



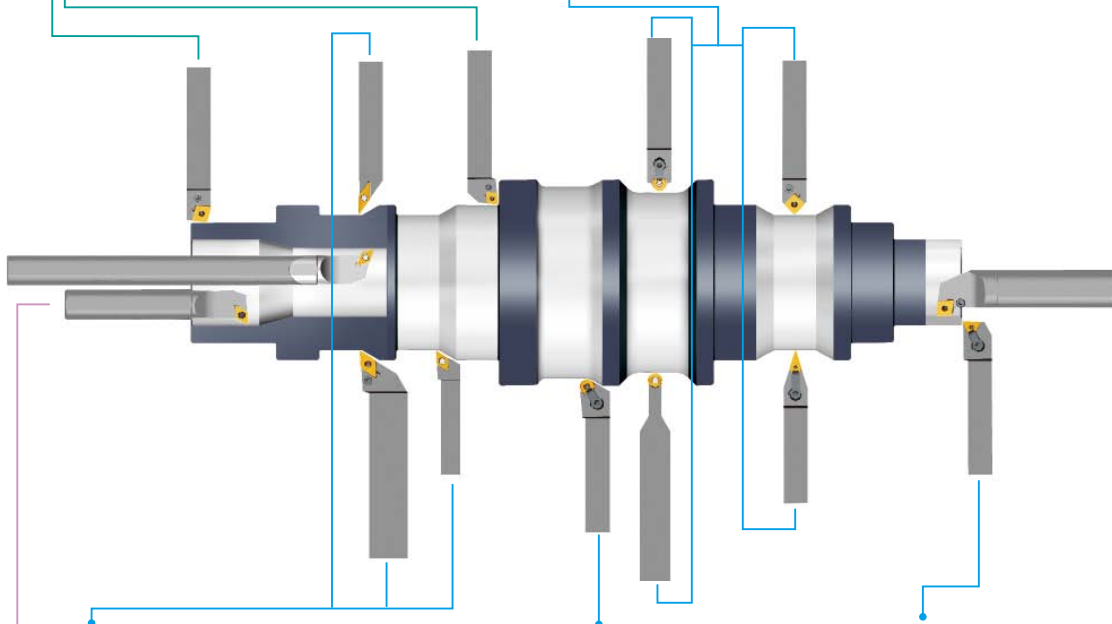
D-type
double-clamping tool holder

External and internal turning

External turning	Tool holder type						
	DTJNR/L□□	DSBNR/L□□	PCBNR/L□□	PSBNR/L□□	PSSNR/L□□	PTGNR/L□□	PTTNR/L□□
	SCACR/L□□	SSBCR/L□□	SSSCR/L□□	STACR/L□□	STGCR/L□□	STTCR/L□□	SWACR/L□□

External and end surface turning	Tool holder type	
	DCLCR/L□□	DWLNR/L□□
	PCLNR/L□□	PWLNR/L□□
	SCLCR/L□□	

Profile turning	Tool holder type			
	DVVNN□□	PDNNR/L□□	PSDNN□□	SDNCN□□
	SVVBN□□	SVVCN□□	SSDCN□□	SRDCN□□
	CKNNR/L□□			



Profile turning	Tool holder type					
	DDJNR/L□□	DVJNR/L□□	PDJNR/L□□			
	SDACR/L□□	SDJCR/L□□	SVABR/L□□			
	SVJBR/L□□	SVJCR/L□□	CKJNR/L□□			

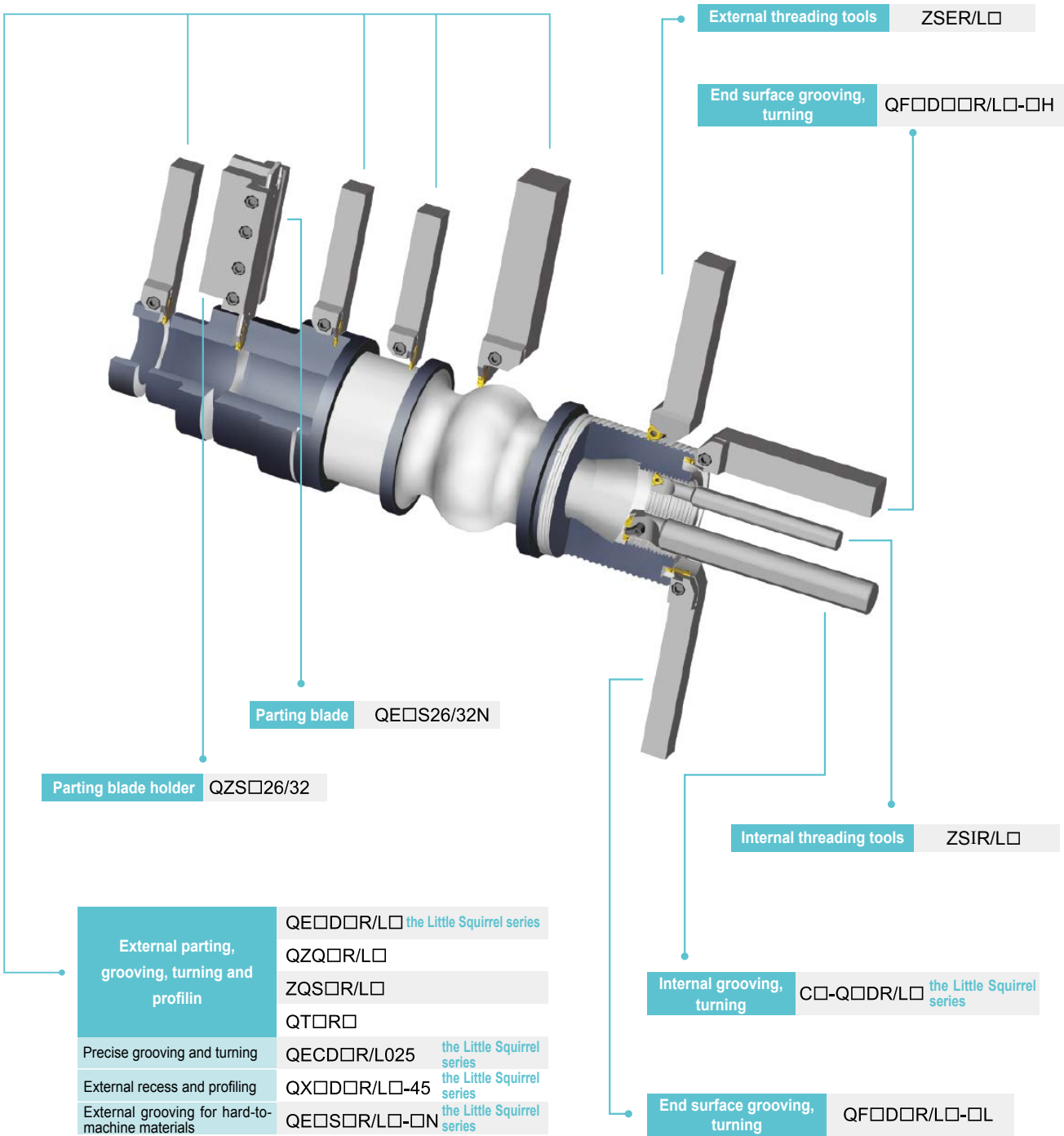
Profile turning	Tool holder type
	SRGCR/L□□

End surface turning	Tool holder type	
	PSKNR/L□□	PTFNR/L□□
	SSKCR/L□□	STFCR/L□□

Tool holders for internal turning (Steel tool shank)						
	S□-PSKNR/L□	S□-PCLNR/L□	S□-PDSNR/L□	S□-PDUNR/L□	S□-SDQCR/L□	S□-SDZCR/L□
	S□-PTFNR/L□	S□-PWLNR/L□		S□-SDUCR/L□	S□-SDQPR/L□	
	S□-SCFCR□	S□-SCLCR/L□		S□-SDUNR/L□	S□-SVQBR/L□	
	S□-SSKCR/L□	S□-SCLPR/L□		S□-SDUPR/L□	S□-SVQCR/L□	
	S□-STFCR/L□			S□-SVUBR/L□		
	S□-STUPR/L□			S□-SVUCR/L□		

Tool holders for internal turning (Cemented carbide tool shank)				
	C□-STUPR/L□	C□-SCLPR/L□	C□-SDUPR/L□ C□-SVUCR/L□	C□-SDQPR/L□ C□-SVQCR/L□

● Parting, grooving and threading tools



TURNING

External Turning Tools

A156-A159

External turning tools overview

A160-A161

External turning tools code key

A162-A201

Detailed table of external turning tools

A162-A170

External turning tool holders by D type clamping

A171-A182

External turning tool holders by P type clamping

A183-A200

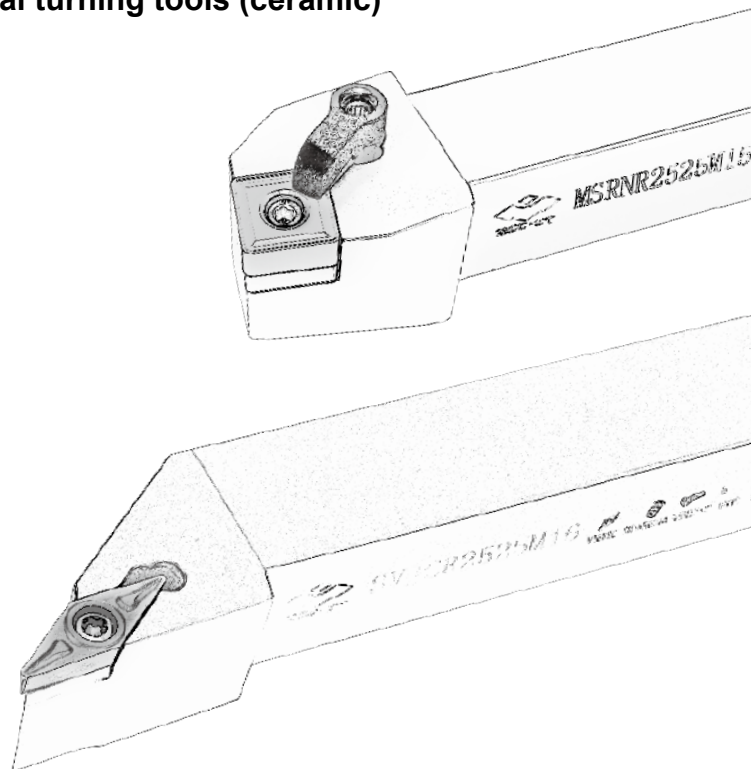
External turning tool holders by S type clamping

A201

External turning tool holders by C type clamping

A202-A207

Detailed table of external turning tools (ceramic)





External turning tools overview

General turning

External turning tools overview

Clamping system	Tool type	Approach angle(K°)	Turning type						Applicable workpiece shape		Page
			External turning	End surface turning	External and end surface turning	Profile turning	Profile turning	Profile turning	Short, Thick	Thin, Long	
											
D	DCLNR/L 	95			☺				☺		A164
	DDJNR/L 	93					☺		☺	☺	A165
	DSBNR/L 	75	☺						☺		A166
	DTGNR/L 	91	☺						☺	☺	A167
	DVVNN 	72.5						☺	☺		A168
	DVJNR/L 	93					☺		☺	☺	A169
	DWLNRL 	95			☺				☺		A170
P	PCBNRL 	75	☺						☺		A171
	PCLNR/L 	95			☺				☺		A172
	PDJNR/L 	93					☺		☺	☺	A173
	PDNNRL 	63						☺	☺		A174

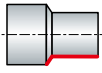
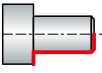
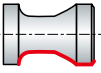
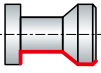
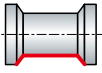
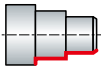
☺ Recommended ☺ Available

Clamping system	Tool type	Approach angle(K _r)°	Turning type						Applicable workpiece shape		Page
			External turning	End surface turning	External and end surface turning	Profile turning	Profile turning	Profile turning	Short, Thick	Thin, Long	
											
P	 PSBNR/L	75	☺						☺		A175
	 PSDNN	45						☺	☺		A176
	 PSKNR/L	75		☺					☺		A177
	 PSSNR/L	45	☺						☺		A178
	 PTFNR/L	91		☺					☺	☺	A179
	 PTTNR/L	60	☺						☺		A180
	 PTGNR/L	90	☺						☺	☺	A181
	 PWLNR/L	95			☺				☺		A182
S	 SCACR/L	90	☺						☺	☺	A183
	 SCLCR/L	95			☺				☺	☺	A184
	 SDACR/L	90					☺		☺	☺	A185

☺ Recommended ☺ Available



External turning tools overview

Clamping system	Tool type	Approach angle (K _r)	Turning type						Applicable workpiece shape		Page
			External turning	End surface turning	External and end surface turning	Profile turning	Profile turning	Profile turning	Short, Thick	Thin, Long	
											
S	 SDJCR/L	93					☺		☺	☺	A186
	 SDNCN	62.5						☺	☺	☺	A187
	 SVJBR/L	93					☺		☺	☺	A188
	 SVABR/L	90					☺		☺	☺	A189
	 SVVBN	72.5						☺	☺	☺	A190
	 SVVCN	72.5						☺	☺	☺	A191
	 SVJCR/L	93					☺		☺	☺	A192
	 SSBCR/L	75	☺						☺		A193
	 SSDCN	45						☺	☺		A193
	 SSKCR/L	75		☺					☺		A194
	 SSSCR/L	45	☺						☺		A194

☺ Recommended

☹ Available

Clamping system	Tool type	Approach angle (K _r)	Turning type						Applicable workpiece shape		Page
			External turning	End surface turning	External and end surface turning	Profile turning	Profile turning	Profile turning	Short, Thick	Thin, Long	
											
S	STACR/L 	90	☺						☺	☺	A195
	STFCR/L 	91		☺					☺		A195
	STGCR/L 	91	☺						☺	☺	A196
	STTCR/L 	60	☺						☺		A197
	SWACR/L 	90	☺						☺	☺	A198
	SRDCN 							☺	☺		A199
	SRGCR/L 					☺			☺		A200
C	CKJNR/L 	93					☺		☺		A201
	CKNNR/L 	63						☺	☺		A201

☺ Recommended

☺ Available



TURNING General Turning Tools

External turning tools code key

General turning

External turning tools code key

Clamping system	Insert shape		Clearance angle of insert	Cutting direction
D – double clamping	C	D	B	L - Left-hand
P – Hole clamping	R	S	C	R - Right-hand
S – Screw on	T	V	D	R - Right-hand
C – Top clamping	W		E	N - Right and left hand
			N	
			P	

P

C

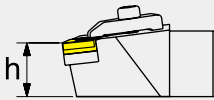
L

N

L

Tool holder style and approach angle							
A	B	C	D	E	F	G	H
J	K	L	M	N	O	P	Q
R	S	T	U	V	W	X	

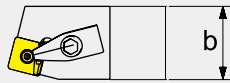
Nose height (mm)



Code Height

12	12
16	16
20	20
25	25
32	32
40	40
50	50

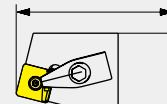
Width of tool holder (mm)



Code Width

12	12
16	16
20	20
25	25
32	32
40	40
50	50

Length of tool holder (mm)



Code Length

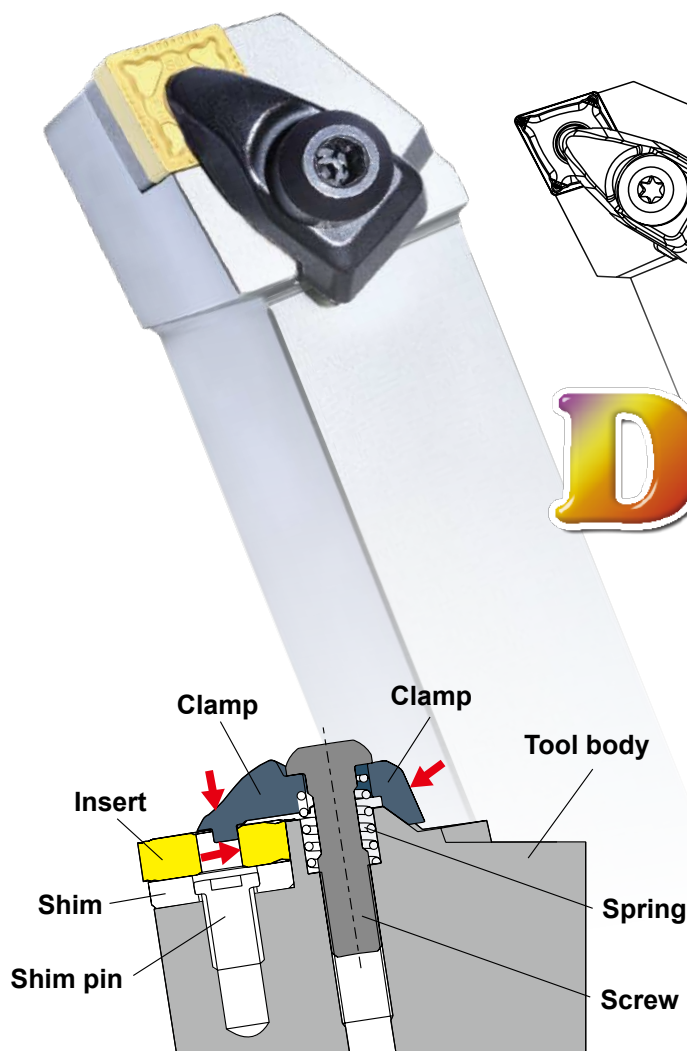
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

25**25****M****12**General
turning

External turning tools code key

Length of cutting edge

Inserts shape	C	D	R	S	T	V	W
Inscribed circle (mm)	Length of cutting edge(mm)						
5.556	---	---	---	---	09	---	---
6.350	06	07	---	---	11	---	---
9.525	09	11	09	09	16	16	06
12.700	12	15	12	12	22	22	08
15.875	16	19	15	15	27	---	---
19.050	19	---	19	19	33	---	---
25.400	25	---	25	25	44	---	---
32.000	---	---	32	---	---	---	---



D

-type double-clamping tool holder

With newly developed double-clamping structure, D-type turning tools have high clamping rigidity and high positioning accuracy, achieving easy and secure clamping of inserts. It is the best choice for the clamping of straight hole negative inserts.

Convenient secure clamping device



Slots in the tool body match perfectly with the clamp, realizing simple and easy clamping.

Uniquely clamp

The clamp and the inner wall of insert hole make an arc contact. The stable and evenly distributed clamping force ensures more secure clamping.

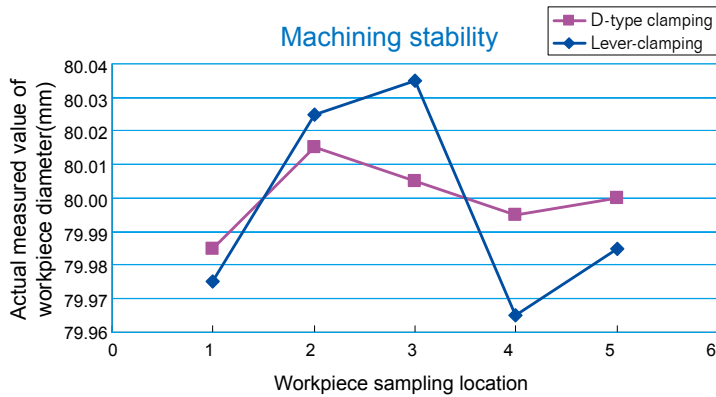
lug boss on both ends and double-locating make more insert clamp secure .

Arc locating surface makes large contact area and the force is evenly distributed.

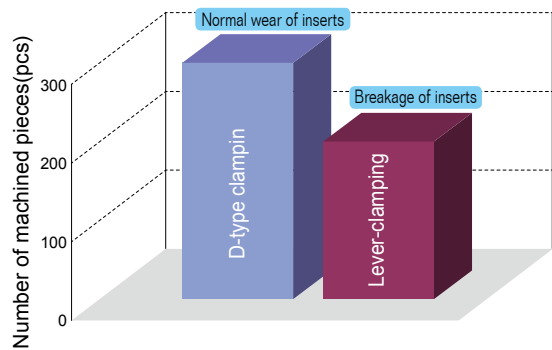
Simple and compact structure effectively prevents chip blocking while ensuring high clamping rigidity.

Compared with lever-clamping:

① Accurate locating ensures more stable machining accuracy.



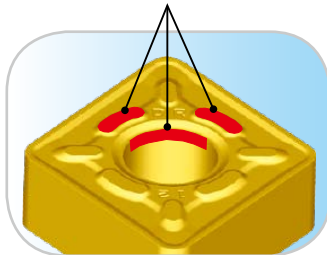
② High clamping rigidity effectively improves resistance to breakage of insert.



Compared with similar products of company A:

① Locating surface contact: (checking the contact location of clamp by dyeing)

Force evenly distributed, firm clamping, high locating accuracy.



ZCC-CT

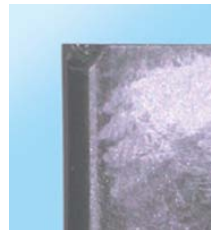


Similar product of company A

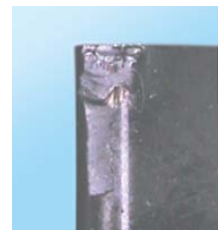
② Effect on tool life:

Tool holder: DCLNL3225P12
 Insert: YBC252/CNMG120408-DR
 Cutting material: 45# steel
 Cutting parameters: $V_c=250\text{m/min}$
 $a_p=2\text{mm}$
 $f=0.6\text{mm/r}$

After 60 minutes of cutting



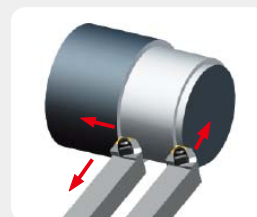
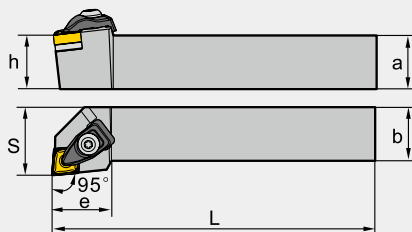
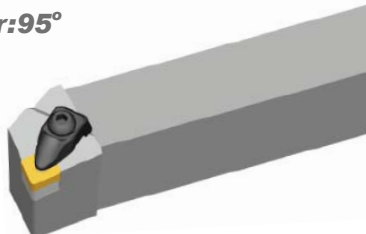
ZCC-CT



Similar product of company A

Corresponding tool holders of insert **CN** ☐ ☐ D-type clamping**DCLNR/L**

Kr:95°



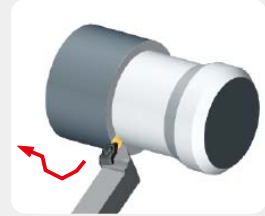
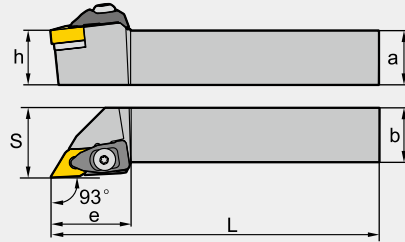
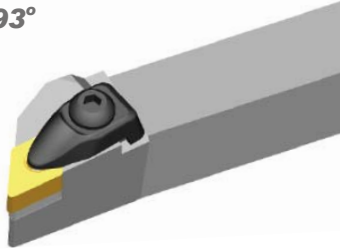
Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
		R	L	a	b	L	h	s	e						
DCLNR/L	1616H09	▲	△	16	16	100	16	20	24						
	2020K09	▲	△	20	20	125	20	25	24	CM5×22C	C09BM	WH30L	C1RA	SM5×8.65XA1	SPR6
	2525M09	▲	△	25	25	150	25	32	24						
	2020K12	▲	▲	20	20	125	20	25	28						
	2525M12	▲	▲	25	25	150	25	32	28	CM6×25C	C12BM	WH40L	C2RA	SM6×10XA1	SPR4
	3225P12	▲	▲	32	25	170	32	32	28						

▲Stock available

△Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A52	WGM Wiper  A53	DR Double-side  A56	HPR  A57	Without chipbreaker  A57	Without chipbreaker  A120
	WGF Wiper  A52	PM  A53	DR Single-side  A56			Without chipbreaker  A120
	SF  A52	DM  A54	ER Double-side  A56			Without chipbreaker  A120
	EF  A52	EM  A54	ER Single-side  A56			
	NF  A53	NM  A55	LR Single-side  A55			
Tool holder type	DCLNR/L□□H/K/M09	CN□□0903□□	CN□□0903□□			
	DCLNR/L□□K/M/P12	CN□□1204□□	CN□□1204□□	CN□□1204□□	CN□□1204□□	CN□□1204□□

Corresponding tool holders of insert **DN** ☐ ☐ D-type clamping**DDJNR/L****Kr:93°**General
turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
		R	L	a	b	L	h	s	e						
DDJNR/L	1616H11	△	△	16	16	100	16	20	30	CM5×22C	D11BM	WH30L	C1RA	SM5×8.65XA1	SPR6
	2020K11	▲	△	20	20	125	20	25	30						
	2525M11	▲	△	25	25	150	25	32	30						
	3225P11	△	△	32	25	170	32	32	30	CM6×25C	D15BM	WH40L	C2RA	SM6×10XA1	SPR4
	2020K15	▲	▲	20	20	125	20	25	35						
	2525M15	▲	▲	25	25	150	25	32	35						
	3232P15	▲	▲	32	32	170	32	40	35						

▲Stock available

△Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF A59	WGM Wiper A61	DR Double-side A63	Without chipbreaker A64	Without chipbreaker A122
	WGF Wiper A59	PM A61	DR Single-side A63		Without chipbreaker A122
	SF A60	DM A62	ER Double-side A63		Without chipbreaker A122
	EF A60	EM A62	ER Single-side A63		
	NF A60	NM A62	LR Single-side A63		

Tool holder type

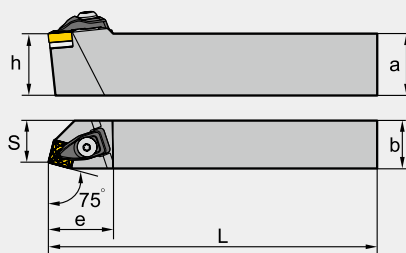
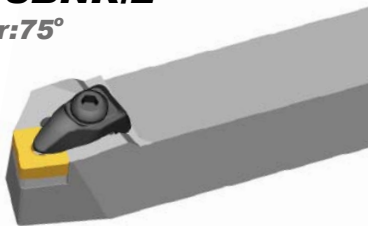
DDJNR/L ☐ ☐ **H/K/M/P11**DN ☐ ☐ 1104 ☐ ☐DN ☐ ☐ 1104 ☐ ☐DN ☐ ☐ 1104 ☐ ☐**DDJNR/L** ☐ ☐ **K/M/P15**DN ☐ ☐ 1506 ☐ ☐DN ☐ ☐ 1506 ☐ ☐DN ☐ ☐ 1506 ☐ ☐DN ☐ ☐ 1506 ☐ ☐DN ☐ ☐ 1506 ☐ ☐

Corresponding tool holders of insert **SN** □ □

D-type clamping

DSBNR/L

Kr:75°



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
		R	L	a	b	L	h	s	e						
DSBNR/L	1616H09	▲	△	16	16	100	16	13	26	CM5×22C	S09BM	WH30L	C1RA	SM5×8.65XA1	SPR6
	2020K12	▲	▲	20	20	125	20	17	34						
	2525M12	▲	▲	25	25	150	25	22	34	CM6×25C	S12BM	WH40L	C2RA	SM6×10XA1	SPR4
	3225P12	▲	▲	32	25	170	32	22	34						
	3232P15	▲	▲	32	32	170	32	27	41	CM6×25C	S15BM	WH40L	C3RA	SM6×10XA2	SPR4

▲Stock available

△Make-to-order

Applicable inserts

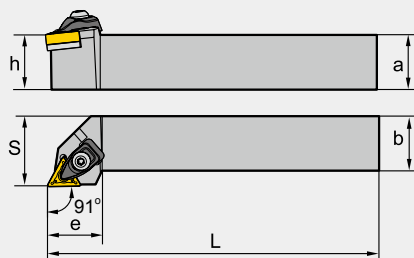
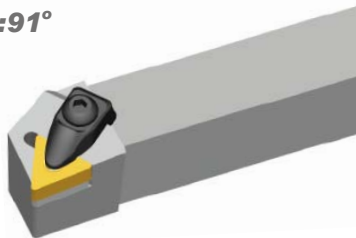
Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A65	PM  A66	DR Double-side  A68	HPR  A70	Without chipbreaker  A72	Without chipbreaker  A124
	EF  A65	DM  A66	DR Single-side  A68 -69			Without chipbreaker  A124
	SF  A65	EM  A67	ER Double-side  A69			Without chipbreaker  A124
		NM  A67	ER Single-side  A70			Without chipbreaker  A124
			LR Single-side  A67			
Tool holder type	DSBNR/L □ □ H09	SN □ □ 0903 □ □	SN □ □ 0903 □ □		SN □ □ 0903 □ □	
	DSBNR/L □ □ K/M/P12	SN □ □ 1204 □ □	SN □ □ 1204 □ □	SN □ □ 1204 □ □	SN □ □ 1204 □ □	SN □ □ 1204 □ □
	DSBNR/L □ □ P15	SN □ □ 1506 □ □	SN □ □ 1506 □ □	SN □ □ 1506 □ □	SN □ □ 1506 □ □	

Corresponding tool holders of insert **TN** ☐ ☐

D-type clamping

DTGNR/L

Kr:91°



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
		R	L	a	b	L	h	s	e						
DTGNR/L	1616H16	△	△	16	16	100	16	20	25						
	2020K16	▲	▲	20	20	125	20	25	25	CM5×22C	T16BM	WH30L	C1RA	SM5×8.65XA1	SPR6
	2525M16	▲	▲	25	25	150	25	32	25						

▲Stock available

△Make-to-order

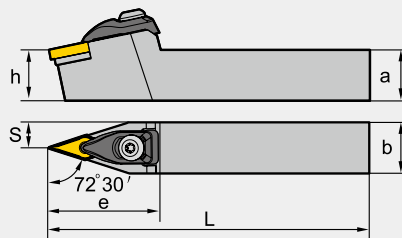
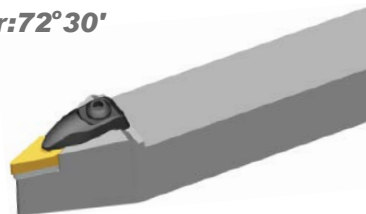
General turning

External turning tools

Applicable inserts

Application	For finishing		For semi-finishing		For roughing		For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A73	WGM Wiper  A74	DR Double-side  A76	Without chipbreaker  A78		Without chipbreaker  A126		
	WGF Wiper  A73	PM  A74	DR Single-side  A76			Without chipbreaker  A126		
	SF  A73	DM  A75	ER Double-side  A76			Without chipbreaker  A126		
	EF  A74	EM  A75	LR Single-side  A75					
Tool holder type	DTGNR/L□□H/K/M16		TN□□1604□□		TN□□1604□□		TN□□1604□□	TN□□1604□□

Corresponding tool holders of insert **VN** ☐ ☐ D-type clamping

DVVNN
Kr:72°30'


Type		Stock	Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
			a	b	L	h	s	e						
DVVNN	2020K16	△	20	20	125	20	10	44	CM5×22C	V16BM	WH30L	C6RA	SM5×8.65XA1	SPR6
	2525M16	▲	25	25	150	25	12.5	44						

▲Stock available

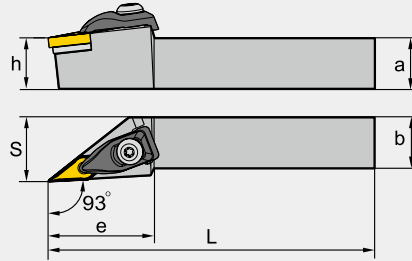
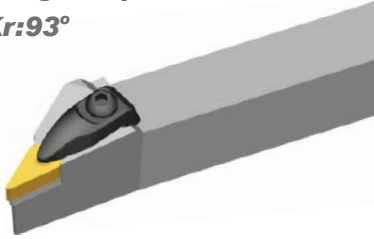
△Make-to-order

Applicable inserts

Application	For finishing		For semi-finishing		PCBN&PCD inserts
Inserts shape	DF	 A79	PM	 A80	Without chipbreaker  A127
	EF	 A79	DM	 A80	Without chipbreaker  A127
	SF	 A79	EM	 A80	
	NF	 A79	NM	 A80	
Tool holder type	DVVNN□□K/M16		VN□□1604□□		VN□□1604□□

Corresponding tool holders of insert **VN** ☐ ☐

D-type clamping

DVJNR/L**Kr:93°**General
turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
		R	L	a	b	L	h	s	e						
DVJNR/L	2020K16	▲	▲	20	20	125	20	25	41	CM5×22C	V16BM	WH30L	C6RA	SM5×8.65XA1	SPR6
	2525M16	▲	▲	25	25	150	25	32	41						

▲Stock available

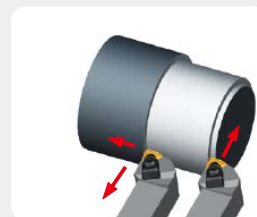
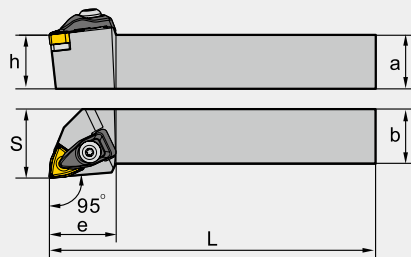
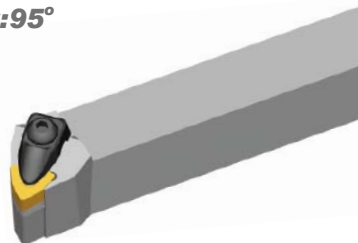
△Make-to-order

Applicable inserts

Application	For finishing		For semi-finishing		PCBN&PCD inserts	
Inserts shape	DF	 A79	PM	 A80	Without chipbreaker	 A127
	EF	 A79	DM	 A80	Without chipbreaker	 A127
	SF	 A79	EM	 A80		
	NF	 A79	NM	 A80		
Tool holder type	DVJNR/L ☐ ☐ K/M16		VN ☐ ☐ 1604 ☐ ☐		VN ☐ ☐ 1604 ☐ ☐	

Corresponding tool holders of insert **WN** ☐ ☐ D-type clamping**DWLNRL**

Kr:95°



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Clamp	Shim screw	Spring
		R	L	a	b	L	h	s	e						
DWLNRL/L	1616H06	▲	△	16	16	100	16	25	25	CM5×22C	W06BM	WH30L	C1RA	SM5×8.65XA1	SPR6
	2020K06	▲	▲	20	20	125	20	25	24						
	2525M06	▲	▲	25	25	150	25	32	24						
	2020K08	▲	▲	20	20	125	20	25	31	CM6×25C	W08BM	WH40L	C2RA	SM6×10XA1	SPR4
	2525M08	▲	▲	25	25	150	25	32	31						
	3225P08	△	△	32	25	170	32	32	31						

▲Stock available

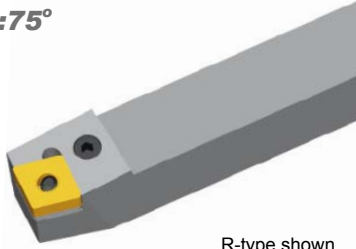
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Applicable inserts

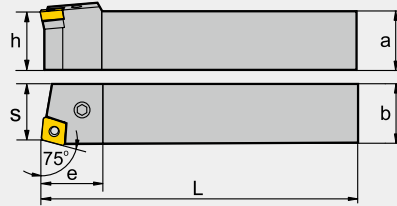
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A81	WGM Wiper  A82	DR Double-side  A84	Without chipbreaker  A84	Without chipbreaker  A128
	WGF Wiper  A81	PM  A83			Without chipbreaker  A128
	SF  A81	DM  A83			Without chipbreaker  A128
	EF  A82	EM  A83			
	NF  A82	NM  A84			
Tool holder type	DWLNRL/□□□H/K/M06	WN□□0604□□	WN□□0604□□	WN□□0604□□	WN□□0604□□
	DWLNRL/□□□K/M/P08	WN□□0804□□	WN□□0804□□	WN□□0804□□	WN□□0804□□

Corresponding tool holders of insert **CN** ☐ ☐ P-type clamping**PCBNR/L**

Kr:75°



R-type shown



General turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PCBNR/L	2020K12	▲	▲	20	20	125	20	17	27	LEM8×21	C12AP	WH30L	L4	SP4
	2525M12	▲	▲	25	25	150	25	22	27					
	3232P12	▲	▲	32	32	170	32	27	27					
	2525M16	▲	▲	25	25	150	25	22	33	LEM8×25	C16AP	WH30L	L5	SP5
	3232P16	▲	▲	32	32	170	32	27	33					
	3232P19	▲	▲	32	32	170	32	27	38	LEM10×27	C19AP	WH40L	L6	SP6
	4040S19	▲	▲	40	40	250	40	35	38					
	4040S2507	▲	▲	40	40	250	40	35	50	LEM12×36A	C25AP-07	WH50L	L8	SP8
	4040S2509	▲	▲	40	40	250	40	35	50		C25AP			

▲Stock available

△Make-to-order

Applicable inserts

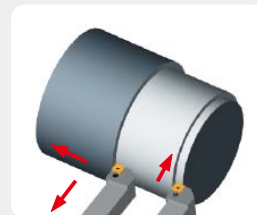
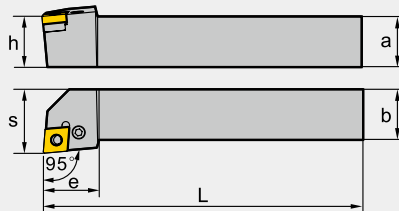
Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining
Inserts shape	DF  A52	PM  A53	DR Double-side  A56	HPR  A57	Without chipbreaker  A57
	SF  A52	DM  A54	DR Single-side  A56		
	EF  A52	EM  A54	ER Double-side  A56		
	NF  A53	NM  A55	ER Single-side  A56		
			LR  A55		
Tool holder type	PCBNR/L□□K/M/P12	CN□□1204□□	CN□□1204□□	CN□□1204□□	CN□□1204□□
	PCBNR/L□□M/P16	CN□□1606□□	CN□□1606□□	CN□□1606□□	CN□□1606□□
	PCBNR/L□□P/S19		CN□□1906□□	CN□□1906□□	CN□□1906□□
	PCBNR/L□□S2507			CN□□2507□□	
	PCBNR/L□□S2509			CN□□2509□□	

Corresponding tool holders of insert **CN** ☐ ☐ P-type clamping**PCLNR/L**

Kr:95°



R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PCLNR/L	1616H09	▲	▲	16	16	100	16	20	20	LEM6×13.4A	C09AP	WH25L	L3	SP10
	2020K09	▲	▲	20	20	125	20	25	22					
	2525M09	▲	▲	25	25	150	25	32	22					
	2020K12	▲	▲	20	20	125	20	25	28	LEM8×21	C12AP	WH30L	L4	SP4
	2525M12	▲	▲	25	25	150	25	32	28					
	3232P12	▲	▲	32	32	170	32	40	28					
	2525M16	▲	▲	25	25	150	25	32	33	LEM8×25	C16AP	WH30L	L5	SP5
	3232P16	▲	▲	32	32	170	32	40	33					
	3232P19	▲	▲	32	32	170	32	40	38	LEM10×27	C19AP	WH40L	L6	SP6
	4040S19	▲	▲	40	40	250	40	50	38					
	4040S2507	▲	▲	40	40	250	40	50	49	LEM12×36A	C25AP-07 C25AP	WH50L	L8	SP8
	4040S2509	▲	▲	40	40	250	40	50	49					

▲Stock available

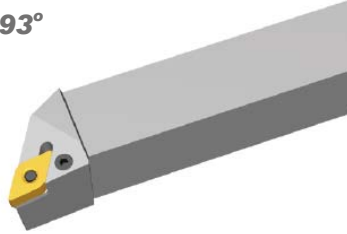
△Make-to-order

Applicable inserts

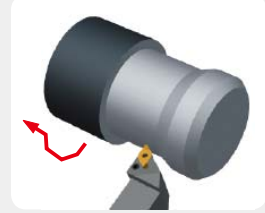
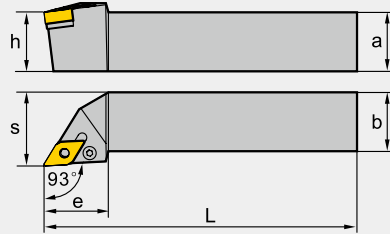
Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF Wiper A52	WGM Wiper A53	DR Double-side A56	HPR A57	Without chipbreaker A57	Without chipbreaker A120
	WGF Wiper A52	PM A53	DR Single-side A56			Without chipbreaker A120
	SF A52	DM A54	ER Double-side A56			Without chipbreaker A120
	EF A52	EM A54	ER Single-side A56			
	NF A53	NM A55	LR Single-side A55			
Tool holder type	PCLNR/L□□H/K/M09	CN□□0903□□	CN□□0903□□			
	PCLNR/L□□K/M/P12	CN□□1204□□	CN□□1204□□	CN□□1204□□	CN□□1204□□	CN□□1204□□
	PCLNR/L□□M/P16	CN□□1606□□	CN□□1606□□	CN□□1606□□	CN□□1606□□	CN□□1606□□
	PCLNR/L□□P/S19		CN□□1906□□	CN□□1906□□	CN□□1906□□	CN□□1906□□
	PCLNR/L□□S2507			CN□□2507□□		
	PCLNR/L□□S2509			CN□□2509□□		

Corresponding tool holders of insert **DN** ☐ ☐ P-type clamping**PDJNR/L**

Kr:93°



R-type shown



General turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PDJNR/L	1616H11	▲	▲	16	16	100	16	20	25	LEM6×13.4A	D11AP	WH25L	L3	SP3
	2020K11	▲	▲	20	20	125	20	25	25					
	2525M11	▲	▲	25	25	150	25	32	30					
	2020K15	▲	▲	20	20	125	20	25	35	LEM8×21	D15AP	WH30L	L4B	SP4
	2525M15	▲	▲	25	25	150	25	32	35					
	3232P15	▲	▲	32	32	170	32	40	35					
	2020K15-3	▲	△	20	20	125	20	25	35	LEM8×21	D15AP	WH30L	L4	SP4
	2525M15-3	▲	▲	25	25	150	25	32	35					
	3232P15-3	▲	△	32	32	170	32	40	35					

▲Stock available

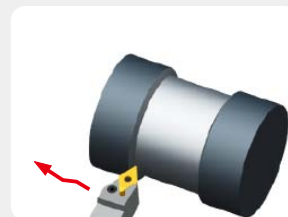
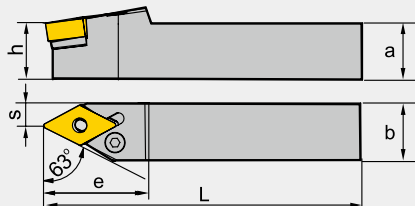
△Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A59	WGM Wiper  A61	DR Double-side  A63	Without chipbreaker  A64	Without chipbreaker  A122
	WGF Wiper  A59	PM  A61	DR Single-side  A63		Without chipbreaker  A122
	SF  A60	DM  A62	ER Double-side  A63		Without chipbreaker  A122
	EF  A60	EM  A62	ER Single-side  A63		
	NF  A60	NM  A62	LR Single-side  A63		
Tool holder type	PDJNR/L□□H/K/M11	DN□□1104□□	DN□□1104□□	DN□□1104□□	
	PDJNR/L□□K/M/P15	DN□□1506□□	DN□□1506□□	DN□□1506□□	DN□□1506□□
	PDJNR/L□□K/M/P15-3	DN□□1504□□	DN□□1504□□	DN□□1504□□	DN□□1504□□

Corresponding tool holders of insert **DN** ☐ ☐ P-type clamping**PDNNR/L****Kr:63°**

R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PDNNR/L	2020K15	▲	▲	20	20	125	20	8	37	LEM8×21	D15AP	WH30L	L4B	SP4
	2525M15	▲	▲	25	25	150	25	12.5	37					
	3232P15	▲	▲	32	32	170	32	16	37					
	2020K15-3	▲	▲	20	20	125	20	8	37	LEM8×21	D15AP	WH30L	L4	SP4
	2525M15-3	▲	▲	25	25	150	25	12.5	37					
	3232P15-3	▲	▲	32	32	170	32	16	37					

▲ Stock available

△ Make-to-order

Applicable inserts

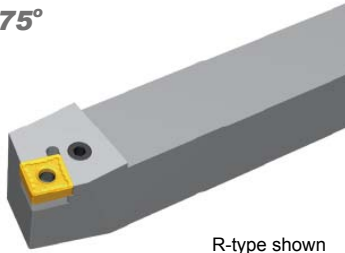
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A59	PM  A61	DR Double-side  A63	Without chipbreaker  A64	Without chipbreaker  A122
	SF  A60	DM  A62	DR Single-side  A63		Without chipbreaker  A122
	EF  A60	EM  A62	ER Double-side  A63		Without chipbreaker  A122
	NF  A60	NM  A62	ER Single-side  A63		
			LR Single-side  A63		
Tool holder type	PDNNR/L□□K/M/P15	DN□□1506□□	DN□□1506□□	DN□□1506□□	DN□□1506□□
	PDNNR/L□□K/M/P15-3	DN□□1504□□	DN□□1504□□	DN□□1504□□	DN□□1504□□

Corresponding tool holders of insert **SN** ☐ ☐

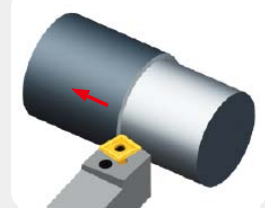
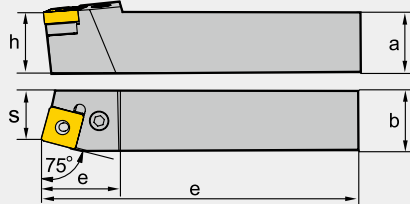
P-type clamping

PSBNR/L

Kr:75°



R-type shown



General turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PSBNR/L	1616H09	▲	▲	16	16	100	16	13	21	LEM6×13.4A	S09AP	WH25L	L3	SP3
	2020K09	▲	▲	20	20	125	20	17	23					
	2020K12	▲	▲	20	20	125	20	17	28					
	2525M12	▲	▲	25	25	125	25	22	28	LEM8×21	S12AP	WH30L	L4	SP4
	3225P12	▲	△	32	25	170	32	22	28					
	3232P12	▲	▲	32	32	170	32	27	28					
	2525M15	▲	▲	25	25	150	25	22	35	LEM8×25	S15AP	WH30L	L5	SP5
	3232P15	▲	▲	32	32	170	32	27	35					
	3232P19	▲	▲	32	32	170	32	27	40	LEM10×27	S19AP	WH40L	L6	SP6
	4040S19	▲	▲	40	40	250	40	35	40					
	4040S2507	▲	▲	40	40	250	40	35	48	LEM12×36A	S25AP	WH50L	L8	SP8
	4040S2509	▲	▲	40	40	250	40	35	48		S25AP-09			

▲Stock available △Make-to-order

Applicable inserts

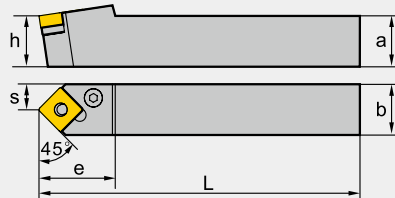
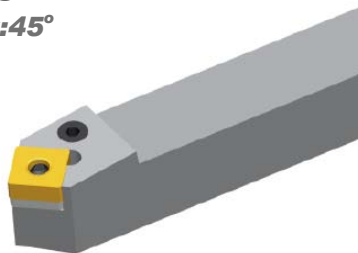
Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A65	PM  A66	DR Double-side  A68	HPR  A70	Without chipbreaker  A72	Without chipbreaker  A124
	EF  A65	DM  A66	DR Single-side  A68-69			Without chipbreaker  A124
	SF  A65	EM  A67	ER Double-side  A69			Without chipbreaker  A124
		NM  A67	ER Single-side  A70			Without chipbreaker  A124
			LR Single-side  A67			
Tool holder type	PSBNR/L□□H/K09	SN□□0903□□	SN□□0903□□		SN□□0903□□	
	PSBNR/L□□K/M/P12	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□
	PSBNR/L□□M/P15	SN□□1506□□	SN□□1506□□	SN□□1506□□	SN□□1506□□	SN□□1506□□
	PSBNR/L□□P/S19		SN□□1906□□	SN□□1906□□	SN□□1906□□	SN□□1906□□
	PSBNR/L□□S2507			SN□□2507□□	SN□□2507□□	
	PSBNR/L□□S2509			SN□□2509□□	SN□□2509□□	

Corresponding tool holders of insert **SN** ☐ ☐

P-type clamping

PSDNN

Kr:45°



Type		Stock	Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
			a	b	L	h	s	e					
PSDNN	1212F09	△	12	12	80	12	6	21	LEM5×12B	—	WH20L	L3B	—
	1616H09	△	16	16	100	16	8	23	LEM6×13.4A	S09AP	WH25L	L3	SP3
	2020K12	▲	20	20	125	20	10	30	LEM8×21	S12AP	WH30L	L4	SP4
	2525M12	▲	25	25	150	20	12.5	30					
	3232P12	▲	32	32	170	32	16	40	LEM8×25	S15AP	WH30L	L5	SP5
	2525M15	▲	25	25	150	25	12.5	40					
	3232P15	▲	32	32	170	32	16	40	LEM10×27	S19AP	WH40L	L6	SP6
	3232P19	▲	32	32	170	32	16	40					
	4040S19	▲	40	40	250	40	20	40					

▲Stock available

△Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A65	PM  A66	DR Double-side  A68	HPR  A70	Without chipbreaker  A72	Without chipbreaker  A124
	EF  A65	DM  A66	DR Single-side  A68-69			Without chipbreaker  A124
	SF  A65	EM  A67	ER Double-side  A69			Without chipbreaker  A124
		NM  A67	ER Single-side  A70			Without chipbreaker  A124
			LR Single-side  A67			
Tool holder type	PSDNN□□F/H09	SN□□0903□□	SN□□0903□□		SN□□0903□□	
	PSDNN□□K/M/P12	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□
	PSDNN□□M/P15	SN□□1506□□	SN□□1506□□	SN□□1506□□	SN□□1506□□	
	PSDNN□□P/S19		SN□□1906□□	SN□□1906□□	SN□□1906□□	

Corresponding tool holders of insert **SN** ☐ ☐

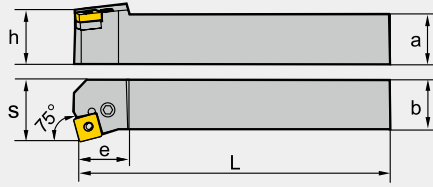
P-type clamping

PSKNR/L

Kr:75°



R-type shown



General turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PSKNR/L	1616H09	▲	▲	16	16	100	16	20	17	LEM6×13.4A	S09AP	WH25L	L3	SP3
	2020K09	▲	△	20	20	125	20	25	20					
	2020K12	▲	▲	20	20	125	20	25	26	LEM8×21	S12AP	WH30L	L4	SP4
	2525M12	▲	▲	25	25	150	25	32	26					
	3232P12	▲	▲	32	32	170	32	40	26	LEM8×25	S15AP	WH30L	L5	SP5
	2525M15	▲	▲	25	25	150	25	32	32					
	3232P15	▲	▲	32	32	170	32	40	32	LEM10×27	S19AP	WH40L	L6	SP6
	3232P19	▲	▲	32	32	170	32	40	36					
	4040S19	▲	▲	40	40	250	40	50	40					

▲Stock available

△Make-to-order

Applicable inserts

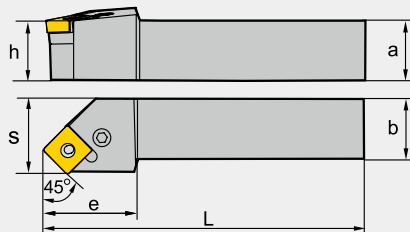
Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A65	PM  A66	DR Double-side  A68	HPR  A70	Without chipbreaker  A72	Without chipbreaker  A124
	EF  A65	DM  A66	DR Single-side  A68-69			Without chipbreaker  A124
	SF  A65	EM  A67	ER Double-side  A69			Without chipbreaker  A124
		NM  A67	ER Single-side  A70			Without chipbreaker  A124
			LR Single-side  A67			
Tool holder type	PSKNR/L□□H/K09	SN□□0903□□	SN□□0903□□		SN□□0903□□	
	PSKNR/L□□K/M/P12	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□
	PSKNR/L□□M/P15	SN□□1506□□	SN□□1506□□	SN□□1506□□	SN□□1506□□	
	PSKNR/L□□P/S19		SN□□1906□□	SN□□1906□□	SN□□1906□□	

Corresponding tool holders of insert **SN** □ □

P-type clamping

PSSNR/L*Kr:45°*

R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PSSNR/L	1616H09	▲	▲	16	16	100	16	20	25	LEM6×13.4A	S09AP	WH25L	L3	SP3
	2020K12	▲	▲	20	20	125	20	25	30	LEM8×21	S12AP	WH30L	L4	SP4
	2525M12	▲	▲	25	25	150	25	32	30		S12AP	WH30L	L4	SP4
	3232P12	▲	▲	32	32	170	32	40	40	LEM8×25	S15AP	WH30L	L5	SP5
	2525M15	▲	▲	25	25	150	25	32	30		S15AP	WH30L	L5	SP5
	3232P15	▲	▲	32	32	170	32	40	40	LEM10×27	S19AP	WH40L	L6	SP6
	3232P19	▲	▲	32	32	170	32	40	40		S19AP	WH40L	L6	SP6
	4040S19	▲	▲	40	40	250	40	50	50	LEM12×36A	S25AP	WH50L	L8	SP8
	4040S2507	▲	▲	40	40	250	40	50	50		S25AP			
	4040S2509	▲	▲	40	40	250	40	50	50		S25AP-09	WH50L	L8	SP8

▲Stock available

△Make-to-order

Applicable inserts

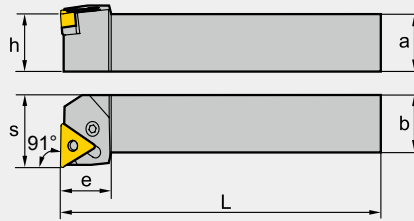
Application	For finishing	For semi-finishing	For roughing	For heavy machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A65	PM  A66	DR Double-side  A68	HPR  A70	Without chipbreaker  A72	Without chipbreaker  A124
	EF  A65	DM  A66	DR Single-side  A68-69			Without chipbreaker  A124
	SF  A65	EM  A67	ER Double-side  A69			Without chipbreaker  A124
		NM  A67	ER Single-side  A70			Without chipbreaker  A124
			LR Single-side  A67			
Tool holder type	PSSNR/L□□H09	SN□□0903□□	SN□□0903□□	SN□□0903□□	SN□□0903□□	
	PSSNR/L□□K/M/P12	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□	SN□□1204□□
	PSSNR/L□□M/P15	SN□□1506□□	SN□□1506□□	SN□□1506□□	SN□□1506□□	
	PSSNR/L□□P/S19		SN□□1906□□	SN□□1906□□	SN□□1906□□	
	PSSNR/L□□S2507		SN□□2507□□	SN□□2507□□		
	PSSNR/L□□S2509		SN□□2509□□	SN□□2509□□		

Corresponding tool holders of insert **TN** ☐ ☐

P-type clamping

PTFNR/L
Kr:91°

R-type shown

General
turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PTFNR/L	1616H16	△	▲	16	16	100	16	20	20	LEM6×13.4A	T16AP	WH25L	L3	SP3
	2020K16	▲	▲	20	20	125	20	25	20					
	2525M16	▲	▲	25	25	150	25	32	20					
	2525M22	▲	▲	25	25	150	25	32	25	LEM8×21	T22AP	WH30L	L4	SP4
	3232P22	▲	▲	32	32	170	32	40	25					
	3232P27	▲	▲	32	32	170	32	40	34	LEM8×25	T27AP	WH30L	L5	SP5
	4040S27	▲	▲	40	40	250	40	50	34					

▲Stock available

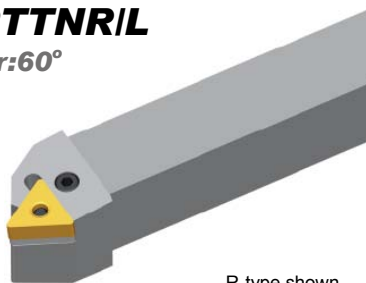
△Make-to-order

Applicable inserts

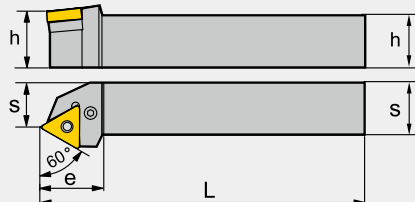
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts	
Inserts shape	DF  A73	WGM Wiper  A74	DR Double-side  A76	Without chipbreaker  A78	Without chipbreaker  A126	
	WGF  A73	PM  A74	DR Single-side  A76		Without chipbreaker  A126	
	SF  A73	DM  A75	ER Double-side  A76		Without chipbreaker  A126	
	EF  A74	EM  A75	LR Single-side  A75			
Tool holder type	PTFNR/L□□H/K/M16	TN□□1604□□	TN□□1604□□	TN□□1604□□	TN□□1604□□	TN□□1604□□
	PTFNR/L□□M/P22	TN□□2204□□	TN□□2204□□	TN□□2204□□	TN□□2204□□	
	PTFNR/L□□P/S27			TN□□2706□□	TN□□2706□□	

Corresponding tool holders of insert **TN** □ □

P-type clamping

PTTNR/L**Kr:60°**

R-type shown



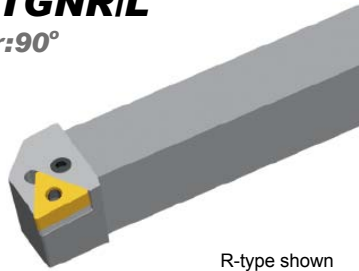
Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PTTNR/L	1616H16	▲	▲	16	16	100	16	13	25	LEM6×13.4A	T16AP	WH25L	L3	SP3
	2020K16	▲	▲	20	20	125	20	17	25					
	2525M22	▲	▲	25	25	150	20	22	32	LEM8×21	T22AP	WH30L	L4	SP4

▲Stock available

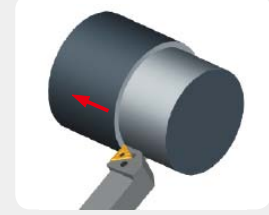
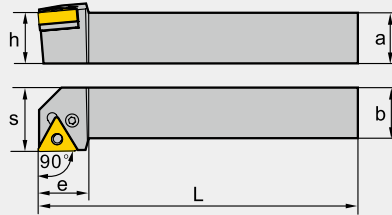
△Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts	
Inserts shape	DF  A73	WGM Wiper  A74	DR Double-side  A76	Without chipbreaker  A78	Without chipbreaker  A126	
	WGF Wiper  A73	PM  A74	DR Single-side  A76		Without chipbreaker  A126	
	SF  A73	DM  A75	ER Double-side  A76		Without chipbreaker  A126	
	EF  A74	EM  A75	LR Single-side  A75			
Tool holder type	PTTNR/L□□H/K16	TN□□1604□□	TN□□1604□□	TN□□1604□□	TN□□1604□□	TN□□1604□□
	PTTNR/L□□M22	TN□□2204□□	TN□□2204□□	TN□□2204□□	TN□□2204□□	

Corresponding tool holders of insert **TN** ☐ ☐ P-type clamping**PTGNR/L**
Kr:90°

R-type shown



General turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PTGNR/L	1010E11	△	△	10	10	70	10	14	16	LEM5×9B	—	WH20L	L2	—
	1212F11	△	△	12	12	80	12	16	14					
	1616H11	▲	▲	16	16	100	16	20	18					
	2020K11	▲	▲	20	20	125	20	25	19					
	2525M11	▲	▲	25	25	150	25	32	20					
	1616H16	▲	▲	16	16	100	16	20	20	LEM6×13.4A	T16AP	WH25L	L3	SP3
	2020K16	▲	▲	20	20	125	20	25	20					
	2525M16	▲	▲	25	25	150	25	32	20					
	3232P16	▲	▲	32	32	170	32	40	20					
	2525M22	▲	▲	25	25	150	25	32	28	LEM8×21	T22AP	WH30L	L4	SP4
	3232P22	▲	▲	32	32	170	32	40	28	LEM8×25	T27AP	WH30L	L5	SP5
	3232P27	▲	▲	32	32	170	32	40	33					
	4040S27	▲	▲	40	40	250	40	50	33					

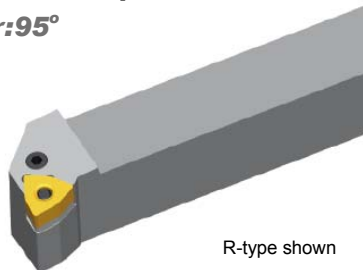
▲Stock available △Make-to-order

Applicable inserts

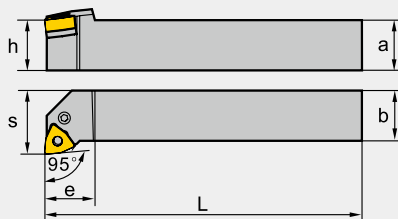
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts
Inserts shape	DF  A73	WGM Wiper  A74	DR Double-side  A76	Without chipbreaker  A78	Without chipbreaker  A126
	WGF Wiper  A73	PM  A74	DR Single-side  A76		Without chipbreaker  A126
	SF  A73	DM  A75	ER Double-side  A76		Without chipbreaker  A126
	EF  A74	EM  A75	LR Single-side  A75		
Tool holder type	PTGNR/L□□E/F/H/K/M11	TN□□1103□□	TN□□1103□□	TN□□1103□□	
	PTGNR/L□□H/K/M/P16	TN□□1604□□	TN□□1604□□	TN□□1604□□	TN□□1604□□
	PTGNR/L□□M/P22	TN□□2204□□	TN□□2204□□	TN□□2204□□	
	PTGNR/L□□P/S27			TN□□2706□□	TN□□2706□□

Corresponding tool holders of insert **WN** ☐ ☐ P-type clamping**PWLNRL**

Kr:95°



R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Wrench	Lever	Shim pin
		R	L	a	b	L	h	s	e					
PWLNRL	1616H06	▲	▲	16	16	100	16	20	20	LEM6×13.4A	W06AP	WH25L	L3	SP3
	2020K06	▲	▲	20	20	125	20	25	20					
	2525M06	▲	▲	25	25	150	25	32	20					
	2020K08	▲	▲	20	20	125	20	25	26	LEM8×21	W08AP	WH30L	L4	SP4
	2525M08	▲	▲	25	25	150	25	32	26					

▲Stock available

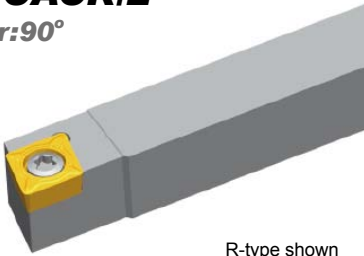
△Make-to-order

Applicable inserts

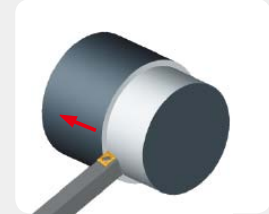
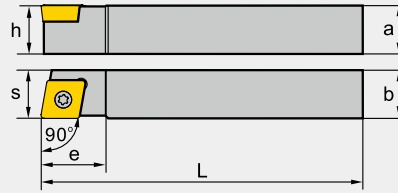
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN&PCD inserts	
Inserts shape	DF  A81	WGM Wiper  A82	DR Double-side  A84	Without chipbreaker  A84	Without chipbreaker  A128	
	WGF Wiper  A81	PM  A83			Without chipbreaker  A128	
	SF  A81	DM  A83			Without chipbreaker  A128	
	EF  A82	EM  A83				
	NF  A82	NM  A84				
Tool holder type	PWLNRL/□□H/K/M06	WN□□0604□□	WN□□0604□□	WN□□0604□□	WN□□0604□□	
	PWLNRL/□□K/M08	WN□□0804□□	WN□□0804□□	WN□□0804□□	WN□□0804□□	WN□□0804□□

Corresponding tool holders of insert **CC** ☐ ☐

S-type clamping

SCACR/L
Kr:90°

R-type shown



General turning

External turning tools

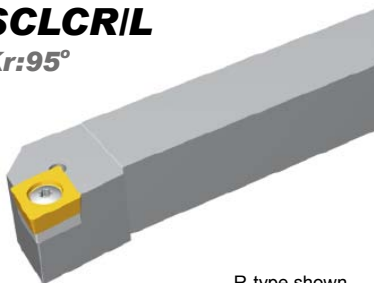
Type		Stock		Basic dimensions(mm)						Screw	Wrench
		R	L	a	b	L	h	s	e		
SCACR/L	1010E06	▲	△	10	10	70	10	10	10	I60M2.5×6.5	WT07IP
	1212F09	▲	▲	12	12	80	12	12	16	I60M3.5×8	WT15IP

▲Stock available

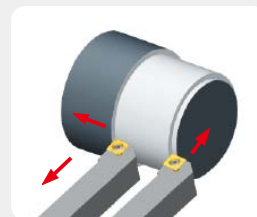
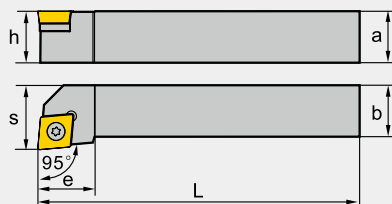
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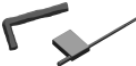
Applicable inserts

Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts	
Inserts shape	USF  A87	HF  A87	HM  A88	HR  A89	LH  A89	Without chipbreaker  A90	Without chipbreaker  A130	
	SF  A87	EF  A88	EM  A88		LC  A89		Without chipbreaker  A130	
Tool holder type	SCACR/L ☐ ☐ ☐ E06	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CCGX 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐
	SCACR/L ☐ ☐ ☐ F09	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CCGX 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐

Corresponding tool holders of insert **CC** ☐ ☐ S-type clamping**SCLCR/L**
Kr:95°

R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SCLCR/L	0808D06	▲	△	08	08	60	08	10	10	I60M2.5×6.5	—	—	WT07IP
	1010E06	▲	▲	10	10	70	10	12	10		—	—	
	1212F09	▲	▲	12	12	80	12	16	16		—	—	WT15IP
	1616H09	▲	▲	16	16	100	16	20	16	I60M3.5×8	—	—	
	2020K12	▲	▲	20	20	125	20	25	25		—	—	
	2525M12	▲	▲	25	25	150	25	32	26		C12BS	SM6×10XA	WT15IP
	3225P12	▲	▲	32	25	170	32	32	26		C12BS	SM6×10XA	WH40L

▲Stock available

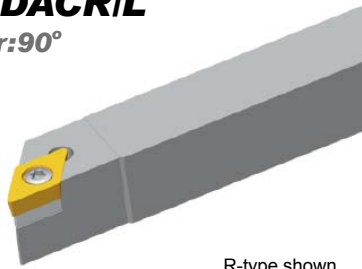
△Make-to-order

Applicable inserts

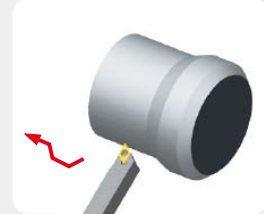
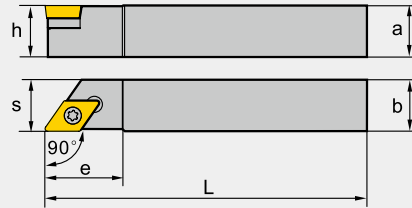
Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	USF  A87	HF  A87	HM  A88	HR  A89	LH  A89	Without chipbreaker  A90	Without chipbreaker  A130
	SF  A87	EF  A88	EM  A88		LC  A89		Without chipbreaker  A130
Tool holder type	SCLCR/L□□D/E06	CC□□ 0602□□	CC□□ 0602□□	CC□□ 0602□□	CC□□ 0602□□	CCGX 0602□□	CC□□ 0602□□
	SCLCR/L□□F/H09	CC□□ 09T3□□	CC□□ 09T3□□	CC□□ 09T3□□	CC□□ 09T3□□	CCGX 09T3□□	CC□□ 09T3□□
	SCLCR/L□□K/M/P12		CC□□ 1204□□	CC□□ 1204□□	CC□□ 1204□□	CCGX 1204□□	CC□□ 1204□□

Corresponding tool holders of insert **DC** ☐ ☐

S-type clamping

SDACR/L
Kr:90°

R-type shown



General turning

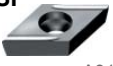
External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SDACR/L	1010E07	△	△	10	10	70	10	10	15	I60M2.5×6.5	—	—	WT07IP
	1212F11	△	△	12	12	80	12	12	15	I60M3.5×8	—	—	WT15IP
	1616H11	△	△	16	16	100	16	16	24	I60M3.5×12	D11BS	SM5×8.65XA	WT15IP WH35L

▲Stock available

△Make-to-order

Applicable inserts

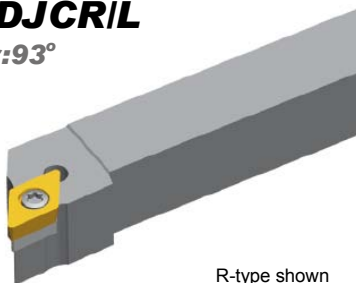
Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	USF  A91	HF  A91	HM  A92	HR  A93	LH  A93	 A93 Without chipbreaker	 A132 Without chipbreaker
	SF  A91	EF  A92	EM  A92		LC  A93		 A132 Without chipbreaker
Tool holder type	SDACR/L□□E07	DC□□ 0702□□	DC□□ 0702□□	DC□□ 0702□□	DCGX 0702□□	DC□□ 0702□□	DC□□ 0702□□
	SDACR/L□□F/H11	DC□□ 11T3□□	DC□□ 11T3□□	DC□□ 11T3□□	DCGX 11T3□□	DC□□ 11T3□□	DC□□ 11T3□□

Corresponding tool holders of insert **DC** ☐ ☐

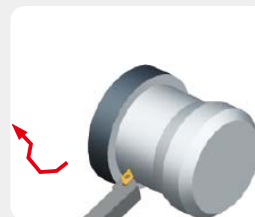
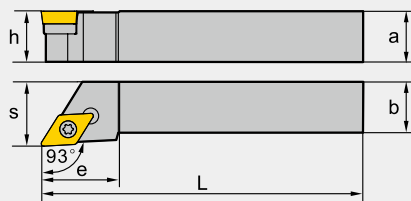
S-type clamping

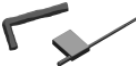
SDJCR/L

Kr:93°



R-type shown

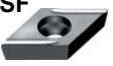
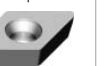
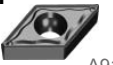
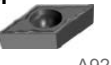


Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SDJCR/L	1010E07	▲	△	10	10	70	10	12	15	I60M2.5×6.5	—	—	WT071P
	1212F07	▲	▲	12	12	80	12	16	15				
	1616H07	▲	▲	16	16	100	16	20	18				
	1616H11	▲	▲	16	16	100	16	20	24	I60M3.5×12	D11BS	SM5×8.65XA	WT151P WH35L
	2020K11	▲	▲	20	20	125	20	25	24				
	2525M11	▲	▲	25	25	150	25	32	29				
	3225P11	▲	▲	32	25	170	32	32	29				

▲Stock available

△Make-to-order

Applicable inserts

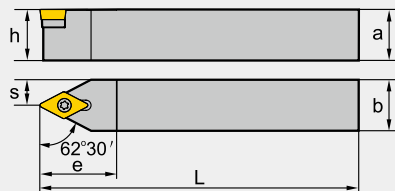
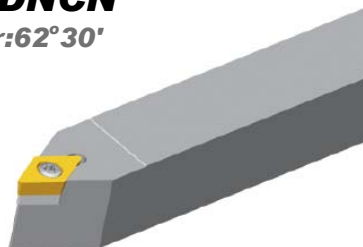
Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	USF  A91	HF  A91	HM  A92	HR  A93	LH  A93	Without chipbreaker  A93	Without chipbreaker  A132
	SF  A91	EF  A92	EM  A92		LC  A93		Without chipbreaker  A132
Tool holder type	SDJCR/L□□E/F/H07	DC□□ 0702□□	DC□□ 0702□□	DC□□0702□□	DCGX 0702□□	DC□□ 0702□□	DC□□ 0702□□
	SDJCR/L□□H/K/M/P11	DC□□ 11T3□□	DC□□ 11T3□□	DC□□11T3□□	DCGX 11T3□□	DC□□ 11T3□□	DC□□ 11T3□□

Corresponding tool holders of insert **DC** ☐ ☐

S-type clamping

SDNCN

Kr:62°30'



Type		Stock	Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
			a	b	L	h	s	e				
SDNCN	1010E07	▲	10	10	70	10	5	20	I60M2.5×6.5	—	—	WT07IP
	1212F07	▲	12	12	80	12	6	20				
	1212H11	▲	12	12	100	12	6	30				
	1616H11	▲	16	16	100	16	8	30	I60M3.5×12	D11BS	SM5×8.65XA	WT15IP WH35L
	2020K11	▲	20	20	125	20	10	30				
	2525M11	▲	25	25	150	25	12.5	30				

▲Stock available

△Make-to-order

Applicable inserts

Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	USF  A91	HF  A91	HM  A92	HR  A93	LH  A93	Without chipbreaker  A93	Without chipbreaker  A132
	SF  A91	EF  A92	EM  A92		LC  A93		Without chipbreaker  A132
Tool holder type	SDNCN□□□E/F07	DC□□ 0702□□	DC□□ 0702□□	DC□□0702□□	DCGX 0702□□	DC□□ 0702□□	DC□□ 0702□□
	SDNCN□□□H/K/M11	DC□□ 11T3□□	DC□□ 11T3□□	DC□□11T3□□	DCGX 11T3□□	DC□□ 11T3□□	DC□□ 11T3□□

General turning

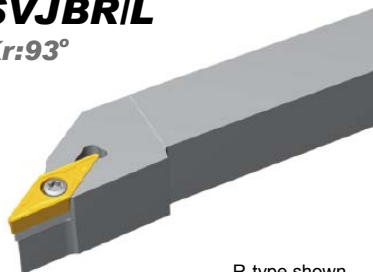
External turning tools

Corresponding tool holders of insert **VB** □ □

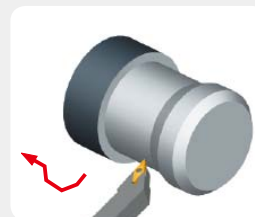
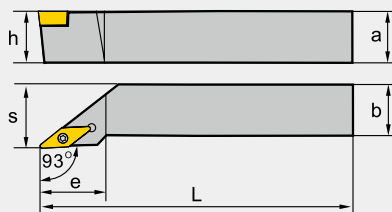
S-type clamping

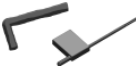
SVJBR/L

Kr:93°



R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SVJBR/L	1212F11	▲	▲	12	12	80	12	16	27	I60M2.5×6.5	—	—	WT071P
	1616H11	▲	▲	16	16	100	16	20	27				
	2020K11	▲	▲	20	20	125	20	25	27				
	2525M11	▲	▲	25	25	150	25	32	27				
	1616H16	▲	▲	16	16	100	16	20	36	I60M3.5×12	V16BS	SM5×8.65XA	WT151P WH35L
	2020K16	▲	▲	20	20	125	20	25	41				
	2525M16	▲	▲	25	25	150	25	32	41				
	3225P16	▲	▲	32	25	170	32	32	41				

▲Stock available

△Make-to-order

Applicable inserts

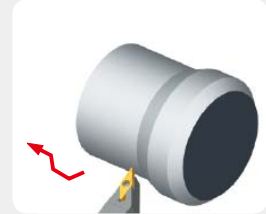
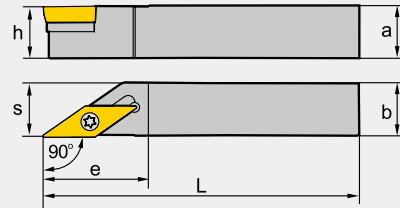
Application	For finishing	For semi-finishing	For roughing	PCBN&PCD inserts
Inserts shape	HF  A106	HM  A107	HR  A107	Without chipbreaker  A137
	NF  A106			Without chipbreaker  A137
Tool holder type	SVJBR/L□□F/H/K/M11 VB□□1102□□			
	SVJBR/L□□H/K/M/P16 VB□□1604□□ VB□□1604□□ VB□□1604□□ VB□□1604□□			

Corresponding tool holders of insert **VB** □ □

S-type clamping

SVABR/L
Kr:90°

R-type shown

General
turning

External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SVABR/L	1010F11	△	△	10	10	80	10	10	25	I60M2.5×6.5	—	—	WT07IP
	1616H16	△	△	16	16	100	16	16	28	I60M3.5×12	V16BS	SM5×8.65XA	WT15IP WH35L
	2020K16	△	△	20	20	125	20	20	28				
	2525M16	△	△	25	25	150	25	25	28				

▲Stock available

△Make-to-order

Applicable inserts

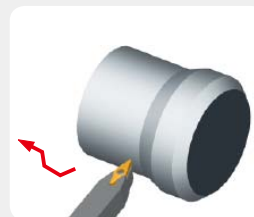
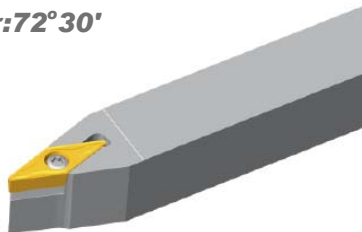
Application	For finishing	For semi-finishing	For roughing	PCBN&PCD inserts
Inserts shape	HF  A106	HM  A107	HR  A107	Without chipbreaker  A137
	NF  A106			Without chipbreaker  A137
Tool holder type	SVABR/L □ □ F11	VB □ □ 1102 □ □		
	SVABR/L □ □ H/K/M16	VB □ □ 1604 □ □	VB □ □ 1604 □ □	VB □ □ 1604 □ □

Corresponding tool holders of insert **VB** □ □

S-type clamping

SVVBN

Kr:72°30'



Type		Stock	Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
			a	b	L	h	s	e				
SVVBN	1212F11	▲	12	12	80	12	6	27	I60M2.5×6.5	—	—	WT07IP
	1616H11	▲	16	16	100	16	8	27				
	2020K11	▲	20	20	125	20	10	30				
	1616H16	▲	16	16	100	16	8	33	I60M3.5×12	V16BS	SM5×8.65XA	WT15IP WH35L
	2020K16	▲	20	20	125	20	10	33				
	2525M16	▲	25	25	150	25	12.5	38				

▲Stock available

△Make-to-order

Applicable inserts

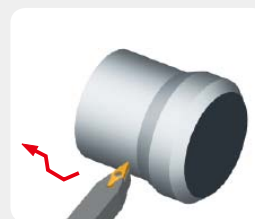
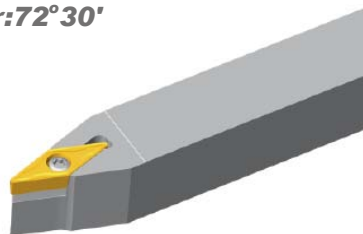
Application	For finishing	For semi-finishing	For roughing	PCBN&PCD inserts
Inserts shape	HF  A106	HM  A107	HR  A107	Without chipbreaker  A137
	NF  A106			Without chipbreaker  A137
Tool holder type	SVVBN□□F/H/K11 VB□□1102□□			
	SVVBN□□H/K/M16 VB□□1604□□ VB□□1604□□ VB□□1604□□ VB□□1604□□			

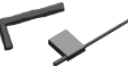
Corresponding tool holders of insert **VC** □ □

S-type clamping

SVVCN

Kr:72°30'

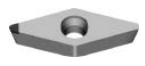


Type		Stock	Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
			a	b	L	h	s	e				
SVVCN	1212F11	▲	12	12	80	12	6	27	I60M2.5×6.5	—	—	WT07IP
	1212M11	▲	12	12	150	12	6	27				
	1616H11	▲	16	16	100	16	8	27				
	2020K11	▲	20	20	125	20	10	30				
	2525M11	△	25	25	150	25	12.5	38	I60M3.5×12	V16BSC	SM5×8.65XA	WT15IP WH35L
	1616H16	▲	16	16	100	16	8	33				
	2020K16	▲	20	20	125	20	10	33				
	2525M16	▲	25	25	150	25	12.5	38				

▲Stock available

△Make-to-order

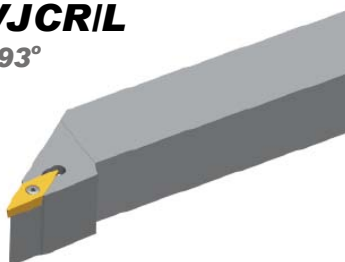
Applicable inserts

Application	For extra finishing	For finishing	For AI machining	PCBN&PCD inserts
Inserts shape	USF  A103	HF  A103	LH  A104	Without chipbreaker  A138
	SF  A103	NF  A103	LC  A104	Without chipbreaker  A138
Tool holder type	SVVCN□□F/H/K/M11	VC□□1103□□	VC□□1103□□	VCGX1103□□
	SVVCN□□H/K/M16	VC□□1604□□	VC□□1604□□	VCGX1604□□

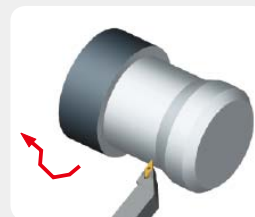
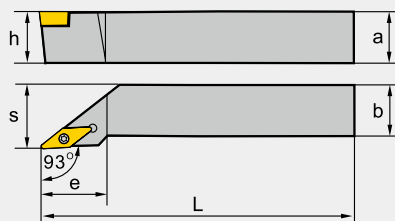
General turning

External turning tools

Corresponding tool holders of insert VC□□ S-type clamping

SVJCR/L
Kr:93°


R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SVJCR/L	1010E11	▲	△	10	10	70	10	12	22	I60M2.5×6.5	—	—	WT071P
	1212F11	△	△	12	12	80	12	16	27				
	1616H11	▲	▲	16	16	100	16	20	27				
	2020K11	▲	▲	20	20	125	20	25	27				
	2525M11	▲	▲	25	25	150	25	32	27				
	1616H16	▲	▲	16	16	100	16	20	36	I60M3.5×12	V16BSC	SM5×8.65XA	WT151P WH35L
	2020K16	▲	▲	20	20	125	20	25	41				
	2525M16	▲	▲	25	25	150	25	32	41				
	3225P16	△	△	32	25	170	32	32	41				

▲Stock available

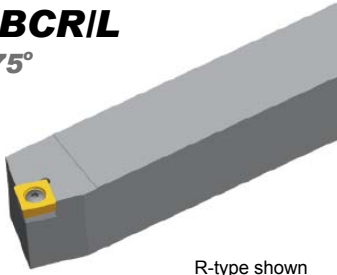
△Make-to-order

Applicable inserts

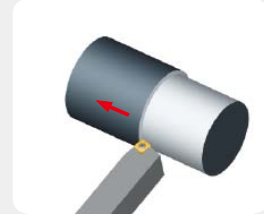
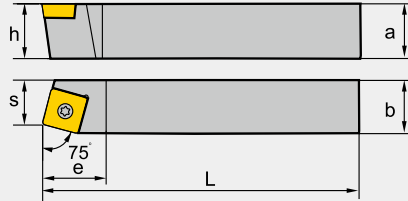
Application	For extra finishing		For finishing		For AI machining		PCBN&PCD inserts	
Inserts shape	USF  A103		HF  A103		LH  A104		Without chipbreaker  A138	
	SF  A103		NF  A103		LC  A104		Without chipbreaker  A138	
Tool holder type	SVJCR/L□□E/F/H/K/M11		VC□□1103□□		VCGX1103□□			
	SVJCR/L□□H/K/M/P16		VC□□1604□□		VCGX1604□□		VC□□1604□□	

Corresponding tool holders of insert **SC** ☐ ☐

S-type clamping

SSBCR/L
Kr:75°

R-type shown



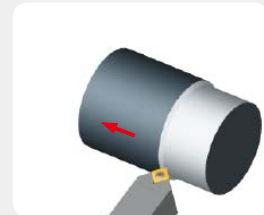
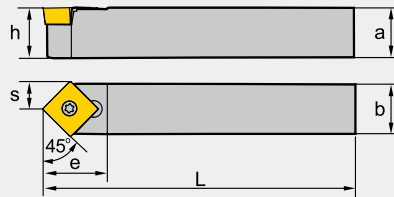
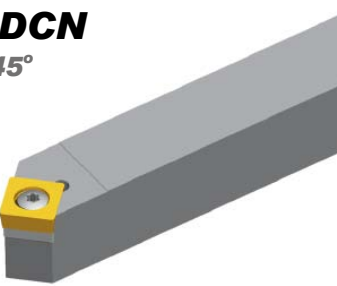
General turning

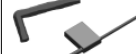
External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SSBCR/L	1212F09	▲	▲	12	12	80	12	11	16	I60M3.5×8	—	—	WT15IP
	1616H09	▲	▲	16	16	100	16	13	16	I60M3.5×8	S09BS	SM5×8.65XA	WT15IP WH35L
	2020K12	▲	▲	20	20	125	20	17	25	I60M4×11X	S12BS	SM6×10XA	WT15IP WH40L

▲Stock available

△Make-to-order

SSDCN
Kr:45°

Type		Stock	Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
			a	b	L	h	s	e				
SSDCN	1212F09	▲	12	12	80	12	6	15.5	I60M3.5×8	—	—	WT15IP
	1616H09	▲	16	16	100	16	8	15.5	I60M3.5×12	S09BS	SM5×8.65XA	WT15IP WH35L

▲Stock available

△Make-to-order

Applicable inserts

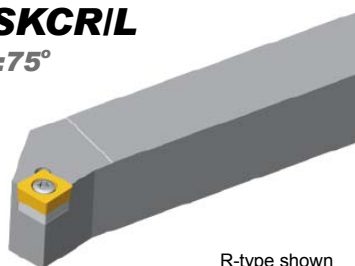
Application	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	HF  A96	HM  A96	HR  A97	LH  A97	Without chipbreaker  A97	Without chipbreaker  A134
	EF  A96	EM  A96		LC  A97		Without chipbreaker  A134
Tool holder type	SSBCR/L□□F/H09	SC□□09T3□□	SC□□09T3□□	SC□□09T3□□	SCGX09T3□□	SC□□09T3□□
	SSBCR/L□□K12		SC□□1204□□	SC□□1204□□	SCGX1204□□	SC□□1204□□
	SSDCN□□F/H09	SC□□09T3□□	SC□□09T3□□	SC□□09T3□□	SCGX09T3□□	SC□□09T3□□

Corresponding tool holders of insert **SC** □ □

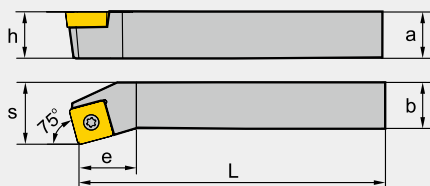
S-type clamping

SSKCR/L

Kr:75°



R-type shown



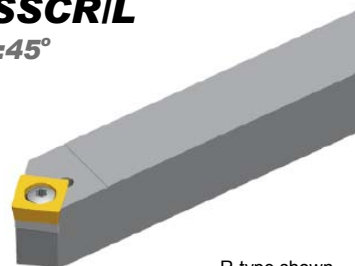
Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SSKCR/L	1616H09	▲	△	16	16	100	16	20	13	I60M3.5×12	S09BS	SM5×8.65XA	WT15IP WH35L

▲Stock available

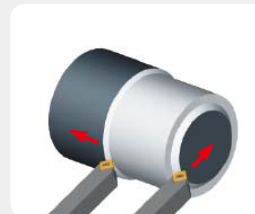
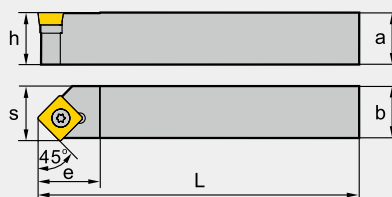
△Make-to-order

SSSCR/L

Kr:45°



R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
SSSCR/L	1616H09	▲	▲	16	16	100	16	17	16	I60M3.5×12	—	—	WT15IP
	2020K12	▲	▲	20	20	125	20	21	24	I60M4×11X	S12BS	SM6×10XA	WT15IP WH40L

▲Stock available

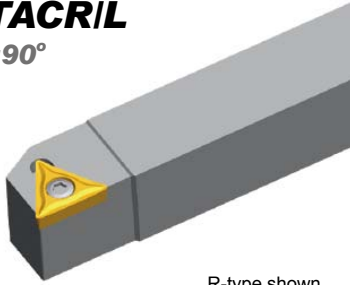
△Make-to-order

Applicable inserts

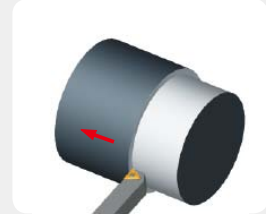
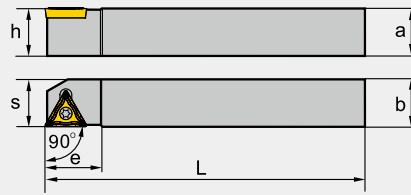
Application	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	HF  A96	HM  A96	HR  A97	LH  A97	Without chipbreaker  A97	Without chipbreaker  A134
	EF  A96	EM  A96		LC  A97		Without chipbreaker  A134
Tool holder type	SSKCR/L □ □ H09	SC □ □ 09T3 □ □	SC □ □ 09T3 □ □	SC □ □ 09T3 □ □	SCGX09T3 □ □	SC □ □ 09T3 □ □
	SSSCR/L □ □ H09	SC □ □ 09T3 □ □	SC □ □ 09T3 □ □	SC □ □ 09T3 □ □	SCGX09T3 □ □	SC □ □ 09T3 □ □
	SSSCR/L □ □ K12		SC □ □ 1204 □ □	SC □ □ 1204 □ □	SCGX1204 □ □	SC □ □ 1204 □ □

Corresponding tool holders of insert **TC** □ □

S-type clamping

STACR/L
Kr:90°

R-type shown



General turning

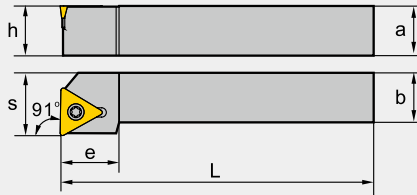
External turning tools

Type		Stock		Basic dimensions(mm)						Screw	Wrench		
		R	L	a	b	L	h	s	e				
STACR/L	1212F11	△	△	12	12	80	12	12	14	I60M2.5×6.5	WT07IP		

▲Stock available △Make-to-order

STFCR/L
Kr:91°

R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
STFCR/L	1212F11	▲	▲	12	12	80	12	16	14	I60M2.5×6.5	—	—	WT07IP
	1616H11	▲	▲	16	16	100	16	20	14				
	1616H16	▲	▲	16	16	100	16	20	19	I60M3.5×12	T16BS	SM5×8.65XA	WT15IP WH35L
	2020K16	▲	▲	20	20	125	20	25	19				

▲Stock available △Make-to-order

Applicable inserts

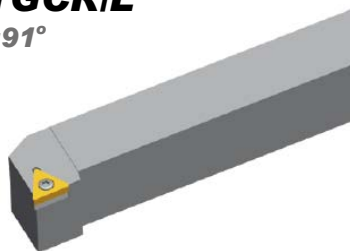
Application	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	HF  A99	HM  A101	HR  A101	LH  A102	Without chipbreaker  A102	Without chipbreaker  A135
	EF  A100	EM  A100		LC  A101		Without chipbreaker  A135
Tool holder type	STACR/L □ □ F11	TC □ □ 1102 □ □	TC □ □ 1102 □ □	TC □ □ 1102 □ □	TCGX1102 □ □	TC □ □ 1102 □ □
	STFCR/L □ □ F/H11	TC □ □ 1102 □ □	TC □ □ 1102 □ □	TC □ □ 1102 □ □	TCGX1102 □ □	TC □ □ 1102 □ □
	STFCR/L □ □ H/K16	TC □ □ 16T3 □ □	TC □ □ 16T3 □ □	TC □ □ 16T3 □ □	TCGX16T3 □ □	TC □ □ 16T3 □ □

Corresponding tool holders of insert **TC** □ □

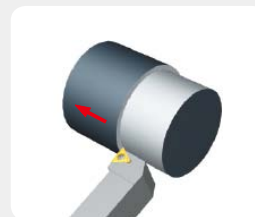
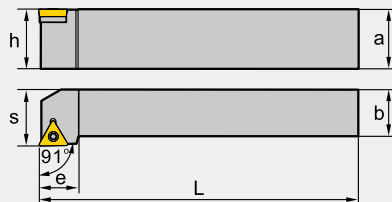
S-type clamping

STGCR/L

Kr:91°



R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
STGCR/L	0808D09	▲	△	08	08	60	8	10	11	I60M2.2×5.5	—	—	WT06IP
	1010E09	▲	▲	10	10	70	10	12	11				
	1212F11	▲	▲	12	12	80	12	16	14				
	1616H11	▲	▲	16	16	100	16	20	16	I60M2.5×6.5	—	—	WT07IP
	2020K16	▲	▲	20	20	125	20	25	21				
	2525M16	▲	▲	25	25	150	25	32	21	I60M3.5×12	T16BS	SM5×8.65XA	WT15IP WH35L

▲Stock available

△Make-to-order

Applicable inserts

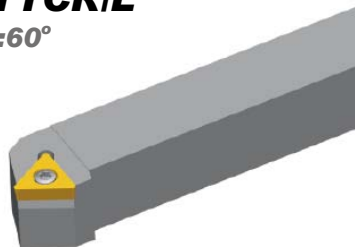
Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts	
Inserts shape	SF  A98	HF  A99	HM  A101	HR  A101	LH  A102	Without chipbreaker  A102	Without chipbreaker  A135	
		EF  A100	EM  A100		LC  A101		Without chipbreaker  A135	
Tool holder type	STGCR/L□□D/E09	TC□□0902□□	TC□□0902□□	TC□□0902□□	TC□□0902□□	TCGX0902□□	TC□□0902□□	TC□□0902□□
	STGCR/L□□F/H11		TC□□1102□□	TC□□1102□□	TC□□1102□□	TCGX1102□□	TC□□1102□□	TC□□1102□□
	STGCR/L□□K/M16		TC□□16T3□□	TC□□16T3□□	TC□□16T3□□	TCGX16T3□□	TC□□16T3□□	TC□□16T3□□

Corresponding tool holders of insert **TC** ☐ ☐

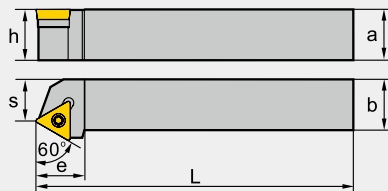
S-type clamping

STTCR/L

Kr:60°



R-type shown



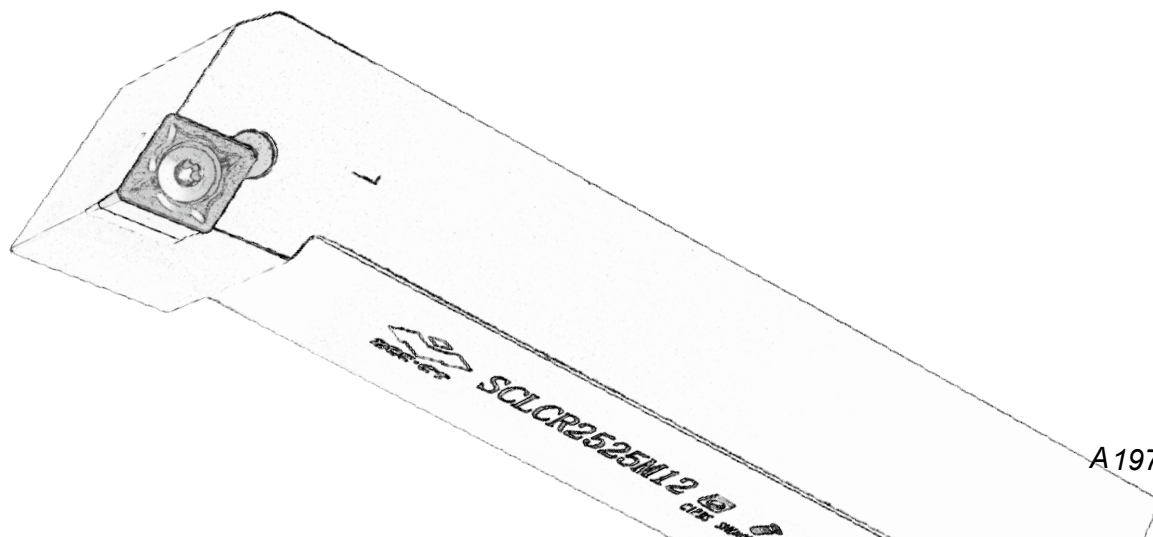
Type		Stock		Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s	e				
STTCR/L	1616H11	△	△	16	16	100	16	13	14	I60M2.5×6.5	—	—	WT071P
	1616H16	△	△	16	16	100	16	13	19	I60M3.5×12	T16BS	SM5×8.65XA	WT151P WH35L
	2020K16	△	△	20	20	125	20	17	19				

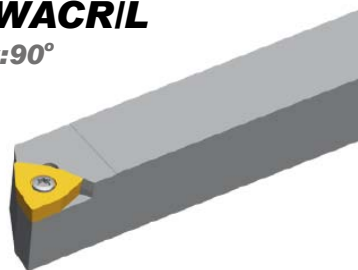
▲Stock available

△Make-to-order

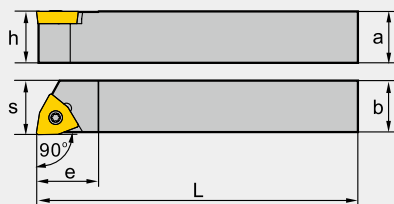
Applicable inserts

Application		For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN&PCD inserts
Inserts shape	HF  A99	HM  A101	HR  A101	LH  A102	Without chipbreaker  A102	Without chipbreaker  A135	
	EF  A100	EM  A100		LC  A101		Without chipbreaker  A135	
Tool holder type	STTCR/L□□H11	TC□□1102□□	TC□□1102□□	TC□□1102□□	TCGX1102□□	TC□□1102□□	TC□□1102□□
	STTCR/L□□H/K16	TC□□16T3□□	TC□□16T3□□	TC□□16T3□□	TCGX16T3□□	TC□□16T3□□	TC□□16T3□□



Corresponding tool holders of insert **WC** ☐ ☐ S-type clamping**SWACR/L****Kr:90°**

R-type shown



Type		Stock		Basic dimensions(mm)						Screw	Wrench	—	—
		R	L	a	b	L	h	s	e			—	—
SWACR/L	1010E04	△	△	10	10	70	10	10	10	I60M2.5×6.5	WT07IP	—	—
	1212F04	▲	△	12	12	80	12	12	14			—	—
	1616H06	▲	△	16	16	100	16	16	20	I60M3×7	WT10IP	—	—
	2020K08	▲	▲	20	20	125	20	20	24	I60M3.5×12	WT15IP	—	—

▲Stock available

△Make-to-order

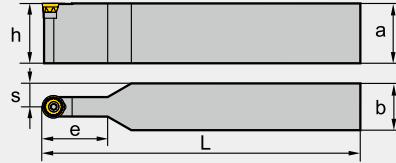
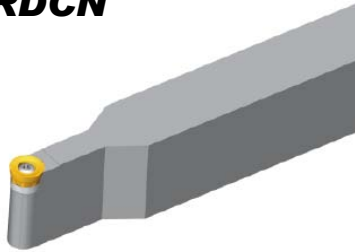
Applicable inserts

Application	For finishing
Inserts shape	53 
Tool holder type	A105
SWACR/L□□E/F04	WC□X0402□□
SWACR/L□□H06	WC□X06T3□□
SWACR/L□□K08	WC□X0804□□



Corresponding tool holders of insert **RC** ☐ ☐

S-type clamping

SRDCN

General turning

External turning tools

Type		Stock	Basic dimensions(mm)						Screw	Shim	Shim screw	Wrench
			a	b	L	h	s	e				
SRDCN	1616H08	△	16	16	100	16	8	16	I60M3×7	—	—	WT10IP
	1616H10	△	16	16	100	16	8	25	I60M3.5×10	—	—	WT15IP
	2020K10	△	20	20	125	20	10	25				
	2525M10	▲	25	25	150	25	12.5	25				
	2020K12	▲	20	20	125	20	10	35	I60M3.5×12	R12BS	SM5×8.65XA	WT15IP WH35L
	2525M12	▲	25	25	150	25	12.5	35				
	3225P12	▲	32	25	170	32	12.5	35				
	3225P16	▲	32	25	170	32	12.5	35	I60M4×15X	R16BS	SM6×10XA	WT15IP WH40L
	3232P16	▲	32	32	170	32	16	40				
	4040S16	▲	40	40	250	40	20	50				

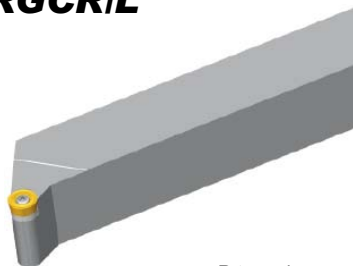
▲Stock available △Make-to-order

Applicable inserts

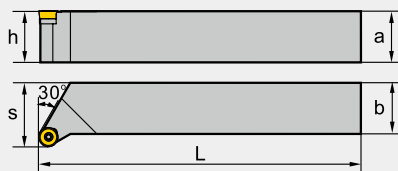
Application	For semi-finishing	For roughing	For Al machining	
Inserts shape			LH 	
	A94	A94	A94	A94
Tool holder type	SRDCN□□H08	RCMT0803MO	RCMT0803MO	RCGX0803MO-LH
	SRDCN□□H/K/M10	RCMT10T3MO	RCMT10T3MO	RCMT10T3MO
	SRDCN□□K/M/P12	RCMT1204MO	RCMT1204MO	RCMT1204MO
	SRDCN□□P/S16	RCMT1606MO	RCMT1606MO	RCMT1606MO

Corresponding tool holders of insert **RC** □ □

S-type clamping

SRGCR/L

R-type shown



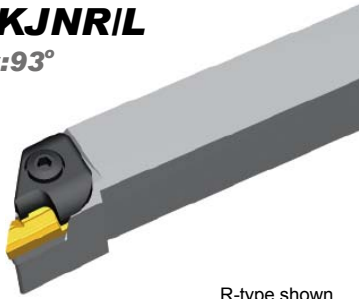
Type		Stock		Basic dimensions(mm)					Screw	Shim	Shim screw	Wrench
		R	L	a	b	L	h	s				
SRGCR/L	1616H08	△	△	16	16	100	16	20	I60M3×7	—	—	WT10IP
	1616H10	△	△	16	16	100	16	20	I60M3.5×10	—	—	WT15IP
	2020K10	▲	▲	20	20	125	20	25				
	2525M10	▲	▲	25	25	150	25	32				
	2020K12	▲	△	20	20	125	20	27	I60M3.5×12	R12BS	SM5×8.65XA	WT15IP WH35L
	2525M12	▲	▲	25	25	150	25	32				
	3232P16	▲	△	32	32	170	32	40				

▲Stock available

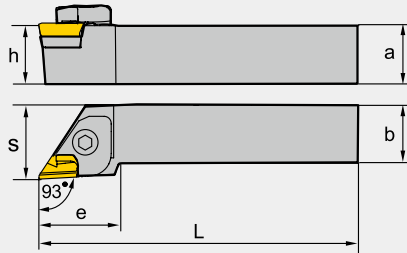
△Make-to-order

Applicable inserts

Application		For semi-finishing	For roughing	For AI machining	
Inserts shape				LH 	
		A94	A94	A94	A94
Tool holder type	SRGCR/L□□H08	RCMT0803MO	RCMT0803MO	RCGX0803MO-LH	RCMT0803MO
	SRGCR/L□□H/K/M10	RCMT10T3MO	RCMT10T3MO		RCMT10T3MO
	SRGCR/L□□K/M12	RCMT1204MO	RCMT1204MO		RCMT1204MO

Corresponding tool holders of insert **KNUX** ☐ ☐ C-type clamping**CKJNR/L**
Kr:93°

R-type shown

General
turning

External turning tools

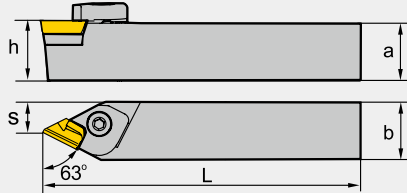
Type		Stock	Basic dimensions(mm)						Applicable inserts	Clamp	Clamp screw	Spring	Clamping stud	Shim	Shim screw	Wrench
			a	b	L	h	s	e								
CKJNR	2525M16	△	25	25	150	25	32	32	KNUX1604□□R A85	C6R1T	CM6×25A	SPR1 SPR2	P0515	K16CC	SM3×10B	WH20L WH40L
	3232P16	△	32	32	170	32	40	32								
	4040R16	△	40	40	200	40	50	32								
CKJNL	2525M16	△	25	25	150	25	32	32	KNUX1604□□L A85	C6L1T	CM6×25A	SPR1 SPR2	P0515	K16CCL	SM3×10B	WH20L WH40L
	3232P16	△	32	32	170	32	40	32								
	4040R16	△	40	40	200	40	50	32								

▲Stock available

△Make-to-order

Corresponding tool holders of insert **KNUX** ☐ ☐ C-type clamping**CKNNR/L**
Kr:63°

R-type shown



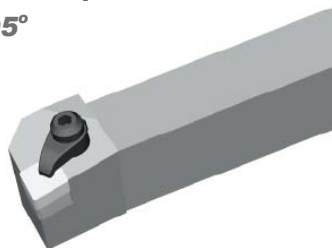
Type		Stock	Basic dimensions(mm)					Applicable inserts	Clamp	Clamp screw	Spring	Clamping stud	Shim	Shim screw	Wrench
			a	b	L	h	s								
CKNNR	2525M16	△	25	25	150	25	14.3	KNUX1604□□R A85	C6R1T	CM6×25A	SPR1 SPR2	P0515	K16CC	SM3×10B	WH20L WH40L
	3232P16	△	32	32	170	32	16.8								
CKNNL	2525M16	△	25	25	150	25	14.3	KNUX1604□□L A85	C6L1T	CM6×25A	SPR1 SPR2	P0515	K16CCL	SM3×10B	WH20L WH40L
	3232P16	△	32	32	170	32	16.8								

▲Stock available

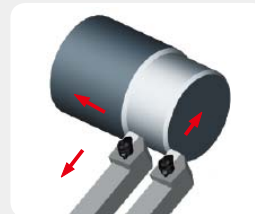
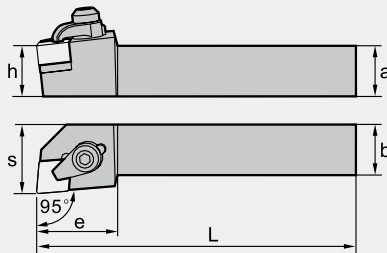
△Make-to-order

Corresponding tool holders of insert **CN** ☐ ☐ C-type clamping**CCLNR/L**

Kr:95°



R-type shown



Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
CCLNR/L	2020K12	△	△	20	20	125	20	27	32	CNGN1207□□ (1204□□) A143	C1RC	CM6×30B	WH20L WH40L	C12CC-07 (C12CC-04)	SM3×10B	SPR1
	2525M12	△	△	25	25	150	25	27	36							
	2525M16	△	△	25	25	150	25	32	36	CNGN1606□□ (1604□□) A143	C2RC	CM8×30B	WH30L WH50L	C16CC-06 (C16CC-04)	SM4×12B	SPR3
	3225P16	△	△	32	25	170	32	32	36							

▲Stock available

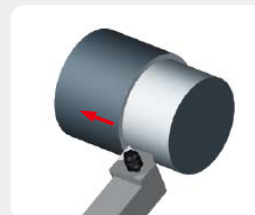
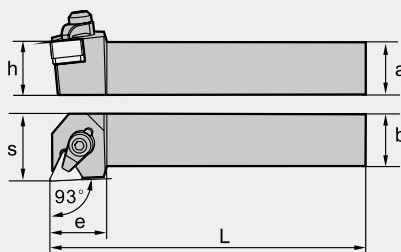
△Make-to-order

Corresponding tool holders of insert **TN** ☐ ☐ C-type clamping**CTJNR/L**

Kr:93°



R-type shown



Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
CTJNR/L	2020K16	△	△	20	20	125	20	25	30	TNGN1607□□ (1604□□) A149	C1RC	CM6×30B	WH20L WH40L	T16CC-07 (T16CC-04)	SM3×10B	SPR1
	2525M16	△	△	25	25	150	25	32	30							

▲Stock available

△Make-to-order

Corresponding tool holders of insert **TN** □ □

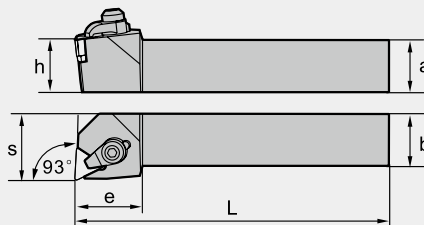
C-type clamping

CTUNR/L

Kr:93°



R-type shown



Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
CTUNR/L	2020K16	△	△	20	20	125	20	25	27	TNGN1607□□ (1604□□) A149	C1RC	CM6×30B	WH20L WH40L	T16CC-07 (T16CC-04)	SM3×10B	SPR1
	2525M16	△	△	25	25	150	25	32	27							

▲Stock available

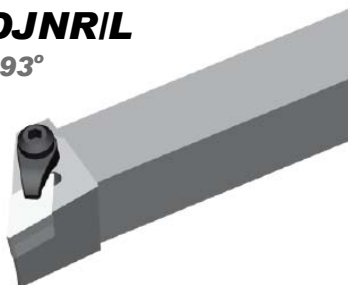
△Make-to-order

Corresponding tool holders of insert **DN** □ □

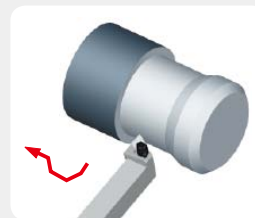
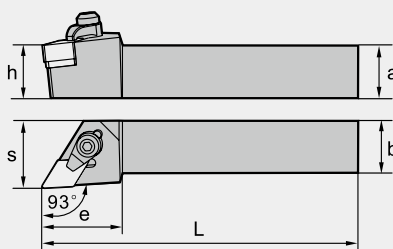
C-type clamping

CDJNR/L

Kr:93°



R-type shown



Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
CDJNR/L	2525M15	△	△	25	25	150	25	32	32	DNGN1507□□ (1504□□) A145	C1RC	CM6×30B	WH20L WH40L	D15CC-07 (D15CC-04)	SM3×10B	SPR1
	3225P15	△	△	32	25	170	32	32	32							

▲Stock available

△Make-to-order

General turning

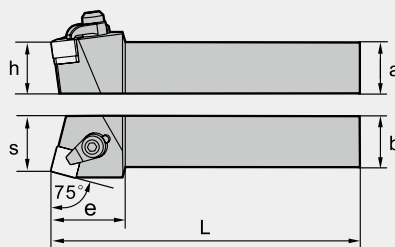
External turning tools for ceramic inserts

Corresponding tool holders of insert **SN** ☐ ☐ C-type clamping**CSNR/L**

Kr:75°



R-type shown



Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
CSNR/L	2020K12	△	△	20	20	125	20	22	32	SNGN1207□□ (1204□□) A147	C1RC	CM6×30B	WH20L WH40L	S12CC-07 (S12CC-04)	SM3×10B	SPR1
	2525M12	△	△	25	25	150	25	27	32							
	3225P12	△	△	32	25	170	32	27	32							
	3225P15	△	△	32	25	170	32	32	40	SNGN1507□□ A147	C2RC	CM8×30B	WH30L WH50L	S15CC-07	SM4×12B	SPR3
	4040R15	△	△	40	40	200	40	43	40							

▲Stock available

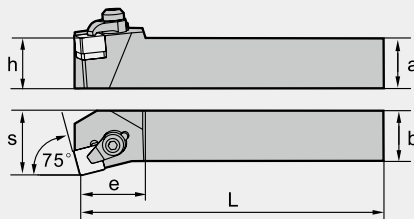
△Make-to-order

CSKNR/L

Kr:75°



R-type shown



Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
CSKNR/L	2020K12	△	△	20	20	125	20	25	25	SNGN1207□□ (1204□□) A147	C1RC	CM6×30B	WH20L WH40L	S12CC-07 (S12CC-04)	SM3×10B	SPR1
	2525M12	△	△	25	25	150	25	32	25							
	3225P12	△	△	32	25	170	32	32	25							
	3225P15	△	△	32	25	170	32	32	30	SNGN1507□□ A147	C2RC	CM8×30B	WH30L WH50L	S15CC-07	SM4×12B	SPR3

▲Stock available

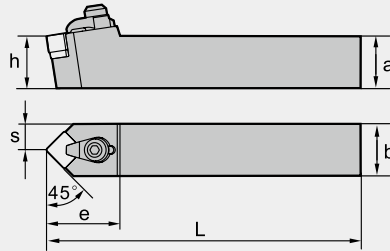
△Make-to-order

Corresponding tool holders of insert **SN** ☐ ☐

C-type clamping

CSDNN

Kr:45°

General
turning

External turning tools for ceramic inserts

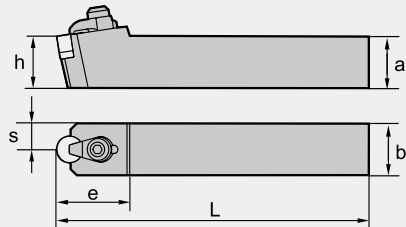
Type		Stock	Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
			a	b	L	h	s	e							
CSDNN	2020K12	△	20	20	125	20	10	35	SNGN1207□□ (1204□□) A147	C1RC	CM6×30B	WH20L WH40L	S12CC-07 (S12CC-04)	SM3×10B	SPR1
	2525M12	△	25	25	150	25	12.5	35							
	3225P12	△	32	25	170	32	12.5	35							

▲Stock available

△Make-to-order

Corresponding tool holders of insert **RN** ☐ ☐

C-type clamping

CRDNN

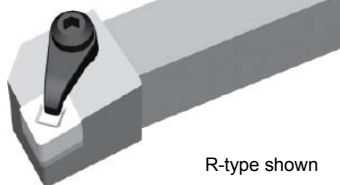
Type		Stock	Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
			a	b	L	h	s	e							
CRDNN	2020K12	△	20	20	125	20	10	32	RNGN1207□□ (1204□□) A150	C1RC	CM6×30B	WH20L WH40L	R12CC-07 (R12CC-04)	SM3×10B	SPR1
	2525M12	△	25	25	150	25	12.5	32							
	3225P12	△	32	25	170	32	12.5	32							
	3232P15	△	32	32	170	32	17.5	40	RNGN1507□□ A150	C2RC	CM8×30B	WH20L WH50L	R15CC-07	SM3×10B	SPR3
	4040R15	△	40	40	200	40	20	40							

▲Stock available

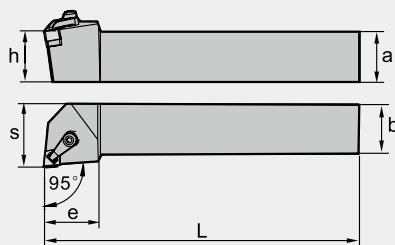
△Make-to-order

Corresponding tool holders of insert **CN** □ □

J-type clamping

JCLNR/L*Kr:95°*

R-type shown



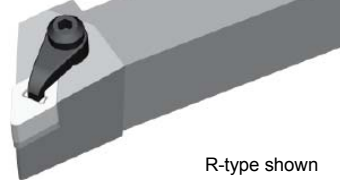
Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
JCLNR/L	2020K12	△	△	20	20	125	20	29	32	CNGX1207□□ A144	C1RJ	CM6×30B	WH20L WH40L	C12CC-07	SM3×10B	SPR1
	2525M12	△	△	25	25	150	25	32	32							

▲Stock available

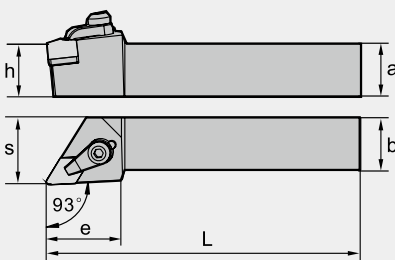
△Make-to-order

Corresponding tool holders of insert **DN** □ □

J-type clamping

JDJNR/L*Kr:93°*

R-type shown



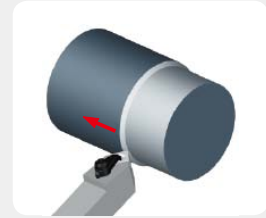
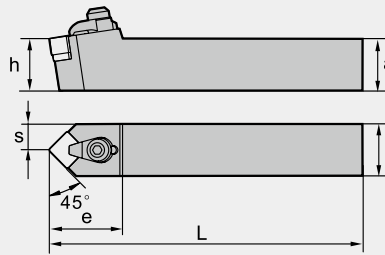
Type		Stock		Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
		R	L	a	b	L	h	s	e							
JDJNR/L	2525M15	△	△	25	25	150	25	32	38	DNGX1507□□ A145	C1RJ	CM6×30B	WH20L WH40L	D15CC-07	SM3×10B	SPR1
	3225P15	△	△	32	25	170	32	32	38							

▲Stock available

△Make-to-order

Corresponding tool holders of insert **SN** ☐ ☐

J-type clamping

JSDNN
Kr:45°General
turning

External turning tools for ceramic inserts

Type		Stock	Basic dimensions(mm)						Applicable inserts	Clamp	Clamping screw	Wrench	Shim	Screw for clamping shim	Spring
			a	b	L	h	s	e							
JSDNN	2020K12	△	20	20	125	20	10	40	SNGX1207 ☐ ☐ A146	C1RJ	CM6×30B	WH20L WH40L	S12CC-07	SM3×10B	SPR1
	2525M12	△	25	25	150	25	12.5	40							
	3225P12	△	32	25	170	32	12.5	40							

▲Stock available

△Make-to-order

How to select internal turning tools

Explanation of internal turning tools detailed table

- Listed according to clamping types.

Approach angle of tools

Tools type

The first 4 letters in the type description stands for tool shape and applicatio.

Insert type

Specification chart

Application chart

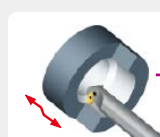
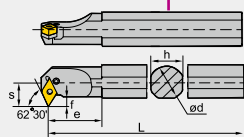
The arrow shows suitable applications such as internal turning, profiling and end turning, etc.

Corresponding tool holders of insert **DN** ☐ ☐ P-type clamping

PDSNR/L
Kr:62°30'



R-type shown



Type	Stock		Basic dimensions(mm)								Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e	f					
S32R-PDSNR/L15	△	△	40	32	30	200	22	-11°	45	8.5	LEM8 × 21	WH30L	L4B	D15AP	SP4
S32U-PDSNR/L15	▲	▲	40	32	30	350	22	-11°	45	8.5	LEM8 × 21	WH30L	L4	D15AP	SP4
S32R-PDSNR/L15-3	△	△	40	32	30	200	22	-11°	45	8.5	LEM8 × 21	WH30L	L4B	D15AP	SP4
S32U-PDSNR/L15-3	▲	▲	40	32	30	350	22	-11°	45	8.5	LEM8 × 21	WH30L	L4	D15AP	SP4
S40S-PDSNR/L15	△	△	50	40	37	250	27	-11°	43	9.4	LEM8 × 21	WH30L	L4B	D15AP	SP4
S40V-PDSNR/L15	▲	▲	50	40	37	400	27	-11°	43	9.4	LEM8 × 21	WH30L	L4	D15AP	SP4
S40S-PDSNR/L15-3	△	△	50	40	37	250	27	-11°	43	9.4	LEM8 × 21	WH30L	L4B	D15AP	SP4
S40V-PDSNR/L15-3	▲	▲	50	40	37	400	27	-11°	43	9.4	LEM8 × 21	WH30L	L4	D15AP	SP4
*A32S-PDSNR/L15	△	△	40	32	31	250	22	-11°	45	8.5	LEM8 × 21	WH30L	L4B	D15AP	SP4
*A32S-PDSNR/L15-3	△	△	40	32	31	250	22	-11°	45	8.5	LEM8 × 21	WH30L	L4	D15AP	SP4

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN/PCD inserts
Inserts shape	DF Wiper A59	WGM Wiper A61	DR Double side A63	Without chipbreaker A64	Without chipbreaker A122
	WGF Wiper A59	PM A61	DR Single side A63		Without chipbreaker A122
	SF A60	DM A62	ER Double side A63		Without chipbreaker A122
	EF A60	EM A62	ER Single side A63		
	NF A60	NM A62	LR Single side A63		
Tool holder type	□□-PDSNR/L15-3	DN□□1504□□	DN□□1504□□	DN□□1504□□	DN□□1504□□
	□□-PDSNR/L15	DN□□1506□□	DN□□1506□□	DN□□1506□□	DN□□1506□□

Tool holders with oil hole

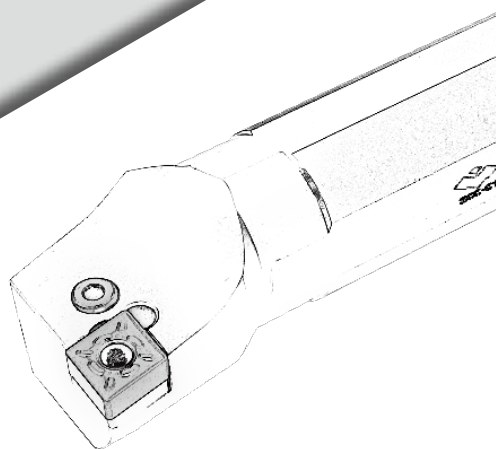
Products specification

Including product description, stock (left and right hand), basic dimensions and applicable spare parts.

Applicable inserts

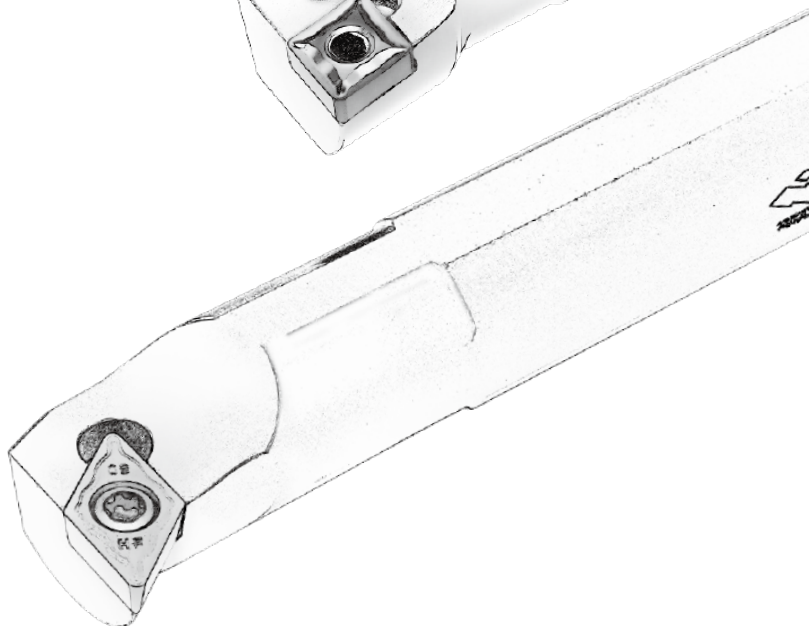
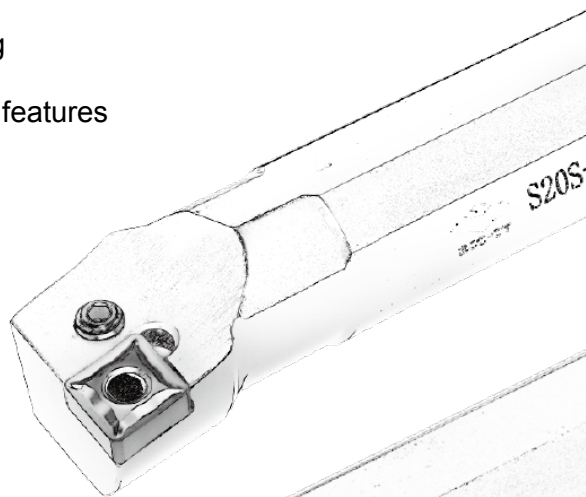
Including applications of inserts, reference page, insert shape and corresponding tool holders.

TURNING



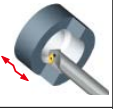
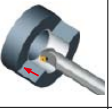
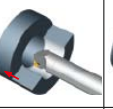
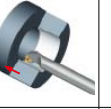
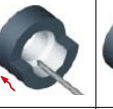
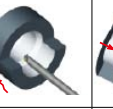
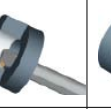
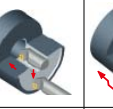
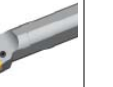
Internal turning tools

A211	Internal turning tools overview
A212-A213	Internal turning tools code key
A214-A241	Detailed table of internal turning tools
A214-A219	Internal turning Tools by P-type clamping
A220-A235	Internal turning tools by S-type clamping
A236-A241	Damping internal turning tools and their features



Internal turning tools



Name	Feature	62°30'	75°	90°	91°	93°	93°	95°	95°	107°30'
P-type internal turning tools	- The minimum machining diameter is 20mm. - Applicable inserts are economic negative inserts. - Hole clamping									
		PDSN  A215	PSKN  A217	PTFN  A218			PDUN  A216		PCLN  A214	
S-type internal turning tools	- The minimum machining diameter is 10mm. - Applicable inserts are 5°, 7° and 11° positive inserts. - Screw clamping.		SSKC  A224	SCFC  A234	STFC  A225	STUP  A233	SDUC  A222	SDZC  A223		SDQC  A221
							SDUP  A232		SCLC  A220	SDQP  A231
							SVUC  A227		 A235	SVQB  A228
							SVUB  A229		SCLP  A230	SVQC  A226
Damping internal turning tools	- The minimum diameter can be machined is 12mm. - Applicable inserts are 7°, 11° positive inserts. - Good Performance on reducing shake.					STUP  A240	SDUP  A239		SCLP  A237	SDQP  A238
							SVUC  A241			SVQC  A241



TURNING

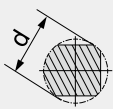
General Turning Tools

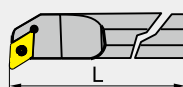
Internal turning tools code key

General turning

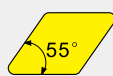
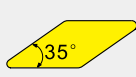
Internal turning tools code key

Type of tool holder	
Code	Type
A	Steel tool holder with oil-hole
C	Cemented carbide tool holder
E	Cemented carbide tool holder with oil hole
S	Steel tool holder
X	Special inserts applied

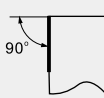
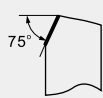
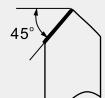
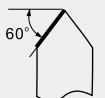
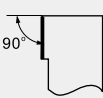
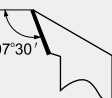
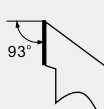
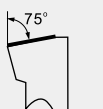
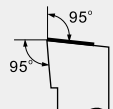
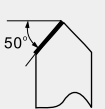
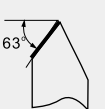
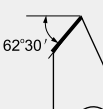
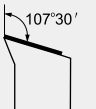
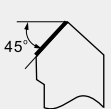
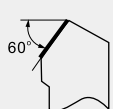
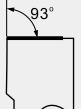
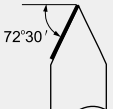
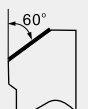
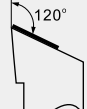
Diameter of tool holder	
	
Code	Diameter
16	16
20	20
25	25
32	32
40	40
50	50

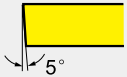
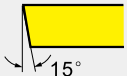
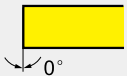
Length of tool holder	
	
Code	Length
H	100
K	125
M	150
N	160
Q	180
R	200
S	250
T	300
U	350
V	400

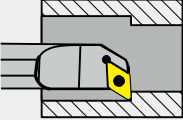
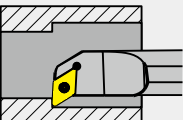
Clamping system
 P-Hole clamping
 M-Top and hole clamping
 S-Screw on
 C-Top clamping

Inserts shape	
 C	 D
 R	 S
 T	 V
 W	

S 16 R - S D U

Tool holder style and approach angle							
A	B	C	D	E	F	G	H
							
J	K	L	M	N	O	P	Q
							
R	S	T	U	V	W	X	
							

Clearance angle of insert	
	B
	C
	D
	E
	N
	P

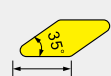
Cutting direction

L - Left hand

R - Right hand

Manufacture option	
D	Increase offset f size+1.0mm
E	Increase offset f size+2.0mm
R	Round shank
W	Wedge clamping
X	Back boring

C

R

07

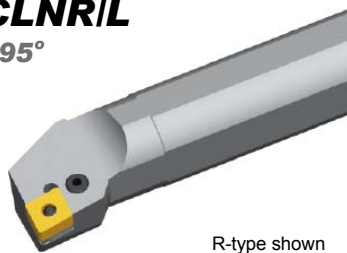
Length of cutting edge							
Inserts shape	C	D	R	S	T	V	W
							
Inscribed circle	Length of cutting edge(mm)						
5.556	---	---	---	---	09	---	---
6.350	06	07	---	---	11	---	---
9.525	09	11	09	09	16	16	06
12.700	12	15	12	12	22	22	08
15.875	16	19	15	15	27	---	---
19.050	19	---	19	19	33	---	---
25.400	25	---	25	25	44	---	---



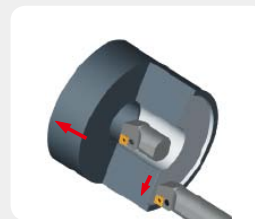
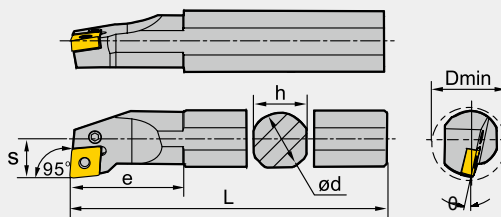
Corresponding tool holders of insert **CN** ☐ ☐ P-type clamping

PCLNR/L

Kr:95°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e					
S16M-PCLNR/L09	△	△	20	16	15	150	11	-12°	28	LEM5×9B	WH20L	L3C	---	---
S16R-PCLNR/L09	▲	▲	20	16	15	200	11	-12°	28					
S20Q-PCLNR/L09	△	△	25	20	18	180	13	-11°	31					
S20S-PCLNR/L09	▲	▲	25	20	18	250	13	-11°	31					
S25Q-PCLNR/L09	△	△	32	25	23	180	17	-10°	35					
S25T-PCLNR/L09	▲	▲	32	25	23	300	17	-10°	35	LEM6×13.4A	WH25L	L4A	---	---
S25Q-PCLNR/L12	△	△	32	25	23	180	17	-12°	40					
S25T-PCLNR/L12	▲	▲	32	25	23	300	17	-12°	40					
S32R-PCLNR/L12	△	△	44	32	30	200	22	-10°	50					
S32U-PCLNR/L12	▲	▲	44	32	30	350	22	-10°	50					
S40S-PCLNR/L12	△	△	54	40	37	250	27	-10°	55	LEM8×21	WH30L	L4	C12APB	SP4
S40V-PCLNR/L12	▲	▲	54	40	37	400	27	-10°	55					
S50S-PCLNR/L12	△	△	63	50	47	250	35	-10°	56					
S50W-PCLNR/L12	▲	▲	63	50	47	450	35	-10°	56					
S50S-PCLNR/L19	△	△	63	50	47	250	35	-10°	63					
S50W-PCLNR/L19	▲	▲	63	50	47	450	35	-10°	63	LEM10×27	WH40L	L6	C19AP	SP6
※A25R-PCLNR/L12	▲	▲	32	25	24	200	17	-12°	40					
※A32S-PCLNR/L12	▲	▲	44	32	31	250	22	-10°	50	LEM8×21	WH30L	L4	C12APB	SP4

※ Tool holders with oil hole

▲ Stock available

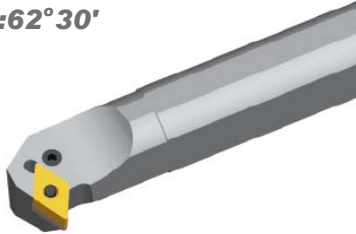
△ Make-to-order

Applicable inserts

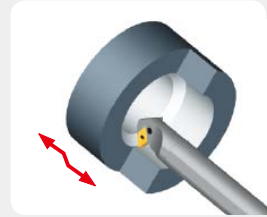
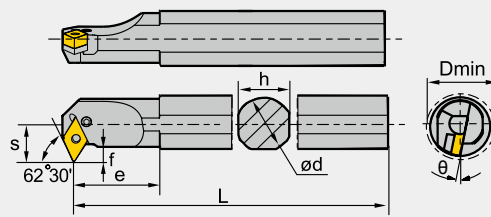
Application	For finishing		For semi-finishing		For roughing		For cast iron machining	PCBN/PCD inserts
Inserts shape	DF  A52	WGM Wiper  A53	DR Double-side  A56	 A57		Without chipbreaker  A120		
	WGF Wiper  A52	PM  A53	DR Single-side  A56	 A56		Without chipbreaker  A120		
	SF  A52	DM  A54	ER Double-side  A56	 A56		Without chipbreaker  A120		
	EF  A52	EM  A54	ER Single-side  A56	 A56				
	NF  A53	NM  A55	LR Single-side  A55	 A55				
Tool holder type	□□-PCLNR/L09		CN□□0903□□		CN□□0903□□		CN□□0903□□	
	□□-PCLNR/L12		CN□□1204□□		CN□□1204□□		CN□□1204□□	
	□□-PCLNR/L19				CN□□1906□□		CN□□1906□□	

Corresponding tool holders of insert **DN** ☐ ☐ P-type clamping**PDSNR/L**

Kr:62° 30'



R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)								Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e	f					
S32R-PDSNR/L15	△	△	40	32	30	200	22	-11°	45	8.5	LEM8×21	WH30L	L4B	D15AP	SP4
S32U-PDSNR/L15	▲	▲	40	32	30	350	22	-11°	45	8.5					
S32R-PDSNR/L15-3	△	△	40	32	30	200	22	-11°	45	8.5	LEM8×21	WH30L	L4	D15AP	SP4
S32U-PDSNR/L15-3	▲	▲	40	32	30	350	22	-11°	45	8.5					
S40S-PDSNR/L15	△	△	50	40	37	250	27	-11°	43	9.4	LEM8×21	WH30L	L4B	D15AP	SP4
S40V-PDSNR/L15	▲	▲	50	40	37	400	27	-11°	43	9.4					
S40S-PDSNR/L15-3	△	△	50	40	37	250	27	-11°	43	9.4	LEM8×21	WH30L	L4	D15AP	SP4
S40V-PDSNR/L15-3	▲	▲	50	40	37	400	27	-11°	43	9.4					
※A32S- PDSNR/L15	△	△	40	32	31	250	22	-11°	45	8.5	LEM8×21	WH30L	L4B	D15AP	SP4
※A32S- PDSNR/L15-3	△	△	40	32	31	250	22	-11°	45	8.5	LEM8×21	WH30L	L4	D15AP	SP4

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN/PCD inserts
Inserts shape	DF  A59	WGM Wiper  A61	DR Double-side  A63	 A64	 A122
	WGF Wiper  A59	PM  A61	DR Single-side  A63		 A122
	SF  A60	DM  A62	ER Double-side  A63		 A122
	EF  A60	EM  A62	ER Single-side  A63		
	NF  A60	NM  A62	LR Single-side  A63		

Tool holder type	☐ PDSNR/L15-3	DN ☐ ☐ 1504 ☐ ☐	DN ☐ ☐ 1504 ☐ ☐	DN ☐ ☐ 1504 ☐ ☐	DN ☐ ☐ 1504 ☐ ☐
	☐ PDSNR/L15	DN ☐ ☐ 1506 ☐ ☐	DN ☐ ☐ 1506 ☐ ☐	DN ☐ ☐ 1506 ☐ ☐	DN ☐ ☐ 1506 ☐ ☐



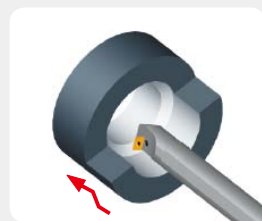
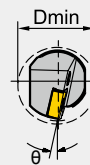
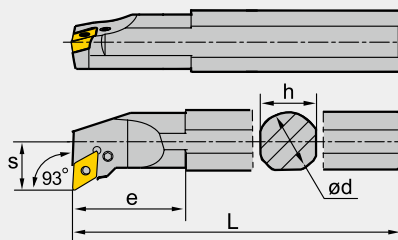
Corresponding tool holders of insert **DN** ☐ ☐ P-type clamping

PDUNR/L

Kr:93°



R-type shown



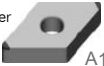
Type	Stock		Basic dimensions(mm)							Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e					
S20Q-PDUNR/L11	△	△	25	20	18	180	13	-16°	30	LEM5×12B	WH20L	L3D	---	---
S20S-PDUNR/L11	▲	▲	25	20	18	250	13	-16°	30					
S25Q-PDUNR/L11	△	△	32	25	23	180	17	-13°	35					
S25T-PDUNR/L11	▲	▲	32	25	23	300	17	-13°	35					
S32R-PDUNR/L11	△	△	40	32	30	200	22	-16°	40	LEM6×17	WH25L	L3	D11AP	SP3
S32U-PDUNR/L11	▲	▲	40	32	30	350	22	-16°	40					
S32R-PDUNR/L15	△	△	40	32	30	200	22	-16°	50	LEM8×21	WH30L	L4B	D15AP	SP4
S32U-PDUNR/L15	▲	▲	40	32	30	350	22	-16°	50					
S32R-PDUNR/L15-3	△	△	40	32	30	200	22	-16°	50	LEM8×21	WH30L	L4	D15AP	SP4
S32U-PDUNR/L15-3	▲	▲	40	32	30	350	22	-16°	50					
S40S-PDUNR/L15	△	△	50	40	37	250	27	-11°	50	LEM8×21	WH30L	L4B	D15AP	SP4
S40V-PDUNR/L15	▲	▲	50	40	37	400	27	-11°	50					
S40S-PDUNR/L15-3	△	△	50	40	37	250	27	-11°	50	LEM8×21	WH30L	L4	D15AP	SP4
S40V-PDUNR/L15-3	▲	▲	50	40	37	400	27	-11°	50					
※A32S- PDUNR/L15	▲	▲	40	32	31	250	22	-16°	50	LEM8×21	WH30L	L4B	D15AP	SP4
※A32S- PDUNR/L15-3	▲	△	40	32	31	250	22	-16°	50	LEM8×21	WH30L	L4	D15AP	SP4

※ Tool holders with oil hole

▲ Stock available

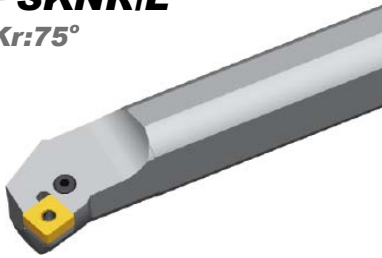
△ Make-to-order

Applicable inserts

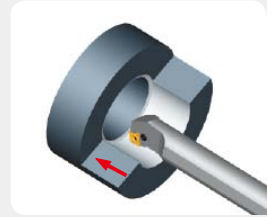
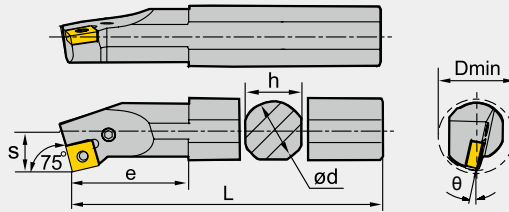
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN/PCD inserts
Inserts shape	DF  A59	WGM Wiper  A61	DR Double-side  A63	Without chipbreaker  A64	Without chipbreaker  A122
	WGF Wiper  A59	PM  A61	DR Single-side  A63		Without chipbreaker  A122
	SF  A60	DM  A62	ER Double-side  A63		Without chipbreaker  A122
	EF  A60	EM  A62	ER Single-side  A63		
	NF  A60	NM  A62	LR Single-side  A63		
Tool holder type	□□-PDUNR/L11	DN□□1104□□	DN□□1104□□		
	□□-PDUNR/L15-3	DN□□1504□□	DN□□1504□□	DN□□1504□□	DN□□1504□□
	□□-PDUNR/L15	DN□□1506□□	DN□□1506□□	DN□□1506□□	DN□□1506□□

Corresponding tool holders of insert **SN** ☐ ☐ P-type clamping**PSKNR/L**

Kr:75°



R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)							Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e					
S25Q-PSKNR/L12	△	△	32	25	23	180	17	-12°	42	LEM6×13.4A	WH25L	L4A	---	---
S25T-PSKNR/L12	▲	▲	32	25	23	300	17	-12°	42					
S32R-PSKNR/L12	△	△	44	32	30	200	22	-10°	45					
S32U-PSKNR/L12	▲	▲	44	32	30	350	22	-10°	45	LEM8×21	WH30L	L4	S12APB	SP4
S40S-PSKNR/L12	△	△	54	40	37	250	27	-10°	50					
S40V-PSKNR/L12	▲	△	54	40	37	400	27	-10°	50					
※ A25R-PSKNR/L12	▲	▲	32	25	24	200	17	-12°	42	LEM6×13.4A	WH25L	L4A	---	---
※ A32S-PSKNR/L12	▲	△	44	32	31	250	22	-12°	50	LEM8×21	WH30L	L4	S12APB	SP4

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

Application	For finishing		For semi-finishing		For roughing		For roughing		PCBN/PCD inserts	
Inserts shape	DF	 A65	PM	 A66	DR Double-side	 A68	Without chipbreaker  A72		Without chipbreaker  A124	
	EF	 A65	DM	 A66	DR Single-side	 A68 -69			Without chipbreaker  A124	
	SF	 A65	EM	 A67	ER	 A69			Without chipbreaker  A124	
			NM	 A67	ER Single-side	 A70			Without chipbreaker  A124	
					LR Single-side	 A67				

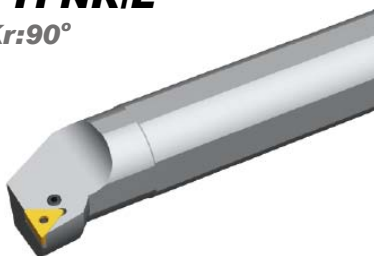
Tool holder type	☐ -PSKNR/L12	SN ☐ ☐ 1204 ☐ ☐	SN ☐ ☐ 1204 ☐ ☐	SN ☐ ☐ 1204 ☐ ☐	SN ☐ ☐ 1204 ☐ ☐	SN ☐ ☐ 1204 ☐ ☐



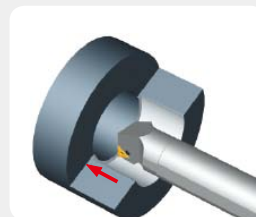
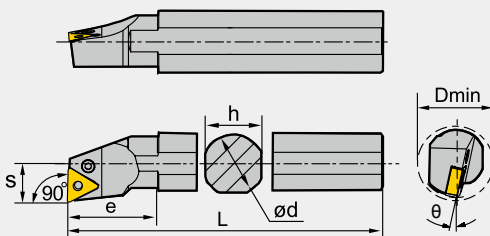
Corresponding tool holders of insert **TN** ☐ ☐ P-type clamping

PTFNR/L

Kr:90°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e					
S16M-PTFNR/L11	△	△	20	16	15	150	11	-14°	28	LEM5×9B	WH20L	L2	---	---
S16R-PTFNR/L11	▲	▲	20	16	15	200	11	-14°	28					
S20Q-PTFNR/L11	△	△	25	20	18	180	13	-12°	31					
S20S-PTFNR/L11	▲	▲	25	20	18	250	13	-12°	31					
S25Q-PTFNR/L11	△	△	32	25	23	180	17	-10°	35					
S25T-PTFNR/L11	▲	▲	32	25	23	300	17	-10°	35	LEM5×12B	WH20L	L3B	---	---
S25Q-PTFNR/L16	△	△	32	25	23	180	17	-12°	42					
S25T-PTFNR/L16	▲	▲	32	25	23	300	17	-12°	42					
S32R-PTFNR/L16	△	△	44	32	30	200	22	-10°	50					
S32U-PTFNR/L16	▲	▲	44	32	30	350	22	-10°	50					
S40S-PTFNR/L16	△	△	54	40	37	250	27	-10°	55	LEM6×17	WH25L	L3	T16APB	SP3
S40V-PTFNR/L16	▲	▲	54	40	37	400	27	-10°	55					
※A25R-PTFNR/L16	△	△	32	25	24	200	17	-12°	40					
※A32S-PTFNR/L16	▲	▲	44	32	31	250	22	-10°	50					

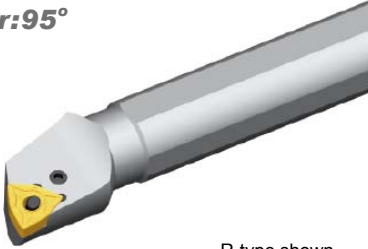
※ Tool holders with oil hole

▲ Stock available

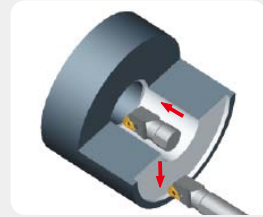
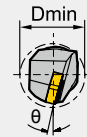
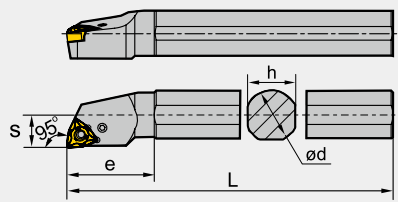
△ Make-to-order

Applicable inserts

Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN/PCD inserts
Inserts shape	DF A73	WGM Wiper A74	DR Double-side A76	Without chipbreaker A78	Without chipbreaker A126
	WGF Wiper A73	PM A74	DR Single-side A76		Without chipbreaker A126
	SF A73	DM A75	ER Double-side A76		Without chipbreaker A126
	EF A74	EM A75	LR Single-side A75		
Tool holder type	□□PTFNR/L11	TN□□1103□□	TN□□1103□□	TN□□1103□□	
	□□PTFNR/L16	TN□□1604□□	TN□□1604□□	TN□□1604□□	TN□□1604□□

Corresponding tool holders of insert **WN** ☐ ☐ P-type clamping**PWLNR/L****Kr:95°**

R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)							Screw	Wrench	Lever	Shim	Shim pin
	R	L	Dmin	ød	h	L	S	θ	e					
S16M-PWLNR/L06	△	△	20	16	15	150	11	-13°	25	LEM5X12B	WH20L	L3B	---	---
S16R-PWLNR/L06	△	△	20	16	15	200	11	-13°	25					
S20Q-PWLNR/L06	△	△	25	20	18	180	13	-13°	35	LEM5X12B	WH20L	L3B	---	---
S20S-PWLNR/L06	△	△	25	20	18	250	13	-13°	35					
S25Q-PWLNR/L06	△	△	32	25	23	180	17	-13°	35					
S25T-PWLNR/L06	△	△	32	25	23	300	17	-13°	35					
S20Q-PWLNR/L08	△	△	25	20	18	180	13	-13°	32	LEM6X13.4A	WH25L	L4A	---	---
S20S-PWLNR/L08	△	△	25	20	18	250	13	-13°	32					
S25Q-PWLNR/L08	△	△	32	25	23	180	17	-13°	45					
S25T-PWLNR/L08	△	△	32	25	23	300	17	-13°	45					
S32R-PWLNR/L08	△	△	40	32	30	200	22	-15°	50	LEM8X21	WH30L	L4	W08AP	SP4
S32U-PWLNR/L08	△	△	40	32	30	350	22	-15°	50					
※A25T-PWLNR/L08	△	△	32	25	23	300	17	-13°	45	LEM6X13.4A	WH25L	L4A	---	---
※A32R-PWLNR/L08	△	△	40	32	30	200	22	-15°	50	LEM8X21	WH30L	L4	W08AP	SP4

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

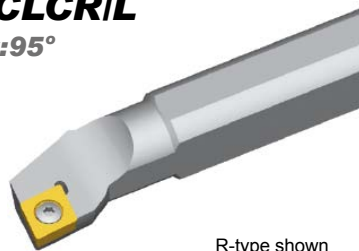
Application	For finishing	For semi-finishing	For roughing	For cast iron machining	PCBN/PCD inserts
Inserts shape	DF A81	WGM Wiper A82	DR Double side A84	Without chipbreaker A84	Without chipbreaker A128
	WGF Wiper A81	DM A83			Without chipbreaker A128
	SF A81	PM A83			Without chipbreaker A128
	EF A82	EM A83			
	NF A82	NM A84			
Tool holder type	☐ -PWLNR/L06	WN ☐ 0604 ☐	WN ☐ 0604 ☐	WN ☐ 0604 ☐	WN ☐ 0604 ☐
	☐ -PWLNR/L08	WN ☐ 0804 ☐	WN ☐ 0804 ☐	WN ☐ 0804 ☐	WN ☐ 0804 ☐



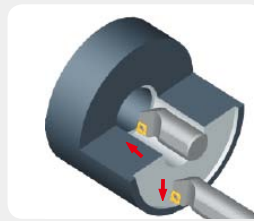
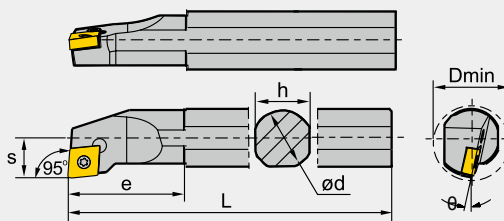
Corresponding tool holders of insert **CC** ☐ ☐ S-type clamping

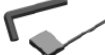
SCLCR/L

Kr:95°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	Shim	Shim screw
	R	L	Dmin	ød	h	L	S	θ	e				
S08K-SCLCR/L06	▲	▲	10	8	7	125	5	-15°	14	I60M2.5×5.5	WT07IP	---	---
S10M-SCLCR/L06	▲	▲	12	10	9	150	6	-13°	14				
S12M-SCLCR/L06	▲	▲	16	12	11	150	9	-10°	25				
S12M-SCLCR/L09	▲	▲	16	12	11	150	9	-10°	25				
S16M-SCLCR/L09	△	△	20	16	15	150	11	-12°	32.5	I60M3.5×8	WT15IP	---	---
S16R-SCLCR/L09	▲	▲	20	16	15	200	11	-12°	32.5				
S20Q-SCLCR/L09	△	△	25	20	18	180	13	-8°	38				
S20S-SCLCR/L09	▲	▲	25	20	18	250	13	-8°	38				
S25Q-SCLCR/L09	△	△	32	25	23	180	17	-6°	45	I60M3.5×10	WT15IP	---	---
S25T-SCLCR/L09	▲	▲	32	25	23	300	17	-6°	45				
S25Q-SCLCR/L12	△	△	32	25	23	180	17	-6°	45	I60M4×11X	WT15IP	---	---
S25T-SCLCR/L12	▲	▲	32	25	23	300	17	-6°	45	I60M4×11X	WT15IP	---	---
S32R-SCLCR/L12	△	△	40	32	30	200	22	-10°	50	I60M4×11X	WH40L WT15IP	C12BS	SM6×10XA
S32U-SCLCR/L12	▲	▲	40	32	30	350	22	-10°	50				
S40S-SCLCR/L12	△	△	50	40	37	250	27	-8°	60				
S40V-SCLCR/L12	▲	▲	50	40	37	400	27	-8°	60				
※A08F-SCLCR/L06	▲	▲	10	8	7.5	80	5	-15°	14	I60M2.5×5.5	WT07IP	---	---
※A10H-SCLCR/L06	▲	▲	12	10	9.5	100	6	-13°	14				
※A12K-SCLCR/L06	▲	▲	16	12	11.5	125	9	-10°	25				
※A12K-SCLCR/L09	▲	▲	16	12	11.5	125	9	-10°	25				
※A16M-SCLCR/L09	▲	▲	20	16	15.5	150	11	-12°	32.5	I60M3.5×8	WT15IP	---	---
※A20Q-SCLCR/L09	▲	▲	25	20	19	180	13	-8°	38				
※A25R-SCLCR/L09	▲	▲	32	25	24	200	17	-6°	45	I60M3.5×10	WT15IP	---	---
※A25R-SCLCR/L12	▲	▲	32	25	24	200	17	-6°	45				
※A32S-SCLCR/L12	▲	▲	40	32	31	250	22	-10°	50	I60M4×11X	WH40L WT15IP	C12BS	SM6×10XA

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

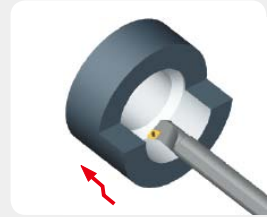
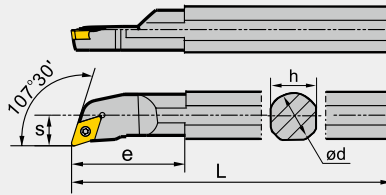
Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	USF  A87	HF  A87	HM  A88	HR  A89	LH  A89	Without chipbreaker  A90	Without chipbreaker  A130
	SF  A87	EF  A88	EM  A88		LC  A89		Without chipbreaker  A130
Tool holder type	□□-SCLCR/L06 CC□□0602□□ CC□□0602□□ CC□□0602□□ CC□□0602□□ CCGX0602□□ CC□□0602□□ CC□□0602□□						
	□□-SCLCR/L09 CC□□09T3□□ CC□□09T3□□ CC□□09T3□□ CC□□09T3□□ CCGX09T3□□ CC□□09T3□□ CC□□09T3□□						
	□□-SCLCR/L12 CC□□1204□□ CC□□1204□□ CC□□1204□□ CCGX1204□□ CC□□1204□□ CC□□1204□□						

Corresponding tool holders of insert **DC** ☐ ☐ S-type clamping**SDQCR/L**

Kr:107°30'



R-type shown



General turning

Internal turning tools

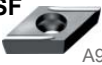
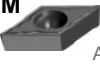
Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S10M-SDQCR/L07	▲	▲	13	10	9	150	7	-8°	20	I60M2.5×5.5	WT07IP	---	---
S12M-SDQCR/L07	▲	▲	16	12	11	150	9	-8°	22				
S16M-SDQCR/L07	△	△	20	16	15	150	11	-6°	27				
S16R-SDQCR/L07	▲	▲	20	16	15	200	11	-6°	27				
S20Q-SDQCR/L11	△	△	25	20	18	180	13	-6°	32	I60M3.5×8	WT15IP	---	---
S20S-SDQCR/L11	▲	▲	25	20	18	250	13	-6°	32				
S25Q-SDQCR/L11	△	△	32	25	23	180	17	-6°	32				
S25T-SDQCR/L11	▲	▲	32	25	23	300	17	-6°	32				
※A10H-SDQCR/L07	▲	△	13	10	9.5	100	7	-8°	20	I60M2.5×5.5	WT07IP	---	---
※A12K-SDQCR/L07	▲	▲	16	12	11.5	125	9	-8°	22	I60M2.5×6.5			
※A16M-SDQCR/L11	▲	△	20	16	15.5	150	11	-6°	27	I60M3.5×8	WT15IP	---	---
※A20Q-SDQCR/L11	▲	▲	25	20	19	180	13	-6°	32				
※A25R-SDQCR/L11	▲	▲	32	25	24	200	17	-6°	32				

※ Tool holders with oil hole

▲ Stock available

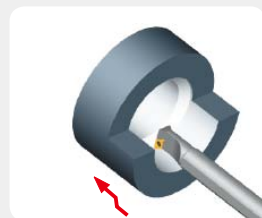
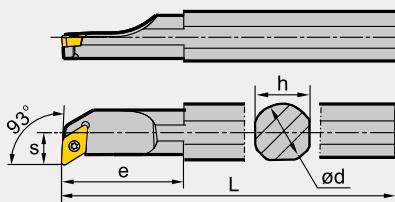
△ Make-to-order

Applicable inserts

Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	USF  A91	HF  A91	HM  A92	HR  A93	LH  A93	Without chipbreaker  A93	Without chipbreaker  A132
	SF  A91	EF  A92	EM  A92		LC  A93		Without chipbreaker  A132
Tool holder type	□□-SDQCR/L07	DC□□0702□□	DC□□0702□□	DC□□0702□□	DCGX0702□□	DC□□0702□□	DC□□0702□□
	□□-SDQCR/L11	DC□□11T3□□	DC□□11T3□□	DC□□11T3□□	DCGX11T3□□	DC□□11T3□□	DC□□11T3□□

Corresponding tool holders of insert **DC** ☐ ☐ S-type clamping**SDUCR/L**

Kr:93°



R-type shown

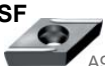
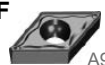
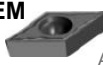
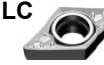
Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S10M-SDUCR/L07	▲	▲	13	10	9	150	7	-8°	0	I60M2.5×5.5	WT07IP	---	---
S12M-SDUCR/L07	▲	▲	16	12	11	150	9	-8°	22	I60M2.5×6.5		---	---
S16M-SDUCR/L07	△	△	20	16	15	150	11	-6°	27			---	---
S16R-SDUCR/L07	▲	▲	20	16	15	200	11	-6°	27	---		---	
S20Q-SDUCR/L11	△	△	25	20	18	180	13	-6°	40	I60M3.5×8	WT15IP	---	---
S20S-SDUCR/L11	▲	▲	25	20	18	250	13	-6°	40			---	---
S25Q-SDUCR/L11	△	△	32	25	23	180	17	-6°	46	I60M3.5×10		---	---
S25T-SDUCR/L11	▲	▲	32	25	23	300	17	-6°	46			---	---
※A10H-SDUCR/L07	▲	▲	13	10	9.5	100	7	-8°	0	I60M2.5×5.5	WT07IP	---	---
※A12K-SDUCR/L07	△	▲	16	12	11.5	125	9	-8°	22	I60M2.5×6.5		---	---
※A16M-SDUCR/L07	▲	▲	20	16	15.5	150	11	-6°	27			---	---
※A20Q-SDUCR/L11	▲	▲	25	20	19	180	13	-6°	40	I60M3.5×8	WT15IP	---	---
※A25R-SDUCR/L11	▲	▲	32	25	24	200	17	-6°	46	I60M3.5×10		---	---

※ Tool holders with oil hole

▲ Stock available

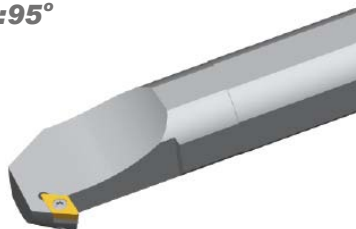
△ Make-to-order

Applicable inserts

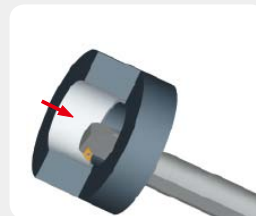
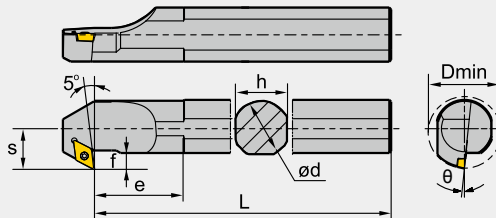
Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	USF  A91	HF  A91	HM  A92	HR  A93	LH  A93	Without chipbreaker  A93	Without chipbreaker  A132
	SF  A91	EF  A92	EM  A92		LC  A93		Without chipbreaker  A132
Tool holder type	☐ SDUCR/L07	DC□□0702□□	DC□□0702□□	DC□□0702□□	DCGX0702□□	DC□□0702□□	DC□□0702□□
	☐ SDUCR/L11	DC□□11T3□□	DC□□11T3□□	DC□□11T3□□	DCGX11T3□□	DC□□11T3□□	DC□□11T3□□

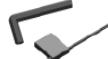
Corresponding tool holders of insert **DC** ☐ ☐ S-type clamping**SDZCR/L**

Kr:95°



R-type shown



Type	Stock		Basic dimensions(mm)								Screw	Wrench	Shim	Shim screw
	R	L	Dmin	ød	h	L	S	θ	e	f				
S25Q-SDZCR/L11	△	△	32	25	23	180	17	-6°	30	6.9	I60M3.5×10	WT15IP	---	---
S25T-SDZCR/L11	▲	▲	32	25	23	300	17	-6°	30	6.9				
S32R-SDZCR/L11	△	△	40	32	30	200	22	-6°	39	8.4	I60M3.5×12	WT15IP WH35L	D11BS	SM5×8.65XA
S32U-SDZCR/L11	▲	▲	40	32	30	350	22	-6°	39	8.4				
S40S-SDZCR/L11	△	△	50	40	37	250	27	-4°	47	9.4				
S40V-SDZCR/L11	▲	▲	50	40	37	400	27	-4°	47	9.4				
※ A25R-SDZCR/L11	▲	△	32	25	24	200	17	-6°	30	4.5	I60M3.5×10	WT15IP	---	---
※ A32S-SDZCR/L11	△	△	40	32	31	250	22	-6°	39	6.0	I60M3.5×12	WT15IP WH35L	D11BS	SM5×8.65XA

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

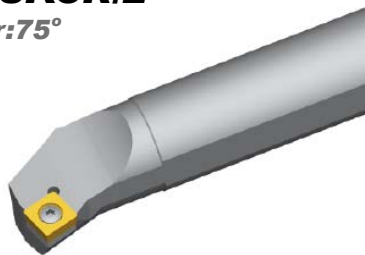
Applicable inserts

Application	For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	USF  A91	HF  A91	HM  A92	HR  A93	LH  A93	Without chipbreaker  A93	Without chipbreaker  A132
	SF  A91	EF  A92	EM  A92		LC  A93		Without chipbreaker  A132
Tool holder type	□□-SDZCR/L11 DC□□11T3□□ DC□□11T3□□ DC□□11T3□□ DC□□11T3□□ DCGX11T3□□ DC□□11T3□□ DC□□11T3□□						

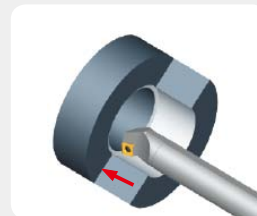
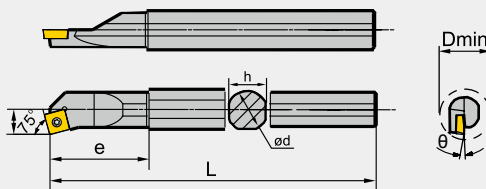
Corresponding tool holders of insert SC □ □ S-type clamping

SSKCR/L

Kr:75°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	Shim	Shim screw
	R	L	Dmin	ød	h	L	S	θ	e				
S12M-SSKCR/L09	▲	△	16	12	11	150	9	-10°	26	I60M3.5×8	WT15IP	---	---
S16M-SSKCR/L09	△	△	20	16	15	150	11	-11°	32.5				
S16R-SSKCR/L09	▲	▲	20	16	15	200	11	-11°	32.5				
S20Q-SSKCR/L09	△	△	25	20	18	180	13	-6°	34.5				
S20S-SSKCR/L09	▲	△	25	20	18	250	13	-6°	34.5				
S25Q-SSKCR/L12	△	△	32	25	23	180	17	-8°	36.3	I60M4×11X	WT15IP	---	---
S25T-SSKCR/L12	▲	▲	32	25	23	300	17	-8°	36.3				
S32R-SSKCR/L12	△	△	40	32	30	200	22	-10°	43.5		WT15IP WH40L	S12BS	SM6×10XA
S32U-SSKCR/L12	▲	△	40	32	30	350	22	-10°	43.5				
※A12K-SSKCR/L09	△	△	16	12	11	125	9	-10°	26	I60M3.5×8	WT15IP	---	---
※A16M-SSKCR/L09	△	△	20	16	15	150	11	-11°	32.5				
※A20Q-SSKCR/L09	▲	△	25	20	19	180	13	-6°	34.5				
※A25R-SSKCR/L12	△	△	32	25	24	200	17	-8°	41.3	I60M4×11X	WT15IP WH40L	---	---
※A32S-SSKCR/L12	▲	△	40	32	31	250	22	-10°	42.8				

※ Tool holders with oil hole

▲ Stock available

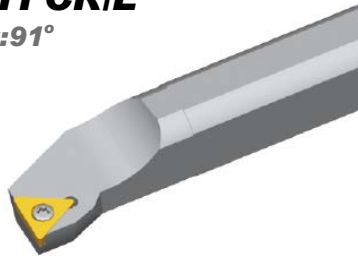
△ Make-to-order

Applicable inserts

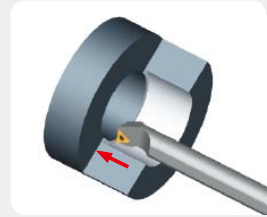
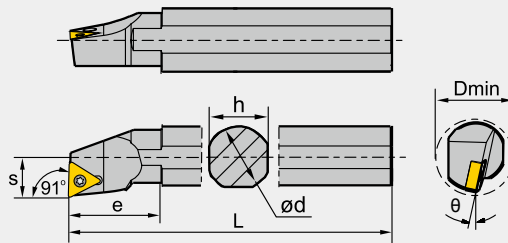
Application	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	HF  A96	HM  A96	HR  A97	LH  A97	Without chipbreaker  A97	Without chipbreaker  A134
	EF  A96	EM  A96		LC  A97		Without chipbreaker  A134
Tool holder type	□□-SSKCR/L09	SC□□09T3□□	SC□□09T3□□	SC□□09T3□□	SCGX09T3□□	SC□□09T3□□
	□□-SSKCR/L12		SC□□1204□□	SC□□1204□□	SCGX1204□□	SC□□1204□□

Corresponding tool holders of insert **TC** ☐ ☐ S-type clamping**STFCR/L**

Kr:91°



R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)							Screw	Wrench	Shim	Shim screw
	R	L	Dmin	ød	h	L	S	θ	e				
S12M-STFCR/L11	▲	▲	16	12	11	150	9	-10°	30	I60M2.5×6.5	WT07IP	---	---
S16M-STFCR/L11	△	△	20	16	15	150	11	-6°	35				
S16R-STFCR/L11	▲	▲	20	16	15	200	11	-6°	35				
S20Q-STFCR/L11	△	△	25	20	18	180	13	-3°	36				
S20S-STFCR/L11	▲	▲	25	20	18	250	13	-3°	36				
S25Q-STFCR/L16	△	△	32	25	23	180	17	-6°	49	I60M3.5×10	WT15IP	---	---
S25T-STFCR/L16	▲	▲	32	25	23	300	17	-6°	49				
S32R-STFCR/L16	△	△	40	32	30	200	22	-10°	50	I60M3.5×12	WT15IP WH35L	T16BS	SM5×8.65XA
S32U-STFCR/L16	▲	▲	40	32	30	350	22	-10°	50				
S40S-STFCR/L16	△	△	50	40	37	250	27	-8°	60				
S40V-STFCR/L16	▲	▲	50	40	37	400	27	-8°	60				
※A12K-STFCR/L11	▲	△	16	12	11.5	125	9	-10°	26	I60M2.5×6.5	WT07IP	---	---
※A16M-STFCR/L11	▲	△	20	16	15.5	150	11	-6°	30				
※A20Q-STFCR/L11	▲	△	25	20	19	180	13	-3°	36				
※A25R-STFCR/L16	▲	▲	32	25	24	200	17	-6°	45	I60M3.5×10	WT15IP	---	---
※A32S-STFCR/L16	△	△	40	32	31	250	22	-10°	49	I60M3.5×12	WT15IP	T16BS	SM5×8.65XA

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

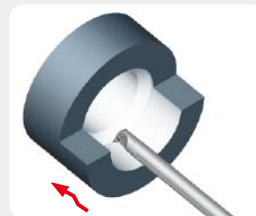
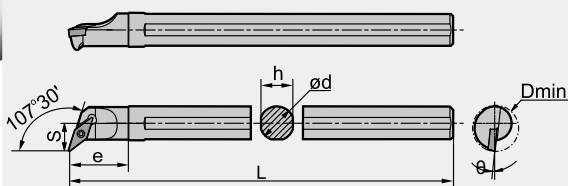
Application	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	HF  A99	HM  A101	HR  A101	LH  A102	Without chipbreaker  A102	Without chipbreaker  A135
	EF  A100	EM  A100		LC  A101		Without chipbreaker  A135
Tool holder type	□□-STFCR/L11	TC□□1102□□	TC□□1102□□	TC□□1102□□	TCGX1102□□	TC□□1102□□
	□□-STFCR/L16	TC□□16T3□□	TC□□16T3□□	TC□□16T3□□	TCGX16T3□□	TC□□16T3□□

Corresponding tool holders of insert **VC** ☐ ☐ S-type clamping**SVQCR/L**

Kr:107°30'



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S16Q-SVQCR/L11	▲	▲	22	16	15	180	13	-6°	28	I60M2.5×6.5	WT07IP	---	---
S20R-SVQCR/L11	△	△	26	20	18	200	15	-4°	32			---	---

▲Stock available

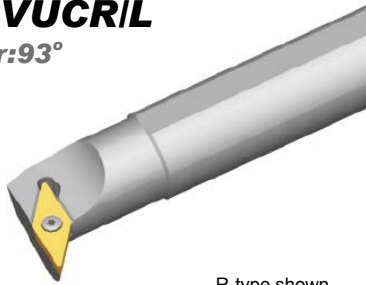
△Make-to-order

Applicable inserts

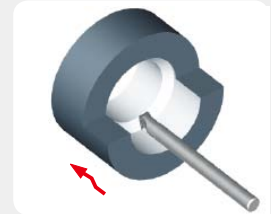
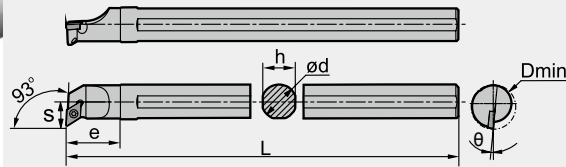
Application		For extra finishing	For finishing	For AI machining
Inserts shape	USF  A103	HF  A103	LH  A104	
	SF  A103		LC  A104	
Tool holder type	☐ ☐ -SVQCR/L11	VC ☐ ☐ 1103 ☐ ☐	VC ☐ ☐ 1103 ☐ ☐	VCGX1103 ☐ ☐

Corresponding tool holders of insert **VC** ☐ ☐ S-type clamping**SVUCR/L**

Kr:93°



R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S16Q-SVUCR/L11	△	△	24	16	15	180	15	-6°	25	I60M2.5×6.5	WT07IP	---	---
S20R-SVUCR/L11	△	△	28	20	18	200	17	-4°	30			---	---

▲Stock available

△Make-to-order

Applicable inserts

Application		For extra finishing	For finishing	For AI machining
Inserts shape	USF  A103	HF  A103	LH  A104	
	SF  A103		LC  A104	
Tool holder type	□□-SVUCR/L11	VC□□1103□□	VC□□1103□□	VCGX1103□□

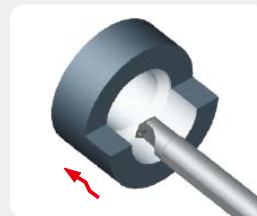
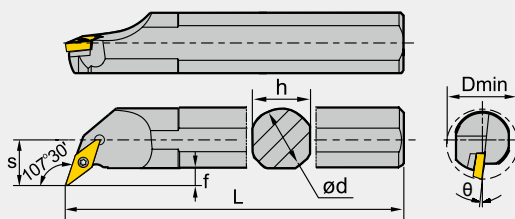


Corresponding tool holders of insert **VB** ☐ ☐ S-type clamping**SVQBR/L**

Kr:107°30'



R-type shown



Type	Stock		Basic dimensions(mm)								Screw	Wrench	Shim	Shim screw
	R	L	Dmin	ød	h	L	S	θ	e	f				
S32RSVQBR/L16	△	△	40	32	30	200	22	-8°	56	8.4	I60M3.5×12	WT15IP WH35L	V16BS	SM5×8.65XA
S32U-SVQBR/L16	▲	▲	40	32	30	350	22	-8°	56	8.4				
S40S-SVQBR/L16	△	△	50	40	37	250	27	-8°	64	9.4				
S40V-SVQBR/L16	▲	▲	50	40	37	400	27	-8°	64	9.4				
※A32S-SVQBR/L16	▲	△	40	32	31	250	22	-8°	56	8.4				

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

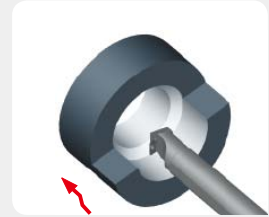
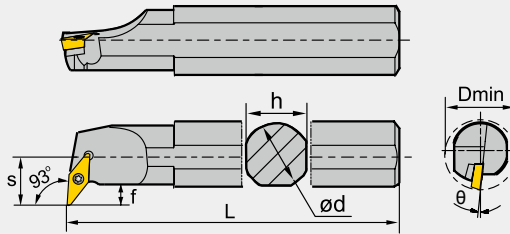
Application	For finishing	For semi-finishing	For roughing	PCBN/PCD inserts
Inserts shape	EF  A106	HM  A107	HR  A107	Without chipbreaker  A137
	NF  A106			Without chipbreaker  A137
Tool holder type	☐ ☐ -SVQBR/L16	VB ☐ ☐ 1604 ☐ ☐	VB ☐ ☐ 1604 ☐ ☐	VB ☐ ☐ 1604 ☐ ☐

Corresponding tool holders of insert **VB** ☐ ☐ S-type clamping**SVUBR/L**

Kr:93°



R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)								Screw	Wrench	Shim	Shim screw
	R	L	Dmin	ød	h	L	S	θ	e	f				
S32R-SVUBR/L16	△	△	40	32	30	200	22	-8°	49	8.4	I60M3.5×12	WT15IP WH35L	V16BS	SM5×8.65XA
S32U-SVUBR/L16	▲	▲	40	32	30	350	22	-8°	49	8.4				
S40S- SVUBR/L16	△	△	50	40	37	250	27	-8°	56.5	9.4				
S40V- SVUBR/L16	▲	▲	50	40	37	400	27	-8°	56.5	9.4				
※A32S- SVUBR/L16	▲	▲	40	32	31	250	22	-8°	49	8.4				

※ Tool holders with oil hole

▲ Stock available

△ Make-to-order

Applicable inserts

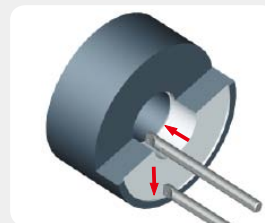
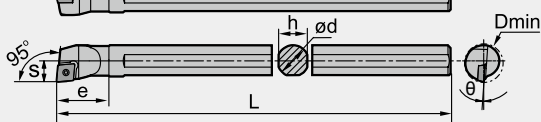
Application	For finishing	For semi-finishing	For roughing	PCBN/PCD inserts
Inserts shape	EF  A106	HM  A107	HR  A107	Without chipbreaker  A137
	NF  A106			Without chipbreaker  A137
Tool holder type	☐ ☐ -SVUBR/L16	VB ☐ ☐ 1604 ☐ ☐	VB ☐ ☐ 1604 ☐ ☐	VB ☐ ☐ 1604 ☐ ☐

Corresponding tool holders of insert **CP** ☐ ☐ S-type clamping**SCLPR/L**

Kr:95°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S10K-SCLPR/L06	▲	▲	12	10	9	125	6	-7°	17	I60M2.5×5.5	WT07IP	---	---
S12M-SCLPR/L06	▲	▲	16	12	11	150	8	-4°	20			---	---
S16Q-SCLPR/L09	▲	▲	20	16	15	180	10	-4°	29	I60M3.5×8	WT15IP	---	---
S20R-SCLPR/L09	△	△	25	20	18	200	13	-4°	35			---	---

▲Stock available

△Make-to-order

Applicable inserts

Application	For extra finishing	
Inserts shape	SF	
Tool holder type	☐ -SCLPR/L06	CP ☐ ☐ 0602 ☐ ☐
	☐ -SCLPR/L09	CP ☐ ☐ 09T3 ☐ ☐

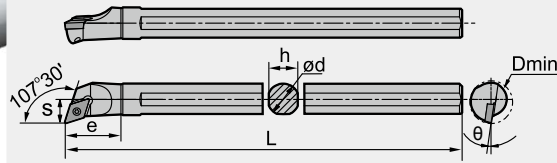
A108

Corresponding tool holders of insert **DP** ☐ ☐ S-type clamping**SDQPR/L**

Kr:107°30'



R-type shown

General
turning

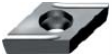
Internal turning tools

Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S10K-SDQPR/L07	△	△	13	10	9	125	7	-8°	20	I60M2.5×5.5	WT07IP	---	---
S12M-SDQPR/L07	▲	△	16	12	11	150	9	-8°	22			---	---
S16Q-SDQPR/L07	▲	△	20	16	15	180	11	-6°	27			---	---
S16Q-SDQPR/L11	▲	△	20	16	15	180	11	-6°	32	I60M3.5×8	WT15IP	---	---
S20R-SDQPR/L11	△	△	25	20	18	200	13	-6°	33			---	---

▲Stock available

△Make-to-order

Applicable inserts

Application	For extra finishing	
Inserts shape	USF	
	SF	
Tool holder type	☐ -SDQPR/L07	DP ☐ ☐ 0702 ☐ ☐
	☐ -SDQPR/L11	DP ☐ ☐ 11T3 ☐ ☐

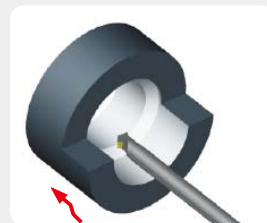
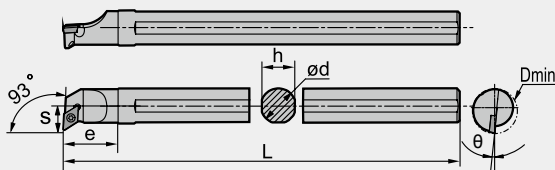


Corresponding tool holders of insert **DP** ☐ ☐ S-type clamping**SDUPR/L**

Kr:93°



R-type shown

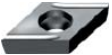


Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S10K-SDUPR/L07	▲	▲	15	10	9	125	9	-8°	18	I60M2.5×5.5	WT071P	---	---
S12M-SDUPR/L07	▲	△	16	12	11	150	9	-8°	19			---	---
S16Q-SDUPR/L07	△	△	20	16	15	180	11	-6°	25	I60M2.5×6.5			

▲Stock available

△Make-to-order

Applicable inserts

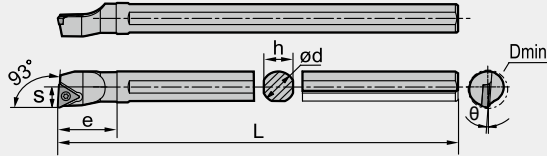
Application	For extra finishing
Inserts shape	USF  A109
	SF  A109
Tool holder type	DP□□0702□□

Corresponding tool holders of insert **TP** ☐ ☐ S-type clamping**STUPRIL**

Kr:93°



R-type shown



General turning

Internal turning tools

Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	h	L	S	θ	e			---	---
S10K-STUPR/L09	▲	△	12	10	9	125	6	-6°	20	I60M2.2×5.5	WT07IP	---	---
S12M-STUPR/L09	▲	△	16	12	11	150	8	-4°	22			---	---
S12M-STUPR/L11	▲	△	16	12	11	150	8	-4°	25	I60M2.5×6.5	WT07IP	---	---
S16Q-STUPR/L11	▲	△	20	16	15	180	10	-3°	27			---	---

▲Stock available

△Make-to-order

Applicable inserts

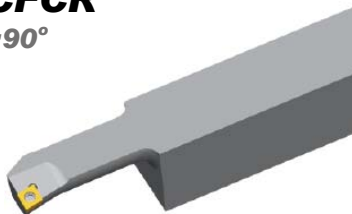
Application	For extra finishing
Inserts shape	SF  A111
Tool holder type	
☐ -STUPR/L09	TP ☐ ☐ 0902 ☐ ☐
☐ -STUPR/L11	TP ☐ ☐ 1103 ☐ ☐



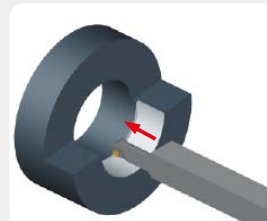
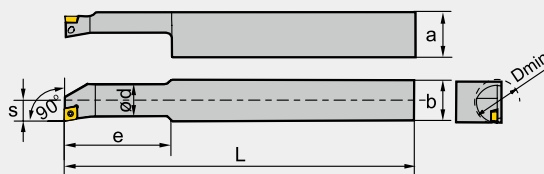
Corresponding tool holders of insert **CC** ☐ ☐ S-type clamping

SCFCR

Kr:90°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	L	s	a	b	e			---	---
S10M-SCFCR06S25	▲	△	13	10	150	7	27	25	30	I60M2.5×5.5	WT07IP	---	---
S12P-SCFCR06S25	▲	△	16	12	170	9	27	25	35	I60M2.5×6.5		---	---
S16Q-SCFCR09S25	△	△	20	16	180	11	27	25	40	I60M3.5×8	WT15IP	---	---
S20R-SCFCR09S25	▲	△	25	20	200	13	27	25	45			---	---
S25R-SCFCR12S25	▲	△	32	25	200	17	27	25	50	I60M5×13	WT20IP	---	---

▲Stock available

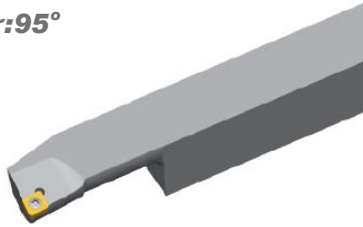
△Make-to-order

Applicable inserts

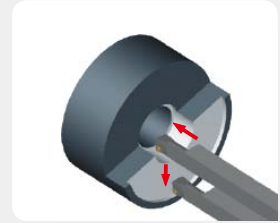
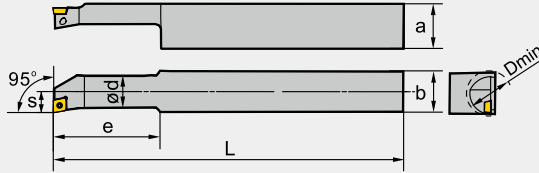
Application		For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	USF  A87	HF  A87	HM  A88	HR  A89	LH  A89	Without chipbreaker  A90	Without chipbreaker  A130	
	SF  A87	EF  A88	EM  A88		LC  A89		Without chipbreaker  A130	
Tool holder type	☐ ☐ -SCFCR06S25	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CCGX0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐
	☐ ☐ -SCFCR09S25	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CCGX09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐
	☐ ☐ -SCFCR12S25		CC ☐ ☐ 1204 ☐ ☐	CC ☐ ☐ 1204 ☐ ☐	CC ☐ ☐ 1204 ☐ ☐	CCGX1204 ☐ ☐	CC ☐ ☐ 1204 ☐ ☐	CC ☐ ☐ 1204 ☐ ☐

Corresponding tool holders of insert **CC** ☐ ☐ S-type clamping**SCLCR**

Kr:95°



R-type shown



General turning

Internal turning tools

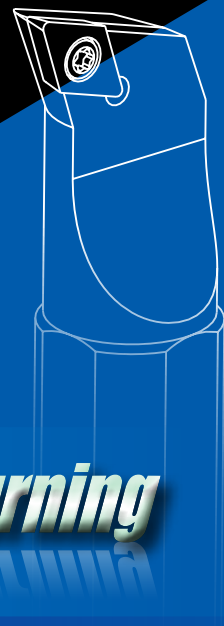
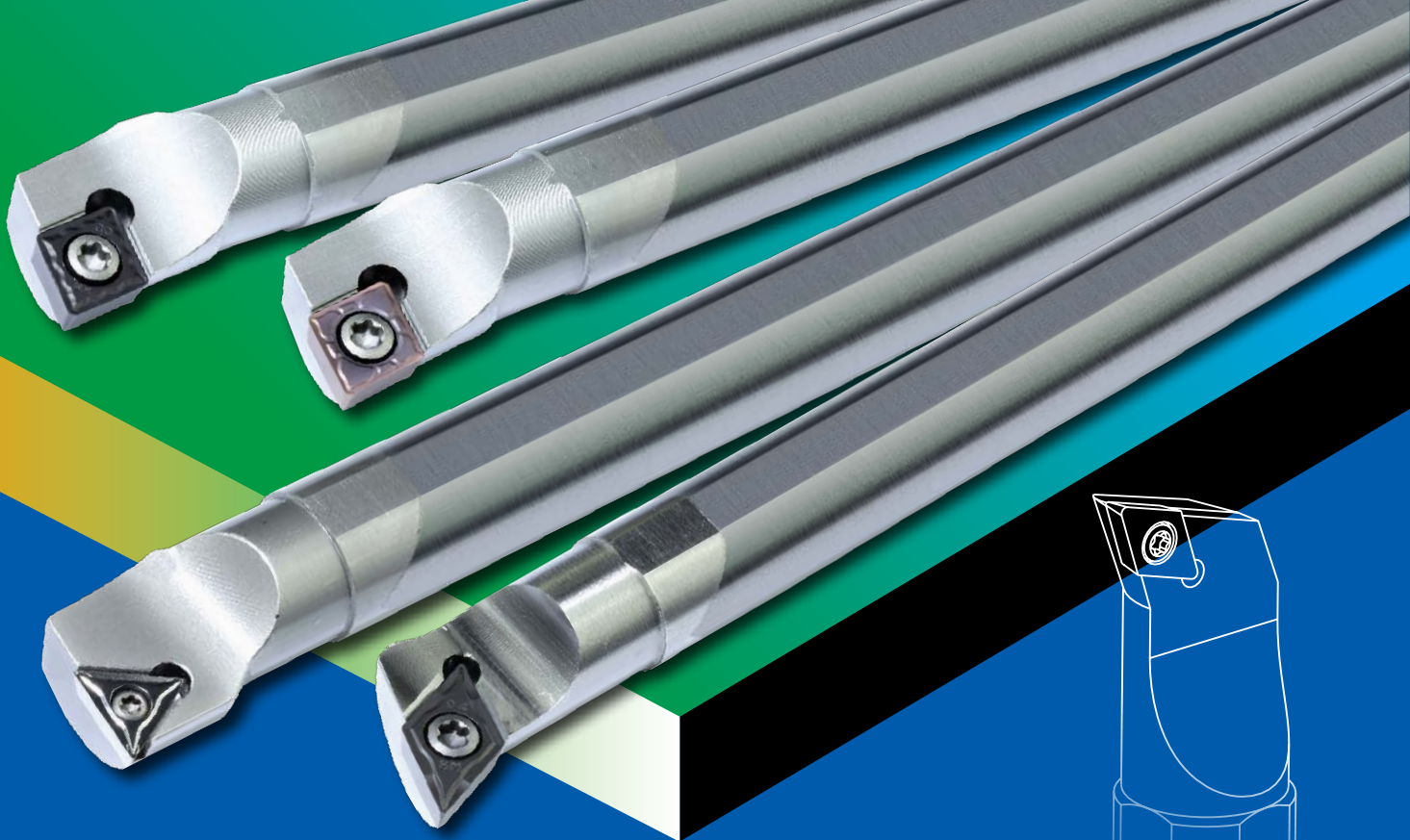
Type	Stock		Basic dimensions(mm)							Screw	Wrench	---	---
	R	L	Dmin	ød	L	s	a	b	e			---	---
S10M-SCLCR06S20	▲	△	13	10	150	7	22	20	30	I60M2.5×5.5	WT07IP	---	---
S12P-SCLCR06S20	▲	△	16	12	170	9	22	20	35			---	---
S16Q-SCLCR09S20	▲	△	20	16	180	11	22	20	40	I60M3.5×8	WT15IP	---	---
S20R-SCLCR09S20	▲	△	25	20	200	13	22	20	60			---	---

▲Stock available

△Make-to-order

Applicable inserts

Application		For extra finishing	For finishing	For semi-finishing	For roughing	For Al machining	For cast iron machining	PCBN/PCD inserts
Inserts shape	USF  A87	HF  A87	HM  A88	HR  A89	LH  A89	Without chipbreaker  A90	Without chipbreaker  A130	
	SF  A87	EF  A88	EM  A88		LC  A89		Without chipbreaker  A130	
Tool holder type	☐ ☐ -SCLCR06S20	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CCGX0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐	CC ☐ ☐ 0602 ☐ ☐
	☐ ☐ -SCLCR09S20	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CCGX09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐	CC ☐ ☐ 09T3 ☐ ☐



Damping tool holders for internal turning

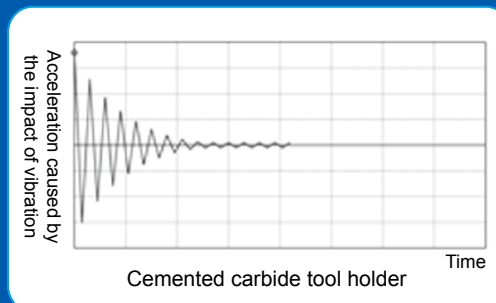
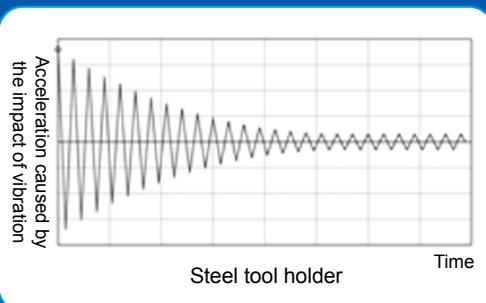
Technical features

Increasing material rigidity of tool holder can reduce the amplitude, or obtain larger overhang under the condition of same systemic stability. Therefore, compared with steel tool holder, cemented carbide tool holder has better dampening effect, smaller amplitude and reaches convergence point sooner. As for machining under the condition of long overhang and easy vibration, they can exert excellent performance and achieve higher dimensional accuracy and surface quality.



Under the same machining condition

the maximum overhang of cemented carbide tool holder can reach $L \leq 6D$, while the recommended maximum overhang of steel tool holder is $L \leq 3D$.

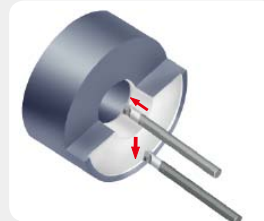
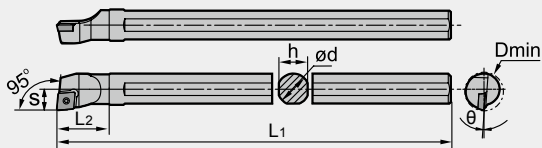


Corresponding tool holders of insert **CP** ☐ ☐ (Damping tool holder) S-type clamping**SCLPR/L**

Kr:95°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench		
	R	L	Dmin	ød	s	L1	L2	h	θ				
C10M-SCLPR/L06	▲	△	12	10	6	150	17	9	-7°	I60M2.5×5.5	WT07IP		
C12Q-SCLPR/L06	△	△	16	12	8	180	20	11	-4°				
C16R-SCLPR/L09	▲	△	20	16	10	200	29	15	-4°	I60M3.5×8	WT15IP		
C20S-SCLPR/L09	△	△	25	20	13	250	35	18	-4°				

▲Stock available

△Make-to-order

Applicable inserts

Application	For extra finishing	
Inserts shape	SF	
Tool holder type	☐ -SCLPR/L06	CP ☐ ☐ 0602 ☐ ☐
	☐ -SCLPR/L09	CP ☐ ☐ 09T3 ☐ ☐

A108



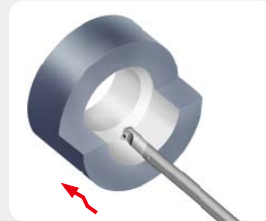
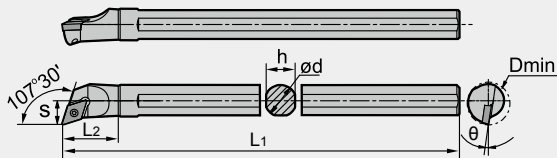
Corresponding tool holders of insert **DP** (Damping tool holder) S-type clamping

SDQPR/L

Kr:107°30'



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench		
	R	L	Dmin	ød	s	L1	L2	h	θ				
C10M-SDQPR/L07	▲	△	13	10	7	150	20	9	-8°	I60M2.5×5.5	WT07IP		
C12Q-SDQPR/L07	△	△	16	12	9	180	22	11	-8°				
C16R-SDQPR/L07	△	△	20	16	11	200	27	15	-6°				
C16R-SDQPR/L11	△	△	20	16	11	200	32	15	-6°	I60M3.5×8	WT15IP		
C20S-SDQPR/L11	▲	△	25	20	13	250	33	18	-6°				

▲Stock available

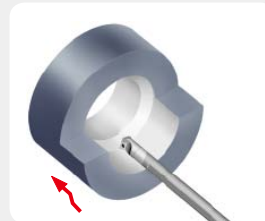
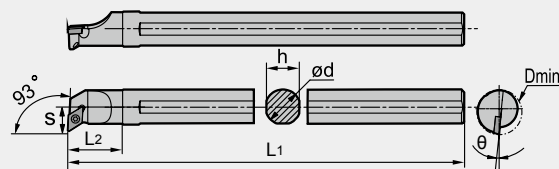
△Make-to-order

Applicable inserts

Application	For extra finishing
Inserts shape	SF 
Tool holder type	A109
□□-SDQPR/L07	DP□□0702□□
□□-SDQPR/L11	DP□□11T3□□

Corresponding tool holders of insert **DP** ☐ ☐ (Damping tool holder) S-type clamping**SDUPR/L****Kr:93°**

R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench		
	R	L	Dmin	ød	s	L1	L2	h	θ				
C10M-SDUPR/L07	△	△	15	10	9	150	18	9	-8°	I60M2.5×5.5 I60M2.5×6.5	WT07IP		
C12Q-SDUPR/L07	△	△	16	12	9	180	19	11	-8°				
C16R-SDUPR/L07	△	△	20	16	11	200	25	15	-6°				

▲Stock available

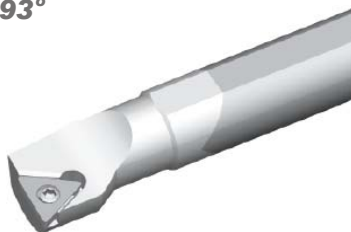
△Make-to-order

Applicable inserts

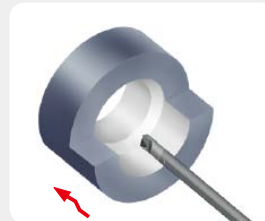
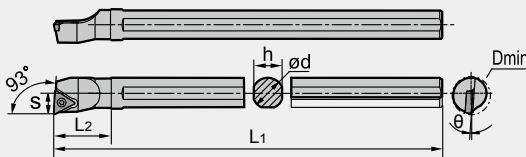
Application	For extra finishing
Inserts shape	SF  A109
Tool holder type	☐ ☐ -SDQPR/L07 DP ☐ ☐ 0702 ☐ ☐

Corresponding tool holders of insert **TP** ☐ ☐ (Damping tool holder) S-type clamping**STUPRIL**

Kr:93°



R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench		
	R	L	Dmin	ød	s	L1	L2	h	θ				
C10M-STUPR/L09	▲	△	12	10	6	150	20	9	-6°	I60M2.2×5.5	WT07IP		
C12Q-STUPR/L09	▲	△	16	12	8	180	22	11	-4°				
C12Q-STUPR/L11	▲	△	16	12	8	180	25	11	-4°	I60M2.5×6.5	WT07IP		
C16R-STUPR/L11	▲	△	20	16	10	250	27	15	-3°				

▲Stock available

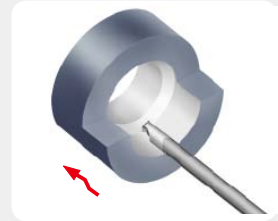
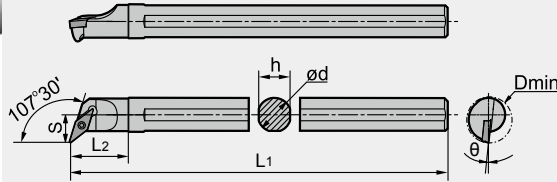
△Make-to-order

Applicable inserts

Application	For extra finishing	
Inserts shape	SF  A111	
Tool holder type	☐ -STUPR/L09	TP ☐ 0902 ☐
	☐ -STUPR/L11	TP ☐ 1103 ☐

Corresponding tool holders of insert **VC** (Damping tool holder) S-type clamping**SVQCR/L****Kr:107°30'**

R-type shown



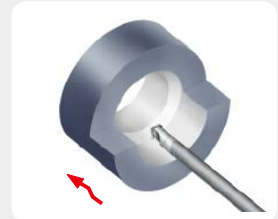
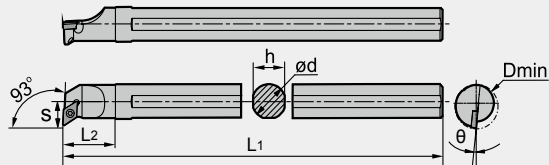
Type	Stock		Basic dimensions(mm)							Screw	Wrench		
	R	L	Dmin	ød	s	L1	L2	h	θ				
C16R-SVQCR/L11	△	△	22	16	13	200	28	15	-6°	I60M2.5×6.5	WT07IP		
C20S-SVQCR/L11	△	△	26	20	15	250	32	18	-4°				

▲Stock available

△Make-to-order

Corresponding tool holders of insert **VC** (Damping tool holder) S-type clamping**SVUCR/L****Kr:93°**

R-type shown



Type	Stock		Basic dimensions(mm)							Screw	Wrench		
	R	L	Dmin	ød	s	L1	L2	h	θ				
C16R-SVUCR/L11	△	△	24	16	15	200	25	15	-6°	I60M2.5×6.5	WT07IP		
C20S-SVUCR/L11	△	△	28	20	17	250	30	18	-4°				

▲Stock available

△Make-to-order

Applicable inserts

Application		For extra finishing	For finishing	For AI machining
Inserts shape	USF  A103	HF  A103	LH  A104	
	SF  A103		LC  A104	
Tool holder type	 - SVQCR/L11	VC□□1103□□	VC□□1103□□	VCGX1103□□
	 - SVUCR/L11	VC□□1103□□	VC□□1103□□	VCGX1103□□



Table of recommended cutting parameters for general turning

ISO	Materials	Hardness HB	CVD Coating						PVD Coating			Cermet	Coated cermet	Cemented carbide		Ceramic	
			YBC151	YBC251	YBC152	YBC252	YBC351	YBC352	YBG102	YBG202	YBG302	YNG151	YNG151C	YC10	YC40	CA1000	CN2000
			Feed rate (mm/rev)														
			0.1-0.6	0.1-0.8	0.1-0.6	0.1-0.8	0.2-1.0	0.2-1.0	0.2-0.4	0.1-0.6	0.05-0.8	0.05-0.2	0.05-0.2	0.1-0.4	0.1-0.5	0.1-1.5	0.1-1.5
			Cutting speed (m/min)														
P	Carbon steel	C=0.15%	125	430-200	430-190	500-270	480-240	380-165	430-220	460-220	380-180	360-165	550-350	580-350	360-165	300-145	800-300
		C=0.35%	150	380-180	410-180	460-250	460-230	300-150	350-200	440-210	300-170	280-150	500-300	520-300	280-150	220-130	600-200
		C=0.60%	200	330-150	350-150	400-220	400-200	260-130	310-180	380-180	260-150	240-130	460-260	480-260	240-130	180-80	400-150
	Alloy steel	Anneal	180	350-170	350-150	400-180	400-200	200-100	250-150	380-180	200-120	180-100	410-240	430-240	180-100	160-80	150-180
		Hardened	275	230-100	210-100	280-150	260-140	140-70	200-120	240-120	140-90	120-70	300-180	320-180	120-70	120-50	350-120
		Hardened	300	210-100	190-70	260-150	240-120	125-60	180-110	220-100	125-80	100-60	250-170	270-170	100-60	80-40	300-100
	High alloy steel	Hardened	350	180-80	170-70	230-120	220-120	110-55	160-100	200-100	110-75	90-55	230-150	250-150	90-55	70-45	300-80
		Anneal	200	320-150	260-120	360-190	310-170	175-80	220-130	290-150	175-100	155-80	350-200	370-200	155-80	135-60	400-150
	Cast steel	Hardene	325	140-90	100-50	190-130	150-100	85-40	140-90	130-80	85-60	65-40	170-110	190-110	65-40	45-30	300-100
		Non-Alloy	180	240-120	200-100	280-160	250-140	135-75	190-130	230-125	135-95	115-75	260-170	280-170	115-75	95-55	600-220
		Low alloy	200	230-70	170-60	280-110	220-110	120-80	170-130	200-90	120-100	100-80	260-170	280-170	100-80	80-60	400-150
		High alloy	225	160-70	140-50	210-110	190-100	95-55	150-110	170-80	95-55	95-55	260-100	280-100	95-55	75-35	350-120
ISO	Materials	Hardness HB	CVD Coating						PVD Coating			Cermet	Coated cermet				
			YBM151	YBM153	YBM251	YBM253			YBG202	YBG205	YBG302	YNG151	YNG151C				
			Feed rate (mm/rev)														
			0.2-0.6	0.2-0.6	0.2-0.6	0.2-0.6			0.1-0.4	0.2-0.4	0.2-0.6	0.1-0.3	0.1-0.3				
			Cutting speed (m/min)														
M	Stainless steel	Ferrite	180	280-180	280-180	250-140	260-140			300-190	290-190	250-150	330-220	350-210			
		Austenite	260	250-150	250-150	200-110	210-110			250-160	240-160	220-120	250-150	270-140			
		Martensite	330	200-140	200-140	210-130	220-130			260-170	250-170	210-120	270-170	290-160			

Recommended table of cutting parameters for general turning

ISO	Materials		Hardness HB	CVD Coating					Cermet	Coated cermet	Ceramic			Cemented carbide	
				YBD052	YBD151	YBD102	YBD152	YBD252	YNG151	YNG151C	CA1000	CN1000	CN2000	YC10	YC40
				Feed rate (mm/rev)											
				0.1-0.4	0.1-0.6	0.1-0.4	0.1-0.5	0.1-0.8	0.1-0.4	0.1-0.4	0.1-1.5	0.1-1.5	0.1-1.5	0.1-0.3	0.1-0.4
				Cutting speed (m/min)											
K	Malleable cast iron	Ferrite	130	350-230	315-210	330-220	320-105	250-170	280-160	300-180	1200-200	800-600	800-600	150-90	105-45
		Pearlite	230	250-105	225-95	230-100	230-100	180-75	220-120	240-150	1000-200	700-500	700-500	120-70	80-30
	Low cast iron		180	520-200	450-180	480-200	480-190	380-150	400-250	420-270	1200-200	800-600	700-500	170-100	130-60
	High cast iron		260	230-120	210-110	220-115	210-100	170-90	360-240	380-260	1000-200	750-500	800-600	130-70	95-40
	Nodular cast iron	Ferrite	160	310-150	285-140	300-150	290-140	220-110	330-190	350-210	800-200	600-450	600-450	140-80	115-45
		Pearlite	250	230-110	210-100	220-105	210-100	170-90	310-200	330-220	700-200	500-350	500-350	110-70	80-30
ISO	Materials		Hardness HB	PVD Coating		Cemented carbide	CBN		PCD						
				YBG102	YBG105	YD101	YCB011	YCB012	YCD011						
				Feed rate (mm/rev)											
				0.05-0.15	0.05-0.15	0.05-0.35	0.05-0.5	0.05-0.2	0.05-0.5						
				Cutting speed (m/min)											
N	Al alloy	No heat treatment	60			1750-800			<2500						
		Heat treatment	100			510-250			<2500						
	Cast aluminum alloy	No heat treatment	75			460-175			<2500						
		Heat treatment	90			300-110			<2500						
	Copper alloy	Lead alloy	110			610-205			630-65						
		Copper, pure copper	90			310-195			630-65						
		Copper, nonleaded Copper, electrolytic copper	100			225-115			375-30						
S	Ni-base alloy	Ni-base alloy	40	90-30	90-40	70-20									
H	Other materials	Hard steel	45 HRC					350-225							
		Super hard steel	50~60 HRC					250-135							
		Chilled cast iron	500				180-120								



Table of correctional cutting parameters of internal turning

Internal turning tools by P-type clamping

	Workpiece material	Hardness HB	Machining category	L/D≤3		L/D=3-4 (Diameter of shank≥Φ 16mm)	
				Feed rate (mm/rev)	Cutting depth (mm)	Feed rate (mm/rev)	Cutting depth (mm)
P	Carbon steel, Alloy steel 45#, 42CrMo	HB180—280	For semi-finishing	0.1- 0.25 -0.4	<5.0	0.1- 0.2 -0.3	<4.0
M	Stainless steel 1Cr18Ni9Ti 0Cr18Ni9	≤HB220	For semi-finishing	0.1- 0.2 -0.3	<4.0	0.1- 0.15 -0.25	<3.0
K	Cast iron HT250	HB170—230	For semi-finishing	0.1- 0.25 -0.4	<5.0	0.1- 0.2 -0.3	<4.0

Internal turning tools by S-type clamping

	Workpiece material	Hardness HB	Machining category	L/D≤3		L/D=4		L/D=5		L/D=6	
				Feed rate (mm/rev)	Cutting depth (mm)	Feed rate (mm/rev)	Cutting depth (mm)	Feed rate (mm/rev)	Cutting depth (mm)	Feed rate (mm/rev)	Cutting depth (mm)
P	Carbon steel, Alloy steel 45#, 42CrMo	HB180-280	For finishing	0.05- 0.1 -0.15	<0.2	0.05- 0.1 -0.15	<0.2				
			For semi-finishing	0.15- 0.25 -0.35	<3.0	0.1- 0.15 -0.2	<1.5				
M	Stainless steel 1Cr18Ni9Ti 0Cr18Ni9	≤HB220	For finishing	0.05- 0.1 -0.15	<0.2	0.05- 0.1 -0.15	<0.2				
			For semi-finishing	0.15- 0.2 -0.25	<2.0	0.1- 0.15 -0.2	<1.0				
N	Al Alloy	---	For finishing	0.05- 0.1 -0.15	<0.2	0.05- 0.1 -0.15	<0.2	0.05- 0.1 -0.15	-0.15	0.05- 0.1 -0.15	<0.1
			For semi-finishing	0.05- 0.1 -0.15	<2.0	0.05- 0.1 -0.15	<1.5	0.05- 0.1 -0.15	-1.0	0.05- 0.1 -0.15	<1.0

Damping internal turning tools

	Workpiece material	Machining conditions	Chipbreaker	Inserts material	Feed rate (mm/rev)	Cutting depth (mm)
P	Steel HB180—280	For finishing	SF	YNG151 YNG151C	0.05- 0.2 -0.35	0.05- 0.1-0.3 -0.5
M	Stainless steel ≤HB220				0.05- 0.2 -0.35	0.05- 0.1-0.3 -0.5
K	Cast iron HB170—230				0.05- 0.2 -0.35	0.05- 0.1-0.3 -0.5

Blue words are recommended cutting parameters.

Frequent problems of turning and solutions

Common problem	Cause	Tool material		Cutting conditions				Tool shape						Machine clamping system			
		Harder materials	Tougher materials	Cutting speed	Feed rate	Cutting depth	Cutting liquid	Change chipbreaker of inserts	Rake face	Nose radius	Approach angle	Cutting edge strength	Inserts	Increase precision of tool holder	Clamping of tool holder and workpiece	Overhang of tool holder	Power gap
Over abrasion on nose	Bad precision during machining	Abrasion intensified on flank	✓							↑							
		Unsuitable cutting conditions		↓	↑												
Surface precision deterioration	Bad surface quality	Abrasion intensified and cutting edge not sharp enough	✓	↓			✓		↑	↑		↓	✓				
		Cutting edge breakage		✓	↓	↓		✓		↑		↑			✓	✓	✓
		Unsuitable geometrical shape of cutting edge						✓		↑		↓	✓				
		Unsuitable cutting conditions		↑	↓	↓	✓										
		Vibration	✓	↑	↓	↓	✓	✓	↑	↓	↑	↓		✓	✓	✓	✓
		Built-up edge		↑	↑		✓	✓	↑			↓	✓				
Radiation of cutting heat	Effect of cutting heat	Unsuitable cutting conditions		↓	↓	↓											
		Unsuitable geometrical shape of cutting edge	✓					✓	↑			↓					
Bad precision of dimensions	Dimensions fluctuate during cutting	Insert tolerance											✓				
		Offset of workpiece or tools						✓	↑	↓	↑			✓	✓	✓	✓
Breakage	Abrasion on flank and rake face	Abrasion on clearance face	✓	↓				✓	↑	↑		↓					
		Abrasion on rake face	✓	↓	↓	↓		✓	↑			↓					
	Edge chipping	Vibration and impact		✓	↓	↓		✓				↓	↑		✓	✓	✓
	Built-up edge	Unsuitable workpiece hardness for cutting conditions			↑	↑		✓	↑			↓	✓				
	Thermal cracking	Hardness of workpiece material and tool material unsuitable for cutting conditions			↓	↓	↓	✓	↑			↓					
	Cutting edge nose deformation	Occurring during intermittent machining with high feed rate	✓		↑	↓	↓	✓	↑	↑	↓	↓					
	Tool life	Unsuitable materials and cutting conditions		✓	↓	↓		✓		↑	↓	↑		✓	✓	✓	✓
Chip controlling	Long, unbroken and snarled chips	Unsuitable cutting condition		↓	↑	↑	✓										
		Unsuitable geometry						✓		↓	↑						
	Too short and hard chips	Unsuitable cutting condition			↓	↓	✓										
		Unsuitable geometrical shape of cutting edge						✓		↑	↓						
Burr and knockdown flange	Steel and Al, burrs occurring	Unsuitable cutting condition		↑	↓		✓										
		Tool abrasion and unsuitable geometrical shape	✓					✓	↑	↓	↑	↓					
	Edge break out on cast iron	Unsuitable cutting conditions		↓	↑		✓										
		Tool abrasion and unsuitable geometrical shape	✓					✓	✓	↓	↓	↓					
	Heavy burr on soft steel	Unsuitable cutting condition			↓	↓											
		Tool abrasion and unsuitable geometrical shape	✓					✓	↑	↑		↑		✓	✓	✓	✓



Abrasion of tools and various damages

Tool damage type	Phenomenon	Cause	Solution
Flank wear	Cutting resistant force increasing Groove wear on flank	Tool material is too soft. Cutting speed is too high. Clearance angle is too small. Feed rate is too low.	◆Select tool materials with good wear resistance. ◆Reduce cutting speed. ◆Enlarge clearance angle. ◆Increase feed rate.
Rake face wear (Crater wear)	Bad chip controlling Surface quality deterioration	Tool material is too soft. Cutting speed is too high. Feed rate is too high.	◆Select tool materials with good wear resistance. ◆Reduce cutting speed. ◆Reduce feed rate.
Cutting edge breakage	Occasional breakage Instability of tool life	Tool material is too hard. Feed rate is high. Cutting edge strength is not high enough. Rigidity of tool holder and tool bar is small.	◆Select tool materials with good toughness. ◆Reduce feed rate. ◆Increase land width (if rounding changes into chamfering). ◆Enlarge tool bar size.
Breakage	Cutting resistant force increasing Deterioration of surface roughness	Tool material is too hard. Feed rate is high. Cutting edge strength is not high enough. Rigidity of tool holder and tool bar is low.	◆Select tool materials with good toughness. ◆Reduce feed rate. ◆Increase land width (if rounding changes into chamfering). ◆Enlarge tool bar size.
Plastic deformation (Cutting edge collapse)	Workpiece dimensions change Nose abrasion	Tool material is too soft. Cutting speed is too high. Cutting depth and feed rate are too high. Cutting edge temperature is too high.	◆Select tool material with good wear resistance ◆Reduce cutting speed. ◆Reduce cutting depth and feed rate. ◆Select tool materials with good heat conductivity.
Built-up edge (Bonding)	Surface quality deterioration during finishing Cutting resistant force increasing	Cutting speed is low. Cutting edge is not sharp enough. Tool material is unsuitable.	◆Increase cutting speed. ◆Enlarge rake angle. ◆Select tool materials that are not easy to adhere together (coating, cermet, etc.)
Thermal cracking	Damage because of thermal circulation Normally occurring during intermittent machining	Premature edge failure due to thermal cracks. Tool material is too hard.	◆Adopt dry cutting. ◆Select tool materials with good toughness.
Chattering	burrs occurring Cutting resistant force increasing	Feed rate and cutting speed are too high.	◆Select tool materials with good wear resistance. ◆Sharpen cutting edge by enlarging rake angle. ◆Reduce cutting speed.
Flaking	Usually occurring when machining super hard materials, which is accompanied with vibration	Bonding occurs on cutting edge. Chip flow is obstructed.	◆Sharpen cutting edge by enlarging rake angle. ◆Enlarge chip pocket.