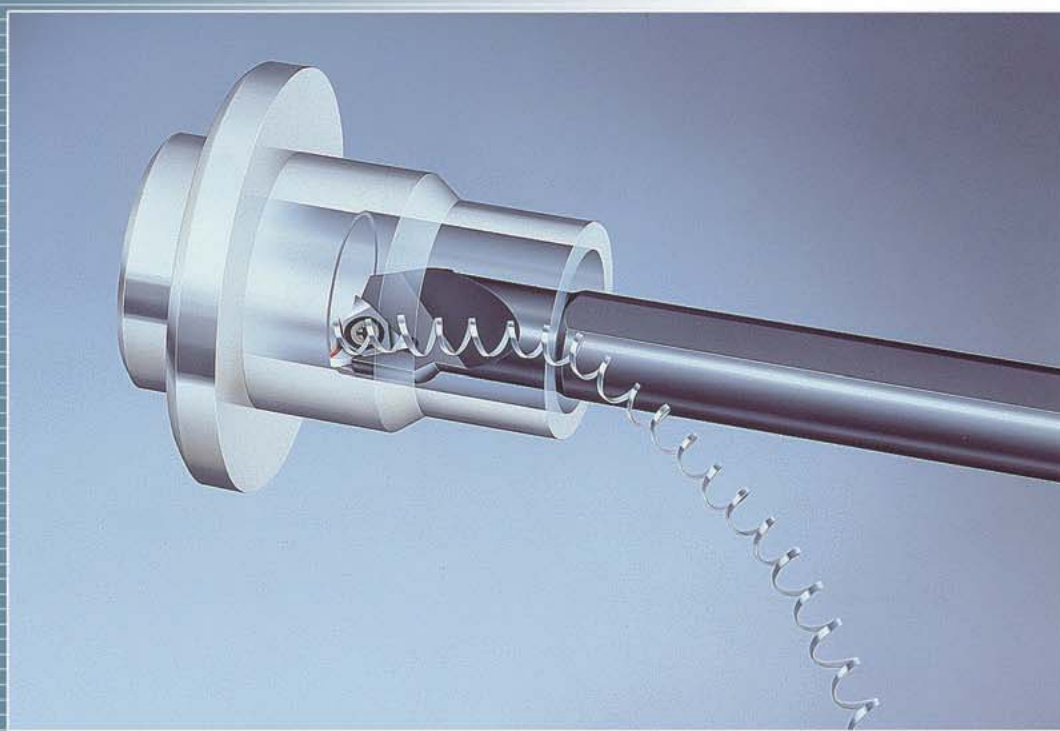


Boring Bar

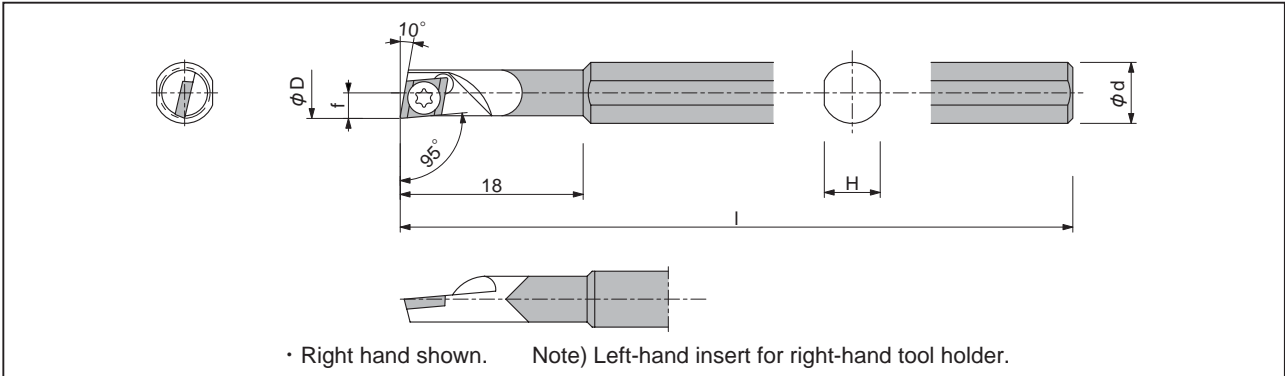




Structure and Features

Minimum machining diameter	Shape		
$\phi 5$ (MBR) $\phi 5.7$ (MSBR)	 MBR P.151	 MSBR P.152	
$\phi 6 \sim 8$	 SELR P.153	 SCLP P.154	 C-SCLP P.154
$\phi 8$	 STUC / STUP P.156	 C-STUC / C-STUP P.156	
$\phi 10$	Back Boring  STZ P.157		
$\phi 15 \sim 20$	 BBR P.159		
$\phi 20$	 CTFP P.161	 CSKP P.162	
$\phi 25 \sim 30$	 BBR P.160		
$\phi 32$	 MCLN P.163		
$\phi 40$	 MDUN P.164		

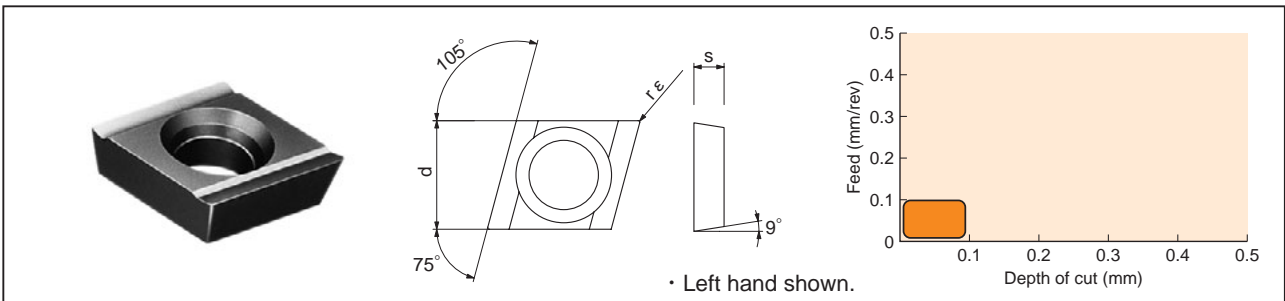
MBRMinimum machining diameter $\phi 5$


● Carbide Shank



Minimum machining diameter	Maximum over hang	Dimensions (mm)				Parts		Holder
						Clamping screw	Wrench	
ϕD		ϕd	H	l_1	f			C06F - MBR
5	6D	6	5.5	80	2.5	LR-S-2 × 3.7	RLR-13S	

● Insert

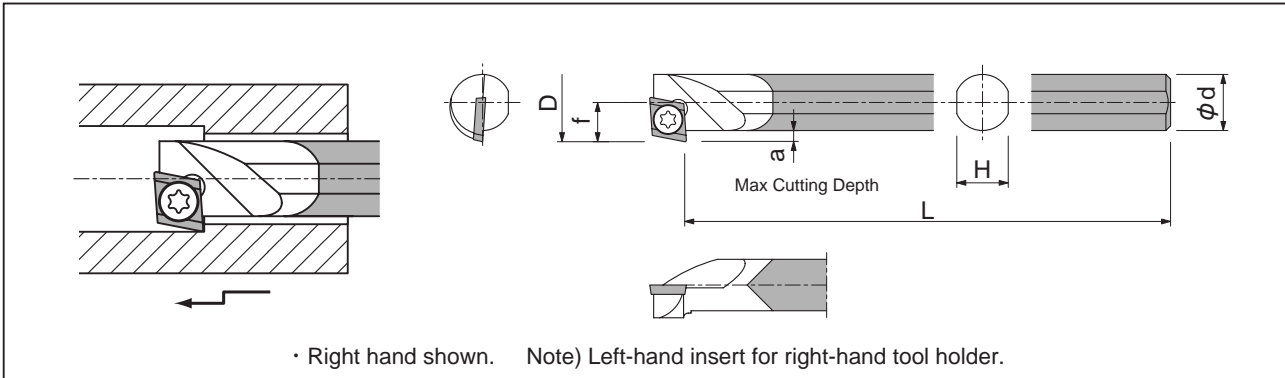


Insert-No.	Chipbreaker	Dimensions (mm)			Grade	
		d	s	$r \epsilon$	KM3	ZM3
MBL 005FL 010FL 015FL		3.60	1.0	0.05	●	○
				0.10		●
				0.15	●	●

MSBR

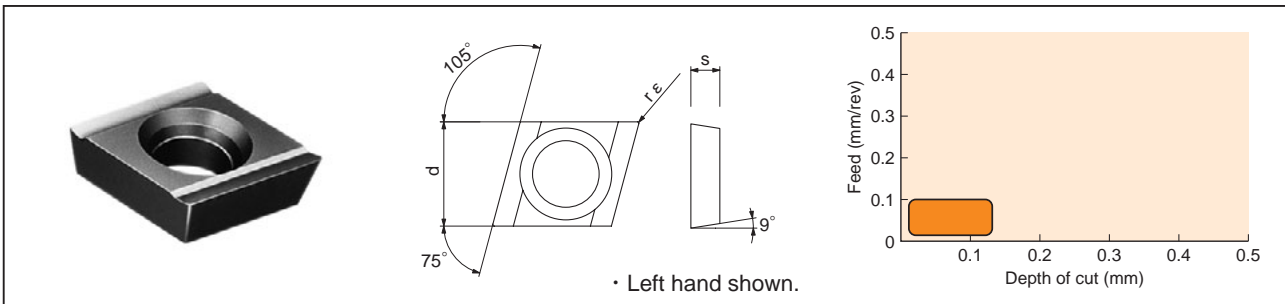
Minimum Machining Diameter $\phi 5.7$

● Carbide Shank



Minimum machining diameter	Maximum over hang	Dimensions (mm)					Parts		Holder	Stock
		ϕd	H	l ₁	f	a	Clamping screw	Wrench		
ϕD										
5.7	6D	4	3.5	110	3.2	1.0	LR-S-2 × 3.7	RLR-13S	C04J-MSBR	○
7.7		6	5.5		4.2				C06J-MSBR	○

● Insert

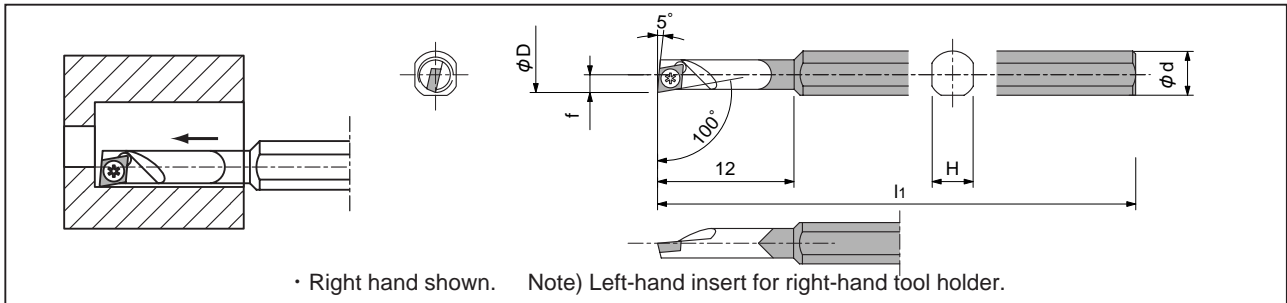


Insert-No.	Chipbreaker	Dimensions (mm)			Grade	
		d	s	r ε	KM3	ZM3
MBL 005FL 010FL 015FL		3.60	1.0	0.05	●	○
				0.10		●
				0.15	●	●

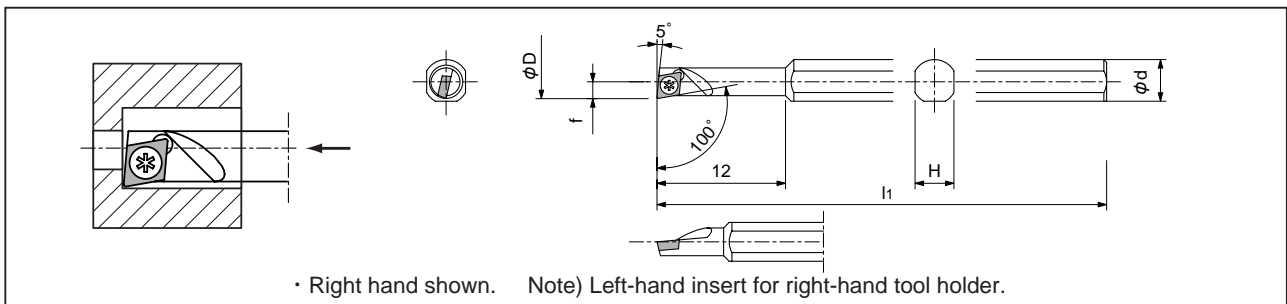
SELR

Minimum Machining Diameter $\phi 6$

● Carbide Shank

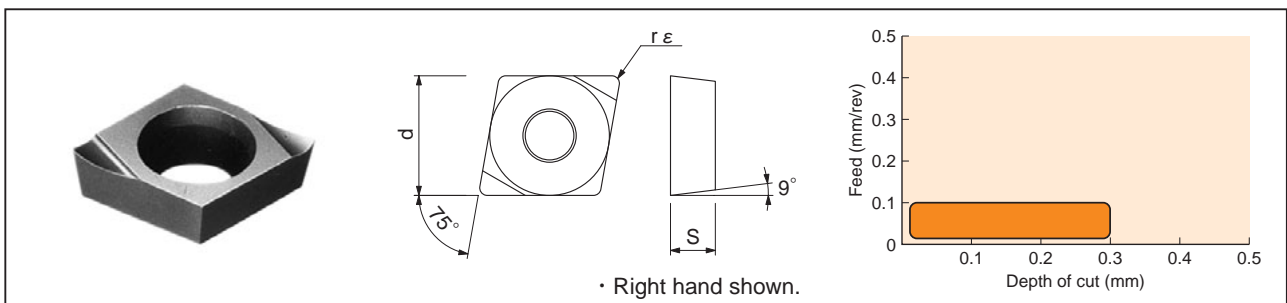


● Steel Shank



Shank	Minimum machining diameter	Dimensions (mm)				Parts		Holder	Stock	
		ϕd	H	l_1	f	Clamping screw	Wrench		R	L
Carbide	6	5	4.5	110	3	LR-S-2 \times 4.4	RLR-13S	C05J-SELR $\frac{R}{L}$ -T3	●	●
		6	5.2	110	3				●	
Steel		8	7	100	3	LR-S-2 \times 4.4		SELR $\frac{R}{L}$ -0008HT3	●	●

● Insert

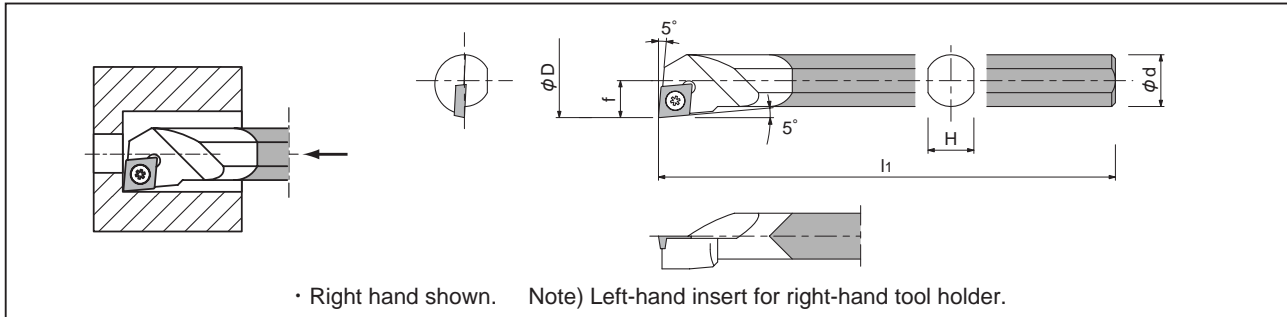


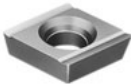


Insert-No.	Dimensions (mm)			Cermet		Carbide	Coated Carbide	
	d	s	$r \epsilon$	T15	N20	KM3	ZM3	VM1
ERGH T30102FRA2 T30102FLA2 T30104FLA2	3.97	1.59	0.2	○	●	●	●	○
			0.2	●	●	●	●	○
			0.4		●		○	

SCLP

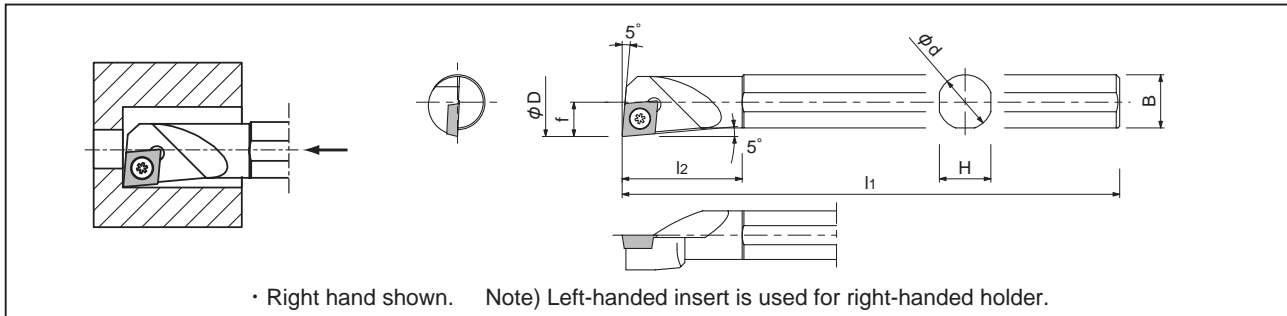
Minimum Machining Diameter $\phi 8$

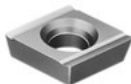


● Carbide Shank



Minimum machining diameter	Dimensions (mm)					Insert	Parts		Holder	Stock	
	ϕD	ϕd	H	l_1	f		Clamping screw	Wrench		R	L
$\phi 8$	6	5.2	110	4				C06J -SCLP ^{R/L}-04	●	●	
$\phi 10$	8	7.0	125	5	CPGH 0602	LR-S-2.5 \times 4.8	RLR-15S	C08K -SCLP ^{R/L}-06	●	●	
$\phi 12$	10	9.0	150	6	CPGH 0802	LR-S-3 \times 6.2	RLR-20S	C10M -SCLP ^{R/L}-08	●	●	
$\phi 16$	12	11.0	180	8	CPMH 0903	LR-S-4 \times 5.8		C12Q -SCLP ^{R/L}-09	●	●	
$\phi 20$	16	14.5	200	10				C16R -SCLP ^{R/L}-09	●	●	








● Steel Shank



Minimum machining diameter	Dimensions (mm)							Insert	Parts		Holder	Stock	
	ϕD	ϕd	H	B	l_1	l_2	f		Clamping screw	Wrench		R	L
$\phi 8$	6	5.2	5.75	110	15	4				SCLP ^{R/L} -0006H62S	●	●	
$\phi 10$	8	7.0	7.5	125	20	5	CPGH 0602	LR-S-2.5 \times 4.8	RLR-15S		-0008H83S	●	●
$\phi 12$	10	9.0	9.5	150	25	6	CPGH 0802	LR-S-3 \times 6.2	RLR-20S		-0010M03S	●	●
$\phi 16$	12	11.0	11.5	180	30	8	CPMH 0903	LR-S-4 \times 5.8			-0012M32	●	●
$\phi 20$	16	14.5	15.5	200	35	10					CPGH 0903	-0016Q32	●
$\phi 25$	20	19.0	19.5	200	40	12.5			-0020R32		●	●	
$\phi 32$	25	24.0	24.5	250	45	16			-0025S32		●	●	

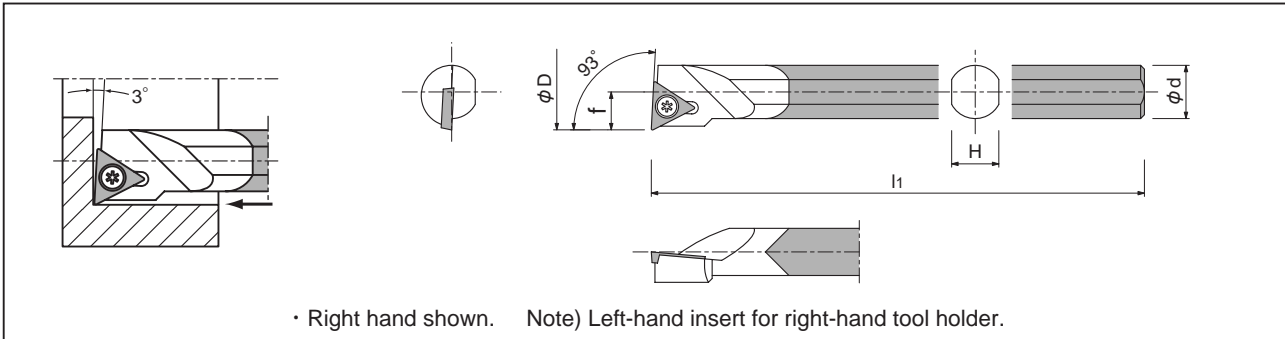
Please see page 155 for inserts.

● CP Insert for 80°

Shape	Insert Number	Inscribed circle	Thickness	Nose radius	Cermet			PVD coated ZM3	
					T15	N20	N40		
	CPGB 080204 TN	7.94	2.38	0.4	○				
 ※Left hand shown	CPGH 040102 _LA1	4.76	1.59	0.2	●	●		○	
	040104 _LA1			0.4	●	●		○	
	060202 _LA	6.35	2.38	0.2	●	●		○	
	060204 _LA			0.4	●			○	
	080202 _LA	7.94	2.38	0.2	●			●	
	080204 _LA			0.4	●			○	
	040102 _RA1	4.76	1.59	0.2	●	●			
	040104 _RA1			0.4	●				
	060202 _RA	6.35	2.38	0.2	●	●			
	060204 _RA			0.4	●				
	080202 _RA	7.94	2.38	0.2	●				
	080204 _RA			0.4	●				
	CPGH 060202 ENBAM5	6.35	2.38	0.2	●		●	○	
	080202 ENBAM5	7.94		0.2			●	○	
	CPGH 090302 ENBAM5	9.525	3.18	0.2	●			○	
	090304 ENBAM5			0.4	●			○	
	090308 ENBAM5			0.8				○	
	CPMH 060204 AM5	6.35	2.38	0.4			●		
	080204 AM5	7.94		0.4			●		
	080208 AM5			0.8					
 ※Left hand shown	CPMH 090304 TLB	9.525	3.18	0.4		●			
	090308 TLB			0.8		●			
	090304 TRB			0.4					
	090308 TRB			0.8					
	CPMH 090304 AM5	9.525	3.18	0.4			●		
	093308 AM5			0.8					

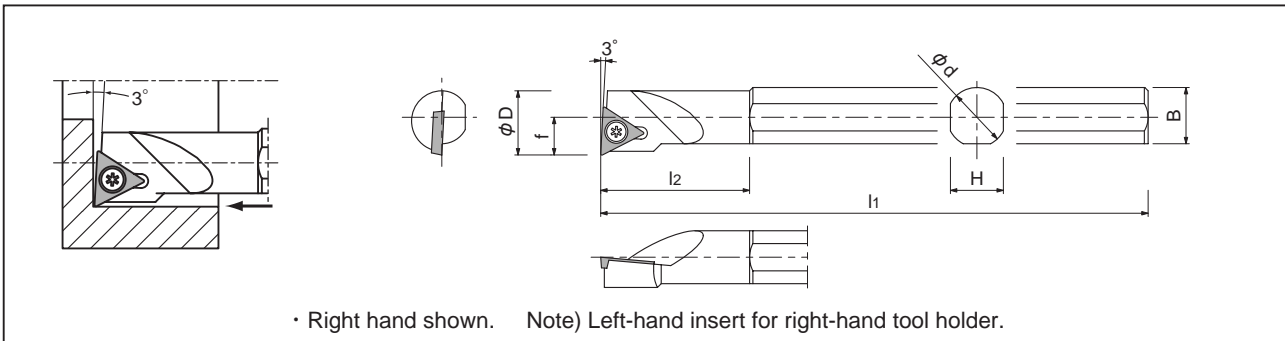
STUP/STUC Minimum Machining Diameter $\phi 8$

● Carbide Shank



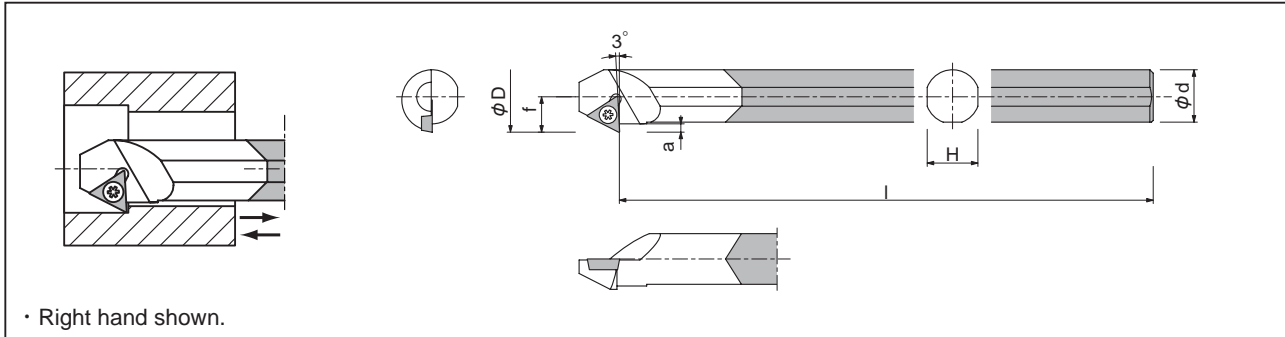
Minimum machining diameter	Dimensions (mm)					Insert	Parts		Holder	Stock	
	ϕD	ϕd	H	l_1	f		Clamping screw	Wrench		R	L
8	6	5.2	110	3.8	TCGH 0601	LR-S-2 × 4.4	RLR-13S	C06J -STUC ^{R/L} -06	●	●	
10	8	7.0	125	5.0	TPGH 0802	LR-S-2 × 5.5			C08K -STUP ^{R/L} -08	●	●
12	10	9.0	150	6.0	TPGH 0902	LR-S-2.5 × 6	RLR-15S	C10M -STUP ^{R/L} -09	●	●	
16	12	11.0	180	8.0		LR-S-2.5 × 6.8		C12Q -STUP ^{R/L} -09	●		
22	16	14.0	200	11.0	TPGH 1103	LR-S-3 × 7.8	RLR-20S	C16R -STUP ^{R/L} -11	●		




● Steel Shank



Minimum machining diameter	Dimensions (mm)							Insert	Parts		Holder	Stock	
	ϕD	ϕd	H	B	l_1	l_2	f		Clamping screw	Wrench		R	L
8	6	5.5	5.75	100	15	4	TCGH 0601	LR-S-2 × 4.4	RLR-13S	STUCR/L-0006H52S	●	●	
10	8	7	7.5	100	20	5	TPGH 0802	LR-S-2 × 5.5			-0008H63S	○	
10	8	7	7.5	125	20	5			-0008K63S			○	
12	10	9	9.5	150	25	6	TPGH 0902	LR-S-2.5 × 6	RLR-15S	-0010M73S	○	○	
16	12	11	11.5	150	30	8	TPGH 1103	LR-S-2.5 × 6.8		-0012M73S	○	○	
20	16	15	15.5	180	35	10		LR-S-3 × 7.8	RLR-20S	-0016Q22	○		
25	20	19	19.5	200	32	12.5				-0020R22	○		
32	25	24	24.5	250	45	16	TPGH 1603	LR-S-4 × 5.8		-0025S32	○		

Please see page 158 for inserts.

STZ**Minimum Machining Diameter $\phi 10$** **● Carbide Shank Back Boring**

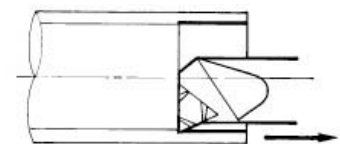
Minimum machining diameter	Dimensions (mm)					Insert	Parts		Holder	Stock
	ϕD	ϕd	H	l_1	f		a	Clamping screw		
										
10	6	5.2	110	5.5	2.5	TCGH 0601	LR-S-2 × 4.4	RLR-13S	B06J -STZCR-06	●
12	8	7.0	125	7.0	3.0	TPGH 0802			B08K -STZPR-08	
14	10	9.0	150	8.0	3.0	TPGH 0902	LR-S-2.5 × 4.8	RLR-15S	B10M -STZPR-09	
16	12	11.0	180	9.0	3.0		LR-S-2.5 × 6.8		B12Q -STZPR-09	○
20	16	14.5	200	11.0	3.0	TPGH 1103	LR-S-3 × 7.8	RLR-20S	B16R -STZPR-11	●

Please see page 158 for inserts.

● T type insert

Shape	Insert Number	Inscribed circle	Thickness	Nose radius	Cermet		PVD coated ZM3
					T15	N20	
	TCGB 060102 TN	3.97	1.59	0.2	○		
	060104 TN			0.4	○		
	TCGH 060102 _LB1	3.97	1.59	0.2	●		○
	060104 _LB1			0.4	●		●
	060102 _RB1			0.2	●		
	060104 _RB1			0.4	●		
	TCGH 060102 _LF05	3.97	1.59	0.2		●	●
	060104 _LF05			0.4		●	
	060102 _RF05			0.2		●	●
	060104 _RF05			0.4		●	
	TPGB 080202 TN	4.76	2.38	0.2			
	080204 TN	5.56		0.4			
	090202 TN		6.35	0.2			
	090204 TN	0.4		●			
	110302 TN	3.18	0.2				
	110304 TN		0.4	●			
	110308 TN		0.8				
		TPGH 080202 _LB3	4.76	2.38	0.2	●	●
080204 _LB3		5.56	0.4		●		
090202 _LB3			6.35	0.2	●		●
090204 _LB2		0.4		●			
090208 _LB2		3.18	0.8	●			
110302 _LB3			0.2	●			
110304 _LB3			0.4	●			
110308 _LB4		0.8					
080202 _RB3		4.76	2.38	0.2	●		
080204 _RB3		5.56		0.4			
090202 _RB2			6.35	0.2	●		
090204 _RB2		0.4		●			
090208 _RB2		3.18	0.8	●			
110302 _RB3			0.2	●			
110304 _RB3			0.4	●			
110308 _RB4		0.8					
	TPGH 080202 _RF1	4.76	2.38	0.2			
	080204 _RF1	5.56		0.4			
	090202 _RF1		6.35	0.2	●		●
	090204 _RF1	0.4		●		●	
	090208 _RF1	3.18	0.8				
	110302 _RF1		0.2				
	110304 _RF1		0.4			●	
	110308 _RF1	0.8					

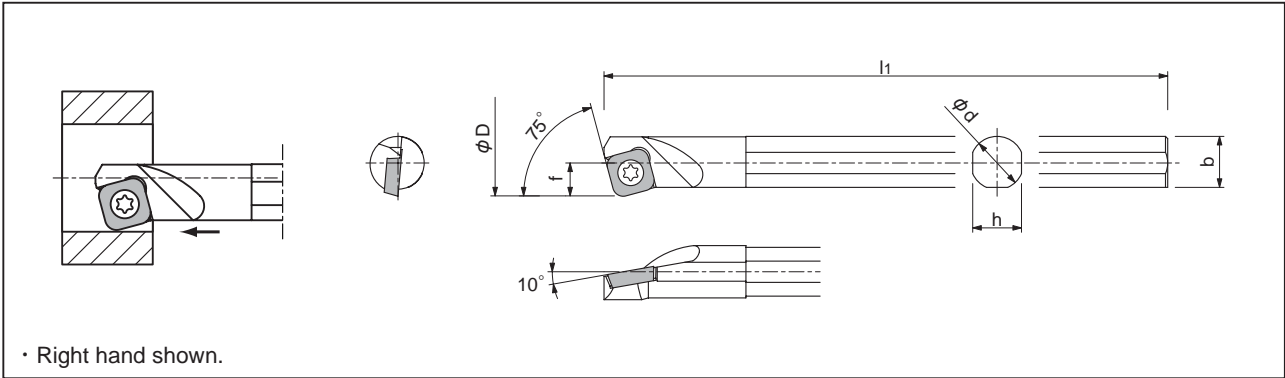
Note) For insert with F05 & F1 type chipbreaker, please use **RIGHT** hand boring bar for right-handed insert.



Chip control direction

BBR

Minimum Machining Diameter $\phi 15 \sim 20$



Minimum machining diameter	Dimensions (mm)						Insert	Parts		Holder	Stock	
	ϕd	H	B	l_1	f	Clamping screw		Wrench	R		L	
ϕD	ϕd	H	B	l_1	f							
15	12	11	11.5	150	7.5	SPMH 0903	LR-S-4 × 5.8	RLR-20S	BBR 1532	●		
20	16	15	15.5	150	10				2032	●		

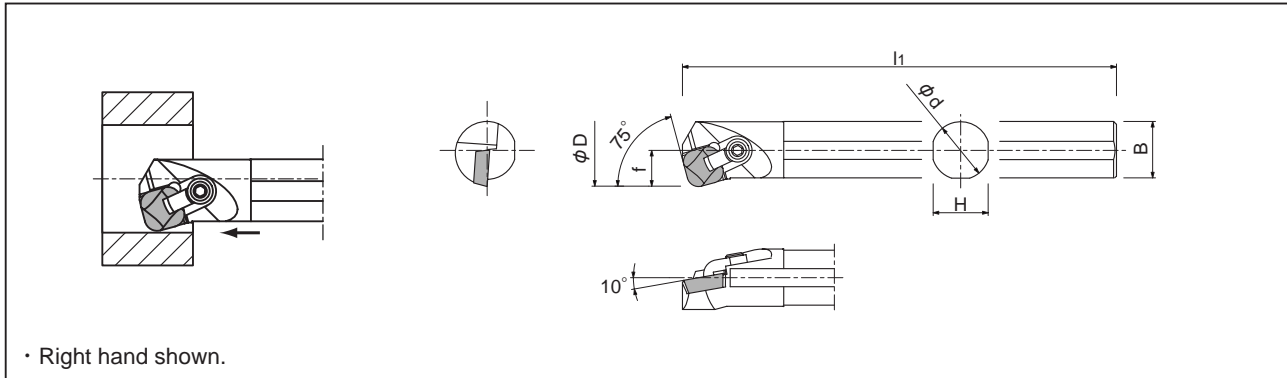
※Please use SPMH 090332 LH1 if significant burrs are created during retraction.



● Insert

Shape	Insert Number	Dimensions (mm)			Grade
		Inscribed Circle	Thickness	Nose Radius	T15
	SPMH 090324 TLBH1	9.525	3.18	2.4	○
	SPMH 090332 TLAH1			3.2	●



BBR

Minimum Machining Diameter $\phi 25 \sim 30$






Minimum machining diameter	Dimensions (mm)					Insert		Holder	Stock	
	ϕD	ϕd	H	B	li	f				R
25	20	19	19.5	150	12.5	SPMN 120440 TN	SPMR 120440 TLH2	BBR 2543	●	
30	25	24	24.5	180	15.0			3043	●	

● Insert

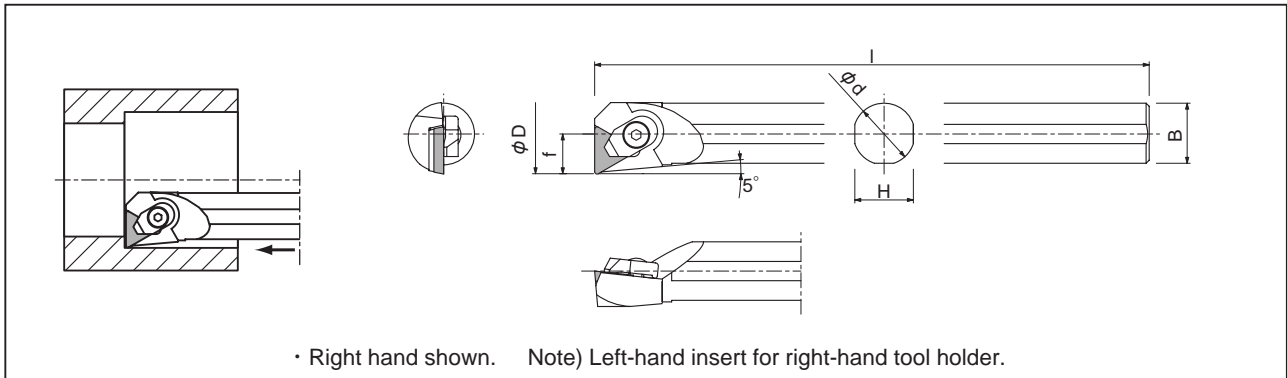
Shape	Insert Number	Dimensions (mm)			Grade
		Inscribed Circle	Thickness	Nose Radius	T15
	SPMN 120440 TN	12.7	4.76	4	○
	SPMR 120440 TLH2				●

● Parts

Parts		Clamp	Clamping screw	Wrench
Toolholder				
	BBR 2543 3043	AM-612L-9	WS 0616	LW-3

CTFP

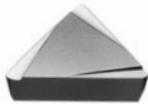


Minimum Machining Diameter $\phi 20$








Minimum machining diameter	Dimensions (mm)					Insert	Holder	Stock	
	ϕD	ϕd	H	B	l1			f	R
20	16	15	15.5	150	11	TRGR 1103 TRGN 1103	CTFP ^{R/L} - 0016M2 - 0020Q3 - 0025R3 - 0032S3	●	●
25	20	19	19.5	180	13			●	●
35	25	24	24.5	200	17	TRGR 1603 TRGN 1603		●	●
45	32	31	31.5	250	22			●	●

※Conform to master insert which has 0.8mm corner R.
(The CTFP^{R/L}-0016M2 is for mounting an insert with 0.4-mm corner R.)

● CTFP insert

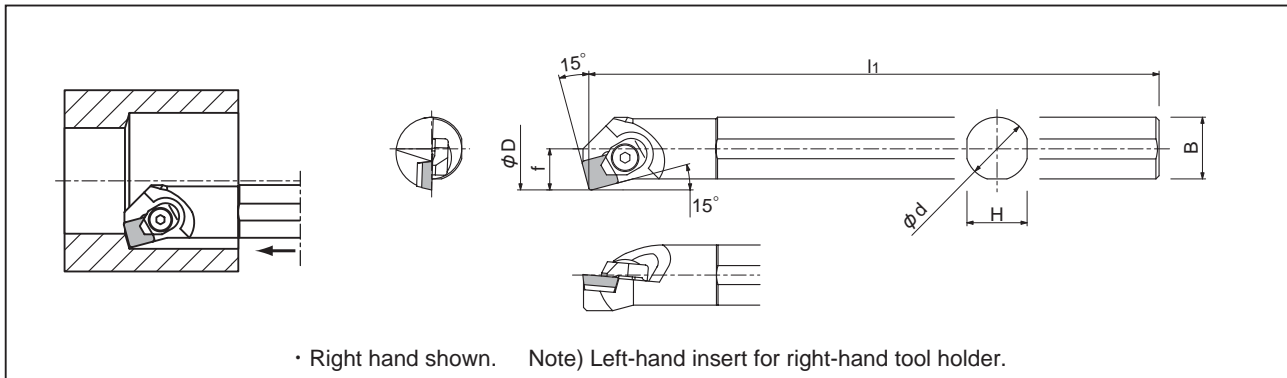
Toolholder	With chipbreaker	Without chipbreaker	CBN
			
CTFP ^{R/L} -0016M2 -0020Q3 -0025R3 -0032S3	TPGR 110304 TLP2 TPGR 160304 -TL-B	TPGR 1103_ENBAF1 TPGR 1603_ENBAF1	TPGN 1103_ TPGN 1603_ TPGN 110304P TPGN 160304P TPGN 160308P

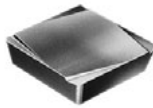
● Parts

Parts	Clamp	Clamping screw	Shim	Shim screw	Wrench
Toolholder					
CTFP ^{R/L} -0016M2 -0020Q3 -0025R3 -0032S3	AMS -4 AMS -5T AMS -6T	AOB -4S AOB -5SS AOB -6SS	HATP311 ^{R/L} ATP31.51 ATP321	M2 × 5 M3 × 8	LW -2.5 LW -3 LW -4

CSKP




Minimum Machining Diameter $\phi 20$









Minimum machining diameter	Dimensions (mm)					Insert	Holder	Stock	
	ϕD	ϕd	H	B	l_1			f	R
20	16	15	15.5	150	11	 SPGR 0903 SPGN 0903 SPGR 1203 SPGN 1203	CSKP ^{R/L} -0016M3 -0020Q3 -0025R4 -0032S4	●	
25	20	19	19.5	180	13			●	
35	25	24	24.5	200	17			○	
45	32	31	31.5	250	22				

※Conform to master insert which has 0.8mm corner R.

● Insert

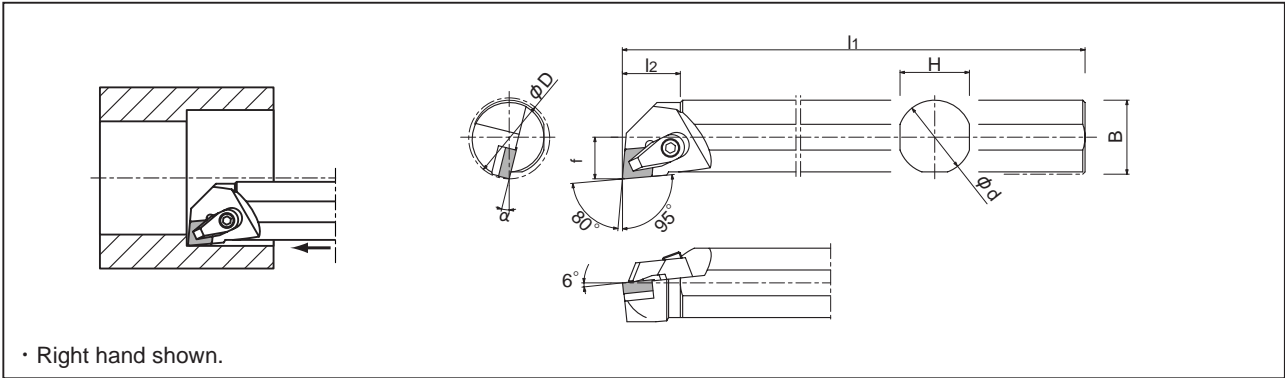
Holder	With chipbreaker		Without chipbreaker
			
CSKP ^{R/L} -0016M3 -0020Q3 -0025R4 -0032S4	SPGR 090308 -TL-C SPGR 120308 -TL-C	SPGR 090308 ENBAF1 SPGR 120308 ENBAF1	SPGN 0903 SPGN 1203

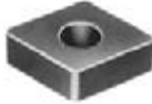
● Parts

Parts	Clamp	Clamping screw	Shim	Shim screw	Wrench
					
CSKP ^{R/L} -0016M3 -0020Q3 -0025R4 -0032S4	AMS -5 AMS -6T	AOB-5SS AOB-6S × 15	HASP311 ^{R/L} ASP41.51 ASP421	M2 × 5 M3 × 8	LW-3 LW-4

MCLN



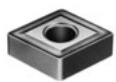
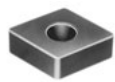
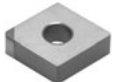

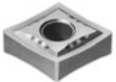
Minimum Machining Diameter $\phi 32$








Minimum machining diameter	Dimensions (mm)							Insert	Holder	Stock	
	ϕD	ϕd	H	B	l1	f	l2			α	R
32	25	24	24.5	200	17	40	14	 CN_1204	MCLN ^{R/L} -0025R4 -0032S4 -0040T4 -0050T4	●	●
40	32	30	31	250	22	50	12			●	●
50	40	38	39	300	27	60	10			●	●
63	50	47	48.5	300	35	65	8			●	○

※Conform to master insert which has 0.8mm corner R.

● Insert

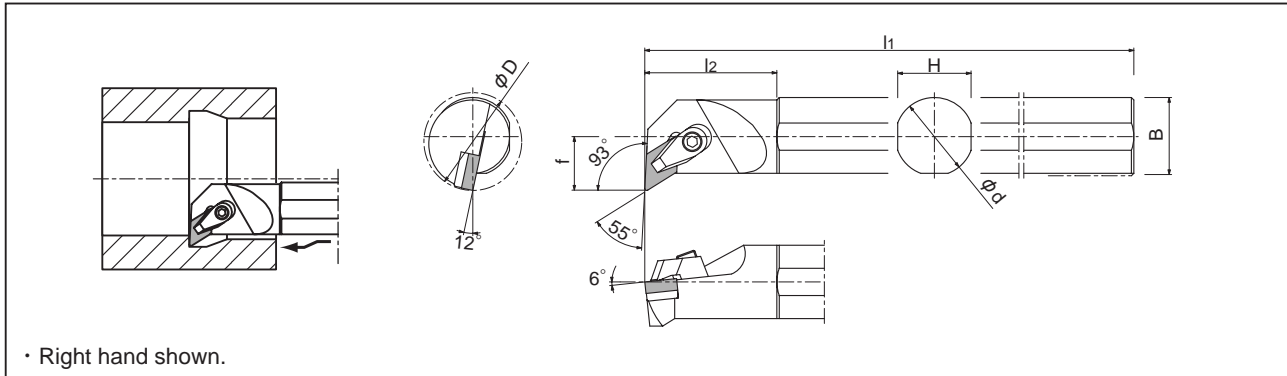
Usage	←			→			
	Finishing	Semi-cutting	Rough cutting		CBN	For interrupted	For stainless steel
Toolholder MCLN ^{R/L} -0025R4 -0032S4 -0040T4 -0050T4							
	CNMG 1204_ZF1	CNMG 1204_ZW1	CNMG 1204_G	CNGA 1204_	CNMA 1204_P 1204_PTR	CNMG 120408-Z5	CNGG 1204_ZP


● Parts

Parts	Clamp	Clamping screw	Shim	Shim screw	Wrench
	Toolholder MCLN ^{R/L} -0025R4 -0032S4 -0040T4 -0050T4	 CW8PC	 WS 0825	 ACN 422	 M3 × 8
 WS 0830					

MDUN





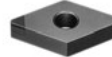


Minimum Machining Diameter $\phi 40$








Minimum machining diameter	Dimensions (mm)							Insert	Holder	Stock	
	ϕD	ϕd	H	B	l_1	f	l_2			α	R
40	32	30	31	250	22	50	12	 DN_1504	MDUN ^{R/L} -0032S4	●	●

※Conform to master insert which has 0.8mm corner R.

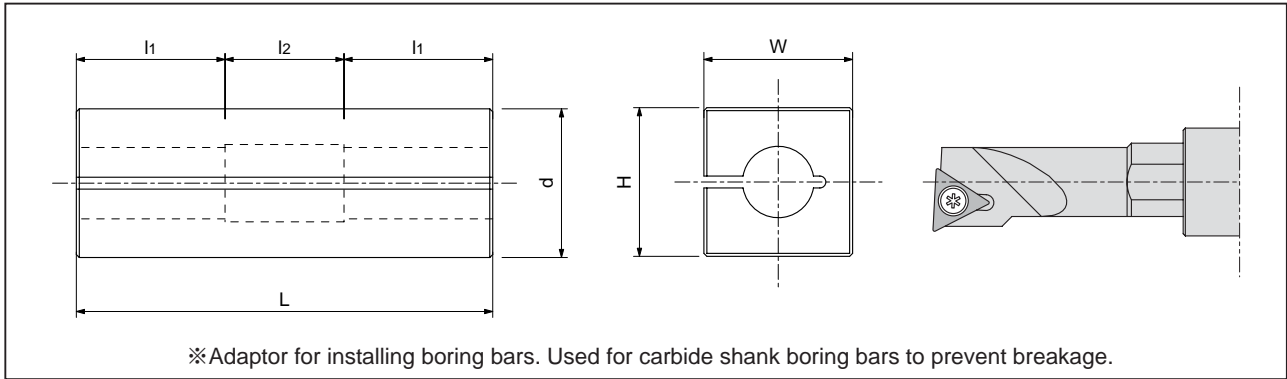
● Insert


Usage	← →			Ceramic	CBN	For interrupted	For stainless steel
	Finishing	Semi-cutting	Rough cutting				
Insert							
Toolholder							
MDUN ^{R/L} -0032S4	DNMG 1504_ZF1	DNMG 1504_ZW1	DNMG 1504_G	DNGA 1504_	DNMA 1504_P 1504_PTR	DNMG 150408-Z5	DNGG 1504_ZP

● Parts

Parts	Clamp	Clamping screw	Shim	Shim screw	Wrench
	    				
MDUN ^{R/L} -0032S4	CW8PC	WS 0830	ADN 422	M3 × 8	LW-4

Adaptor for Boring Bar



Dimensions (mm)						Insert	Adaptor number	Stock
H	W	L	l1	l2	d1			
20	20	60	20	20	6	for $\phi 6$ shank	S06-H	●
20	20	60	20	20	8	for $\phi 8$ shank	S08-H	●
20	20	60	20	20	10	for $\phi 10$ shank	S10-H	●
25	25	70	20	25	12	for $\phi 12$ shank	S12-H	●