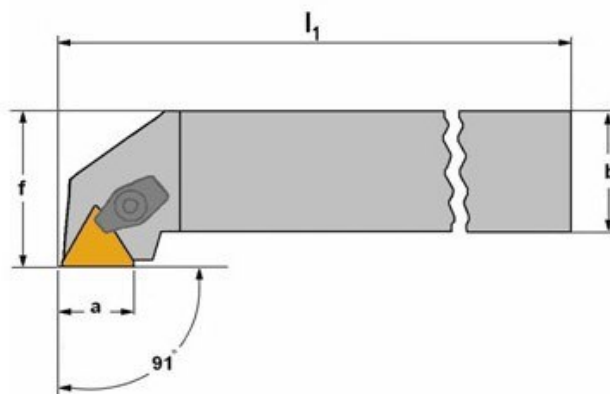
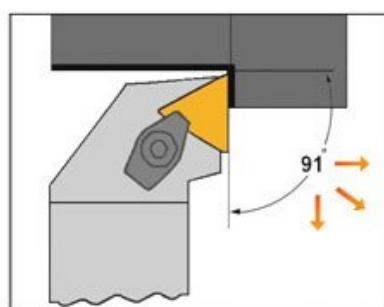
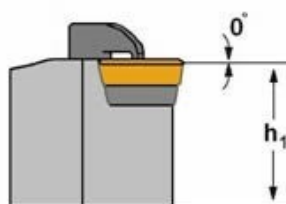
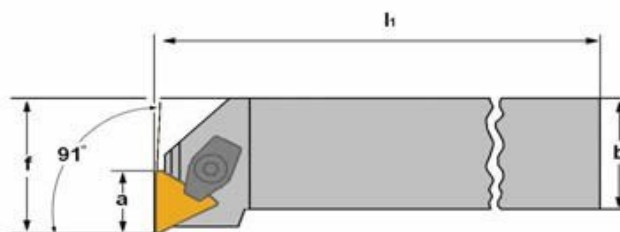
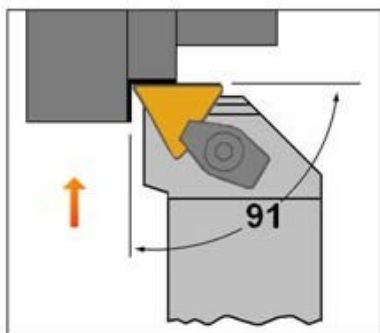


**CTGP R/L****91°** : هلدر رو تراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	l	a	f	Shim	clamp set	Shim pin	TPGR,TPMR TPUN,TPGN
CTGPR/L 1616H11	16	16	100	10	20	—	CL51	—	<b>TPMR 1103</b>
CTGPR/L 2020 k11	20	20	125	10	25	—	CL51	—	<b>TPMR 1103</b>
CTGPR/L 2525M16	25	25	150	14.5	32	ST 163	CL61	PT163	<b>TPMR 1603</b>

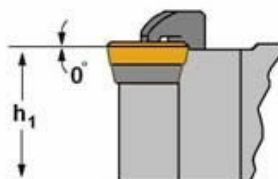
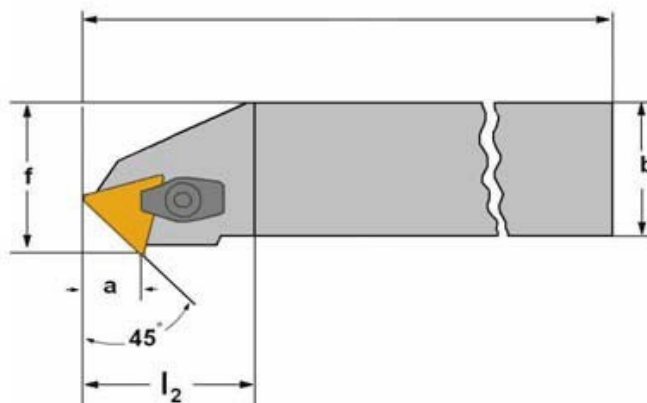
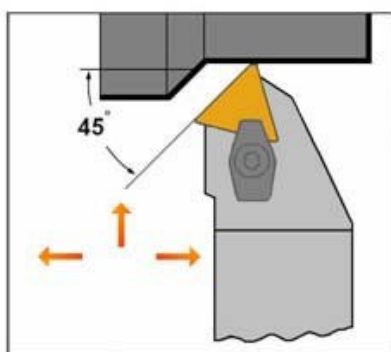
## CTFP R/L

° 91 : هلدر رو تراش

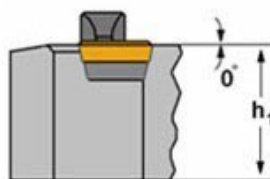
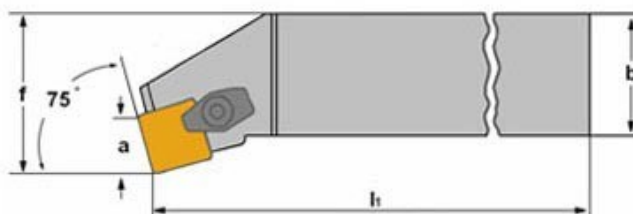
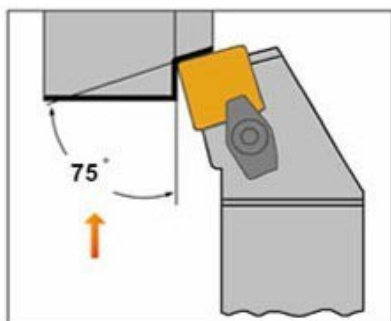


## Holder

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	h <sub>1</sub>	f	a	Shim	clamp set	Shim pin	
CTFP R/L 1616 H11	16	16	100	20	10	—	CL51	—	TPGR,TPMR TPUN,TPGN <b>TPMR 1103</b>
CTFP R/L 2020 K16	20	20	125	25	14.5	ST 163	CL61	PT163	<b>TPMR 1603</b>
CTFP R/L 2525 M16	25	25	150	32	14.5	ST 163	CL61	PT163	<b>TPMR 1603</b>

**CTDP R/L****45° :** هلدر رو تراش**Holder**

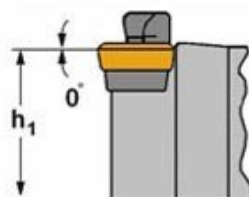
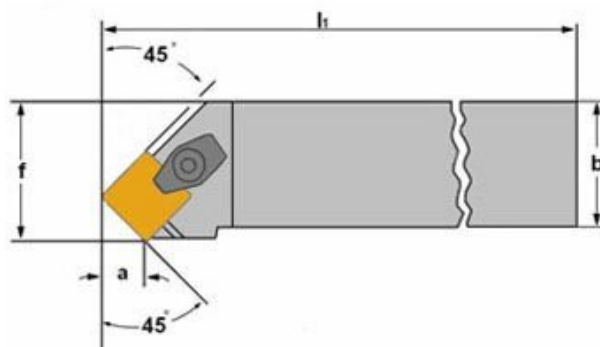
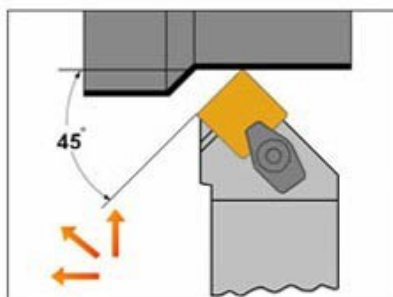
Ordering number ISO	Dimensions is mm						Spare parts			Inserts
	$h$	$b$	$h_1$	$l_2$	$f$	$a$	Shim	clamp set	Shim pin	
CTDP R/L 1616 H11	16	16	100	22	17	6.9	—	CL51	—	TPGR,SPMR TPUN,SPGN <b>TPMR 1103</b>
CTDP R/L 20 20 K16	20	20	125	27.4	22	10	—	CL61	—	<b>TPMR 1603</b>
CTDP R/L 2525 M16	25	25	150	27.4	27	10	—	CL61	—	<b>TPMR 1603</b>

**CSKP R/L****75°** : هلدر رو تراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	$h$	$b$	$h$	$f$	$a$	Shim	clamp set	Shim pin	SPGR,SPMR SPUN,SPGN
CSKP R/L 2020 K 09	20	20	125	25	8.5	SS 123	CL61	PT163	<b>SPMR 1203</b>
CSKP R/L 2525 M12	25	25	150	32	11.3	SS 123	CL61	PT163	<b>SPMR 1203</b>

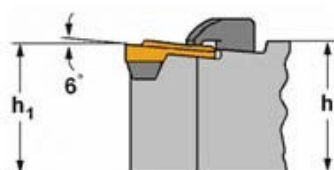
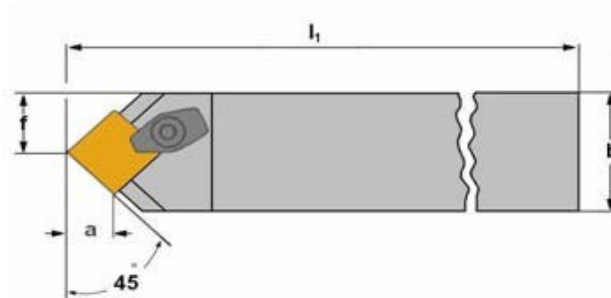
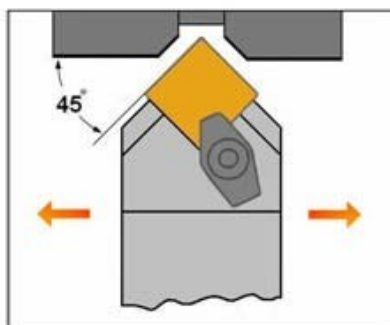
## CSDP R/L

45° : هلدر رو تراش



## Holder

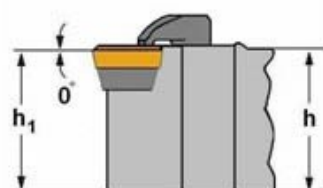
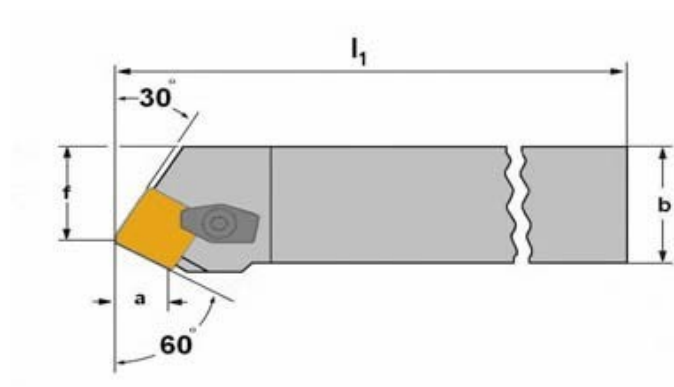
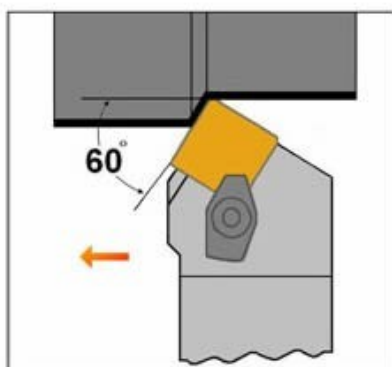
Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	l <sub>1</sub>	f	a	Shim	clamp set	Shim pin	
CSDP R/L 2020 K12	20	20	125	22	8.1	SS 123	CL61	PT163	SPMR 1203
CSDP R/L 2525 M12	25	25	150	27	8.1	SS 123	CL61	PT163	SPMR 1203

**CSDPN****45°** : هلدر رو تراش**Holder**

Ordering number ISO		Dimensions is mm					Spare parts			Inserts
		<b>h</b>	<b>b</b>	<b>l<sub>1</sub></b>	<b>f</b>	<b>a</b>	Shim	clamp set	Shim pin	SPGR,SPMR SPUN,SPGN
<b>CSDPN</b>	<b>2020 K12</b>	20	20	125	10.3	8.1	SS 123	CL61	PT163	<b>SPMR 1203</b>
<b>CSDPN</b>	<b>2525 M12</b>	25	25	150	12.8	8.1	SS 123	CL61	PT163	<b>SPMR 1203</b>

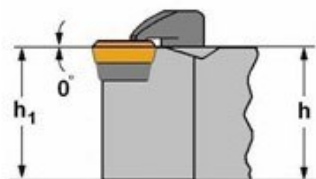
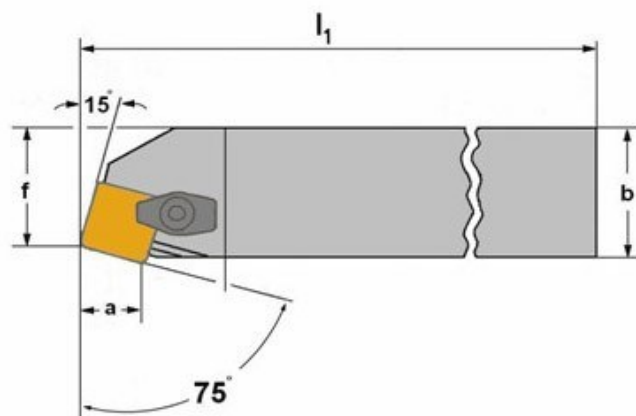
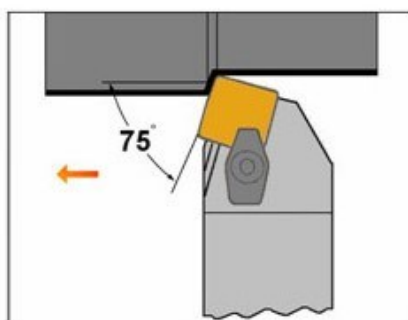
## CSTP R/L

60° : هلدر رونراش



## Holder

Ordering number ISO	Dimensions is mm						Spare parts			Inserts
	h	b	h	a	f		Shim	clamp set	Shim pin	
CSTPR/L 2020 K12	20	20	125	10	17		SS 123	CL61	PT163	SPGR,SPMR SPUN,SPGN <b>SPMR 1203</b>
CSTPR/L 2525 M12	25	25	150	10	22		SS 123	CL61	PT163	<b>SPMR 1203</b>

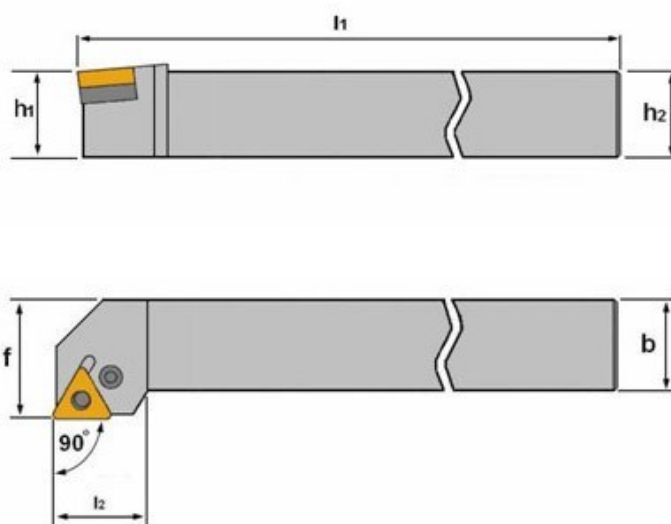
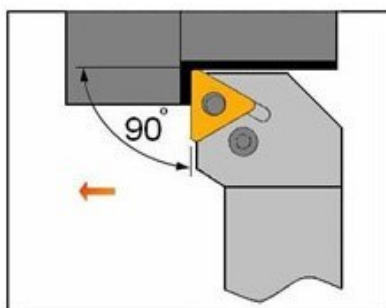
**CSBP R/L****75°** : هلدر روتراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	<b>h</b>	<b>b</b>	<b>l</b>	<b>a</b>	<b>f</b>	Shim	clamp set	Shim pin	SPGR,SPMR SPMR,SPGN
CSBP R/L 2020K12	20	20	125	11.3	17	SS123	CL61	PT163	<b>SPMR 1203</b>
CSBP R/L 2525 M12	25	25	150	11.3	22	SS123	CL61	PT163	<b>SPMR 1203</b>



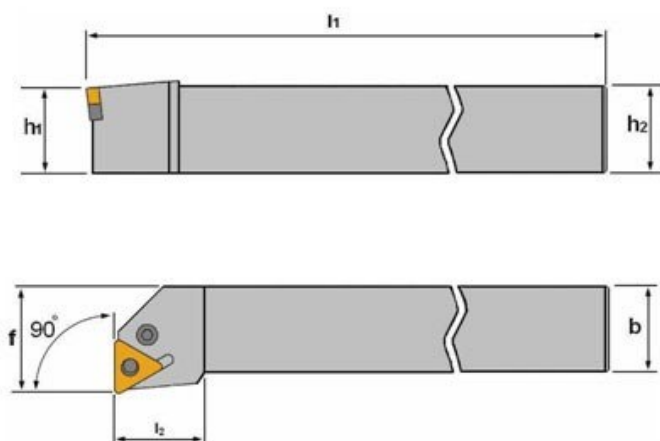
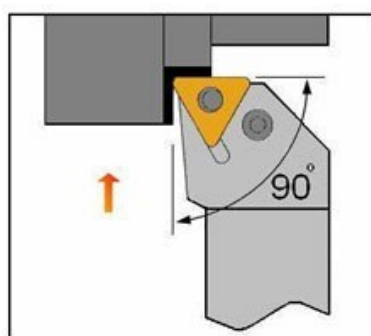
PTGN R/L

90° : هلدنر روتراش

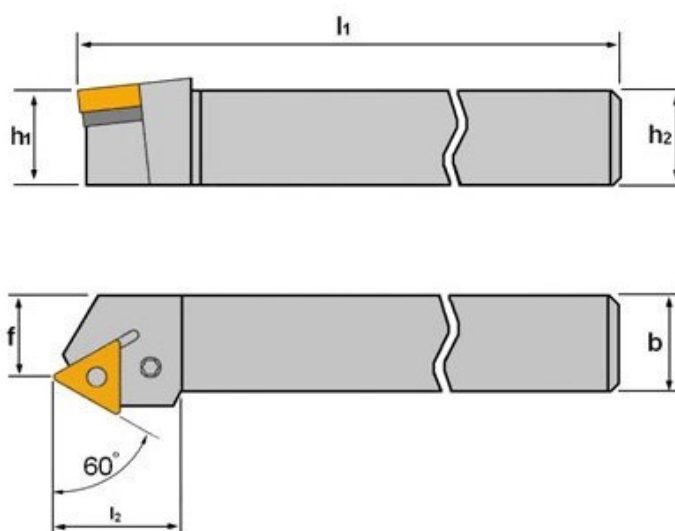
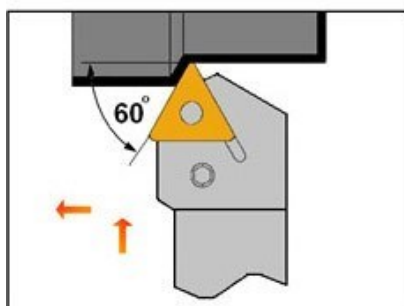


## Holder

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	l1	l2	f	Shim	Lever	Screw	Shim pin	
PTGNR/L 1616H16	16	16	100	20	20	ST161	LT161	CT161	PT161	TNMG 1603
PTGNR/L 2020K16	20	20	125	20	25	ST161	LT161	CT161	PT161	TNMG 1603
PTGNR/L 2525M16	25	25	150	22	32	ST161	LT161	CT161	PT161	TNMG 1603
PTGNR/L 2525M22	25	25	150	29	32	ST221	LT221	CT221	PT221	TNMG 2204
PTGNR/L 3225P22	32	25	170	29	32	ST221	LT221	CT221	PT221	TNMG 2204
PTGNR/L 3232P22	32	32	170	29	40	ST221	LT221	CT221	PT221	TNMG 2204

**PTFN R/L**هلدر روتراش :  $90^\circ$ **Holder**

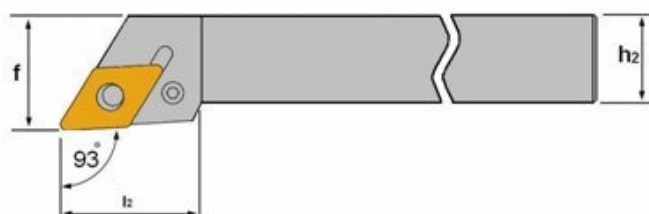
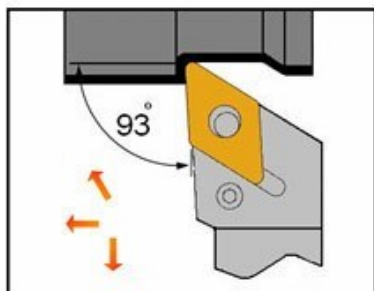
Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	h <sub>1</sub>	l <sub>2</sub>	f	Shim	Lever	Screw	Shim pin	
PTFNR/L 1616H16	16	16	100	20	20	ST161	LT161	CT161	PT 161	TNMG 1603
PTFNR/L 2020K16	20	20	125	20	25	ST161	LT161	CT161	PT 161	TNMG 1603
PTFNR/L 2525M16	25	25	150	22	32	ST161	LT161	CT161	PT 161	TNMG 1603
PTFNR/L 2525M22	25	25	150	25	32	ST221	LT221	CT221	PT 221	TNMG 2204
PTFNR/L 3225P22	32	25	170	25	32	ST221	LT221	CT221	PT 221	TNMG 2204
PTFNR/L 3232P22	32	32	170	25	40	ST221	LT221	CT221	PT 221	TNMG 2204

**PTTN R/L****60°:** هلدر رو تراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	l <sub>1</sub>	l <sub>2</sub>	f	Shim	Lever	Screw	Shim pin	
<b>PTTNR/L 1616H16</b>	16	16	100	24	13	ST161	LT161	CT161	PT 161	<b>TNMG 1603</b>
<b>PTTNR/L 2020K16</b>	20	20	125	26	17	ST161	LT161	CT161	PT 161	<b>TNMG 1603</b>
<b>PTTNR/L 2525M22</b>	25	25	150	32	22	ST221	LT221	CT221	PT 221	<b>TNMG 2204</b>
<b>PTTNR/L 3225P22</b>	32	25	170	32	22	ST221	LT221	CT221	PT 221	<b>TNMG 2204</b>

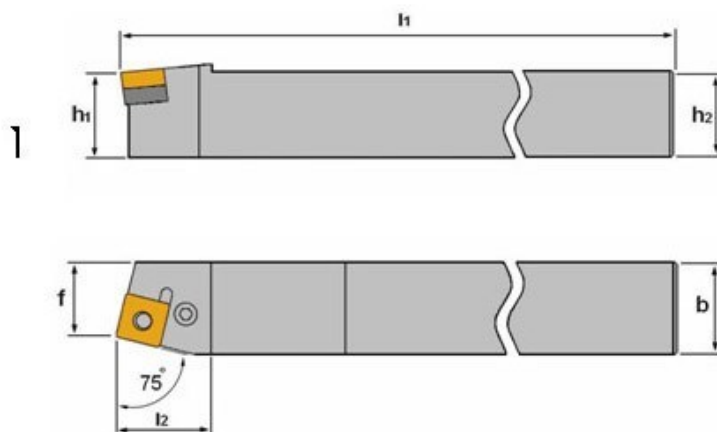
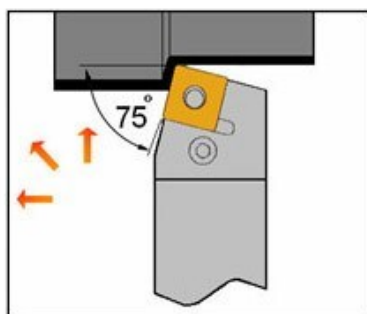
**PDJN R/L**

**93°:** هلدرو روتراش



## Holder

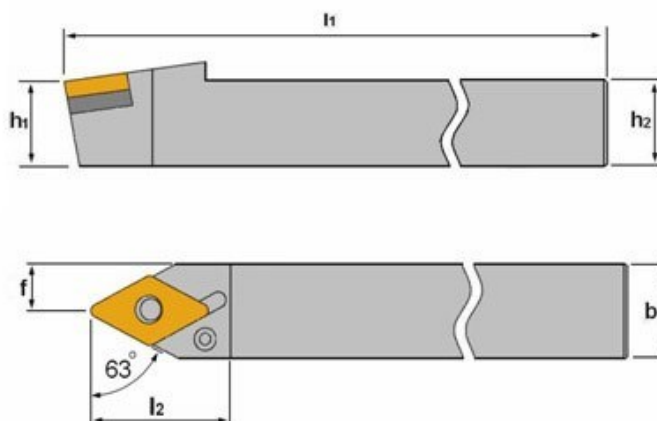
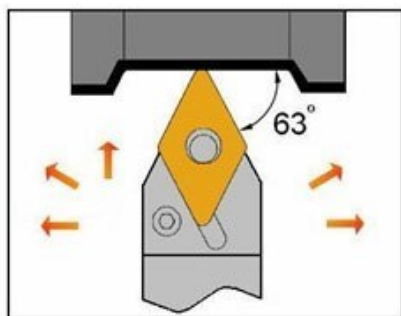
Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	l1	l2	f	Shim	Lever	Screw	Shim pin	
PDJNR/L 2020K15	20	20	125	35	25	SD151	LD151	CD151	PT 221	<b>DNMG 1506</b>
PDJNR/L 2525M15	25	25	150	35	32	SD151	LD151	CD151	PT 221	<b>DNMG 1506</b>
PDJNR/L 3232P15	32	32	170	35	40	SD151	LD151	CD151	PT 221	<b>DNMG 1506</b>

**PSBN R/L****75°:** هلدرب رو تراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	$h$	$b$	$h_1$	$l_2$	$f$	Shim	Lever	Screw	Shim pin	SNMA,SNMM SNMG
<b>PSBNRL 1616H09</b>	16	16	100	21	13	SS091	LT161	CT161	PT161	<b>SNMG 0903</b>
<b>PSBNRL 2020K12</b>	20	20	125	28	17	SS121	LT221	CT221	PT 221	<b>SNMG 1204</b>
<b>PSBNRL 2525M12</b>	25	25	150	28	22	SS121	LT221	CT221	PT 221	<b>SNMG 1204</b>
<b>PSBNRL 3232P19</b>	32	32	170	40	27	SS191	LS191	CS191	PS191	<b>SNMG 1906</b>

## PDNNN

63° هلدرو تراش

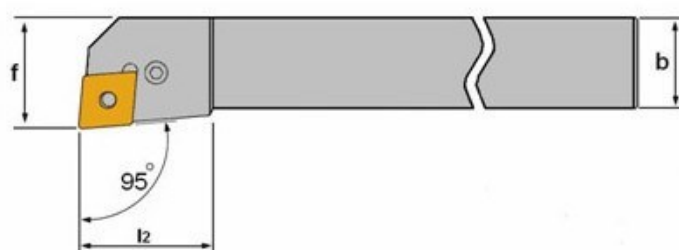
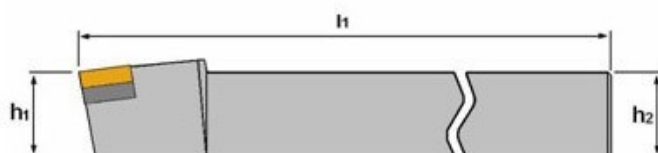
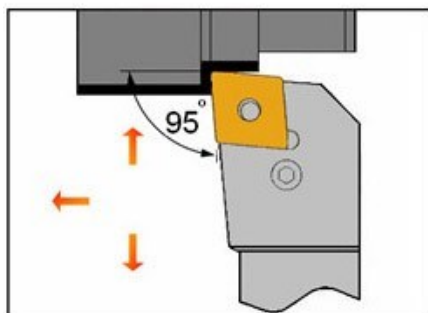


## Holder

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	h1	l2	f	Shim	Lever	Screw	Shim pin	
PDNNN 2525M15	25	25	0	36	12.5	SD151	LD151	CD151	PT 221	DNMG 1506
PDNNN 3225P15	32	25	0	36	12.5	SD151	LD151	CD151	PT 221	DNMG 1506
PDNNN 4025P15	40	25	0	36	12.5	SD151	LD151	CD151	PS 221	DNMG 1506

PCLN R/L

95°: هلدرك رو تراش



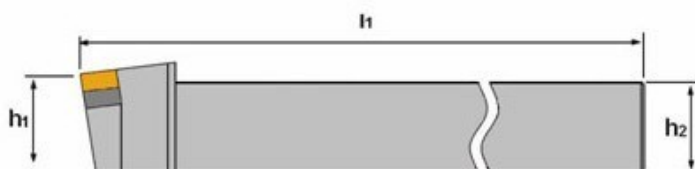
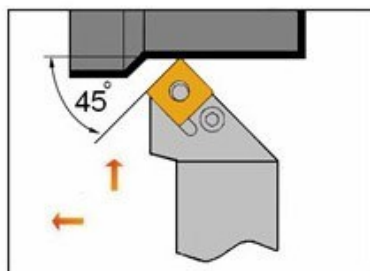
## Holder

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	h1	l2	f	Shim	Lever	Screw	Shim pin	
PCLNR/L 1616H09	16	16	100	25	20	SC091	LT161	CT161	PT161	CNMG 0903
PCLNR/L 2020K12	20	20	125	30	25	SC121	LT221	CT221	PT 221	CNMG 1204
PCLNR/L 2525M12	25	25	150	30	32	SC121	LT221	CT221	PT 221	CNMG 1204
PCLNR/L 2525M19	25	25	150	38	32	SC191	LS191	CS191	PS191	CNMG 1906
PCLNR/L 3225P19	32	25	170	38	32	SC191	LS191	CS191	PS191	CNMG 1906
PCLNR/L 3232P19	32	32	170	38	40	SC191	LS191	CS191	PS191	CNMG 1906



**PSSN R/L**

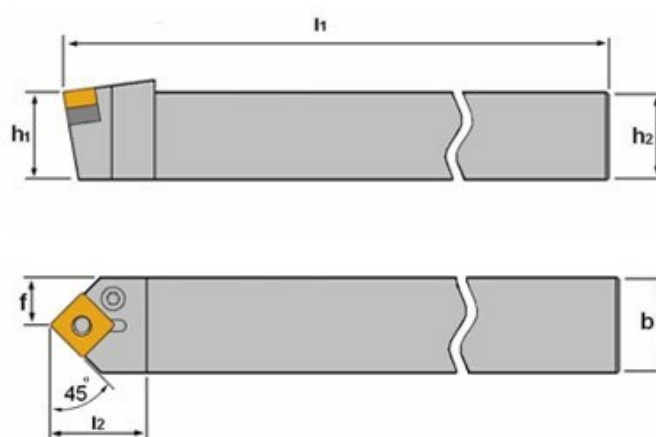
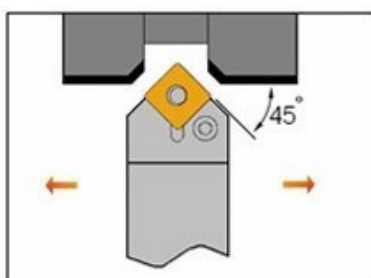
**45°:** هلدركه رو تراش



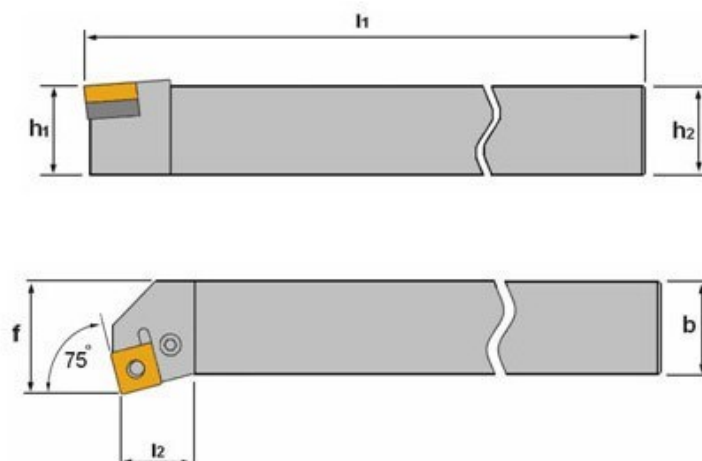
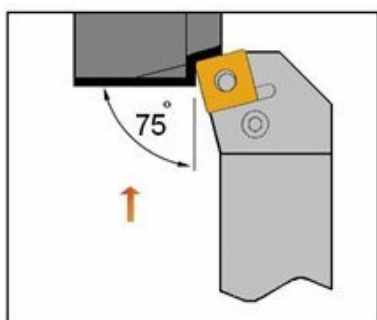
## Holder

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	h	l2	f	Shim	Lever	Screw	Shim pin	SNMA, SNMM SNMG
PSSNR/L 1616H09	16	16	100	22	20	SS091	LT161	CT161	PT161	SNMG 0903
PSSNR/L 2020K12	20	20	125	30	25	SS121	LT221	CT221	PT 221	SNMG 1204
PSSNR/L 2525M12	25	25	150	30	32	SS121	LT221	CT221	PT 221	SNMG 1204
PSSNR/L 3232P19	32	32	170	42	40	SS191	LS191	CS191	PS191	SNMG 1906



**PSDNN****45°:** هلدرك رو تراش**Holder**

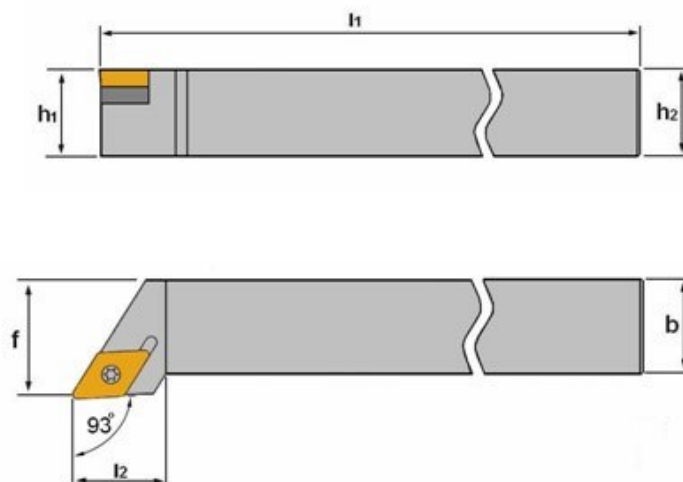
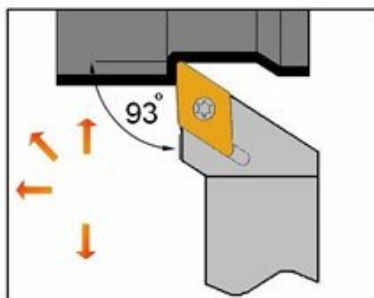
Ordering number ISO		Dimensions is mm					Spare parts				Inserts
		h	b	h <sub>1</sub>	l <sub>2</sub>	f	Shim	Lever	Screw	Shim pin	SNMA, SNMM SNMG
PSDNN	1616H09	16	16	100	21	8.3	SS091	LT161	CT161	PT 161	SNMG 0903
PSDNN	2020K12	20	20	125	28	10	SS121	LT221	CT221	PT 221	SNMG 1204
PSDNN	2525M12	25	25	150	28	13	SS121	LT221	CT221	PT 221	SNMG 1204
PSDNN	3232P19	32	32	170	41	16	SS191	LS191	CS191	PS 191	SNMG 1906

**PSKN R/L****75°:** هلدركه رو تراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts				Inserts
	h	b	h1	l2	f	Shim	Lever	Screw	Shim pin	SNMA,SNMM SNMG
<b>PSKNR/L 1616H09</b>	16	16	100	17	20	SS091	LT161	CT161	PT161	<b>SNMG 0903</b>
<b>PSKNR/L 2020K12</b>	20	20	125	23	25	SS121	LT221	CT221	PT 221	<b>SNMG 1204</b>
<b>PSKNR/L 2525M12</b>	25	25	150	23	32	SS121	LT221	CT221	PT 221	<b>SNMG 1204</b>
<b>PSKNR/L 3232P19</b>	32	32	170	38	40	SS191	LS191	CS191	PS191	<b>SNMG 1906</b>

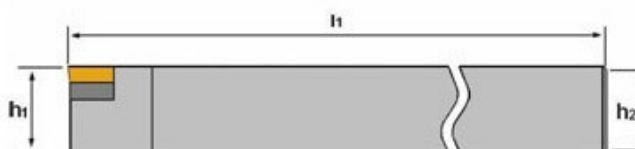
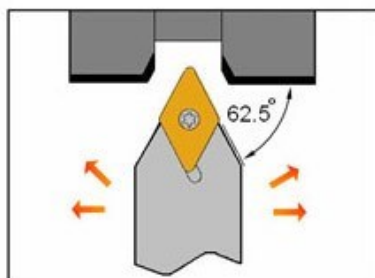
## SDJC R/L

93°: هلدر رو تراش

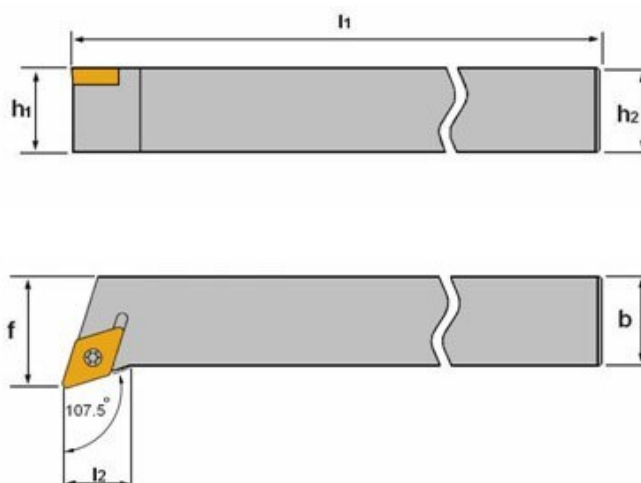
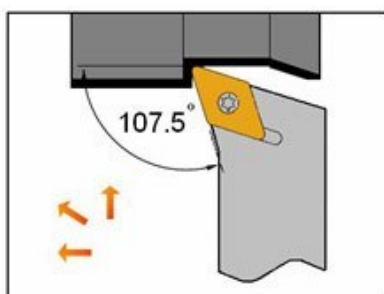


## Holder

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	h <sub>1</sub>	l <sub>2</sub>	f	Shim	Screw	Shim pin	
SDJCR/L 1212F11	12	12	80	22	16	—	M3.5DC11	—	DCMT 11T3
SDJCR/L 1616H11	16	16	100	22	20	SD112	M3.5DC11	PD112	DCMT 11T3
SDJCR/L 2020K11	20	20	125	22	25	SD112	M3.5DC11	PD112	DCMT 11T3
SDJCR/L 2525M11	25	25	150	22	32	SD112	M3.5DC11	PD112	DCMT 11T3

**SDNCN****62.5°:** هالدر رو تراش**Holder**

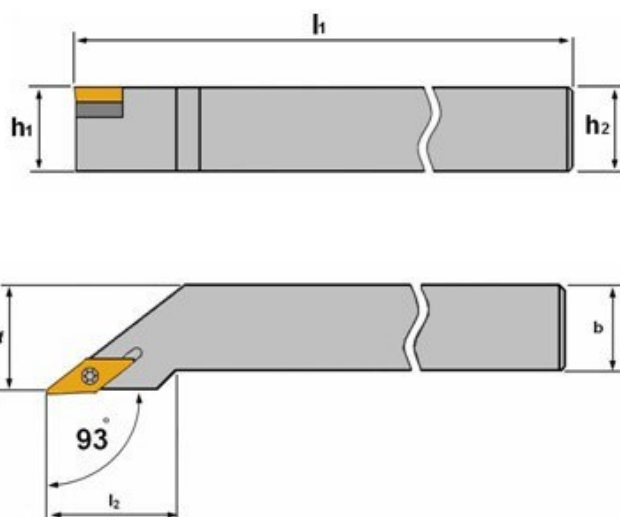
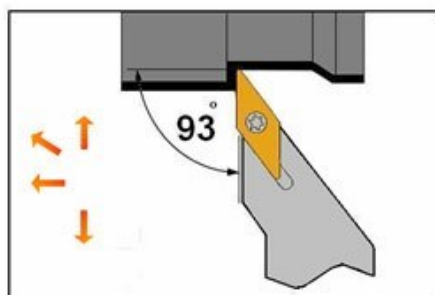
Ordering number ISO	Dimensions is mm			Spare parts			Inserts
	h	b	l	Shim	Screw	Shim pin	
<b>SDNCN</b> 1212F11	12	12	80	—	M3.5DC11	—	<b>DCMT 11T3</b>
<b>SDNCN</b> 1616H11	16	16	100	SD112	M3.5DC11	PD112	<b>DCMT 11T3</b>
<b>SDNCN</b> 2020K11	20	20	125	SD112	M3.5DC11	PD112	<b>DCMT 11T3</b>
<b>SDNCN</b> 2525M11	25	25	150	SD112	M3.5DC11	PD112	<b>DCMT 11T3</b>

**SDHC R/L****107.5 °** : هالدر رو تراش**Holder**

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	l <sub>1</sub>	l <sub>2</sub>	f	Shim	Screw	Shim pin	DCMT,DCMM
<b>SDHCRL 1212F11</b>	12	12	80	16	16	—	M3.5DC11	—	<b>DCMT 11T3</b>
<b>SDHCRL 1616H11</b>	16	16	100	16	20	SD112	M3.5DC11	PD112	<b>DCMT 11T3</b>
<b>SDHCRL 2020K11</b>	20	20	125	16	25	SD112	M3.5DC11	PD112	<b>DCMT 11T3</b>
<b>SDHCR/L 2020K11</b>	25	25	150	23	32	SD112	M3.5DC11	PD112	<b>DCMT 11T3</b>

## SVJB R/L

93° : هلدر رو تراش

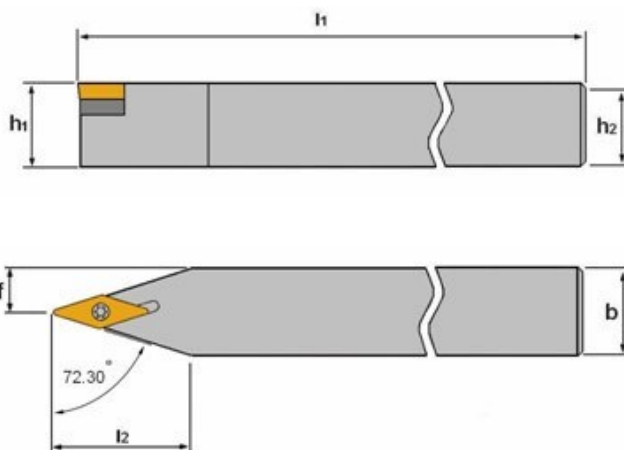
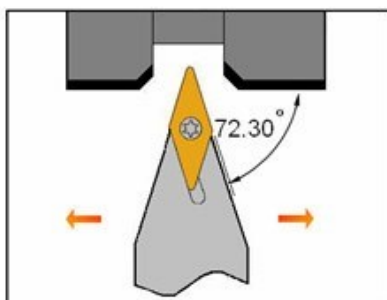


## Holder

Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	h1	l2	f	Shim	Screw	Shim pin	VBMT,VBMM
SVJB R/L 2020K16	20	20	125	34	25	SV112	M3.5VB16	PV112	<b>VBMT 1604</b>
SVJB R/L 2525M16	25	25	150	34	32	SV112	M3.5VB16	PV112	<b>VBMT 1604</b>

## SVVBN

° 72.30: هلدر رو تراش

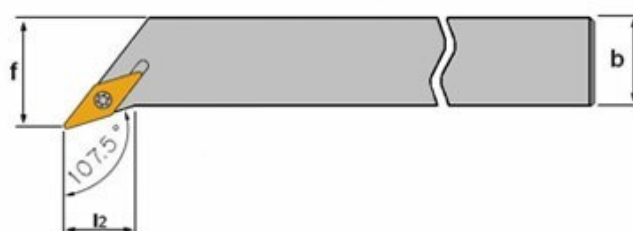
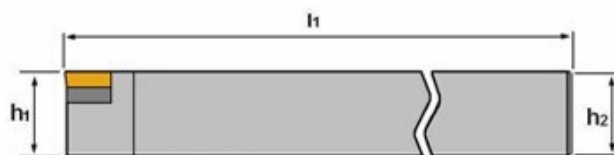
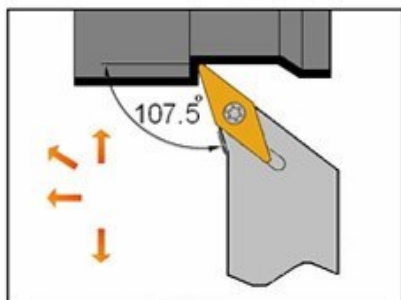


## Holder

Ordering number ISO	Dimensions is mm			Spare parts			Inserts
	h	b	l	Shim	Screw	Shim pin	
SVVBN 2020K16	20	20	125	SV112	M3.5VB16	PV112	<b>VBMT 1604</b>
SVVBN 2525M16	25	25	150	SV112	M3.5VB16	PV112	<b>VBMT 1604</b>

**SVHB R/L**

**107.5°**: هالدر رو تراش



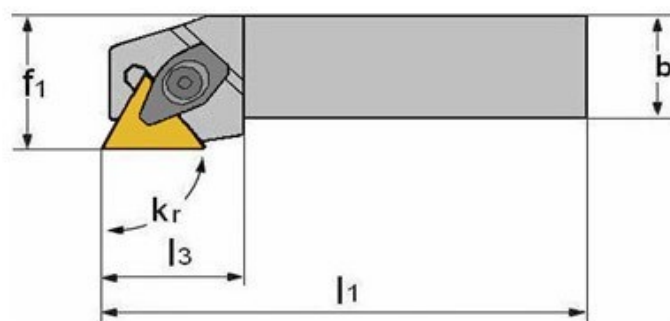
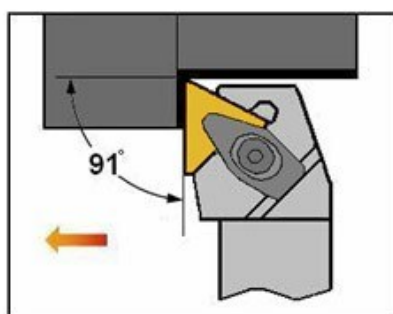
## Holder


Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	h	b	l <sub>1</sub>	l <sub>2</sub>	f	Shim	Screw	Shim pin	
SVHBR/L 2020K16	20	20	125	26	25	SV112	M3.5VB16	PV112	VBMT 1604
SVHBR/L 2525M16	25	25	150	26	32	SV112	M3.5VB16	PV112	VBMT 1604



**DTGN R/L**

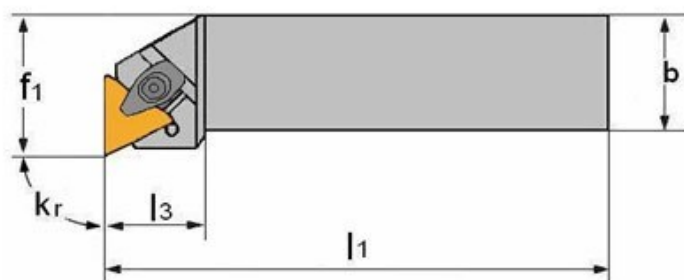
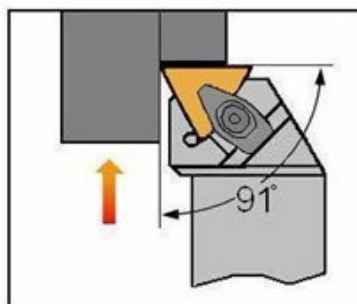
91° : هالدر رو تراش

**Holder**


Ordering number ISO	Dimensions in mm						Spare parts			Inserts
	b	f <sub>1</sub>	h	h <sub>1</sub>	l <sub>1</sub>	l <sub>3</sub>	Shim	Shim screw	Clamp set	
DTGN R/L 2020K16	20	25	20	20	125	24.6	ST164	CT164	DCL62	TNMG1603
DTGN R/L 2525M16	25	32	25	25	150	24.6	ST164	CT164	DCL62	TNMG1603
DTGN R/L 2525M22	25	32	25	25	150	32.1	ST224	CT224	DCL62	TNMG2204

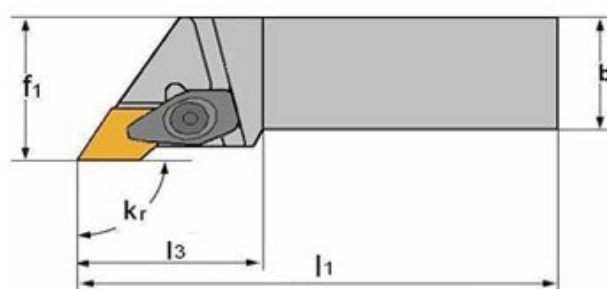
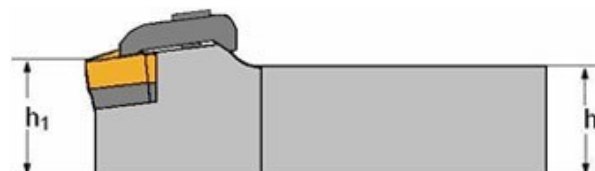
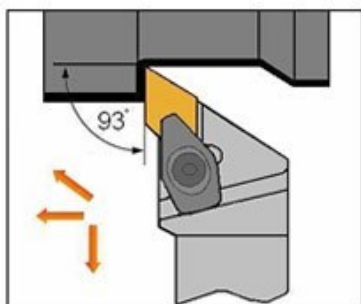
## DTFN R/L

91° : هلبر رو تراش

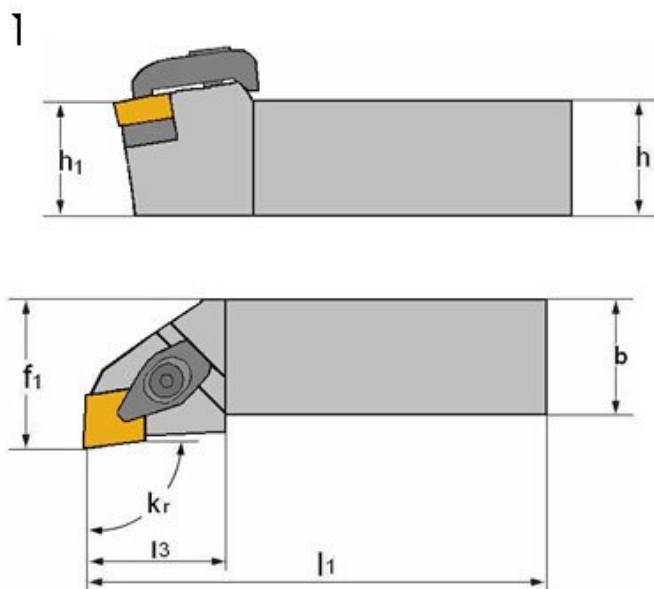
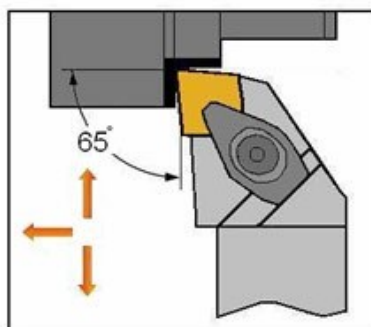



## Holder

Ordering number ISO	Dimensions is mm						Spare parts			Inserts
	b	f1	h	h1	l1	l3	Shim	Shim screw	Clamp set	
DTFN R/L 2020K16	20	25	20	20	125	23.6	ST164	CT164	DCL62	TNMG1603
DTFN R/L 2525M16	25	32	25	25	150	23.6	ST164	CT164	DCL62	TNMG1603
DTFN R/L 2525M22	25	32	25	25	150	30.5	ST224	CT224	DCL62	TNMG2204

**DDJN R/L****93°: هلبر رو تراش****Holder**

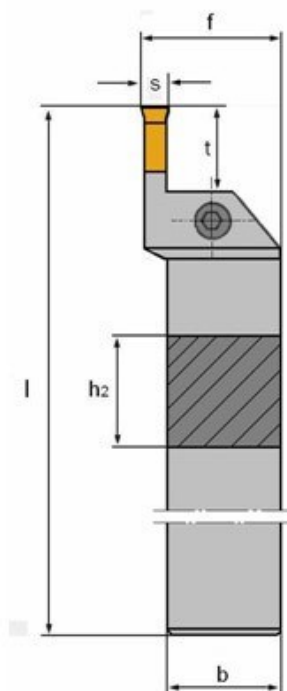
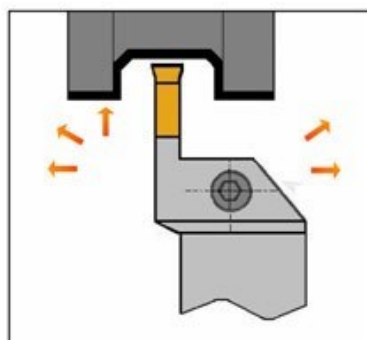
Ordering number ISO	Dimensions is mm						Spare parts			Inserts
	b	f <sub>1</sub>	h	h <sub>1</sub>	l <sub>1</sub>	l <sub>3</sub>	Shim	Shim screw	Clamp set	
DDJN R/L 2020K15	20	25	20	20	125	39.4	SD154	CD154	DCL82	DNMG 1506
DDJN R/L 2525M15	25	32	25	25	150	39.4	SD154	CD154	DCL82	DNMG 1506
DDJN R/L 3225P15	25	32	32	32	170	39.4	SD154	CD154	DCL82	DNMG 1506
DDJN R/L 3232P15	32	40	32	32	170	39.4	SD154	CD154	DCL82	DNMG 1506

**DCLN R/L****65°:** هلبر رو تراش**Holder**

Ordering number ISO	Dimensions is mm						Spare parts			Inserts
	b	f <sub>1</sub>	h	h <sub>1</sub>	l <sub>1</sub>	l <sub>3</sub>	Shim	Shim screw	Clamp set	
DCLN R/L 2020K 12	20	25	20	20	125	32	SC124	CT164	DCL62	CNMG 1204
DCLN R/L 2525M12	25	32	25	25	150	32	SC124	CT164	DCL62	CNMG 1204
DCLN R/L 3225P12	25	32	32	32	170	32	SC124	CT164	DCL62	CNMG 1204
DCLN R/L 2525M16	25	32	25	25	150	39	SC154	CD154	DCL82	CNMG 1606
DCLN R/L 3225P16	25	32	32	32	170	39	SC154	CD154	DCL82	CNMG 1606
DCLN R/L 3232P16	32	40	32	32	170	39	SC154	CD154	DCL82	CNMG 1606
DCLN R/L 3232P19	32	40	32	32	170	43.2	SC194	CD194	DCL102	CNMG 1906

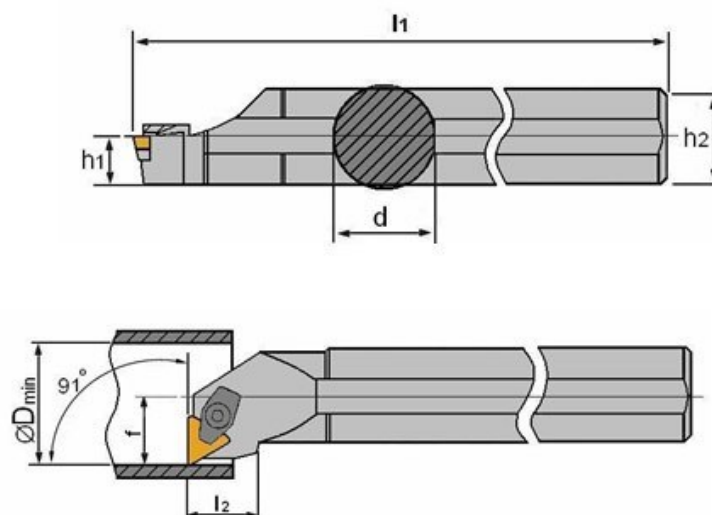
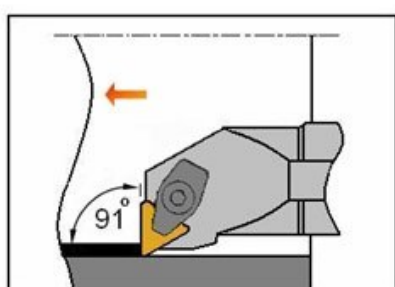
## B/P CTR

90°: هلدر برش



### Holder

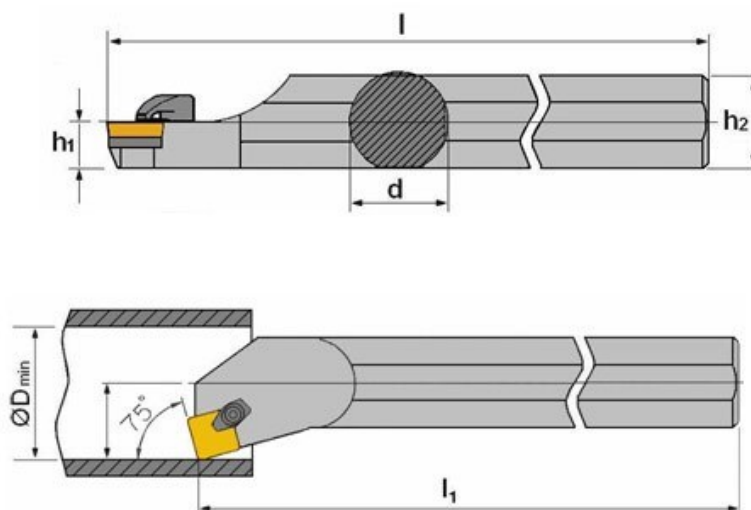
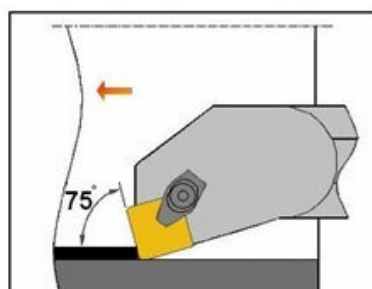
Ordering number	Dimensions is mm						Spare parts	Inserts
	s	h2	t	l	b	f		
2525 BCTR03	3	25	11	150	25	30	CT61	23569130 WIDIA
2525 BCTR04	4	25	11	150	25	30	CT61	23569140 WIDIA
2525 BCTR05	5	25	15	150	25	30	CT61	23569150 WIDIA
2525 PCTR04	4	25	30	150	25	25.5	—	23567540 WIDIA
2525 PCTR05	5	25	30	150	25	25.5	—	23567550 WIDIA
2020 SCTR03	5	20	17	125	20	20.5	CT05	150.15-9030-16SECO
2525 PCTR04-2S	4	25	24	150	25	25	—	151.2-400-4ESANDVIK

**CTFP R/L****91°:** هلدرتوتراش**Holder**

Ordering number ISO	Dimensions is mm						Spare parts			Inserts
	d	h <sub>2</sub>	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	Shim	clamp set	Shim pin	
<b>S12M-CTFPR/L 09</b>	12	11	150	35	9	17.0	—	CI41	—	<b>TPMR 0902</b>
<b>S16R-CTFPR/L 11</b>	16	15	200	40	11	21.0	—	CI51	—	<b>TPMR 1103</b>
<b>S20S-CTFPR/L 11</b>	20	18	250	45	13	25.0	—	CI51	—	<b>TPMR 1103</b>
<b>S25T-CTFPR/L 16</b>	25	23	300	50	17	31.0	—	CI61	—	<b>TPMR 1603</b>
<b>S32U-CTFPR/L 16</b>	32	30	350	50	22	40.0	ST163	CI61	PT163	<b>TPMR 1603</b>
<b>S40V-CTFPR/L 16</b>	40	37	400	55	27	50	ST163	CI 61	PT163	<b>TPMR 1603</b>

**CSKP R/L**

75°: هالدر توتراش

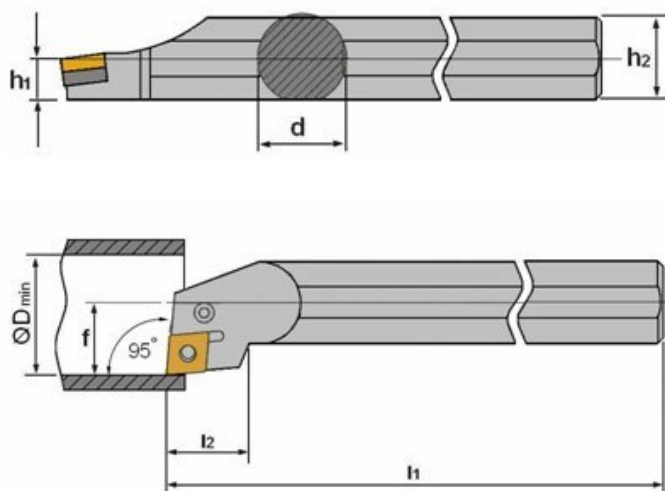
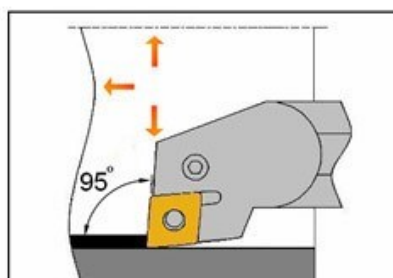
**Holder**

Ordering number ISO	Dimensions is mm							Spare parts			Inserts
	d	h <sub>1</sub>	h <sub>2</sub>	l	l <sub>1</sub>	f	D <sub>min</sub>	Shim	Clamp set	Shim pin	
S16R-CSKPR/L 09	16	7.5	15	202.2	200	11	21.0	—	CI51	—	SPMR 0903
S20S-CSKPR/L 09	20	9.0	18	252.2	250	13	25.0	—	CI51	—	SPMR 0903
S25T-CSKPR/L 12	25	11.5	23	302.2	300	17	31.5	—	CI61	—	SPMR 1203
S32U-CSKPR/L 12	32	15.0	30	353.1	350	22	40.0	SS123	CI61	ST123	SPMR 1203
S40V-CSKPR/L 12	40	18.5	37	403.1	400	27	49.0	SS123	CI61	ST123	SPMR 1203



PCLN R/L

95° هالدر توتراش



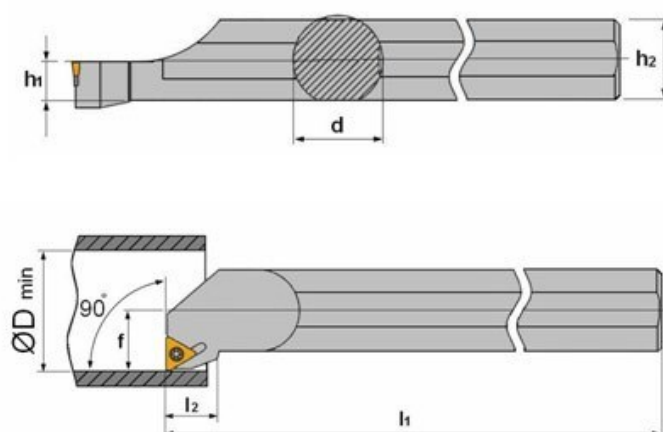
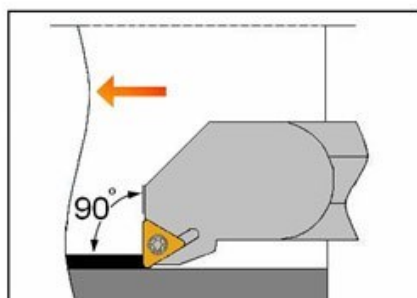
## Holder

Ordering number ISO	Dimensions is mm							Spare parts				Inserts
	d	h1	h2	l1	l2	f	Dmin	Shim	Lever	screw	Shim pin	
<b>S16R-PCLNR/L 09</b>	16	7.5	15	200	25	11	20	—	LC092	CC092	—	<b>CNMG 0903</b>
<b>S20S-PCLNR/L 09</b>	20	9.0	18	250	30	13	25	—	LC092	CC092	—	<b>CNMG 0904</b>
<b>S25T-PCLNR/L 12</b>	25	11.5	23	300	38	17	32	—	LS122	CC122	—	<b>CNMG 1204</b>
<b>S32U-PCLNR/L 12</b>	32	15.0	30	350	40	22	40	SC121	LS121	CS122	PS 121	<b>CNMG 1204</b>
<b>S40V-PCLNR/L 12</b>	40	18.5	37	400	56	27	49	SC121	LS121	CS122	PS 121	<b>CNMG 1204</b>
<b>S50W-PCLNR/L 19</b>	50	23.5	47	450	63	35	62	SC191	LS191	CS192	PS 191	<b>CNMG 1906</b>



## STFC R/L

90 ° هیلدر توتراش

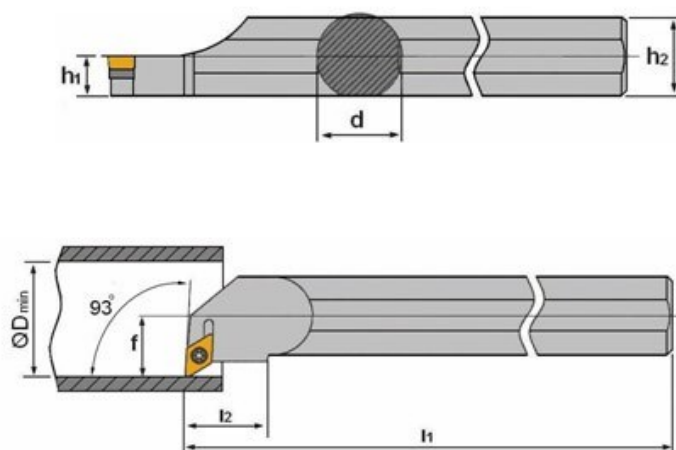
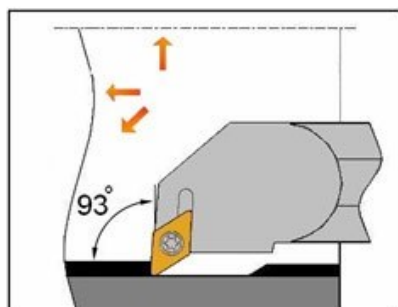


## Boring bar

Ordering number ISO	Dimensions is mm							Spare parts	Inserts
	d	h <sub>1</sub>	h <sub>2</sub>	l <sub>1</sub>	l <sub>2</sub>	f	Dmin	Screw	TCMT,TCMM
<b>S 10K STFC R/L 09</b>	10	4,5	9	125	12	7	14,0	M2.5TC09	<b>TCMT 0902</b>
<b>S 12Q STFC R/L 11</b>	12	5,5	11	180	13	9	17,0	M2.5TC11	<b>TCMT 1102</b>
<b>S 16R STFC R/L 11</b>	16	7,5	15	200	13	11	21,0	M2.5TC11	<b>TCMT 1102</b>
<b>S 20 S STFC R/L 11</b>	20	9,0	18	250	13	13	25,0	M2.5TC11	<b>TCMT 1102</b>

## SDUC R/L

93°: هلدر توتراش

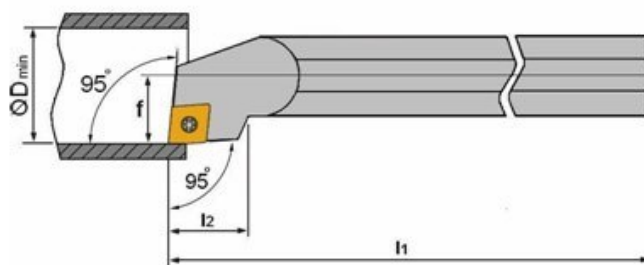
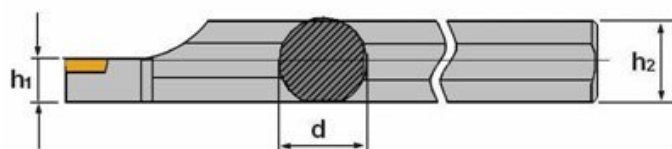
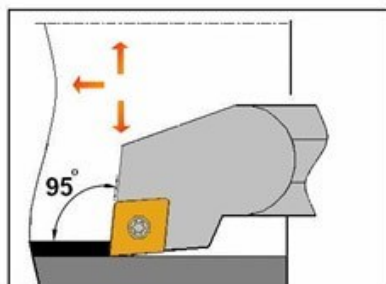


## Holder

Ordering number ISO	Dimensions is mm							Spare parts			Inserts
	d	h <sub>1</sub>	h <sub>2</sub>	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	Shim	screw	Shim pin	
<b>S10K-SDUCR/L 07</b>	10	4.5	9	125	25	7	14.0	—	M2.5DC07	—	<b>DCMT 0702</b>
<b>S12M-SDUCR/L 07</b>	12	5.5	11	150	35	9	17.0	—	M2.5DC07	—	<b>DCMT 0702</b>
<b>S16R-SDUCR/L 07</b>	16	7.5	15	200	40	11	21.0	—	M2.5DC07	—	<b>DCMT 0702</b>
<b>S20S-SDUCR/L 11</b>	20	9.0	18	250	40	13	25.0	—	M3.5DC11	—	<b>DCMT 11T3</b>
<b>S25T-SDUCR/L 11</b>	25	11.5	23	300	50	17	31.0	—	M3.5DC11	—	<b>DCMT 11T3</b>

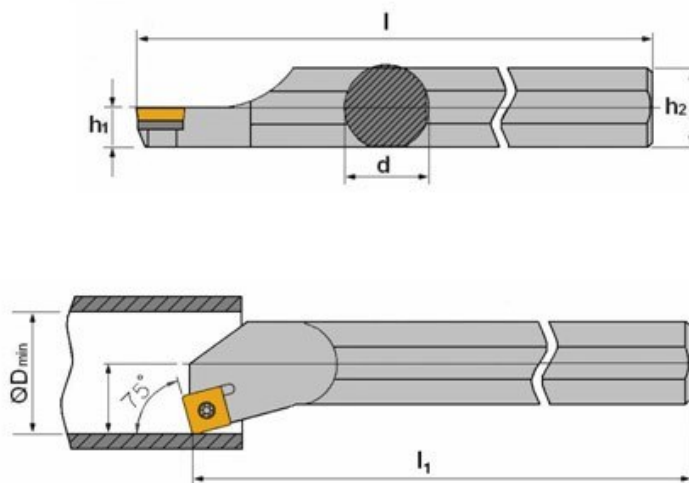
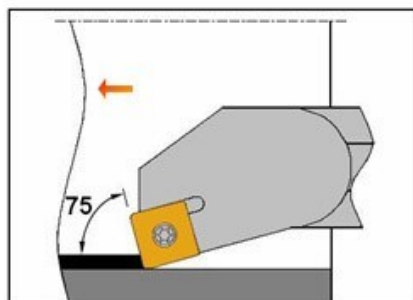
## SCLC R/L

95°: هلدر توتراش



## Holder

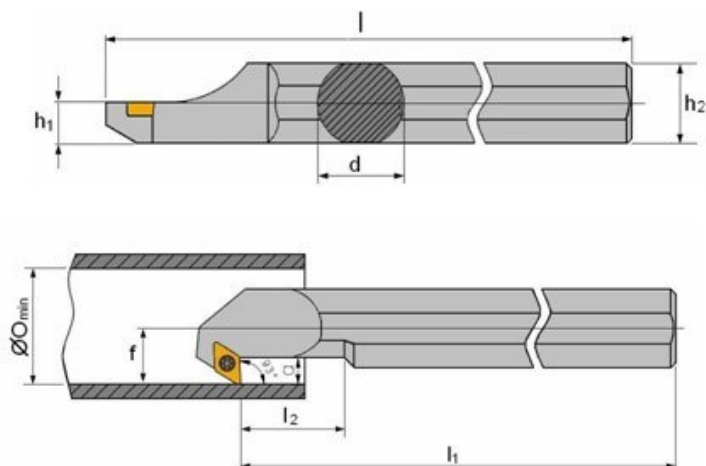
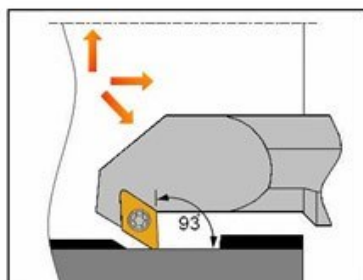
Ordering number ISO	Dimensions is mm					Spare parts			Inserts
	d	h <sub>2</sub>	h <sub>1</sub>	l <sub>2</sub>	f	Shim	Screw	Shim pin	
S08H-SCLCR/L 06	8	7.5	100	20	6	—	M2.5CC06	—	CCMT0602
S10K-SCLCR/L 06	10	9	125	25	7	—	M2.5CC06	—	CCMT0602
S12M-SCLCR/L 06	12	11	150	35	9	—	M2.5CC06	—	CCMT0602
S16R-SCLCR/L 09	16	15	200	40	11	—	M3.5CC09	—	CCMT09T3
S20S-SCLCR/L 09	20	18	250	45	13	—	M3.5CC09	—	CCMT09T3
S25T-SCLCR/L 09	25	23	300	50	17	—	M3.5CC09	—	CCMT09T3

**SSKC R/L****75°:** هلدر توتراش**Holder**

Ordering number ISO	Dimensions is mm							Spare parts			Inserts
	d	h <sub>1</sub>	h <sub>2</sub>	l	h	f	D <sub>min</sub>	Shim	Screw	Shim Screw	
S16R-SSKCR/L 09	16	7.5	15	202.2	200	11	21.0	—	M3.5 SC09	—	SCMT 09T3
S20S-SSKCR/L 09	20	9.0	18	252.2	250	13	25.0	—	M3.5 SC09	—	SCMT 09T3
S25T-SSKCR/L 09	25	11.5	23	302.2	300	17	31.5	—	M3.5 SC09	—	SCMT 09T3
S32U-SSKCR/L 12	32	15.0	30	353.1	350	22	40.0	SS124	M4 SC12	PS124	SCMT 1204
S40V-SSKCR/L 12	40	18.5	37	403.1	400	27	49.0	SS124	M4 SC12	PS124	SCMT 1204

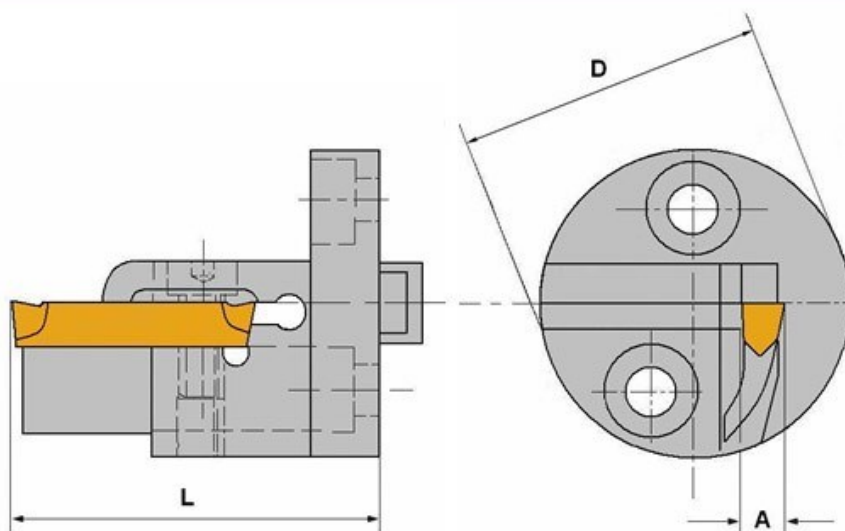
## SDXC R/L

93°: هلدر توتراش

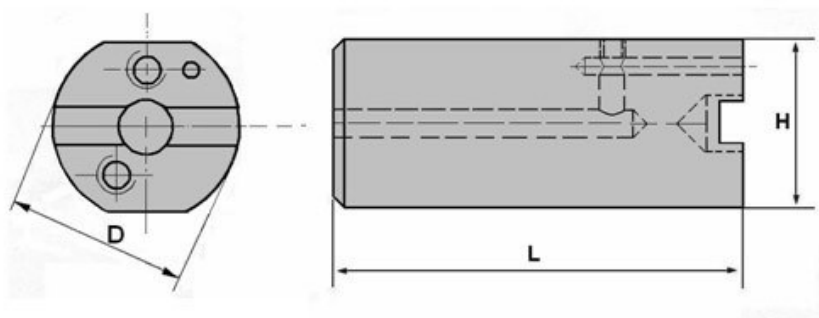


## Boring bar

Ordering number ISO	Dimensions is mm										Spare parts	Inserts
	d	h1	h2	l	h	l2	f	a	Dmin	Screw	DCMT,DCMM	
S12Q SDXC R/L 07	12	5,5	11	191,4	180	24	9	4,5	17,0	M2.5DC07	DCMT 0702	
S16R SDXC R/L 07	16	7,5	15	211,4	200	32	11	4,5	21,0	M2.5DC07	DCMT 0702	
S20S SDXC R/L 11	20	9,0	18	267,6	250	40	13	10,8	25,0	M3.5DC11	DCMT 11T3	
S25T SDXC R/L 11	25	11,5	23	317,6	300	50	17	10,8	31,5	M3.5DC11	DCMT 11T3	

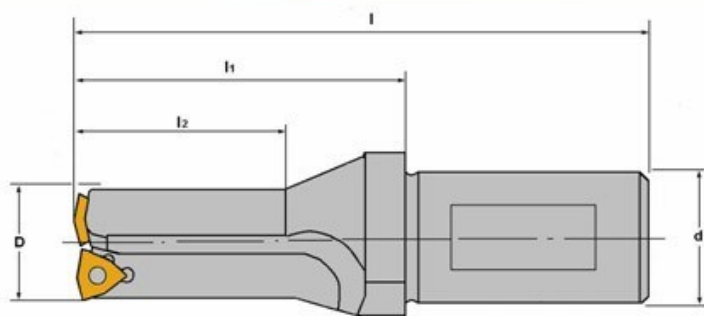
**Holder**

Ordering number	Dimensions is mm				Spare parts		Inserts
	A	D	L	I	Grooving diameter	Screw	
S40-BCTFR03-1	3	40	47	11	52-70	CT61	23569 130 WIDIA
S40-BCTFR03-2	3	40	47	11	66-112	CT61	23569 130 WIDIA
S40-BCTFR03-3	3	40	47	11	106-396	CT61	23569 130 WIDIA
S40-BCTFR04-1	4	40	47	11	52-70	CT61	23569 140 WIDIA
S40-BCTFR04-2	4	40	47	11	66-112	CT61	23569 140 WIDIA
S40-BCTFR04-3	4	40	47	11	106-396	CT61	23569 140 WIDIA
S40-BCTFR05-1	5	40	47	11	52-70	CT61	23569 150 WIDIA
S40-BCTFR05-2	5	40	47	11	66-112	CT61	23569 150 WIDIA
S40-BCTFR05-3	5	40	47	11	106-396	CT61	23569 150 WIDIA

**Base Holder**

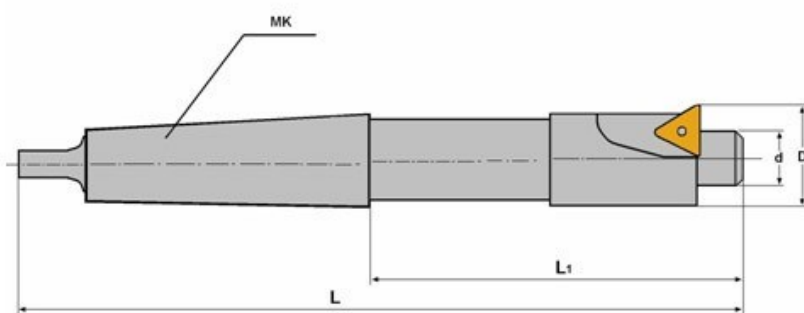
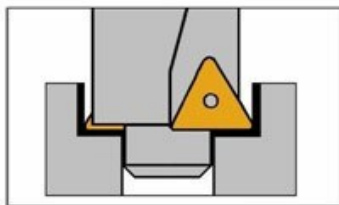
Ordering number	Dimensions is mm			
	D	H	L	Screw
S40P-BC	40	37	170	M6-BC





Ordering number ISO	Dimensions in mm					Spare parts		Inserts
	D +0.2	d h6	h1	h2	L	Inserts	screw	
UD-18-55-20	18	20	55	68	108	M2.5 LC03		LCMX 0303
UD-19-60-20	18	20	60	68	108	M2.5 LC03		LCMX 0303
UD-20-60-20	18	20	60	68	108	M2.5 LC03		LCMX 0303
UD-21-75-20	18	25	75	68	128	M2.5 LC04		LCMX 0403
UD-22-75-20	18	25	75	68	128	M2.5 LC04		LCMX 0403
UD-23-75-20	18	25	75	68	128	M2.5 LC04		LCMX 0403
UD-24-75-20	18	25	75	68	128	M2.5 LC04		LCMX 0403
UD-26-90-25	26	25	90	99	144	M3 W C05		WCMX 0503
UD-27-90-25	27	25	90	99	144	M3 W C05		WCMX 0503
UD-28-90-25	28	25	90	99	144	M3 W C05		WCMX 0503
UD-29-90-25	29	25	90	99	144	M3 W C05		WCMX 0503
UD-30-90-25	30	25	90	99	144	M3 W C05		WCMX 0503
UD-31-105-32	31	32	105	115	160	M3.5WC06		WCMX 06T3
UD-32-105-32	32	32	105	115	160	M3.5WC06		WCMX 06T3
UD-33-105-32	33	32	105	115	160	M3.5WC06		WCMX 06T3
UD-34-105-32	34	32	105	115	160	M3.5WC06		WCMX 06T3
UD-35-105-32	35	32	105	115	160	M3.5WC06		WCMX 06T3
UD-36-105-32	36	32	105	115	160	M3.5WC06		WCMX 06T3
UD-37-120-32	37	32	120	130	175	M3.5WC06		WCMX 06T3
UD-38-120-32	38	32	120	130	175	M3.5WC06		WCMX 06T3
UD-39-120-32	39	32	120	130	175	M3.5WC06		WCMX 06T3
UD-40-120-32	40	32	120	130	175	M3.5WC06		WCMX 06T3
UD-41-120-32	41	32	120	130	175	M3.5WC06		WCMX 06T3
UD-42-135-40	42	40	135	140	200	M3.5 WC08		WCMX 0804
UD-43-135-40	43	40	135	140	200	M3.5 WC08		WCMX 0804
UD-44-135-40	44	40	135	140	200	M3.5 WC08		WCMX 0804
UD-45-135-40	45	40	135	140	200	M3.5 WC08		WCMX 0804
UD-46-135-40	46	40	135	140	200	M3.5 WC08		WCMX 0804
UD-47-135-40	47	40	135	140	200	M3.5 WC08		WCMX 0804
UD-48-135-40	48	40	135	140	200	M3.5 WC08		WCMX 0804
UD-49-165-40	49	40	165	175	230	M3.5 WC08		WCMX 0804
UD-50-165-40	50	40	165	175	230	M3.5 WC08		WCMX 0804
UD-51-165-40	51	40	165	175	230	M3.5 WC08		WCMX 0804
UD-52-165-40	52	40	165	175	230	M3.5 WC08		WCMX 0804
UD-53-165-40	53	40	165	175	230	M3.5 WC08		WCMX 0804
UD-54-165-40	54	40	165	175	230	M3.5 WC08		WCMX 0804
UD-55-165-40	55	40	165	175	230	M3.5 WC08		WCMX 0804
UD-56-165-40	56	40	165	175	230	M3.5 WC08		WCMX 0804
UD-57-165-40	57	40	165	175	230	M3.5 WC08		WCMX 0804
UD-58-165-40	58	40	165	175	230	M3.5 WC08		WCMX 0804

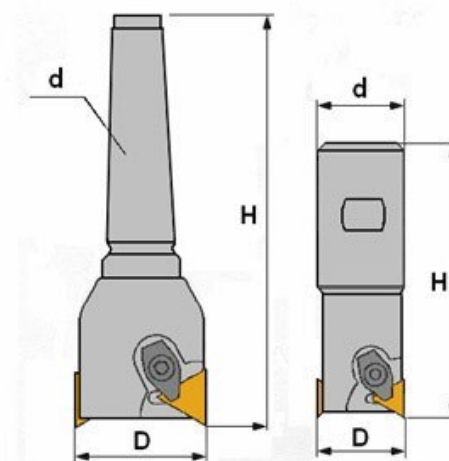
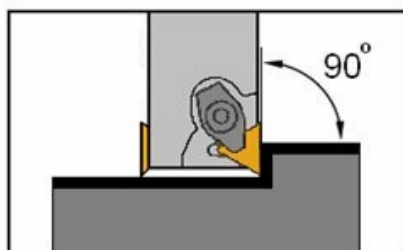


**COUNTER**

Ordering number ISO	Dimensions in mm					Spare parts	Inserts
	D	d	L1	L	MK	Inserts screw	
<b>M12-100</b>	20	14	110	200	2	M2.5 TC11	<b>TCMT 1102</b>
<b>M12-200</b>	20	14	210	300	2	M2.5 TC11	<b>TCMT 1102</b>
<b>M14-100</b>	24	15.5	110	200	2	M2.5 TC11	<b>TCMT 1102</b>
<b>M16-100</b>	26	17.5	110	215	3	M2.5 TC11	<b>TCMT 1102</b>
<b>M18-100</b>	30	20	110	215	3	M2.5 TC11	<b>TCMT 1102</b>
<b>M20-100</b>	33	22	110	215	3	M2.5 TC11	<b>TCMT 1102</b>

## CTA

انگشتی ها با زاویه: **90°**

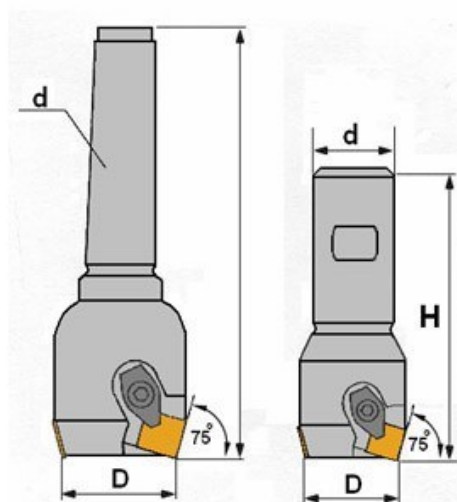
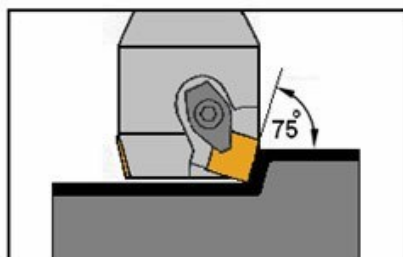


## End Mill

Ordering number ISO	Dimensions in mm			Spare parts	Inserts
	D	H	d	Clamp set	TPKN, TPAN
CTA20-20P	20	90	20	CL51	TPKN 1603
CTA25-20P	25	95	20	CL51	TPKN 1102
CTA25-25P	25	95	25	CL51	TPKN 1102
CTA32-MK3P	32	136	MK 3	CL61	TPKN 1603
CTA40-MK3P	40	138	MK 3	CL61	TPKN 1603
CTA40-MK4P	40	160	MK 4	CL61	TPKN 1603
CTA50-MK4P	50	170	MK 4	CL61	TPKN 1603
CTA50-ISO40P	50	155	ISO40	CL61	TPKN 1603
CTA56-ISO40P	56	155	ISO40	CL61	TPKN 1603

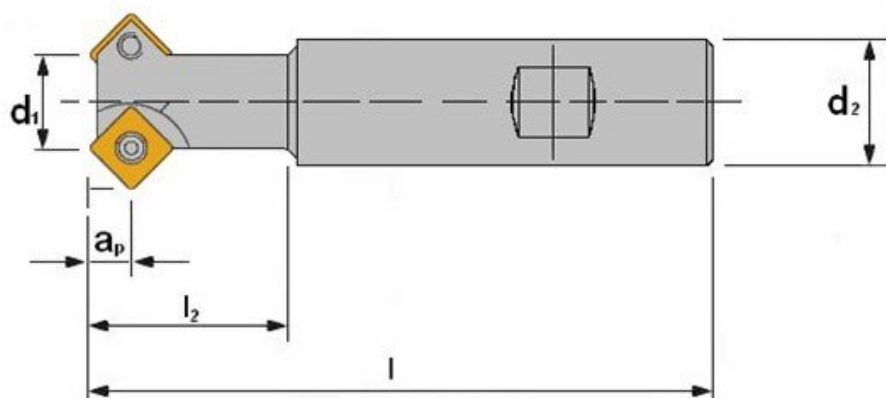
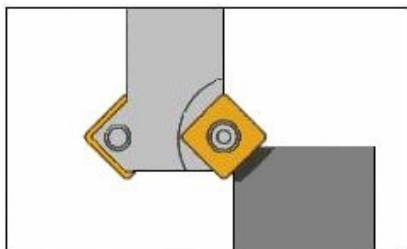
## CSB

انگشتی ها با زاویه: **75°**

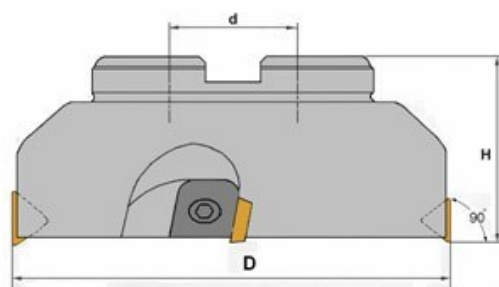
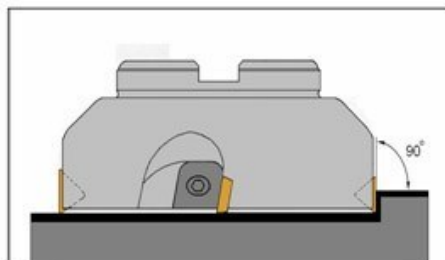


## End Mill

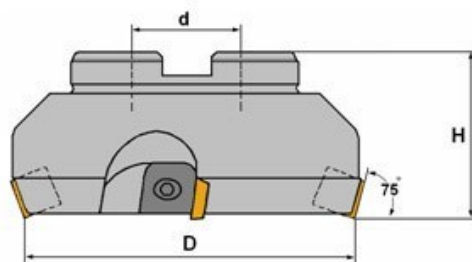
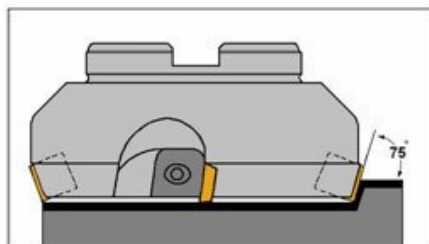
Ordering number ISO	Dimensions in mm			Spare parts	Inserts
	D	H	d		
				Clamp set	SPKN, SPAN
CSB25-20P	25	95	20	CL51	SPKN 0903
CSB25-25P	25	95	25	CL51	SPKN 0903
CSB32-MK3P	32	136	MK 3	CL61	SPKN 1203
CSB40-MK3P	40	138	MK 3	CL61	SPKN 1203
CSB40-MK4P	40	160	MK 4	CL61	SPKN 1203
CSB50-MK4P	50	170	MK 4	CL61	SPKN 1203
CSB50-ISO40P	50	155	ISO40	CL61	SPKN 1203

**SSS****45°** انگشتی پخ زن

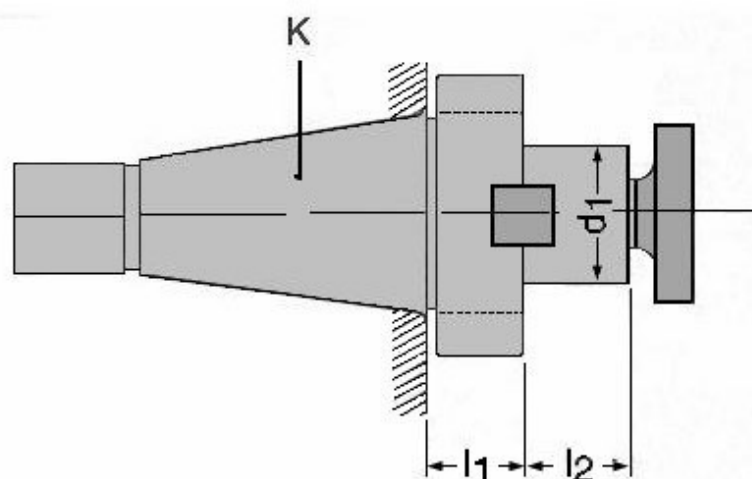
Ordering number ISO	Dimensions in mm					Spare parts	Inserts
	d1	d2	l1	l2	l3		
SSS16-20-110P	16	20	110	28	75	M3.5 SC09	SCMT 09T3
SSS25-25-110P	25	25	110	34	75	M3.5 SC09	SCMT 09T3
SSS32-32-110P	32	32	170	35	135	M4.0 SC12	SCMT 1203

**CWTA****90°** کف تراش با زاویه:**FACE MILLS**

Ordering number ISO	Dimensions in mm			Spare parts	Inserts
	D	H	d	Wedje set	TPKN,TPAN
CWTA63P	63	48	22	M81T	TPKN 1603
CWTA80P	80	48	27	M81T	TPKN 1603
CWTA100P	100	48	32	M81T	TPKN 2204
CWTA125P	125	48	40	M81T	TPKN 2204
CWTA160P	160	52	40	M81T	TPKN 2204
CWTA200P	200	60	60	M81T	TPKN 2204
CWTA250P	250	63	60	M81T	TPKN 2204
CWTA315P	315	80	60	M81T	TPKN 2204

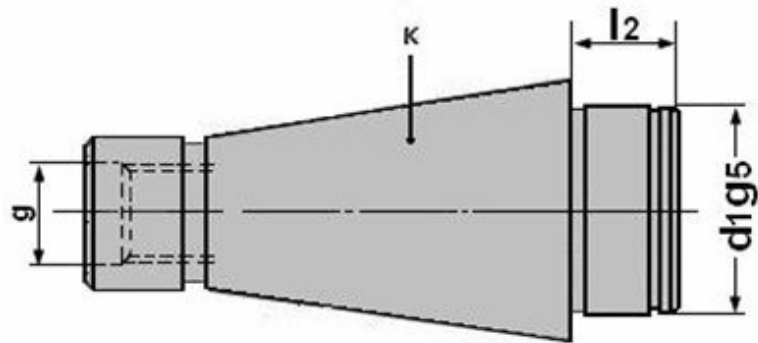
**CWSB****75°** کف تراش با زاویه:**FACE MILLS**

Ordering number ISO	Dimensions in mm			Spare parts	Inserts
	D	H	d		
CWSB63P	63	48	22	M81S	SPKN 1203
CWSB80P	80	48	27	M81S	SPKN 1203
CWSB100P	100	48	32	M81S	SPKN 1203
CWSB125P	125	48	40	M81S	SPKN 1203
CWSB160P	160	52	40	M81S	SPKN 1203
CWSB200P	200	60	60	M81S	SPKN 1203
CWSB250P	250	63	60	M81S	SPKN 1203
CWSB315P	315	80	60	M81S	SPKN 1203

**DIN 2080****Holder**

Ordering code	Taper ISO (K)	d1	l1	l2
ISO 40-22E	40	22	19	22
ISO 40-27E	40	27	21	22
ISO 40-32E	40	32	24	22
ISO 50 22E	50	22	19	25
ISO 50-27E	50	27	21	25
ISO 50-32E	50	32	24	25
ISO 50-40E	50	40	27	25

FOR FACE MILLS  
DIN 6356

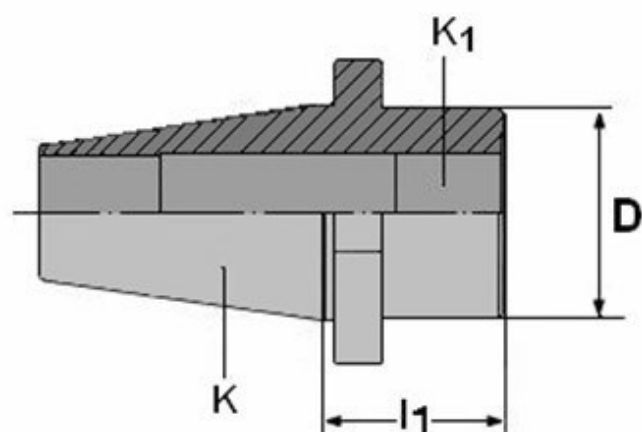


### ARBOR

Ordering code	Taper ISO (K)	d1	h
ISO 40-40D	40	40	30
ISO 50-60D	50	60	40



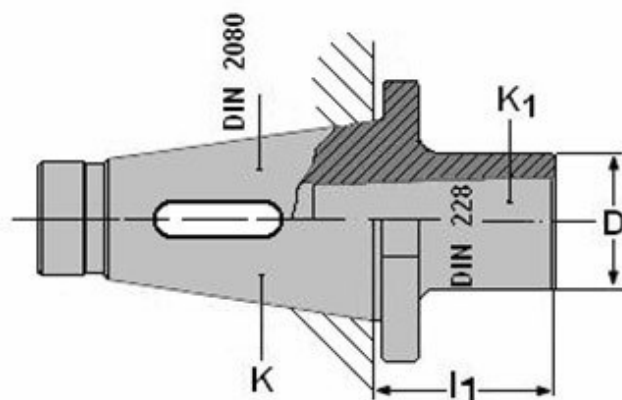
FOR END MILL  
DIN 2080



### Holder

Ordering code	Taper ISO	Morse	D	l <sub>1</sub>
ISO 40-MK3	40	3	38	27
ISO 40-MK4	40	4	48	46
ISO50- MK3	50	3	40	24
ISO50- MK4	50	4	48	46
ISO50- MK5	50	5	65	74

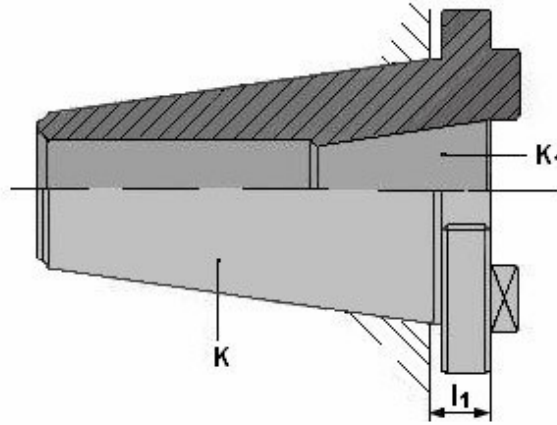
WITH TANG END  
DIN 2080-228



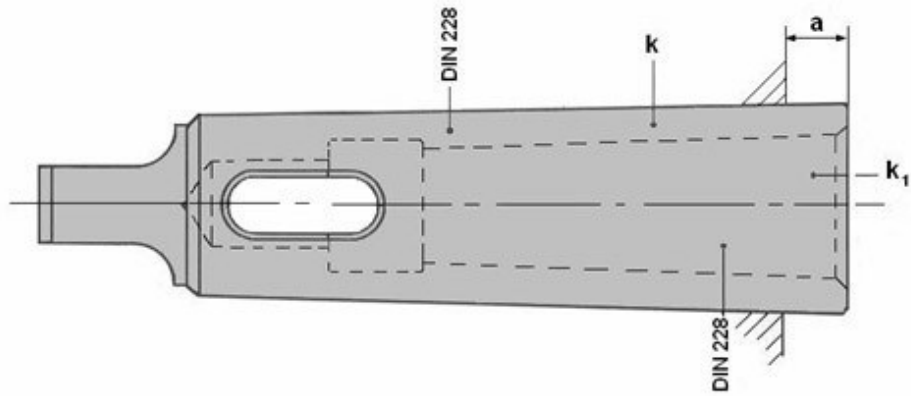
### Holder

Ordering code	Taper ISO	Morse	D	h
ISO 40-DMK3	40	3	38	48
ISO 40-DMK4	40	4	50	75
ISO50-DMK3	50	3	40	22
ISO50- DMK4	50	4	50	48
ISO50- DMK5	50	5	96	88

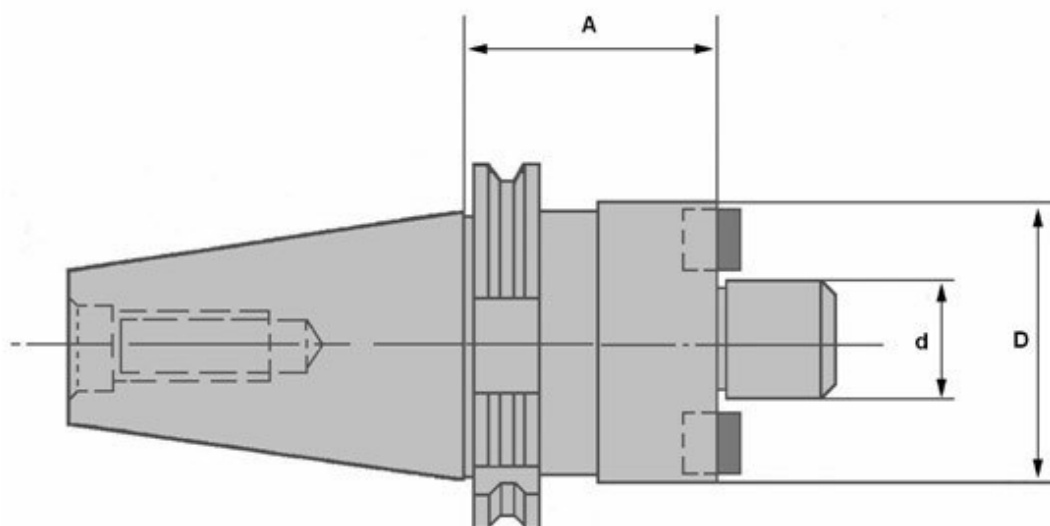
## DIN 2080-DIN 2080

**Adaptor**

Ordering code	Taper External ISO DIN 2080	Taper Internal ISO DIN 2080	D	I1
ISO 50-ISO 40	50	40	86	23

**MORSE TO MORES  
DIN 2185**

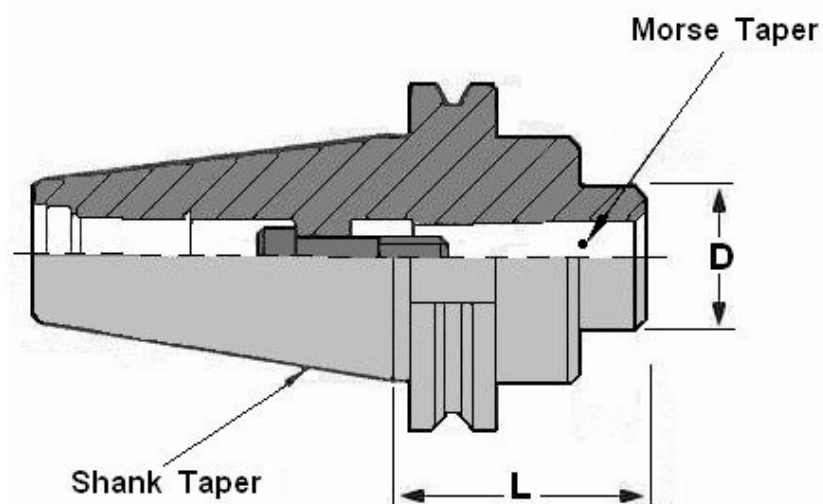
Ordering code	K	K1	a
MK 5-3	5	3	6.5
MK 5-4	5	4	21.5

**Holder**

Ordering code	Taper ISO	d	D	A
ISO 40CN-22E	40	22	63	50
ISO 40NC-22E *	40	22	63	22
ISO 40CN-27E	40	27	63	50
ISO 40NC-27E *	40	27	63	22
ISO 40CN-32E	40	32	63	50
ISO 40NC-32E *	40	32	63	22
ISO 50CN-22E	50	22	63	43
ISO 50CN-27E	50	27	63	43
ISO 50CN-32E	50	32	70	43
ISO 50CN-40E	50	40	80	43

\* همراه با نافی مخصوص ماشین فرز DEKEL مدل FP4MA,FP4MK

FOR END MILL  
DIN 69871



### Holder

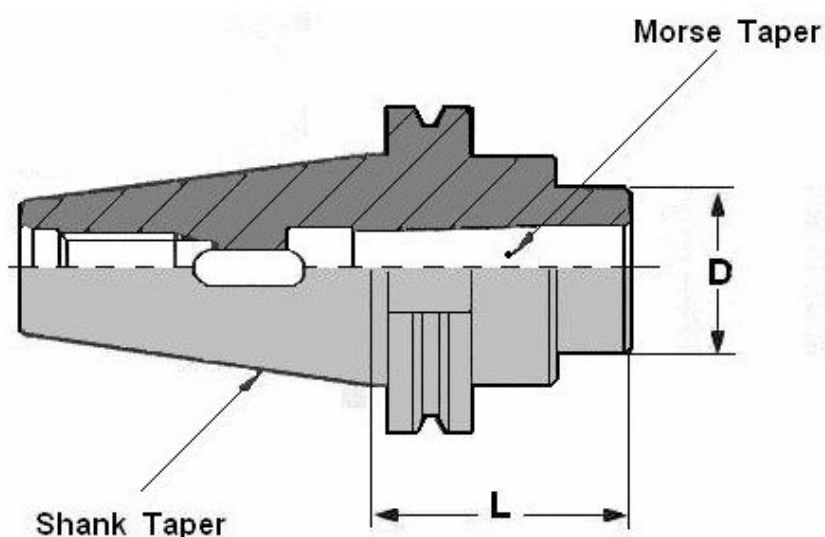
Ordering code	Taper ISO	Morse F	D	L
ISO 40NC-MK1 *	40	1	40	35
ISO 40NC-MK2 *	40	2	40	35
ISO 40CN-MK3	40	3	40	35
ISO 40NC-MK3 *	40	3	40	35
ISO 40CN-MK4	40	4	50	50
ISO 50CN-MK3	50	3	40	65
ISO 50CN-MK4	50	4	50	72
ISO 50CN-MK5	50	5	96	88

\*For DEKEL

FP4MK ,FP4MA

\* مخصوص فرز

WITH TANG END  
DIN 69871



## Holder

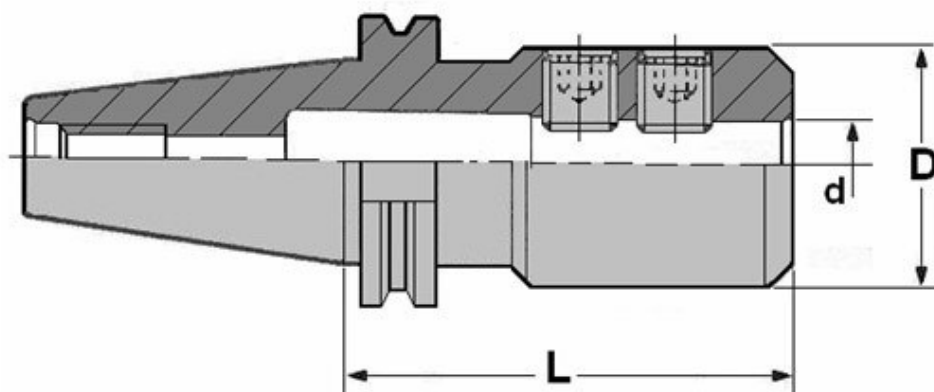
Ordering code	Taper ISO	Morse	D	L
ISO 40NC-DMK2	40	2	40	70
ISO 40CN-DMK3	40	3	40	70
ISO 40NC-DMK3 *	40	3	40	70
ISO 40CN-DMK4	40	4	50	94
ISO 50CN-DMK3	50	3	40	65
ISO 50CN-DMK4	50	4	50	72
ISO 50CN-DMK5	50	5	63	105

\*For DEKEL

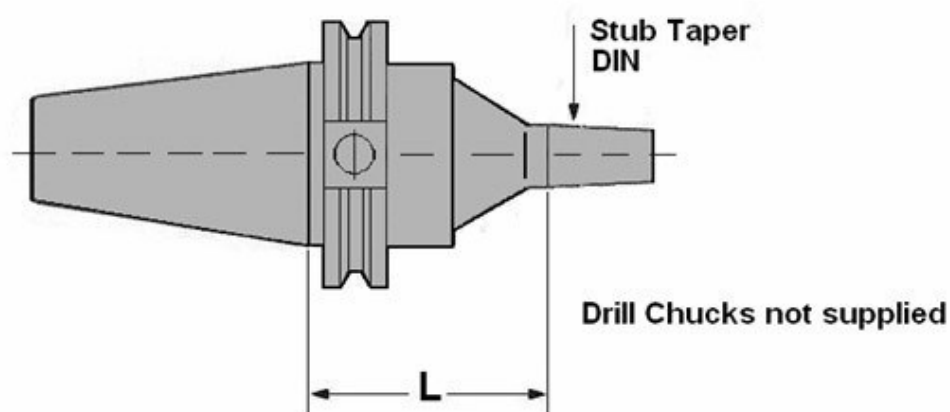
FP4MK , FP4MA

\*مخصوص فرز

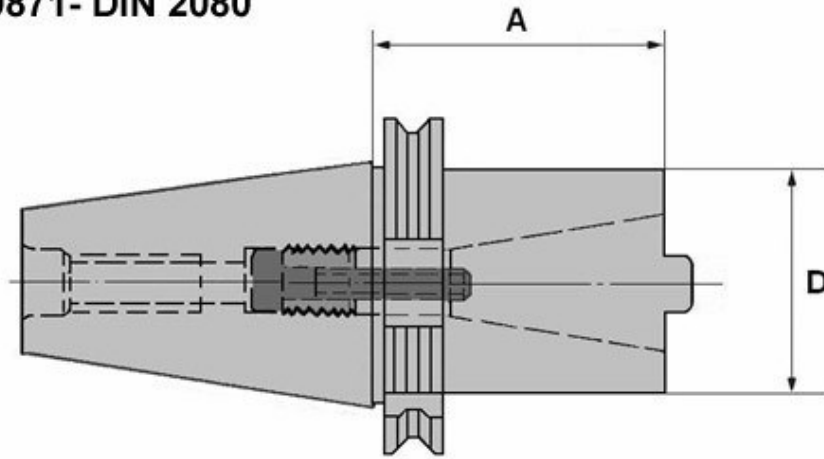


**Holder**

Ordering code	Taper ISO	d	D	L
ISO 40CN-06B	40	06	25	63
ISO 40CN-08B	40	08	28	63
ISO 40CN-10B	40	10	32	63
ISO 40CN-12B	40	12	42	63
ISO 40CN-16B	40	16	48	70
ISO 40CN-20B	40	20	52	70
ISO 40CN-25B	40	25	63	80

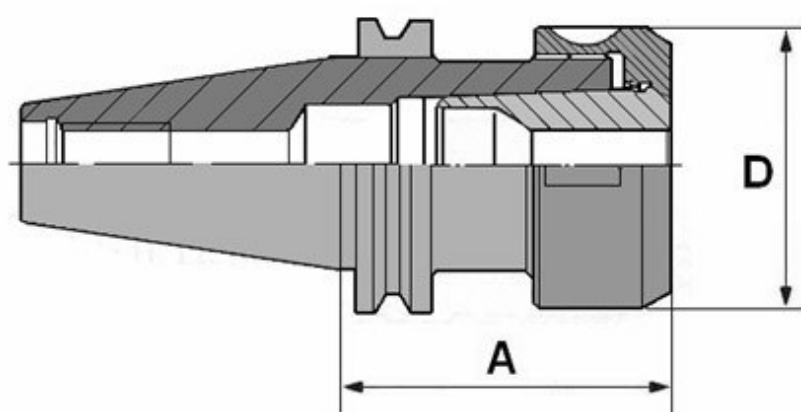
**Holder**

Ordering code	Taper ISO	Morse DIN	L
ISO 40CN-B16	40	B16	33
ISO 40CN-B18	40	B18	34

**DIN 69871- DIN 2080****Holder**

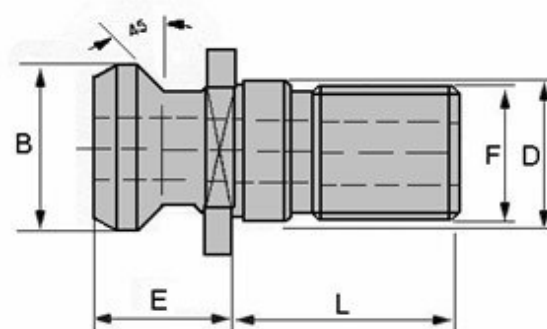
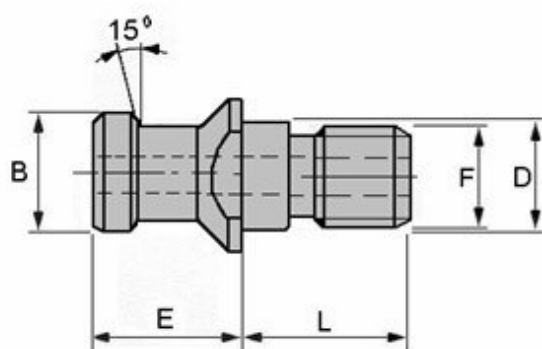
Ordering code	Taper External ISO DIN 69871	Morse internal ISO DIN 2080	D	A
ISO 50CN ISO 40	50	40	75	33

DIN 69871

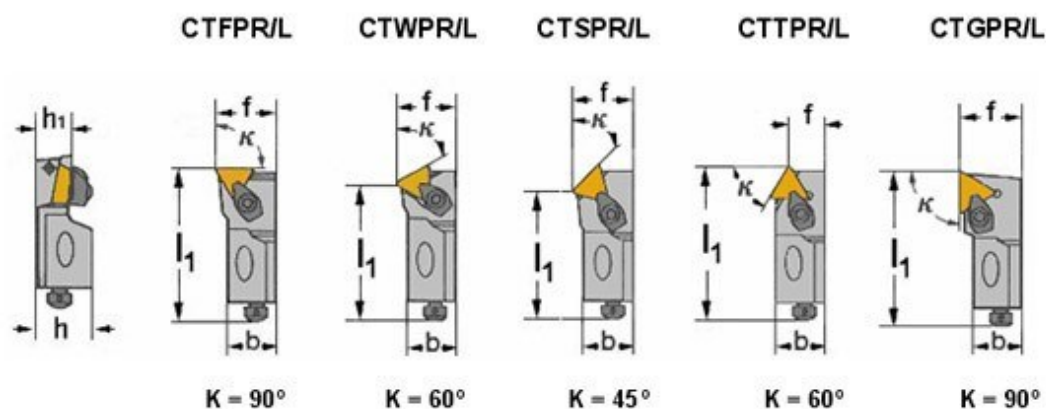
**Holder**


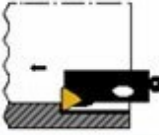
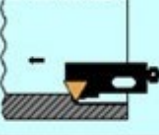
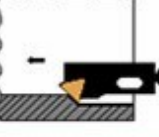
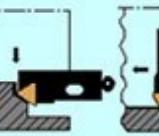

Ordering code	Taper ISO	D	A
ISO 40CN-06,20	40	60	68
ISO 50CN-06,32	50	85	78

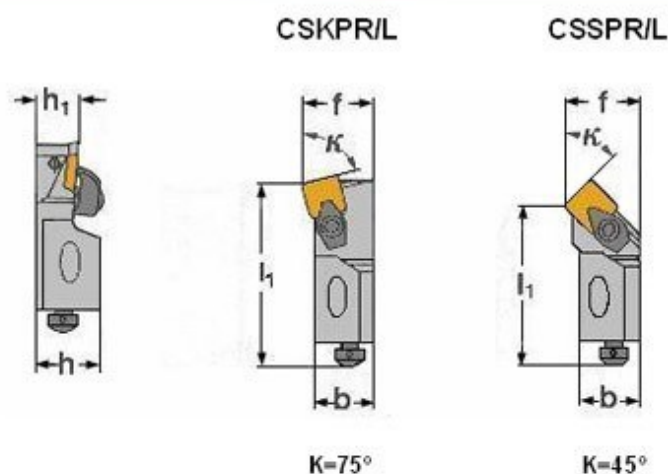
ISO 7388

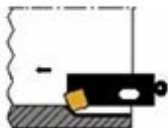


Ordering code	Taper ISO	TYP	F	D	B	E	L
AC-18	40	A	M16	18	19	26	28
AC-17	40	A	M16	17	19	26	28
AC-17-44	40	A	M12	17	19	26	44
AC-25	50	A	M24	25	28	34	40
BC-17	40	B	M16	17	18.9	16.4	28
BC-18	40	B	M16	18	18.9	16.4	28
BC-17-44	40	B	M12	17	19	26	44
BC-25	50	B	M24	25	29.1	25.5	40
BC-25-90	40	B	M20	25	29.1	25.5	90

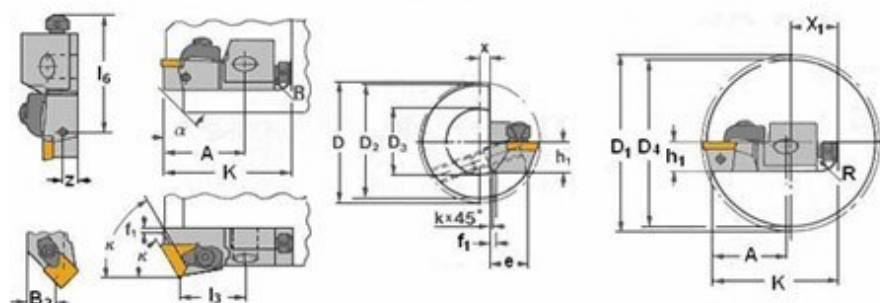


زاويه در کبري	Insert to be used  TPMR, TPGR TPUN, TPGN	Dimensions ,mm							Spare parts		
		Ordering code	h	h1	b	l1	f	Dmin	Clamp set	Shim	Shim pin
90° 	11	CTFPR/L 10CA-11	15	10	11	50	14	40	CL41	—	—
	16	CTFPR/L 12CA-16	20	12	15	55	20	50	CL51	—	—
		CTFPR/L 16CA-16	21	16	20	63	25	55	CL51	ST163	PT163
60° 	11	CTWPR/L 10CA-11	15	10	11	44	14	40	CL41	—	—
	16	CTWPR/L 12CA-16	20	12	15	47	20	50	CL51	—	—
		CTWPR/L 16CA-16	21	16	20	53	25	55	CL51	ST163	PT163
45° 	11	CTSPR/L 10CA-11	15	10	11	44	14	40	CL41	—	—
	16	CTSPR/L 12CA-16	20	12	15	47	20	50	CL51	—	—
		CTSPR/L 16CA-16	21	16	20	53	25	55	CL51	ST163	PT163
60° 	11	CTTPR/L 10CA-11	15	10	11	50	9	40	CL41	—	—
	16	CTTPR/L 12CA-16	20	12	15	55	13	50	CL51	—	—
		CTTPR/L 16CA-16	21	16	20	63	15	60	CL51	ST163	PT163
90° 	11	CTGPR/L 10CA-11	15	10	11	50	14	40	CL41	—	—
	16	CTGPR/L 12CA-16	20	12	15	55	20	50	CL51	—	—
		CTGPR/L 16CA-16	21	16	20	63	25	60	CL51	ST163	PT163

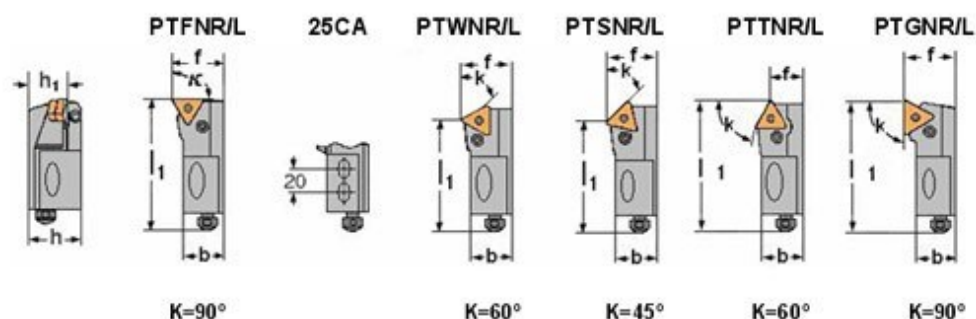








Entering angle زاویه درگیری	Insert to be used SPMR, SPGR SPUN, SPGN	Dimensions ,mm							Spare parts		
		Ordering code	h	h <sub>1</sub>	b	h	f	D <sub>min</sub>	Clamp set	Shim	shim pin
	09	CSKPR/L 10CA-09	15	10	11	50	14	40	CL41	-	-
	12	CSKPR/L 12CA-12 CSKPR/L 16CA-12	20 21	12 16	15 20	55 63	20 25	50 55	CL61 CL61	- SS123	- PT163
	12	CSSPR/L 12CA-12 CSSPR/L 16CA-12	20 21	12 16	15 20	47 63	20 25	50 55	CL61 CL61	- SS123	- PT163

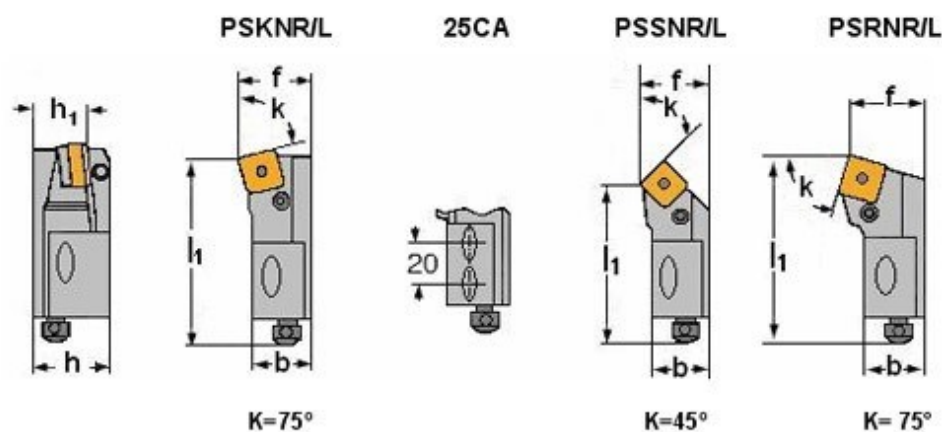




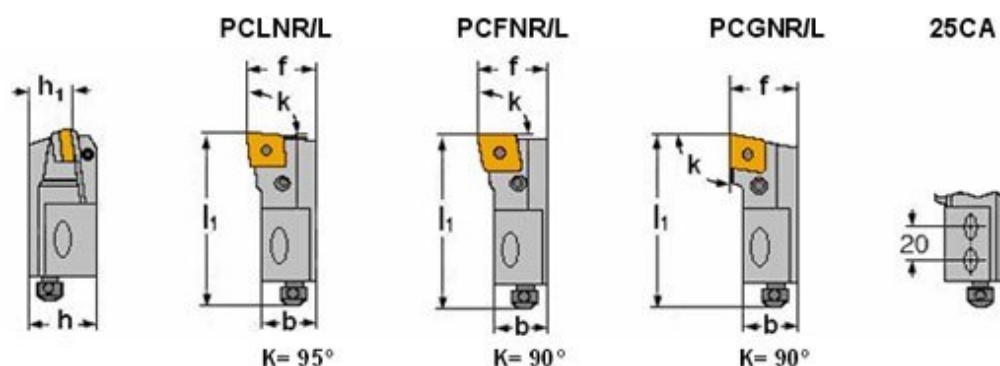
ابعاد کارتریج	Cartridge Main Code		Dimensions is mm													
			K	l3	l6	Z	B2	Dmin	D1min	K	A	h1	emax	f1max	Rmax	kmin
	11	CTFPR/L	90°	30	46	—	—	—	—	48	28	9	—	—	—	—
		CTWPR/L	60°	24	43	—	—	—	—	47	27	9	2.0	—	—	—
		CTSPR/L	45°	24	43	3	—	40°)	—	49	29	9	2.2	—	—	—
		CTTPR/L	60°	30	45	—	—	55	46.5	26.5	10	9	5.7	—	—	—
		CTGPR/L	90°	30	44	—	—	55	46.5	26.5	10	9.5	—	—	—	—
	09	CSKPR/L	75°	30	47	3	—	40°)	—	51	31	10	9.5	—	4	0.4
	16	CTFPR/L	90°	35	50.5	—	—	—	—	53	33	15.5	—	—	—	—
		CTWPR/L	60°	27	44	—	—	—	—	52.5	32.5	13	2.1	—	—	—
		CTSPR/L	45°	27	49	5	—	50	75	55	35	13	3.9	—	5	0.4
		CTTPR/L	60°	35	47	—	—	75	50.5	30.5	12	13.5	9.0	—	—	—
		CTGPR/L	90°	35	49	—	—	75	51	31	12	13.5	—	—	—	—
	12	CSKPR/L	75°	35	52	5	—	50	—	57	37	12	13.5	1.8	5	0.4
	16	CTFPR/L	90°	38	55	5	—	55	—	59.5	34.5	17	—	—	—	—
		CTWPR/L	60°	28	49.3	5.6	—	55	—	55	30	16	17	10.5	—	—
		CTSPR/L	45°	28	50.5	5	—	55	—	60	35	17.5	7.6	—	6	0.4
		CTTPR/L	60°	38	50.5	5	—	60	75	57	32	17.5	10.6	—	—	—
		CTGPR/L	90°	38	51	5	—	60	75	57	32	18	—	—	—	—
	12	CSKPR/L	75°	38	55.3	5	—	55	—	64	39	16	17.5	6.1	6	0.4
		CSSPR/L	45°	28	—	—	14.1	—	—	56	31	16	—	—	—	—



Entering angle زاویه در گیری	Insert to be used		Dimensions ,mm							Spare parts			
		TNMM TNMG TNMA											
		Ordering code	h	h <sub>1</sub>	b	l <sub>1</sub>	f	D <sub>min</sub>	Lever	Screw	Shim	Shim pin	
	16	PTFNR/L 12CA-16	20	12	15	55	20	50	LC092	CC092			
		PTFNR/L 16CA-16	25	16	20	63	25	55	LC092	CC092	ST161	PT161	
	22	PTFNR/L 20CA-22	30	20	20	70	25	70	LT221	CT221	ST221	PT221	
	16	PTWNR/L 12CA-16	20	12	15	47	20	50	LC092	CC092			
		PTWNR/L 16CA-16	25	16	20	53	25	55	LC092	CC092	ST161	PT161	
	22	PTWNR/L 20CA-22	30	20	20	60	25	70	LT221	CT221	ST221	PT221	
	16	PTSNR/L 12CA-16	20	12	15	47	20	50	LC092	CC092			
		PTSNR/L 16CA-16	25	16	20	53	25	55	LC092	CC092	ST161	PT161	
	22	PTSNR/L 20CA-22	30	20	20	60	25	75	LT221	CT221	ST221	PT221	
	16	PTTNR/L 12CA-16	20	12	15	55	13	50	LC092	CC092			
		PTTNR/L 16CA-16	25	16	20	63	15	60	LC092	CC092	ST161	PT161	
	22	PTTNR/L 20CA-22	30	20	20	70	15	70	LT221	CT221	ST221	PT221	
	16	PTGHR/L 12CA-16	20	12	15	55	20	50	LC092	CC092			
		PTGHR/L 16CA-16	25	16	20	63	25	60	LC092	CC092	ST161	PT161	
	22	PTGHR/L 20CA-22	30	20	20	70	25	70	LT221	CT221	ST221	PT221	

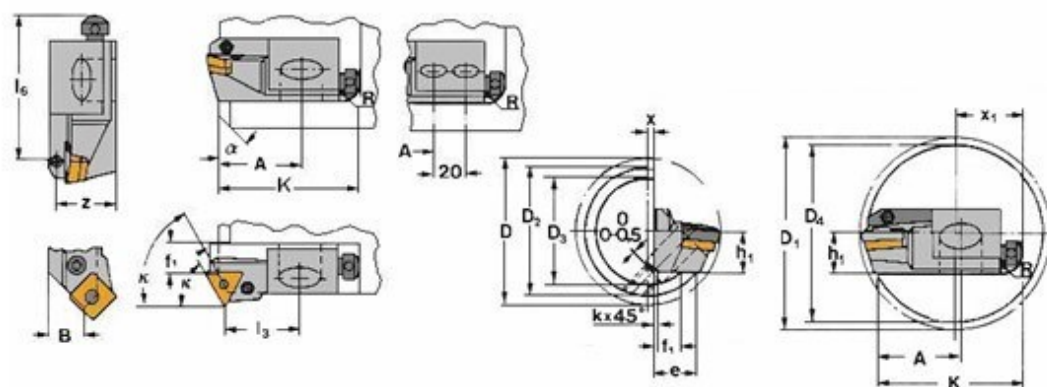





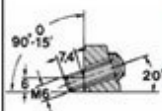
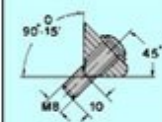
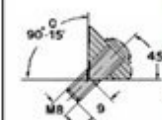
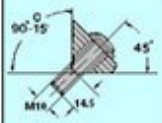
زاویه در گیری	Insert to be used SNMM, SNMX SNMG SNMA	Dimensions , mm							Spare parts			
		Ordering code	h	h <sub>1</sub>	b	h	f	D <sub>min</sub>	Lever	Screw	Shim	Shim pin
75° 	12	PSKNR/L 12CA-12	20	12	15	55	20	50	LT161	CS122	SS121	PT221
		PSKNR/L 16CA-12	25	16	20	63	25	55	LT161	CS122	SS121	PT221
		15 PSKNR/L 20CA-15	30	20	20	70	25	70	LS151	CS151	SS151	PS151
		19 PSKNR/L 25CA-19	38	25	25	100	32	100	LS191	CS191	SS191	PS191
45° 	12	PSSNR/L 12CA-12	20	12	15	47	20	50	LT161	CS122	SS121	PT221
		PSSNR/L 16CA-12	25	16	20	53	25	55	LT161	CS122	SS121	PT221
		15 PSSNR/L 20CA-15	30	20	20	60	25	70	LS151	CS151	SS151	PS151
75° 	12	PSNR/L 16CA-12	25	16	20	63	25	60	LT161	CS122	SS121	PT221
		15 PSNR/L 20CA-15	30	20	20	70	25	70	LS151	CS151	SS151	PS151

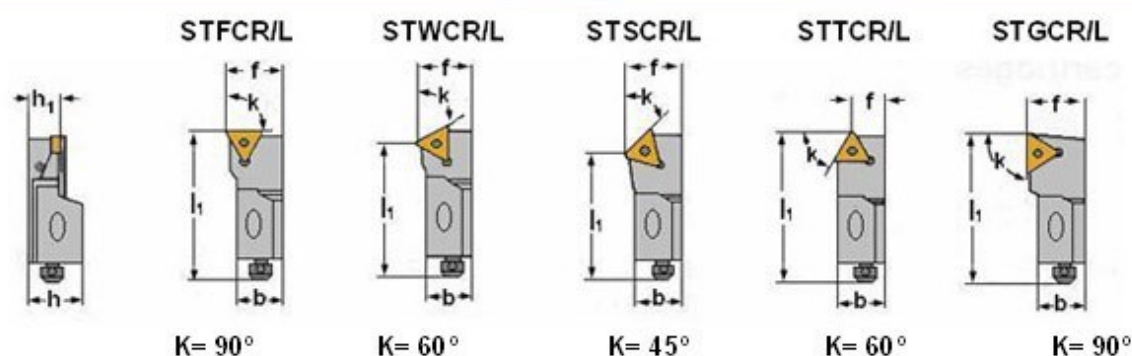


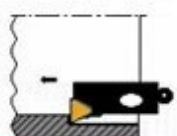
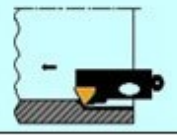
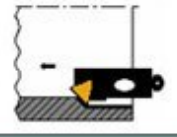
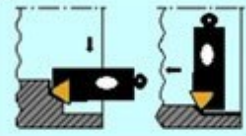

Entering angle زاویه در گیری	Insert to be used CNMM CNMG CNMA	Dimensions ,mm	Spare parts
	Ordering code	h h1 b l1 f D min	Lever Screw Shim Shimpin
95°	12 PCLHRL 16CA-12	25 16 20 63 25 55	LT221 CT221 SC121 PT221
	19 PCLHRL 25CA-19	38 25 25 100 32 100	LS191 CS191 SC191 PS191
90°	12 PCFHRL 16CA-12	25 16 20 63 25 55	LT221 CT221 SC121 PT221
	19 PCFHRL 25CA-19	38 25 25 100 32 100	LS191 CS191 SC191 PS191
90°	12 PCGHRL 16CA-12	25 16 20 63 25 60	LT221 CT221 SC121 PT221
	19 PCLHRL 25CA-19	38 25 25 100 32 100	LS191 CS191 SC191 PS191

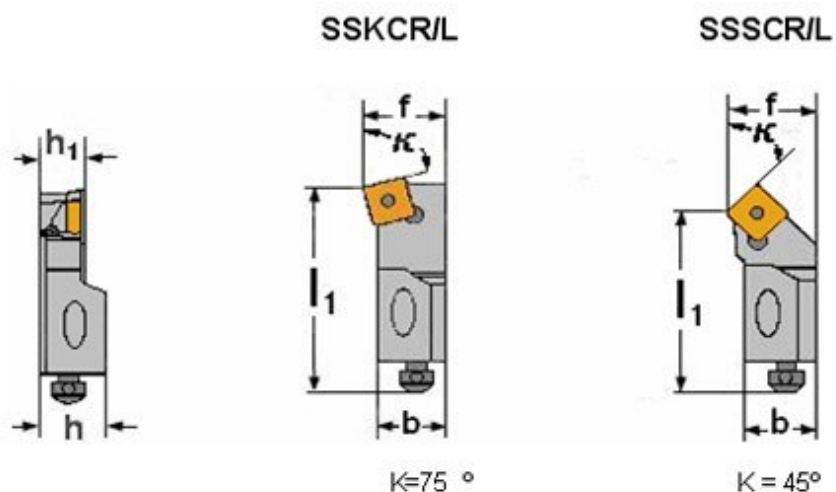


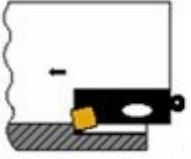
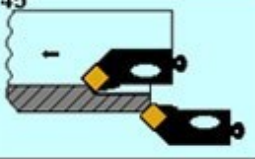


Cartridge Size ابعاد کارتریج	Cartridge Main Code			Dimensions is mm																			
				K	l <sub>3</sub>	l <sub>k</sub>	Z	B <sub>2</sub>	D <sub>min</sub>	D <sub>1min</sub>	K	A	h <sub>1</sub>	e <sub>max</sub>	f <sub>1max</sub>	R <sub>max</sub>	k <sub>min</sub>						
<b>12CA</b> 	16			PTFHRL	90°	35	49	—	—	—	53	33	12	14	3.5 6.5 10.5	5	16						
				PTWHRL	60°	27	46	—	—	—	50.5	30.5											
				PTSHRL	45°	27	49	—	50	—	53.5	33.5											
				PTTHRL	60°	35	49	—	—	75	50.5	30.5											
				PTGHRL	90°	35	45	—	—	75	50.5	30.5											
	12			PSKHRL	75°	35	52	—	50	—	56.5	36.5	12	14	1.0	5	16						
				PSSHRL	45°	27	40.5	9	—	—	52	32											
<b>16CA</b> 	16			PTFHRL	90°	38	54	—	55	—	60	35	16	17.5	—	6	20.5						
				PTWHRL	60°	28	52	—	55	—	55	30											
				PTSHRL	45°	28	54	—	55	—	57.5	32.5											
				PTTHRL	60°	38	54	—	60	75	57	32											
				PTGHRL	90°	38	52	—	60	75	57	32											
	12			PSKHRL	75°	38	55	—	55	—	63.5	38.5	16	17.5	6.0	6	20.5						
				PSSHRL	45°	28	41	13.3	55	75	56.5	31.5											
				PSRHRL	75°	38	51	—	60	75	52.5	27.5											
		12			PCLHRL	95°	38	54	—	55	75	57						32	16	17.5	—	6	20.5
					PCFHRL	90°	38	55	—	55	—	59						34					
			PCGHRL	90°	38	52	—	60	75	55.5	30.5												
<b>20CA</b> 	22			PTFHRL	90°	40	61	—	—	—	67	37	20	15.5	4.7 6.9 10.7	6	25						
				PTWHRL	60°	30	61	—	—	—	64	34											
				PTSHRL	45°	30	62	—	70	—	67	37											
				PTTHRL	60°	40	60	—	—	90	62.5	32.5											
				PTGHRL	90°	40	56.7	—	—	90	62.5	32.5											
	15			PSKHRL	75°	40	67	—	—	—	71	41	20	16.5	1.3	6	25						
				PSSHRL	45°	30	52	10.2	70	—	65	35											
				PSRHRL	75°	40	60	—	—	90	63	33											
		12			PCLHRL	95°	38	88	—	—	115	91.5						41.5	25	22.5	—	8	32
					PCFHRL	60°	38	89	—	100	—	95.5						45.5					
			PCGHRL	90°	38	86	—	—	115	93.5	43.5												
<b>25CA</b> 	27			PTFHRL	90°	50	86	—	100	—	98.5	46.5	25	22	—	8	32						
	19			PSKHRL	75°	50	95	—	100	—	102	52	25	22.5	2.2	8	32						
	12			PCLHRL	95°	38	88	—	—	115	91.5	41.5	25	22.5	—	8	32						
				PCFHRL	60°	38	89	—	100	—	95.5	45.5											
				PCGHRL	90°	38	86	—	—	115	93.5	43.5											

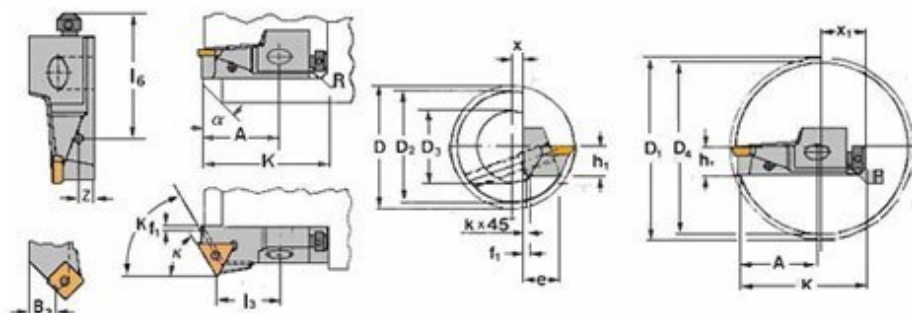




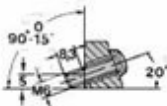
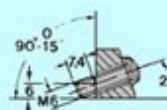

Entering angle زاویه در گری	Inserts to be used TCMM TCMA	Dimensions ,mm							Spare parts		
		Ordering code	h	h <sub>1</sub>	b	h	f	D <sub>min</sub>	Insert screw	Shim	Shimscrew
	11	STFCRL 10CA-11	15	10	11	50	14	40	M2.5TC11	—	—
	16	STFCRL 12CA-16-M STFCRL 16CA-16	20 21	12 16	15 20	55 63	20 25	50 55	M3.5CC09 M3.5CC09	— ST162	— PC112
	11	STWCR/L 10CA-11	15	10	11	44	14	40	M2.5TC11	—	—
	16	STWCR/L 12CA-16-M STWCR/L 16CA-16	20 21	12 16	15 20	47 53	20 25	50 55	M3.5CC09 M3.5CC09	— ST162	— PC112
	11	STSCR/L 10CA-11	15	10	11	44	14	40	M2.5TC11	—	—
	16	STSCR/L 12CA-16-M STSCR/L 16CA-16	20 21	12 16	15 20	47 53	20 25	50 55	M3.5CC09 M3.5CC09	— ST162	— PC112
	11	STTCR/L 10CA-11	15	10	11	50	9	40	M2.5TC11	—	—
	16	STTCR/L 12CA-16-M STTCR/L 16CA-16	20 21	12 16	15 20	55 63	13 15	50 60	M3.5CC09 M3.5CC09	— ST162	— PC112
	11	STGCR/L 10CA-11	15	10	11	50	14	40	M2.5TC11	—	—
	16	STGCR/L 12CA-16-M STGCR/L 16CA-16	20 21	12 16	15 20	55 63	20 25	50 60	M3.5CC09 M3.5CC09	— ST162	— PC112



Entering angle زاویه در گيري	Inserts to be used SCMM SCMA	Dimensions, mm							Spare parts
		Ordering code	h	h <sub>1</sub>	b	l <sub>1</sub>	f	D <sub>min</sub>	Screw
<b>75°</b> 	09	SSKCR/L 10CA-09-M	15	10	11	50	14	40	M3.5CC09
	12	SSKCR/L 12CA-12	20	12	15	55	20	50	M5SC12
<b>45°</b> 	09	SSSCR/L 10CA-09-M	15	10	11	44	14	40	M3.5CC09
	12	SSSCR/L 12CA-12	20	12	15	47	20	50	M5SC12





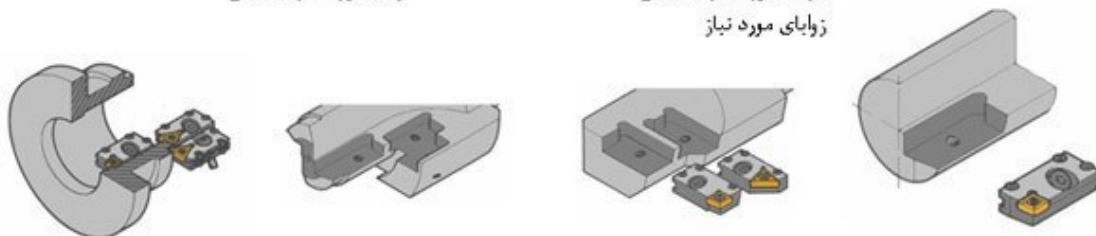
Cartridge Size ابعاد کارتريج	Cartridge Main Code																Dimensions is mm							
			K	l3	l6	Z	B2	Dmin	D1min	K	A	h1	e	fmax	Rmax	kmin								
<b>10CA</b> 	11		STFCRL	90°	30				—			47.5	27.5			—								
			STWCRL	60°	24				—			47	27			1.2								
			STSCRL	45°	24		39.5	3	—	40°)		49	29	10	9	3								
			STTCRL	60°	30				—			55	48	28		6.1								
			STGCRL	90°	30				—			55	48.5	28.5		—								
	09		SSKCRL	75°	30		41.5	3	—	40°)		50.5	30.5	10	9	0.9								
			SSSCRL	45°	24		38		6			47	27			—								
			<b>12CA</b> 	16		STFCRL	90°	35		40		—		53.2	33.2		13	—						
						STWCRL	60°	27		40		—		52	32		13	4.2						
						STSCRL	45°	27		43	5	—	50		55	35	12	13	5.4					
STTCRL	60°	35					40		—		75	53	33		13	9.8								
STGCRL	90°	35					40		—		75	51	31		15	—								
12		SSKCRL	75°	35		40	5	—	50		56	36		13.5	3.1									
		SSSCRL	45°	27		39		9.4		75	51.5	31.5	12	13	—									
<b>16CA</b> 	16		STFCRL	90°	38		52		—	55		61	36		17	—								
			STWCRL	60°	28		46		—	55		57.5	32.5		16.5	4.9								
			STSCRL	45°	28		48	5	—	55		60.5	35.5	16	16.5	7.1								
			STTCRL	60°	38		48		—	60		75	60.5	35.5		17.5	11.5							
			STGCRL	90°	38		48		—	60		75	57	32		18.5	—							

**تحولی جدید در ساخت ابزارهای مخصوص با دقت تنظیم ۱ میکرون****مشخصات :**

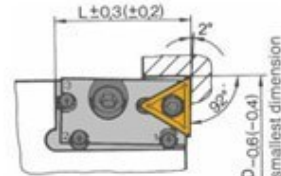
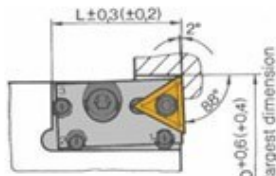
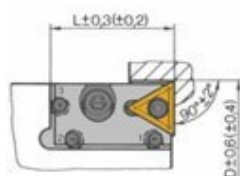
- ۱- امکان تنظیم دقیقی ابزار با دقت  $0.001\text{mm}$  به اندازه  $\pm 0.3\text{mm}$  حداکثر به اندازه  $0.6\text{mm}$  توسط ۲ عدد بادامک طبق حالتیهای زیر:
  - A- تنظیم در قطر ابزار B- تنظیم در طول ابزار C- تنظیم در زاویه پیشانی ابزار D- تنظیم در موازی بودن تیغه
- ۲- امکان تنظیم آسان توسط بادامکها
- ۳- امکان تعویض سریع کارتریج
- ۴- امکان استفاده آسان از مایع خنک کننده
- ۵- امکان ماشینکاری حداقل قطر به اندازه  $30\text{mm}$
- ۶- قابلیت پرداختکاری و خشن تراشی در یک مرحله کاری
- ۷- قابلیت استفاده از الماسه های استاندارد ISO و الماسه های با نوک CBN
- ۸- عرضه قطعات بدکی و خدمات بعد از فروش
- ۹- این شرکت آمادگی خود را در جهت طراحی و ساخت ابزار مخصوص طبق ابعاد مورد در خواست اعلام می دارد .

**مثالهایی از موارد استفاده کارتریج های DP**

- ۱- با یک یا چند کارتریج در جهت طولی ابزار
  - ۲- با دو یا چند کارتریج در جهت عرضی ابزار
- ۲- با چندین کارتریج برای ماشینکاری داخلی و خارجی به صورت همزمان در برای ایجاد یک یا چند پله با زوایای مورد نظر برای سوراخکاری داخلی و سوراخکاری خارجی

**حالتهای تنظیم کارتریج توسط بادامکها**

حالت تنظیم زاویه پیشانی کمتر از  $90^\circ$  حالت تنظیم زاویه پیشانی بیشتر از  $90^\circ$





کارتریج های سایز 06 برای الماسه

ردیف ITEM	ابعاد و مشخصات Dimensions in mm	کد درخواستی Ordering code
1		STFCR 10.607
2		STFCL 20.607
3		STXCR 10.608
4		STXCL 20.608
5		STXCR 10.609
6		STXCL 20.609
7		STSCR 10.610
8		STSCL 20.610
9		STTCR 10.611
10		STTCL 20.611
11		STRCR 10.612
12		STRCL 20.612
اندازه های محل نصب کارتریج Mounting dimension of tool fixtures		کد قطعات بدکی Spare parts
		<p>پیچ الماسه <b>M2.5 TC11</b></p> <p>پیچ بستن کارتریج <b>M4-12A</b></p> <p>بادامک تنظیم <b>CAM-04</b></p> <p>فتر نگهدارنده <b>SPR-04</b></p>



کارتریج های سایز 09 برای الماسه  
TCMM, TCMT 16T304

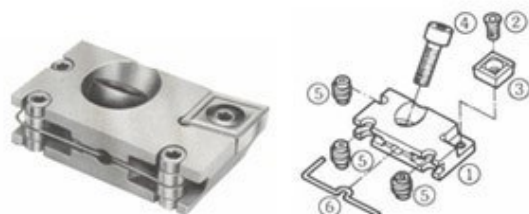
ردیف	ابعاد و مشخصات	کد درخواستی
1		STFCR 10.907
2		STFCL 20.907
3		STXCR 10.908
4		STXCL 20.908
5		STXCR 10.909
6		STXCL 20.909
7		STSCR 10.910
8		STSCL 20.910
9		STTCR 10.911
10		STTCL 20.911
11		STRCR 10.912
12		STRCL 20.912
اندازه های محل نصب کارتریج Mounting dimension of tool fixtures		کد قطعات یدکی Spare parts
		Insert screw <span style="float: right;">(2) پیچ الماسه</span> <b>M3.5 TC16</b> Clamping crew <span style="float: right;">(5) پیچ بستن کارتریج</span> <b>M5-15A</b> Setting cam <span style="float: right;">(4) بادامک تنظیم</span> <b>CAM-05</b> Retaining clip <span style="float: right;">(6) فنر نگهدارنده</span> <b>SPR-05</b>



کارتريج های سايز 06 برای الماسه  
SCMM, SCMT 09 03 04

ردیف	ابعاد و مشخصات	کد درخواستی
1		STFCR 10.628
2		STFCL 20.628
اندازه های محل نصب کاورتريج		کد قطعات بدکی
		پیچ الماسه <b>M3.5 SC09</b> پیچ بستن کاورتريج <b>M4-12A</b> بادامک تنظیم <b>CAM-04</b> فنر نگهدارنده <b>SPR-04</b>



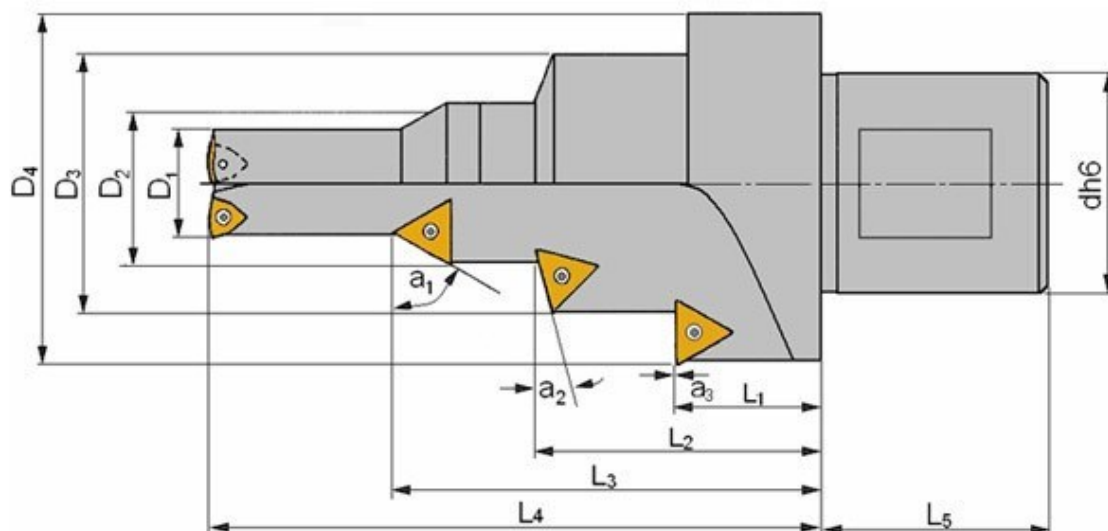


کارتریج های سایز 09 برای الماسه

ردیف	ابعاد و مشخصات	کد درخواستی
1		SSFCR 10.928
2		SSFCL 20.928
3		SSXCR 10.933
4		SSXCL 20.933
5		SSXCR 10.934
6		SSXCL 20.934
7		SSSCR 10.935
8		SSSCL 20.935
9		SSTCR 10.936
10		SSTCL 20.936

اندازه های محل نصب کارتریج	کد قطعات بدکی
	<p>پیچ الماسه (2)</p> <p><b>M3.5 SC09</b></p> <p>پیچ بستن کارتریج (5)</p> <p><b>M4-12A</b></p> <p>بادامک تنظیم (4)</p> <p><b>CAM-04</b></p> <p>فنر نگهدارنده (6)</p> <p><b>SPR-04</b></p>

## U Drill



Dimensions is mm													
Tool Name	Chamfering angle			shank				Hole depth					Pieces
	a1	a2	a3	D1	D2	D3	D4	L1	L2	L3	L4	L5	

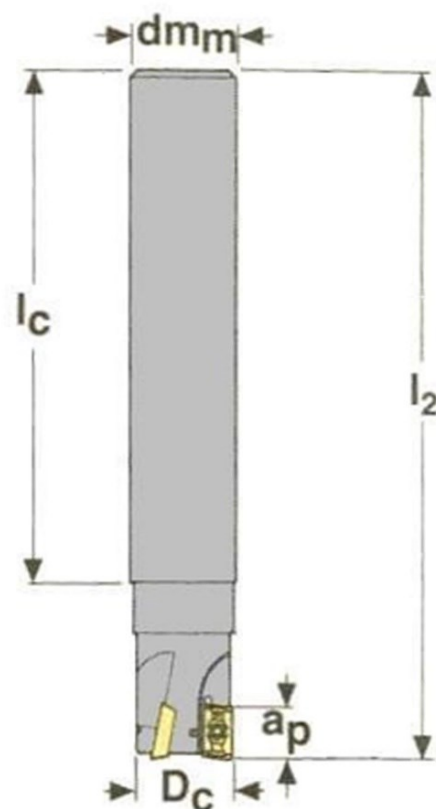
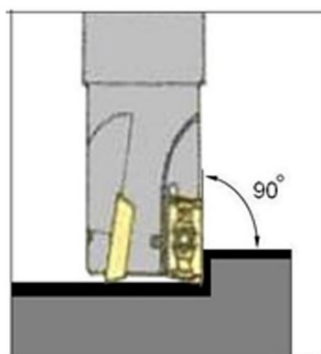
توضیح :

لطفا در هنگام سفارش تعداد مورد نیاز و نیز ابعاد مورد درخواست را طبق جدول تکمیل فرمایید .

تولرانس های ابعادی برای  $L, D$  ( $\pm 0.2$ ) میباشد .

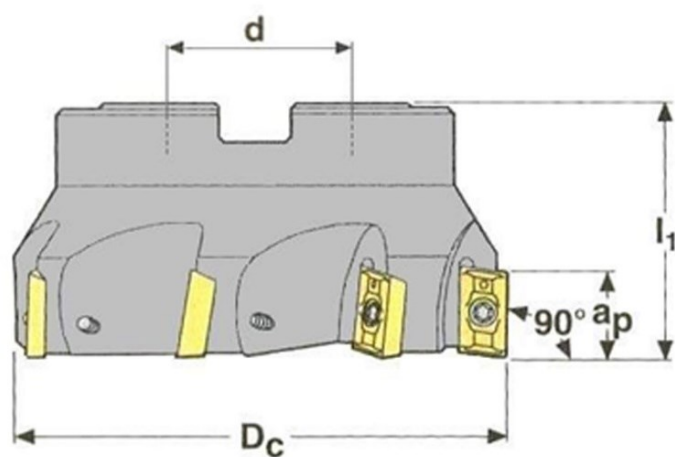
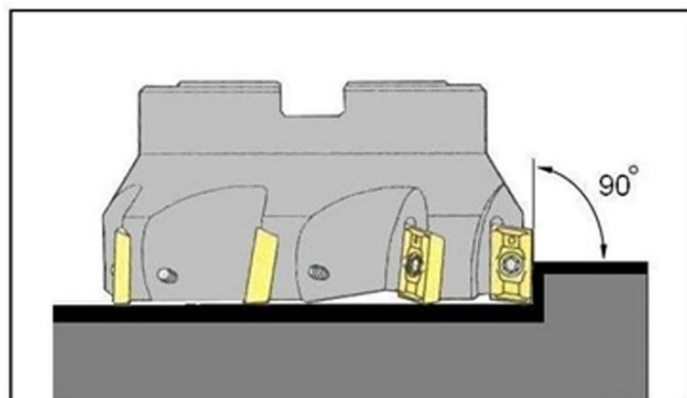
حداقل سفارش ۵ الی ۱۰ عدد میباشد .

ابزار فوق طبق سفارش تولید و تحویل خواهد شد.

**APKT****انگشتی****END MILLS**

Ordering number ISO	Dimensions in mm					Spare parts	Inserts
	D	d	lc	l2	ap	SCREW	APKT
25A2R110C25SLP16	25	25	50	110	14	AM 3.5	APKT 1604
25A2R50C25SLP16	25	25	10	160	14	AM 3.5	APKT 1604
25A2R200C25SLP1	25	25	150	210	14	AM 3.5	APKT 1604
32A3R110C32SLP16	32	32	50	110	14	AM 3.5	APKT 1604
32A3R150C32SLP16	32	32	100	160	14	AM 3.5	APKT 1604
32A3R200C32SLP16	32	32	150	210	14	AM 3.5	APKT 1604
40A4R110C40SLP16	40	40	50	110	14	AM 3.5	APKT 1604
40A4R150C40SLP16	40	40	100	160	14	AM 3.5	APKT 1604
40A4R200C40SLP16	40	40	150	210	14	AM 3.5	APKT 1604



**APKT**کف تراش با زاویه : **90°****FACE MILLS**

Ordering number ISO	Dimensions in mm				Spare parts	Inserts
	$D_c$	$d$	$l_1$	$a_p$		
050A05RS90AP16	50	22	50	14	AS 3.5	APKT 1604
063A06RS90AP16	63	22	50	14	AS 3.5	APKT 1604
080A07RS90AP16	80	27	50	14	AS 3.5	APKT 1604
100A08RS90AP16	100	32	50	14	AS 3.5	APKT 1604