

Turning

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Product Lineup

General Purpose Turning Toolholders

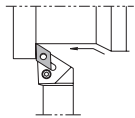
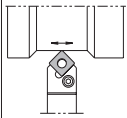
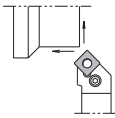
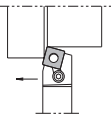
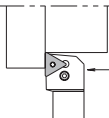
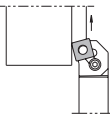
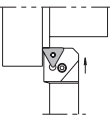
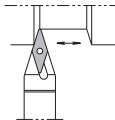
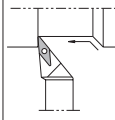
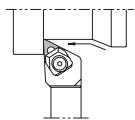
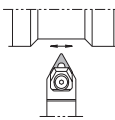
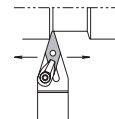
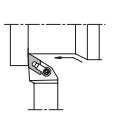
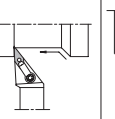
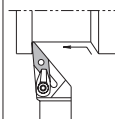
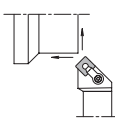
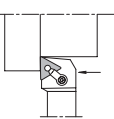
Application	External/Facing		External/Facing/Copying				External/Facing/ Copying/Undercutting
Cutting Edge Angle	95°		105°	107.5°	Special		117.5°
Lever Lock / Double Clamp							
Ref. Page	127/128	140		130	131	132	132
Pin Lock							
Ref. Page							139
Wedge Lock							
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Multi-Lock							
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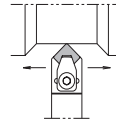
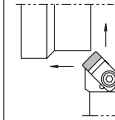
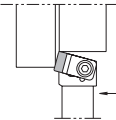
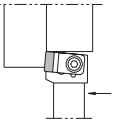
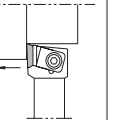
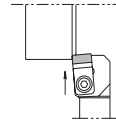
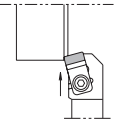
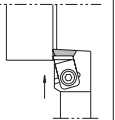
Toolholders for Ceramic Tools

Application	External/Facing			External/Copying			
Cutting Edge Angle	95°	97.5°	Special	93°			Special
Top Clamp							
Ref. Page	143	145	148	145	144	144	147

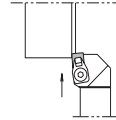
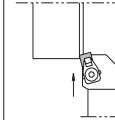
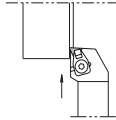
Toolholders for Solid CBN Tools

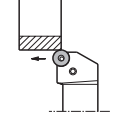
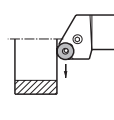
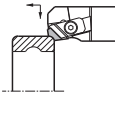
Application	External/Facing		External/Copying	External/Chamfering	External/Facing/ Chamfering	External		
Cutting Edge Angle	95°	Special	Special	45°	45°	75°	93°	
Top Clamp								
Ref. Page	154	155	155	156	156	156	154	158

External/Copying			External/Chamfering		External/Facing/Chamfering	External		Facing	
72.5°	93°	95°	45°	60°	45°	75°	91°	15°	-1°
	 PDJN / DDJN 129/130		 PSDN 133		 PSSN 134	 PSBN 133	 PTGN 136	 PSKN 133	 PTFN 135
 PVVN 139		 PVLN 138							
	 WTJN-N 137			 WTEN-N 137					
 MVVN 139	 MDJN 129	 MVJN 138	 MVLN 138		 MSSN 134	 MTGN 136			

External/Chamfering	External/Facing/Chamfering	External			Facing		
45°	45°	75°	85°	93°	5°	15°	-3°
 CSDN/HSDN 149	 CSSN 152	 CSRN/HSRN 151	 CS-N 150	 CTJN 153	 CSYN 152	 CSKN 150	 CTUN 153

Toolholders for Bearing Machining

Facing		
5°	15°	-3°
 CSYN-A 156	 CSKN-A 156	 CTUN-A 158

Application	External	Facing	External Round Chamfering
Cutting Edge Angle	Special	Special	Special
Lever Lock	 PRGC-BE	 PRGC-BF	
Ref. Page	141	141	
Top Clamp			 CBSN
Ref. Page			142

External Toolholder Identification System

LENGTH AND WIDTH		LENGTH AND SIDE	
A - 4.000 Back and End	B - 4.500 Back and End	M - 4.000 Front and End	N - 4.500 Front and End
C - 5.000 Back and End	D - 6.000 Back and End	P - 5.000 Front and End	R - 6.000 Front and End
E - 7.000 Back and End	F - 8.000 Back and End	S - 7.000 Front and End	T - 8.000 Front and End
G - 5.500 Back and End		U - 5.500 Front and End	

* NOTE: All qualified dimensions are given to a tolerance of $\pm .003$ over a master gauge insert radius based on the standard shown.

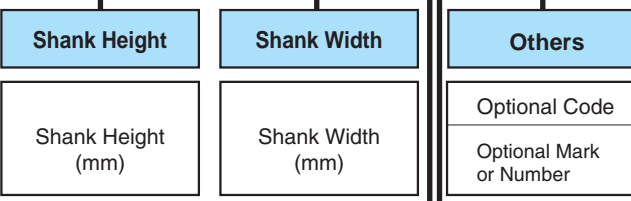
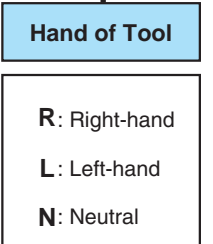
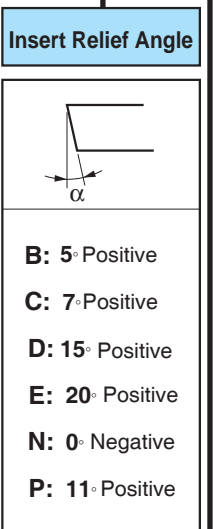
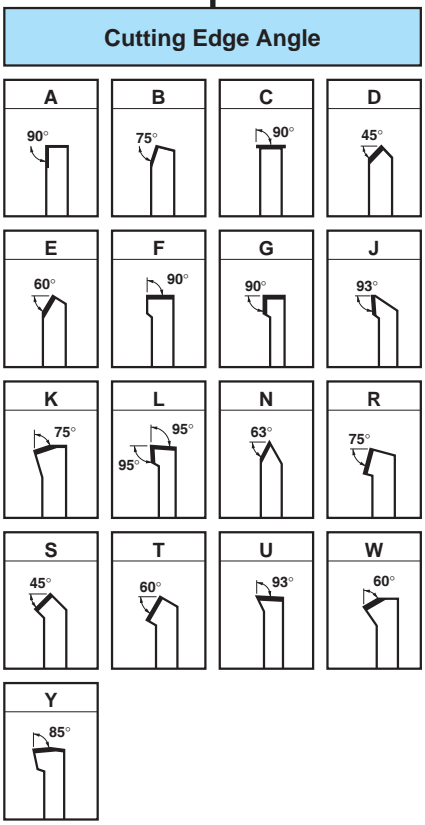
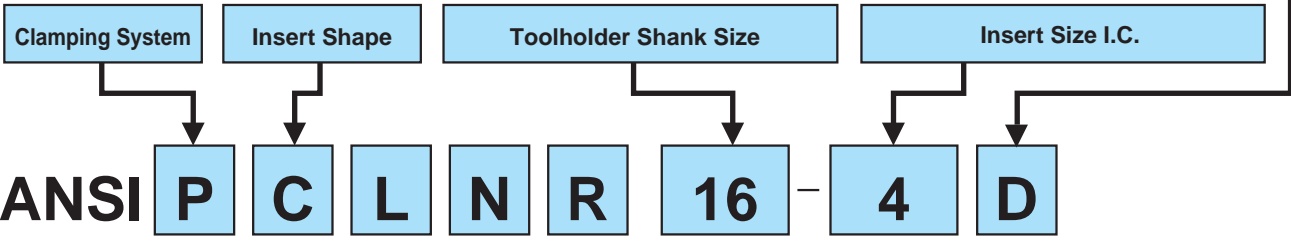
Insert I.C.	Radius
1/4-5/16	.015
3/8-1/2	.031
5/8-3/4	.047
1"	.062

- | | |
|---|------------------------|
| A: Anchor Pin Style | R: Round |
| C: Clamp Only | S: 90° Square |
| D: Double Clamp | T: 60° Triangle |
| M: Clamp and Lock Pin | C: 80° Diamond |
| P: Lock Pin Only (or Lever Lock) | D: 55° Diamond |
| S: Screw Only | V: 35° Diamond |
| W: Wedge Lock | W: 80° Trigon |

This position shall be a significant number which indicates the holder cross section. For square shanks this number will represent the number of sixteenths of width and height. For rectangular holders the first digit represents the number of eighths of width and the second digit the number of quarters of height, except the following toolholder: 1-1/4 x 1-1/2 which is given the number 91.

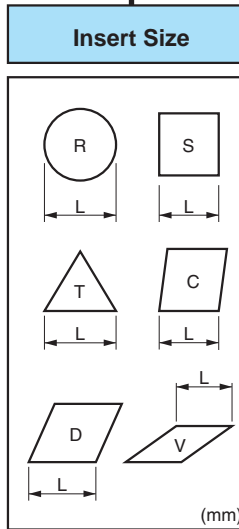
Qualified Control

Number of 1/8ths on 1/4" I.C. and over.



Toolholder Length

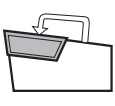
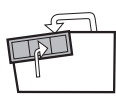
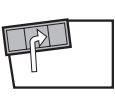
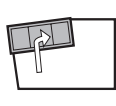
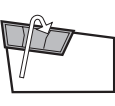
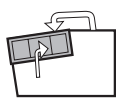
A : 32	J : 110	S : 250
B : 40	K : 125	T : 300
C : 50	L : 140	U : 350
D : 60	M : 150	V : 400
E : 70	N : 160	W : 450
F : 80	P : 170	Y : 500
G : 90	Q : 180	X : Special
H : 100	R : 200	



* Specifications may change without prior notice.

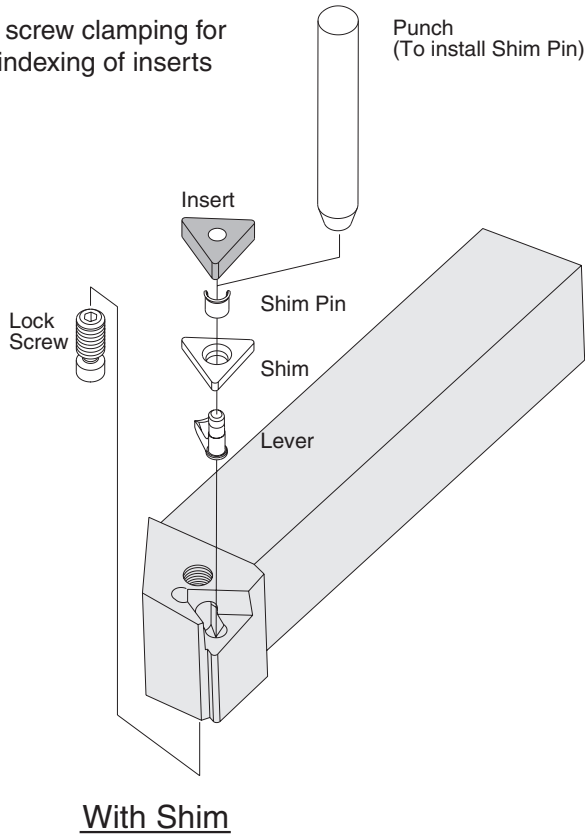
Clamping System

Clamping System

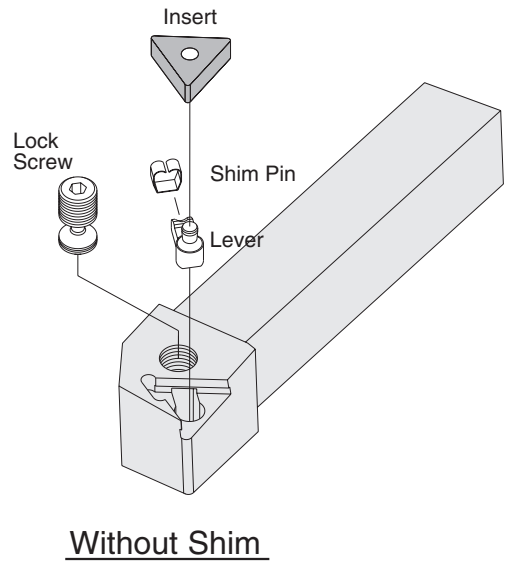
Name	Mechanism	Feature	Name	Mechanism	Feature
Top Clamp (C)		<ul style="list-style-type: none"> · Rigid Clamping · Negative Insert: Medium to Heavy Cutting (Mainly for Ceramic Insert) · Positive Insert: Low Cutting Resistance 	Multi Lock (M)		<ul style="list-style-type: none"> · Combination of Top Clamp and Pin Lock · Rigid Clamping · Heavy Cutting
Pin Lock (P)		<ul style="list-style-type: none"> · Firm Clamping · High Precision · Easy Insert Replacement 	Lever Lock (P)		<ul style="list-style-type: none"> · Firm Clamping · High Precision · Easy Insert Replacement · For General Use
Screw Clamp (S)		<ul style="list-style-type: none"> · Simple Mechanism · Fewer Parts · Finishing to Medium Cutting 	Wedge Lock (W)		<ul style="list-style-type: none"> · Rigid Clamping · Heavy Cutting

● Lever Lock

One screw clamping for fast indexing of inserts

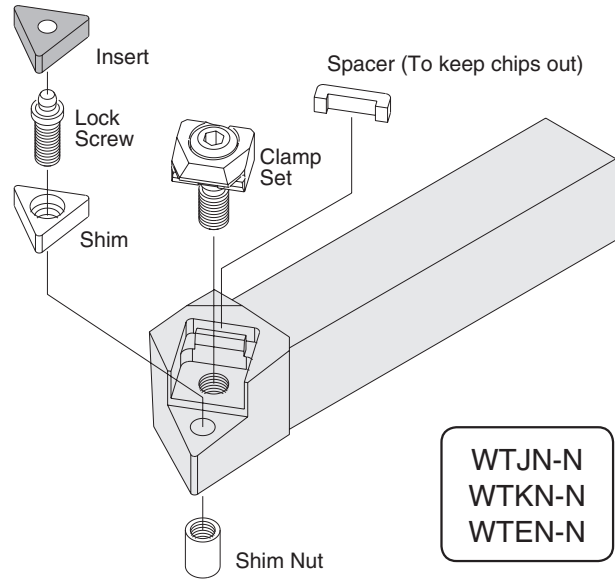
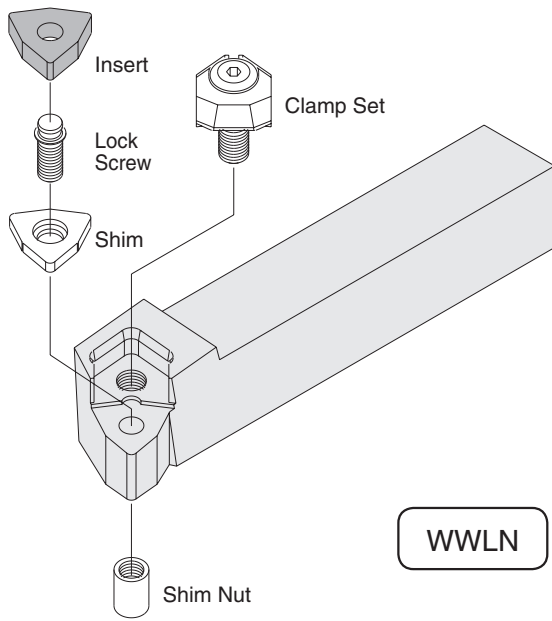


- PCLN
- PDHN / PDJN
- PRGN / PRGC / PRXC
- PSBN / PSDN / PSKN / PSSN
- PTFN / PTGN / PVLN / PVVN
- PWLN

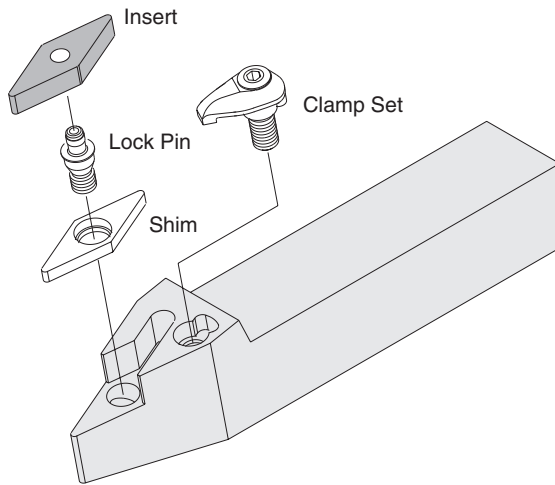


Clamping System

● Wedge Lock

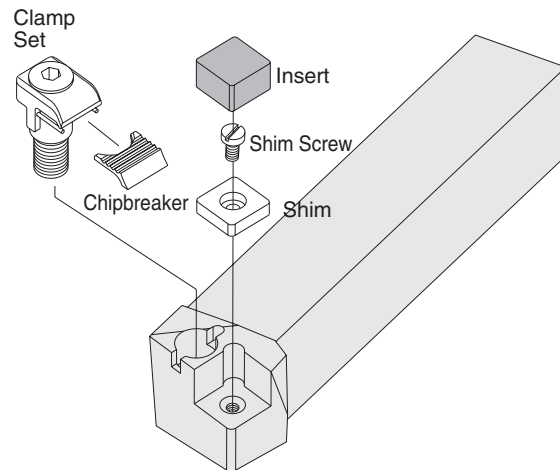


● Multi-Lock



MCLN
MDJN
MSSN
MTGN
MVJN
MVVN
MWLN

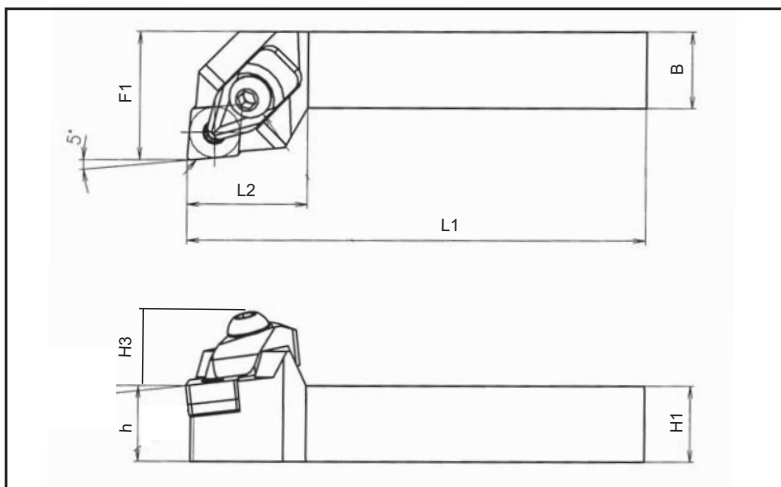
● Top Clamp



CCLN / HCLN
CDJN / HDJN
CEJN / CELN
CRDC / CRDN / CRSN / HRSN
CSDN / HSDN / CSKN / CS-N
CSRN / HSRN / CSSN / CSYN
CTJN / CTUN

※ Chipbreaker is not included with CRSN, CRDN types.

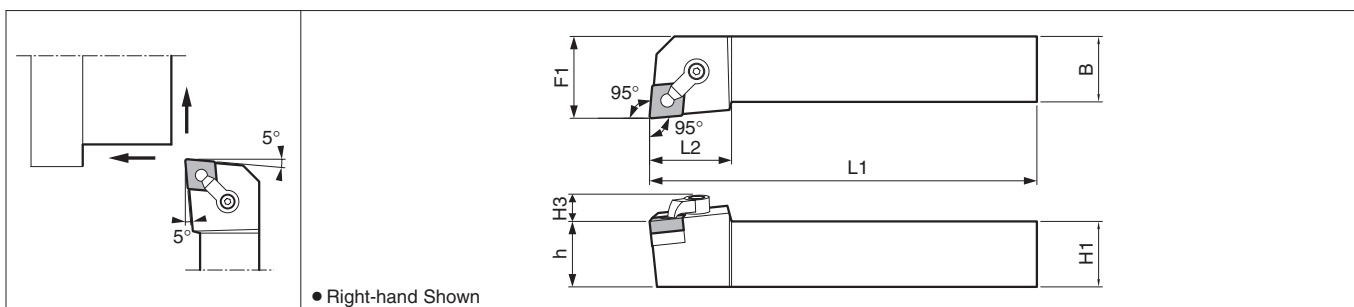
■ DCLN (External/Facing)



● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp	Wrench	Pin	Shim	Shim clip	Spring	Spring
DCLN ^{90°} 12-4B	●	●	●	inch	.750	.700	.750	4.50	1.18	1.26	1/32	CPS-7AB	LW-4	MP3x15	DCN-42	SP2.5 x 10	WR3 x 10	SP8.5 X 15
16-4D	●	●	●		1.00	.700	1.00	6.00	1.18	1.25								

■ MCLN (External/Facing)



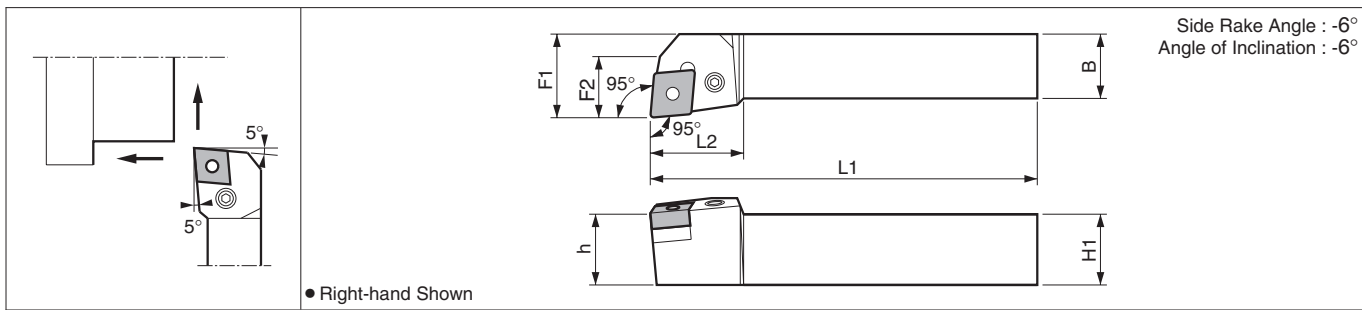
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
MCLN ^{90°} 12-4B	●	●	●	inch	0.75		0.75	4.00	1.19	1.00	1/32							
16-4D	●	●	●		1.00		1.00	6.00	1.26	1.25		CL-20	XNS-48	LW-125	ICSN433	S-46	NL46	LW-094
16-5D	●	●	●		1.00	.440	1.00	6.00	1.375	1.25		CL-12	XNS-510	LW-156	ICSN533	S-58	NL58	LW-125
20-5D	●	●	●		1.25		1.25	6.00	1.375	1.50		CL-12	XNS-510	LW-156	ICSN533	S-58	NL58	LW-125
20-6D	●	●	●		1.25		1.25	6.00	1.50	1.50		CL-12	XNS-510	LW-156	ICSN633	S-68	NL68	LW-125

● Applicable Inserts

Toolholder	Insert					
	Cermet / Coated / Carbide		Ceramic	CBN	PCD	
MCLN ^{90°} /L...-4	with Hole	CNGA43_ , CNGG43_ CNMA43_ , CNMG43_	CNGA43_	CNGA43_	CNMM43_	
CNMM43_ , CNMP43_		CNMA43_	(CNM43_)			
MCLN ^{90°} /L...-5		CNMA54_ , CNMG54_ , CNMM54_ ,	CNGA54_			
MCLN ^{90°} /L...-6		CNMA64_ , CNMG64_ , CNMM64_ , CNMP64_	CNGA64_			
DCLN ^{90°} /L...-4		CNGA43_ , CNGG43_ CNMA43_ , CNMG43_	CNGA43_	CNGA43_		
		CNMM43_ , CNMP43_	CNMA43_	(CNM43_)		
Reference Page		37-40		90	98	111

PCLN (External/Facing)



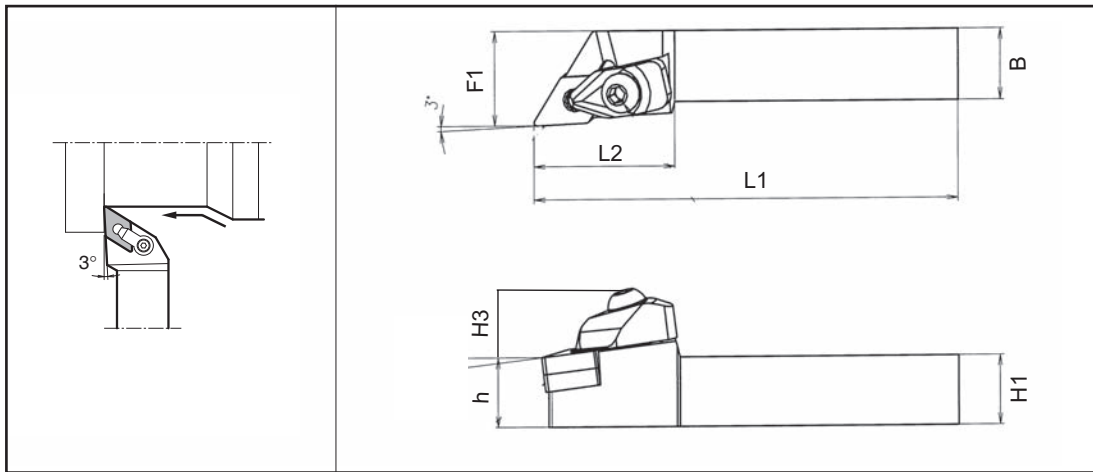
● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts							
	R	N	L		H1=h	B	L1	L2	F1		F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	
PCLN ^{R/L} 12-3B 16-3D 12-4B 16-4D	●			inch	0.75	0.75	4.50	0.87	1.00	0.61	1/32							
					1.00	1.00	6.00	0.87	1.25	0.70								
	●				0.75	0.75	4.50	1.06	1.00	0.80	1/32							
	●				1.00	1.00	6.00	1.06	1.25	0.78								
PCLN ^{R/L} 1616H -09 2020K -09 2525M -09 1616H -12 2020K -12 2525M -12 3225P -12 2525M -16 3232P -16 3232P -19	○		○	mm	16	16	100	22	20	14	0.8							
	○		○		20	20	125	22	25	15								
	○		○		25	25	150	22	32	18								
	○		○		16	16	100	27	20	17	0.8							
	○		○		20	20	125	27	25	20								
	○		○		25	25	150	27	32	20								
	○		○		32	25	170	27	32	20								
	○		○		25	25	150	32	32	25	0.8					-		
	○		○		32	32	170	32	40	25								
					32	32	170	40	40	27		0.8					-	

● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
PCLN ^{R/L} ...-3	with Hole	CNGG33_ CNMG33_	-	-	-
PCLN ^{R/L} ...-4		CNGA43_ , CNGG43_ CNMA43_ , CNMG43_ CNMM43_ , CNMP43	CNGA43_ CNMA43_	CNGA43_	CNMM43_
PCLN ^{R/L} ...-09	with Hole	CNGG33_ CNMG33_	-	-	-
PCLN ^{R/L} ...-12		CNGA43_ , CNGG43_ CNMA43_ , CNMG43_ CNMM43_ , CNMP43_	CNGA43_ CNMA43_	CNGA43_	CNMM43_
PCLN ^{R/L} ...-16		CNMG54_ , CNMA54_ , CNMM54	CNGA54_	-	-
PCLN ^{R/L} ...-19		CNMG64_ , CNMA64_ , CNMM64_	CNGA64_	-	-
Reference Page		37~40	90	98	111

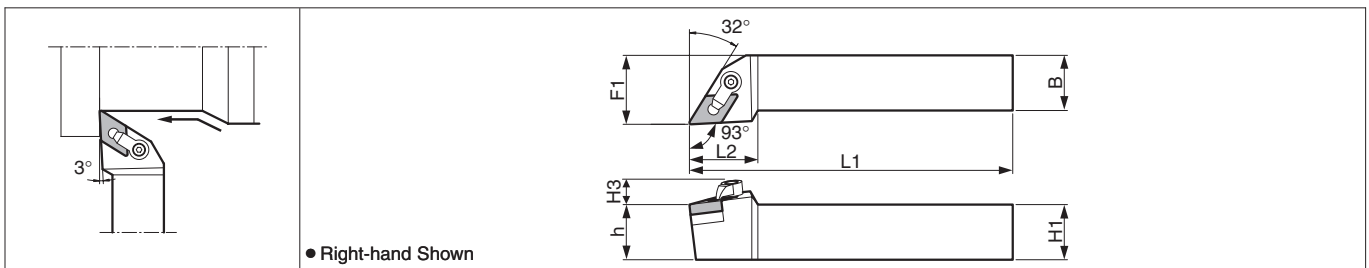
DDJN (External/Facing)



Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts							
	R	N	L		H1=h	H3	B	L1	L2		F1	Clamp	Wrench	Pin	Shim	Shim Clip	Spring	Spring
DDJN ^{R/L} 12-4B	●	●	●	inch	0.75	0.70	0.75	4.50	1.50	1.00	1/32	CPS-7AB	LW-4	MP3x15	DDN-43	SP2.5x10	WR3x10	SP8.5x15
DDJN ^{R/L} 16-4D	●	●	●	inch	1.00	0.70	1.00	6.00	1.50	1.25								

MDJN (External/Copying)



Toolholder Dimensions

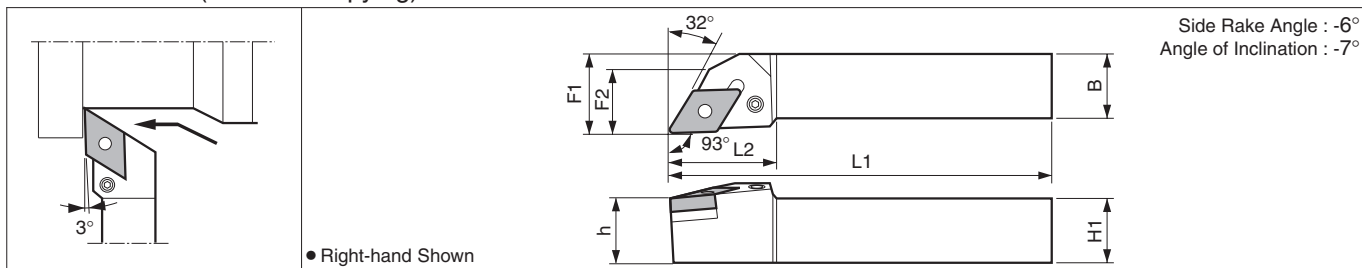
Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts							
	R	N	L		H1=h	H3	B	L1	L2		F1	Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
MDJN ^{R/L} 12-4B	●	●	●	inch	0.75	0.47	0.75	4.50	1.25	1.00	1/32							
MDJN ^{R/L} 16-4D	●	●	●	inch	1.00	0.46	1.00	6.00	1.25	1.25		CL-20	XNS-48	LW-125	IDSN443	S-46	NL46	LW-094

Applicable Inserts

Toolholder	Insert					
	with Hole	Cermet / Coated / Carbide	Ceramic	CBN	PCD	
DDJN ^{R/L} ...-4 MDJN ^{R/L} ...-4	with Hole	DNGA43_ , DNGG43_ DNMA43_ , DNMG43_ DNMM43 , DNMP43 , DNMX43	DNGA43_ (DNG43_)	DNGA43_	DNMM43_	
Reference Page		41~45		91	99	111

External Toolholders [DN□□ Insert]

PDJN (External/Copying)

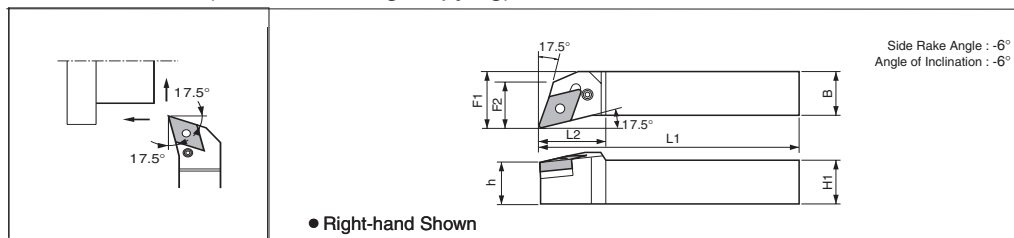


Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts						
	R	N	L		H1=h	B	L1	L2	F1		F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PDJN ^{R/L} 12-3B	●			inch	0.75	0.75	4.5	1.10	1.00	-	1/64	LL-1D	LS-1	LD-32	LSP-1	PC-1	FH-2.5
16-3D	●	●	1.00		1.00	6.0	1.10	1.25	1.05	1/32		LL-3	LS-2	LD-42	LSP-2	PC-2	LW-3
16-4D	●	●	1.00		1.00	6.0	1.37	1.25	0.97			LL-3	LS-2	LD-42	LSP-2	PC-2	LW-3
PDJN ^{R/L} 1616H -11	○		○	mm	16	16	100	28	20	-	0.4	LL-1D	LS-1	LD-32	LSP-1	PC-1	FH-2.5
2020K -11	○		○		20	20	125	28	25	-		0.8	LL-3	LS-2	LD-42	LSP-2	PC-2
2525M -11	○		○		25	25	150	28	32	27	LL-3		LS-2	LD-42	LSP-2	PC-2	LW-3
2020K -15	○		○		20	20	125	36	25	-	LL-3		LS-2	LD-42	LSP-2	PC-2	LW-3
2525M -15	○		○		25	25	150	36	32	25	LL-3		LS-2	LD-42	LSP-2	PC-2	LW-3
3225P -15	○		○		32	25	170	36	32	25	LL-3		LS-2	LD-42	LSP-2	PC-2	LW-3
2525M -15U	○		○		25	25	150	34	32	24	0.8	LL-4	LS-3	LD-42 (LD-43)	LSP-2	PC-2	LW-3
3232P -15U	○		○	32	32	170	36	40	28	LL-4		LS-3	LD-42 (LD-43)	LSP-2	PC-2	LW-3	

Shim LD-42 is included with the PDJN R/L holder. When using DN_43_inserts, please purchase shim separately.

PDHN (External/Facing/Copying)



Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts						
	R	N	L		H1=h	B	L1	L2	F1		F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PDHN ^{R/L} 2020K -15	○		○	mm	20	20	125	34	25	22	0.8	LL-4	LS-3	LD-43 (LD-42)	LSP-2	PC-2	LW-3
2525M -15	○		○		25	25	150	34	32	24		LL-4	LS-3	LD-43 (LD-42)	LSP-2	PC-2	LW-3

Shim: LD-43 is included with PDHN. When using DN_44_Insert, purchase LD-42 separately.

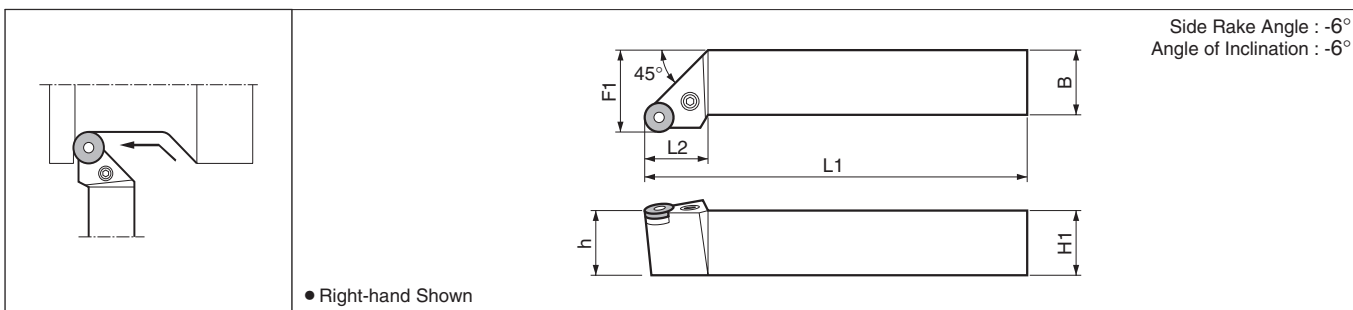
Applicable Inserts

Toolholder	Insert					
	Cermet / Coated / Carbide		Ceramic	CBN	PCD	
PDJN ^{R/L} ...-3	with Hole	DNMG33		-	-	-
PDJN ^{R/L} ...-4		DNGA43_, DNGG43_ DNMA43_, DNMG43_ DNMM43_, DNMP43_, DNMX43		DNGA43_ DNMA43_	DNGA43_	DNMM43_
PDJN ^{R/L} ...-11		DNMG33_		-	-	-
PDJN ^{R/L} ...-15 PDHN ^{R/L} ...-15*	with Hole	DNGA43_, DNGG43_ DNMA43_, DNMG43_ DNMM43_, DNMP43_, DNMX43		DNGA43_	DNGA43_	DNMM43_
PDJN ^{R/L} ...-15U		DNMG44_ (DNMG43_)		DNGA44_ (DNGA43_)	DNGA44_ (DNGA43_)	-
Reference Page		41~45		91	99	111

* DNMG44_, DNGA44_, DNMM44_ and DNMP44_ inserts may be used with PDHN_-15 holders with LD-42 shim.

● : Std. Stock ○ : World Express

PRGN (External/Facing/Copying)



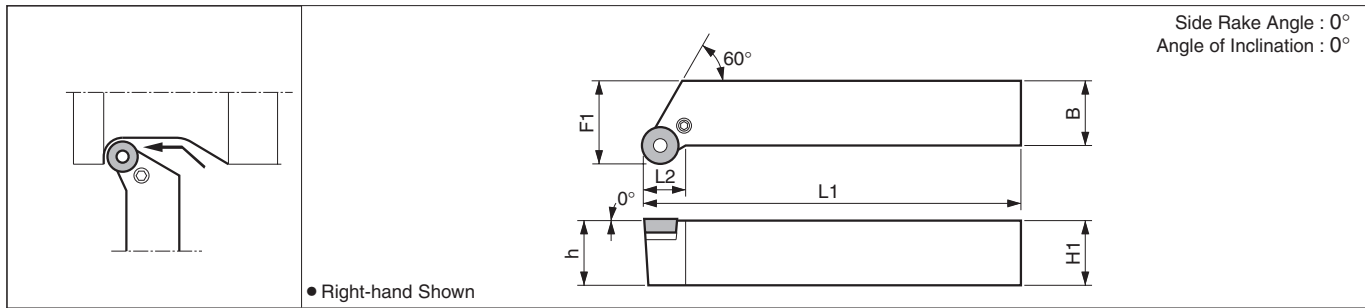
● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGN ^{R/L} 2020K -09 2525M -12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	mm	20	20	125	19	25	-						
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		25	25	150	26	32							

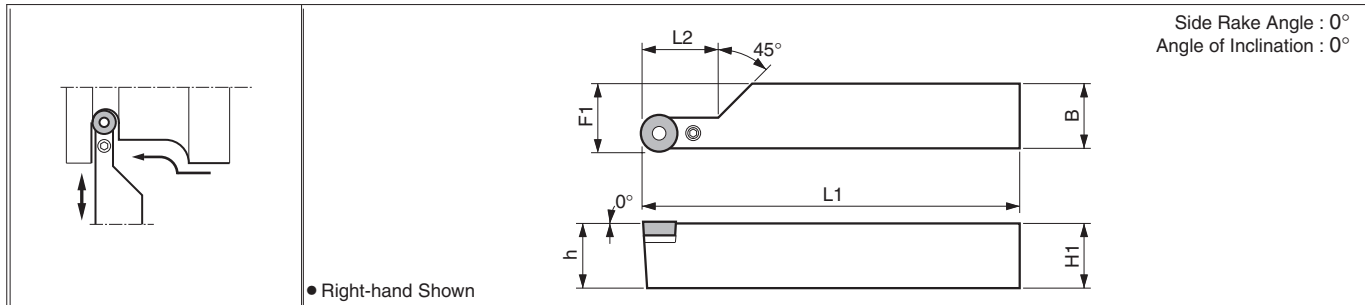
● Applicable Inserts

Toolholder	Insert				
	with Hole	Cermet / Coated / Carbide	Ceramic	CBN	PCD
PRGN ^{R/L} ...-09	with Hole	RNMA32_ RNMG32	-	-	-
PRGN ^{R/L} ...-12		RNMA43_ RNMG43	-	-	-
Reference Page		46	-	-	-

PRGC (External/Facing/Copying)



PRXC (External/Facing/Copying)



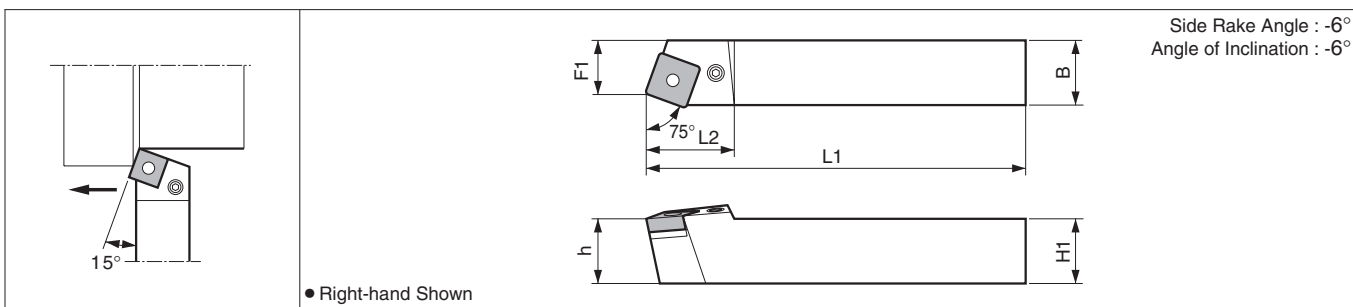
● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGC ^{RL} 2020K -10 2525M -10 2020K -12 2525M -12	○	○	○	mm	20	20	125	15	25	-	LL-05C	LS-05	LR-10C	LSP-1	PC-1	FH-2
	○	○	○		25	25	150	15	32							
	○	○	○		20	20	125	14	25							
	○	○	○		25	25	150	17	32							
PRGC ^{RL} 12-10MC 12-12MC 16-10MD 16-12MD	●	●	●	in	.750	.750	5.00	0.60	1.00	-	LL-05C	LS-05	LR-10C	LSP-1	PC-1	FH-2
	●	●	●		.750	.750	5.00	0.60	1.00							
	●	●	●		1.00	1.00	6.00	0.60	1.25							
	●	●	●		1.00	1.00	6.00	0.60	1.25							
PRXC ^{RL} 2020K -10 2525M -10 2525Q -12 2525M -12	○	○	○	mm	20	20	125	25	20.5	-	LL-1C	LS-1	LR-12C	LSP-1	PC-1	FH-2.5
	○	○	○		25	25	150	30	25.5							
	○	○	○		25	25	180	30	25.5							
	○	○	○		25	25	150	30	25.7							
PRXC ^{RL} 12-10MC 12-12MC 16-10MD 16-12MD	●	●	●	in	.750	.750	5.00	1.0	0.77	-	LL-05C	LS-05	LR-10C	LSP-1	PC-1	FH-2
	●	●	●		.750	.750	5.00	1.0	0.77							
	●	●	●		1.00	1.00	6.00	1.0	1.02							
	●	●	●		1.00	1.00	6.00	1.0	1.02							

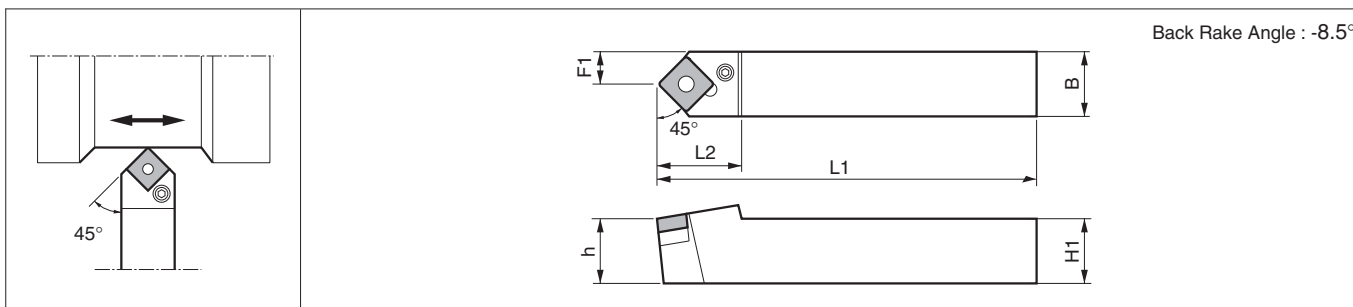
● Applicable Inserts

Toolholder	Insert			
	Cermet / Coated / Carbide	Ceramic	CBN	PCD
PRGC ^{RL} ...-10	with Hole RCGX10_ RCMX10_ RCMX12_	-	-	-
PRGC ^{RL} ...-12		-	-	-
PRXC ^{RL} ...-10	with Hole RCGX10_ RCMX10_ RCMX12_	-	-	-
PRXC ^{RL} ...-12		-	-	-
Reference Page		69	-	-

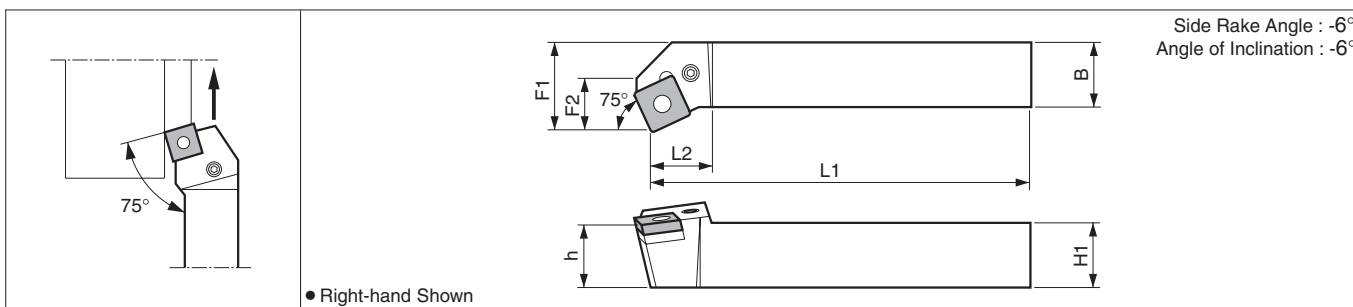
PSBN (External)



PSDN (External/Chamfering)



PSKN (Facing)



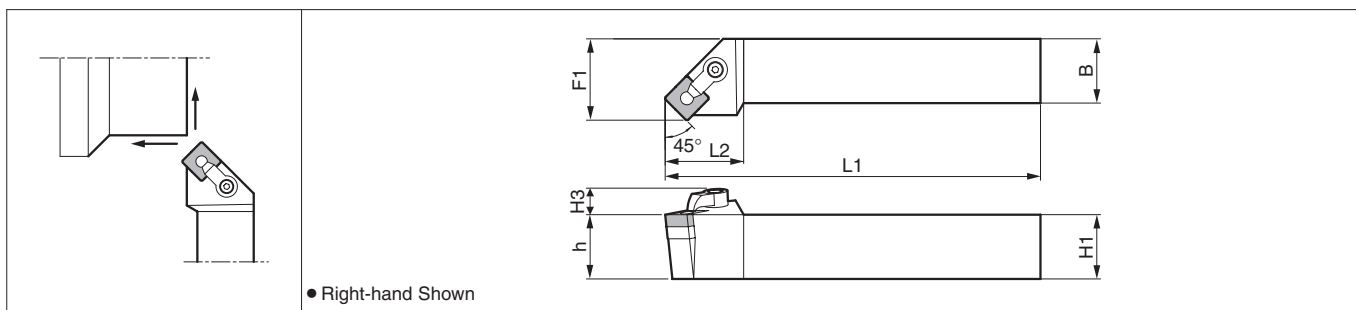
● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts							
	R	N	L		H1=h	B	L1	L2	F1		F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	
PSBN ^{R/L}	1616H	-09	○	○	mm	16	16	100	21	13	-	0.8	LL-1	LS-1	LS-32	LSP-1	PC-1	FH-2.5
	2020K	-12	○	○		20	20	125	21	17	-	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3
	2525M	-12	○	○		25	25	150	24	22	-	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3
PSDNN	1616H	-09	○	○	mm	16	16	100	21	8	-	0.8	LL-1	LS-1	LS-32	LSP-1	PC-1	FH-2.5
	2020K	-12	○	○		20	20	125	30	10	-	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3
	2525M	-12	○	○		25	25	150	30	12.5	-	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3
PSKN ^{R/L}	1616H	-09	○	○	mm	16	16	100	19	20	12.7	0.8	LL-1	LS-1	LS-32	LSP-1	PC-1	FH-2.5
	2020K	-12	○	○		20	20	125	22.5	25	17	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3
	2525M	-12	○	○		25	25	150	22.5	32	19	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3

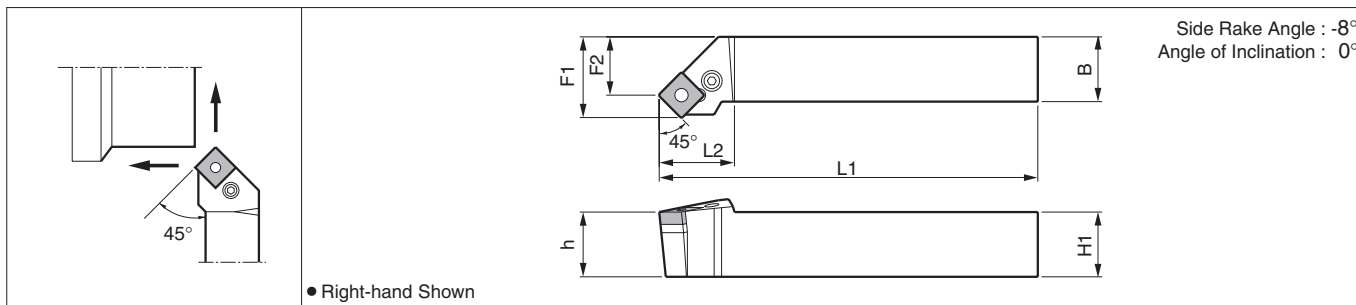
● Applicable Inserts

Toolholder	Insert					
	Cermet / Coated / Carbide		Ceramic	CBN	PCD	
PSBN ^{R/L} ...-09 PSDNN...-09 PSKN ^{R/L} ...-09	with Hole	SNGA33_ SNMG33_		-	-	-
PSBN ^{R/L} ...-12 PSDNN...-12 PSKN ^{R/L} ...-12		SNGA43_, SNGG43_ SNMA43_, SNMG43_, SNMP43_		SNGA43_ SNMA43_	SNGA43_	-
Reference Page		47~49		93	100	-

MSSN (External/Facing/Chamfering)



PSSN (External/Facing/Chamfering)



● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock pin	Wrench
	MSSN% 12-4B	●				inch	0.75	0.54	0.75	4.5		1.23	0.675	1/32				
16-4D	●				1.00	0.54	1.00	6.0	1.23	0.925		CL-9	XNS59	LW-156	ISSN433	S-46	NL46	LW-094

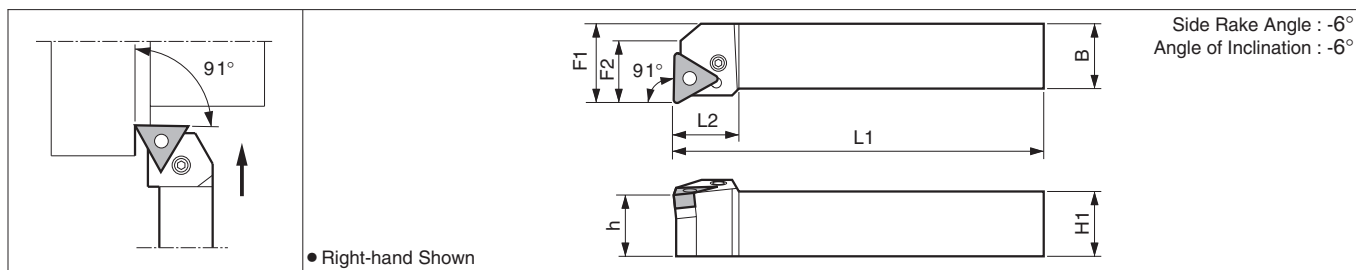
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	F2		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
	PSSN% 1616H -09	○			○	mm	16	16	100	22		20	13.6	0.8			
2020K -12	○		○		20	20	125	27	25	16.4	0.8	LL-2	LS-2	LS-42	LSP-2	PC-2	LW-3
2525M -12	○		○		25	25	150	27	32	23.4							

● Applicable Inserts

Toolholder	Insert				
	Cermet / Coated / Carbide		Ceramic	CBN	PCD
MSSN%L...-4	with Hole	SNGA43_ , SNGG43_ SNMA43_ , SNMG43_ , SNMP43_ (SNG43_), (SNM43_), (SNU43_)	SNGA43_ SNMA43_ (SNG43_) (SNM43_)	SNGA43_ (SNM43_)	-
PSSN%L...-09	with Hole	SNGA33_ SNMG33_	-	-	-
PSSN%L...-12		SNGA43_ , SNGG43_ SNMA43_ , SNMG43_ , SNMP43	SNGA43_ SNMA43	SNGA43_	-
Reference Page		47~49		93	100

PTFN (Facing)



● Right-hand Shown

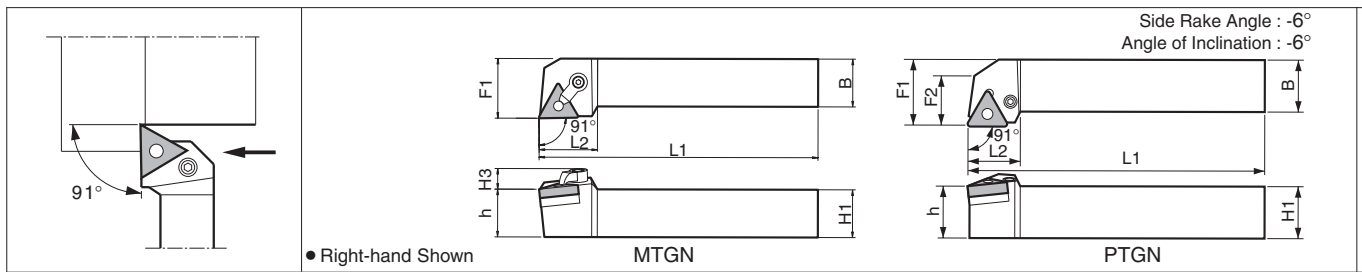
● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts						
	R	N	L		H1=h	B	L1	L2	F1		F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PTFN [®] / _L 12-3C	●	●	●	inch	0.75	0.75	5.00	.88	1.0	.83	1/32	LL-1	LS-1	LT-32	LSP-1	PC-1	FH-2.5
16-3D	●	●	●		1.00	1.00	6.00	.88	1.25	.88	1/32	LL-1	LS-1	LT-32	LSP-1	PC-1	FH-2.5
16-4D	●	●	●		1.00	1.00	6.00	1.10	1.25	0.97	1/32	LL-2	LS-2	LT-42	LSP-2	PC-2	LW-3
PTFN [®] / _L 1212F -11	○	○	○	mm	12	12	80	15	16	12	0.8	LL-03	LS-03	-	P-03	-	FH-2
1616H -11	○	○	○		16	16	100	22.5	20	15	0.8	LL-03T	LS-03S	-	P-03S	-	FH-2.5
2020K -11	○	○	○		20	20	125	22.5	25	19							
2525M -11	○	○	○		25	25	150	22.5	32	25	0.8	LL-1	LS-1	LT-32	LSP-1	PC-1	FH-2.5
2020K -16	○	○	○		20	20	125	24	25	21							
2525M -16	○	○	○		25	25	150	24	32	22							
2525M -22	○	○	○		25	25	150	29	32	25	0.8	LL-2	LS-2	LT-42	LSP-2	PC-2	LW-3
3225P -22	○	○	○	32	25	170	29	32	25								

● Applicable Inserts

Toolholder	Insert					
		Cermet / Coated / Carbide		Ceramic	CBN	PCD
PTFN [®] / _L ...-4	with Hole	TNGA43_ , TNGG43_ , TNMA43 , TNMG43 , TNMP43		TNGA43_	-	-
PTFN [®] / _L 1212F-11	with Hole	TNGA22_ , TNGG22_ , TNMA22		-	-	-
PTFN [®] / _L ...-11		TNGG23_ , TNMG23_		-	-	-
PTFN [®] / _L ...-3		TNGA33_ , TNGG33_		TNGA33_	TNGA33_	TNMM33_
PTFN [®] / _L ...-16		TNMA33 , TNMG33				
PTFN [®] / _L ...-22		TNGA43_ , TNGG43_ , TNMA43 , TNMG43 , TNMP43		TNGA43_	-	-
Reference Page		51~56		94~95	101	111

MTGN/PTGN (External)



● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
	MTGN% 12-3B	●	●			inch	0.75	0.35	0.75	4.5		0.94	1.00	1/64	CL-6	XNS36	LW-094	ITSN333 (ITSN323)
16-3D	●	●		inch	1.00	0.35	1.00	6.0	0.94	1.25	1/64	CL-9	XNS510	LW-156	ITSN432	S-46	NL46	LW-094
16-4D	●	●		inch	1.00	0.48	1.00	6.0	1.19	1.25	1/32							

· Shim: ITSN333 is included with MTGNR/L12-3B. When using TN_33_ insert, please purchase ITSN323 separately.

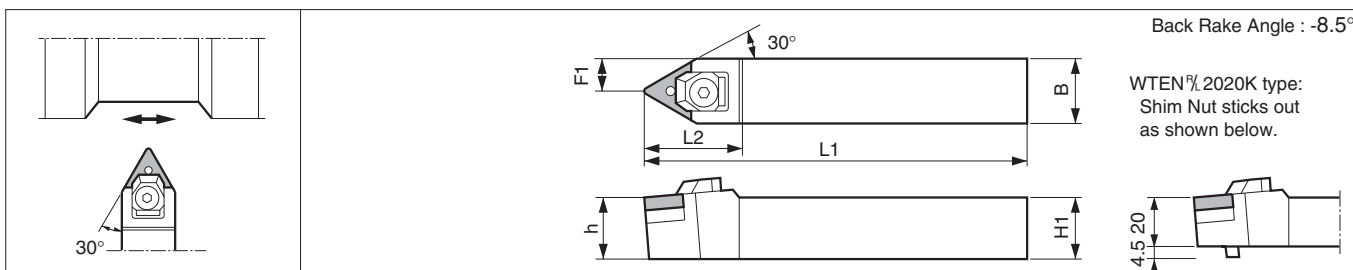
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	F2		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
	PTGN% 12-3B	●				inch	0.75	0.75	4.5	0.96		1.00	0.80	1/32	LL-1	LS-1	LT-32
PTGN% 1212F -11	○		○	mm	12	12	80	18	16	12	0.8	LL-03	LS-03	-	P-03	-	FH-2
1616H -11	○		○		16	16	100	22	20	14	0.8	LL-03T	LS-03S	-	P-03S	-	FH-2.5
2020K -11	○		○		20	20	125	22	25	20	0.8	LL-03T	LS-03S	-	P-03S	-	FH-2.5
2525M -11	○		○		25	25	150	22	32	22	0.8	LL-03T	LS-03S	-	P-03S	-	FH-2.5
1616H -16	○		○		16	16	100	24	20	17	0.8	LL-1	LS-1	LT-32	LSP-1	PC-1	FH-2.5
2020K -16	○		○		20	20	125	24	25	20	0.8	LL-1	LS-1	LT-32	LSP-1	PC-1	FH-2.5
2525M -16	○		○		25	25	150	24	32	20	0.8	LL-1	LS-1	LT-32	LSP-1	PC-1	FH-2.5
2525M -22	○		○	25	25	150	29	32	24	0.8	LL-2	LS-2	LT-42	LSP-2	PC-2	LW-3	
3225P -22	○		○	32	25	170	29	32	24	0.8	LL-2	LS-2	LT-42	LSP-2	PC-2	LW-3	

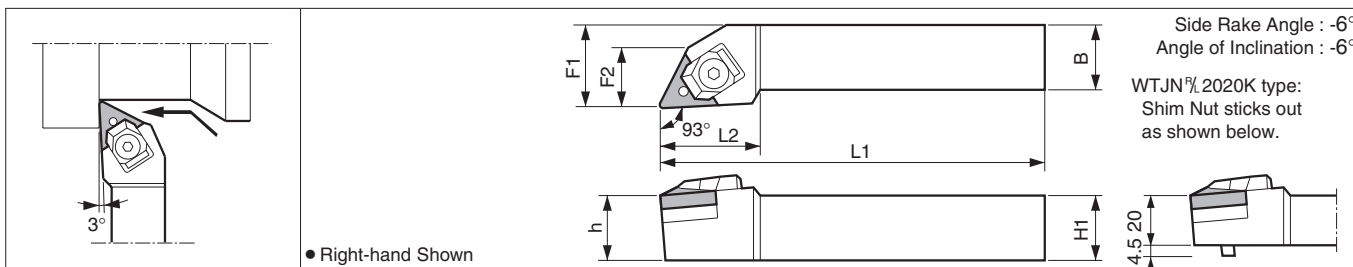
● Applicable Inserts

Toolholder	Insert						
	Cermet / Coated / Carbide			Ceramic	CBN	PCD	
MTGN%...-3	with Hole	TNGG32_			-	-	-
		TNMA32_ , TNMG32_ (TNGA33_), (TNGG33_) (TNMA33_), (TNMG33_), (TNMP33_)			(TNGA33_)	(TNGA33_)	(TNMM33_)
MTGN%...-4	with Hole	TNGA43_ , TNGG43_ TNMA43_ , TNMG43_ , TNMP43			TNGA43_	-	-
		TNGA33_ , TNGG33_ TNMA33_ , TNMG33_ , TNMP33			TNGA33_	TNGA33_	TNMM33_
PTGN%...-3	with Hole	TNGA22_ , TNGG22_ TNMA22			-	-	-
PTGN%...-11	with Hole	TNGG23_ TNMG23			-	-	-
		TNGA33_ , TNGG33_ TNMA33_ , TNMG33_ TNMP33			TNGA33_	TNGA33_	TNMM33_
PTGN%...-16	with Hole	TNGA43_ , TNGG43_ TNMA43_ , TNMG43_ , TNMP43			TNGA43_	-	-
PTGN%...-22	with Hole	TNGA43_ , TNGG43_ TNMA43_ , TNMG43_ , TNMP43			TNGA43_	-	-
Reference Page		51~56			94~95	101	111

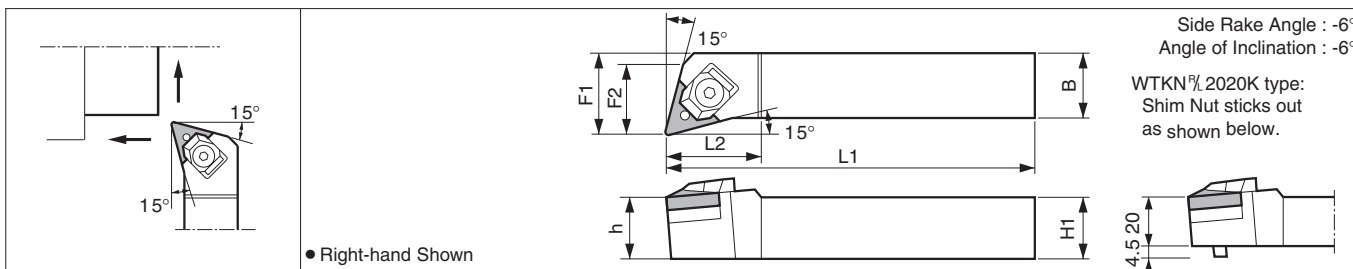
WTEN-N (External/Chamfering, Heavy Duty)



WTJN-N (External/Copying, Heavy Duty)



WTKN-N (External/Facing/Copying, Heavy Duty)



● Toolholder Dimensions

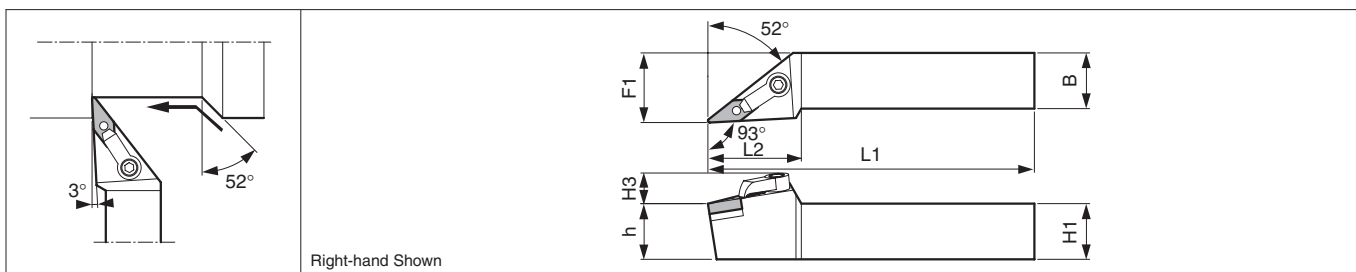
Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	F2		Clamp Set	Shim	Shim Pin	Shim Nut	Wrench	Spacer
WTENN 2020K -16N	○	○		mm	20	20	125	32	10	-	0.8	WCS-1N	WTN-33	WP-1S	WN-1	LW-3	WSP-1
2525M -16N	○	○			25	25	150	32	12.5	-							
WTJN% 2020K -16N	○	○	○		20	20	125	30	25	-	0.8						
2525M -16N	○	○	○		25	25	150	32	32	30							
WTKN% 2020K -16N	○	○	○		20	20	125	31	25	23	0.8						
2525M -16N	○	○	○		25	25	150	33	32	24							
WTENN 12-3C	●	●		in	0.75	0.75	5.0	1.26	.38	-	1/32	WCS-1N	WTN-33	WP-1S	WN-1	LW-3	WSP-1
16-3D	●	●			1.00	1.00	6.0	1.26	.78	-							
WTJN% 12-3C	●	●	●		0.75	0.75	5.0	1.26	1.0	.96	1/32						
16-3D	●	●	●		1.00	1.00	6.0	1.26	1.25	.94							
WTKN% 12-3C	●	●	●		0.75	0.75	5.0	1.26	1.0	-	1/32						
16-3D	●	●	●		1.00	1.00	6.0	1.26	1.25	1.17							

● Applicable Inserts

Toolholder	Insert				
	with Hole	Cermet / Coated / Carbide	Ceramic	CBN	PCD
WTENN...-16	with Hole	TNGA33_ , TNGG33_ TNMA33_ , TNMG33_ TNMP33_	-	TNGA33_	TNMM33_
WTENN...-3					
WTJN%...-16					
WTJN%...-3					
WTKN%...-16					
WTKN%...-3					
Reference Page		51~56	94~95	101	111

● : Std. Stock ○ : World Express

MVJN



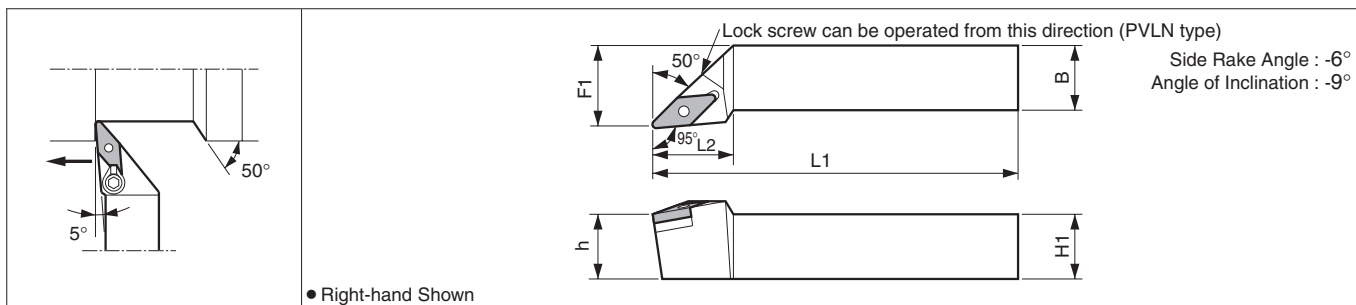
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
	MVJN ^{R/L} 12-3B 16-3C	●	●		●	inch	0.75	0.59	0.75	4.5		1.69	1.00	1/64	CL-30	XNS510	LW-156	IVSN322

● Applicable Inserts

Toolholder	Insert				
	with Hole	Cermet / Coated / Carbide	Ceramic	CBN	PCD
MVJN ^{R/L} ...-3	with Hole	VNGA33_ , VNGG33_ VNMG33_ , VNMX33	VNGA33_	VNGA33_	VNMM33_
Reference Page		56~58	95	102	111

MVLN/PVLN (External/Copying)



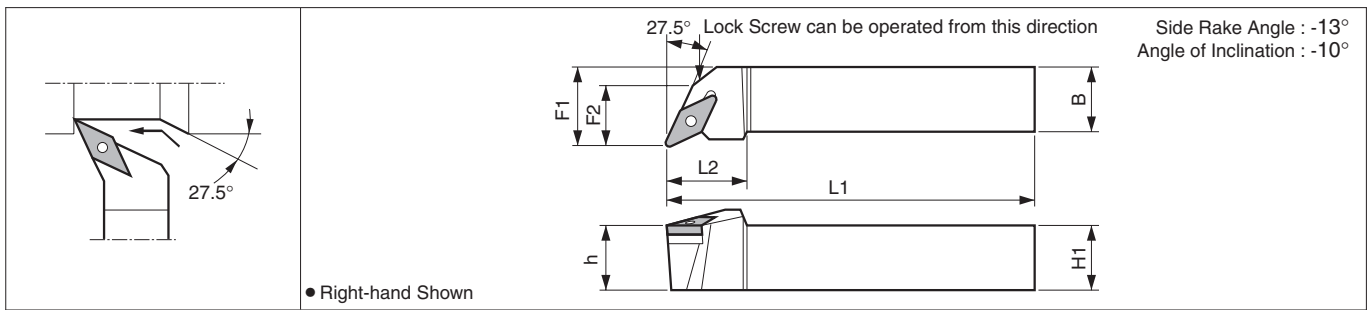
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	Clamp Set		Wrench	Shim	Lock Pin	Wrench	Lock Screw	
	MVLN ^{R/L} 2020K -16 2525M -16	○	○		○	mm	20	20	125	37		25	0.8	CPS-5 ^{R/L}	FH-2.5	MVN-32	TS-3S
PVLN ^{R/L} 2525M -16Q	○	○	○		25	25	150	37	32	0.8	-	-	KVN-32	LP-6S	LW-3	LS-15	

● Applicable Inserts

Toolholder	Insert				
	with Hole	Cermet / Coated / Carbide	Ceramic	CBN	PCD
MVLN ^{R/L} ...-16	with Hole	VNGA33_ , VNGG33_ VNMG33_ , VNMX33	VNGA33_	VNGA33_	VNMM33_
PVLN ^{R/L} ...-16Q	with Hole	VNGA33_ , VNGG33_ VNMG33_ , VNMX33	VNGA33_	VNGA33_	VNMM33_
Reference Page		56~58	95	102	111

PVPN (External/Facing/Copying/Undercutting)



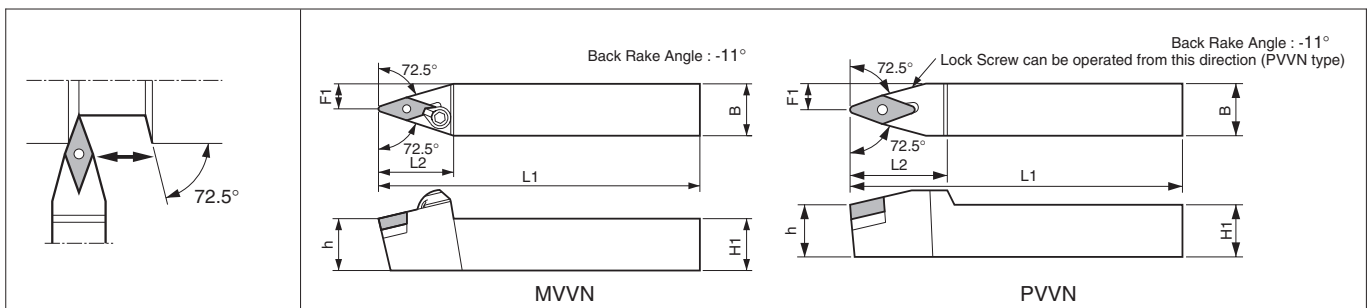
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	F2		Lock Pin	Lock Screw	Shim	Wrench		
PVPN ^{R/L} 2020K -16Q	○	○	○	mm	20	20	125	30	25	22	0.8						
2525M -16Q	○	○	○		25	25	150	30	32	28		LP-2S LP-6S	LS-11	KVN-32	LW-3		

● Applicable Inserts

Toolholder	Insert					
		Cermet / Coated / Carbide		Ceramic	CBN	PCD
PVPN ^{R/L} ...-16Q	with Hole	VNGA33_ , VNGG33_ , VNMG33_ , VNMX33		VNGA33_	VNGA33_	VNMM33_
Reference Page		56~58		95	102	111

MVVN/PVVN (External/Copying)



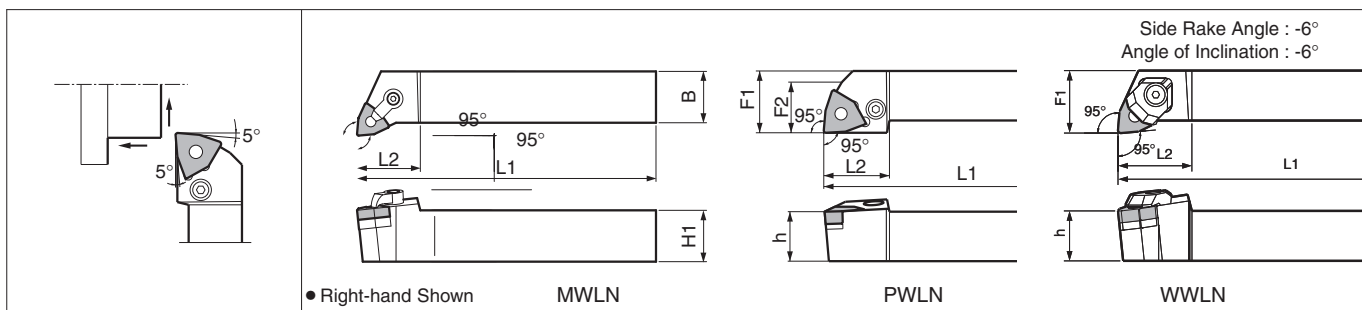
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	F2		Lock Pin	Lock Screw	Shim	Wrench	Clamp Set	Wrench
MVVNN 2020K -16	○	○	○	mm	20	20	125	39	10	-	0.8						
2525M -16					25	25	150	39	12.5	-		TS-35	-	MVN-32	FH-2.5	CPS-5R	FH-2
PVVNN 2020K -16Q	○	○	○	mm	20	20	125	35	10	-	0.8					-	-
2525M -16Q					25	25	150	40	12.5	-		LP-6S	LS-15	KVN-32	LW-3	-	-
MVVNN 12-3B	●	●	●	in	0.75	0.75	4.50	1.67	.375	-	1/32						
16-3D					1.00	1.00	6.00	1.67	.500	-		NL34L	XNS510	S-34	FH-2.5	CPS-5R	LW-156

● Applicable Inserts

Toolholder	Insert					
		Cermet / Coated / Carbide		Ceramic	CBN	PCD
MVVNN...-3	with Hole	VNGA33_ , VNGG33_ , VNMG33_ , VNMX33		VNGA33_	VNGA33_	VNMM33_
MVVNN...-16	with Hole	VNGA33_ , VNGG33_ , VNMG33_ , VNMX33		VNGA33_	VNGA33_	VNMM33_
PVVNN...-16Q	with Hole	VNGA33_ , VNGG33_ , VNMG33_ , VNMX33		VNGA33_	VNGA33_	VNMM33_
Reference Page		56~58		95	102	111

MWLN/PWLN/WWLN (External/Facing)



● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
	MWLN ^W / 12-4B 16-4D	●	●		●	inch	0.75	0.45	0.75	4.5		1.19	1.00	1/32				
					1.00	0.48	1.00	6.0	1.19	1.25		CL-9	XNS510	LW-156	IWSN432	S-46	NL46	LW-094

● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1=h	B	L1	L2	F1	F2		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
	PWLN ^W / 12-3B 16-3D	●				inch	0.75	0.75	4.5	0.87		1.00	-	1/32			
PWLN ^W / 1616H -06 2020K -06 2525M -06	○	○	○	mm	16	16	100	22	20	-	0.8						
2020K -08 2525M -08	○	○	○		20	20	125	22	25	-	0.8						
	○	○	○		25	25	150	22	32	-	0.8						
	○	○	○		20	20	125	26	25	-	0.8						
	○	○	○		25	25	150	26	32	23							

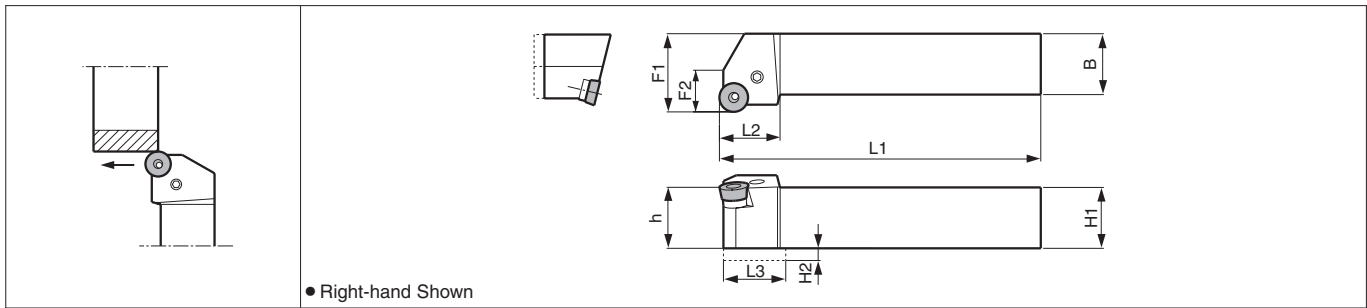
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	B	L1	L2	F1	Clamp Set		Shim	Shim Pin	Shim Nut	Wrench			
	WWLN ^W / 2020K -08 2525M -08	○	○		○	mm	20	20	125	30		25		1.2				
	○	○	○		25	25	150	30	32			WCS-8	WWN-42	WP5X15	WN-1	LW-3		

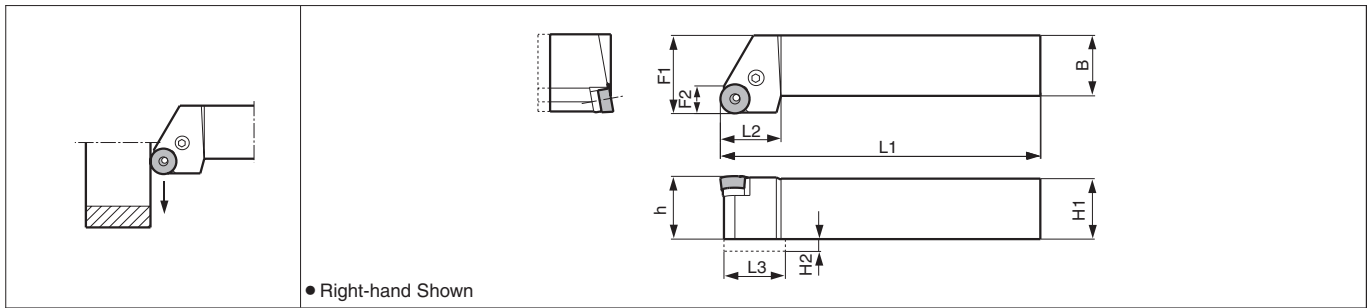
● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
MWLN ^W /...-4	with Hole	WNMA43_ , WNMG43_ WNMP43_ , WNMX43_	WNGA43_	WNGA43_	WNMM43_
PWLN ^W /...-3	with Hole	WNGG33_ WNMG33_	-	-	-
PWLN ^W /...-06	with Hole	WNGG33_ WNMG33_	-	-	-
PWLN ^W /...-08		WNMA43_ , WNMG43_ WNMP43_ , WNMX43_	WNGA43_	WNGA43_	WNMM43_
WWLN ^W /...-08	with Hole	WNMA43_ , WNMG43_ WNMP43_ , WNMX43_	-	WNGA43_	WNMM43_
Reference Page		58~61	95	103	111~112

PRGC-BE (External)



PRGC-BF (Facing)



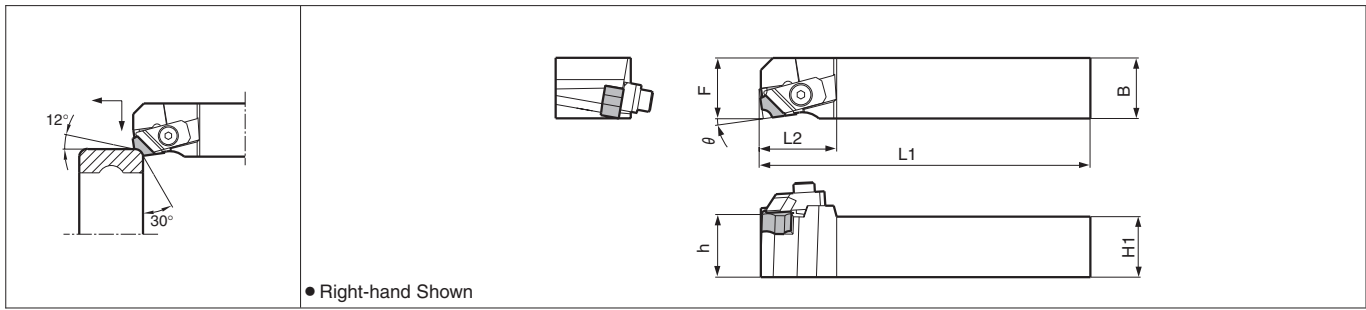
● Toolholder Dimensions

Description	Stock			Unit	Dimension							Std. Corner R	Spare Parts						
	R	N	L		H1-h	H2	B	L1	L2	L3	F1		F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGC [®] 2020K -12BE	○		○	mm	20	-	20	125	22	-	25	15	-	LL-1C	LS-1	LR-12C	LSP-1	PC-1	FH-2.5
2525M -12BE	○		○		25	-	25	150	25	-	32	17	-	LL-1C	LS-1	LR-12C	LSP-1	PC-1	FH-2.5
2020K -16BE	○		○		20	5	20	125	27	25.6	29	21	-	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5
2525M -16BE	○		○		25	-	25	150	27	-	32	22	-	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5
PRGC [®] 2020K -12BF	○		○	mm	20	-	20	125	22	-	25	10	-	LL-1C	LS-1	LR-12C	LSP-1	PC-1	FH-2.5
2525M -12BF	○		○		25	-	25	150	25	-	32	11	-	LL-1C	LS-1	LR-12C	LSP-1	PC-1	FH-2.5
2020K -16BF	○		○		20	5	20	125	27	25.3	25	17	-	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5
2525M -16BF	○		○		25	-	25	150	27	-	32	17	-	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5

● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
PRGC [®] ...-12BE	with Hole	RCMT1204M0-BB	-	-	-
PRGC [®] ...-16BE		RCMT1606M0-BB	-	-	-
PRGC [®] ...-12BF	with Hole	RCMT1204M0-BB	-	-	-
PRGC [®] ...-16BF		RCMT1606M0-BB	-	-	-
Reference Page		69			

CBSN (External Round Chamfering)



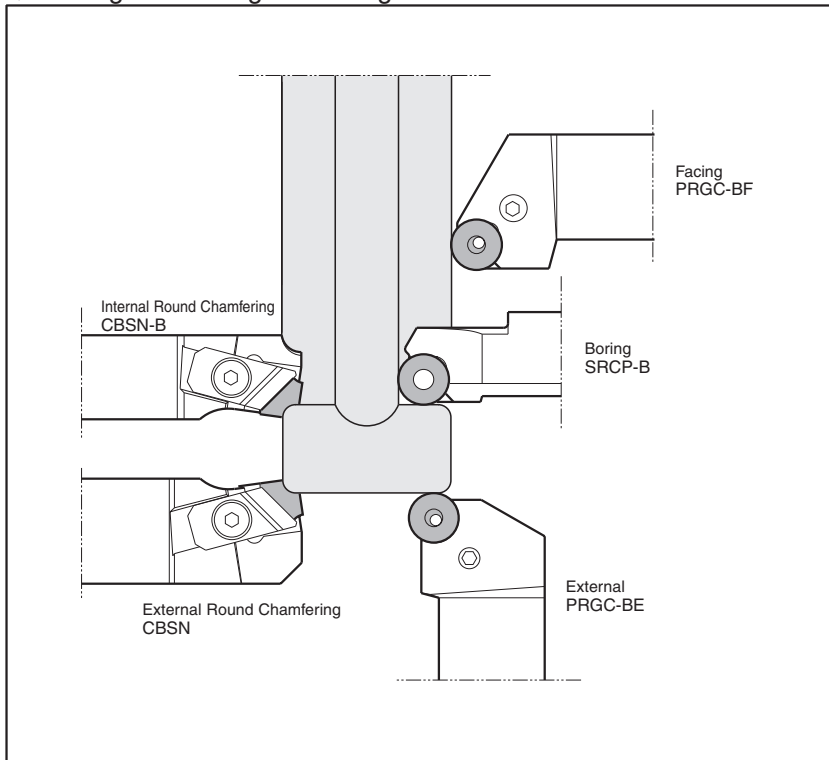
● Toolholder Dimensions

Description	Stock			Unit	Dimension							θ	Spare Parts				
	R	N	L		H1-h	B	L1	L2	F1	Clamp Set	Wrench		Shim	Screw			
CBSN ^{R/L} 2020K -12	○	○	○	mm	20	20	125	30	20				9°	CP-RC ^{R/L}	LW-3	SP-RC	SP3X8
CBSN ^{R/L} 2525M -12	○	○	○	mm	25	25	150	30	25								

● Applicable Inserts

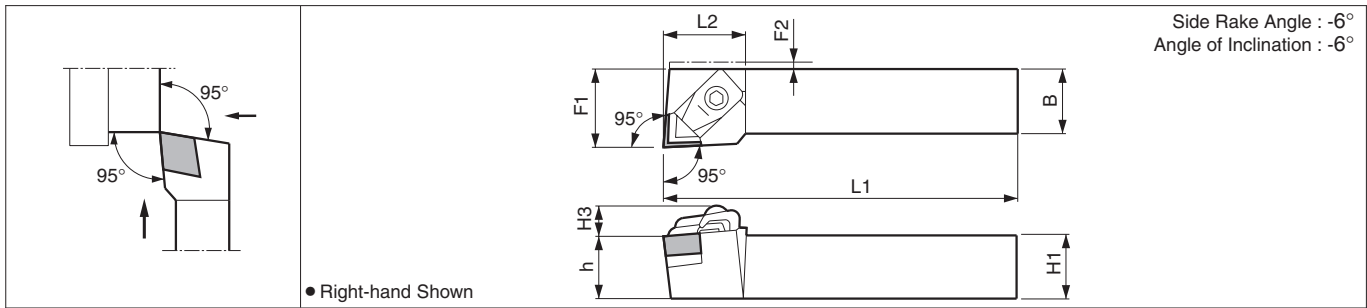
Toolholder	Insert				
	without Hole	Cermet / Coated / Carbide	Ceramic	CBN	PCD
CBSN ^{R/L} ...-12	without Hole	SNMF1204__	-	-	-
Reference Page		50	-	-	-

◆ Tooling for Bearing Machining



Turning
Toolholders for Bearing Machining

CCLN/HCLN (External/Facing)



● Toolholder Dimensions

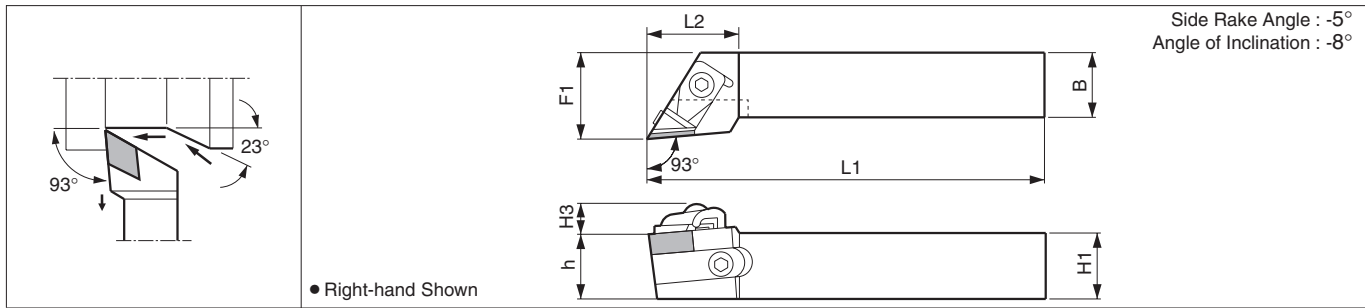
Description	Stock			Unit	Dimension							Std. Corner R	Spare Parts								
	R	N	L		H1=h	H3	B	L1	L2	F1	F2		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench		
	CCLN[®] 2020K -12 2525M -12 2525M -16 3225P -16	○	○		○	mm	20	14	20	125	32		27	5	0.8						
HCLN[®] 16-4D	●			inch	1.00		0.535	1.00	6.00	1.26	1.25	-	1/32								

· Shim & Shim Screw : When using CN_43_ insert, please purchase spare parts in () separately

● Applicable Inserts

Toolholder		Insert				
		Cermet / Coated / Carbide		Ceramic	CBN	PCD
CCLN [®] ...-12	without Hole			CNG45_ CNM45	-	-
				(CNG43)	(CNM43)	-
CCLN [®] ...-16	without Hole			CNG55_	-	-
HCLN [®] ...-4	without Hole			CNG45_ CNM45	-	-
				(CNG43_)	(CNM43_)	-
	with Hole	(CNGA43_), (CNMG43_), (CNGG43_) (CNMA43), (CNMP43)		(CNGA43_) (CNMA43)	(CNGA43_)	(CNMM43_)
Reference Page		37~40		90	98	111

CDJN/CDJN-X/HDJN (External/Copying)



● Toolholder Dimensions

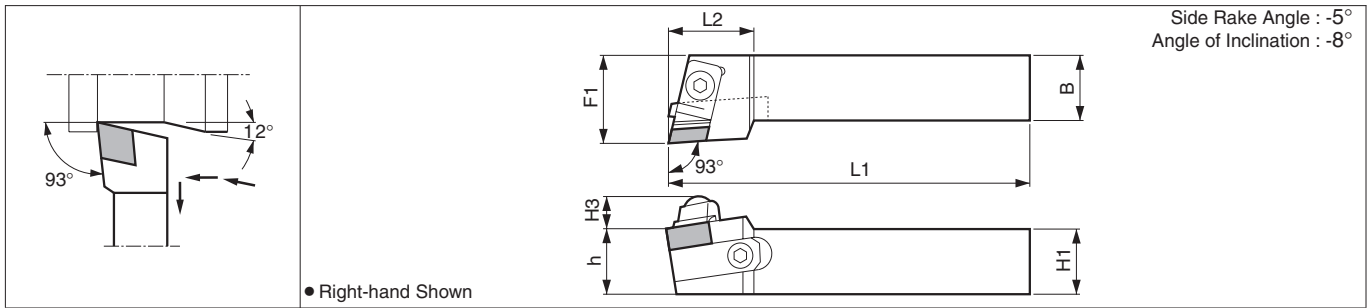
Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
CDJN ^{R/L} 2525M -15 3225P -15	○	○	○	mm	25	16	25	150	32	32	0.8						-	-
CDJN ^{R/L} 2525M -12X	○	○	○	mm	25	16	25	150	32	32	0.8	-					-	-
HDJN ^{R/L} 16-4D	●			inch	1.00	0.60	1.00	6.00	1.25	1.25	1/32							

- Chipbreaker : CB-14 for R-hand Toolholder, CB-15 for L-hand Toolholder
- Shim : 556CR for R-hand Toolholder, 556CL for L-hand Toolholder
- Chipbreaker : HCB-314 for R-hand Toolholder, HCB-315 for L-hand Toolholder
- Shim : When using DN_45_ insert, please purchase spare parts in () separately.

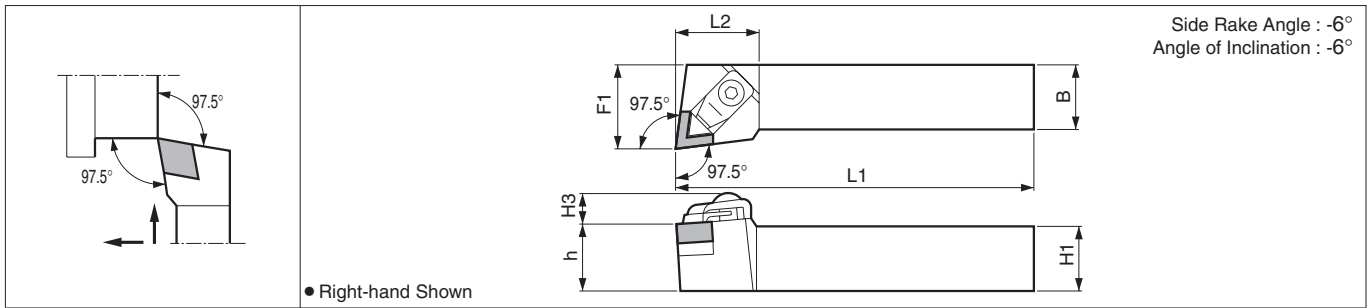
● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CDJN ^{R/L} ...-15	without Hole	-	DNG45_	-	-
CDJN ^{R/L} ...-12X	without Hole	-	DNMX35_	-	-
HDJN ^{R/L} ...-4	without Hole	-	DNG43_	-	-
	with Hole	DNGA43_ , DNMG43_ DNMA43_ , DNMP43_	DNGA43_	DNGA43_	DNMM43_
Reference Page		42~45	91	99	111

CEJN (External/Copying)



CELN (External/Facing)



● Toolholder Dimensions

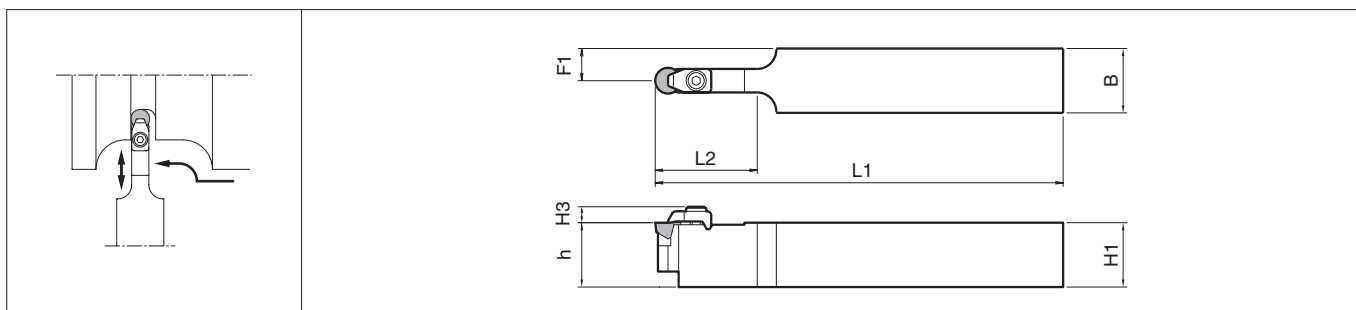
Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts				
	R	N	L		H1=h	H3	B	L1	L2	F1		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
CEJN ^{R/L} 2525M -13				mm	25	16	25	150	30	32	0.8					
CELN ^{R/L} 2525M -13	○		○	mm	25	15	25	150	32	32	0.8					

· CEJN(Chipbreaker) : CB-12 for R-hand Toolholder, CB-13 for L-hand Toolholder
· CEJN (Shim) : 346CR for R-hand Toolholder, 346CL for L-hand Toolholder

● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CEJN ^{R/L} ...-13	without Hole	-	ENG45_	-	-
CELN ^{R/L} ...-13	without Hole	-	ENG45_	-	-
Reference Page		-	92	-	-

CRDC (External/Copying)



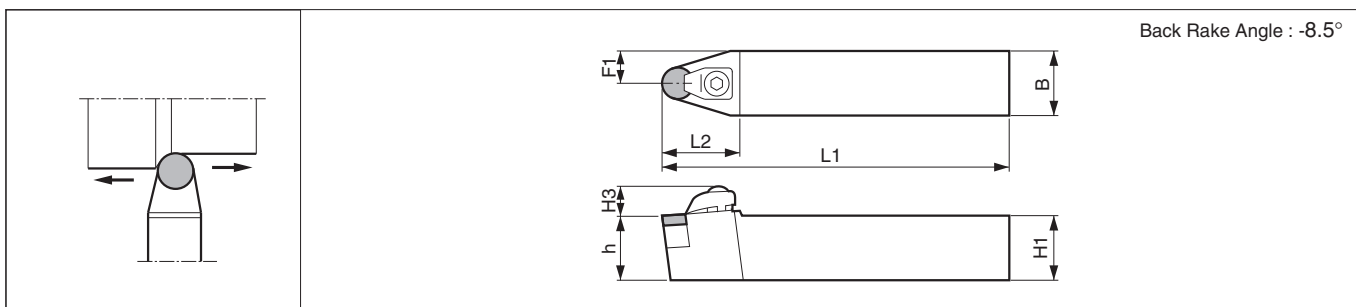
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts				
	R	N	L		H1-h	H3	B	L1	L2	F1		Clamp Set	Shim	Wrench		
CRDCN 16N-2	●			inch	1.00	0.20	1.00	8.00	1.00	0.50	-					
16-3	●				1.00	0.27	1.00	8.00	1.50	0.50	-					
20-3	●				1.25	0.27	1.25	8.00	1.50	0.625	-					
24-3	●				1.50	0.27	1.50	8.00	1.50	0.75	-					
20-4	●				1.25	0.41	1.25	8.00	2.00	0.625	-					
20-6	●				1.25	0.41	1.25	8.00	2.00	0.625	-					

● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CRDCN...-2	without Hole	-	RCGX102	-	-
CRDCN...-3		-	RCGX103	-	-
CRDCN...-4		-	RCGX104	-	-
CRDCN...-6		-	RCGX106	-	-
Reference Page		-	96	-	-

CRDN (External/Copying)



● Toolholder Dimensions

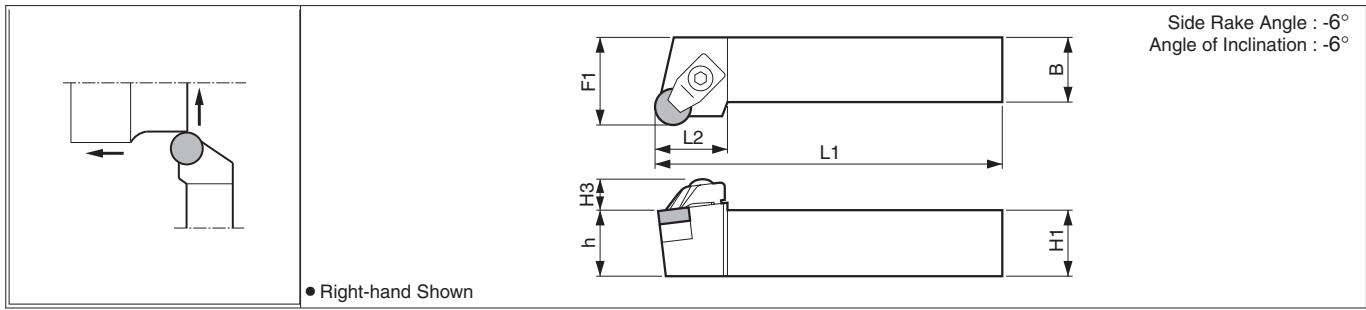
Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts							
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp Set	Wrench	Shim	Shim Screw				
CRDNN 2020K -12 2525M -12 3225P -12 3232P -15 4040R -15	○	○		mm	20	11	20	125	29	10	-								
	○	○			25	11	25	150	29	12.5						CE-030	LW-4	SP-841 (SP-843)	M3X8 (M3X12)
	○	○			32	11	25	170	29	16.0						CE-040	LW-4	SP-861	M4X10
	○	○			32	11	32	170	36	16.0									
	○	○			40	11	40	200	36	20									
CRDNN 16-4D 20-4E	●	●		in	1.00	.433	1.00	6.0	1.13	.500	-								
	●	●			1.25	.433	1.25	7.0	1.13	.625						CE-030	LW-4	SP-841 (SP-843)	M3X8

· Shim & Shim Screw : When using RN_43_ insert, please purchase spare parts in () separately

● Applicable Inserts

Toolholder	Insert			
	Cermet / Coated / Carbide	Ceramic	CBN	PCD
CRDNN...-12	-	RNG45	-	-
CRDNN...-4	(RNG43)	(RNG43)	(RNM43)	
CRDNN...-15	-	RNG55	-	-
Reference Page	46	92	100	-

CRSN/HRSN (External/Facing)



● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1-h	H3	B	L1	L2	F1		Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
CRSN 2020K -12	○	○		mm	20	11	20	125	26	25	-	CE-030	LW-4	SP-841 (SP-843)	M3X8 (M3X12)		
2525M -12	○	○			25	11	25	150	26	32							
3225P -12	○	○			32	11	25	170	26	32							
HRSN 16-4D	●			inch	1.00	0.58	1.00	6.00	1.03	1.25	-	HCL-001	LW-4	IRSN43 (IRSN45)	S-46	NL46L	LW-094
20-4D	●				1.25	0.58	1.25	6.00	1.03	1.50							

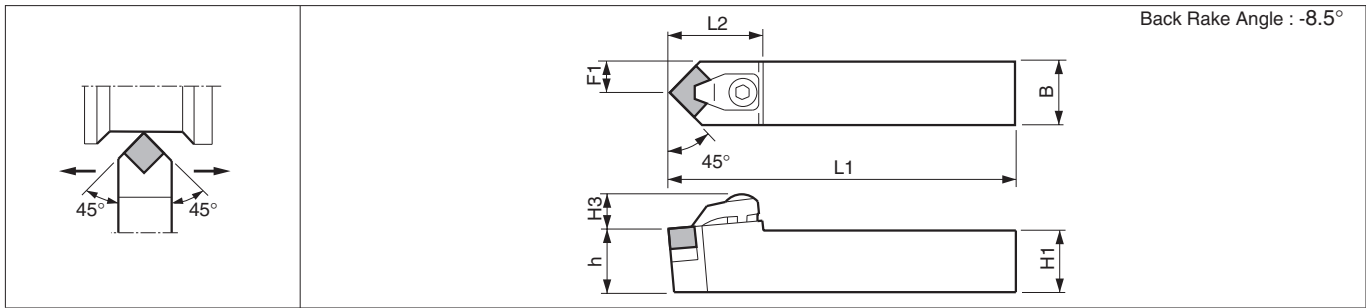
- Shim & Shim Screw : When using RN_43_ insert, please purchase spare parts in () separately

● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CRSN ...-12	without Hole	- (RNG43)	RNG45 (RNG43)	- (RNM43)	- -
	without Hole	- (RNG43)	RNG45 (RNG43)	- (RNM43)	- -
HRSN ...-4	with Hole	(RNMA43_) (RNMG43_)	-	-	-
	without Hole	(RNG43)	RNG45 (RNG43)	- (RNM43)	- -
Reference Page		46	92	100	-

Turning
Toolholders for Ceramic Inserts

CSDN/HSDN (External/Chamfering)



● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2		F1	Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	
CSDNN 2020K -12	○	○		mm	20	13	20	125	33	10	-	0.8	-	CE-040	LW-4	SP-141 (SP-143)	M3X8 (M3X12)
2525M -12	○	○			25	13	25	150	33	12.5	-						
3225P -12	○	○			32	13	25	170	33	12.5	-						

· Shim & Shim Screw : When using SN_43_ insert, please purchase spare parts in () separately

● Toolholder Dimensions

Description	Stock			Unit	Dimension					Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2		F1	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
HSDNN 16-4D	●	●		inch	1.00	0.45	1.00	6.00	1.30	0.50	1/32	HCL-002	LW-4	ISSN433 (ISSN453)	S-46	NL46L	LW-094
20-4D	●	●			1.25	0.45	1.25	6.00	1.30	0.625							

· Shim : When using SN_43_ insert, please purchase spare parts in () separately

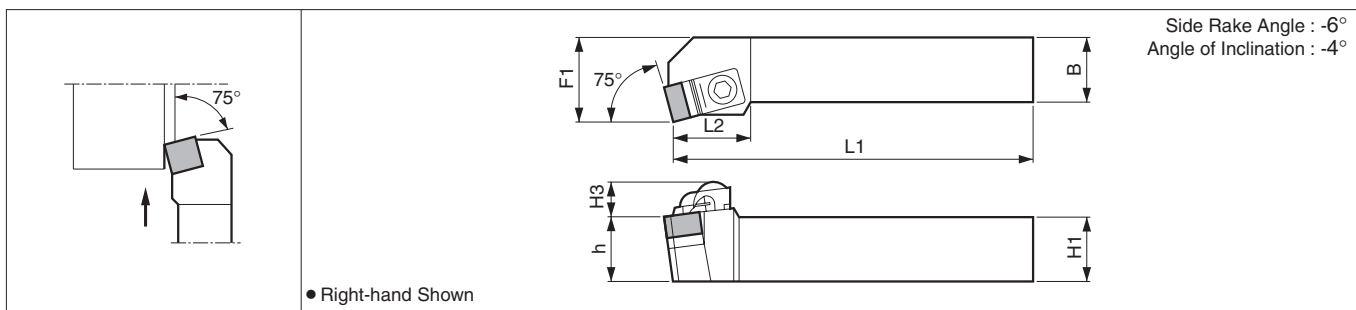
● Applicable Inserts

Toolholder	Insert					
	Cermet / Coated / Carbide		Ceramic	CBN	PCD	
CSDNN...-12	without Hole	-		SNG45_ SNM45	-	-
		(SNG43_) (SNM43_), (SNU43)	(SNG43_) (SNM43_)	(SNM43_)	-	-
Reference Page		47		92~93	100	-

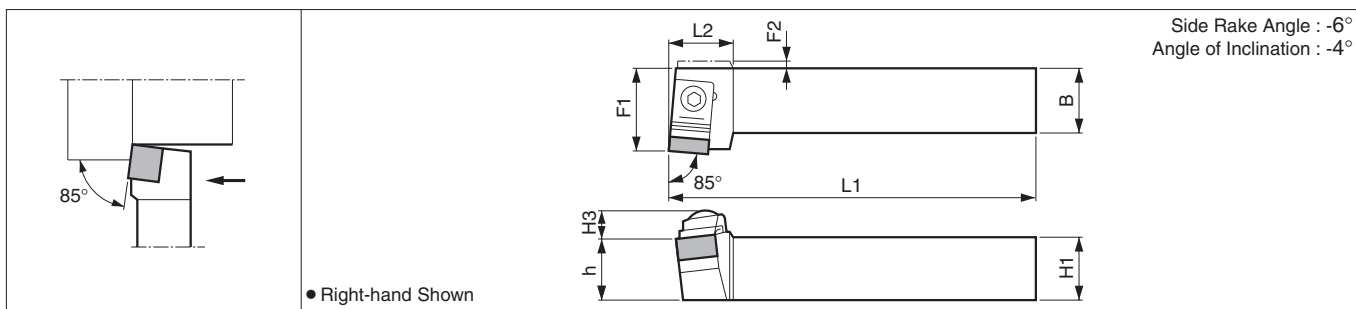
● Applicable Inserts

Toolholder	Insert					
	Cermet / Coated / Carbide		Ceramic	CBN	PCD	
HSDNN...-4	without Hole	-		SNG45_ SNM45	-	-
		(SNG43_) (SNM43_), (SNU43)	(SNG43_) (SNM43_)	(SNM43_)	-	-
	with Hole	(SNGA43_), (SNGG43_) (SNMA43_), (SNMG43)	(SNGA43_) (SNMA43_)	(SNGA43_)	-	-
Reference Page		47~49		92~93	100	-

CSKN (Facing)



CS-N (External)



Toolholder Dimensions

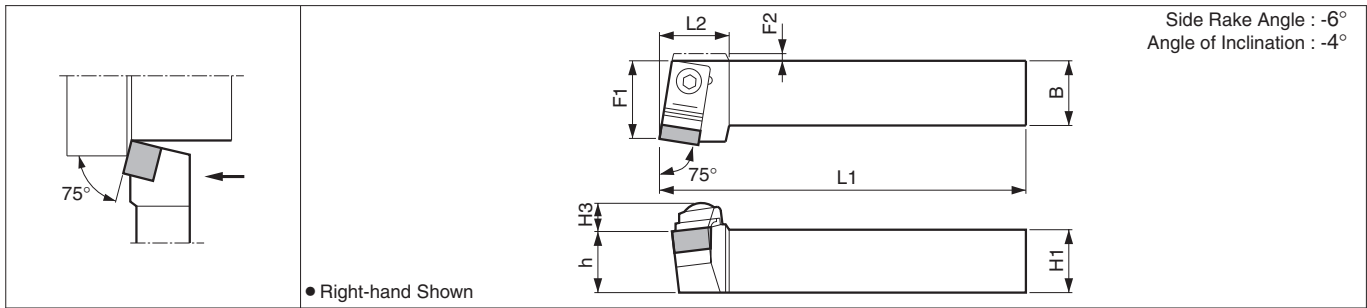
Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts										
	R	N	L		H1=h	H3	B	L1	L2	F1		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw						
CSKN ^{R/L} 2020K -12 2525M -12 3225P -15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	mm	20	11	20	125	27	25	-	0.8										
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		25	11	25	150	27	32	-							CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		32	15	25	170	37	32	-							CB-51	CE-220	LW-4	SP-162	M4X10
CS-N ^{R/L} 2020K -12 2525M -12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	mm	20	11	20	125	20	25	2	0.8										
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		25	11	25	150	20	32	-							CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3x12)

• Shim & Shim Screw : When using SN__43_ insert, please purchase spare parts in () separately

Applicable Inserts

Toolholder	Insert				
	Cermet / Coated / Carbide		Ceramic	CBN	PCD
CSKN ^{R/L} ...-12	-		SNG45_ SNM45	-	-
CS-N ^{R/L} ...-12	without Hole (SNG43_) (SNM43_) ,(SNU43_)		(SNG43_) (SNM43_)	(SNM43_)	-
CSKN ^{R/L} ...-15	-		SNG55_	-	-
Reference Page	47		92~93	100	-

CSRN/HSRN (External)



● Toolholder Dimensions

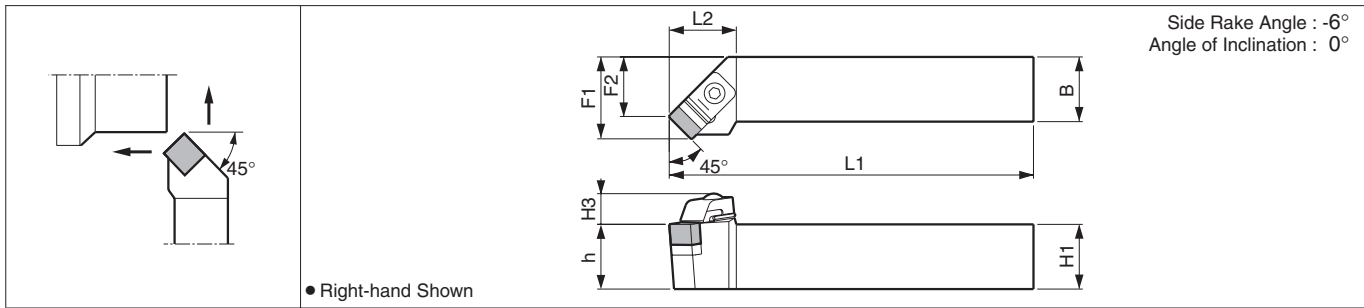
Description	Stock			Unit	Dimension							Std. Corner R	Spare Parts						
	R	N	L		H1=h	H3	B	L1	L2	F1	F2		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
CSRN [®] /L 2020K -12	○	○		mm	20	11	20	125	22	22	2	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
2525M -12	○	○			25	11	25	150	22	27	-								
3225P -12	○	○			32	11	25	170	22	27	-								
3225P -15	○	○			32	15	25	170	30	32	-								
4040R -15	○	○		40	15	40	200	30	43	-	0.8	CB-51	CE-220	LW-4	SP-162	M4X10	-	-	
CSRN [®] /L 20-4E	●	●	inch	1.25	0.433	1.25	7.00	0.88	1.50	-	1/32	CB-11	CE-020	LW-4	SP141	M3X8	-	-	
HSRN [®] /L 16-4D	●	●	inch	1.00	0.435	1.00	6.00	0.87	1.13	-	1/32	HCB300	HCL-000 (HCL-001)	LW-4	ISSN433 (ISSN453)	S-46	NL46L	LW-094	

· Shim & Shim Screw : When using SN_43_ insert, please purchase spare parts in () separately

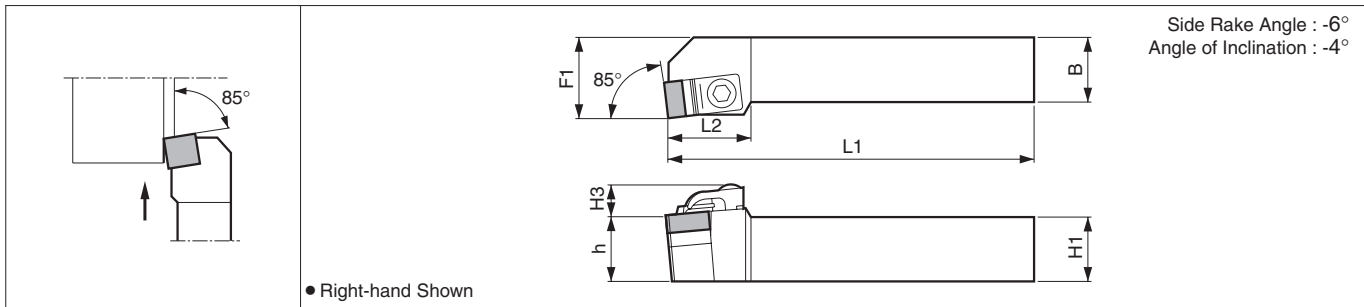
● Applicable Inserts

Toolholder	Insert					
		Cermet / Coated / Carbide		Ceramic	CBN	PCD
CSRN [®] /L ...-12	without Hole	-		SNG45_ SNM45_	-	-
		(SNG43_) (SNM43_), (SNU43_)		(SNG43_) (SNM43_)	(SNM43_)	-
CSRN [®] /L ...-15	without Hole	-		SNG55_	(SNM43_)	-
CSRN [®] /L ...-4 HSRN [®] /L ...-4	without Hole	-		SNG45_ SNM45_	(SNGA43_)	-
		(SNG43_) (SNM43_), (SNU43_)		(SNG43_) (SNM43_)	99	-
	with Hole	(SNGA43_), (SNGG43_) (SNMA43_), (SNMG43_)		(SNGA43) (SNMA43_)		
Reference Page		47~49		92~93	100	

■ CSSN (External/Facing/Chamfering)



■ CSYN (Facing)



● Toolholder Dimensions

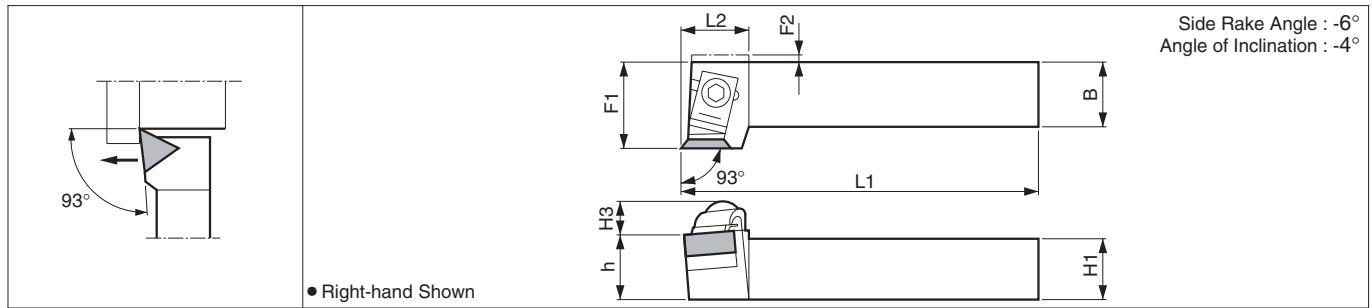
Description	Stock			Unit	Dimension							Std. Corner R	Spare Parts				
	R	N	L		H1=h	H3	B	L1	L2	F1	F2		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
CSSN ^{R/L} 2020K -12 2525M -12	○	○		mm	20	11	20	125	26	25	16	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)
	○	○			25	11	25	150	26	32	23						
CSSN ^{R/L} 16-4D	●	●		in	1.00	.433	1.00	6.00	1.0	1.25	.90	1/32	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)
CSYN ^{R/L} 2020K -12 2525M -12	○	○		mm	20	11	20	125	27	25	-	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)
	○	○			25	11	25	150	27	32	-						

· Shim & Shim Screw : When using SN__43_ insert, please purchase spare parts in () separately

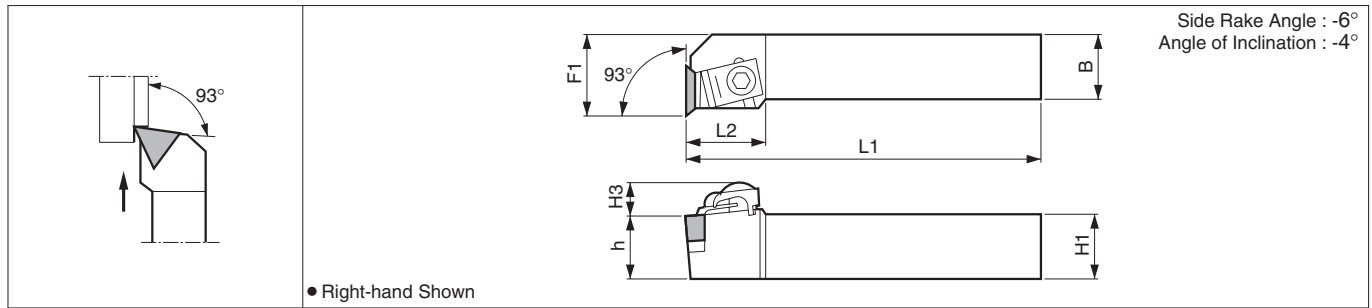
● Applicable Inserts

Toolholder		Insert			
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CSSN ^{R/L} ...-4 CSSN ^{R/L} ...-12	without Hole	-	SNG45_ SNM45_	-	-
		(SNG43_) (SNM43_), (SNU43_)	(SNG43_) (SNM43_)	(SNM43_)	-
CSYN ^{R/L} ...-12	without Hole	-	SNG45_ SNM45_	-	-
		(SNG43_) (SNM43_), (SNU43_)	(SNG43_) (SNM43_)	(SNM43_)	-
Reference Page		47	92~93	100	-

CTJN (External)



CTUN (Facing)



Toolholder Dimensions

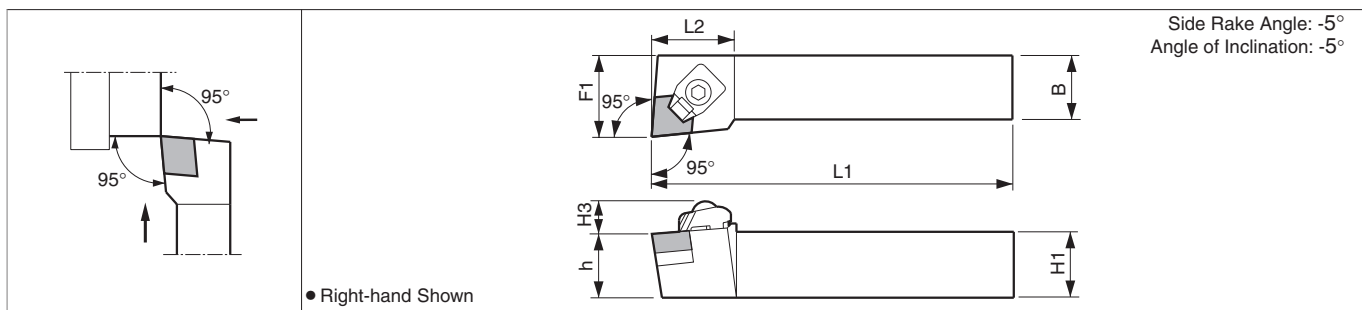
Description	Stock			Unit	Dimension							Std. Corner R	Spare Parts				
	R	N	L		H1=h	H3	B	L1	L2	F1	Chipbreaker		Clamp Set	Wrench	Shim	Shim Screw	
CTJN ^{R/L} 2020K -16 2525M -16	○	○	○	mm	20	11	20	125	21	25	2	0.8	CB-12/13	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
	○	○	○		25	11	25	150	21	32	-						
CTJN ^{R/L} 16-3D 16-4D	●	●	●	in	1.00	.433	1.00	6.00	0.88	1.25	-	1/32	CB-12/13	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
	●	●	●		1.00		1.00	6.00		1.25	-						
CTUN ^{R/L} 2020K -16 2525M -16	○	○	○	mm	20	11	20	125	27	25	-	0.8	CB-13/12	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
	○	○	○		25	11	25	150	27	32	-						

- Chipbreaker : CTJN ... CB12 for R-hand Toolholder, CB13 for L-hand Toolholder
CTUN ... CB13 for R-hand Toolholder, CB12 for L-hand Toolholder
- Shim & Shim Screw : When using TN__33_ insert, please purchase spare parts in () separately

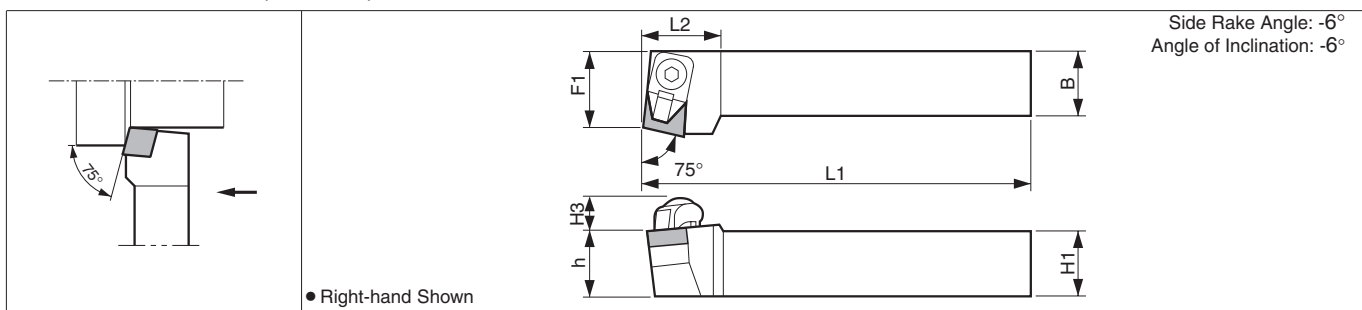
Applicable Inserts

Toolholder	Insert			
		Cermet / Coated / Carbide	Ceramic	CBN
CTJN ^{R/L} ...-16 CTJN ^{R/L} ...-3	without Hole	-	TNG35_	
		(TNG33_) (TNM33_)	(TNG33_) (TNM33_)	(TNM33_)
CTJN ^{R/L} ...-4	without Hole	TNG43_, TNM43_	TNG43_	
CTUN ^{R/L} ...-16	without Hole	-	TNG35_	
		(TNG33_) (TNM33_)	(TNG33_) (TNM33_)	(TNM33_)
Reference Page		52	94	101

CCLN-A (External/Facing)



CCRN-A (External)



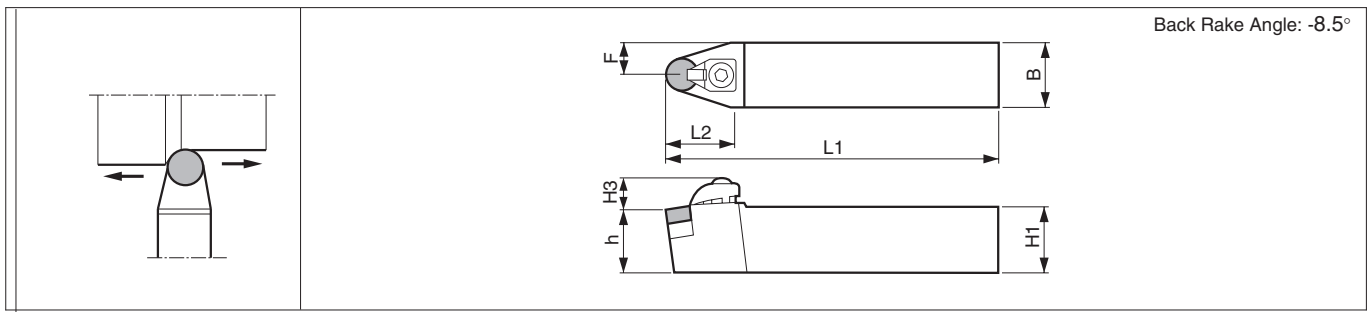
● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts			
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp Set	Wrench	Shim	Shim Screw
	CCLN %/ 2525M -09A	○	○		○	mm	25	11	25	150		35	32	0.8	
3225P -09A	○	○	○	mm	32	11	25	170	35	32	0.8	CE-030A	LW-4	SP-429	HH3X12
CCRN %/ 2525M -09A	○	○	○	mm	25	11	25	150	27	27	0.8	CE-030A	LW-4	SP-429	HH3X12

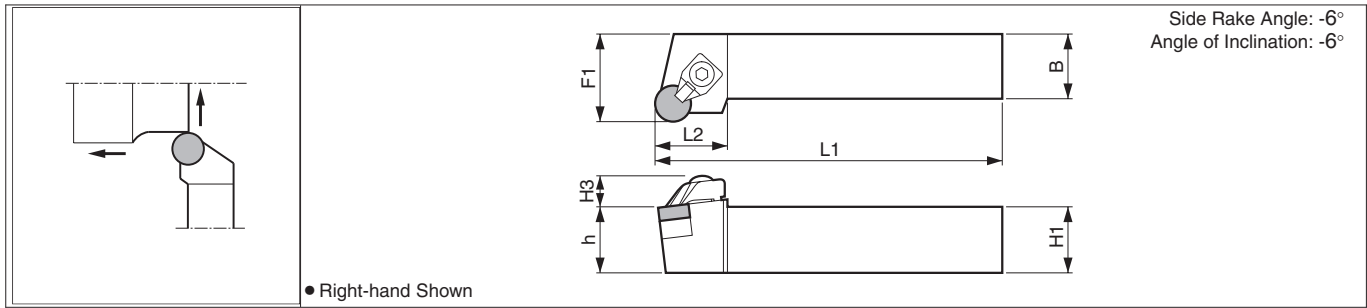
● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CCLN %/...-09A	without Hole	-	-	CNM32_	-
CCRN %/...-09A	without Hole	-	-	CNM32_	-
Reference Page		-	-	98	-

CRDN-A (External/Copying)



CRSN-A (External/Facing)



Toolholder Dimensions

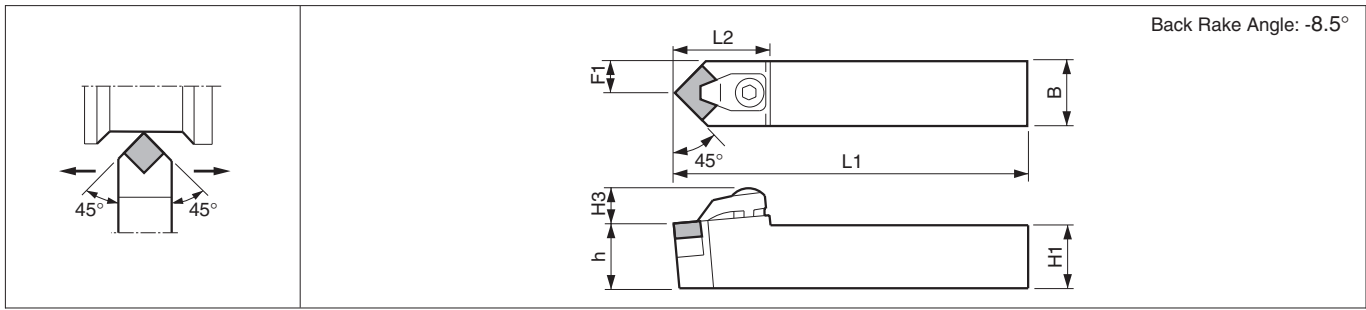
Description	Stock			Unit	Dimension					Std. Corner B	Spare Parts					
	R	N	L		H1=h	H3	B	L1	L2		F1	Clamp Set	Wrench	Shim		Shim Screw
CRDNN 2525M -09A 3225P -09A 2525M -12A 3225P -12A	○	○		mm	25	11	25	150	29	12.5	-	CE-030A	LW-4	SP-829	(SP-826)	HH3X12
	○	○			32	11	25	170	29	12.5				-	SP-849 (SP-843) (SP-841)	BH3X12 (M3X12) (M3X8)
	○	○			25	11	25	150	29	12.5						
	○	○			32	11	25	170	29	12.5						
CRSN [®] 2525M -09A 3225P -09A 2525M -12A 3225P -12A	○		○	mm	25	11	25	150	26	32	-	CE-030A	LW-4	SP-829	(SP-826)	HH3X12
	○		○		32	11	25	170	26	32				-	SP-849 (SP-843) (SP-841)	BH3X12 (M3X12) (M3X8)
	○		○		25	11	25	150	26	32						
	○		○		32	11	25	170	26	32						

• Spare Parts of -09A type Toolholder : When using RN_33_ insert, purchase SP-826 separately
 • Spare Parts of -12A type Toolholder : When using RN_43_ insert, purchase SP-843 and M3X12 separately
 When using RN_45_ insert, purchase SP-841 and M3X8 separately

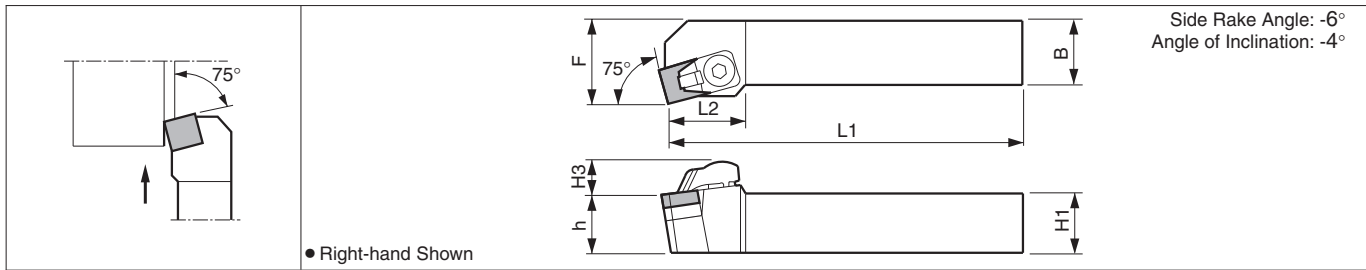
Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CRDNN...-09A	without Hole	-	RNG32 (RNG33)	RNM32	-
CRDNN...-12A		-	-	RNM42 (RNM43)	-
		RNG43	(RNG43) (RNG45)	-	-
		-	-	-	-
CRSN [®] ...-09A	without Hole	-	RNG32 (RNG33)	RNM32	-
CRSN [®] ...-12A		-	-	RNM42 (RNM43)	-
		RNG43	(RNG43) (RNG45)	-	-
		-	-	-	-
Reference Page		46	92	100	-

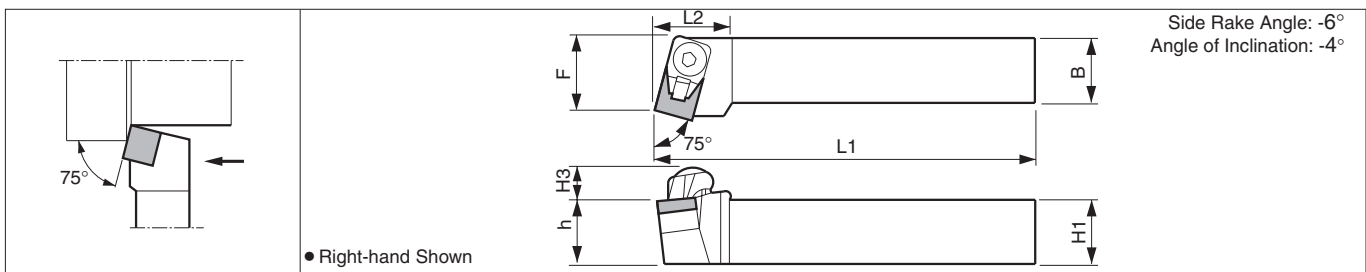
■ CSDN-A (External/Chamfering)



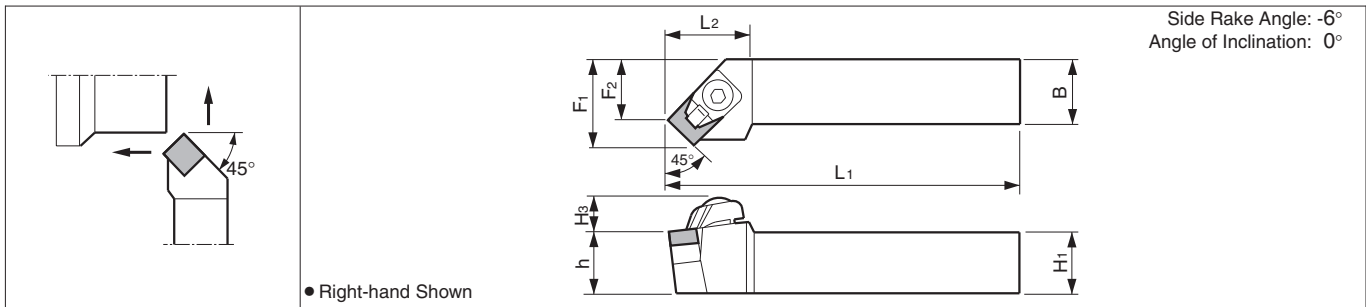
■ CSKN-A (Facing)



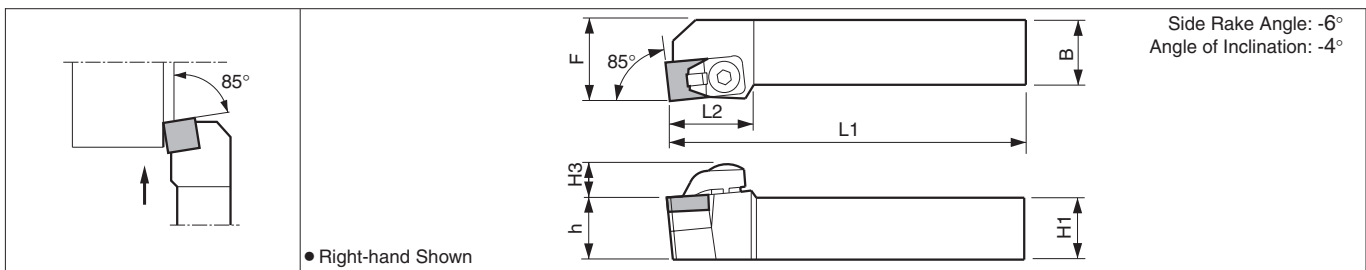
■ CSRN-A (External)



■ CSSN-A (External/Facing/Chamfering)



■ CSYN-A (Facing)



● Toolholder Dimensions

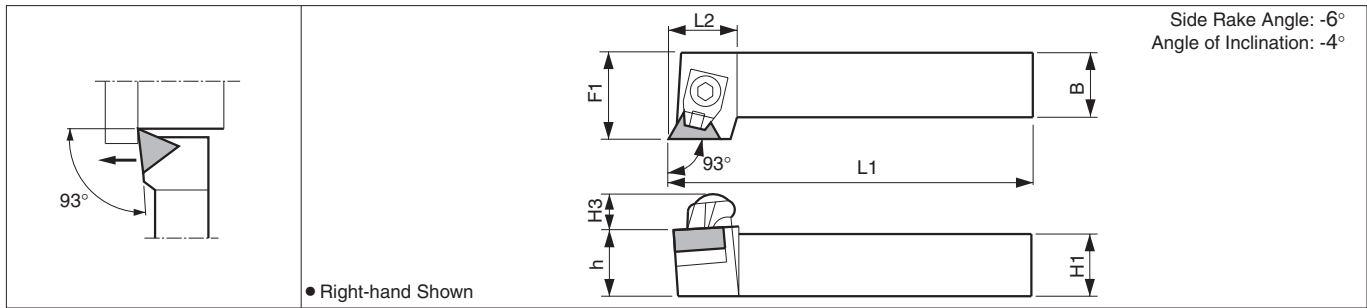
Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts					
	R	N	L		H1-h	H3	B	L1	L2	F1		Clamp Set	Wrench	Shim		Shim Screw	
CSDNN 2525M -09A 3225P -09A	○			mm	25	13	25	150	33	12.5	0.8	CE-040	LW-4	SP-129	-	HH3X12	
		○			32	13	25	170	33	12.5				-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
2525M -12A			○	mm	25	13	25	150	33	12.5	-	CE-040	LW-4	-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
CSKN 2525M -09A	○			mm	25	11	25	150	27	32	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
					25	11	25	150	27	32				-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
2525M -12A	○			mm	25	11	25	150	27	32	0.8	CE-030A	LW-4	-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
CSRN 2525M -09A	○		○	mm	25	11	25	150	22	27	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
					25	11	25	150	22	27				-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
2525M -12A	○		○	mm	25	11	25	150	22	27	0.8	CE-030A	LW-4	-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
CSSN 2525M -09A	○		○	mm	25	11	25	150	27	32	25	0.8	CE-030A	LW-4	SP-129	-	HH3X12
					25	11	25	150	27	32	23				-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)
2525M -12A	○		○	mm	25	11	25	150	27	32	23	0.8	CE-030A	LW-4	-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)
CSYN 2525M -09A	○		○	mm	25	11	25	150	26	32	0.8	CE-030A	LW-4	SP-129	-	HH3X12	
					25	11	25	150	26	32				-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	
2525M -12A	○		○	mm	25	11	25	150	26	32	0.8	CE-030A	LW-4	-	SP-148 (SP-143) (SP-141)	BH3X12 (M3X12) (M3X8)	

· Spare Parts of -12A type Toolholder : When using SN_43_ insert, purchase SP-143 and M3X12 separately
 When using SN_45_ insert, purchase SP-141 and M3X8 separately
 When using SN_43_ or SN_45_ insert, Chipbreaker CB-11 and Clamp set CE-020 are applicable.

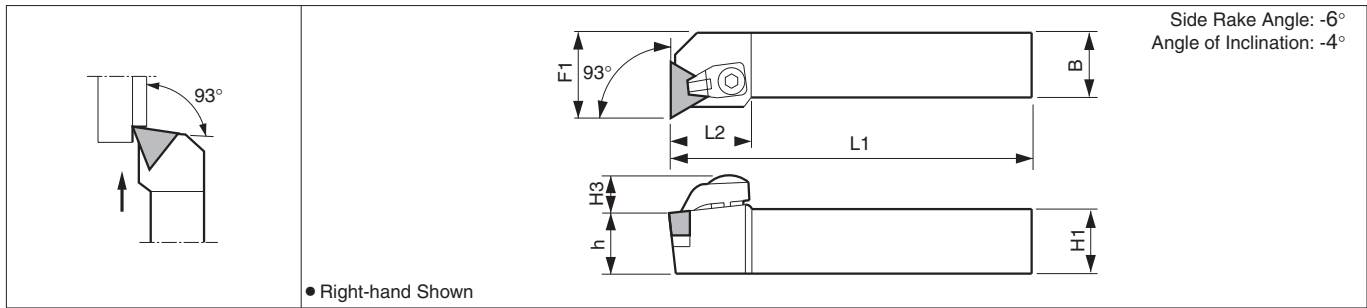
● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CSDNN...-09A	without Hole	-	-	SNM32_	-
CSDNN...-12A		-	-	SNM42_	-
		-	-	(SNM43_)	-
		(SNG43_) (SNM43_), (SNU43_)	(SNG43_) (SNM43_) (SNG45_) (SNM45_)	-	-
CSKN^R...-09A	without Hole	-	-	SNM32_	-
CSKN^R...-12A		-	-	SNM42_	-
		-	-	(SNM43_)	-
		(SNG43_) (SNM43_), (SNU43_)	(SNG43_) (SNM43_) (SNG45_) (SNM45_)	-	-
CSRN^R...-09A CSSN^R...-09A CSYN^R...-09A	without Hole	-	-	SNM32_	-
CSRN^R...-12A CSSN^R...-12A CSYN^R...-12A		-	-	SNM42_	-
		-	-	(SNM43_)	-
		(SNG43_) (SNM43_), (SNU43_)	(SNG43_) (SNM43_) (SNG45_) (SNM45_)	-	-
Reference Page		47	92~93	100	

CTJN-A (External)



CTUN-A (Facing)



● Toolholder Dimensions

Description	Stock			Unit	Dimension						Std. Corner R	Spare Parts			
	R	N	L		H1=h	H3	B	L1	L2	F1		Clamp Set	Wrench	Shim	Shim Screw
	CTJN ^{9/16} 2525M -11A	○			○	mm	25	11	25	150		22	32	0.8	
CTUN ^{9/16} 2525M -11A	○		○	mm	25	11	25	150	28	32	0.8				
3225P -11A	○		○	mm	32	11	25	170	28	32	0.8				

● Applicable Inserts

Toolholder	Insert				
		Cermet / Coated / Carbide	Ceramic	CBN	PCD
CTJN ^{9/16} ...-11A	without Hole	TNG22_	TNG22_	TNM22_	-
CTUN ^{9/16} ...-11A	without Hole	TNG22_	TNG22_	TNM22_	-
Reference Page		51~52	94	101	-

Technical Information

Recommended Cutting Conditions - External Turning (Negative Insert)

ISO Classification	Work Material (Hardness)	Cutting Range	Application	Recommended Chipbreaker	Recommended Grade	Corner -R	Lower Limit - Recommendation - Upper Limit			
							Cutting Speed (SFM)	D.O.C (in)	Feed Rate (ipr)	
P	Low-carbon Steel Low-carbon Alloy 1010,4115 5015 etc.	Finishing (Finish Oriented)	Continuous Interrupted	XP WP	TN6020 TN6020	1/64 1/64	830 - 990 - 1160 660 - 830 - 990	0.008 - 0.020 - 0.028 0.012 - 0.020 - 0.040	0.003 - 0.005 - 0.008 0.008 - 0.012 - 0.014	
		Finishing (Life Oriented)	Continuous Interrupted	XP XP-T	PV90 PV90	1/64 1/64	830 - 990 - 1160 660 - 830 - 990	0.008 - 0.020 - 0.028 0.008 - 0.020 - 0.028	0.003 - 0.005 - 0.008 0.003 - 0.005 - 0.008	
		Finishing-Medium (Finish Oriented)	Continuous Interrupted	XQ	TN6020 TN6020	1/64 1/32	830 - 990 - 1160 500 - 660 - 830	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.007 - 0.010 - 0.012 0.007 - 0.010 - 0.012	
		Finishing-Medium (Life Oriented)	Continuous Interrupted	XQ	PV90 CA5525	1/32 1/32	830 - 990 - 1160 500 - 660 - 830	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.007 - 0.010 - 0.012 0.007 - 0.010 - 0.012	
		Medium-Roughing	Continuous Interrupted	XS	PV90 CA5525	1/32 1/32	660 - 830 - 990 500 - 660 - 830	0.032 - 0.060 - 0.080 0.032 - 0.060 - 0.080	0.007 - 0.010 - 0.012 0.010 - 0.012 - 0.016	
		Roughing	Continuous Interrupted	PS	CA5515 CA5525	1/32 3/64	600 - 660 - 830 330 - 500 - 600	0.040 - 0.100 - 0.140 0.040 - 0.100 - 0.140	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016	
		Medium-Roughing (High Feed)	Continuous Interrupted	HT PT	CA5525 CA5525	1/32 3/64	500 - 600 - 660 330 - 400 - 500	0.060 - 0.120 - 0.160 0.060 - 0.120 - 0.160	0.010 - 0.018 - 0.028 0.010 - 0.014 - 0.018	
		Roughing	Severe Interruption	PT	CA5535		330 - 400 - 500	0.060 - 0.120 - 0.160	0.010 - 0.014 - 0.018	
		Finishing (Finish Oriented)	Continuous Interrupted	GP WP	TN6020 TN6020	1/64 1/32	660 - 830 - 990 330 - 500 - 660	0.012 - 0.020 - 0.040 0.012 - 0.020 - 0.040	0.002 - 0.004 - 0.008 0.008 - 0.012 - 0.014	
	Finishing (Life Oriented)	Continuous Interrupted	GP WP	PV7020 PV7020	1/64 1/32	660 - 830 - 990 330 - 500 - 660	0.012 - 0.020 - 0.040 0.012 - 0.020 - 0.040	0.002 - 0.004 - 0.008 0.008 - 0.012 - 0.014		
	Finishing-Medium (Finish Oriented)	Continuous Interrupted	CQ WQ	TN6020 TN6020	1/32 3/64	500 - 660 - 830 330 - 500 - 660	0.020 - 0.060 - 0.100 0.020 - 0.060 - 0.100	0.004 - 0.008 - 0.010 0.008 - 0.012 - 0.014		
	Finishing-Medium (Life Oriented)	Continuous Interrupted	CQ WQ	PV7020 CA5525	1/32 1/32	500 - 660 - 830 330 - 500 - 660	0.020 - 0.060 - 0.100 0.020 - 0.060 - 0.100	0.004 - 0.008 - 0.010 0.006 - 0.012 - 0.020		
	Medium-Roughing	Continuous Interrupted	PS	CA5525	1/32 3/64	400 - 600 - 730 330 - 400 - 500	0.040 - 0.080 - 0.120 0.040 - 0.080 - 0.120	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016		
	Roughing	Continuous Interruption	PS	CA5525 CA5525	1/32 3/64	400 - 600 - 730 330 - 400 - 500	0.040 - 0.100 - 0.140 0.040 - 0.100 - 0.140	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016		
	Medium-Roughing (High Feed)	Continuous Interrupted	HT PT	CA5525 CA5525	1/32 3/64	330 - 500 - 600 330 - 400 - 500	0.060 - 0.120 - 0.160 0.060 - 0.120 - 0.160	0.012 - 0.018 - 0.028 0.010 - 0.014 - 0.018		
	Roughing	Severe Interruption	PT	CA5535		330 - 400 - 500	0.060 - 0.120 - 0.160	0.010 - 0.014 - 0.018		
	Finishing (Finish Oriented)	Continuous Interrupted	GP WP	TN6020 TN6020	1/64 1/32	330 - 500 - 660 270 - 400 - 500	0.012 - 0.020 - 0.040 0.012 - 0.020 - 0.040	0.002 - 0.004 - 0.008 0.008 - 0.012 - 0.014		
	Finishing (Life Oriented)	Continuous Interrupted	GP WP	PV7020 PV7020	1/64 1/32	330 - 500 - 660 270 - 400 - 500	0.012 - 0.020 - 0.040 0.012 - 0.020 - 0.040	0.002 - 0.004 - 0.008 0.008 - 0.012 - 0.014		
	Finishing-Medium	Continuous Interrupted	CQ WQ	CA5515 CA5525	1/32 1/32	330 - 500 - 600 270 - 330 - 400	0.020 - 0.060 - 0.100 0.020 - 0.060 - 0.100	0.006 - 0.010 - 0.012 0.006 - 0.012 - 0.020		
	Medium-Roughing	Continuous Interrupted	PS	CA5515 CA5525	1/32 1/32	330 - 400 - 500 270 - 330 - 400	0.040 - 0.080 - 0.120 0.040 - 0.080 - 0.120	0.006 - 0.008 - 0.012 0.008 - 0.012 - 0.016		
	Medium-Roughing (High Feed)	Continuous Interrupted	HT PT	CA5525 CA5525	1/32 3/64	330 - 400 - 500 270 - 330 - 400	0.060 - 0.120 - 0.160 0.060 - 0.120 - 0.160	0.012 - 0.018 - 0.028 0.010 - 0.014 - 0.018		
	Roughing	Severe Interruption	PT	CA5535		270 - 330 - 400	0.060 - 0.120 - 0.160	0.010 - 0.014 - 0.018		
	M	Stainless Steel AISI 303,304 AISI 316,420 etc.	Finishing (Finish Oriented)	Continuous Interrupted	XQ	PV7020 PV7020	1/32 1/32	400 - 500 - 600 270 - 330 - 400	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.003 - 0.006 - 0.008 0.002 - 0.004 - 0.006
			Finishing	Continuous Interrupted	GU	CA6015 CA6015	1/64 1/32	400 - 500 - 660 330 - 400 - 500	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.003 - 0.006 - 0.008 0.002 - 0.004 - 0.006
			Medium-Roughing	Continuous Interrupted	SU	CA6015 CA6015	1/64 1/32	400 - 500 - 660 270 - 330 - 400	0.040 - 0.080 - 0.120 0.040 - 0.080 - 0.120	0.004 - 0.008 - 0.012 0.008 - 0.012 - 0.016
			Roughing	Continuous Interrupted	Conventional Molded	CA6015 PR660	1/32 3/64	330 - 400 - 500 270 - 330 - 400	0.040 - 0.080 - 0.160 0.040 - 0.080 - 0.160	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016
			Finishing (Finish Oriented)	Continuous Interrupted	XQ	PV7020 PV7020	1/32 1/32	330 - 400 - 500 270 - 330 - 400	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.002 - 0.004 - 0.006 0.002 - 0.003 - 0.004
			Finishing	Continuous Interrupted	GU	CA6015 CA6015	1/64 1/32	330 - 400 - 500 270 - 330 - 400	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.003 - 0.006 - 0.008 0.002 - 0.004 - 0.006
		Medium-Roughing	Continuous Interrupted	SU	CA6015 CA6015	1/64 1/32	330 - 400 - 500 270 - 330 - 400	0.040 - 0.060 - 0.080 0.040 - 0.080 - 0.120	0.004 - 0.006 - 0.010 0.004 - 0.006 - 0.008	
		Roughing	Continuous Interrupted	Conventional Molded	CA6015 PR660	1/32 3/64	270 - 330 - 400 200 - 270 - 330	0.040 - 0.080 - 0.120 0.040 - 0.080 - 0.160	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016	

Turning

Technical Information

Technical Information

Recommended Cutting Conditions - External Turning (Negative Insert)

ISO Classification	Work Material (Hardness)	Cutting Range	Application	Recommended Chipbreaker	Recommended Grade	Corner -R	Lower Limit - Recommendation - Upper Limit			
							Cutting Speed (SFM)	D.O.C (in)	Feed Rate (ipr)	
K	Gray Cast Iron 30B,35B 45B etc.	Finishing (High Speed)	Interrupted Continuous Interrupted	Without Chipbreaker	KBN65B KBN900 KBN900	1/32 3/64 3/64	1320 - 2310 - 2970 1650 - 2970 - 3960 1650 - 2310 - 2970	0.002 - 0.008 - 0.020 0.004 - 0.020 - 0.040 0.020 - 0.040 - 0.060	0.001 - 0.002 - 0.004 0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008	
		Finishing (Finish Oriented)	Continuous Continuous	Conventional Molded	TN30 TN6020	1/32 1/32	500 - 660 - 830 330 - 500 - 660	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.004 - 0.008 - 0.012 0.003 - 0.006 - 0.008	
		Finishing (Ceramic)	Continuous Interrupted	Without Chipbreaker	KA30 A65	3/64 1/32	990 - 1650 - 2310 990 - 1490 - 1980	0.012 - 0.020 - 0.040 0.012 - 0.020 - 0.040	0.004 - 0.008 - 0.012 0.004 - 0.008 - 0.012	
		Medium (Ceramic)	Continuous Interrupted	Without Chipbreaker	KS6000 KS6000	3/64 3/64	830 - 1320 - 1650 830 - 1320 - 1650	0.040 - 0.080 - 0.120 0.040 - 0.080 - 0.120	0.006 - 0.010 - 0.014 0.006 - 0.008 - 0.012	
		Medium	Continuous Interrupted	Conventional Molded	CA4010 CA4010	1/32 3/64	500 - 660 - 830 330 - 500 - 660	0.020 - 0.080 - 0.100 0.020 - 0.080 - 0.100	0.004 - 0.008 - 0.012 0.003 - 0.006 - 0.008	
		Roughing	Continuous Continuous	ZS	CA4010 CA4120	1/32 3/64	500 - 660 - 830 330 - 500 - 660	0.040 - 0.080 - 0.160 0.040 - 0.080 - 0.160	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016	
K	Nodular Cast Iron 60-40-18 80-55-06 etc.	Finishing (High Speed)	Continuous Interrupted	Without Chipbreaker	KBN510 KA30	1/64 1/32	660 - 990 - 1320 660 - 830 - 1160	0.004 - 0.012 - 0.020 0.004 - 0.020 - 0.040	0.004 - 0.006 - 0.008 0.004 - 0.008 - 0.012	
		Finishing (Finish Oriented)	Continuous Interrupted	Conventional Molded	TN30 TN6020	1/32 1/32	500 - 600 - 660 330 - 500 - 600	0.020 - 0.040 - 0.060 0.020 - 0.040 - 0.060	0.004 - 0.008 - 0.012 0.003 - 0.006 - 0.008	
		Medium	Continuous Interrupted	Conventional Molded	CA4115 CA4120	1/32 3/64	330 - 500 - 660 330 - 500 - 600	0.020 - 0.080 - 0.100 0.020 - 0.080 - 0.100	0.004 - 0.008 - 0.012 0.003 - 0.006 - 0.008	
		Roughing	Continuous	GC	CA4115 CA4120	1/32 3/64	330 - 500 - 660 330 - 500 - 600	0.040 - 0.080 - 0.160 0.040 - 0.080 - 0.160	0.008 - 0.012 - 0.016 0.008 - 0.012 - 0.016	
N	Non-ferrous Metal Copper Alloy Aluminum Alloy (Si: under 10%) etc.	Finishing (High Speed) (Rainbow-colored Finish)	Continuous Interrupted	Positive Rake	KPD001	1/64	990 - 2640 - 6600	0.002 - 0.020 - 0.040	0.002 - 0.004 - 0.006	
		Finishing	Continuous Interrupted	A3	KW10 KW10	1/32 1/32	1320 - 1650 - 2310 1320 - 1650 - 2310	0.02 - 0.04 - 0.08 0.020 - 0.040 - 0.080	0.004 - 0.008 - 0.01 0.004 - 0.008 - 0.010	
		Medium	Continuous Interrupted	AH	KW10 KW10	1/32 1/32	660 - 990 - 1650 660 - 990 - 1650	0.040 - 0.080 - 0.140 0.040 - 0.080 - 0.140	0.004 - 0.012 - 0.016 0.004 - 0.012 - 0.016	
S	Titanium Alloy Ti-6Al-4V etc.	Finishing (Precision) (Rainbow-colored Finish)	Continuous Interrupted	Positive Rake	KPD001 KPD001	1/64 1/64	330 - 400 - 500 240 - 330 - 400	0.002 - 0.012 - 0.020 0.002 - 0.012 - 0.020	0.001 - 0.004 - 0.006 0.001 - 0.003 - 0.004	
		Finishing	Continuous Interrupted	A3	KW10 KW10	1/64 1/64	40 - 100 - 170 40 - 100 - 170	0.020 - 0.060 - 0.100 0.020 - 0.060 - 0.100	0.003 - 0.006 - 0.010 0.003 - 0.006 - 0.008	
		Medium	Continuous Interrupted	AH	KW10 KW10	1/32 1/32	40 - 100 - 170 40 - 100 - 170	0.040 - 0.080 - 0.140 0.040 - 0.080 - 0.140	0.004 - 0.010 - 0.014 0.004 - 0.008 - 0.012	
	High-temperature Alloy inconel 625 inconel 718 etc.	Finishing	Continuous Interrupted	TK Conventional Molded	PR905 CA6015	1/64 1/32	140 - 200 - 270 140 - 200 - 270	0.008 - 0.020 - 0.040 0.008 - 0.020 - 0.040	0.001 - 0.003 - 0.005 0.002 - 0.004 - 0.006	
		Medium	Continuous Interrupted	SU Conventional Molded	CA6015 CA6015	1/32 3/64	140 - 200 - 270 140 - 200 - 270	0.020 - 0.040 - 0.080 0.020 - 0.040 - 0.080	0.002 - 0.004 - 0.006 0.004 - 0.006 - 0.008	
		Roughing < 45Rc	Continuous Interrupted	Without Chipbreaker	KX213 KX213	Round	300 - 700 - 2000	0.050 - 0.125 - 0.200	0.006 - 0.008 - 0.010	
H	Heat Treated Steel High Hard Mat'l A2 D2 etc.	40~50 HRC	Finishing	Continuous Interrupted	HQ Without Chipbreaker	CA5505 CA4120	1/32 1/32	200 - 330 - 400 200 - 350 - 400	0.004 - 0.012 - 0.020 0.004 - 0.012 - 0.020	0.002 - 0.003 - 0.004 0.002 - 0.003 - 0.004
			45~65 HRC	Finishing	Continuous Interrupted	Without Chipbreaker	A66N KBN525	1/32 3/64	200 - 450 - 1000 300 - 600 - 1200	0.008 - 0.020 - 0.028 0.008 - 0.020 - 0.028
		50~68 HRC		Finishing	Continuous Interrupted	Without Chipbreaker	KBN510 KBN525	1/32 3/64	200 - 500 - 1000 200 - 550 - 1200	0.002 - 0.012 - 0.020 0.002 - 0.012 - 0.020
			Medium	Continuous Interrupted	Without Chipbreaker	KBN900 KBN900	3/64 Round	200 - 350 - 500 200 - 400 - 550	0.020 - 0.040 - 0.080 0.012 - 0.028 - 0.040	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.006