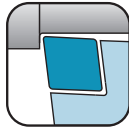


D



Introduction		D2
Toolholders for general purpose		D8
CN insert	DCLN / DCLN-JCT / PCLN	D8
DN insert	DDJN / DDJN-JCT / DDHN	D13
	PDJN / PDHN	D16
SN insert	DSBN / PSBN	D19
	PSKN / PSSN / PSDN	D20
TN insert	DTGN / DTGN-JCT / PTGN / PTFN	D22
	WTJN / WTKN / WTEN	D27
VN insert	DVLN / DVLN-JCT / DVPN / DVPN-JCT	D30
	DVVN / DVVN-JCT	D34
	MVLN / MVVN	D36
	PVLN / PVPN / PVVN	D38
RC insert	PRGC / PRXC	D40
RN insert	PRGN	D42
WN Insert	DWLN / DWLN-JCT / PVLN / WWLN	D43
Toolholders for ceramic inserts		D48
CN insert	CCLN	D49
DN insert	CDJN	D50
EN insert	CELN	D51
SN insert	CSRN / CS-N / CSKN / CSYN / CSSN / CSDN	D52
TN insert	CTJN / CTUN	D56
RN insert	CRSN / CRDN	D58
Toolholders for solid CBN inserts		D60
CNMN insert	CCRN-A / CCLN-A	D60
RNMN insert	CRSN-A / CRDN-A	D61
SNMN insert	CSRN-A / CSKN-A / CSSN-A / CSDN-A	D63
TNMN insert	CTJN-A	D66
Toolholders for bearing machining		D67
RCMT insert	PRGC-BE	D67
SNMF insert	CBSN	D68
Recommended cutting conditions		D69

Great for high pressure coolant

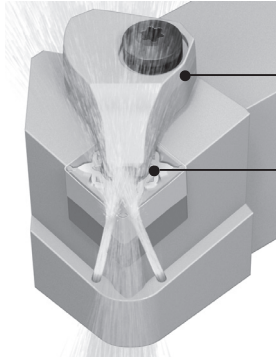
Double Clamp-JCT

D

1 Superior chip control performance



External turning



Double Clamp

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

Unique Nozzle Shape

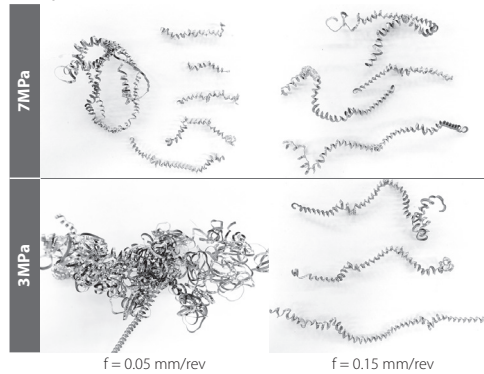
Provides coolant to a wide area of the insert surface

Chip control comparison (Internal Evaluation)

Double Clamp-JCT



Competitor A



Cutting Conditions: $V_c = 150$ m/min, $a_p = 0.5$ mm, Wet, CNMG120408 Type Workpiece: 15CrMo4 External Turning

2 Longer tool life and high speed machining

Coolant is also directed from two directions towards the flank face of the insert to ensure even cooling action
Longer tool life and high-speed machining with improved wear resistance

Alloy steel (34CrMo4)

After Machining 42.2 min



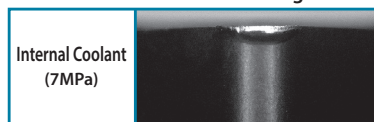
UP
Abrasion Resistance



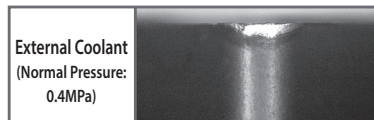
Cutting Conditions: $V_c = 250$ m/min, $a_p = 2$ mm, $f = 0.3$ mm/rev, Wet CNMG120408 Type External Turning

Heat-resistant alloys (Inconel®718)

After Machining 3 min



UP
Abrasion Resistance



Cutting Conditions: $V_c = 80$ m/min, $a_p = 0.5$ mm, $f = 0.15$ mm/rev, Wet CNMG120408 Type External Turning

Using internal coolant improves wear-resistance in alloy steel and heat-resistant alloys
High-pressure coolant is more effective

External turning toolholders identification system (Square shank)

Clamping system	
A	Back clamp
C	Top clamp
D	Double clamp
M	Multi lock
P	Pin lock or lever lock
S	Screw clamp
W	Wedge lock

Insert shape	
C	80° Rhombic
D	55° Rhombic
R	Round
S	90° Square
T	60° Triangle
V	35° Rhombic
W	80° Trigon

Hand of tool	
R	Right-hand
L	Left-hand
N	Neutral

Shank height	
Shank height (mm)	

Shank width	
Shank width (mm)	

Manufacturer's option	
Optional mark or number	

D

C

L

N

R

20

20

K

-

12

Cutting edge angle			
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°

Insert relief angle	
B	5° Positive
C	7° Positive
D	15° Positive
E	20° Positive
N	0° Negative
P	11° Positive

Toolholder length					
					(mm)
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

Insert size	

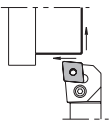
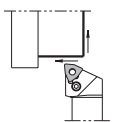
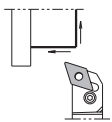
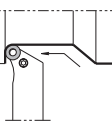
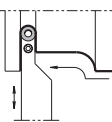
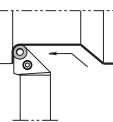
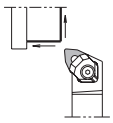
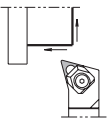
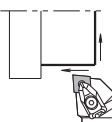
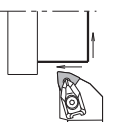
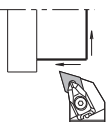
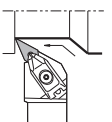
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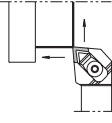
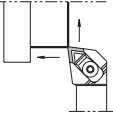
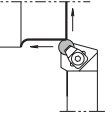
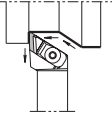
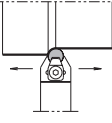
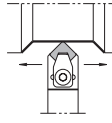
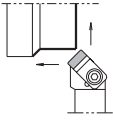
External turning

- 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.

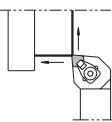
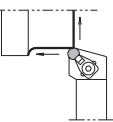
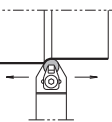
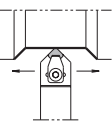
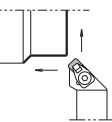
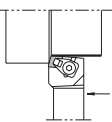
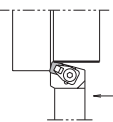
External Turning Toolholders

Applicable Insert Shape	CN..	WN..	TN..	DN..	RC..	RN..	VN..
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	D10	D45		D17	D40	D40	D42
Wedge Lock Multi Lock							
See Page		D46	D27				
Double Clamp (Coolant-through holders)							
See Page	D8/D9	D43/D44		D15			D32/D33

Toolholders for Ceramic Tools

Applications	External / Facing			External / Copying		External / Chamfering	External / Facing / Chamfering
Cutting Edge Angle	95°	97.5°	Special	93°	Special	45°	45°
Top Clamp							
See Page	D49	D51	D58	D50	D58	D54	D54

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	D60	D61	D61	D64	D64	D60	D66

D

External turning

VN..		DN..		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°	
D39	D38	D16	D21		D20	D19	D24	D20	D25	
D37	D36	D27	D28							
D34 / D35	D30 / D31	D13 / D14				D19	D22 / D23			

External			Facing		
75°	85°	93°	5°	15°	-3°
D52	D52	D56	D53	D53	D56

Toolholders for Bearing Machining

Facing	Applications	External	Applications	Round Chamfering
15°	Cutting Edge Angle	Special	Cutting Edge Angle	Special
	Lever Lock		Top Clamp	
CSKN-A	See Page	PRGC-BE	See Page	CBSN
D63		D67		D68

Clamping systems

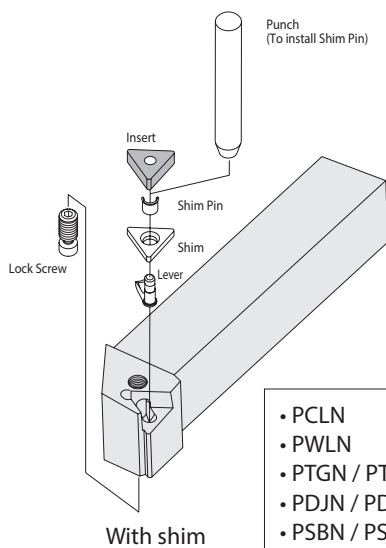
D



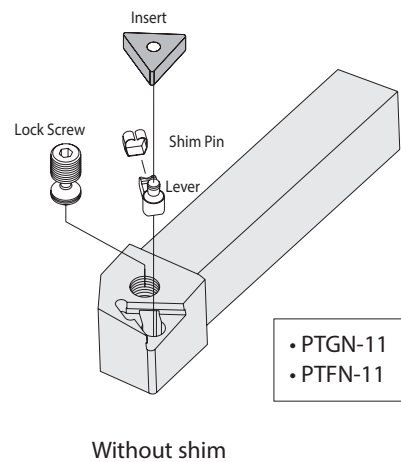
External turning

Series	Design		Features	Series	Design		Features
Top clamp (C)			<ul style="list-style-type: none"> • Rigid clamping • Negative Insert: Medium to heavy machining (Mainly for ceramic insert) • Positive Insert: Low cutting force 	Multi lock (M)			<ul style="list-style-type: none"> • Combination of top clamp and pin lock • Rigid clamping • Heavy machining
Double clamp (D)			<ul style="list-style-type: none"> • Firmly clamp the insert in two directions with one action. 	Lever lock (P)			<ul style="list-style-type: none"> • Easy insert replacement • General use
Pin lock (P)			<ul style="list-style-type: none"> • Easy insert replacement 	Wedge lock (W)			<ul style="list-style-type: none"> • Rigid clamping • Heavy machining
Screw clamp (S)			<ul style="list-style-type: none"> • Simple mechanism • Fewer parts • Finishing to medium machining 				

Lever lock

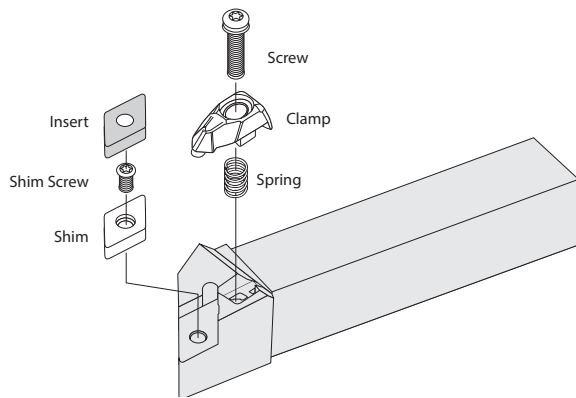


- PCLN
- PWLN
- PTGN / PTFN / PTLN
- PDJN / PDHN
- PSBN / PSKN / PSSN / PSDN
- PRGN
- PRGC / PRXC



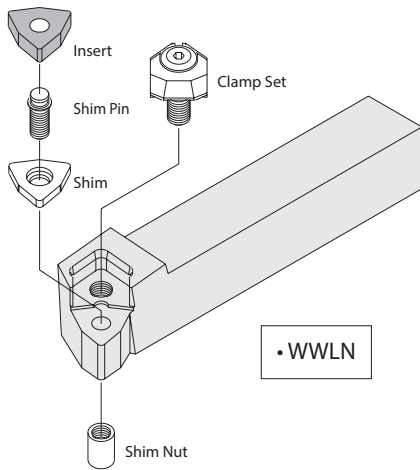
- PTGN-11
- PTFN-11

Double clamp

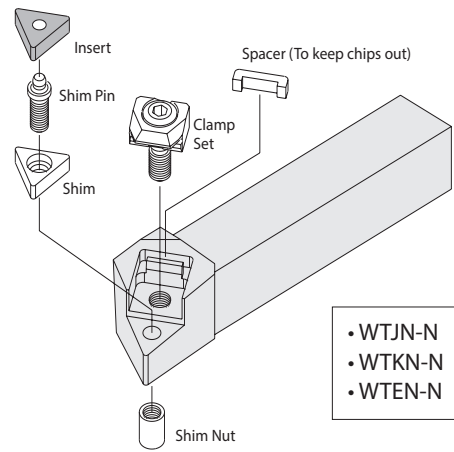


- DCLN
- DDJN / DDHN
- DSBN
- DTGN
- DVLN / DVPN / DVVN
- DWLN

Wedge lock

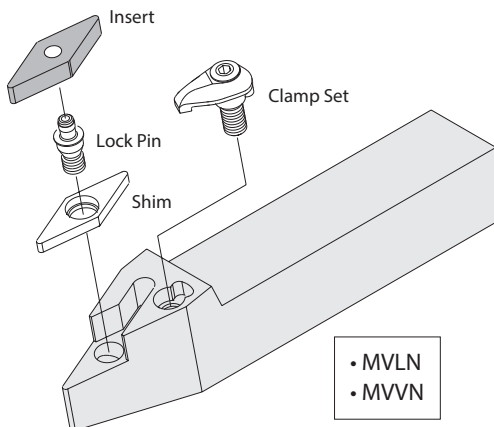


- WWLN



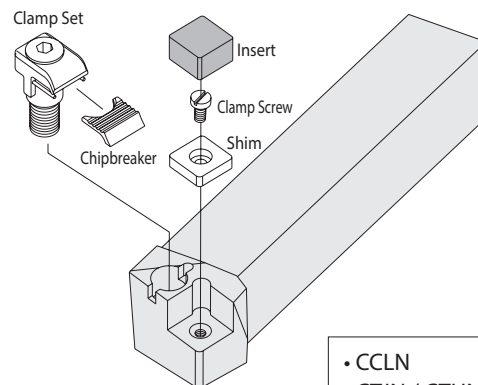
- WTJN-N
- WTKN-N
- WTEN-N

Multi lock



- MVLN
- MVVN

Top clamp

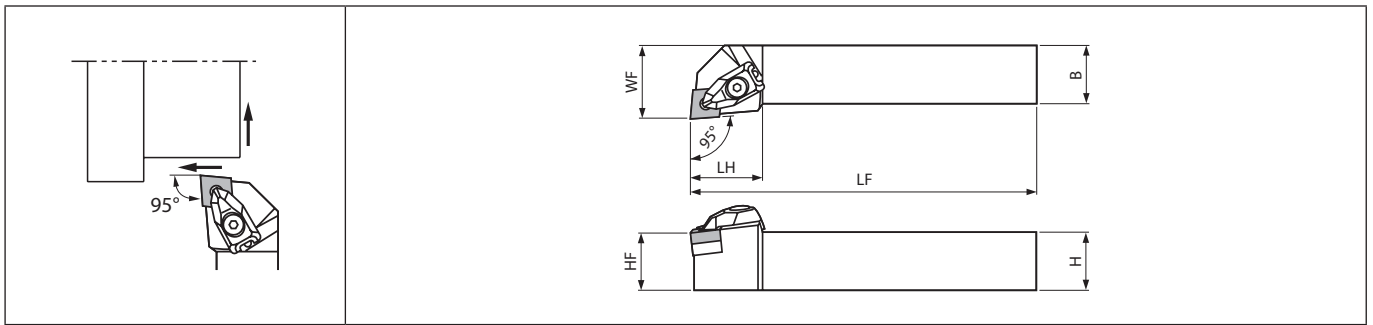


- CCLN
 - CTJN / CTUN
 - CDHN / CDJN
 - CELN
 - CSRN / CS-N / CSKN
 - CSYN / CSSN / CSDN
 - *CRSN / *CRDN
- *Chipbreaker is not included



External turning















DCLN (External turning / External facing)



Right-hand shown

External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF											
DCLN% 2020K-12	●	●	20	20	33	20	125	25	0.8	-6	-6								CN□A1204... CN□G1204... CN□M1204...
2525M-12	●	●	25	25	32	25	150	32											

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

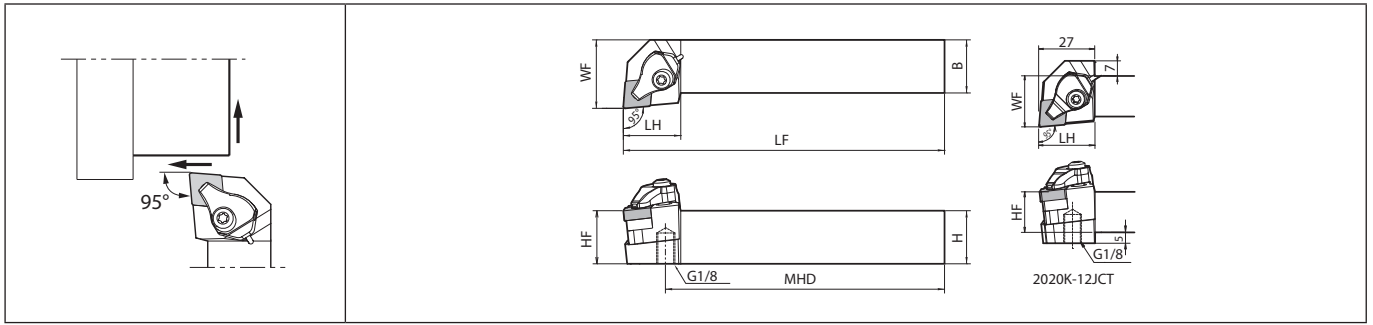
When using the inserts with SX chipbreaker, prepare a shim (-C type) separately.

Wrench (FT-15) is sold separately.

Recommended tightening torque : 3.9N·m

● : Standard item

DCLN-JCT (External turning / External facing, Coolant-through holders)



Right-hand shown | with coolant supply | Applicable Pressure : ~30MPa

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Coolant hole	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
															Clamp	Pipe connection	Screw (for clamp)	Spring	Shim	Screw (for shim)	
	R	L	H	B	LH	MHD	HF	LF	WF												
DCLN [®] L 2020K-12JCT	●	●	20	20	27	109	20	125	25	0.8	Yes	-6	-6								CN□A1204... CN□G1204... CN□M1204...
2525M-12JCT	●	●	25	25	27	134	25	150	32												

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

When using the inserts with SX chipbreaker, prepare a shim (-C type) separately.

Clamp : CP-3D-R-JCT for Right-hand Toolholder, CP-3D-L-JCT for Left-hand Toolholder.

Please see page **D12** for piping parts of coolant-through holders.

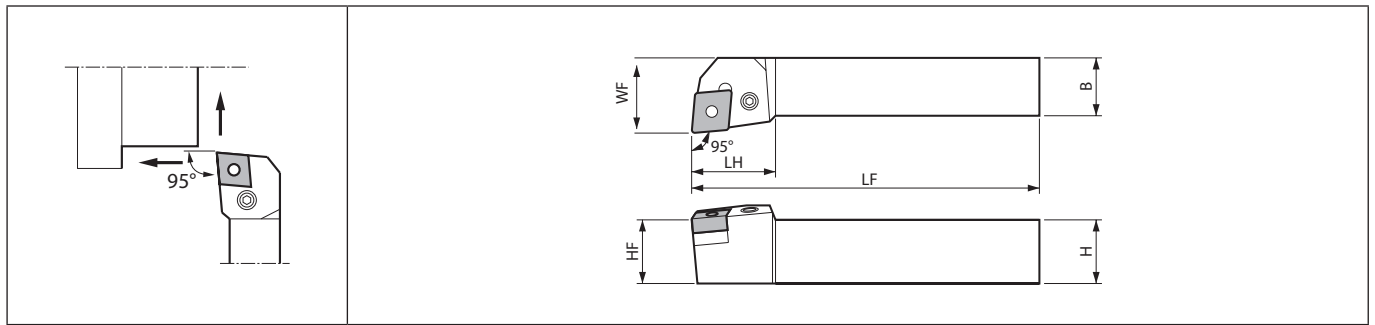
Only the O-ring (SS-035) included with the pipe connection can be ordered.

Recommended tightening torque : 3.9N·m

● : Standard item



PCLN (External turning / External facing)



Right-hand shown

Toolholder dimensions




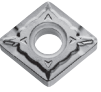

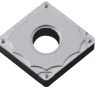


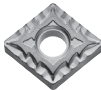

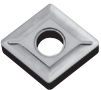
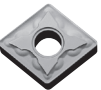
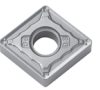



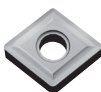


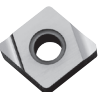

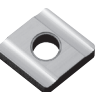
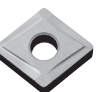
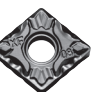
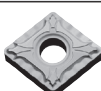
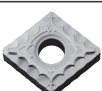
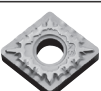











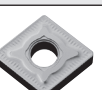












Description	Availability		Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts							Applicable inserts
														Lever	Lock screw	Punch	Shim pin	Shim	Wrench	Wrench	
	R	L	H	B	LH	HF	LF	WF													
PCLN%L 1616H-09	●	●	16	16		16	100	20													
2020K-09	●	●	20	20	22	20	125	25	0.8	-6	-6	LL-1N	LS-1N	PC-1	LSP-1	LC-32N	-	FH-2.5		CN□G0904...	
2525M-09	●	●	25	25		25	150	32													
PCLN%L 2020H-12	●		20	20		20	100	25													
2020K-12	●	●			27	25	125	25	0.8	-6	-6	LL-2N	LS-2N	PC-2	LSP-2	LC-42N (LC-42N-C*) (LC-42N-20*)	LW-3	-		CN□A1204... CN□G1204... CN□M1204...	
2525M-12	●	●	25			32	150	32													
3225P-12	●	●	32	25		32	170														
PCLN%L 2525M-16	●	●	25	25		25	150	32	0.8	-6	-6	LL-5N	LS-4N	-	LSP-3	LC-53N (LC-53N-C*)	LW-3	-		CNMG1606... CNMM1606...	
3232P-16	●	●	32	32	32	32	170	40													
PCLN%L 3232P-19	●	●	32	32	40	32	170	40	1.6	-6	-6	LL-6	LS-5	-	LSP-4	LC-63 (LC-63-C*)	LW-4	-		CNMG1906... CNMM1906...	

When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim and use it in order to prevent workpiece and shim from interfering each other.
When using the inserts with SX chipbreaker, prepare a shim (-C type) separately.

● : Standard item



Applicable inserts

Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Finishing - Medium
Insert								
Chipbreaker type	WF	WP	WE	WQ	PP	GP	PQ	HQ
Page	B16	B16	B16	B16	B16	B16	B16	B17
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	CQ	CJ	TN-V	GS	PG	PS	PT	GT
Page	B17	B17	B17	B17	B17	B18	B18	B18
Applications	Roughing	Roughing	Roughing	Finishing	Medium	Medium - Roughing	Medium - Roughing	Low carbon steel
Insert								
Chipbreaker type	STD	PH	PX	P/L-S	R/L	P/L-25R	Z	XF
Page	B18	B18	B19	B23	B23	B23	B23	B19
Applications	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	XP	XQ	XS	SK	FP-TK	TK	MQ	MS
Page	B19	B19	B19	B19	B19	B20	B20	B20
Applications	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	MU	KQ	KG	KH	C	ZS	GC	No CB
Page	B20	B21	B21	B21	B22	B22	B22	B22
Applications	Cast iron / Hard materials	Non-Ferrous Metals	Non-Ferrous Metals	Non-Ferrous Metals	Heat-resistant alloys	Heat-resistant alloys	Heat-resistant alloys	Hard materials / Cast iron
Insert								
Chipbreaker type	Ceramic	P/L-A3	AH	PCD	SQ	SG	P/L-SX	CBN
Page	B113	B23	B23	C34	B20	B21	B21	C8
Applications	Hard materials	Hard materials	Hard materials					
Insert								
Chipbreaker type	HH	HL	HD					
Page	C9	C9	C9					

Recommended cutting conditions ➔ D69~D70

D

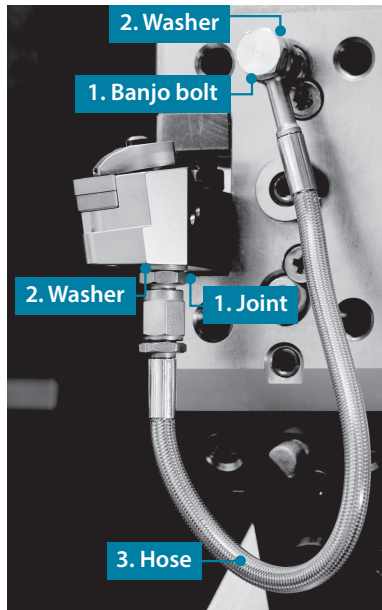


External turning

Easy connection with high pressure hose and joint

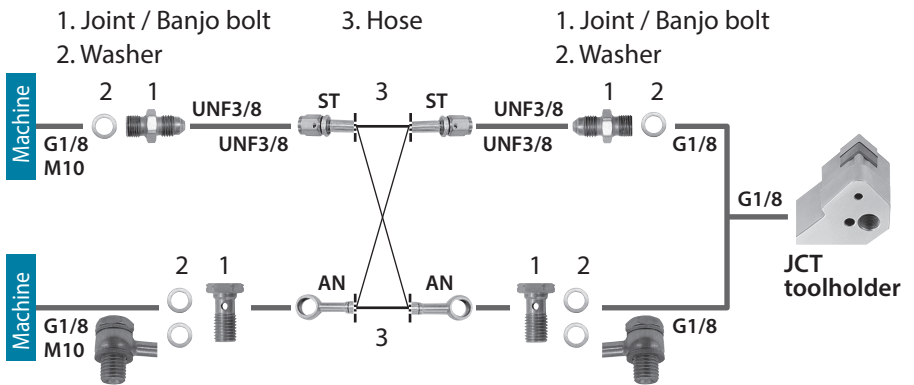
D

External turning



- 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



Piping parts

Optional piping parts available (sold separately)
 Choose from parts below to match your machine specifications
 1. Joint / Banjo bolt × 2 2. Washer × 2-4 3. Hose × 1

1. Joint / Banjo bolt

Applicable pressure: ~ 30 MPa

Shape	Description	Availability	Thread standard	
			Thread connection to the machine	
	J-G1/8-UNF3/8	●	G1/8	
	J-M10X1.5-UNF3/8	●	M10X1.5	
Banjo bolt (For the angle hose)	BB-G1/8	●	G1/8	
	BB-M10X1.5	●	M10X1.5	

2. Washer

Applicable pressure: ~ 30 MPa

Shape	Description	Availability
	WS-10	●

* Use 2 washers for a banjo bolt

3. Hose

Applicable pressure: ~ 30 MPa

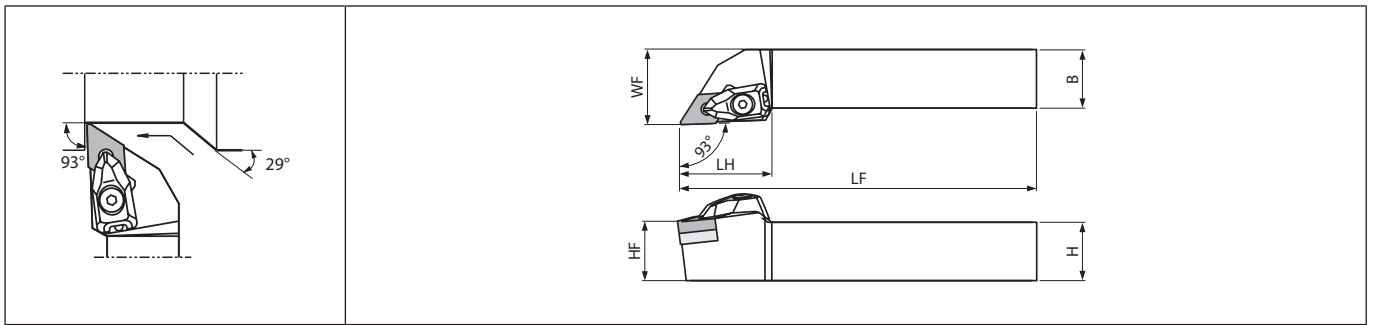
Shape	Description	Availability	Thread standard		Dimensions (mm)
					L
	HS-ST-ST-200	●	UNF3/8	UNF3/8	200
	HS-ST-ST-250	●			250
	HS-ST-AN-200	●	UNF3/8	Banjo bolt	200
	HS-ST-AN-250	●			250
	HS-AN-AN-200	●	-	-	200
	HS-AN-AN-250	●	Banjo bolt	Banjo bolt	250

Precautions

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 applicable pressure before use.
6. Regularly changing the coolant filter is recommended.








● : Std. Item

DDJN (External turning / External copying)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF											
DDJN%L 2020K-1504	●	●	20	20	39	20	125	25	0.8	-6	-6	CP-3D	CS-3D	SP-3D	LW-3	DD-44 (DD-43*)	SB-408STR	FT-15	DN□A1504...
2525M-1504	●	●	25	25		25	150	32								DN□G1504...			
2020K-1506	●	●	20	20	39	20	125	25	0.8	-6	-6					DD-43 (DD-44*)			DN□A1506...
2525M-1506	●	●	25	25		25	150	32								DN□G1506...			

Shims indicated * are not included with the toolholder. To change insert thickness, please purchase it separately.

When using inserts whose corner-R(RE) is greater than 1.6 mm, 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, tool edge offset or program corrections are required on **R34** and **R35**.

Wrench (FT-15) is sold separately.

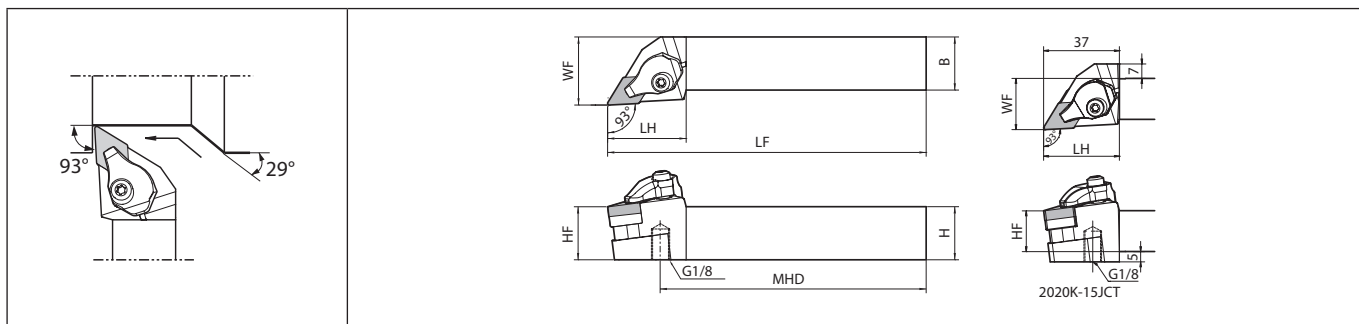
Recommended tightening torque : 3.9N·m

● : Standard item



External turning

DDJN-JCT (External turning / External copying, Coolant-through holders)



Right-hand shown | with coolant supply | Applicable Pressure : ~30MPa

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Coolant hole	Side rake angle (°)	Inclination angle (°)	Spare parts							Applicable inserts
															Clamp	Pipe connection	Screw (for clamp)	Spring	Shim	Screw (for shim)	Wrench	
	R	L	H	B	LH	MHD	HF	LF	WF													
DDJN%L 2020K-15JCT	●	●	20	20	37	101	20	125	25	0.8	Yes	-6	-7	CP-4D- ^R /L-JCT	FP-12	CS-3D-TR	SP-3D	DD-44 (DD-43*)	SB-4085TR	FT-15	DN□A1504...	
2525M-15JCT	●	●	25	25		126	25	150	32					DN□G1504...								
																					DN□M1504...	
																						DN□X1504...

Shims indicated * are not included with the toolholder. To change insert thickness, please purchase it separately.

When using inserts whose corner-R(RE) is greater than 1.6 mm, 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, tool edge offset or program corrections are required on **R34** and **R35**.

Please see page **D12** for piping parts of coolant-through holders.

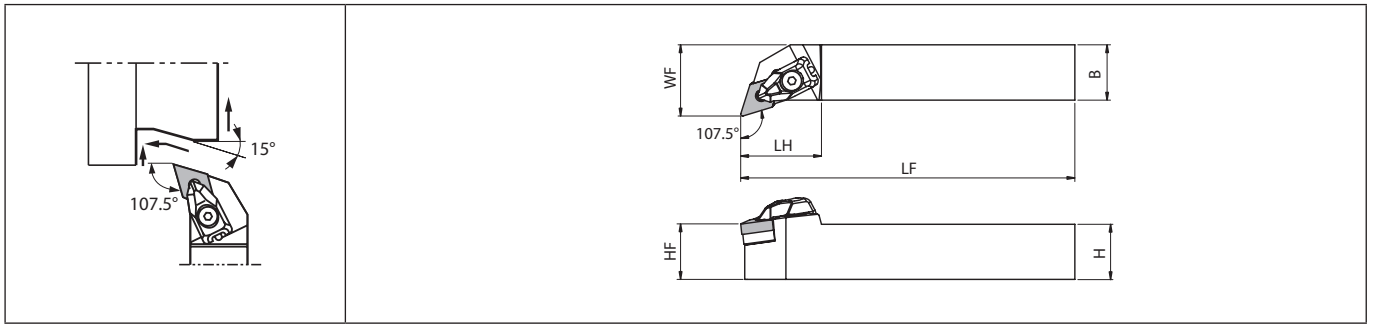
Clamp : CP-4D-R-JCT for Right-hand Toolholder, CP-4D-L-JCT for Left-hand Toolholder.

Only the O-ring (SS-035) included with the pipe connection can be ordered.

Recommended tightening torque : 3.9N·m








● : Standard item

DDHN (External turning / External facing / External copying)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts						
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)		Wrench* (for shim)					
	R	L	H	B	LH	HF	LF	WF																	
DDHN%L 2020K-1504 2525M-1504	●	●	20	20	37	20	125	25	0.8	-6	-6	CP-3D	CS-3D	SP-3D	LW-3	DD-44 (DD-43*)	SB-408STR	FT-15	DN□A1504...	DN□G1504...	DN□M1504...				
	●	●	25	25		25	150	32								DD-43 (DD-44*)			DN□A1506...	DN□G1506...	DN□M1506...				
2020K-1506 2525M-1506	●	●	20	20	37	20	125	25	0.8	-6	-6					CP-3D	CS-3D	SP-3D	LW-3	DD-44 (DD-43*)	SB-408STR	FT-15	DN□A1504...	DN□G1504...	DN□M1504...
	●	●	25	25		25	150	32												DD-43 (DD-44*)			DN□A1506...	DN□G1506...	DN□M1506...

Shims indicated * are not included with the toolholder. To change insert thickness, please purchase it separately.

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

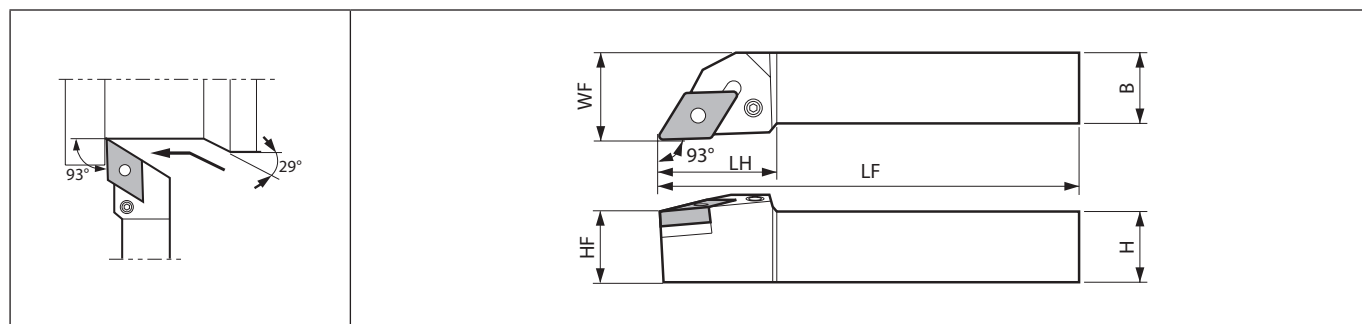
Wrench (FT-15) is sold separately.

The insert with WF chipbreaker is not applicable for DDHN type toolholder.

Recommended tightening torque : 3.9N·m

● : Standard item

PDJN (External turning / External copying)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF											
PDJN% 1616H-11	●	●	16	16		16	100	20	0.4	-6	-7								DN□G1104...
2020K-11	●	●	20	20	28	20	125	25											
2525M-11	●	●	25	25		25	150	32											
PDJN% 2020H-15	●		20	20	36	20	100	25	0.8	-6	-7								DN□A1504... DN□G1504... DN□M1504... DNMX1504...
2020K-15	●	●				20	125												
2525M-15	●	●	25			25	150	32											
3225P-15	●	●	32			32	170												
2525M-15U	●	●	25	25	34	25	150	32	0.8	-6	-7								DN□A1506... DN□G1506... DN□M1506... DNMX1506...
3232P-15U	●	●	32	32	36	32	170	40											

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

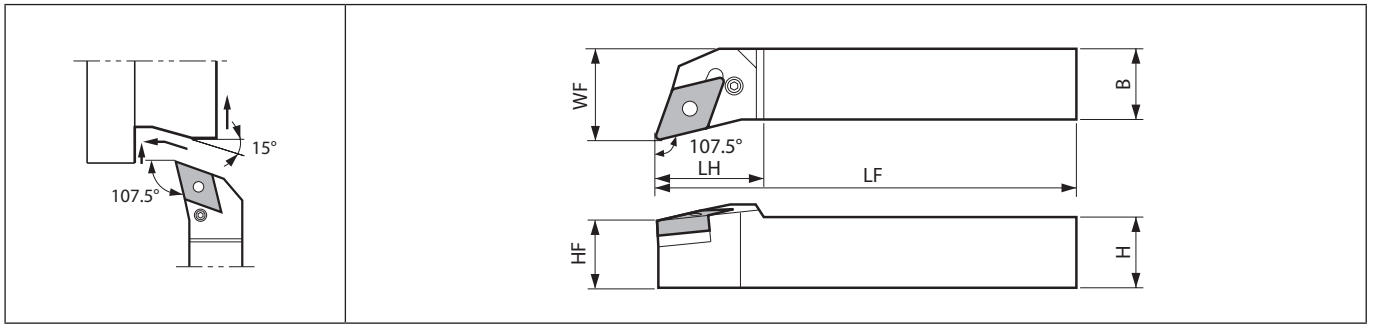
Shim : PDJN%-15U ... LD-42 is attached to PDJN%-15U. When using DN□□1504 type insert, please purchase LD-43 (or LD-43-20 when using inserts whose corner-R(RE) is greater than 1.6mm) separately.

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on R34 and R35.

● : Standard item









PDHN (External turning / External facing / External copying)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF											
PDHN%L 2020K-15	●	●	20	20	35	20	125	25	0.8	-6	-6	LL-4	LS-3	PC-2	LSP-2	LD-43 (LD-43-20*) (LD-42***) (LD-42-20**)	LW-3	DN□A1504... DN□G1504... DN□M1504...	
2525M-15	●	●	25	25	34	25	150	32											

When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other.
 Shim : PDHN ...LD-43 is attached to PDHN. When using DN□1506 type Insert, please purchase LD-42 (or LD-42-20 when using inserts whose corner-R(RE) is greater than 1.6mm) separately.
 The insert with WF chipbreaker is not applicable for PDHN type toolholder.

● : Standard item



External turning

Applicable inserts (DDJN / DDJN-JCT / DDHN / PDJN / PDHN)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium
Insert								
Chipbreaker type	WF*	PP	GP	PQ	HQ	CQ	CJ	TN-V
Page	B24	B24	B24	B24	B25	B25	B25	B25
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing	Roughing
Insert								
Chipbreaker type	GS	PG	PS	PT	GT	STD	PH	PX
Page	B25	B26	B26	B26	B26	B27	B27	B27
Applications	Finishing	Medium	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Large ap
Insert								
Chipbreaker type	P/L-S	R/L	XF	XP	XQ	XS	SK	R-LD
Page	B31	B31	B27	B27	B27	B27	B28	B28
Applications	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	FP-TK	TK	MQ	MS	MU	KQ	KG	KH
Page	B28	B28	B28	B29	B29	B30	B30	B30
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Non-Ferrous Metals	Non-Ferrous Metals	Non-Ferrous Metals
Insert								
Chipbreaker type	C	ZS	GC	No CB	Ceramic	P/L-A3	AH	PCD
Page	B30	B30	B30	B31	B114	B31	B31	C35
Applications	Heat-resistant alloys	Heat-resistant alloys	Hard materials / Cast iron	Hard materials	Hard materials	Hard materials		
Insert								
Chipbreaker type	SQ	SG	CBN	HH	HL	HD		
Page	B29	B29	C10	C11	C11	C11		

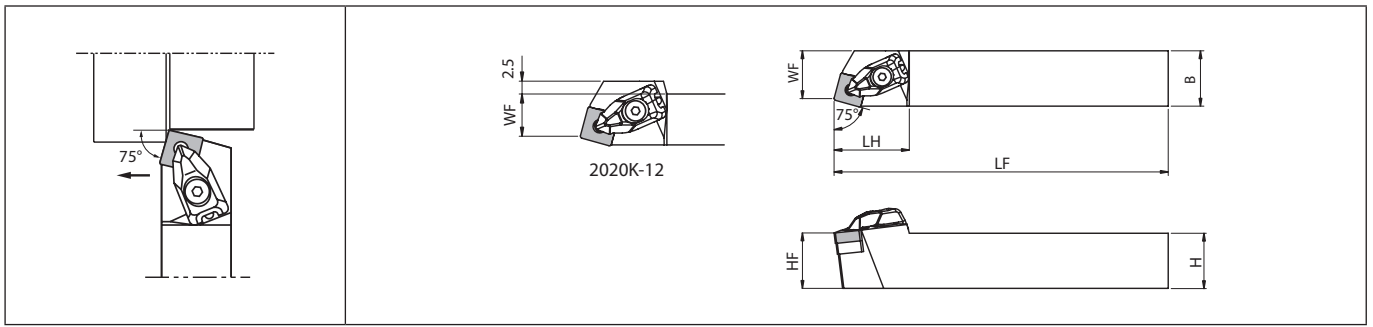
When using the insert with WF chipbreaker, tool edge offset or program corrections are required on R34 and R35.
The insert with WF chipbreaker is not applicable for DDHN type and PDHN type toolholder.

Recommended cutting conditions D69~D70

D

External turning

DSBN (External turning)



Right-hand shown

Toolholder dimensions

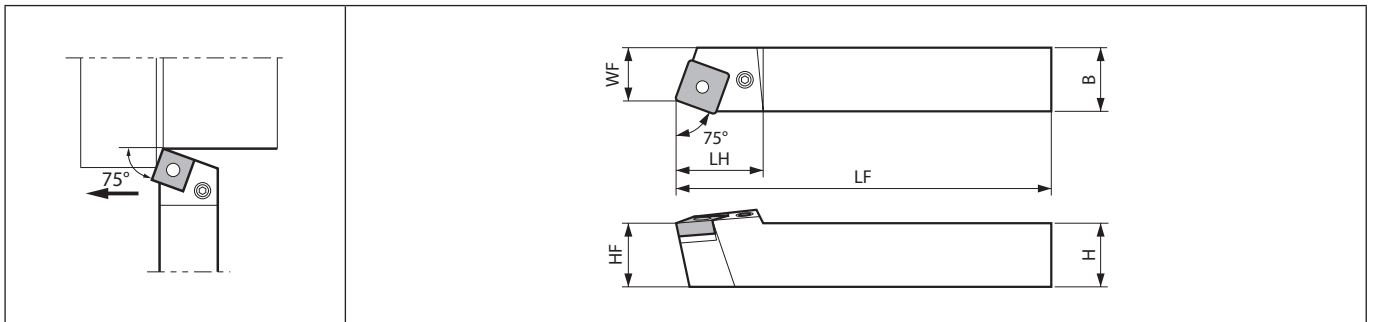
Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF											
DSBN%L 2020K-12	●	●	20	20	34	20	125	17	0.8	-4	-7								SN□A1204... SN□G1204... SN□M1204...
2525M-12	●	●	25	25	34	25	150	22				CP-3D	CS-3D	SP-3D	LW-3	DS-44	SB-4085TR	FT-15	

Wrench (FT-15) is sold separately.

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

Recommended tightening torque : 3.9N·m

PSBN (External turning)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF											
PSBN%L 2020K-12	●	●	20	20	27	20	125	17	0.8	-4	-7							SN□A1204... SN□G1204... SN□M1204...	
2525M-12	●	●	25	25	24	25	150	22				LL-2N	LS-2N	PC-2	LSP-2	LS-42	LW-3		

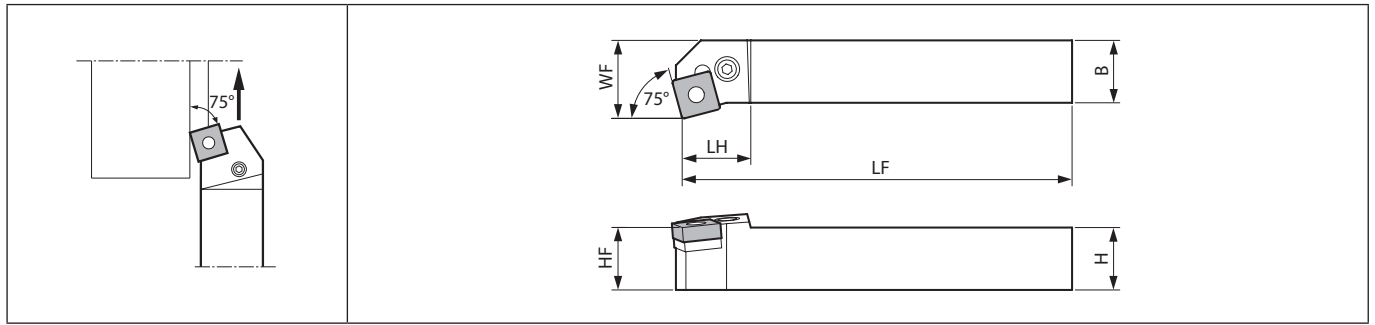
When using inserts whose corner-R(RE) is greater than 1.6 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

● : Standard item



External turning

PSKN (External facing)



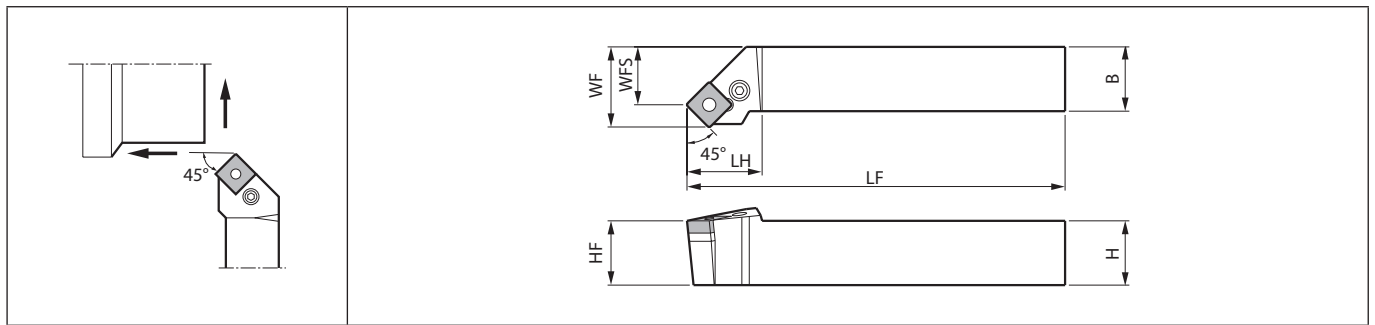
Right-hand shown | Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
														Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF												
PSKN%L 2020K-12	●	●	20	20	22.5	20	125	25	0.8	-4	-7	LL-2N	LS-2N	PC-2	LSP-2	LS-42	LW-3	SN□A1204... SN□G1204... SN□M1204...		
2525M-12	●	●	25	25		25	150	32				LL-2N	LS-2N	PC-2	LSP-2	LS-42	LW-3			

When using inserts whose corner-R(RE) is greater than 1.6 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.
 PSKN%L : Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

PSSN (External turning / External facing / External chamfering)



Right-hand shown

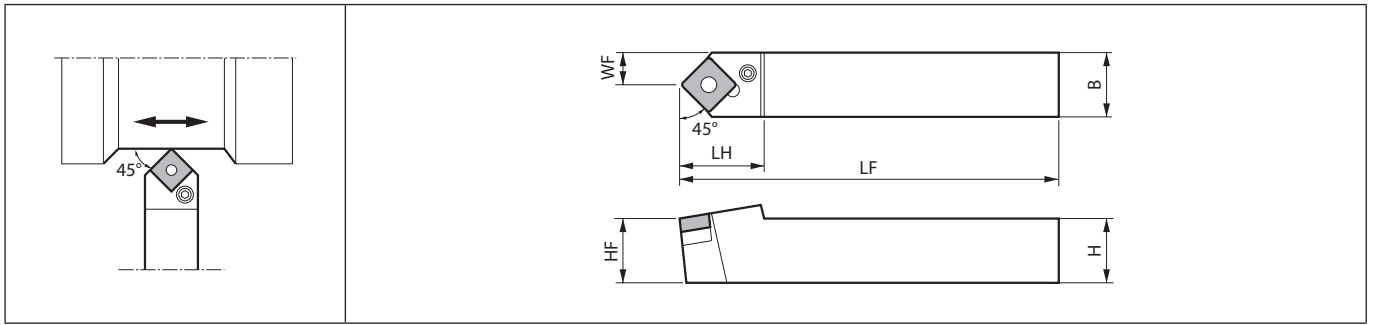
Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts							Applicable inserts
														Lever	Lock screw	Punch	Shim pin	Shim	Wrench	Wrench	
	R	L	H	B	LH	HF	LF	WF	WFS												
PSSN%L 1616H-09	●	●	16	16	22	16	100	20	13.6	0.8	-8	0	LL-1N	LS-1N	PC-1	LSP-1	LS-32	-	FH-2.5	SN□G0903...	
PSSN%L 2020K-12 2525M-12	●	●	20	20	29	20	125	25	16.4	0.8	-8	0	LL-2N	LS-2N	PC-2	LSP-2	LS-42	LW-3	-	SN□A1204... SN□G1204... SN□M1204...	
	●	●	25	25		25	150	32	23.4				LL-2N	LS-2N	PC-2	LSP-2	LS-42	LW-3	-		

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

● : Standard item

PSDN (External turning / External chamfering)



Toolholder dimensions

Description	Availability		Dimension (mm)					Standard corner-R(RE)		Back rake angle (°)		Spare parts							Applicable inserts
	N	H	B	LH	HF	LF	WF			Lever	Lock screw	Punch	Shim pin	Shim	Wrench	Wrench			
PSDNN 1616H-09	●	16	16	21	16	100	8	0.8	-8.5	LL-1N	LS-1N	PC-1	LSP-1	LS-32	-	FH-2.5	SN□G0903...		
PSDNN 2020K-12	●	20	20	30	20	125	10	0.8	-8.5	LL-2N	LS-2N	PC-2	LSP-2	LS-42	LW-3	-	SN□A1204... SN□G1204... SN□M1204...		
2525M-12	●	25	25		25	150	12.5												

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

Applicable inserts (DSBN / PSBN / PSKN / PSSN / PSDN)

Applications	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing	Roughing
Insert								
Chipbreaker type	PQ	HQ	PG	PS	PT	STD	PH	PX
Page	B34	B34	B34	B34	B34	B34	B35	B35
Applications	Finishing - Medium	Medium - Roughing	Medium - Roughing	Low carbon steel	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	F/L-B	F/L-C	F/L-25R	XP	XQ	XS	MQ	MS
Page	B37	B37	B37	B35	B35	B35	B36	B36
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Heat-resistant alloys
Insert								
Chipbreaker type	KG	KH	C	ZS	GC	No CB	Ceramic	SG
Page	B36	B36	B36	B37	B37	B37	B117	B36
Applications	Hard materials / Cast iron							
Insert								
Chipbreaker type	CBN							
Page	C12							

Recommended cutting conditions ➔ D69~D70

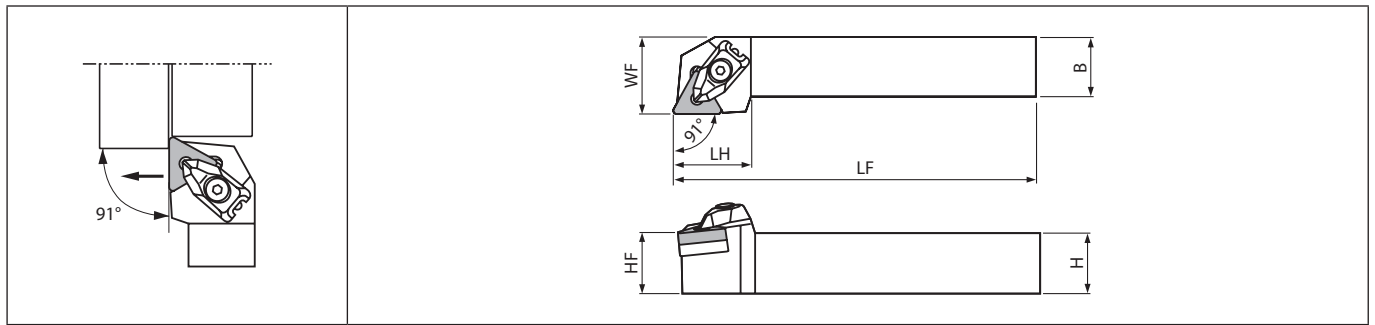
● : Standard item

D



External turning















DTGN (External turning)



Right-hand shown

External turning

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
														Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF												
DTGN [®] L 2020K-16	●	●	20	20	25	20	125	25	0.8	-6	-6								TN□A1604... TN□G1604... TN□M1604... TN□X1604...	
2525M-16	●	●	25	25		25	150	32												

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

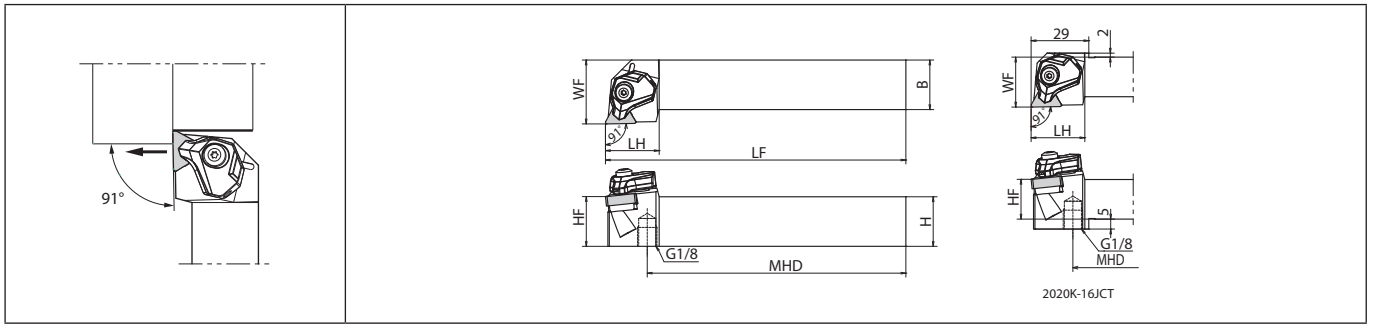
When using the insert with WF chipbreaker, tool edge offset or program corrections are required on **R34** and **R35**.

Wrench (FT-10) is sold separately.

Recommended tightening torque : 1.7N·m

● : Standard item

DTGN-JCT (External turning, Coolant-through holders)



Right-hand shown | with coolant supply | Applicable Pressure : ~30MPa

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Coolant hole	Side rake angle (°)	Inclination angle (°)	Applicable inserts
	R	L	H	B	LH	MHD	HF	LF	WF					
DTGN%L 2020K-16JCT	●	●	20	20	27	104	20	125	25	0.8	Yes	-6	-6	TN□A1604..., TN□G1604... TN□M1604..., TNMX1604...
2525M-16JCT	●	●	25	25		129	25	150	32					

Description	Spare parts							
	Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)	Pipe connection
DTGN%L 2020K-16JCT								
2525M-16JCT	CP-2D-%L-JCT	CS-3D-TR	SP-3D	FT-15	DT-32	SB-3080TR	FT-10	FP-12

When using inserts whose corner-R(RE) is greater than 1.6 mm, 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, tool edge offset or program corrections are required on R34 and R35.

Wrench (FT-10) is sold separately.

Please see page D12 for piping parts of coolant-through holders.

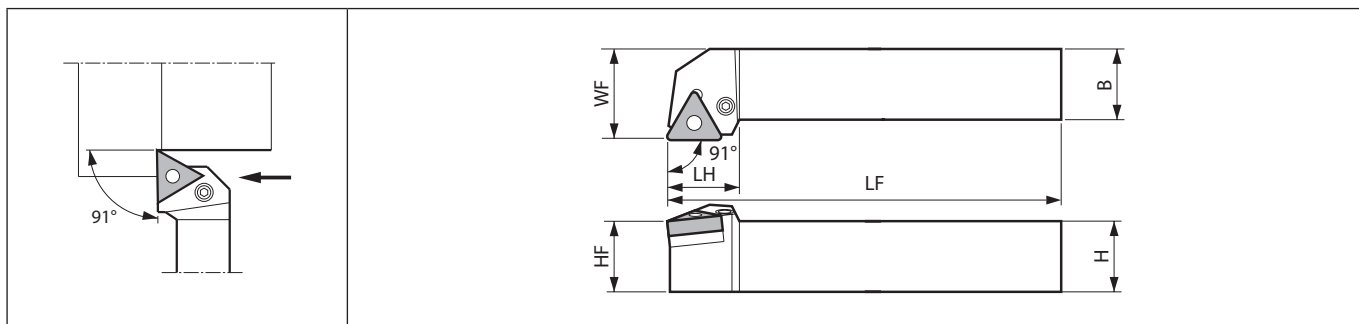
Only the O-ring (SS-035) included with the pipe connection can be ordered.

Recommended tightening torque : 3.9N·m

● : Standard item



PTGN (External turning)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts							Applicable inserts		
													Lever	Lock screw	Punch	Shim pin	Shim pin	Shim	Wrench		Wrench	
PTGN% 1212F-11	●	●	12	12	18	12	80	16	0.8	-6	-6	LL-03N	LS-03N	-	-	P-03	-	-	FH-2	TNGA/G1103...		
1616H-11	●	●	16	16	-	16	100	20				LL-03TN	LS-03SN	-	-	P-03S	-	-	-	FH-2.5	TNGG1104... TNMG1104...	
2020K-11	●	●	20	20	22	20	125	25				-	-	-	-	-	-	-	-	-	-	-
2525M-11	●	●	25	25	-	25	150	32				-	-	-	-	-	-	-	-	-	-	-
PTGN% 1616H-16	●	●	16	16	-	16	100	20	0.8	-6	-6	LL-1N	LS-1N	PC-1	LSP-1	-	LT-32N (LT-32N-20*)	-	FH-2.5	TNGA1604... TNGG1604... TNM1604... TNMX1604...		
2020H-16	●	●	20	20	24	20	125	25														
2020K-16	●	●	20	20	-	20	125	25														
2525M-16	●	●	25	25	-	25	150	32														
PTGN% 2525M-22	●	●	25	25	29	25	150	32	0.8	-6	-6	LL-2N	LS-2N	PC-2	LSP-2	-	LT-42N (LT-42N-20*)	LW-3	-	TNGG2204... TNM2204...		

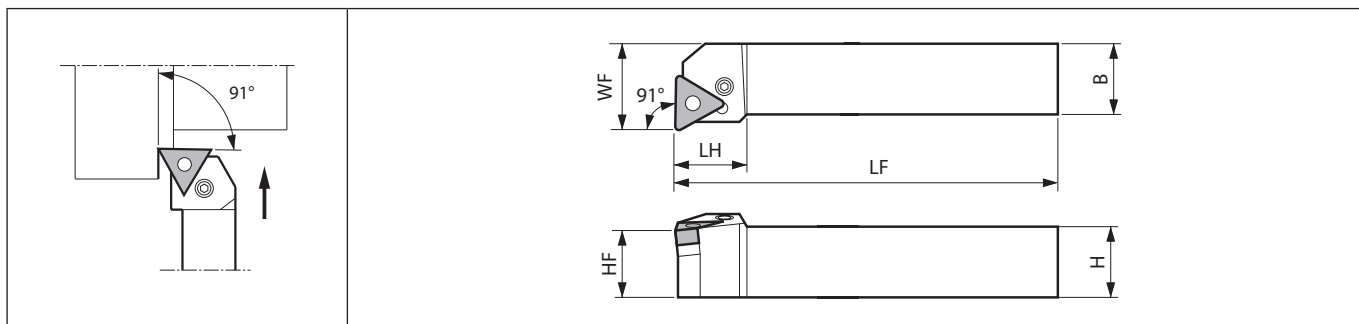
When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other.

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on R34 and R35.

PTGN% 1212F-11 : TNGA1103 and TNGG1103 type inserts are applicable.

● : Standard item

PTFN (External facing)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts							Applicable inserts	
			R	L	H	B	LH	HF	LF				WF	Lever	Lock screw	Punch	Shim pin	Shim pin	Shim		Wrench
	PTFN% 1212F-11	●	●	12	12	15	12	80	16				0.8	-6	-6	LL-03N	LS-03N	-	-		P-03
1616H-11	●	●	16	16	-	16	100	20	LL-03TN	LS-03SN	-	-				P-03S	-	-	FH-2.5	TN□□1104...	
2020K-11	●	●	20	20	22.5	20	125	25	-	-	-	-				-	-	-	-	-	-
2525M-11	●	●	25	25	-	25	150	32	-	-	-	-				-	-	-	-	-	-
PTFN% 2020K-16	●	●	20	20	22	20	125	25	0.8	-6	-6	LL-1N	LS-1N	PC-1	LSP-1	-	LT-32N (LT-32N-20*)	-	FH-2.5	TN□A1604... TN□G1604... TN□M1604... TNMX1604...	
2525M-16	●	●	25	25	23	25	150	32				-	-	-	-	-	-	-	-	-	-
PTFN% 2525M-22	●	●	25	25	28	25	150	32	0.8	-6	-6	LL-2N	LS-2N	PC-2	LSP-2	-	LT-42N (LT-42N-20*)	LW-3	-	TN□G2204... TN□M2204...	

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

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on R34 and R35.

PTFN% 1212F-11 : TNGA1103 and TNGG1103 type inserts are applicable.



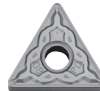
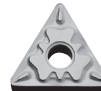
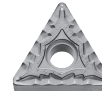

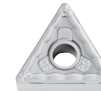
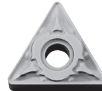
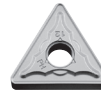







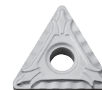
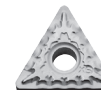



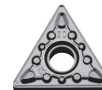












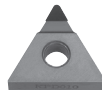

PTFN% : Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

● : Standard item



External turning

Applicable inserts (DTGN / DTGN-JCT / PTGN / PTFN)

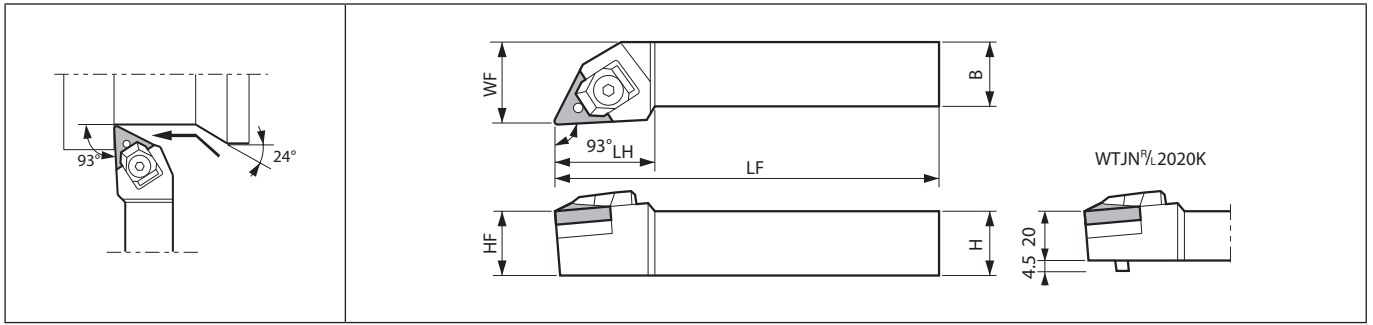
Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	WF	PP	GP	PQ	HQ	CQ	GS	PG
Page	B39	B39	B39	B39	B39	B39	B40	B40
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing	Roughing	Finishing	Finishing
Insert								
Chipbreaker type	PS	PT	GT	STD	PH	PX	1/2-SSF	1/2-S
Page	B40	B40	B40	B40	B41	B41	B45	B45
Applications	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel
Insert								
Chipbreaker type	1/2-B	1/2-C	R/L	1/2-25R	XF	XP	XQ	XS
Page	B45	B46	B46	B46	B41	B41	B41	B41
Applications	Finishing - Medium	Large ap	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel
Insert								
Chipbreaker type	SK	R-LD	FP-TK	TK	MQ	MS	MU	1/2-ST
Page	B42	B42	B42	B42	B42	B42	B42	B43
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials
Insert								
Chipbreaker type	KQ	KG	KH	C	ZS	GC	No CB	Ceramic
Page	B43	B43	B43	B43	B43	B43	B44	B118
Applications	Non-Ferrous Metals	Non-Ferrous Metals	Non-Ferrous Metals	Heat-resistant alloys	Hard materials / Cast iron			
Insert								
Chipbreaker type	1/2-A3	AH	PCD	SG	CBN			
Page	B44	B44	C36	B43	C13			

Recommended cutting conditions ➔ D69~D70

D

External turning

WTJN (External turning / External copying)



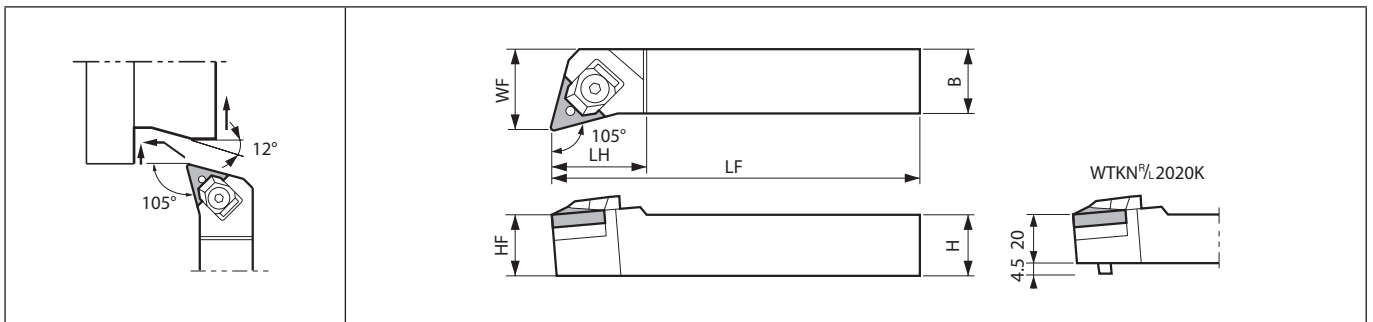
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp set	Nut	Shim pin	Shim	Spacer	Wrench	
	R	L	H	B	LH	HF	LF	WF											
WTJN [®] /L 2020K-16N	●	●	20	20	32	20	125	25	0.8	-6	-6							TN□A1604... TN□G1604... TN□M1604...	
2525M-16N	●	●	25	25		25	150	32											WTN-33 (WTN-33-20*)

When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other. In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.

WTKN (External turning / External facing / External copying)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp set	Nut	Shim pin	Shim	Spacer	Wrench	
	R	L	H	B	LH	HF	LF	WF											
WTKN [®] /L 2020K-16N	●	●	20	20	32	20	125	25	0.8	-6	-6							TN□A1604... TN□G1604... TN□M1604...	
2525M-16N	●	●	25	25		25	150	32											WTN-33 (WTN-33-20*)

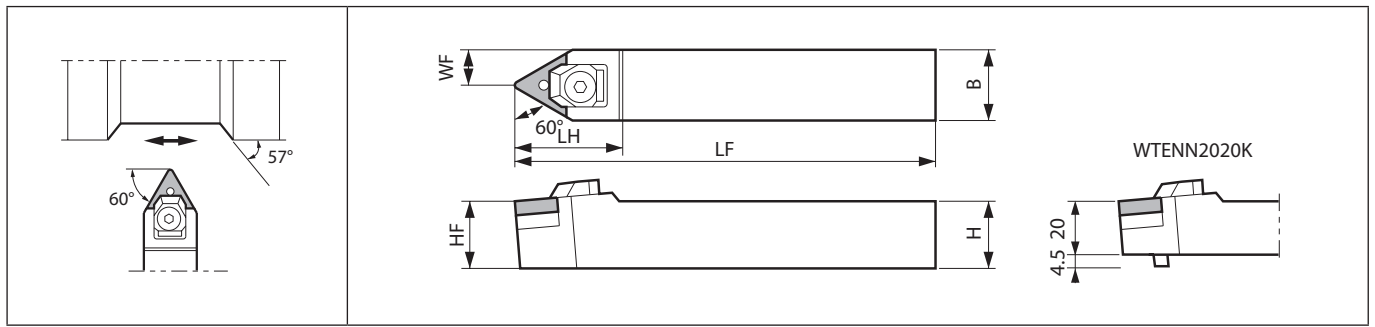
When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other. In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.

● : Standard item









External turning

WTEN (External turning / External chamfering)



External turning






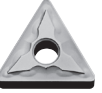



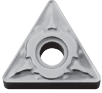









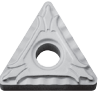
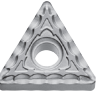
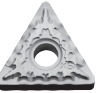

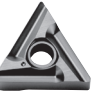















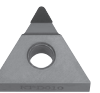


Toolholder dimensions

Description	Availability	Dimension (mm)						Standard corner-R(RE)	Back rake angle (°)	Spare parts						Applicable inserts	
		N	H	B	LH	HF	LF			WF	Clamp set	Nut	Shim pin	Shim	Spacer		Wrench
					32	20	125			10							
WTENN 2020K-16N	●	20	20		20	125	10	0.8	-8.5	WCS-1N	WN-1	WP-1S	WTN-33 (WTN-33-20*)	WSP-1	LW-3	TN□A1604... TN□G1604... TN□M1604...	
2525M-16N	●	25	25		25	150	12.5										

When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other.
 In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.


● : Standard item

Applicable inserts (WTJN / WTKN / WTEN)

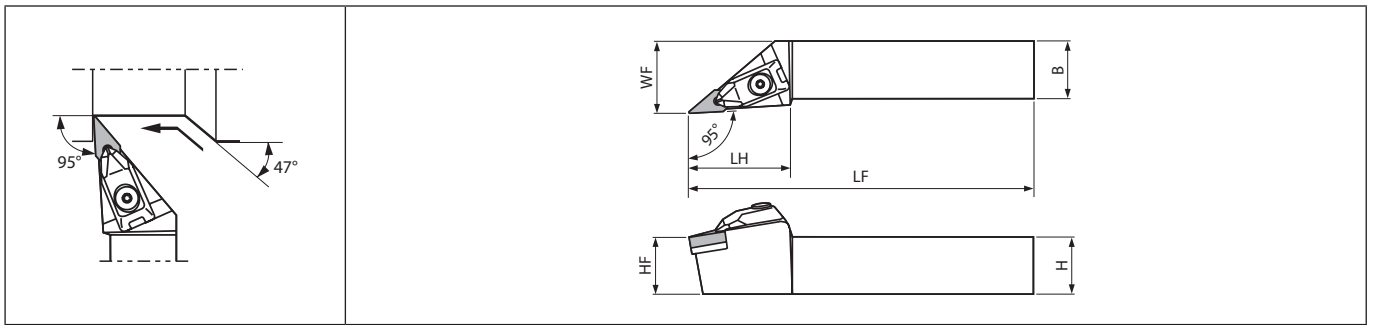
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	PP	GP	PQ	HQ	CQ	GS	PG	PS
Page	B39	B39	B39	B39	B39	B40	B40	B40
Applications	Medium - Roughing	Medium - Roughing	Roughing	Roughing	Roughing	Finishing	Finishing	Finishing - Medium
Insert								
Chipbreaker type	PT	GT	STD	PH	PX	%L-SSF	%L-S	%L-B
Page	B40	B40	B40	B41	B41	B45	B45	B45
Applications	Medium - Roughing	Medium - Roughing	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Large ap
Insert								
Chipbreaker type	%L-C	%L-25R	XF	XP	XQ	XS	SK	R-LD
Page	B46	B46	B41	B41	B41	B41	B42	B42
Applications	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel	Cast iron	Cast iron
Insert								
Chipbreaker type	FP-TK	TK	MQ	MS	MU	%L-ST	KQ	KG
Page	B42	B42	B42	B42	B42	B43	B43	B43
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Non-Ferrous Metals	Non-Ferrous Metals	Non-Ferrous Metals
Insert								
Chipbreaker type	KH	C	ZS	GC	No CB	%L-A3	AH	PCD
Page	B43	B43	B43	B43	B44	B44	B44	C36
Applications	Heat-resistant alloys	Hard materials / Cast iron						
Insert								
Chipbreaker type	SG	CBN						
Page	B43	C13						



External turning

Recommended cutting conditions  D69~D70








DVLN (External turning / External copying)



Right-hand shown

External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF											
DVLN%L 2020K-16	●	●	20	20	45	20	125	25	0.8	-6	-9	CP-5D	CS-5D	SP-5D	LW-3	DV-33	SB-4085TR	FT-15	VN□A1604... VN□G1604... VN□M1604...
2525M-16	●	●	25	25		25	150	32											

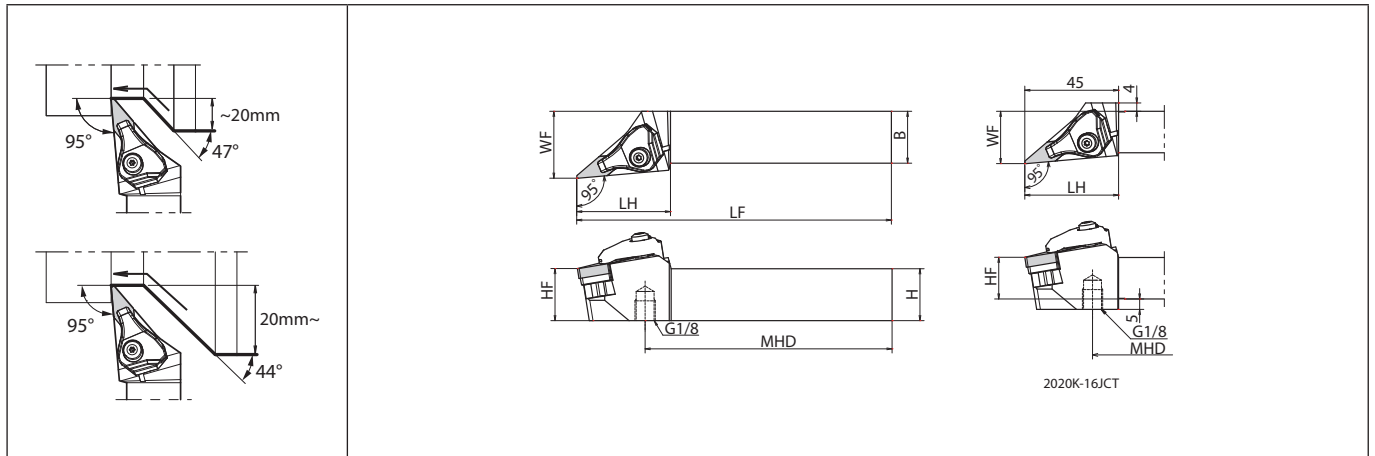
When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

Wrench (FT-15) is sold separately.

Recommended tightening torque : 3.0N·m

● : Standard item

DVLN-JCT (External turning / External copying, Coolant-through holders)










Right-hand shown | with coolant supply | Applicable Pressure : ~30MPa



External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Coolant hole	Side rake angle (°)	Inclination angle (°)	Applicable inserts
	R	L	H	B	LH	MHD	HF	LF	WF					
DVLNR 2020K-16JCT	●		20	20	45	92.5	20	125	25	0.8	Yes	-6	-9	VN□A1604... VN□G1604... VN□M1604...
DVLNL 2020K-16JCT		●				88.5								
DVLNR 2525M-16JCT	●		25	25	117.5	25	150	32						
DVLNL 2525M-16JCT		●			113.5									

Description	Spare parts						
	Clamp	Pipe connection	Screw (for clamp)	Spring	Shim	Screw (for shim)	Wrench
							
DVLN%L 2020K-16JCT 2525M-16JCT	CP-5D-JCT	FP-12	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other. The washer may protrude from the holder. To prevent interference, additional modifications to the washer may be required.

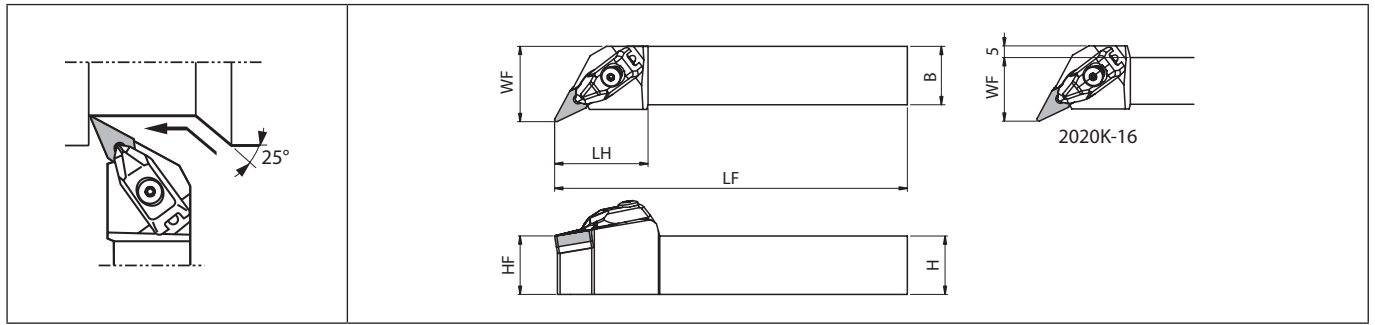
Only the O-ring (SS-035) included with the pipe connection can be ordered.

Please see page D12 for piping parts of coolant-through holders.

Recommended tightening torque : 3.9N·m








● : Standard item

DVPN (External turning / External facing / External copying / Undercutting)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF											
DVPN ^{R/L} 2020K-16	●	●	20	20	40	20	125	27	0.8	-13	-10	CP-5D	CS-5D	SP-5D	LW-3	DV-33	SB-4085TR	FT-15	VN□A1604...
2525M-16	●	●	25	25		25	150	32				VN□G1604...	VN□M1604...						

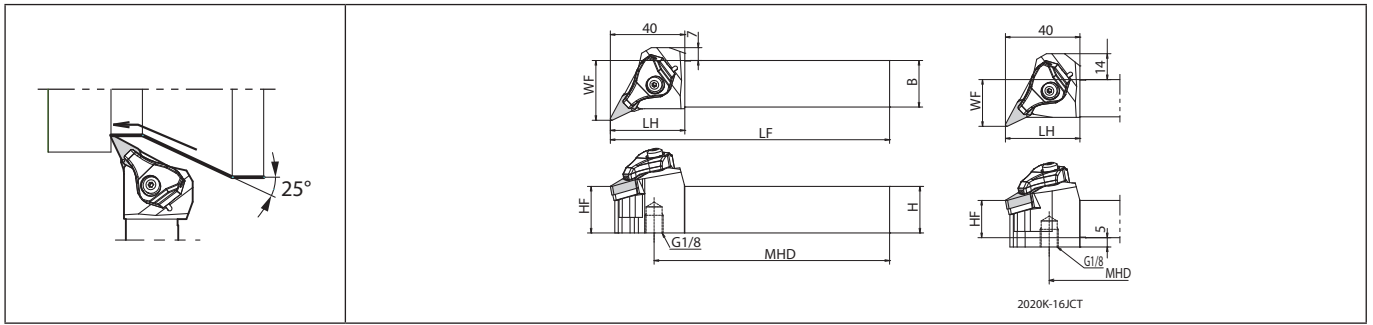
When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

Wrench (FT-15) is sold separately.

Recommended tightening torque : 3.0N·m

● : Standard item

DVPN-JCT (External turning / External facing / External copying / Undercutting, Coolant-through holders)



Right-hand shown | with coolant supply | Applicable Pressure : ~30MPa

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Coolant hole	Side rake angle (°)	Inclination angle (°)	Applicable inserts
	R	L	H	B	LH	MHD	HF	LF	WF					
DVPNR 2020K-16JCT	●		20	20	40	101.5	20	125	25	0.8	Yes	-13	-10	VN□A1604... VN□G1604... VN□M1604...
DVPNL 2020K-16JCT		●				93.5								
DVPNR 2525M-16JCT	●		25	25		126.5	25	150	32					
DVPNL 2525M-16JCT		●				118.5								

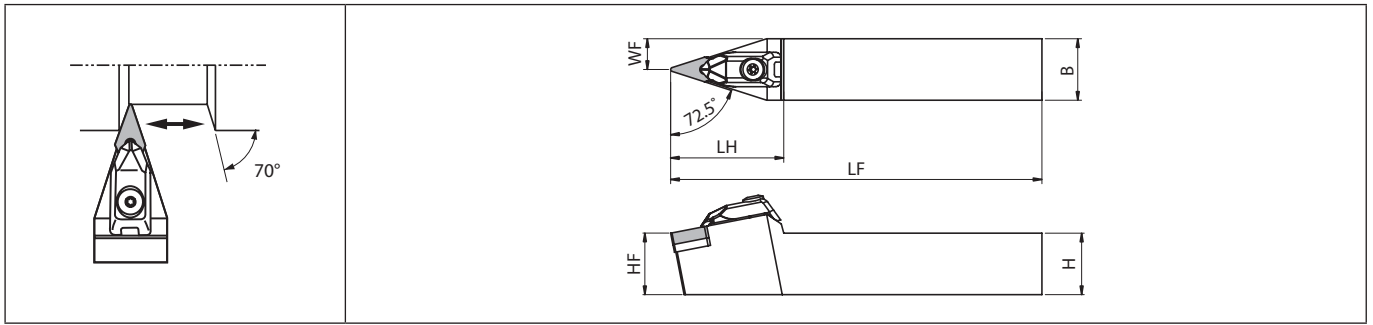
Description	Spare parts						
	Clamp	Pipe connection	Screw (for clamp)	Spring	Shim	Screw (for shim)	Wrench
	DVPN ^{R/L} 2020K-16JCT 2525M-16JCT						
	CP-5D-JCT	FP-12	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other. The washer may protrude from the holder. To prevent interference, additional modifications to the washer may be required. Only the O-ring (SS-035) included with the pipe connection can be ordered. Please see page D12 for piping parts of coolant-through holders. Recommended tightening torque : 3.9N·m

● : Standard item

















DVWN (External turning / External copying)



External turning

Toolholder dimensions

Description	Availability	Dimension (mm)							Standard corner-R(RE)	Back rake angle (°)	Spare parts							Applicable inserts
		N	H	B	LH	HF	LF	WF			Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)	
																		
DVVNN 2020K-16 2525M-16	●	20	20	46	20	125	10	0.8	-11								VN□A1604... VN□G1604... VN□M1604...	
	●	25	25		25	150	12.5											CP-5D

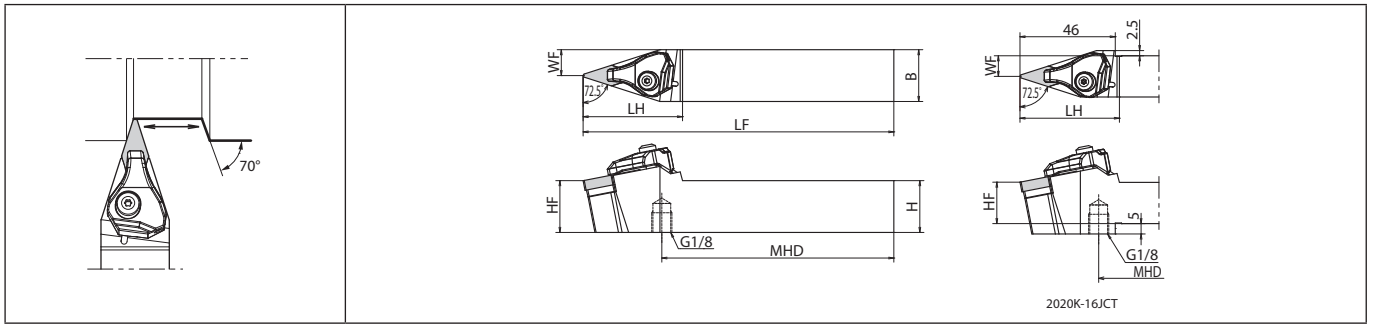
When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

Wrench (FT-15) is sold separately.

Recommended tightening torque : 3.0N·m

● : Standard item

DVNN-JCT (External turning / External copying, Coolant-through holders)



with coolant supply | Applicable Pressure : ~30MPa

Toolholder dimensions

Description	Availability	Dimension (mm)							Standard corner-R(RE)	Coolant hole	Back rake angle (°)	Applicable inserts	
		N	H	B	LH	MHD	HF	LF					WF
DVVNN 2020K-16JCT 2525M-16JCT	●	20	20		48	87	20	125	10	0.8	Yes	-11	VN□A1604..., VN□G1604... VN□M1604...
	●	25	25			112	25	150	12.5				

Description	Spare parts						
	Clamp	Pipe connection	Screw (for clamp)	Spring	Shim	Screw (for shim)	Wrench
DVVNN 2020K-16JCT 2525M-16JCT							
	CP-5D-JCT	FP-12	CS-3D-TR	SP-3D	DV-33	SB-4085TR	FT-15

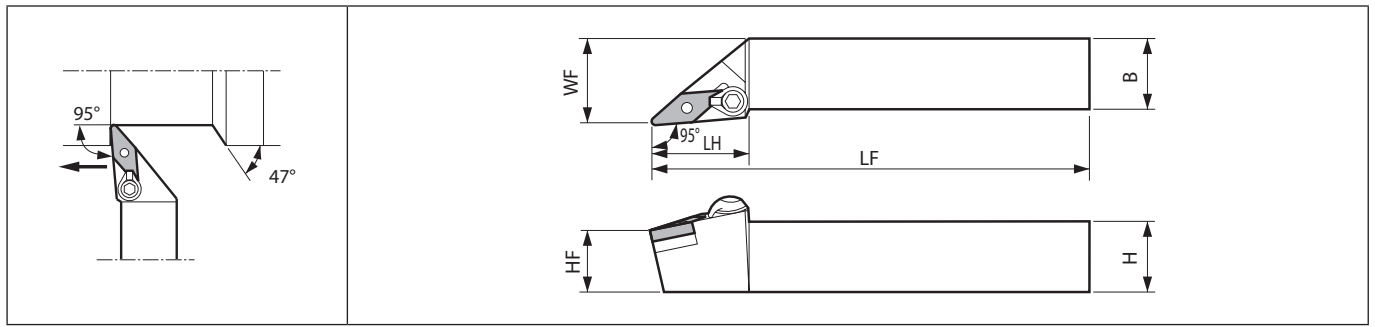
When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other. The washer may protrude from the holder. To prevent interference, additional modifications to the washer may be required.
 Only the O-ring (SS-035) included with the pipe connection can be ordered.
 Please see page **D12** for piping parts of coolant-through holders.
 Recommended tightening torque : 3.9N·m

● : Standard item



External turning











MVLN (External turning / External copying)



Right-hand shown

External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Clamp set	Wrench (for clamp set)	Lock pin	Shim	Wrench (for shim)	
	R	L	H	B	LH	HF	LF	WF										
MVLN ^{90°} 2020K-16	●	●	20	20	38	20	125	25	0.8	-6	-9						VN□A1604... VN□G1604... VN□M1604...	
2525M-16	●	●	25	25		25	150	32				CPS-5°L	FH-2.5	TS-3S	MVN-32	FH-2		

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

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

Clamp set : CPS-5R has Right-hand thread.

When clamping the insert, turn the screw in the arrow direction (clockwise).

When removing the insert, turn the screw away from the arrow (counterclockwise).

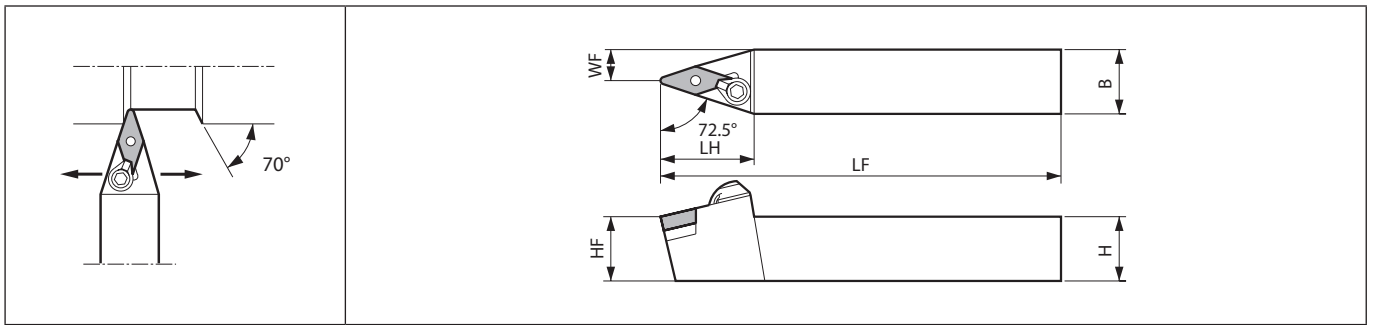
Clamp set : CPS-5L has Left-hand thread.

When clamping the insert, turn the screw in the arrow direction (counterclockwise).

When removing the insert, turn the screw away from the arrow (clockwise).

● : Standard item

MVVN (External turning / External copying)



Toolholder dimensions

Description	Availability	Dimension (mm)						Standard corner-R(RE)	Back rake angle (°)	Spare parts					Applicable inserts	
		N	H	B	LH	HF	LF			WF	Clamp set	Wrench (for clamp set)	Lock pin	Shim		Wrench (for shim)
		MVVNN 2020K-16	●	20	20	39	20			125	10	0.8	-11			
2525M-16	●	25	25	39	25	150	12.5									

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

Clamp set : CPS-5R has Right-hand thread.

When clamping the insert, turn the screw in the arrow direction (clockwise).

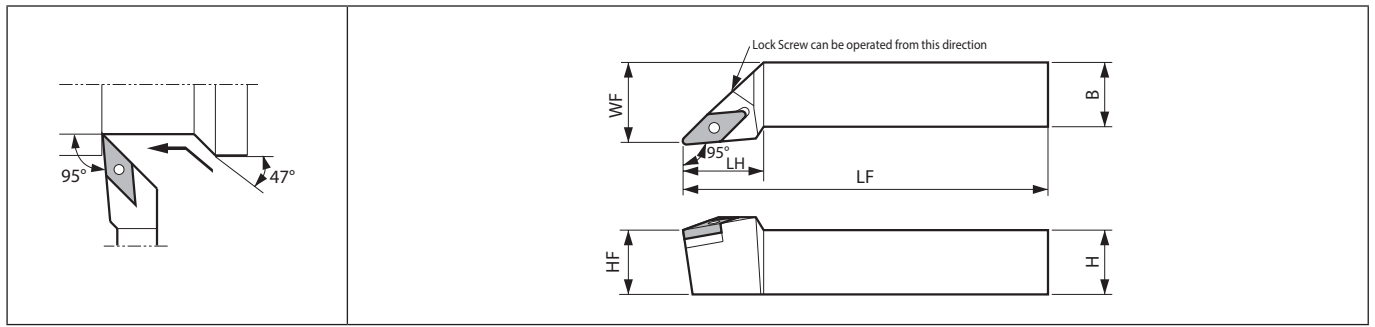
When removing the insert, turn the screw away from the arrow (counterclockwise).

● : Standard item



External turning

PVLN (External turning / External copying)



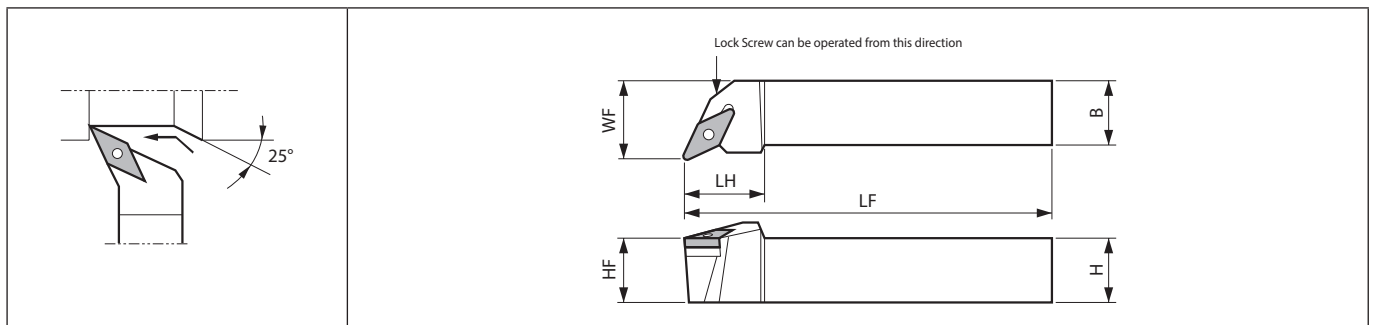
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	L	H	B	LH	HF	LF	WF	Lock pin				Lock screw	Shim	Wrench		
	PVLN%L 2525M-16Q	●	●	25	25	37	25	150	32				0.8	-6	-9	LP-6S	

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

PVPN (External turning / External facing / External copying / Undercutting)



Right-hand shown

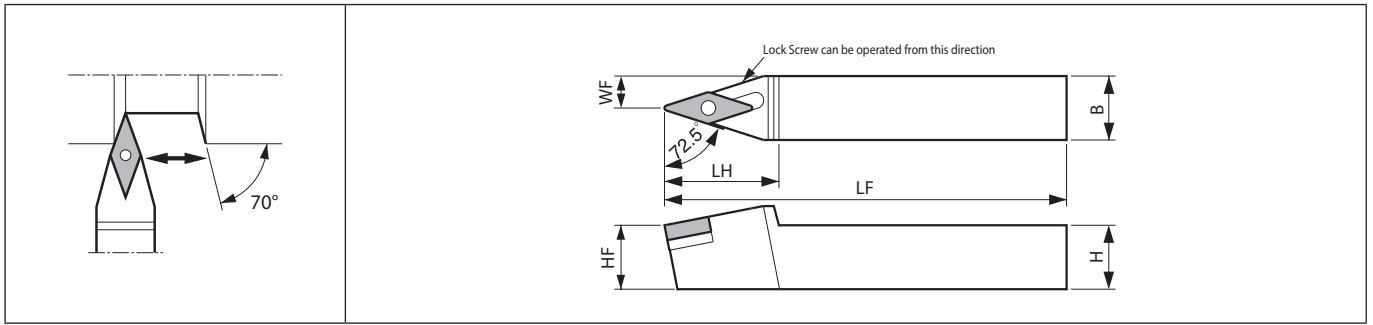
Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	L	H	B	LH	HF	LF	WF	Lock pin				Lock screw	Shim	Wrench		
	PVPN%L 2020K-16Q	●	●	20	20	30	20	125	25				0.8	-13	-10	LP-2S	
2525M-16Q	●	●	25	25	25		150	32	LP-6S								

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

● : Standard item

PVVN (External turning / External copying)



Toolholder dimensions

Description	Availability		Dimension (mm)					Standard corner-R(RE)	Back rake angle (°)	Spare parts				Applicable inserts
	N	H	B	LH	HF	LF	WF			Lock pin	Lock screw	Shim	Wrench	
	PVVNN 2020K-16Q	●	20	20	35	20	125			10	0.8	-11	LP-2S	
2525M-16Q	●	25	25	40	25	150	12.5			LP-6S				

When using inserts whose corner-R(RE) is greater than 1.2 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

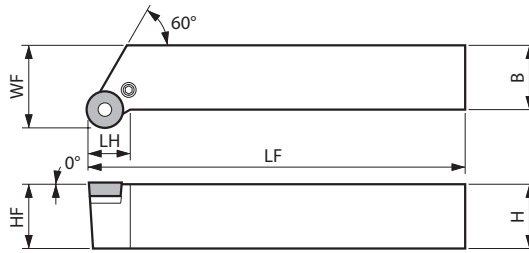
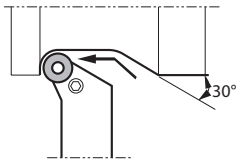
Applicable inserts

Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium	Roughing
Insert								
Chipbreaker type	PP	GP	5/8-VC	VF	PQ	HQ	TN-V	STD
Page	B47	B47	B47	B47	B47	B47	B47	B47
Applications	Finishing - Medium	Finishing	Medium	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron
Insert								
Chipbreaker type	SK	5/8-S	R/L	MQ	MS	MU	KG	KH
Page	B48	B49	B49	B48	B48	B48	B48	B48
Applications	Cast iron	Cast iron / Hard materials	Non-Ferrous Metals	Heat-resistant alloys	Hard materials / Cast iron			
Insert								
Chipbreaker type	No CB	Ceramic	PCD	SG	CBN			
Page	B49	B119	C37	B48	C14			

Recommended cutting conditions ➔ D69~D70

● : Standard item

PRGC (External turning / External facing / External copying)

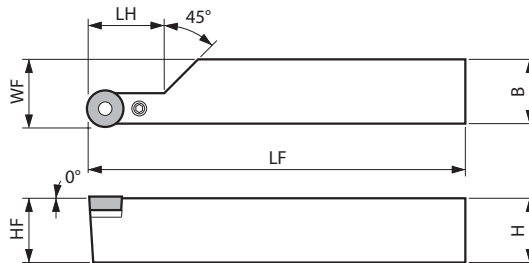
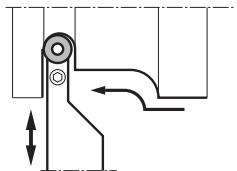


Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
												Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
PRGC%L 2020K-10	●	●	20	20	15	20	125	25	0	0							RCX1003M0..	
2525M-10	●	●	25	25		25	150	32										
PRGC%L 2020K-12	●	●	20	20	14	20	125	25	0	0							RCMX1204M0	
2525M-12	●	●	25	25	17	25	150	32										

PRXC (External turning / External facing / External copying)





Right-hand shown


Toolholder dimensions

Description	Availability		Dimension (mm)							Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
												Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
PRXC%L 2020K-10	●	●	20	20	25	20	125	20.5	0	0							RCX1003M0..	
2525M-10	●	●	25	25	30	25	150	25.5										
2525Q-10	●	●					180											
PRXC%L 2525M-12	●	●	25	25	30	25	150	25.7	0	0							RCMX1204M0	

● : Standard item

Applicable inserts

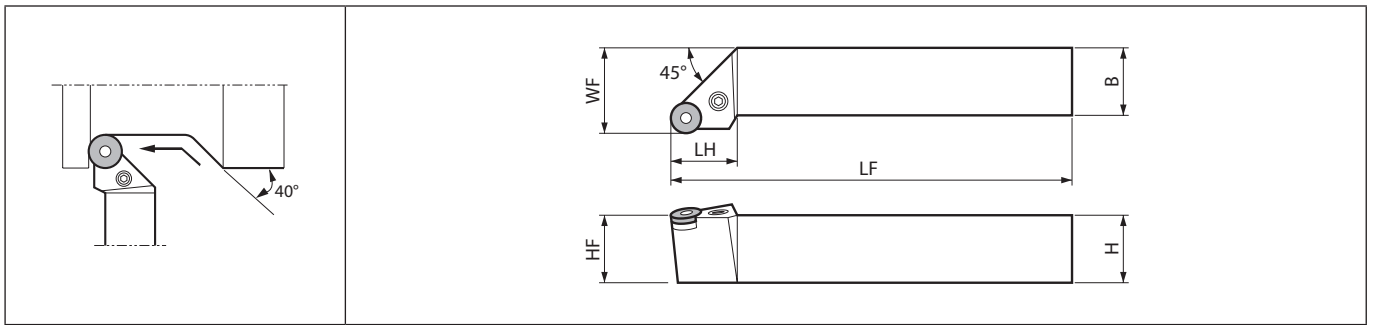
Applications	Medium	Non-Ferrous Metals
Insert		
Chipbreaker type	STD	AQ
Page	B81	B81

Recommended cutting conditions  D69~D70



External turning

PRGN (External turning / External facing / External copying)



Right-hand shown

External turning

Toolholder dimensions

Description	Availability		Dimension (mm)								Side rake angle (°)		Inclination angle (°)		Spare parts							Applicable inserts
															Lever	Lock screw	Punch	Shim pin	Shim	Wrench	Wrench	
	R	L	H	B	LH	HF	LF	WF														
PRGN%L 2020K-09	●	●	20	20	19	20	125	25	-6	-6	LL-1N	LS-1N	PC-1	LSP-1	LR-80	-	FH-2.5	RNMG090300				
PRGN%L 2525M-12	●	●	25	25	26	25	150	32	-6	-6	LL-2N	LS-2N	PC-2	LSP-2	LR-81	LW-3	-	RNMG120400				

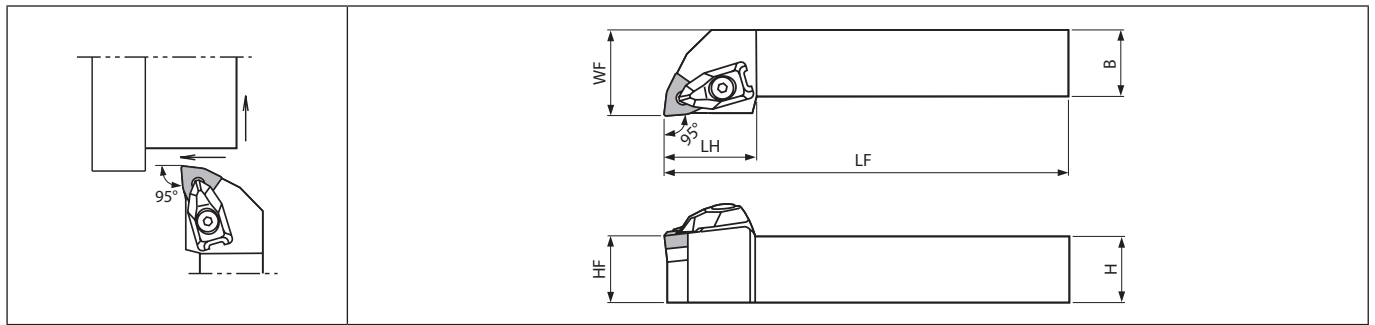
Applicable inserts

Applications	Medium - Roughing
Insert	
Chipbreaker type	STD
Page	B33

Recommended cutting conditions ➔ D69~D70















● : Standard item

DWLN (External turning / External facing)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	
	R	L	H	B	LH	HF	LF	WF											
DWLN [°] L 2020K-08	●	●	20	20	34	20	125	25	0.8	-6	-6								WN□A0804...
2525M-08	●	●	25	25		25	150	32											

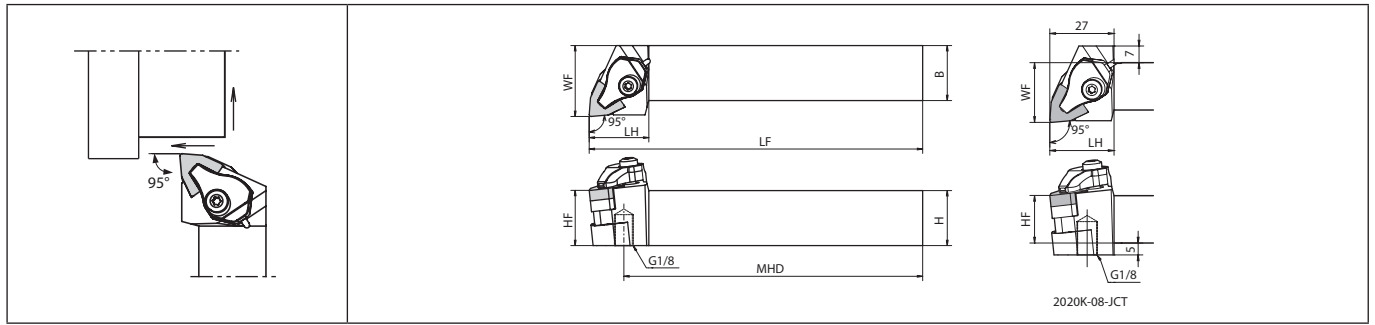
Wrench (FT-15) is sold separately.
Recommended tightening torque : 3.9N·m



External turning

● : Standard item

DWLN-JCT (External turning / External facing, Coolant-through holders)



Right-hand shown | with coolant supply | Applicable Pressure : ~30MPa

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Coolant hole	Side rake angle (°)	Inclination angle (°)	Applicable inserts
	R	L	H	B	LH	MHD	HF	LF	WF					
DWLN ^{90°} 2020K-08JCT	●	●	20	20	27	109	20	125	25	0.8	Yes	-6	-6	WN□A0804..., WN□G0804... WN□M0804...
2525M-08JCT	●	●	25	25		134	25	150	32					

Description	Spare parts						
	Clamp	Pipe connection	Screw (for clamp)	Screw	Shim	Spring	Wrench
DWLN ^{90°} 2020K-08JCT							
2525M-08JCT	CP-3D-R-JCT	FP-12	CS-3D-TR	SB-4085TR	DW-44	SP-3D	FT-15

Clamp : CP-3D-R-JCT for Right-hand Toolholder, CP-3D-L-JCT for Left-hand Toolholder.

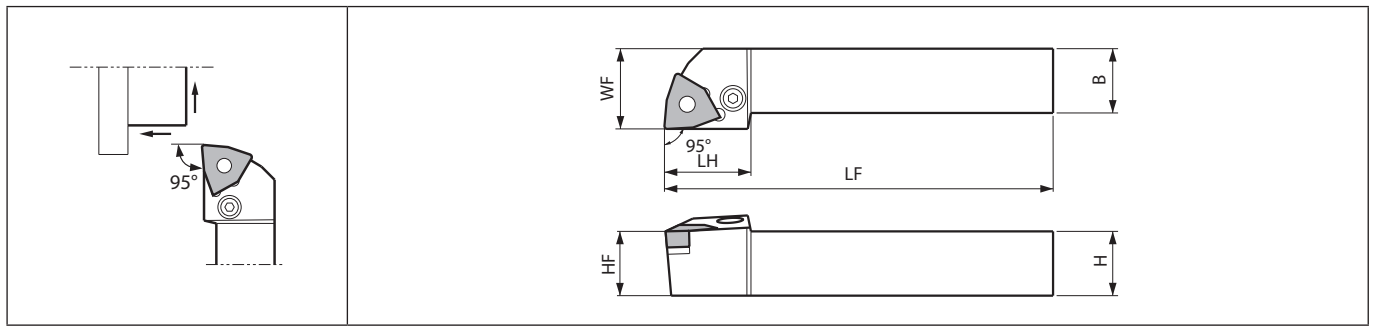
Please see page D12 for piping parts of coolant-through holders.

Only the O-ring (SS-035) included with the pipe connection can be ordered.

Recommended tightening torque : 3.9N·m








● : Standard item

PWLN (External turning / External facing)



Right-hand shown

Toolholder dimensions

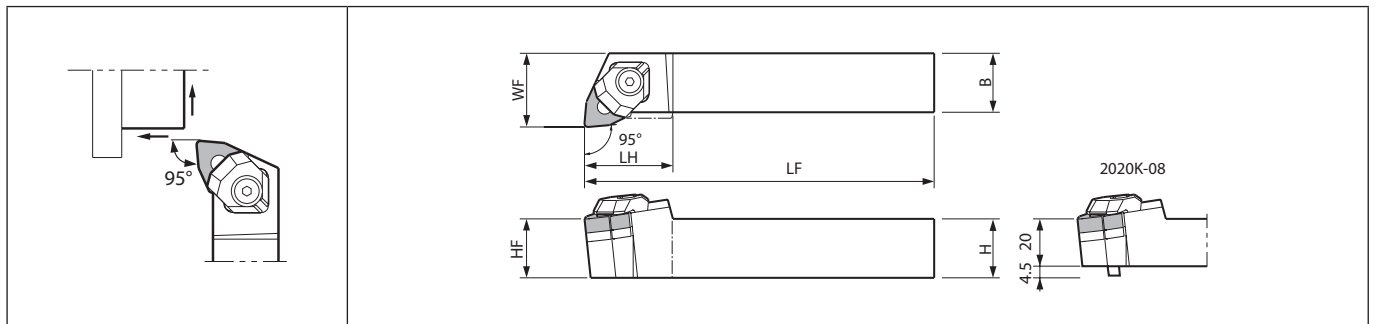
Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF											
PWLN%L 1616H-06 2020K-06 2525M-06	●	●	16	16	22	16	100	20	0.8	-6	-6	LL-1N	LS-1N	PC-1	LSP-1	LW-32N	-	FH-2.5	WN□G0604...
	●	●	20	20		20	125	25											
	●	●	25	25		25	150	32											
PWLN%L 2020K-08 2525M-08	●	●	20	20	26	20	125	25	0.8	-6	-6	LL-2N	LS-2N	PC-2	LSP-2	LW-42N	LW-3	-	WN□A0804... WN□G0804... WN□M0804...
	●	●	25	25		25	150	32											
	●	●	25	25		25	150	32											

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

● : Standard item








WWLN (External turning / External facing)



Right-hand shown

External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Clamp set	Nut	Shim pin	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
WWLN ⁹⁰ 2020K-08	●	●	20	20	30	20	125	25	1.2	-6	-6	WCS-8	WN-1	WP5X15	WWN-42	LW-3	WN□A0804..., WN□G0804... WN□M0804...	
2525M-08	●	●	25	25		25	150	32										

In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.

● : Standard item

Applicable inserts (DWLN / DWLN-JCT / PWLN / WWLN)

Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Finishing - Medium
Insert								
Chipbreaker type	WF	WP	WE	WQ	PP	GP	PQ	HQ
Page	B50	B50	B50	B50	B50	B50	B50	B51
Applications	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing
Insert								
Chipbreaker type	CQ	CJ	GS	PG	PS	PT	GT	STD
Page	B51	B51	B51	B51	B51	B51	B52	B52
Applications	Roughing	Finishing	Medium	Low carbon steel	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	PH	S	R/L	XP	XQ	XS	TK	MQ
Page	B52	B54	B54	B52	B52	B52	B52	B53
Applications	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	MS	MU	KQ	KG	KH	C	ZS	GC
Page	B53	B53	B53	B53	B53	B54	B54	B54
Applications	Cast iron	Non-Ferrous Metals	Non-Ferrous Metals	Heat-resistant alloys	Hard materials / Cast iron			
Insert								
Chipbreaker type	No CB	AH	PCD	SG	CBN			
Page	B54	B54	C38	B53	C15			

In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restraint force.

Recommended cutting conditions D69~D70







D



External turning

Selection guide for ceramic inserts

Select the suitable ceramic insert and specifications from the table below:

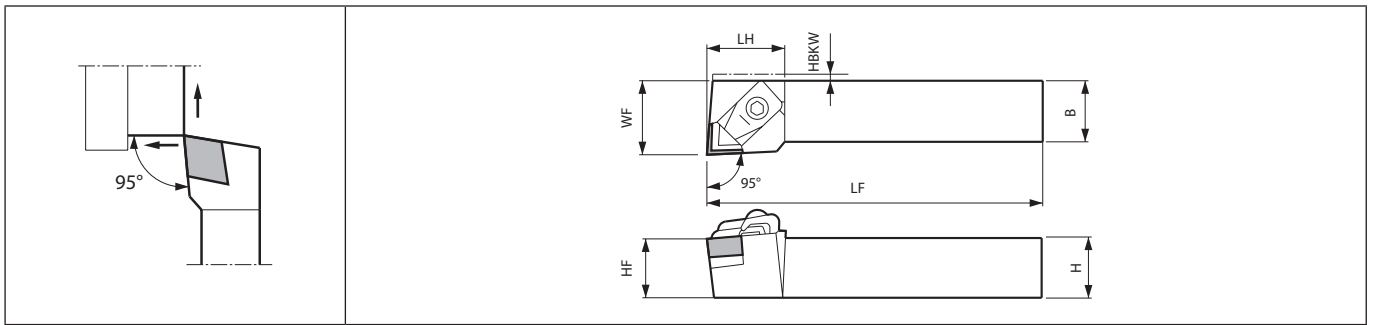
Insert shape	Corner-R (RE)	f (mm/rev)										ap (mm)
		0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60	
 RN	-	→										0.3~4
 SN	2.0	→										0.3~4
	1.6	→										
	1.2	→										
	0.8	→										
	0.4	→										
 EN	1.2	→										0.3~4
	0.8	→										
 CN	1.6	→										0.3~2
	1.2	→										
	0.8	→										
 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										-

(GG25, Cutting edge angle: 0°~15°)

D

External turning

CCLN (External turning / External facing)



Right-hand shown



External turning

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
	R	L	H	B	LH	HF	HBKW	LF	WF	Chipbreaker				Clamp set	Shim screw	Shim	Wrench		
CCLN [°] L 2020K-12	●	●	20	20		20	5	125	27	0.8	-6	-6	CB-16	CE-010	M3X8 (M3X12*)	SP-441 (SP-443*)	LW-4	CN□N1207... (CN□N1204...*)	
2525M-12	●	●	25	25	32	25	-	150	32										
CCLN [°] L 3225P-16	●	●	32	25	35	32	-	170	32	0.8	-6	-6	CB-17	CE-220	M4X10	SP-454	LW-4	CNGN1607...	

Shims indicated * are not included with the toolholder. When using CN□N1204 type insert, please purchase shim (SP-443) and screw (M3X12) separately.

Applicable inserts

Applications	Cast iron / Hard materials	Hard materials / Cast iron
Insert		
Type	Ceramic	CBN
Page	B113	C16

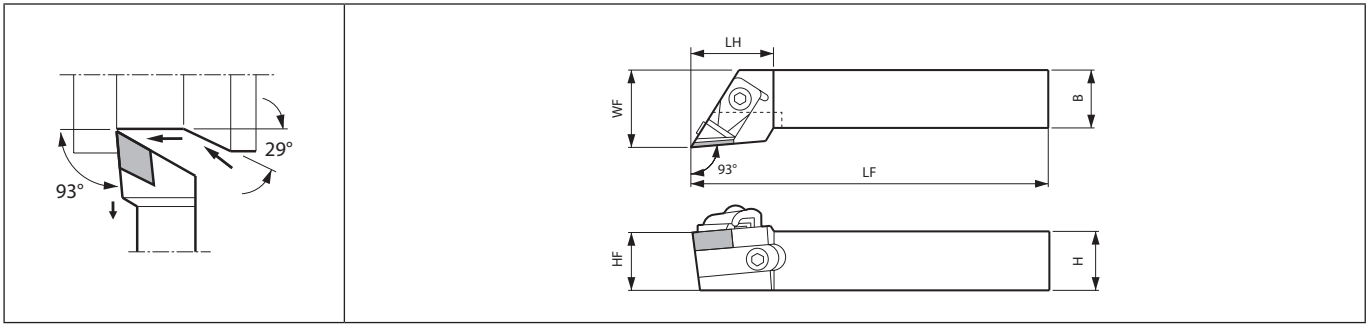
Recommended cutting conditions D69~D70

● : Standard item

CDJN (External turning / External copying / Back turning)

D

External turning



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
	R	L	H	B	LH	HF	LF	WF	Chipbreaker				Clamp bolt	Clamp set	Shim	Wrench		
	CDJN [●] /L 2525M-15 3225P-15	●	●	25	25	32	25	150	32				0.8	-5	-8			

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

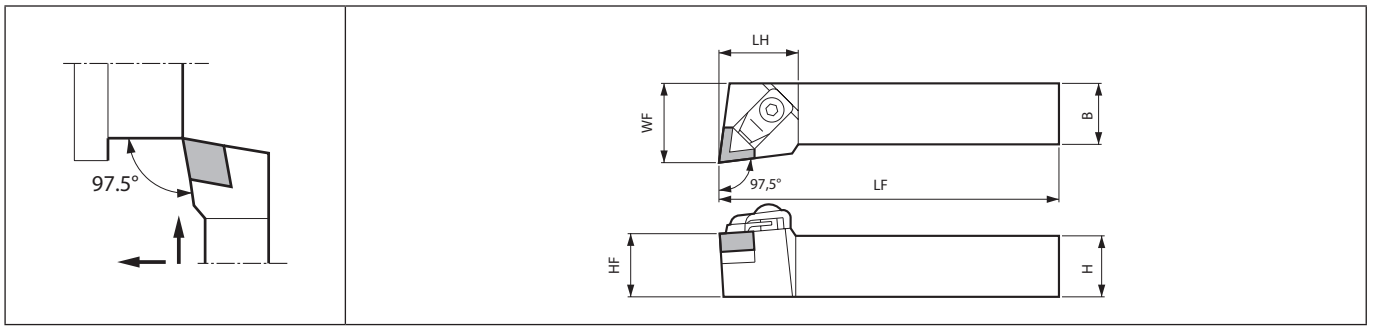
Applicable inserts

Applications	Cast iron / Hard materials
Insert	
Type	Ceramic
Page	B114

Recommended cutting conditions D69~D70

● : Standard item

CELN (External turning / External facing)



Right-hand shown



External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Chipbreaker	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
CELN [●] /L 2525M-13	●	●	25	25	32	25	150	32	0.8	-6	-6						ENGN1307...	

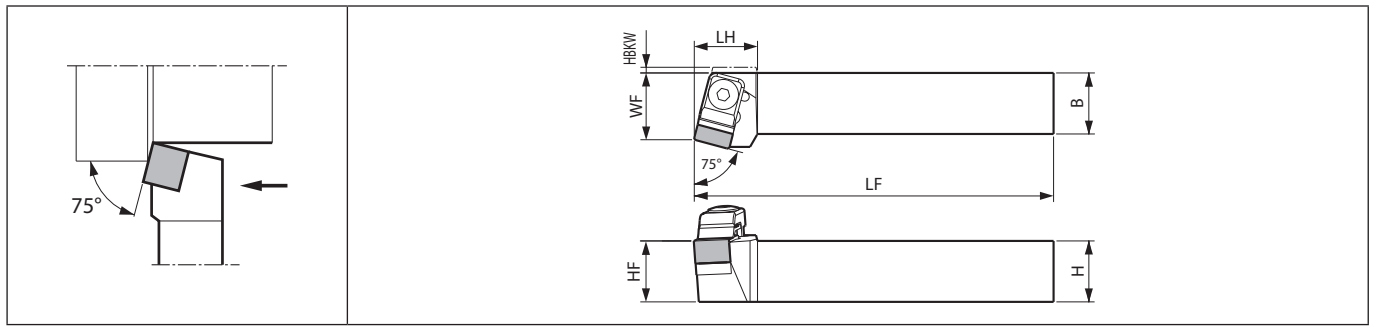
Applicable inserts

Applications	Cast iron / Hard materials
Insert	
Type	Ceramic
Page	B115

Recommended cutting conditions ➡ D69~D70

● : Standard item

CSRN (External turning)



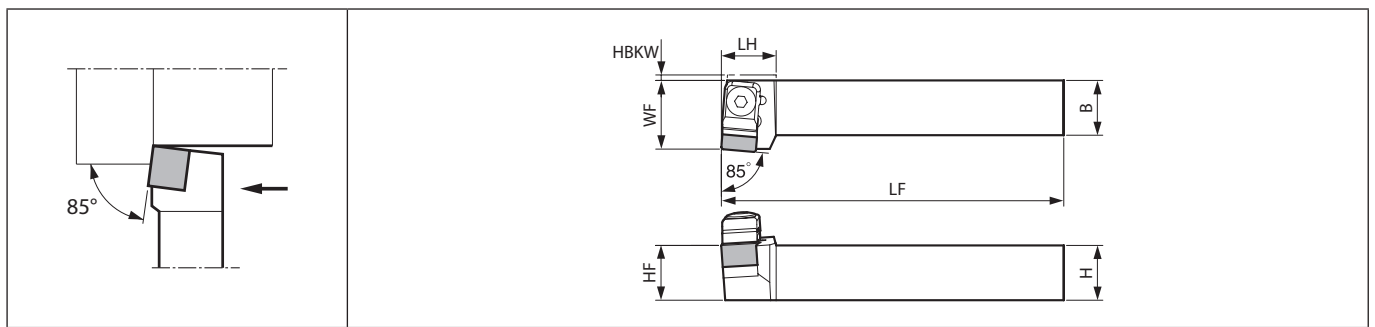
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts	
													Chipbreaker	Clamp set	Clamp set	Shim screw	Shim		Wrench
	R	L	H	B	LH	HF	HBKW	LF	WF										
CSRN%L 2020K-12	●	●	20	20	22	20	2	125	22	0.8	-6	-4	CB-11	CE-020	-	M3X8 (M3X12*)	SP-141 (SP-143*)	LW-4	SN□N1207... (SN□N1204...*)
2525M-12	●	●	25	25		25	-	150	27										
3225P-12	●	●	32	25		32	-	170											
CSRN%L 3225P-15	●		32	25	30	32	-	170	32.4	1.2	-6	-4	CB-51	-	CE-220	M4X10	SP-162	LW-4	SNGN1507...
4040R-15	●	●	40	40		40	-	200	43										

Shims indicated * are not included with the toolholder. When using SN□N1204 type insert, please purchase shim (SP-143) and screw (M3X12) separately.

CS-N (External turning)



Right-hand shown

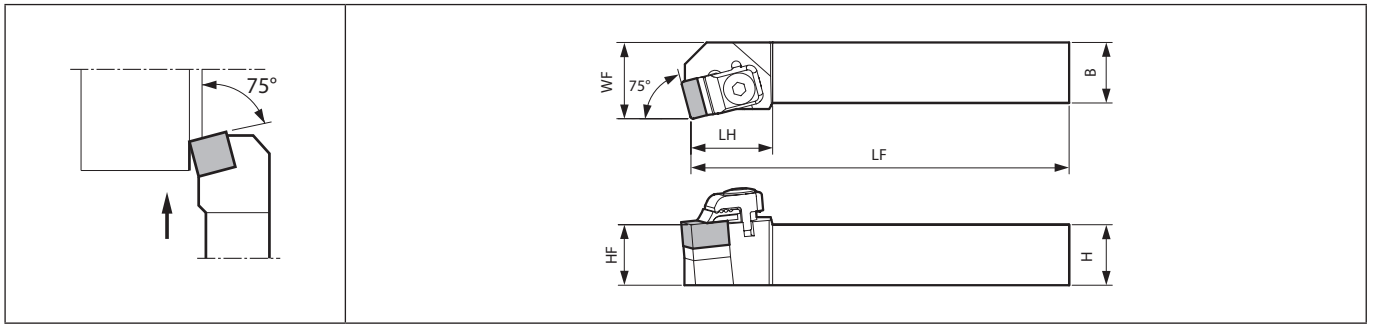
Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Chipbreaker	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
CS-N%L 2525M-12	●	●	25	25	20	25	150	32	0.8	-6	-4	CB-11	CE-020	M3X8 (M3X12*)	SP-141 (SP-143*)	LW-4	SN□N1207... (SN□N1204...*)	

Shims indicated * are not included with the toolholder. When using SN□N1204 type insert, please purchase shim (SP-143) and screw (M3X12) separately.

● : Standard item

CSKN (External facing)



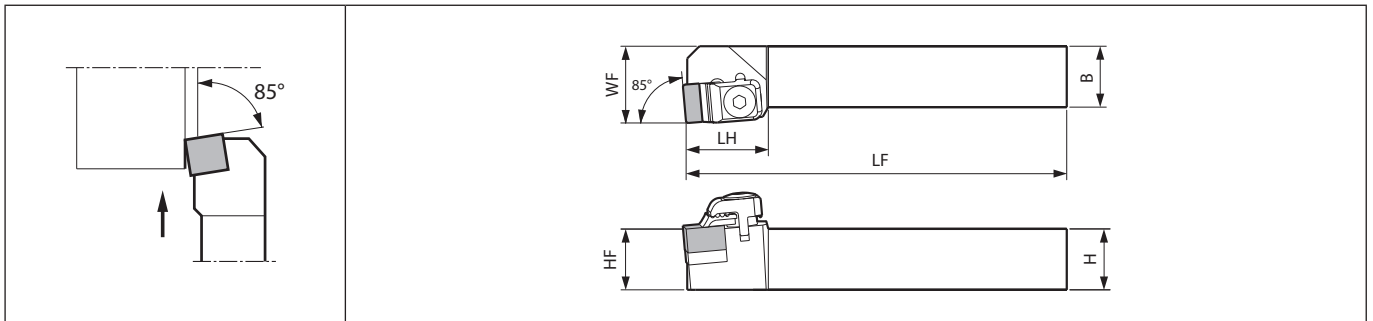
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Chipbreaker	Clamp set	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF											
CSKN%: 2020K-12	●		20	20	27	20	125	25	0.8	-6	-4	CB-11	CE-020	-	M3X8 (M3X12*)	SP-141 (SP-143*)	LW-4	SN□N1207... (SN□N1204...*)	
2525M-12	●	●	25	25		25	150	32											
CSKNR 3225P-15	●		32	25	37	32	170	32	1.2	-6	-4	CB-51	-	CE-220	M4X10	SP-162	LW-4	SNGN1507...	

Shims indicated * are not included with the toolholder. When using SN□N1204 type insert, please purchase shim (SP-143) and screw (M3X12) separately.

CSYN (External facing)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Chipbreaker	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
CSYN%: 2525M-12	●	●	25	25	27	25	150	32	0.8	-6	-4	CB-11	CE-020	M3X8 (M3X12*)	SP-141 (SP-143*)	LW-4	SN□N1207... (SN□N1204...*)	

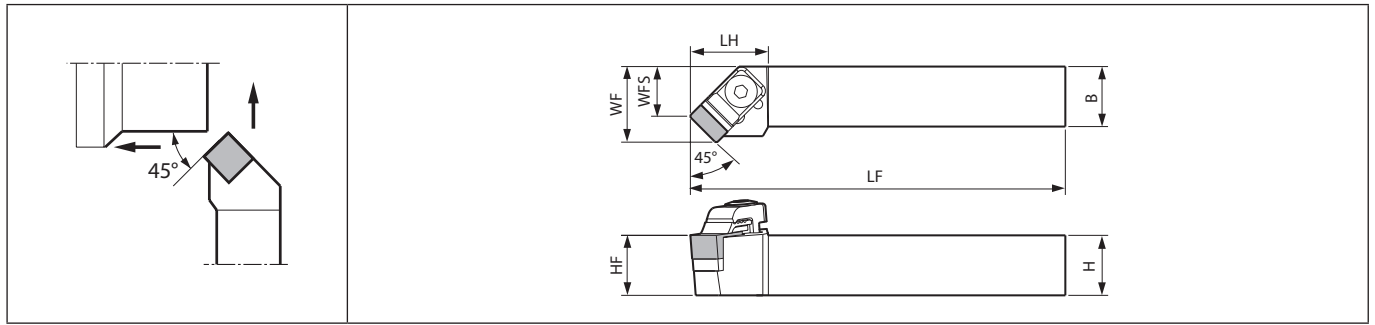
Shims indicated * are not included with the toolholder. When using SN□N1204 type insert, please purchase shim (SP-143) and screw (M3X12) separately.

● : Standard item



External turning

CSSN (External turning / External facing / Chamfering)



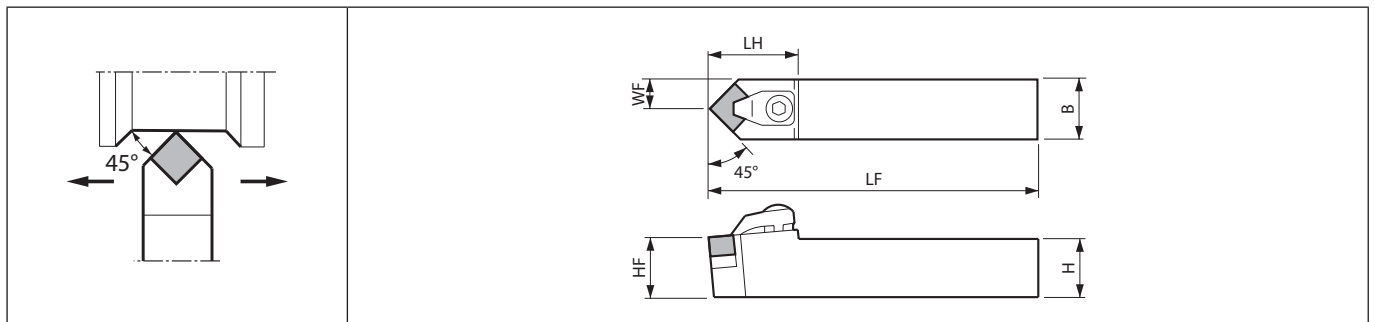
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
														Chipbreaker	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF	WFS										
CSSN%L 2020K-12	●		20	20	26	20	125	25	16	0.8	-6	0			M3X8 (M3X12*)	SP-141 (SP-143*)	LW-4	SN□N1207... (SN□N1204...*)	
2525M-12	●	●	25	25		25	150	32	23										

Shims indicated * are not included with the toolholder. When using SN□N1204 type insert, please purchase shim (SP-143) and screw (M3X12) separately.

CSDN (External turning / Chamfering)



Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Back rake angle (°)	Spare parts				Applicable inserts
												Clamp set	Shim screw	Shim	Wrench	
	N	H	B	LH	HF	LF	WF									
CSDNN 2020K-12	●	20	20	32	20	125	10	0.8	-8.5	CE-040	M3X8 (M3X12*)	SP-141 (SP-143*)	LW-4	SN□N1207... (SN□N1204...*)		
2525M-12	●	25	25		25	150	12.5									
3225P-12	●	32			32	170										

Shims indicated * are not included with the toolholder. When using SN□N1204 type insert, please purchase shim (SP-143) and screw (M3X12) separately.

● : Standard item

Applicable inserts

Applications	Cast iron / Hard materials	Cast iron	Hard materials / Cast iron
Type	Ceramic	Coated carbide	CBN
Toolholder	Insert		
CSRN [®] /L ...-12	SNGN1207..(SNGN1204..) SNMN1207..	(SNMN1204..)	(SNMN1204..)
CSRN [®] /L ...-15	SNGN1507..	-	-
CS-N [®] /L ...-12	SNGN1207..(SNGN1204..) SNMN1207..	(SNMN1204..)	(SNMN1204..)
CSKN [®] /L ...-12	SNGN1207..(SNGN1204..) SNMN1207..	(SNMN1204..)	(SNMN1204..)
CSKN [®] /L ...-15	SNGN1507..	-	-
CSYN [®] /L ...-12	SNGN1207..(SNGN1204..) SNMN1207..	(SNMN1204..)	(SNMN1204..)
CSSN [®] /L ...-12	SNGN1207..(SNGN1204..) SNMN1207..	(SNMN1204..)	(SNMN1204..)
CSDNN ...-12	SNGN1207..(SNGN1204..) SNMN1207..	(SNMN1204..)	(SNMN1204..)
Page	B117	B38	C18

Recommended cutting conditions D69~D70

Spare parts (When using as toolholder for CBN tools (KBN900), please purchase separately.)

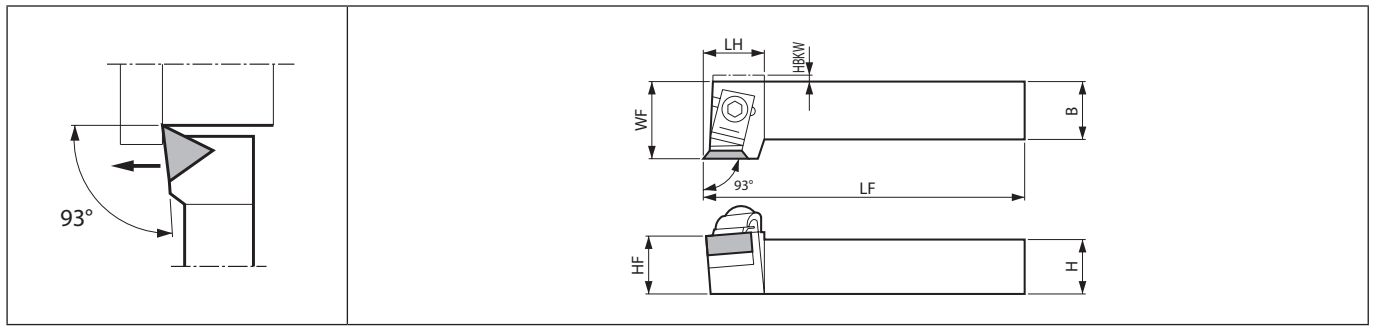
Applications	Hard materials / Cast iron	Spare parts		
Type	CBN	Clamp set	Shim	Shim screw
Toolholder	Insert			
CSRN [®] /L ...-12	(SNMN1204..)			
CSRN [®] /L ...-15	-	-	-	-
CS-N [®] /L ...-12	(SNMN1204..)	CE-030A	SP-143	M3X12
CSKN [®] /L ...-12	(SNMN1204..)	CE-030A	SP-143	M3X12
CSKN [®] /L ...-15	-	-	-	-
CSYN [®] /L ...-12	(SNMN1204..)	CE-030A	SP-143	M3X12
CSSN [®] /L ...-12	(SNMN1204..)	CE-030A	SP-143	M3X12
CSDNN ...-12	(SNMN1204..)	*-	SP-143	M3X12

* CSDNN...-12 : Clamp Set CE-040 is used continuously.



External turning

CTJN (External turning)



Right-hand shown

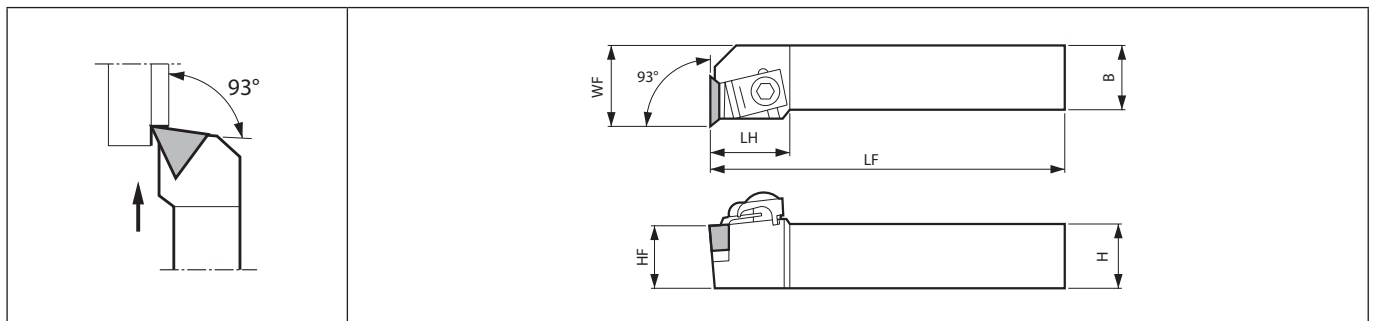
Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Chipbreaker	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	HBKW	LF	WF									
CTJN%L 2020K-16 2525M-16	●	●	20	20	21	20	2	125	25	0.8	-6	-4	CB-12/13	CE-020	M3X8 (M3X12*)	SP-221 (SP-223*)	LW-4	TNGN1607... (TN□N1604...*)
	●	●	25	25		25	-	150	32									

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

Shims indicated * are not included with the toolholder. When using TN□N1604 type insert, please purchase shim (SP-223) and screw (M3X12) separately.

CTUN (External facing)



Right-hand shown

Toolholder dimensions



Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts					Applicable inserts
													Chipbreaker	Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
CTUN%L 2020K-16 2525M-16	●	●	20	20	27	20	125	25	0.8	-6	-4	CB-13/12	CE-020	M3X8 (M3X12*)	SP-221 (SP-223*)	LW-4	TNGN1607... (TN□N1604...*)	
	●	●	25	25		25	150	32										


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

Shims indicated * are not included with the toolholder. When using TN□N1604 type insert, please purchase shim (SP-223) and screw (M3X12) separately.

● : Standard item

Applicable inserts (CTJN / CTUN)



Applications	Cast iron / Hard materials	Hard materials / Cast iron
Insert		
Type	Ceramic	CBN
Page	B118	C19


Recommended cutting conditions  D69~D70







External turning

Applicable inserts

Applications	Cast iron / Hard materials	Hard materials / Cast iron
Type	Ceramic	CBN
Insert		
Toolholder		
CRSN [®] /L ...-12	RNGN120700 (RNGN120400)	(RNMN120400)
CRDNN ...-12	RNGN120700 (RNGN120400)	(RNMN120400)
CRDNN ...-15	RNGN150700	-
Page	B116	C17

Recommended cutting conditions  **D69~D70**

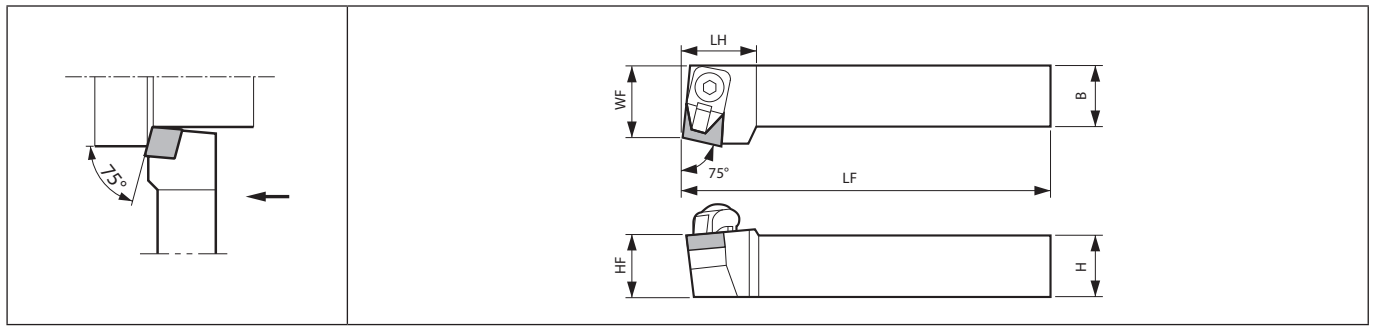
Spare parts (When using as toolholder for CBN tools (KBN900), please purchase separately.)

Applications	Hard materials / Cast iron	Spare parts		
Type	CBN	Clamp set	Shim	Shim screw
Insert				
Toolholder				
CRSN [®] /L ...-12	(RNMN120400)	CE-030A	SP-843	M3X12
CRDNN ...-12	(RNMN120400)	CE-030A	SP-843	M3X12
CRDNN ...-15	-	-	-	-



External turning

CCRN-A (External turning)



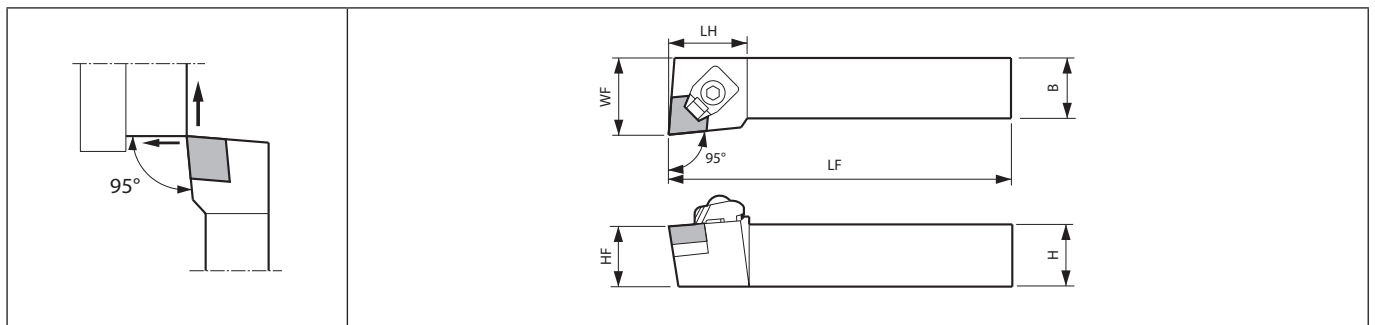
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)						Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	L	H	B	LH	HF	LF	WF				Clamp set	Shim screw	Shim	Wrench	
	CCRN%L 2525M-09A	●	●	25	25	27	25	150				27	0.8	-6	-6	

External turning

CCLN-A (External turning / External facing)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)						Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	L	H	B	LH	HF	LF	WF				Clamp set	Shim screw	Shim	Wrench	
	CCLN%L 2525M-09A	●	●	25	25	28	25	150				32	0.8	-5	-5	

For CNMN1204 Insert toolholder, see page D49

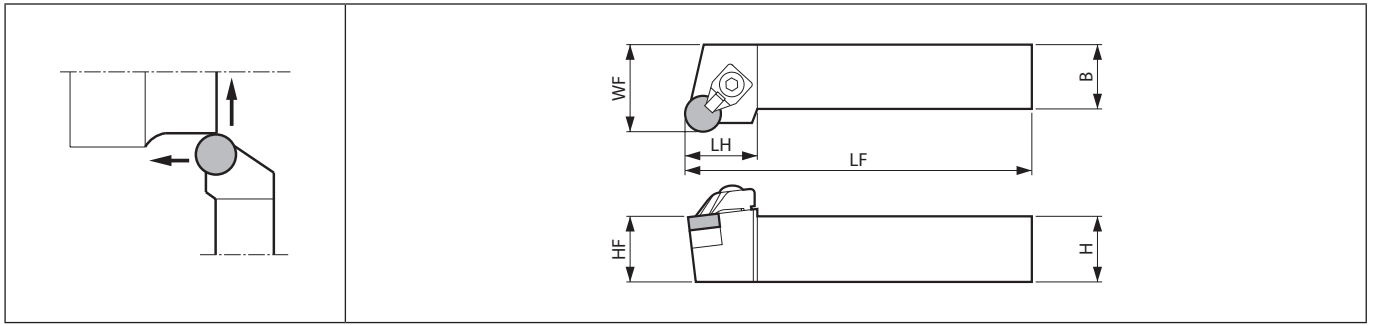
Applicable inserts

Applications	Hard materials / Cast iron
Insert	
Type	CBN
Page	C16

Recommended cutting conditions ➔ D69~D70

● : Standard item

CRSN-A (External turning / External facing)



Right-hand shown



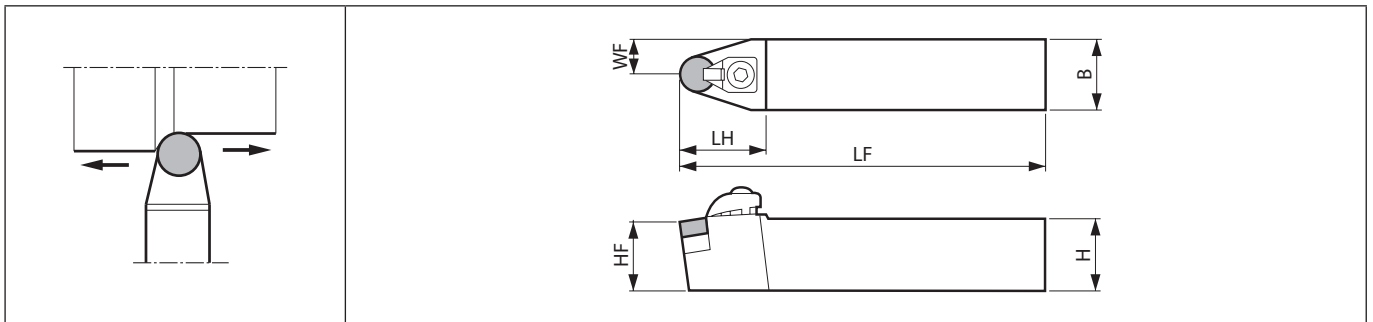
External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
												Clamp set	Shim screw	Shim screw	Shim	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF										
CRSN%L 2525M-09A 3225P-09A	●	●	25	25	26	25	150	32	-6	-6	CE-030A	-	HH3X12	SP-829 (SP-826*)	-	LW-4	RNMN0903... (RNGN0904...*)	
CRSN%L 2525M-12A 3225P-12A	●	●	25	25	26	25	150	32	-6	-6	CE-030A	BH3X12	-	-	SP-849 (SP-843***) (SP-841***)	LW-4	RNMN1203... (RN□N1204...**) (RNGN1207...***)	

When using RNGN0904 type insert, please purchase shim (SP-826) separately.
 When using RN□N1204 type insert, please purchase shim (SP-843) separately.
 When using RNGN1207 type insert, please purchase shim (SP-841) separately.

CRDN-A (External turning / External copying)





Toolholder dimensions

Description	Availability		Dimension (mm)							Back rake angle (°)	Spare parts						Applicable inserts
											Clamp set	Shim screw	Shim screw	Shim	Shim	Wrench	
	N	H	B	LH	HF	LF	WF										
CRDNN 2525M-09A 3225P-09A	●	25	25	29	25	150	12.5	-8.5	CE-030A	-	HH3X12	SP-829 (SP-826*)	-	LW-4	RNMN0903... (RNGN0904...*)		
CRDNN 2525M-12A 3225P-12A	●	25	25	28	25	150	12.5	-8.5	CE-030A	BH3X12	-	-	SP-849 (SP-843***) (SP-841***)	LW-4	RNMN1203... (RN□N1204...**) (RNGN1207...***)		

When using RNGN0904 type insert, please purchase shim (SP-826) separately.
 When using RN□N1204 type insert, please purchase shim (SP-843) separately.
 When using RNGN1207 type insert, please purchase shim (SP-841) separately.




● : Standard item

Applicable inserts

Applications	Hard materials / Cast iron	Cast iron / Hard materials
Type	CBN	Ceramic
Insert		
Toolholder		
CRSN [®] /L ...-09A	RNMN090300	(RNGN090400)
CRSN [®] /L ...-12A	RNMN120300 (RNMN120400)	(RNGN120400) (RNGN120700)
CRDNN ...-09A	RNMN090300	(RNGN090400)
CRDNN ...-12A	RNMN120300 (RNMN120400)	(RNGN120400) (RNGN120700)
Page	C17	B116

Recommended cutting conditions  D69~D70

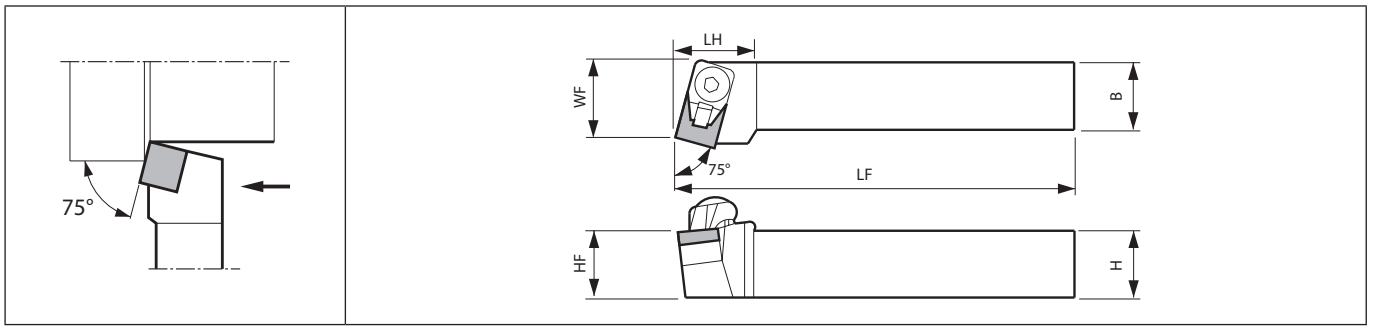
Spare parts (When using as toolholder for Ceramic tools, please purchase separately.)

Applications	Cast iron / Hard materials	Spare parts	
Type	Ceramic	Shim	Shim screw
Insert			
Toolholder			
CRSN [®] /L ...-09A	(RNGN090400)	SP-826	-
CRSN [®] /L ...-12A	(RNGN120400)	SP-843	M3X12
	(RNGN120700)	SP-841	M3X8
CRDNN ...-09A	(RNGN090400)	SP-826	-
CRDNN ...-12A	(RNGN120400)	SP-843	M3X12
	(RNGN120700)	SP-841	M3X8

D

External turning

CSRN-A (External turning)



Right-hand shown



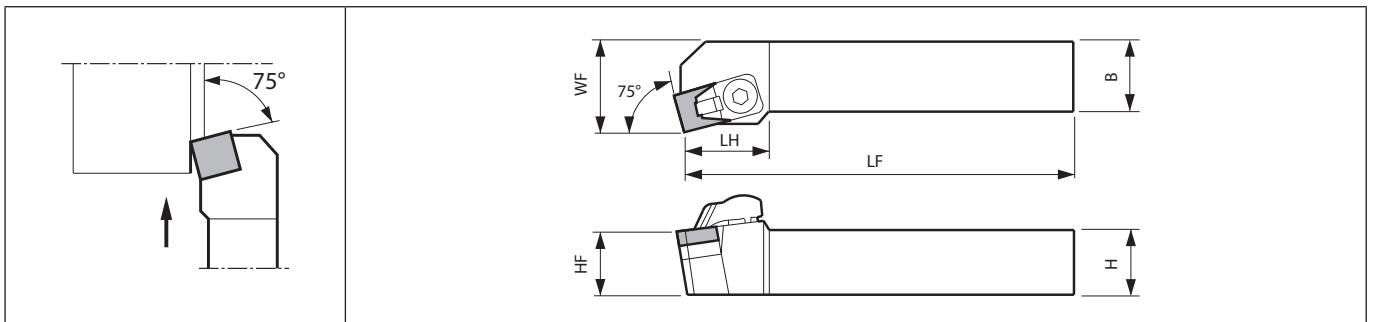
External turning

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	L	H	B	LH	HF	LF	WF	Clamp set				Shim screw	Shim	Wrench		
	CSRN%L 2525M-12A	●	●	25	25	22	25	150	27				0.8	-6	-4	CE-030A	

When using SN□N1204 type insert, please purchase shim (SP-143) separately.

CSKN-A (External facing)



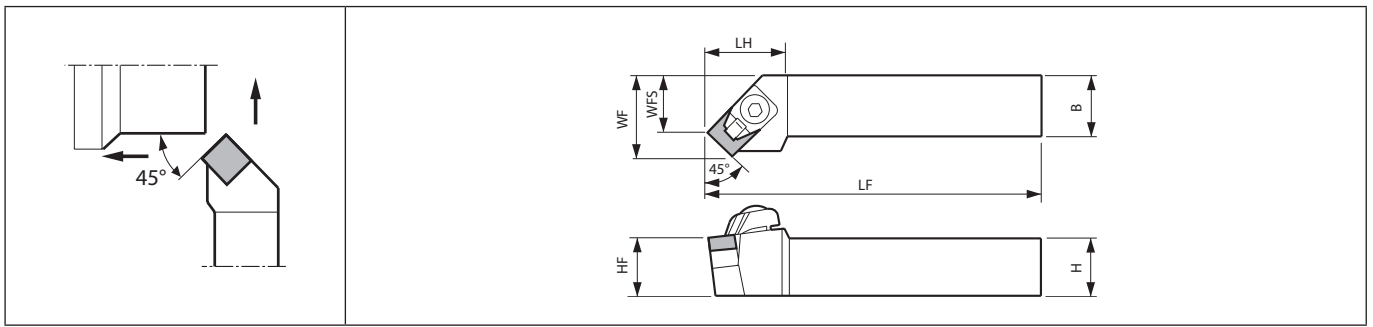
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	H	B	LH	HF	LF	WF	Clamp set	Shim screw				Shim	Wrench			
	CSKNR 2525M-09A	●		25	25	27	25	150	32				0.8	-6	-4	CE-030A	

● : Standard item

CSSN-A (External turning / External facing / Chamfering)



Right-hand shown

D

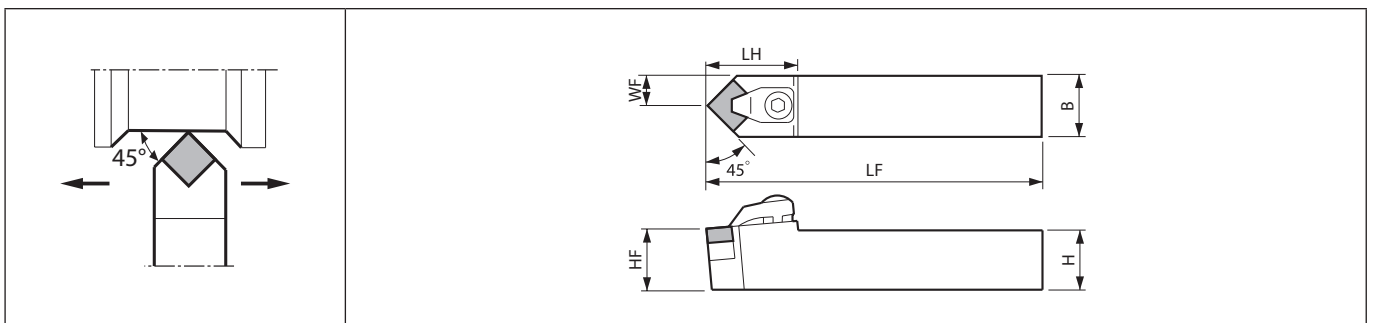
External turning

Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)		Side rake angle (°)		Inclination angle (°)		Spare parts						Applicable inserts
																	Clamp set	Shim screw	Shim screw	Shim	Shim	Wrench	
CSSN%L 2525M-09A	●	●	25	25	26	25	150	32	25	0.8	-6	0	CE-030A	-	HH3X12	SP-129	-	LW-4	SNMN0903...				
CSSN%L 2525M-12A	●	●	25	25	26	25	150	32	23	0.8	-6	0	CE-030A	BH3X12	-	-	SP-148 (SP-143*) (SP-141*)	LW-4	SNMN1203... (SN□N1204...*) (SN□N1207...*)				

When using SN□N1204 type insert, please purchase shim (SP-143) separately. When using SN□N1207 type insert, please purchase shim (SP-141) separately.

CSDN-A (External turning / Chamfering)






Toolholder dimensions


Description	Availability		Dimension (mm)						Standard corner-R(RE)		Back rake angle (°)		Spare parts						Applicable inserts
													Clamp set	Shim screw	Shim screw	Shim	Shim	Wrench	
CSDNN 2525M-09A	●	●	25	25	32	25	150	12.5	0.8	-8.5	CE-040	-	HH3X12	SP-129	-	LW-4	SNMN0903...		
CSDNN 2525M-12A	●	●	25	25	32	25	150	12.5	0.8	-8.5	CE-040	BH3X12	-	-	SP-148 (SP-143*) (SP-141*)	LW-4	SNMN1203... (SN□N1204...*) (SN□N1207...*)		

When using SN□N1204 type insert, please purchase shim (SP-143) separately. When using SN□N1207 type insert, please purchase shim (SP-141) separately.

● : Standard item

Applicable inserts






Applications	Hard materials / Cast iron	Cast iron	Cast iron / Hard materials
Type	CBN	Coated carbide	Ceramic
Toolholder			
CSRN [®] /L ...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..)(SNMN1204..) (SNGN1207..)(SNMN1207..)
CSKN [®] /L ...-09A	SNMN0903..	-	-
CSSN [®] /L ...-09A	SNMN0903..	-	-
CSSN [®] /L ...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..)(SNMN1204..) (SNGN1207..)(SNMN1207..)
CSDNN ...-09A	SNMN0903..	-	-
CSDNN ...-12A	SNMN1203.. (SNMN1204..)	(SNMN1204..)	(SNGN1204..)(SNMN1204..) (SNGN1207..)(SNMN1207..)
Page	C18	B38	B117

Recommended cutting conditions  D69~D70



External turning

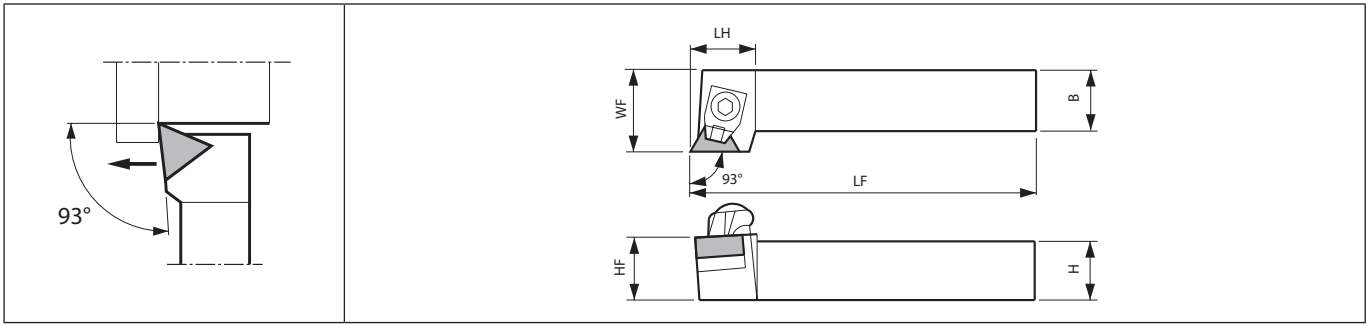
Spare parts (When using as toolholder for Ceramic tools, please purchase separately.)

Applications	Cast iron / Hard materials	Spare parts			
Type	Ceramic	Chipbreaker	Clamp set	Shim	Shim screw
Toolholder					
CSRN [®] /L ...-12A	(SNGN1204..)(SNMN1204..) (SNGN1207..)(SNMN1207..)	CB-11	CE-020	SP-143	M3X12
				SP-141	M3X8
CSKN [®] /L ...-09A	-	-	-	-	-
CSSN [®] /L ...-09A	-	-	-	-	-
CSSN [®] /L ...-12A	(SNGN1204..)(SNMN1204..) (SNGN1207..)(SNMN1207..)	CB-11	CE-020	SP-143	M3X12
				SP-141	M3X8
CSDNN ...-09A	-	-	-	-	-
CSDNN ...-12A	(SNGN1204..)(SNMN1204..) (SNGN1207..)(SNMN1207..)	-	-	SP-143	M3X12
				SP-141	M3X8

CTJN-A (External turning)



External turning



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts				Applicable inserts
	R	L	H	B	LH	HF	LF	WF	Clamp set				Shim screw	Shim	Wrench		
	CTJN [°] L 2525M-11A	●	●	25	25	22	25	150	32				0.8	-6	-4		

For TNMN1604 Insert toolholder, see page D56.

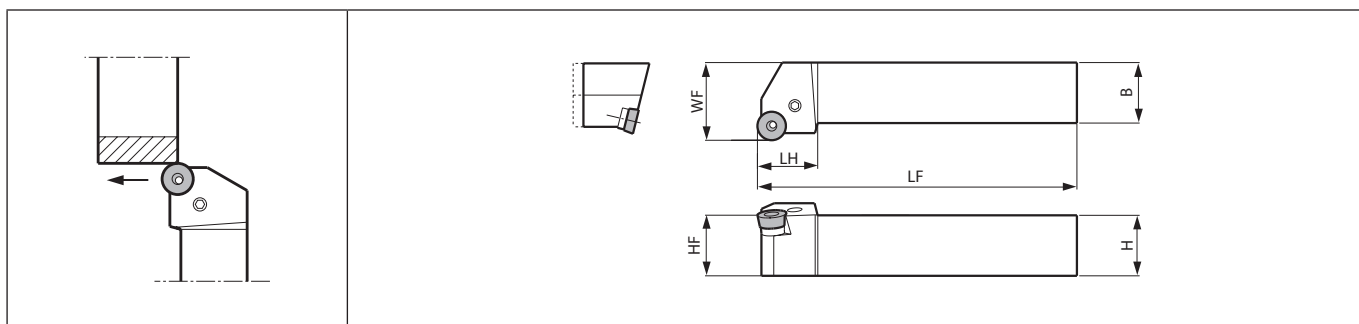
Applicable inserts

Applications	Hard materials / Cast iron	Cast iron / Hard materials
Insert		
Type	CBN	Ceramic
Page	C19	B118

Recommended cutting conditions ➔ D69~D70

● : Standard item

PRGC-BE (External turning)








Right-hand shown





External turning

Toolholder dimensions

Description	Availability	Dimension (mm)						Spare parts						Applicable inserts
								Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
		R	H	B	LH	HF	LF	WF						
PRGCR 2525M-12BE	●	25	25	25	25	150	32	LL-1CN	LS-1N	PC-1	LSP-1	LR-12C	FH-2.5	RCMT1204M0-BB

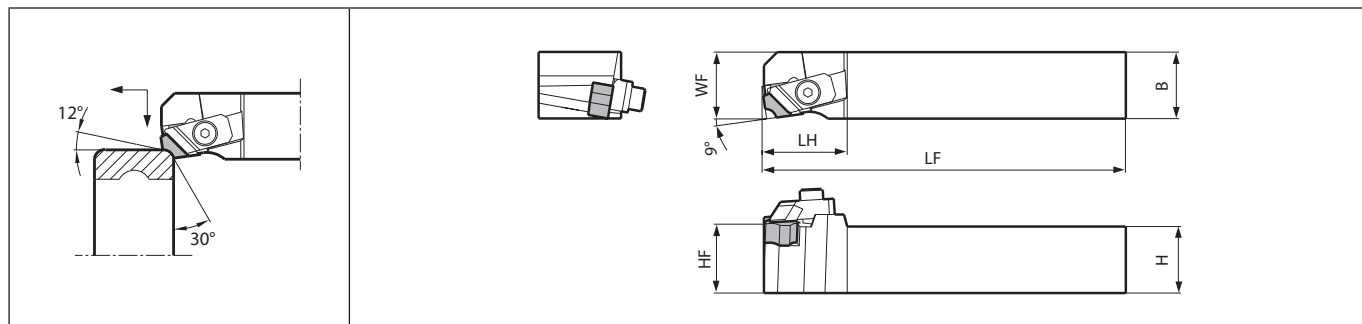
Applicable inserts

Applications	Finishing
Insert	
Chipbreaker type	BB
Page	B109

Recommended cutting conditions  D69~D70

● : Standard item

CBSN (External round chamfering)



Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Spare parts				Applicable inserts
										Clamp set	Shim screw	Shim	Wrench	
	R	L	H	B	LH	HF	LF	WF						
CBSN [●] L 2020K-12	●	●	20	20	32	20	125	20	CP-RC [●] L	SP3X8	SP-RC	LW-5	SNMF1204..-21	
2525M-12	●	●	25	25		25	150	25						

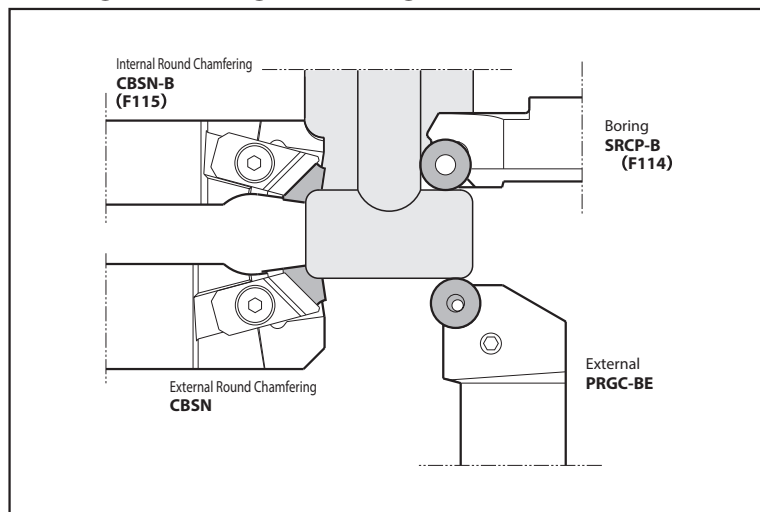
Clamp Set : CP-RCR for Right-hand Toolholder, CP-RCL for Left-hand Toolholder.

Applicable inserts

Applications	Finishing
Insert	
Chipbreaker type	21
Page	B109

Recommended cutting conditions D69~D70

Tooling for bearing machining



● : Standard item

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)
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	80 - 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



External turning

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	0.08 - 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	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	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	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	0.05 - 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	0.08 - 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	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	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	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 - 0.2 - 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	0.1 - 0.2 - 0.3 0.08 - 0.15 - 0.2
			Finishing (Ceramic)	Continuous	Without chipbreaker	KA30 PT600M	1.2 0.8	300 - 500 - 700 300 - 450 - 600	0.3 - 0.5 - 1.0	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	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	0.1 - 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	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
	Nodular cast iron	HB ≤ 270	High Speed Machining	Continuous	Without chipbreaker	KBN60M PT600M	0.4 0.8	200 - 300 - 400 200 - 250 - 350	0.1 - 0.3 - 0.5	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	0.1 - 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	0.1 - 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	0.2 - 0.3 - 0.4 0.2 - 0.3 - 0.4
N	Non-ferrous metals Copper alloy Aluminum Aluminum alloys	HB ≤ 100	High Speed Machining (Rainbow Surface Gross)	Continuous	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	0.1 - 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	0.1 - 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	0.1 - 0.3 - 0.4 0.1 - 0.3 - 0.4
			Medium	Continuous Interruption	AH	KW10	0.8 0.8	200 - 300 - 500 200 - 300 - 500	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	0.03 - 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	0.05 - 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	0.1 - 0.25 - 0.35 0.1 - 0.2 - 0.3
			Medium	Continuous Interruption	MU	SW05	0.8 0.8	40 - 60 - 80 40 - 60 - 80	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	0.05 - 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	0.1 - 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	0.15 - 0.3 - 0.45 0.15 - 0.3 - 0.45
			Roughing	Continuous Interruption	SX	PR005S PR015S	- -	30 - 55 - 90 25 - 45 - 70	0.5 - 2.0 - 4.0	0.15 - 0.3 - 0.45 0.15 - 0.3 - 0.45
H	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	0.05 - 0.08 - 0.1 0.05 - 0.08 - 0.1
			Finishing	Continuous	Without chipbreaker	PT600M	0.8 1.2	60 - 80 - 100 30 - 40 - 60	0.2 - 0.5 - 0.7	0.05 - 0.1 - 0.15 0.05 - 0.1 - 0.15
		50-65 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 - 0.08 - 0.1 0.05 - 0.08 - 0.1
			Medium	Continuous Interruption	Without chipbreaker	KBN900	1.2	80 - 100 - 120	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2
		50-68 HRC	Finishing	Continuous Interruption	Without chipbreaker	KBN900	1.2	80 - 100 - 120	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2
			Medium	Continuous Interruption	Without chipbreaker	KBN900	1.2	70 - 90 - 110	0.3 - 0.7 - 1.0	0.05 - 0.1 - 0.15



External turning