast Iron / Hard Materials	Hard Materials / Cast Iron
See Page	B111	C19
Toolholder Description	Ceramic 	CBN (KBN900)
	TNGN1607.. (TNGN1604..) (TNMN1604..)	(TNMN1604..)
CTJN ^{R/L} ...-16		
CTUN ^{R/L} ...-16		

Recommended Cutting Conditions ➡ D37~D38

CRSN (External / Facing)



CRDN (External / Copying)



Toolholder Dimensions

Description		Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts				
												Clamp Set	Wrench	Shim	Shim Screw	
CRSN ^{R/L}	2020K -12	●	●	20	20	20	125	26	25	-	CE-030	LW-4	SP-841 (SP-843)	M3X8 (M3X12)		
	2525M -12	●	●	25	25	25	150		32							
	3225P -12	●	●	32	32		170									
CRDNN	2020K -12		●	20	20	20	125	28	10	-	CE-030	LW-4	SP-841 (SP-843)	M3X8 (M3X12)		
	2525M -12		●	25	25	25	150		12.5							
	3225P -12		●	32	32		170									
	3232P -15		●	32	32	32	170	35	16	-	CE-040	LW-4	SP-861	M4X10		
	4040R -15		●	40	40	40	200		20							

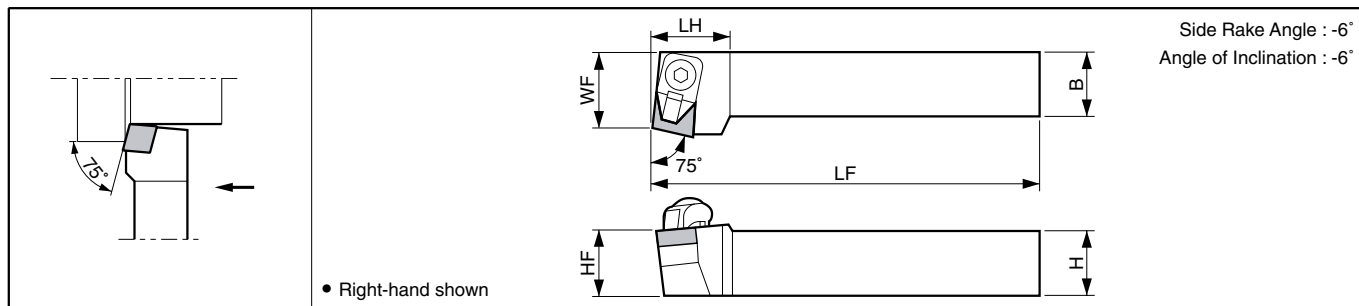
• Shim & Shim Screw : When using RN□□1204 Insert, please purchase spare parts in () separately.

Applicable Inserts

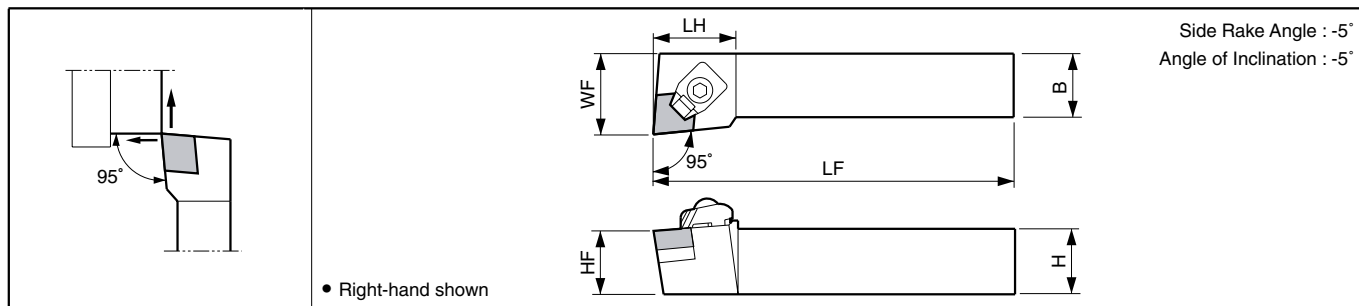
Applications	Cast Iron / Hard Materials	Hard Materials / Cast Iron	When using as toolholder for CBN tools (KBN900), please purchase spare parts below separately.		
See Page	B108	C19	Clamp Set	Shim	Shim Screw
Toolholder Description	Ceramic	CBN (KBN900)			
CRSN ^{R/L} ...-12	RNGN120700(RNGN120400)	(RNMN120400)	CE-030A	SP-843	M3X12
CRDNN ...-12	RNGN120700(RNGN120400)	(RNMN120400)	CE-030A	SP-843	M3X12
CRDNN ...-15	RNGN150700	-			

Recommended Cutting Conditions ● D37~D38

CCRN-A (External)



CCLN-A (External / Facing)



Toolholder Dimensions

Description	Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts				
	R	L	H	HF	B	LF	LH	WF		Clamp Set	Wrench	Shim	Shim Screw	
														
CCRN ^{R/L} 2525M-09A	●	●	25	25	25	150	27	27	0.8	CE-030A	LW-4	SP-429	HH3X12	
CCLN ^{R/L} 2525M-09A	●	●	25	25	25	150	28	32	0.8	CE-030A	LW-4	SP-429	HH3X12	

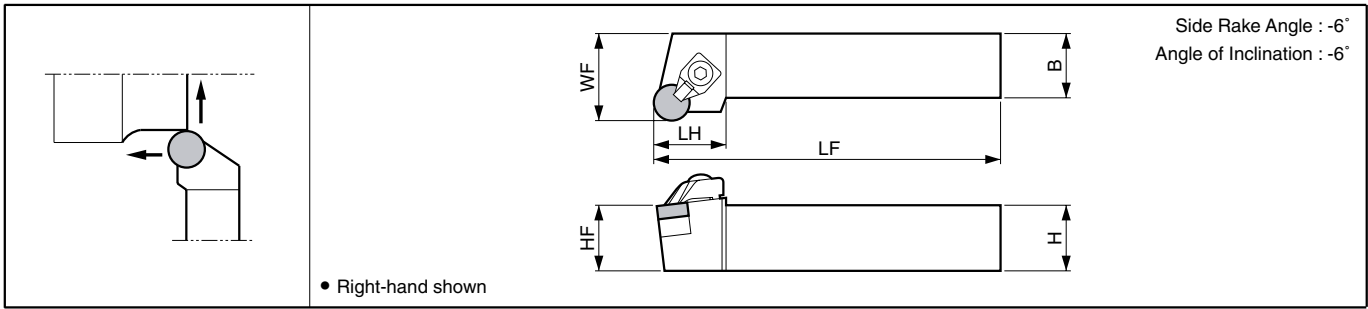
Applicable Inserts

Applications	Hard Materials / Cast Iron
See Page	C19
Insert	CBN (KBN900)
Toolholder Description	
CCRN ^{R/L} ...-09A	CNMN0903..
CCLN ^{R/L} ...-09A	

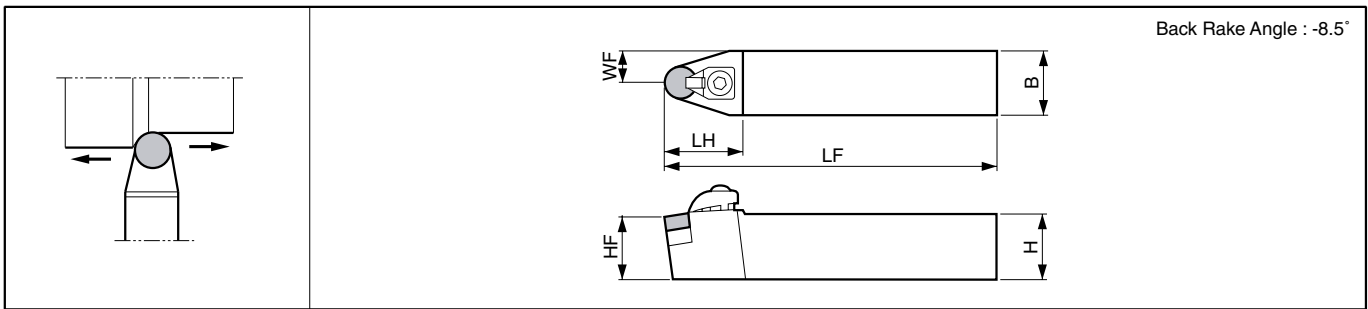
* For CNMN1204 Insert toolholder, see page D24

Recommended Cutting Conditions ➡ D37~D38

CRSN-A (External / Facing)



CRDN-A (External / Copying)



Toolholder Dimensions

Description		Stock			Dimension (mm)						Std. Corner-R(RE)	Spare Parts										
		R	N	L	H	HF	B	LF	LH	WF		Clamp Set	Wrench	Shim		Shim Screw						
																						
CRSN ^{R/L}	2525M-09A	●		●	25	25	25	150	26	32	-	CE-030A		SP-829	-	HH3X12						
	3225P-09A	●		●	32	32		170														
	2525M-12A	●		●	25	25	25	150	26	32							-	CE-030A		-	SP-849 (SP-843)	BH3X12
	3225P-12A	●		●	32	32		170														
CRDNN	2525M-09A		●		25	25	25	150	29	12.5	-	CE-030A		SP-829	-	HH3X12						
	3225P-09A		●		32	32		170														
	2525M-12A		●		25	25	25	150	28	12.5							-	CE-030A		-	SP-849 (SP-843)	BH3X12
	3225P-12A		●		32	32		170														

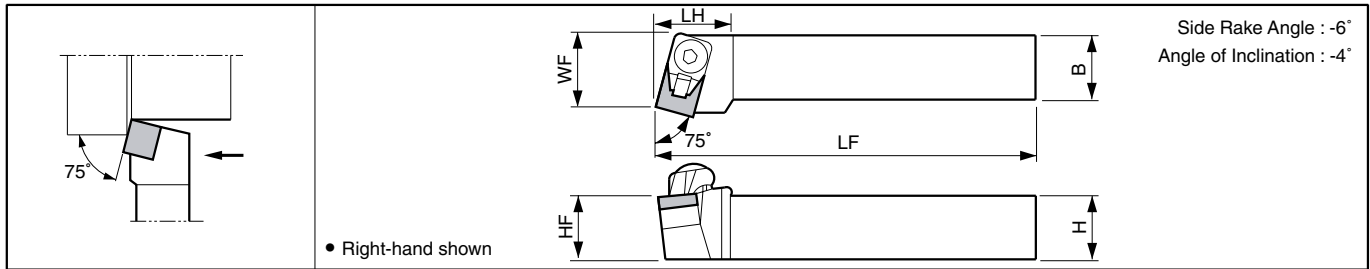
• -12A toolholder Shim : When using RN□□1204 Insert, please purchase spare parts : SP-843 in () separately.

Applicable Inserts

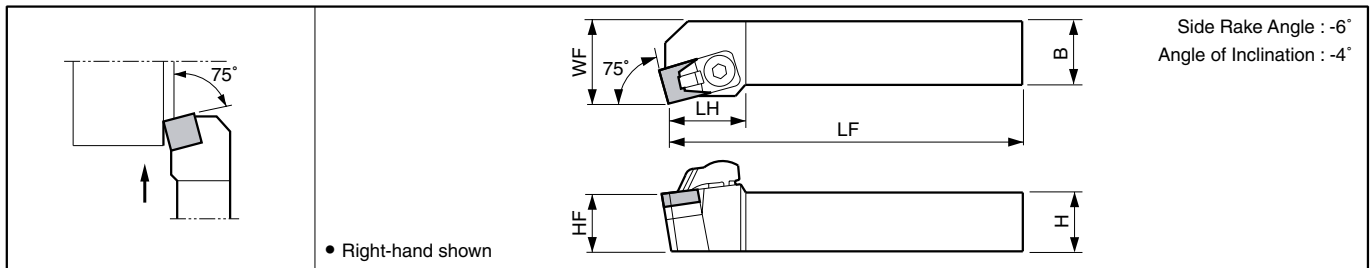
Applications See Page	Hard Materials / Cast Iron C19	Cast Iron / Hard Materials B108	When using as toolholder for ceramic tools, please purchase spare parts below separately.	
Toolholder Description	CBN (KBN900) 	Ceramic 	Shim	Shim Screw
CRSN ^{R/L} ...-09A	RNMN090300	(RNGN090400)	SP-826	-
CRSN ^{R/L} ...-12A	RNMN120300 (RNMN120400)	(RNGN120400)	SP-843	M3X12
		(RNGN120700)	SP-841	M3X8
CRDNN...-09A	RNMN090300	(RNGN090400)	SP-826	-
CRDNN...-12A	RNMN120300 (RNMN120400)	(RNGN120400)	SP-843	M3X12
		(RNGN120700)	SP-841	M3X8

Recommended Cutting Conditions ● D37~D38

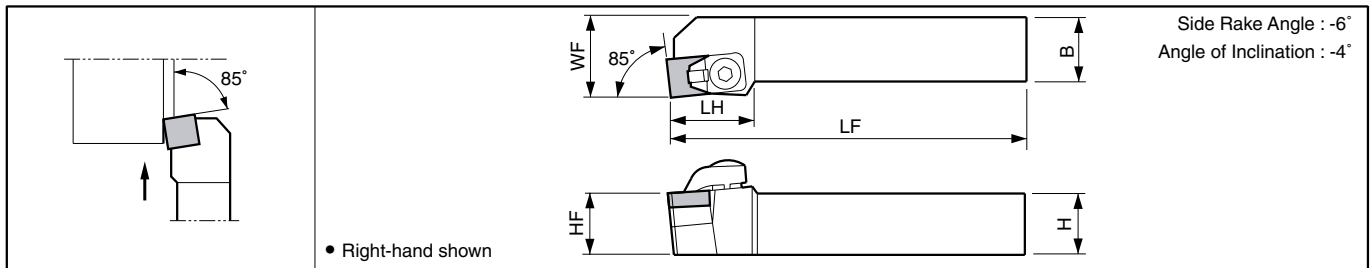
CSRN-A (External)



CSKN-A (Facing)



CSYN-A (Facing)



Toolholder Dimensions

Description		Stock		Dimension (mm)						Std. Corner-R(RE)	Spare Parts					
		R	L	H	HF	B	LF	LH	WF		Clamp Set	Wrench	Shim		Shim Screw	
																
CSRN ^{R/L}	2525M-09A	☐	☐	25	25	25	150	22	27	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
	2525M-12A	☒	☒										-	SP-148 (SP-143)	BH3X12	
CSKNR	2525M-09A	☒	☐	25	25	25	150	27	32	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
	2525M-12A	☐	☐					29					-	SP-148 (SP-143)	BH3X12	
CSYN ^{R/L}	2525M-09A	☐	☐	25	25	25	150	27	32	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
	2525M-12A	☐	☐										-	SP-148 (SP-143)	BH3X12	

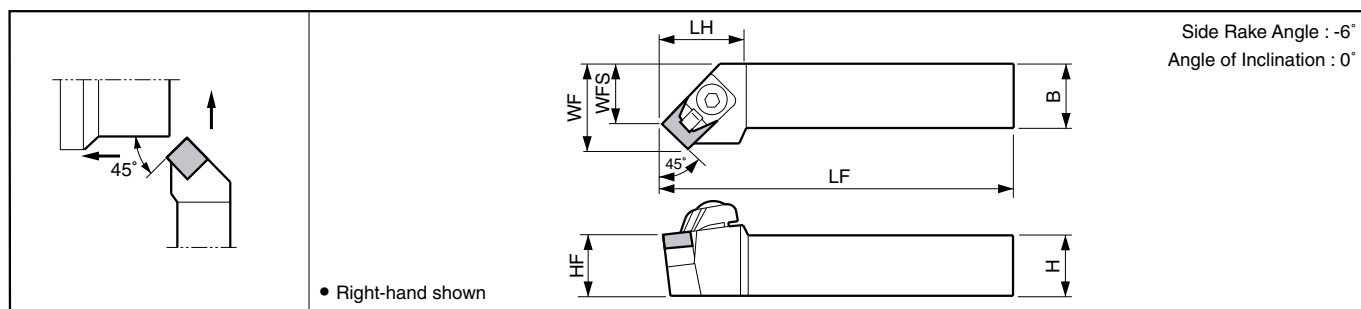
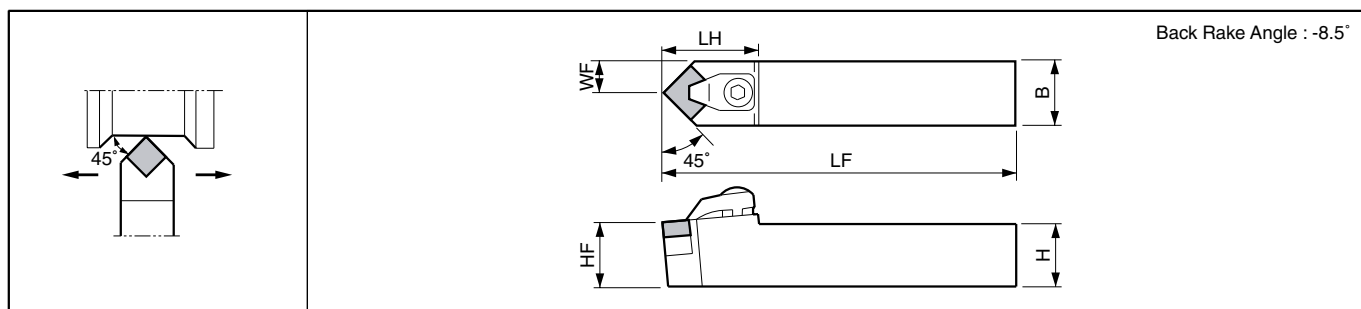
• -12A toolholder Shim : When using SN□□1204 Insert, please purchase spare parts : SP-143 in () separately.

Applicable Inserts

Applications See Page	Hard Materials / Cast Iron	Cast Iron	Cast Iron / Hard Materials	When using as toolholder for ceramic tools, please purchase spare parts below separately.			
Insert	CBN (KBN900)	Coated Carbide	Ceramic	Chipbreaker	Clamp Set	Shim	Shim Screw
CSRN ^{R/L} ...-09A	SNMN0903..	-	-	-	-	-	-
CSRN ^{R/L} ...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..) (SNMN1204..) (SNGN1207..) (SNMN1207..)	CB-11	CE-020	SP-143 SP-141	M3X12 M3X8
CSKN ^{R/L} ...-09A	SNMN0903..	-	-	-	-	-	-
CSKN ^{R/L} ...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..) (SNMN1204..) (SNGN1207..) (SNMN1207..)	CB-11	CE-020	SP-143 SP-141	M3X12 M3X8
CSYN ^{R/L} ...-09A	SNMN0903..	-	-	-	-	-	-
CSYN ^{R/L} ...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..) (SNMN1204..) (SNGN1207..) (SNMN1207..)	CB-11	CE-020	SP-143 SP-141	M3X12 M3X8

Recommended Cutting Conditions ➡ D37~D38

● : Std. Item
□ : Deleted from the next catalog

CSSN-A (External / Facing / Chamfering)**CSDN-A** (External / Chamfering)

● Toolholder Dimensions

Description	Stock			Dimension (mm)							Std. Corner-R(RE)	Spare Parts					
	R	N	L	H	HF	B	LF	LH	WF	WFS		Clamp Set	Wrench	Shim		Shim Screw	
CSSN[®]/L 2525M-09A	●		●							25	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
	●		●	25	25	25	150	26	32	23				-	SP-148 (SP-143)	BH3X12	
CSDNN 2525M-09A		●		25	25		150				0.8	CE-040	LW-4	SP-129	-	HH3X12	
		□		32	32	25	170	32	12.5	-				-	SP-148 (SP-143)	BH3X12	
		●		25	25		150							-	SP-148 (SP-143)	BH3X12	

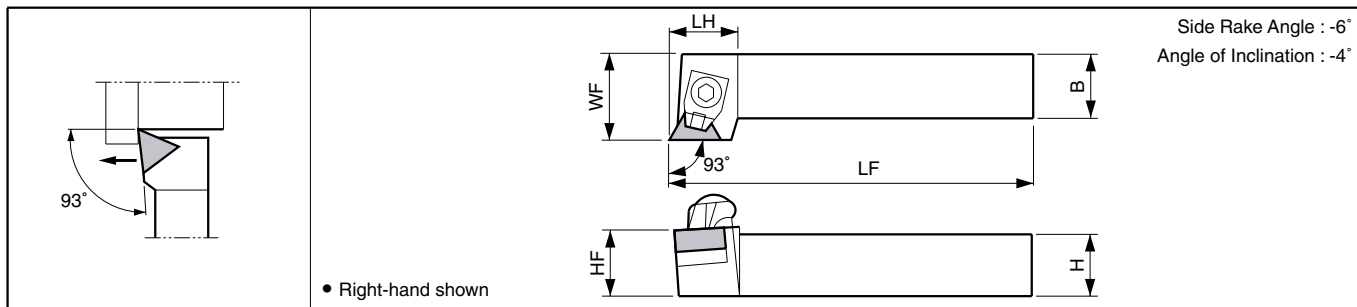
· -12A toolholder Shim: When using SN□□1204 Insert, please purchase spare parts : SP-143 in () separately.

● Applicable Inserts

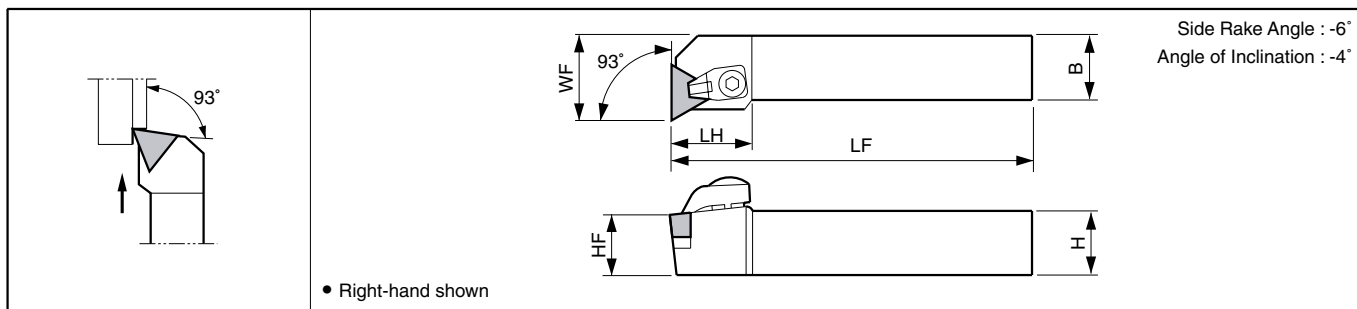
Applications See Page	Hard Materials / Cast Iron	Cast Iron	Cast Iron / Hard Materials	When using as toolholder for ceramic tools, please purchase spare parts below separately.			
Insert	C19 CBN (KBN900)	Coated Carbide	B109,B110 Ceramic	Chipbreaker	Clamp Set	Shim	Shim Screw
CSSN[®]/L...-09A	SNMN0903..	-	-	-			
CSSN[®]/L...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..) (SNMN1204..) (SNGN1207..) (SNMN1207..)	CB-11	CE-020	SP-143	M3X12
CSDNN...-09A	SNMN0903..	-	-			SP-141	M3X8
CSDNN...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..) (SNMN1204..) (SNGN1207..) (SNMN1207..)	-	-	SP-143	M3X12
						SP-141	M3X8

Recommended Cutting Conditions ➡ **D37~D38**

CTJN-A (External)



CTUN-A (Facing)



Toolholder Dimensions

Description	Stock		Dimension (mm)							Std. Corner-R(RE)	Spare Parts				
	R	L	H	HF	B	LF	LH	WF	Clamp Set		Wrench	Shim	Shim Screw		
															
CTJN ^{R/L} 2525M-11A	●	●	25	25	25	150	22	32	0.8	CE-030A	LW-4	SP-219	HH3X12		
CTUN ^{R/L} 2525M-11A	□	□	25	25	25	150	27	32	0.8	CE-030A	LW-4	SP-219	HH3X12		

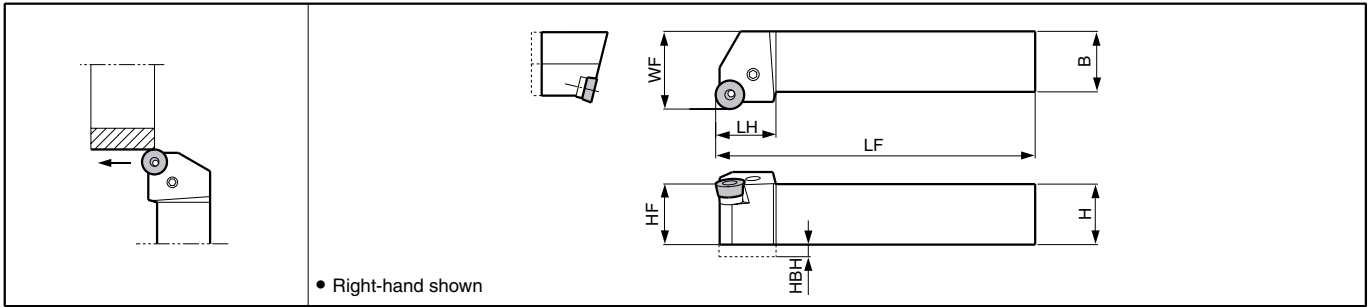
Applicable Inserts

Applications	Hard Materials / Cast Iron	Cast Iron / Hard Materials
See Page	C19	B111
Insert	CBN (KBN900)	Ceramic
Toolholder Description		
CTJN ^{R/L} ...-11A	TNMN1103..	TNGN1103..
CTUN ^{R/L} ...-11A		

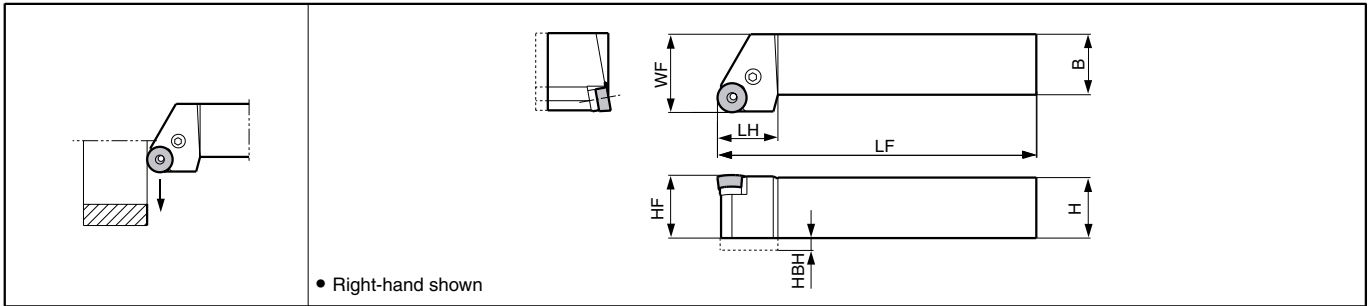
* TNMN1604 Insert toolholder is described in D28.

Recommended Cutting Conditions 

PRGC-BE (External)



PRGC-BF (Facing)

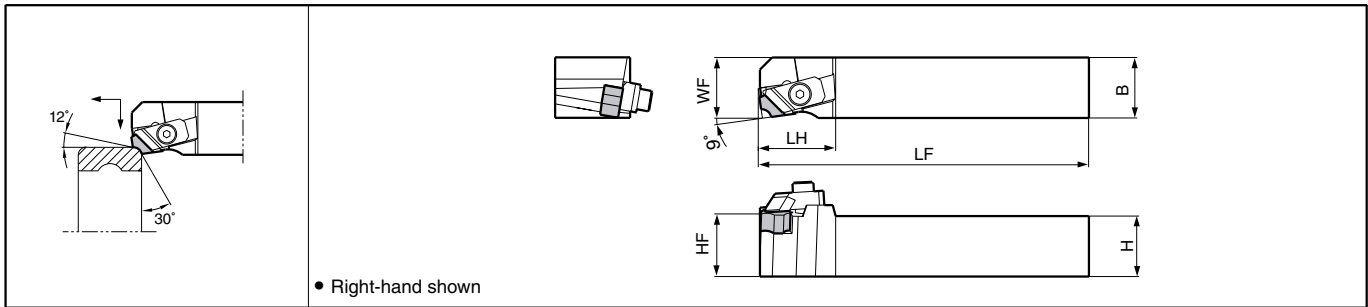


Toolholder Dimensions

Description		Stock	Dimension (mm)							Spare Parts						Applicable Inserts ➡ B103
			H	HF	HBH	B	LF	LH	WF	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	
PRGCR	2020K -12BE	□	20	20	-	20	125	22	25	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5	RCMT 1204M0-BB
	2525M -12BE	●	25	25	-	25	150	25	32							
	2020K -16BE	□	20	20	5	20	125	27	29							
	2525M -16BE	□	25	25	-	25	150	27	32							
PRGCR	2020K -12BF	□	20	20	-	20	125	22	25	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5	RCMT 1204M0-BB
	2525M -12BF	□	25	25	-	25	150	25	32							
	2020K -16BF	□	20	20	5	20	125	27	25							
	2525M -16BF	□	25	25	-	25	150	27	32							

Recommended Cutting Conditions ➡ D37~D38

CBSN (External Round-Chamfering)



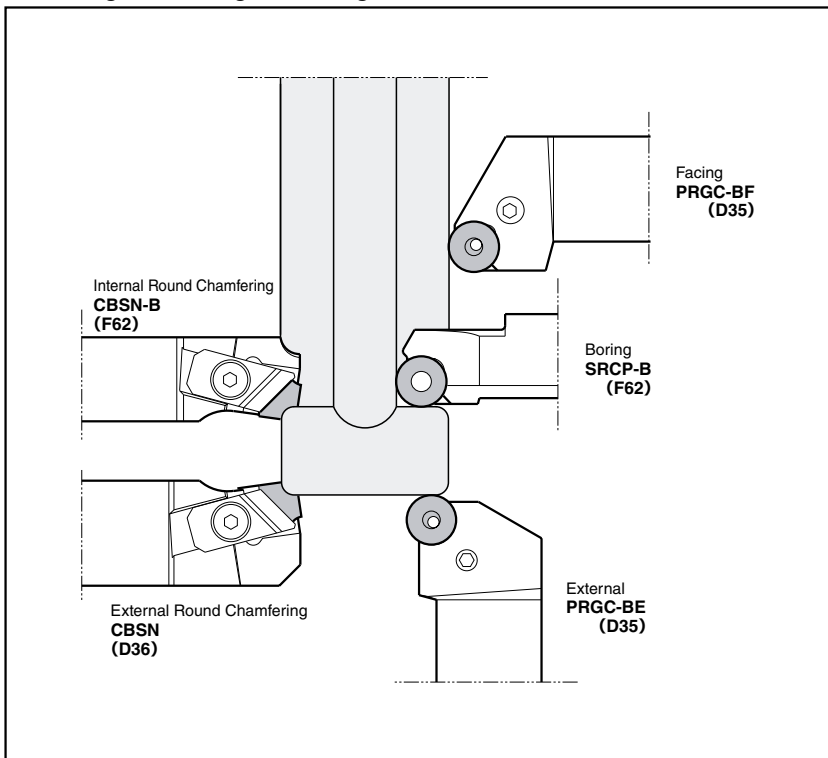
Toolholder Dimensions

Description	Stock		Dimension (mm)						Spare Parts				Applicable Inserts ➡ B103
	R	L	H	HF	B	LF	LH	WF	Clamp Set	Wrench	Shim	Shim Screw	
CBSN^{R/L}													
2020K -12	●	●	20	20	20	125	32	20	CP-RC ^{R/L}	LW-5	SP-RC	SP3X8	SNMF1204○○-21
2525M -12	●	●	25	25	25	150		25					

· Clamp Set : CP-RCR for Right-hand Toolholder, CP-RCL for Left-hand Toolholder.

Recommended Cutting Conditions ➡ D37~D38

Tooling for Bearing Machining



Recommended Cutting Conditions

Recommended Cutting Conditions - External Turning (Negative Insert)

[ap indicates radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Applications	Recommended Chipbreaker	Recommended Insert Grade	Corner-R(R/RE)	Lower Limit - Recommendation - Upper Limit		
								Vc (m/min)	ap (mm)	f (mm/rev)
P	Low Carbon Steel Low Carbon Alloy	HB ≤ 300	Finishing (High Speed Machining)	Continuous	XP	CCX	0.8	300 - 600 - 800	0.2 - 0.5 - 0.7	0.07 - 0.12 - 0.2
			Finishing (Small ap)	Continuous Interruption	XF	PV710 PV720	0.4 0.8	250 - 350 - 520 240 - 320 - 480	0.05 - 0.12 - 0.6 0.05 - 0.15 - 0.6	0.03 - 0.1 - 0.22 0.04 - 0.12 - 0.25
			Finishing (Gloss Oriented)	Continuous Interruption	XP	TN610 TN620	0.4 0.8	250 - 320 - 400 240 - 310 - 370	0.2 - 0.5 - 0.7 0.2 - 0.5 - 0.7	0.07 - 0.12 - 0.2 0.07 - 0.12 - 0.2
			Finishing (Tool Life Oriented)	Continuous Interruption	XP	PV710 PV720	0.4 0.8	250 - 300 - 370 240 - 290 - 340	0.2 - 0.5 - 0.7 0.2 - 0.5 - 0.7	0.07 - 0.12 - 0.2 0.07 - 0.12 - 0.2
			Finishing - Medium (Gloss Oriented)	Continuous Interruption	XQ	TN610 TN620	0.4 0.8	250 - 320 - 400 240 - 280 - 340	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.17 - 0.25 - 0.3 0.17 - 0.25 - 0.3
			Finishing - Medium (Tool Life Oriented)	Continuous Interruption	XQ	PV710 PV720	0.8 0.8	250 - 300 - 370 240 - 280 - 340	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.17 - 0.25 - 0.3 0.17 - 0.25 - 0.3
			Medium - Roughing	Continuous Interruption	XS	PV720 CA515	0.8 0.8	220 - 260 - 320 160 - 210 - 260	0.8 - 1.5 - 2.0 0.8 - 1.5 - 2.0	0.25 - 0.3 - 0.4 0.25 - 0.3 - 0.4
			Roughing	Continuous Interruption	PG	CA515 CA025P	0.8 1.2	180 - 220 - 260 150 - 200 - 240	1.0 - 2.5 - 3.5 1.0 - 2.5 - 3.5	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
			Medium - Roughing High Feed Rate	Continuous Interruption	PT	CA515 CA025P	0.8 1.2	150 - 200 - 240 120 - 180 - 220	1.5 - 3.0 - 4.5 1.5 - 3.0 - 4.5	0.25 - 0.35 - 0.45 0.25 - 0.35 - 0.45
			Roughing High Feed Rate	Continuous Interruption	PH	CA515 CA025P	1.2 1.6	150 - 200 - 240 120 - 180 - 220	2.0 - 5.0 - 8.0 2.0 - 5.0 - 8.0	0.4 - 0.6 - 0.8 0.3 - 0.5 - 0.7
			Roughing (Low Cutting Force)	Continuous Interruption	PX (Single-sided)	CA515 CA025P	1.2 1.6	150 - 200 - 240 120 - 180 - 220	2.0 - 5.0 - 8.0 2.0 - 5.0 - 8.0	0.4 - 0.6 - 0.8 0.3 - 0.5 - 0.7
	Medium Carbon Steel Medium Carbon Alloy	HB ≤ 300	Finishing (Time Oriented)	Continuous Interruption	WF (Wiper)	PV710 CA515	0.8 0.8	200 - 250 - 320 160 - 220 - 280	0.3 - 0.5 - 1.0 0.3 - 0.5 - 1.0	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
			Finishing - Medium (Time Oriented)	Continuous Interruption	WE (Wiper)	PV710 CA025P	0.8 0.8	180 - 220 - 280 130 - 180 - 240	1.0 - 2.0 - 3.0 1.0 - 2.0 - 3.0	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
			Finishing (High Speed Machining)	Continuous	PP	CCX	0.8	200 - 300 - 450	0.2 - 0.5 - 1.5	0.04 - 0.16 - 0.28
			Finishing (Gloss Oriented)	Continuous Interruption	PP	TN610	0.4 0.8	200 - 250 - 320 180 - 230 - 300	0.2 - 0.5 - 1.5 0.2 - 0.5 - 1.5	0.04 - 0.16 - 0.28 0.05 - 0.2 - 0.35
			Finishing (Tool Life Oriented)	Continuous Interruption	PP	PV710 PV720	0.4 0.8	200 - 250 - 320 200 - 240 - 290	0.2 - 0.5 - 1.5 0.2 - 0.5 - 1.5	0.04 - 0.16 - 0.28 0.05 - 0.2 - 0.35
			Finishing - Medium (Gloss Oriented)	Continuous Interruption	PQ	TN610 TN620	0.8 1.2	180 - 230 - 300 160 - 220 - 260	0.5 - 1.5 - 2.5 0.5 - 1.5 - 2.5	0.1 - 0.2 - 0.3 0.1 - 0.17 - 0.25
			Finishing - Medium (Tool Life Oriented)	Continuous Interruption	PQ	PV710 CA025P	0.8 0.8	160 - 210 - 280 140 - 200 - 240	0.5 - 1.5 - 2.5 0.5 - 1.5 - 2.5	0.1 - 0.2 - 0.3 0.1 - 0.17 - 0.25
			Medium - Roughing	Continuous Interruption	PG	CA515 CA025P	0.8 1.2	150 - 200 - 240 120 - 160 - 200	1.0 - 2.5 - 3.5 1.0 - 2.5 - 3.5	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
			Medium - Roughing High Feed Rate	Continuous Interruption	PT	CA515 CA025P	0.8 1.2	120 - 180 - 230 100 - 150 - 200	1.5 - 3.0 - 4.5 1.5 - 3.0 - 4.5	0.25 - 0.35 - 0.45 0.25 - 0.35 - 0.45
			Roughing High Feed Rate	Continuous Interruption	PH	CA515 CA025P	1.2 1.6	120 - 180 - 230 100 - 150 - 200	2.0 - 5.0 - 8.0 2.0 - 5.0 - 8.0	0.4 - 0.6 - 0.8 0.3 - 0.5 - 0.7
			Roughing (Low Cutting Force)	Continuous Interruption	PX (Single-sided)	CA515 CA025P	1.2 1.6	120 - 180 - 230 100 - 150 - 200	2.0 - 5.0 - 8.0 2.0 - 5.0 - 8.0	0.4 - 0.6 - 0.8 0.3 - 0.5 - 0.7
	High Carbon Alloy	HB ≤ 280	Finishing (High Speed Machining)	Continuous	PP	CCX	0.8	200 - 300 - 400	0.2 - 0.5 - 1.5	0.04 - 0.16 - 0.28
			Finishing (Gloss Oriented)	Continuous Interruption	PP	TN610 TN620	0.4 0.8	150 - 200 - 280 140 - 180 - 240	0.2 - 0.5 - 1.5 0.2 - 0.5 - 1.5	0.04 - 0.16 - 0.28 0.05 - 0.2 - 0.35
			Finishing (Tool Life Oriented)	Continuous Interruption	PP	PV710 CA515	0.4 0.8	120 - 180 - 260 100 - 150 - 200	0.2 - 0.5 - 1.5 0.2 - 0.5 - 1.5	0.04 - 0.16 - 0.28 0.05 - 0.2 - 0.35
			Finishing - Medium	Continuous Interruption	PQ	CA515 CA025P	0.8 0.8	120 - 160 - 220 100 - 140 - 180	0.5 - 1.5 - 2.5 0.5 - 1.5 - 2.5	0.15 - 0.25 - 0.3 0.15 - 0.2 - 0.25
			Medium - Roughing	Continuous Interruption	PG	CA515 CA025P	0.8 0.8	120 - 150 - 200 100 - 130 - 180	1.0 - 2.0 - 3.0 1.0 - 2.0 - 3.0	0.2 - 0.3 - 0.5 0.15 - 0.2 - 0.3
			Medium - Roughing High Feed Rate	Continuous Interruption	PT	CA515 CA025P	0.8 1.2	100 - 140 - 180 80 - 120 - 160	1.5 - 3.0 - 4.5 1.5 - 3.0 - 4.5	0.25 - 0.35 - 0.45 0.25 - 0.35 - 0.45
			Roughing High Feed Rate	Continuous Interruption	PH	CA515 CA025P	1.2 1.6	100 - 140 - 180 80 - 120 - 160	2.0 - 5.0 - 8.0 2.0 - 5.0 - 8.0	0.4 - 0.6 - 0.8 0.3 - 0.5 - 0.7
			Roughing (Low Cutting Force)	Continuous Interruption	PX (Single-sided)	CA515 CA025P	1.2 1.6	100 - 140 - 180 80 - 120 - 160	2.0 - 5.0 - 8.0 2.0 - 5.0 - 8.0	0.4 - 0.6 - 0.8 0.3 - 0.5 - 0.7

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Recommended Cutting Conditions

Recommended Cutting Conditions - External Turning (Negative Insert)

[ap indicates radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Applications	Recommended Chipbreaker	Recommended Insert Grade	Corner-R(RE)	Lower Limit - Recommendation - Upper Limit		
								Vc (m/min)	ap (mm)	f (mm/rev)
M	Stainless Steel (Austenitic related)	HB ≤ 220	Finishing (Gloss Oriented)	Continuous Interruption	PQ	TN620	0.8	120 - 160 - 200	0.5 - 1.0 - 1.5	0.08 - 0.15 - 0.2
			Finishing	Continuous Interruption	MQ	CA6515 CA6525	0.4 0.8	120 - 180 - 240 100 - 160 - 220	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.08 - 0.15 - 0.2 0.05 - 0.1 - 0.15
			Medium - Roughing (Chip Control Oriented)	Continuous Interruption	MS	CA6515 CA6525	0.4 0.8	120 - 160 - 200 80 - 140 - 180	1.0 - 2.0 - 3.0 1.0 - 2.0 - 3.0	0.1 - 0.2 - 0.3 0.2 - 0.3 - 0.4
			Medium - Roughing (Sharpness Oriented)	Continuous Interruption	MU	CA6515 CA6525	0.4 0.8	120 - 160 - 200 80 - 140 - 180	1.0 - 2.0 - 3.0 1.0 - 2.0 - 3.0	0.15 - 0.25 - 0.35 0.15 - 0.25 - 0.3
			Roughing	Continuous Interruption	Standard	CA6515 CA6525	0.8 1.2	100 - 140 - 180 80 - 120 - 150	1.0 - 2.0 - 4.0 1.0 - 2.0 - 4.0	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
	Stainless Steel (Precipitation Hardening)	HB ≤ 300	Finishing (Gloss Oriented)	Continuous Interruption	PQ	TN620	0.8	100 - 120 - 150 80 - 100 - 120	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.05 - 0.1 - 0.15 0.05 - 0.08 - 0.1
			Finishing	Continuous Interruption	MQ	CA6515 CA6525	0.4 0.8	100 - 120 - 150 80 - 100 - 120	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.08 - 0.15 - 0.2 0.05 - 0.1 - 0.15
			Medium - Roughing (Chip Control Oriented)	Continuous Interruption	MS	CA6515 CA6525	0.4 0.8	100 - 120 - 150 80 - 100 - 120	1.0 - 1.5 - 2.0 1.0 - 2.0 - 3.0	0.1 - 0.15 - 0.25 0.1 - 0.15 - 0.2
			Medium - Roughing (Sharpness Oriented)	Continuous Interruption	MU	CA6515 CA6525	0.4 0.8	100 - 120 - 150 80 - 100 - 120	1.0 - 1.5 - 2.0 1.0 - 2.0 - 3.0	0.1 - 0.15 - 0.25 0.1 - 0.15 - 0.2
			Roughing	Continuous Interruption	Standard	CA6515 CA6525	0.8 1.2	80 - 100 - 120 60 - 80 - 100	1.0 - 2.0 - 3.0 1.0 - 2.0 - 4.0	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
K	Gray Cast Iron	HB ≤ 250	High Speed Machining	Continuous Interruption	Without Chipbreaker	KBN475 KBN900 KBN900	0.8 1.2 1.2	400 - 800 - 1200 500 - 900 - 1200 500 - 700 - 900	0.05 - 0.2 - 0.5 0.1 - 0.5 - 1.0 0.5 - 1.0 - 1.5	0.1 - 0.2 - 0.3 0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Finishing (Gloss Oriented)	Continuous Interruption	Standard	PV7005 PV720	0.8 0.8	300 - 350 - 400 150 - 200 - 300	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.1 - 0.2 - 0.3 0.08 - 0.15 - 0.2
			Finishing (Ceramic)	Continuous Interruption	Without Chipbreaker	KA30 PT600M	1.2 0.8	300 - 500 - 700 300 - 450 - 600	0.3 - 0.5 - 1.0 0.3 - 0.5 - 1.0	0.1 - 0.2 - 0.3 0.1 - 0.2 - 0.3
			Medium (Ceramic)	Continuous Interruption	Without Chipbreaker	CS7050 KS6050	1.2 1.2	300 - 450 - 550 250 - 400 - 500	1.0 - 2.0 - 3.0 1.0 - 2.0 - 3.0	0.15 - 0.25 - 0.35 0.15 - 0.2 - 0.3
			Medium	Continuous Interruption	KH	CA310 CA315	0.8 1.2	200 - 250 - 300 150 - 200 - 250	0.5 - 2.0 - 2.5 0.5 - 2.0 - 2.5	0.1 - 0.2 - 0.3 0.08 - 0.15 - 0.2
			Roughing	Continuous Interruption	KH	CA310 CA315	0.8 1.2	200 - 250 - 300 150 - 200 - 250	1.0 - 2.0 - 4.0 1.0 - 2.0 - 4.0	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
	Nodular Cast Iron	HB ≤ 270	High Speed Machining	Continuous Interruption	Without Chipbreaker	KBN60M PT600M	0.4 0.8	200 - 300 - 400 200 - 250 - 350	0.1 - 0.3 - 0.5 0.1 - 0.5 - 1.0	0.1 - 0.15 - 0.2 0.1 - 0.2 - 0.4
			Finishing (Gloss Oriented)	Continuous Interruption	Standard	PV7005 PV720	0.8 0.8	150 - 250 - 300 120 - 200 - 250	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.1 - 0.2 - 0.3 0.08 - 0.15 - 0.2
			Medium	Continuous Interruption	KG	CA310 CA315	0.8 1.2	150 - 200 - 250 120 - 180 - 220	0.5 - 2.0 - 2.5 0.5 - 2.0 - 2.5	0.1 - 0.2 - 0.3 0.08 - 0.15 - 0.2
			Roughing	Continuous Interruption	KG KH	CA315 CA320	0.8 1.2	150 - 200 - 250 120 - 180 - 220	1.0 - 2.0 - 4.0 1.0 - 2.0 - 4.0	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloys	HB ≤ 100	High Speed Machining (Rainbow Surface Gross)	Continuous Interruption	Without Chipbreaker	KPD001	0.4	300 - 800 - 2000	0.05 - 0.5 - 1.0	0.05 - 0.1 - 0.15
			Finishing (Long Tool Life)	Continuous Interruption	A3	PDL025	0.4 0.8	400 - 500 - 700 400 - 500 - 700	0.5 - 1.0 - 2.0 0.5 - 1.0 - 2.0	0.1 - 0.2 - 0.25 0.1 - 0.2 - 0.25
			Finishing	Continuous Interruption	A3	KW10	0.8 0.8	400 - 500 - 700 400 - 500 - 700	0.5 - 1.0 - 2.0 0.5 - 1.0 - 2.0	0.1 - 0.2 - 0.25 0.1 - 0.2 - 0.25
			Medium	Continuous Interruption	AH	KW10	0.8 0.8	200 - 300 - 500 200 - 300 - 500	1.0 - 2.0 - 3.5 1.0 - 2.0 - 3.5	0.1 - 0.3 - 0.4 0.1 - 0.3 - 0.4
S	Titanium Alloys	HB ≤ 400	Precision Finishing (Rainbow Surface Gross)	Continuous Interruption	Without Chipbreaker	KPD001	0.4 0.4	100 - 150 - 180 70 - 120 - 150	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.03 - 0.1 - 0.15 0.03 - 0.07 - 0.1
			Finishing	Continuous Interruption	MQ	SW05	0.4 0.4	40 - 70 - 100 40 - 70 - 100	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.2 - 0.3 0.05 - 0.15 - 0.2
			Medium	Continuous Interruption	MU	SW05	0.8 0.8	40 - 60 - 80 40 - 60 - 80	0.5 - 1.0 - 3.0 0.5 - 1.0 - 3.0	0.1 - 0.25 - 0.35 0.1 - 0.2 - 0.3
	Heat-resistant Alloys	HB ≤ 350	Finishing	Continuous Interruption	MQ	PR005S PR015S	0.4 0.8	30 - 55 - 90 25 - 45 - 70	0.2 - 0.3 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.08 - 0.15 0.05 - 0.1 - 0.2
			Medium	Continuous Interruption	SQ	PR005S PR015S	0.8 0.8	30 - 55 - 90 25 - 45 - 70	0.3 - 0.5 - 1.5 0.3 - 0.5 - 1.5	0.1 - 0.17 - 0.35 0.1 - 0.17 - 0.35
			Roughing	Continuous Interruption	SX	PR005S PR015S	-	30 - 55 - 90 25 - 45 - 70	0.5 - 2.0 - 4.0 0.5 - 2.0 - 4.0	0.15 - 0.3 - 0.45 0.15 - 0.3 - 0.45
	Hardened Steel Hard Materials	40~50 HRC	Finishing	Continuous Interruption	PQ Standard	CA515	0.8 0.8	60 - 100 - 120 30 - 50 - 70	0.1 - 0.3 - 0.5 0.1 - 0.3 - 0.5	0.05 - 0.08 - 0.1 0.05 - 0.08 - 0.1
		40 ~ 50 HRC 50 ~ 65 HRC	Finishing	Continuous Interruption	Without Chipbreaker	PT600M	0.8 1.2	60 - 80 - 100 30 - 40 - 60	0.2 - 0.5 - 0.7 0.2 - 0.5 - 0.7	0.05 - 0.1 - 0.15 0.05 - 0.1 - 0.15
		50~68 HRC	Finishing	Continuous Interruption	ME MET	KBN05M	0.8 1.2	100 - 150 - 200 90 - 140 - 180	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1 0.05 - 0.08 - 0.1
			Medium	Continuous Interruption	Without Chipbreaker	KBN900	1.2	80 - 100 - 120 70 - 90 - 110	0.5 - 1.0 - 2.0 0.3 - 0.7 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.15